



CENTRE NATIONAL D'ETUDES SPATIALES

INTEGRAL SPECTROMETER



SPI-MU-0-1062V4-CNES

Issue : 6

Revision : 0

Date : 08/02/07

Page No. : I

INTERNATIONAL GAMMA RAY ASTROPHYSICS LABORATORY

SPECTROMETER USER MANUAL

DATA BASE DESCRIPTION

VOLUME 4

| | | | |
|---|---|----------------------------|--|
| Prepared by: | Name: Project Team DSO/ED/DI/SI | Date and Signature: | Secretariat of: DSO/ED/DI/SI |
| Agreed by: | Name: Y. ANDRE DSO/ED/DI/SI System Manager | Date and Signature: | Host System: COMPAQ |
| For application and approved by: | Name: J.P. ROQUES P.I. Y. ANDRE SPI Project Manager | Date and Signature: | Word Processing: Office 97 |

| | | |
|---------------------------------|-----|---|
| Management configuration | OUI | X |
| | NON | |

| | | |
|----------------------------|-----|--|
| Applicable document | OUI | |
| | NON | |

| | | | | | | | |
|---------------|-------------|------------|------------|-----------|-----------|------------|---------------|
| Models | SSTM | STM | SEM | EM | FM | ALL | OTHERS |
| | | | | | | X | |



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INTEGRAL SPECTROMETER



FOREWORD

The Spectrometer User's Manual is made up of four volumes:

Volume 1 "Spectrometer Definition"

Provides the instrument description, the different functioning modes at instrument and sub-assembly levels, instrument system budgets. It describes all the interfaces such as mechanical, thermal, electrical data flows and on-board software functioning. A list of each telecommand and telemetry packet and the definition of each parameter are also included.

Volume 2 "Instrument Operations"

Gives all the information needed to operate the spectrometer, particularly a functioning description of some special modes such as eclipse management, cooling management, ..., tables showing equipment temperatures ranges, power consumption, allowed TC's, downlinked TM's according to the running instrument mode. The flight procedures are also given.

Volume 3 "Annexes"

Gathers main documents giving additional information which allows a better understanding of the instrument functioning for example, TM/TC and electrical diagrams, science data format, observer manual inputs, complementary documents of on-board software.

Volume 4 "Data Base Description"

Contains a precise description of each telecommand and telemetry packet, and all parameters characteristics.



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Issue : 5

Revision : 0

Date : 28/02/02

Page No. : III

DOCUMENTATION CHANGE RECORD

| Issue | Revision | Date | Modified Pages | Observations |
|---------|----------|----------|---|---|
| DRAFT | DRAT | 26/09/97 | | DRAFT VERSION |
| DRAFT A | DRAFT A | 22/10/97 | ALL | |
| 1 | 0 | 25/05/98 | ALL | |
| 1 | 1 | 06/07/98 | ALL | |
| 1 | 2 | 07/08/98 | Pages 158a – 158b added Pages 166.1 –166.23 Pages 205a – 205b added Chapter 7.6 deleted Chapter 8 modified TM/TC Diagram updated | Draft version <u>except the chapter 8 which is under configuration control</u> |
| 1 | 3 | 15/10/98 | Chapter 8 modified Pages 258 to 490 | Inconsistencies and typing errors corrected. Destination field value modified in TC packets (DM 136) and TID, FID values consequently. PSD TC and TM packets inserted and parameters definition (DM 137). MF n° E0520 modified, MF n° E0521 to E0525 created (DM 7-15-IASW). S/C data base RTU parameters identifiers included. E0029 deleted (DM 7-12-IASW). Packet n° 63843 created (DM 7-15-IASW) including also IASW configuration parameters and s/a on/off status(DM 181 et 182). On request memory dump TC packets created. DM 143 is closed by this issue. |



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DOCUMENTATION CHANGE RECORD

| Issue | Revision | Date | Modified Pages | Observations |
|-------|----------|----------|---|---|
| 1 | 4 | 01/12/98 | Chapter 8 modified Pages 277-357-358-365-376-377-410-433 | OBT inserted in the science HK data (DM 157) + (DM 170) |
| 1 | 4a | 25/01/99 | Chapter 8 modified Pages 321-329-331-332-333-468-469-470-483-484 | TID, FID fields modifications for IASW configuration TC, related OR TK and related TM (DM 199). S/A status order in CSSW HK packet. |
| 1 | 5 | 02/03/99 | Chapter 8 modified | DM's taken into account: (DM-1-171), (DM-7-180), (DM-7-181), (DM-7-182), (DM-132-189), (DM-1-218), (DM-7-219),(DM-422-221), (DM-132-222). Calibration curves and aliases gathering in chapter 8.5. The margin marks show the modifications from 1.3 version |
| 1 | 5a | 23/03/99 | Chapter 8 modified | Chapter 8.5 rewritten. Calibration curves and alias references number included in the chapters 8.1 and 8.3 Typing errors and some minor details: Page 344 param E0003 E0004 added, E0004 modified and become E0006. Page 354 param E1091 ident name and short name changed, param E1492 added. Page 412 20 Hex become 21 Hex in pkt 60602. Page 483 TID FID etc was missing in pkt 64046. Page 526 FTPN added. |



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DOCUMENTATION CHANGE RECORD

| Issue | Revision | Date | Modified Pages | Observations |
|-------|----------|----------|---|--|
| 2 | Draft | 03/05/99 | Chapter 1 modified Chapter 3 modified Chapter 4 re-written Chapter 6 re-written Chapter 7 deleted Chapter 8 modified | Pages 13-14-15-16-17 moved from Chapter 4 Pages 25-26-27-44-45 § 1.4.1, § 1.4.2, § 1.4.3 § 3.2.1 (version 1.2) deleted Figures pages 79-80 § 3.3.1 Coast phase deleted § 3.3.5 (version 2.1) deleted § 3.4.3 and 3.4.5 § 3.6.1 beginning § 3.7.1 § 3.7.3 quite completely re-written the § 4.2.1 (version 2.1) has moved in this chapter. § 3.7.4 § 3.7.7, 3.7.8, 3.7.9, 3.7.10 have been completed This chapter is the version (1.5a) which is the reference for EM delivery + TC packet E0223 deleted (DM-7-232) Broadcast packet added TC for cryocoolers management TM parameters for cryocoolers Cryocoolers telemetry. |



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|-------|----------|----------|--------------------|---|
| 2 | 0 | 01/12/99 | See vertical lines | Change request taken into account: DM-1-90-MPE DM-7-135-CNES DM-7-227-CNES DM-7-231-CNES DM-7-233-CNES DM-5/1-235-CNES DM-9-240-CNES DM-0-242-CNES DM-0-243-CNES DM-422-250-CNES DM-0-254-CNES DMS-S-259-CNES DM-7-262-CNES DM-7-264-CESR DM-0-273-CNES DM-422-274-CNES DM-0-276-CNES DM-422-282-CNES DM-S-285-CNES DM-9-291-CNES DM-9-292-CNES DM-1-293-CNES DM-7-295-CNES DM-1-298-CNES |



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DOCUMENTATION CHANGE RECORD

| Issue | Revision | Date | Modified Pages | Observations |
|-------|----------|----------|---|--|
| 2 | 1 | 25/02/00 | Chapter 3.7.10 and 3.7.12 deleted, replaced by chapter 3.7.11 TM and TC parameters description. Modifications related to DM-7-295 deleted Chapter 8 modified for taking into account the following change requests: See vertical lines | DM-0-266-CNES-1 DM-7-302-CNES DM-423-312-CNES Dm-13-318-CNES DM-0-320-CNES DM-0-325-CNES DM-0-330-CNES DM-0-338-CNES |
| 2 | 2 | 13/03/00 | Mistakes corrected after SEM Data Base validation in chapter 8. Modifications related to DM-S-285-CNES deleted See vertical lines | DM-0-349-CNES DM-S-285-CNES has been cancelled. DM-0-242-CNES implementation corrected: E4339 and E4359 parameters added in CSSW HK packet. |
| 3 | 0 | 19/04/00 | All pages | SPI-DM-0-351-CNES Identical issue as 2.2 regarding the information content. |



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DOCUMENTATION CHANGE RECORD

| Issue | Revision | Date | Modified Pages | Observations |
|-------|----------|----------|---|---|
| 3 | 1 | 20/06/00 | Bold characters are related to the modifications since issue 2.2 | DM-7-344-CNES DM-7-355-CNES DM-0-356-CNES DM-0-357-CNES DM-7-360-CNES DM-0-368-CNES DM-0-371-CNES DM-0B1-377-CNES DM-0-387-CNES NCR-536 NCR-537 NCR-538 NCR-564 NCR-570 NCR-577 NCR-585 NCR-592 |
| 3 | 2 | 07/08/00 | Page 386 Pages 7, 30, 91, 160, 232 Pages 343, 382 Pages 78, 94 Pages 59, 60, 102, 168, 254 Pages 13, 64 to 68, 103, 170 to 174, 320 to 340, 388 Page 11 Pages 4, 5, 8, 28, 72, 73, 83 to 87, 89, 92, 142, 143, 263, 265, 343, 345, 360, 363 to 368, 370, 373, 374, 375, 378, 379, 382, 383, 386, 388 Pages shifted further to the incorporation of bulky DMs. | SPI-DM-0-397-CNES SPI-DM-0-393-CNES-1 SPI-DM-0-423-386-CNES-1 SPI-DM-41-384-CNES SPI-DM-7-391-CNES SPI-DM-7-394-CNES SPI-DM-0-390-CNES SPI-DM-0-376-CNES SPI-DM-0-400-CNES |



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DOCUMENTATION CHANGE RECORD

| Issue | Revision | Date | Modified Pages | Observations |
|-------|----------|----------|--|---|
| 4 | 0 | 10/11/00 | <p>All pages</p> <p>Page 344</p> <p>Page 80</p> <p>Page 332</p> <p>Pages 110, 309</p> <p>Pages 120, 121, 332, 336</p> <p>Pages 12, 30, 107, 126, 183, 214</p> <p>Pages 326, 327</p> <p>Pages 340, 341</p> <p>Page 333</p> <p>Page 329</p> <p>Page 330</p> | <p>This issue supersedes issue 3/2 dated 07/08/00. It takes into account discrepancies entailing layout improvement and corrections of typing errors. Only major corrections and implementation of new DMs are identified with a revision bar.</p> <p>SPI-DM-0-372-CNES</p> <p>SPI-DM-0-403-CNES</p> <p>SPI-DM-0-406-CNES</p> <p>SPI-DM-0-407-CNES</p> <p>SPI-DM-0-410-CNES</p> <p>SPI-DM-0B1-404-CNES</p> <p>NCR 711</p> <p>NCR 703</p> <p>NCR 704</p> <p>NCR 801</p> <p>NCR 852</p> |
| 4 | 1 | 25/01/01 | <p>Pages 18, 134</p> <p>Pages 109, 311</p> <p>Pages 122, 309, 341</p> <p>Pages 318, 321</p> <p>Page 102</p> <p>Page 344</p> <p>Pages 19, 135</p> <p>Page 356</p> <p>Pages 357 to 363</p> <p>Pages 364 to 366</p> <p>Pages 355, 356</p> <p>Pages 367 to 370</p> <p>Pages 18, 19</p> | <p>SPI-DM-0B1-417-CNES</p> <p>SPI-DM-0-411-CNES</p> <p>SPI-DM-0-430-CNES</p> <p>SPI-DM-0B-435-CNES</p> <p>SPI-DM-0B-436-CNES</p> <p>SPI-DM-0B-439-CNES</p> <p>SPI-DM-0B1-446-CNES</p> <p>SPI-DM-0B-442-CNES</p> <p>SPI-DM-0B-440-CNES</p> <p>SPI-DM-0B-449-CNES</p> <p>SPI-DM-0B-448-CNES</p> <p>SPI-DM-0B-445-CNES</p> <p>SPI-DM-7-447-CNES</p> |



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|-------|----------|----------|--|--|
| 4 | 2 | 06/03/01 | Pages 103, 337 to 340 Page 340 Pages 103, 326, 327, 331 Pages 9, 103, 339, 343 to 348 Pages 103, 348 to 354 Pages 107, 336 Pages 328, 329, 330, 333, 334 Pages 386 to 388 Page 333 | SPI-DM-0B-451-CNES SPI-DM-0B-453-CNES SPI-DM-0B-454-CNES SPI-DM-0B-455-CNES SPI-DM-0B-458-CNES SPI-DM-0B-462-CNES SPI-DM-0B-464-CNES SPI-DM-0B-465-CNES SPI-DM-0B-452-CNES SPI-DM-0B-456-CNES SPI-DM-0B-461-CNES |
| 4 | 3 | 24/04/01 | Page 334 Page 331 | SPI-DM-0-469-CNES SPI-DM-0B1-482-CNES SPI-DM-0B1-485-CNES |
| 4 | 4 | 19/06/01 | Pages 10, 339 Pages 8, 13, 14, 18, 87, 88, 89, 94, 95, 96, 102, 104, 106, 109, 110, 111, 117, 118, 120, 121, 122, 124, 125, 126, 128, 134, 135, 289, 290, 291, 308, 309, 311, 332, 335, 336, 339, 343, to 354, 365, 369, 372, 373, 374, 374.a, 375, 376, 377, 377.a, 378, 379, 380, 381, 385 to 388 | SPI-DM-0B1-462-CNES SPI-DM-0-491-CNES |
| 4 | 5 | 24/09/01 | Pages 90, 91, 294 to 299 Pages 18, 134, 333 Pages 10, 107, 339, 371 | SPI-DM-0-502-CNES SPI-DM-0B1-500-CNES SPI-DM-0B1-499-CNES |
| 4 | 6 | 19/11/01 | Pages 363, 378 Pages 378, 381a, 381b, 381c Pages 374, 374a Pages 3, 373 | SPI-DM-0B1-506-CNES SPI-DM-0B1-507-CNES-R1 SPI-DM-0-508-CNES SPI-DM-0-509-CNES |



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|-------|----------|----------|--|---|
| 5 | 0 | 28/02/02 | <p>Page 385</p> <p>Pages 387, 388, 389, 390, 391, 392, 393, 394</p> <p>Pages 398, 399, 400</p> <p>Page 384</p> <p>Pages 327, 331, 333, 334, 335, 336, 337, 338, 340, 344, 346, 347, 348, 349, 350, 351, 354, 355, 356, 357, 358, 359</p> <p>Pages X, 7, 11, 12, 14, 15, 16, 17, 18, 19, 21, 82, 83, 95, 101, 102, 103, 104, 107, 115, 130, 134, 135, 137, 162, 198, 223, 253, 269, 300, 311, 326, 341, 342, 343, 352, 354, 360, 363, 364, 365, 366, 367, 368, 369, 371, 375, 376</p> <p>Pages 378, 379, 380, 381, 382, 383</p> <p>Pages 97, 98</p> <p>Pages 130, 309</p> | <p>SPI-DM-422-513-CNES</p> <p>SPI-DM-1-514-CNES</p> <p>SPI-DM-0B1-519-CNES</p> <p>SPI-DM-0B-520-CNES</p> <p>SPI-DM-0B-521-CNES</p> <p>SPI-DM-0B1-526-CNES</p> <p>SPI-DM-0B1-527-CNES</p> <p>SPI-DM-41-529-CNES</p> <p>SPI-DM-7-395-CNES-3</p> |
| 5 | 1 | 18/06/02 | <p>Page 391</p> <p>Page 394</p> <p>Pages 18, 19, 81, 82, 83, 130, 134, 135, 201, 202, 211, 251, 252</p> <p>Pages 384, 385, 385a, 386, 387, 394, 399, 401, 402, 403, 404</p> <p>Pages 7, 99a, 101, 124, 130, 136, 322, 323, 339, 340</p> | <p>SPI-DM-0B1-538-CNES</p> <p>SPI-DM-0B1-539-CNES</p> <p>SPI-DM-0-534-CNES</p> <p>SPI-DM-0-531-CNES-2</p> <p>SPI-DM-0-542-CNES</p> |
| 5 | 2 | 09/09/02 | <p>Pages 7, 137</p> <p>Pages 395, 396</p> <p>Page 394 regularisation</p> <p>Page 391 regularisation</p> | <p>SPI-DM-0-541-CNES</p> <p>SPI-DM-0-549-CNES</p> <p>SPI-DM-0B1-539-CNES</p> <p>SPI-DM-0B1-538-CNES</p> |



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|-------|----------|----------|--|---|
| 5 | 2 | 09/09/02 | Pages 401 to 404 Pages 384, 385 Page 354 | SPI-DM-0-551-CNES SPI-DM-0B1-552-CNES SPI-DM-0-556-CNES |
| 5 | 3 | 17/03/03 | Pages 401 to 404 Pages 399,400 Pages 387,391,394 to 397 Pages 384, 385 Page 386 Pages 19, 83, 135, 203, 253, 377, 385 Pages 19,83, 135, 203, 253, 377a | SPI-DM-5-571-CNES SPI-DM-423-570-CNES SPI-DM-1-569-CNES SPI-DM-0-566-CNES SPI-DM-0-565-CNES SPI-DM-7-567-CNES-1 SPI-DM-0-575-CNES |
| 6 | 0 | 08/02/07 | p. 82, 101, 130, 132, 135, 156, 202, 252, 309-12, 367, 380, 388 p. 102, 104, 106, 110, 120, 121, 124, 125, 134, 342 | Update of IASW (see also doc SPI-NT-0-4319-CESR) + Minor corrections <i>First recorded version on Baghera</i> |



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0. INTRODUCTION

0.1. PURPOSE

This document contains a precise description of each telecommand and telemetry packet, and all parameters characteristics.

0.2. APPLICABLE AND REFERENCE DOCUMENTS

0.2.1. Applicable documents

| | | |
|-----|------------------|-----------------|
| AD1 | ESA-EID-Part A | Issue 1, rev. 5 |
| AD2 | ESA-DV-0-30-CNES | |
| AD3 | INT-RP-AI-0030 | |

0.2.2. Reference documents

| | | |
|------|--|--------------------|
| RD2 | SPI-Functional Analysis | SPI-NT-0-1100-CNES |
| RD3 | Product Assurance Plan | SPI-PA-0-50-CNES |
| RD4 | Instrument Mission Specification | SPI-SM-0-90-CSCI |
| RD5 | Instrument and System Specification | SPI-ST-0-91-CNES |
| RD6 | General Electrical Specification | SPI-SG-0-80-CNES |
| RD7 | General Mechanical Design Specification | SPI-SG-0-82-CNES |
| RD8 | General Thermal Design Specification | SPI-SG-0-83-CNES |
| RD9 | Electromagnetics Requirements | SPI-SG-0-84-CNES |
| RD10 | General Modelling Specification | SPI-SG-0-85-CNES |
| RD11 | Lower Structure Sub-assembly Specification | SPI-ST-2-1042-CNES |
| RD12 | Mask Sub-assembly Specification | SPI-ST-3-1043-CNES |
| RD13 | Anticoincidence Sub-assembly Specification | SPI-ST-1-1041-CNES |
| RD14 | Specification Technique de Besoin du DFEE | SPI-ST-5-1045-CNES |
| RD15 | User Requirement Document for DPE Software | SPI-ST-7-1047-CNES |



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| | | |
|------|--|------------------------|
| RD16 | Camera Sub-assembly Specification | SPI-ST-4-1044-CNES |
| RD17 | DPE Hardware Specification | INT-SP-AL-0001 |
| RD18 | Instrument Design Report | SPI-DD-1088-CNES |
| RD19 | Specifications of the Integral Spectrometer Finite Element Model Reduction | SPI-SP-0-3023-CNES |
| RD20 | EID-B | SPI-SG-0/SAT-1111-CNES |
| RD21 | SPI Interfaces Specification | SPI-SI-0-1324-CNES |
| RD22 | SPI System Telemetry Budget | SPI-NT-0-13037-CNES |
| RD23 | SPI Science Data Format Specification | SPI-NT-0-2911-CNES |
| RD24 | SPI Instrument and System Geometrical Quality Budget | SPI-NT-0-13067-CNES |

0.3. ACRONYMS

| | |
|-------|---|
| ACS | Anti-Coincidence Sub-assembly |
| ADC | Analogue to Digital Converter |
| AFEE | Analogue Front End Electronics |
| ASIC | Application Specific Integrated Circuit |
| CDE | Compressor Drive Electronics |
| CSSW | Common Services Software |
| DC-DC | Direct Current - Direct Current Converter |
| DFEE | Digital Front End Electronics |
| DPE | Data Processing Electronics |
| FEE | Front End Electronics |
| FID | Function Identifier |
| HV | High Voltage |
| HVPS | High Voltage Power Supply |
| IASW | Instrument Application Software |



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| | |
|------|--|
| I/F | Interface |
| LCL | Latching Current Limiters |
| LCR | Lower Collimator Ring |
| LLD | Lower Level Discriminator |
| LSA | Low Structure Assembly |
| LSB | Least Significant Byte |
| LV | Low Voltage |
| LVPS | Low Voltage Power Supply |
| MID | Memory Identifier |
| MSB | Most Significant Byte |
| OBT | On-Board Time |
| PFC | Parameter Format Code |
| PSAC | Plastic Scintillator Anti-Coincidence Sub-assembly |
| PSD | Pulse Shape Discriminator |
| PTC | Parameter Type Code |
| TBC | To Be Confirmed |
| TC | TeleCommand |
| TID | Task Identifier |
| TLM | TeLeMetry |
| TM | TeleMetry |
| UCR | Upper Collimator Ring |
| ULD | Upper Level Discriminator |
| VCU | Veto-Shield Control Unit |



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0.4. TM/TC IDENTIFICATION RULES

Telecommands:

TC name

General structure : tc_aa_bb_cccccc

aa ⇒ c : for configuration - all parameters setting
 r or rm : for report - all parameters read in IASW memory after configuration or measured parameters

bb ⇒ af : AFEE
 df : DFEE
 as : ACS
 pd : PSD

cc... ⇒ : Object identifier

Instrument DB identifier: E0001 to E0599 for nominal ways
 F0001 to E0599 for redundant ones

Telemetry: **HK telemetry packets** (cyclical or corresponding to an on-request TC)

cyclical structure : aa_bbbbbbbb_n

aa ⇒ tm = telemetry packet
 bb.. ⇒ downlinked frequency (80x8s; 480x8s)
 n ⇒ serial number

on-request TM : aa-bb_cc_dddddd

aa ⇒ tm = telemetry packet
 bb ⇒ or = on-request
 cc ⇒ from s/a (af, df, as, pd, iasw)
 dd.. ⇒ packet mnemonic identifier

The packets identifiers (Type Packet Number TPN or Flight TPN number) starting by:

6000x ⇒ Cyclic HK science parameters (downlinked each 8s)
 600xx ⇒ Cyclic HK technological parameters (downlinked each 8s)
 606xx ⇒ Cyclic HK technological parameters (downlinked each 640s)
 6384x ⇒ Cyclic HK technological parameters (downlinked each 3840s)
 640xx ⇒ On-request parameter values acquisition (Uploaded parameters)
 646xx ⇒ On-request parameter values acquisition (Measured parameters)
 647xx ⇒ Special TM packet (ACS calibration)
 6490x ⇒ On-request Diagnostic configuration tables acquisition
 240108 ⇒ Cyclic CSSW HK packet



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On packet can be made up of several blocks. Each block can be located as follows:

For example: 60601/9 means that the parameter is inside the packet n° 60601 in the block n° 9.

63843/11-13 means that the parameters are inside the packet n° 63843 in the blocks n° 11, 12, 13.

60000/1.8 or 6000/1 8 means that the parameter is inside the packet N° 60000 in the blocks n° 1 and 8.

Blocks header identifiers rules:

TC block header (included in TC data field):

1st byte ⇒ TID (Task identifier) or MID (Memory identifier) are related to the sub-assembly origin or target:

1 = IASW

2 = AFEE

3 = ACS

4 = PSD

5 = DFEE

2nd byte ⇒ FID (Function identifier) is the block identifier expressed with a decimal number

3rd byte ⇒ TC ID define the TC type:

| TC ID | Packet Type | Packet Sub-type | IASW type | Category |
|-------|-------------|-----------------|-----------|--------------------------|
| 0 | 5 | 3 | "C" | S/A electrical status TC |
| 1 | 5 | 3 | "C" & "I" | S/A configuration TC |
| 2 | 5 | 3 | "C" | IASW configuration TC |
| 3 | 5 | 5 | "M" | Mode change TC |
| 4 | 6 | 1 | "L" | Load patches TC |
| 5 | 6 | 1 | "L" | Record patches TC |
| 6 | 6 | 2 | "D" | Dump request TC |
| 7 | 6 | 1 | "L" | Reset tables TC |
| 8 | 5 | 4 | "K" | On-request TC |
| 9 | 5 | 3 | "C" | Eclipse exit TC |
| 10 | 5 | 3 | "C" | Send all patches TC |

4th byte ⇒ Same meaning as TID

5th byte ⇒ Block type ASCII format encoded (IASW type)

6th byte ⇒ Same meaning as FID but expressed with an hexadecimal number

TM block header:

1st byte ⇒ Sub-assembly acknowledgement

2nd byte ⇒ Block identifier expressed with an hexadecimal number

On-request TM block header: As there is only one block in the TM packet, the TM block header has a similar structure as TC block header except the 5th byte which contains the sub-assembly acknowledgement.



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1. TM/TC STRUCTURE AND PARAMETERS DEFINITION

WARNING

This Chapter contains and describes most of the Instrument Data Base information.

In particular paragraphs 1.2 and 1.4 show the real Telecommands and Telemetry packets structure. Paragraphs 1.1 and 1.3 give complementary information to TM and TC parameters listed in chapter 3.7.12. Volume 1.

1.1. TC PARAMETER DESCRIPTION

1.1.1. Thermal control (TC to be sent under spacecraft control)

| TC purpose | Nb parameters | Encoding length (bit) | Id name | DB reference | Comments |
|---|---------------|-----------------------|---------------------------------------|--|-------------------|
| Camera unit's heating | n/a | n/a | LCL_CAMER_H-A_OFF LCL_CAMER_H-A_ON | T5005 T5006 | |
| ON/OFF Thermal control | n/a | n/a | tc_pl41_oo | | |
| (CDE) n° 1 OFF | n/a | n/a | CDE1_A LCL1_OFF | P3030 | P3060 LCL2 |
| (CDE) n° 1 ON | | | CDE1_A LCL1_ON | P3031 | P3061 LCL2 |
| (CDE) n° 2 OFF | n/a | n/a | CDE2_B LCL1_OFF | P3270 | P3300 LCL2 |
| (CDE) n° 2 ON | | | CDE2_B LCL1_ON | P3271 | P3301 LCL2 |
| Compressors 1 heating | n/a | n/a | LCL_COMP_H-A_OFF LCL_COMP_H-A_ON | T5000 T5001 | |
| Compressors 2 heating | n/a | n/a | LCL_COMP_H-B_OFF LCL_COMP_H-B_ON | T5100 T5101 | |
| ON/OFF amplitude setting compressors and displacers | | | | E9960-E9967 | |
| Main engine 1 | | | | | |
| Compressor 1 amplitude (1) | 1 | 6 | CDE1_COMP1_AMPL | E9960 | |
| Compressor 2 amplitude (1) | 1 | 6 | CDE1_COMP2_AMPL | E9961 | |
| ON/OFF amplitude setting compressors and displacers | | | | E9980-E9987 | |
| Red engine 2 | | | | | |
| Compressor 1 amplitude (1) | 1 | 6 | CDE2_COMP1_AMPL | E9980 | |
| Compressor 2 amplitude (1) | 1 | 6 | CDE2_COMP1_AMPL | E9981 | |
| Heat pipe thaw OFF | n/a | n/a | TSW_HEATPIP-A_OFF | T5010/ T5110 | |
| Heat pipe thaw ON | | | TSW_HEATPIP-A_ON | T5011/ T5111 | |
| Annealing heating OFF | n/a | n/a | TSW_ANNEAL-A_OFF | T5015/ T5115 | |
| Annealing heating ON | | | TSW_ANNEAL-A_ON | T5016/ T5116 | |
| anti-freeze 1 | n/a | n/a | TSW_ANTFRZ1-A_OFF TSW_ANTFRZ1-A_ON | T5020/ T5120 T5021/ T5121 | |
| anti-freeze 2 | n/a | n/a | TSW_ANTFRZ2-A_OFF TSW_ANTFRZ2-A_ON | T5025/ T5125 T5026/ T5126 | |
| Mask + ACS heating | n/a | n/a | TSW_ACS_MSK-A_OFF TSW_ACS_MSK-A_ON | T5035/ T5135 T5036/ T5136 | |
| Compensation heater Main OFF/ON | n/a | n/a | TSW_COMPENS-A_OFF/ON | P4208-P4209 | |
| Compensation heater Redundant OFF/ON | n/a | n/a | TSW_COMPENS-B_OFF/ON | P4458-P4459 | |
| CDE thermal control Main OFF/ON | n/a | n/a | TSW_CDE_HTRA_OFF/ON | T5575/T5576 | |
| CDE thermal control Redundant OFF/ON | n/a | n/a | TSW_CDE_HTRB_OFF/ON | T5675/T5676 | |

(1) In this page, every item is in fact a telecommand except compressor amplitudes which allow to define an amplitude different of "0".

1.1.2. Sub-assemblies power supply

(TC to be sent under spacecraft control)

| TC purpose | Nb parameters | Encoding length (bit) | Id name | DB reference | Comments |
|---------------------------|---------------|-----------------------|-------------------|--------------|----------|
| AFEE IF TM/TC OFF | n/a | n/a | LCL_AF2TMTC-A_OFF | P4040 | |
| AFEE IF TM/TC ON | | | LCL_AF2TMTC-A_ON | P4041 | |
| AFEE Detectors chains OFF | n/a | n/a | LCL_AF2DET-A_OFF | P4060 | |
| AFEE Detectors chains ON | | | LCL_AF2DET-A_ON | P4061 | |
| DFEE OFF | n/a | n/a | LCL_DFEE-A_OFF | P4052 | |
| DFEE ON | | | LCL_DFEE-A_ON | P4053 | |
| ACS OFF | n/a | n/a | LCL_SPI_ACS-A_OFF | P4048 | |
| ACS ON | | | LCL_SPI_ACS-A_ON | P4049 | |
| PSD OFF | n/a | n/a | LCL_PSD-A_OFF | P4056 | |
| PSD ON | | | LCL_PSD-A_ON | P4057 | |
| DPE 1 OFF | n/a | n/a | LCL_SDPE1_OFF | P4044 | |
| DPE 1 ON | | | LCL_SDPE1_ON | P4045 | |
| DPE RELAY0 ON | 3 | 4-4-8 | SDPE1_RELAY0_ON | E9800 | |
| DPE RELAY0 OFF | 3 | 4-4-8 | SDPE1_RELAY0_OFF | E9801 | |
| DPE1 RELAY0 ON | 3 | 4-4-8 | SDPE1_RELAY1_ON | E9802 | |
| DPE1 RELAY0 OFF | 3 | 4-4-8 | SDPE1_RELAY1_OFF | E9803 | |

1.1.3. AFEE configuration

| Parameter purpose | Nb parameters | Encoding length (bit) | Id name | DB reference | Comments |
|---|---------------|-----------------------|-----------------|-----------------|---|
| High voltage level (0-5000 v) | 19 | 8 | u_af_hv_ln | E/F5010-E/F5028 | Byte = 0 ⇒ 0 v (after power on) Byte = 255 ⇒ 5.00 keV (curves n° c6500 - c6518) |
| Low detection threshold | 19 | 8 | e_af_lwdt_ln | E/F5030-E/F5048 | Byte = 0 ⇒ 0 keV (after power on: 128) Byte = 255 ⇒ 256 keV (curves n° c6600 - c6618) |
| High energy clamping (desaturating impulse) for detectors | 19 | 1 | p_af_hnrg-oo_ln | E5050-E5068 | Bit = 0 ⇒ ON (after power on) Bit = 1 ⇒ OFF (alias 6329) |
| Selection of the detector energy working range: 0 - 2 MeV / 0 - 8 MeV | 19 | 1 | p_af_wkg-rng_ln | E5070-E5088 | Bit = 0 ⇒ 0 - 2 MeV range selected Bit = 1 ⇒ 0 - 8 MeV range selected (after power on: 0 - 2 MeV) (alias 6302) |
| Manual or automatic detector selection working range | 19 | 1 | p_af_wkg-m/a_ln | E5090-E5108 | Bit = 0 ⇒ Auto (after power on) Bit = 1 ⇒ Manual (alias 6303) |
| Redundant AFEE output selection to DFEE | 19 | 1 | p_af_redt-df_ln | E5130-E5148 | Bit = 0 ⇒ Disable (after power on) (alias 6308) |
| Main AFEE output selection to DFEE | 19 | 1 | p_af_main-df_ln | E5150-E5168 | Bit = 0 ⇒ Disable (after power on) (alias 6308) |
| Detector Low Power Supply ON/OFF command | 19 | 1 | s_af_lvps-oo_ln | E5170-E5188 | Bit = 0 ⇒ OFF (after power on) (alias 6306) |
| Detector High Power Supply ON/OFF command | 19 | 1 | s_af_hvps-oo_ln | E5190-E5208 | Bit = 0 ⇒ OFF (after power on) (alias 6306) |
| Temperature range selection for Cold Plate and Thermal Braids temperature telemetry in case of operational or annealing functioning | 1 | 1 | t_af_cry-rng_l | E/F5209 | Bit = 0 ⇒ 62K-410K range (after power on) Bit = 1 ⇒ 62K-128K range (alias 6307) |
| Outgassing/Annealing regulation system 1 | 1 | 8 (2,8) | t_af_anlg-1_1 | E/F5003 | Byte = 0 ⇒ threshold for outgassing (alias 6361) |
| Outgassing/Annealing regulation system 2 | 1 | 8 (2,8) | t_af_anlg-2_1 | E/F5004 | Byte = 255 ⇒ threshold for annealing (alias 6361) |

1.1.4. DFEE configuration

| Parameter purpose | Nb parameters | Encoding length (bit) | Id name | DB reference | Comments |
|--|---------------|-----------------------|-----------------|--------------|---------------------------------------|
| Rest Front Tframe (RstFronTframe) | 1 | 1 | p_df_rst-tfr_l | E7701 | Alias n° 6333 (nominal = 0) |
| Reset Front Veto (RstFrontVeto) | 1 | 1 | p_df_rst-vto_l | E7702 | Alias n° 6333 (nominal = 0) |
| Reset Front PSD (RstFrontPsd) | 1 | 1 | p_df_rst-psd_l | E7703 | Alias n° 6333 (nominal = 0) |
| Reset Front AFEE n° 0 - n° 18 (RstFrontAfee) | 19 | 1 | p_df_fr-af_ln | E7704-E7722 | Alias n° 6333 (nominal = 0) |
| Reset Count VPSD (RstCountVPsd) | 1 | 1 | p_df_cnt-vpsd_l | E7723 | Alias n° 6333 (nominal = 0) |
| Reset Count AFEE n° 0 - n° 18 (RstCountAfee) | 19 | 1 | p_df_cnt-af_ln | E7724-E7742 | Alias n° 6333 (nominal = 0) |
| Reset ASSO SM (RstAssoSm) | 1 | 1 | p_df_asso_l | E7743 | Alias n° 6333 (nominal = 0) |
| Reset POBJ SM (RstPobjSm) | 1 | 1 | p_df_pobj_l | E7744 | Alias n° 6333 (nominal = 0) |
| Reset RCVE SM (RstRcveSm) | 1 | 1 | p_df_rcve_l | E7745 | Alias n° 6333 (nominal = 0) |
| Reset RCVE Serial (RstRcveSerial) | 1 | 1 | p_df_serial_l | E7746 | Alias n° 6333 (nominal = 0) |
| Reset ACQ SM (RstAcqSm) | 1 | 1 | p_df_acq_l | E7747 | Alias n° 6333 (nominal = 0) |
| Reset Dial SM (RstDialSm) | 1 | 1 | p_df_dial_l | E7748 | Alias n° 6333 (nominal = 0) |
| Enable count Dead Time AFEE (EnCntDtAfee) | 1 | 1 | p_df_dt-af_l | E7749 | Alias n° 6308 (nominal = 1) |
| Enable count Dead Time AFEE SAT (EnCntDtAfeeSat) | 1 | 1 | p_df_dt-afst_l | E7750 | Alias n° 6308 (nominal = 1) |
| Enable count Dead Time Veto gate (EnCntDtVetoGate) | 1 | 1 | p_df_dt-vtg_l | E7751 | Alias n° 6308 (nominal = 1) |
| CFG ASSO Time Out Drop Energy (ToutScaleDropNrx) | | | | E7752 | deleted |
| CFG ASSO Multi Window Size (AssoMultWinSize) | 1 | 5 | p_df_wdw_l | E7753 | Alias n° 6390 (0,31) (range 3; 30) |
| CFG ASSO Force Veto (AssoVetoForce) | | | | E7754 | deleted |
| CFG ASSO Enable Veto (AssoEnableVeto) | 1 | 1 | | E7755 | deleted |
| CFG ASSO Enable PSD (AssoEnablePsd) | 1 | 1 | p_df_enb-pd_l | E7756 | Alias n° 6308 |



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| Parameter purpose | Nb parameters | Encoding length (bit) | Id name | DB reference | Comments |
|--|---------------|-----------------------|-----------------|--------------|-----------------------------|
| CFG ASSO Enable AFEE n° 0 - n° 18 (AssoEnableAfee) | 19 | 1 | p_df_enb-af_ln | E7757-E7775 | Alias n° 6308 |
| CFG RCVE Time Out Miss Energy (ToutVolMissNjr) | 1 | 5 | p_df_ms-nrg_l | E7776 | |
| CFG ACQ KEEPSE (EvtKeepSE) | 1 | 1 | p_df_se_l | E7777 | Alias n° 6304 (nominal = 1) |
| CFG ACQ KEEPME (EvtKeepME) | 1 | 1 | p_df_me_l | E7778 | Alias n° 6304 (nominal = 1) |
| CFG ACQ KEEPPE (EvtKeepPE) | 1 | 1 | p_df_pe_l | E7779 | Alias n° 6304 (nominal = 1) |
| CFG ACQ KeepPP (EvtKeepPP) | 1 | 1 | p_df_pp_l | E7780 | Alias n° 6304 (nominal = 1) |
| CFG ACQ Evt Force No vetoed (EvtForceNVeto) | 1 | 1 | p_df_evt-nvto_l | E7781 | Alias n° 6304 (nominal = 1) |
| CFG ACQ Spectra Storage Mode (SpeStorageMode) | 1 | 2 | p_df_sp-mod_l | E7782 | (alias n° 6370) |
| CFG DIAL HSL Transfer length bit (HslXferLength) | 1 | 16 | p_df_tr-lgth_l | E7783 | (0; 17408) |
| (EvtSetTimeFmtPE) | 1 | 1 | p_df_fmtpe_l | E7784 | Alias n° 6304 |
| (EvtForceProcPE) | 1 | 1 | p_df_procpe_l | E7785 | Alias n° 6304 |
| Adjust Delay for AFEE saturated (DelayAfeeSat) | 19 | 4 | p_df_sat-af_ln | E7800-E7818 | Calibration curve n° 6380 |
| Adjust Delay for Time Tag AFEE (DelayAfeeTT) | 19 | 4 | p_df_tg-af_ln | E7820-E7838 | Calibration curve n° 6380 |
| Delay Veto First (DelayVetoFrst) | 1 | 4 | p_df_dly-fst_l | E7840 | Calibration curve n° 6380 |
| Delay Veto Second (DelayVetoScnd) | 1 | 6 | p_df_dly-scd_l | E7841 | Calibration curve n° 6385 |
| (XtndThresh) | 1 | 8 | p_df_xtnd-thr_l | E7842 | Calibration curve n° 6381 |
| Delay PSD (DlyPsd) | 1 | 5 | p_df_dly-pd_l | E7843 | Calibration curve n° 6382 |
| (XtndGateAbove) | 1 | 8 | p_df_xgte-ab_l | E7844 | Calibration curve n° 6383 |
| (XtndGateBelow) | 1 | 8 | p_df_xgte-bl_l | E7845 | Calibration curve n° 6384 |
| (RouteActoPsd) | 1 | 2 | p_df_rout-mod_l | E7846 | Deleted |
| (RouteMode) | | | | E7848 | (alias n° 6359) |
| (RouteSatToAfee) | | | | E7847 | Deleted |



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| Parameter purpose | Nb parameters | Encoding length (bit) | Id name | DB reference | Comments |
|--|---------------|-----------------------|------------------|--------------|-------------------------------|
| Inhibition auto-test CODE | 1 | 1 | p_df_inib-code_1 | E7697 | (alias n° 6355) |
| Inhibition auto-test ASIC | 1 | 1 | p_df_inib-asic_1 | E7698 | (alias n° 6355) |
| Inhibition auto-test RAM | 1 | 1 | p_df_inib-ram_1 | E7699 | (alias n° 6355) |
| Nb HSL error Threshold (NbHslErrThreshold) | 1 | 4 | p_df_er-thr_1 | E7700 | (0; 15) |
| (ToutScaleDropNrj) | 1 | 4 | p_df_drop-nrj_1 | E7786 | |
| Mode resolution (LowResMode) | 1 | 1 | p_df_low-mod_1 | E7787 | (alias n° 6356) (nominal = 1) |
| Anti-coincidence Mode (AcMode) | 1 | 2 | p_df_ac-mod_1 | E7788 | (alias n° 6371) |
| EnHslErrAct | 1 | 1 | p_df_enhsler_1 | E7695 | (alias n° 6308) |
| NHslErrAct Threshold | 1 | 1 | p_df_enhsler_1 | E7696 | (0; 15) |

1.1.5. ACS configuration

| Parameter purpose | Nb parameters | Encoding length (bit) | Id name | DB reference | Comments |
|--|---------------|-----------------------|-------------------------------------|----------------------|--|
| Extended veto generation forced/standard | 91 | 1 | s_as_vto-fs_l1n | E5400-E5490 | Bit = 0 ⇒ Standard, = 1 ⇒ forced (alias n° 6309) |
| FEE switch High Voltage ON/OFF | 91 | 1 | s_as_hvps-oo_l1n | E5500-E5590 | Bit = 0 ⇒ OFF (after pw on), = 1 ⇒ ON (alias n° 6306) |
| FEE switch High Voltage ON/OFF PSAC HV1 HV2 | 2 | 1 | s_as_hvps-oo_l1n | E5591-E5592 | Bit = 0 ⇒ OFF (after pw on), = 1 ⇒ ON (alias n° 6306) |
| FEE watchdog configuration Enable/Disable | 91 | 1 | s_as_wdog-ed_l1n | E5600-E5690 | Bit = 0 ⇒ Dis (after pw on), = 1 ⇒ En (alias n° 6308) |
| FEE response condition Enable/Disable | 91 | 1 | s_as_resp-ed_l1n | E5700-E5790 | Bit = 0 ⇒ Dis, = 1 ⇒ En (after pw on) (alias n° 6308) |
| PEB response condition Enable/Disable PSAC | 1 | 1 | s_as_resp-ed_l191 | E5791 | Bit = 0 ⇒ Dis, = 1 ⇒ En (after pw on) (alias n° 6308) |
| FEE veto signal configuration Enable/Disable | 91 | 1 | s_as_vto-ed_l1n | E5800-E5890 | Bit = 0 ⇒ Disable (after power on), Bit = 1 ⇒ Enable (alias n° 6308) |
| PEB veto signal configuration PSAC | 1 | 1 | s_as_vto-ed_l191 | E5891 | Bit = 0 ⇒ Disable (after power on), Bit = 1 ⇒ Enable (alias 6308) |
| FEE veto signal driver configuration Enable/Disable | 91 | 1 | s_as_vto-drv_l1n | E5900-E5990 | Bit = 0 ⇒ Enable (alias n° 6322) |
| PEB veto signal driver configuration PSAC | 1 | 1 | s_as_vto-drv_l191 | E5991 | Bit = 1 ⇒ Disable (after pw on) |
| FEE veto test signal configuration: Test Pulses Burst | 91 1 | 2 1 | p_as_vto-tst_l1n p_as_burst_l191 | E6000-E6090 E6091 | Bit = 0 ⇒ No test Pulses (after pw on) Bit = 1 ⇒ Burst of 129 pulses (62.5 kHz) (alias n° 6323) |
| FEE veto signal generation Forced/standard | 91 | 1 | s_as_vto_l1n | E6100-E6190 | Bit = 0 ⇒ Standard (after pw on), Bit = 1 ⇒ forced (alias n° 6309) |
| PEB veto signal generation Forced/standard PSAC | 1 | 1 | s_as_vto_l191 | E6191 | Bit = 0 ⇒ Standard (after pw on), Bit = 1 ⇒ forced (alias n° 6309) |
| FEE extended veto signal generation Enable/Disable | 91 | 1 | s_as_vto-ext_l1n | E6200-E6290 | Bit = 0 ⇒ Disable (alias n° 6308) Bit = 1 ⇒ Enable |
| FEE veto rate meter measurement time | 91 | 4 | n_as_rate-mt_l1n | E6300-E6390 | See calibration curves n° 6402 |
| PEB veto rate measurement time | 1 | 4 | n_as_rate-mt_l192 | E6391 | See calibration curves n° 6402 |
| FEE veto delay setting | 91 | 4 | p_as_vto-dly_l1n | E6400-E6490 | See calibration curves n° 6311 |
| PEB veto delay setting PSAC | 1 | 3 | p_as_vto-dly_l1191 | E6491 | (alias n° 6331) |
| PEB veto delay setting additional delay | 1 | 1 | p_as_ad-dly_l1192 | E6492 | (alias n° 6332) |
| FEE Event trigger Threshold | 91 | 8 | p_as_evt-tgr_l1n | E6500-E6590 | See calibration curves n° 6319 |
| PEB Event trigger Threshold PSAC | 1 | 8 | p_as_evt-tgr_l191 | E6591 | See calibration curves n° 6324 |
| FEE Energy discriminator | 91 | 8 | e_as_nrg-dsc_l1n | E6600-E6690 | See calibration curves n° 6312 |
| PSAC Energy discriminator | 1 | 8 | e_as_nrg-dsc_l191 | E6691 | See calibration curves n° 6321 |
| High voltage level of each FEE | 91 | 8 | u_as_hv_l1n | E6700-E6790 | See calibration curves n° 6313 |



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|--|---------------|-----------------------|------------------|----------------------|---|
| High voltage level of each FEE PSAC PS 1 | 1 | | u_as_hv-/1 | E6791 | See calibration curves n° 6322 |
| High voltage level of each FEE PSAC PS 2 | 1 | | u_as_hv-/2 | E6792 | See calibration curves n° 6322 |
| FEE veto mask disable/enable | 91 | 1 | s_as_vto-ed_ln | E6800-E6890 | Bit = 0 ⇒ Veto signal Disable |
| PEB veto mask disable/enable | 1 | | s_as_vto_ed_l92 | | Bit = 1 ⇒ Veto signal Enable (alias n° 6314) |
| FEE veto pulse width deleted | 1 | 8 (2,8) | p_as_vto-pls-r_1 | E6898 E6899 | See alias n° 6328 |
| Configuration Data switch VCU RAM / FEE command echo | 1 | 1 | p_as_vcu/hw_1 | E6900-E6991 E7000 | Bit = 0 ⇒ Conf table selected in VCU RAM Bit = 1 ⇒ FEE echo of command sent to FEE (alias n° 6324) |
| Overall veto mask | 1 | 1 | p_as_ovl-msk_1 | E7001 | Bit = 0 ⇒ Disable Bit = 1 ⇒ Enable (alias n° 6308) |
| Enabled/Disabled ISB for each FEE | 91 | 1 | p_as_isb-ed_ln | E7400-E7490 | Bit = 0 ⇒ Disable |
| PEB enabled/disabled ISB for each FEE | 1 | | p_as_isf_ed_l92 | | Bit = 1 ⇒ Enable (alias n° 6308) |
| FEE veto pulse integration cycles count | 91 | 1 | p_as_pls-cnt_ln | E7500-E7590 | Bit = 0 ⇒ count of veto pulses (after power on and Stand-by) Bit = 1 ⇒ count of integration cycles (alias n° 6316) |
| VCU watchdog en/dis | 1 | 1 | p_as_vcuwdg_ed_1 | E7025 | Bit = 0 ⇒ Disable Bit = 1 ⇒ enable (alias 6308) |

1.1.6. PSD configuration

| Parameter purpose | Nb parameters | Encoding length (bit) | Id name | DB reference | Comments |
|--|---------------|-----------------------|------------------|--------------|---|
| Global Front End trigger for Operational and Cal modes | 1 | 3 | p_pd_trg-op_1 | E8603 | (alias n° 6347) (def: 4) |
| Low level discriminator for Operational and Cal modes (LSB) | 1 | 2 | p_pd_lwd-op_11 | E8604 | If E8605 = 0 alias 6346 if not alias 6446 |
| Low level discriminator for Operational and Cal modes (MSB) | 1 | 1 | p_pd_lwd-op_12 | E8605 | (def: 0) |
| Time window for Operational and Cal modes | 1 | 3 | p_pd_time-op_1 | E8606 | (alias n° 6345) |
| Gain Control for Operational and Cal modes | 1 | 1 | p_pd_gnc-op_1 | E8607 | (alias n° 6344) |
| Disable/Enable for detector n° 0 to n° 18 for Diag mode | 19 | 1 | s_pd_de-dg_1n | E8610-E8628 | (alias n° 6322) |
| Global Front End trigger for Diag mode | 1 | 3 | p_pd_trg-dg_1 | E8629 | (alias n° 6347) |
| Low level discriminator for Diag mode (LSB) | 1 | 2 | p_pd_lwd-dg_11 | E8630 | If E8630 = 0 alias 6346 if not alias 6446 |
| Low level discriminator for Diag mode (MSB) | 1 | 1 | p_pd_lwd-dg_12 | E8631 | |
| Time window for Diag mode | 1 | 3 | p_pd_time-dg_1 | E8632 | (alias n° 6345) |
| Gain Control for Diag mode | 1 | 1 | p_pd_gnc-dg_1 | E8633 | (alias n° 6344) (def: 0/0-2 MeV) |
| Gain adjustment for converter n° 0 to n° 3 | 4 | 8 | p_pd_gn-conv_1n | E8643-E8646 | (-128; +127) |
| Offset adjustment for converter n° 0 to n° 2 | 3 | 8 | p_pd_ofs-conv_1n | E8647-E8649 | (-128; +127) |
| Disable/Enable for detector n° 0 to n° 18 For Operational and Calibration modes | 19 | 1 | s_pd_de-op_1n | E8650-E8668 | (alias n° 6322) (def: 0) |
| Number of postprocessed events after 8 Hz edge | 1 | 8 | p_pd_nb-ev-8h_1 | E8758 | (0;10) |
| Low Threshold for detector n° 0 to n° 18 | 19 | 16 | p_pd_low-th_1n | E8670-E8688 | Cc 6358 (0; 511) |
| Overall High Threshold | | | | 8689 | Deleted |
| High Threshold for detector n° 0 to n° 18 | 19 | 16 | p_pd_high-th_1n | E8690-E8708 | Cc 6358 (0; 511) |
| Offset adjustment for converter n° 3 | 1 | 8 | p_pd_ofs-conv_14 | E8709 | (-128; +127) |
| Library selection for detector n° 0 | 1 | 3 | p_pd_lib-sel_10 | E8710 | (0; 7) |
| Event word decode K5 for detector n° 0 | 1 | 5 | p_pd_evwk5_10 | E8711 | (0; 31) |
| Number of time steps for detector n° 0 | 1 | 8 | p_pd_nb-step_10 | E8712 | (0;255) range (6; 64) |
| Number of templates for detector n° 0 | 1 | 8 | p_pd_nb-tmpl_10 | E8713 | (0; 255) range (0; 50) |
| Decode parameter K3 for detector n° 0 | 1 | 8 | p_pd_parak3_10 | E8714 | (0; 255) range (0; 100) |
| Library selection for detector n° 1 | 1 | 3 | p_pd_lib-sel_11 | E8715 | (0; 7) |
| Event word decode K5 for detector n° 1 | 1 | 5 | p_pd_evwk5_11 | E8716 | (0; 31) |
| Number of time steps for detector n° 1 | 1 | 8 | p_pd_nb-step_11 | E8717 | (0;255) range (6; 64) |
| Number of templates for detector n° 1 | 1 | 8 | p_pd_nb-tmpl_11 | E8718 | (0; 255) range (0; 50) |
| Decode parameter K3 for detector n° 1 | 1 | 8 | p_pd_parak3_11 | E8719 | (0; 255) range (0; 100) |
| Library selection for detector n° 2 | 1 | 3 | p_pd_lib-sel_12 | E8720 | (0; 7) |
| Event word decode K5 for detector n° 2 | 1 | 5 | p_pd_evwk5_12 | E8721 | (0; 31) |
| Number of time steps for detector n° 2 | 1 | 8 | p_pd_nb-step_12 | E8722 | (0;255) range (6; 64) |
| Number of templates for detector n° 2 | 1 | 8 | p_pd_nb-tmpl_12 | E8723 | (0; 255) range (0; 50) |
| Decode parameter K3 for detector n° 2 | 1 | 8 | p_pd_parak3_12 | E8724 | (0; 255) range (0; 100) |
| Library selection for detector n° 3 | 1 | 3 | p_pd_lib-sel_13 | E8725 | (0; 7) |
| Event word decode K5 for detector n° 3 | 1 | 5 | p_pd_evwk5_13 | E8726 | (0; 31) |
| Number of time steps for detector n° 3 | 1 | 8 | p_pd_nb-step_13 | E8727 | (0; 255) range (6; 64) |
| Number of templates for detector n° 3 | 1 | 8 | p_pd_nb-tmpl_13 | E8728 | (0; 255) range (0; 50) |



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| Decode parameter K3 for detector n° 3 | 1 | 8 | p_pd_parak3_13 | E8729 | (0; 255) range (0; 100) |
| Library selection for detector n° 4 | 1 | 3 | p_pd_lib-sel_14 | E8730 | (0; 7) |
| Event word decode K5 for detector n° 4 | 1 | 5 | p_pd_evwk5_14 | E8731 | (0; 31) |
| Number of time steps for detector n° 4 | 1 | 8 | p_pd_nb-step_14 | E8732 | (0; 255) range (6; 64) |
| Number of templates for detector n° 4 | 1 | 8 | p_pd_nb-tmpl_14 | E8733 | (0; 255) range (0; 50) |
| Decode parameter K3 for detector n° 4 | 1 | 8 | p_pd_parak3_14 | E8734 | (0; 255) range (0; 100) |
| Library selection for detector n° 5 | 1 | 3 | p_pd_lib-sel_15 | E8735 | (0; 7) |
| Event word decode K5 for detector n° 5 | 1 | 5 | p_pd_evwk5_15 | E8736 | (0; 31) |
| Number of time steps for detector n° 5 | 1 | 8 | p_pd_nb-step_15 | E8737 | (0; 255) range (6; 64) |
| Number of templates for detector n° 5 | 1 | 8 | p_pd_nb-tmpl_15 | E8738 | (0; 255) range (0; 50) |
| Decode parameter K3 for detector n° 5 | 1 | 8 | p_pd_parak3_15 | E8739 | (0; 255) range (0; 100) |
| Library selection for detector n° 6 | 1 | 3 | p_pd_lib-sel_16 | E8740 | (0; 7) |
| Event word decode K5 for detector n° 6 | 1 | 5 | p_pd_evwk5_16 | E8741 | (0; 31) |
| Number of time steps for detector n° 6 | 1 | 8 | p_pd_nb-step_16 | E8742 | (0; 255) range (6; 64) |
| Number of templates for detector n° 6 | 1 | 8 | p_pd_nb-tmpl_16 | E8743 | (0; 255) range (0; 50) |
| Decode parameter K3 for detector n° 6 | 1 | 8 | p_pd_parak3_16 | E8744 | (0; 255) range (0; 100) |
| Library selection for detector n° 7 | 1 | 3 | p_pd_lib-sel_17 | E8290 | (0; 7) |
| Event word decode K5 for detector n° 7 | 1 | 5 | p_pd_evwk5_17 | E8291 | (0; 31) |
| Number of time steps for detector n° 7 | 1 | 8 | p_pd_nb-step_17 | E8292 | (0; 255) range (6; 64) |
| Number of templates for detector n° 7 | 1 | 8 | p_pd_nb-tmpl_17 | E8293 | (0; 255) range (0; 50) |
| Decode parameter K3 for detector n° 7 | 1 | 8 | p_pd_parak3_17 | E8294 | (0; 255) range (0; 100) |
| Library selection for detector n° 8 | 1 | 3 | p_pd_lib-sel_18 | E8295 | (0; 7) |
| Event word decode K5 for detector n° 8 | 1 | 5 | p_pd_evwk5_18 | E8296 | (0; 31) |
| Number of time steps for detector n° 8 | 1 | 8 | p_pd_nb-step_18 | E8297 | (0; 255) range (6; 64) |
| Number of templates for detector n° 8 | 1 | 8 | p_pd_nb-tmpl_18 | E8298 | (0; 255) range (0; 50) |
| Decode parameter K3 for detector n° 8 | 1 | 8 | p_pd_parak3_18 | E8299 | (0; 255) range (0; 100) |
| Library selection for detector n° 9 | 1 | 3 | p_pd_lib-sel_19 | E8310 | (0; 7) |
| Event word decode K5 for detector n° 9 | 1 | 5 | p_pd_evwk5_19 | E8311 | (0; 31) |
| Number of time steps for detector n° 9 | 1 | 8 | p_pd_nb-step_19 | E8312 | (0; 255) range (6; 64) |
| Number of templates for detector n° 9 | 1 | 8 | p_pd_nb-tmpl_19 | E8313 | (0; 255) range (0; 50) |
| Decode parameter K3 for detector n° 9 | 1 | 8 | p_pd_parak3_19 | E8314 | (0; 255) range (0; 100) |
| Library selection for detector n° 10 | 1 | 3 | p_pd_lib-sel_110 | E8315 | (0; 7) |
| Event word decode K5 for detector n° 10 | 1 | 5 | p_pd_evwk5_110 | E8316 | (0; 31) |
| Number of time steps for detector n° 10 | 1 | 8 | p_pd_nb-step_110 | E8317 | (0; 255) range (6; 64) |
| Number of templates for detector n° 10 | 1 | 8 | p_pd_nb-tmpl_110 | E8318 | (0; 255) range (0; 50) |
| Decode parameter K3 for detector n° 10 | 1 | 8 | p_pd_parak3_110 | E8319 | (0; 255) range (0; 100) |
| Library selection for detector n° 11 | 1 | 3 | p_pd_lib-sel_111 | E8501 | (0; 7) |
| Event word decode K5 for detector n° 11 | 1 | 5 | p_pd_evwk5_111 | E8502 | (0; 31) |
| Number of time steps for detector n° 11 | 1 | 8 | p_pd_nb-step_111 | E8503 | (0;255) range (6; 64) |
| Number of templates for detector n° 11 | 1 | 8 | p_pd_nb-tmpl_111 | E8504 | (0; 255) range (0; 50) |
| Decode parameter K3 for detector n° 11 | 1 | 8 | p_pd_parak3_111 | E8505 | (0; 255) range (0; 100) |
| Library selection for detector n° 12 | 1 | 3 | p_pd_lib-sel_112 | E8506 | (0; 7) |
| Event word decode K5 for detector n° 12 | 1 | 5 | p_pd_evwk5_112 | E8507 | (0; 31) |
| Number of time steps for detector n° 12 | 1 | 8 | p_pd_nb-step_112 | E8508 | (0; 255) range (6; 64) |

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| Number of templates for detector n° 12 | 1 | 8 | p_pd_nb-tmpl_112 | E8509 | (0; 255) range (0; 50) |
| Decode parameter K3 for detector n° 12 | 1 | 8 | p_pd_parak3_112 | E8510 | (0; 255) range (0; 100) |
| Library selection for detector n° 13 | 1 | 3 | p_pd_lib-sel_113 | E8520 | (0; 7) |
| Event word decode K5 for detector n° 13 | 1 | 5 | p_pd_evwk5_113 | E8521 | (0; 31) |
| Number of time steps for detector n° 13 | 1 | 8 | p_pd_nb-step_113 | E8522 | (0; 255) range (6; 64) |
| Number of templates for detector n° 13 | 1 | 8 | p_pd_nb-tmpl_113 | E8523 | (0; 255) range (0; 50) |
| Decode parameter K3 for detector n° 13 | 1 | 8 | p_pd_parak3_113 | E8524 | (0; 255) range (0; 100) |
| Library selection for detector n° 14 | 1 | 3 | p_pd_lib-sel_114 | E8525 | (0; 7) |
| Event word decode K5 for detector n° 14 | 1 | 5 | p_pd_evwk5_114 | E8526 | (0; 31) |
| Number of time steps for detector n° 14 | 1 | 8 | p_pd_nb-step_114 | E8527 | (0;255) range (6; 64) |
| Number of templates for detector n° 14 | 1 | 8 | p_pd_nb-tmpl_114 | E8528 | (0; 255) range (0; 50) |
| Decode parameter K3 for detector n° 14 | 1 | 8 | p_pd_parak3_114 | E8529 | (0; 255) range (0; 100) |
| Library selection for detector n° 15 | 1 | 3 | p_pd_lib-sel_115 | E8533 | (0; 7) |
| Event word decode K5 for detector n° 15 | 1 | 5 | p_pd_evwk5_115 | E8534 | (0; 31) |
| Number of time steps for detector n° 15 | 1 | 8 | p_pd_nb-step_115 | E8535 | (0; 255) range (6; 64) |
| Number of templates for detector n° 15 | 1 | 8 | p_pd_nb-tmpl_115 | E8536 | (0; 255) range (0; 50) |
| Decode parameter K3 for detector n° 15 | 1 | 8 | p_pd_parak3_115 | E8537 | (0; 255) range (0; 100) |
| Library selection for detector n° 16 | 1 | 3 | p_pd_lib-sel_116 | E8538 | (0; 7) |
| Event word decode K5 for detector n° 16 | 1 | 5 | p_pd_evwk5_116 | E8539 | (0; 31) |
| Number of time steps for detector n° 16 | 1 | 8 | p_pd_nb-step_116 | E8540 | (0; 255) range (6; 64) |
| Number of templates for detector n° 16 | 1 | 8 | p_pd_nb-tmpl_116 | E8541 | (0; 255) range (0; 50) |
| Decode parameter K3 for detector n° 16 | 1 | 8 | p_pd_parak3_116 | E8542 | (0; 255) range (0; 100) |
| Library selection for detector n° 17 | 1 | 3 | p_pd_lib-sel_117 | E8552 | (0; 7) |
| Event word decode K5 for detector n° 17 | 1 | 5 | p_pd_evwk5_117 | E8553 | (0; 31) |
| Number of time steps for detector n° 17 | 1 | 8 | p_pd_nb-step_117 | E8554 | (0; 255) range (6; 64) |
| Number of templates for detector n° 17 | 1 | 8 | p_pd_nb-tmpl_117 | E8555 | (0; 255) range (0; 50) |
| Decode parameter K3 for detector n° 17 | 1 | 8 | p_pd_parak3_117 | E8556 | (0; 255) range (0; 100) |
| Library selection for detector n° 18 | 1 | 3 | p_pd_lib-sel_118 | E8557 | (0; 7) |
| Event word decode K5 for detector n° 18 | 1 | 5 | p_pd_evwk5_118 | E8558 | (0; 31) |
| Number of time steps for detector n° 18 | 1 | 8 | p_pd_nb-step_118 | E8559 | (0; 255) range (6; 64) |
| Number of templates for detector n° 18 | 1 | 8 | p_pd_nb-tmpl_118 | E8560 | (0; 255) range (0; 50) |
| Decode parameter K3 for detector n° 18 | 1 | 8 | p_pd_parak3_118 | E8561 | (0; 255) range (0; 100) |
| Nb of curves per 8Hz cycle for operational mode | 1 | 8 | p_pd_nb-crv-op_1 | E8893 | (0; 255) range (0; 5) |
| Periodicity (in 8 Hz cycles) for searching one curve for Oper | 1 | 8 | p_pd_py-8h-op_1 | E8894 | (0; 255) |
| Nb of curves per 8 Hz cycle for calibration and diag modes | 1 | 8 | p_pd_nb-crv-cd_1 | E8895 | (0; 255) range (0; 5) |
| Periodicity (in 8 Hz cycles) for searching one curve for Cal/Diag | 1 | 8 | p_pd_py-8h-cd_1 | E8896 | (0; 255) |
| Detector selection | 1 | 8 | p_pd_det-sel_1 | E8753 | (0; 255) range (0; 18) |
| Curve Selection | 1 | 8 | p_pd_crv-sel_1 | E8754 | (0; 255) |
| Set Number | 1 | 8 | p_pd_set-nb_1 | E8755 | (0; 255) range (0; 7) |
| Nb of data items | 1 | 8 | p_pd_length_1 | E8756 | (0; 255) range (1; 64) |
| CRC | 1 | 16 | p_pd_crc_1 | E8757 | |
| Data (64 samples) # 0 to # 63 | 64 | 24 (PTC = 3 PFC = 13) | p_pd_sampl_10 p_pd_sampl_163 | E8760-E8823 | |



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1.1.7. IASW management

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|--|---------------|-----------------------|------------------|-----------------|-------------------------------|
| AFEE ON/OFF status | 1 | 16 | s_sw_af-oo_1 | E/F8900 | (alias n° 6306) |
| DFEE ON/OFF status | 1 | 16 | s_sw_df-oo_1 | E/F8901 | (alias n° 6306) |
| ACS ON/OFF status | 1 | 16 | s_sw_as-oo_1 | E/F8902 | (alias n° 6306) |
| PSD ON/OFF status | 1 | 16 | s_sw_pd-oo_1 | E/F8903 | (alias n° 6306) |
| Memory load start address 1 2 3 | 1 | 24 | p_sw_meld-ad_1 | E/F8904 | |
| NB of bytes to be loaded | 1 | 8 | p_sw_nbyt-ld_1 | E/F8907 | |
| 24 data buffer | 24 | 8 | p_sw_data_ln | E/F8908-E/F8931 | |
| Memory dump start address 1 2 3 | 1 | 24 | p_sw_medp-ad_1 | E/F8932 | |
| NB of bytes to be dumped | 1 | 8 | p_sw_nbyt-dp_1 | E/F8935 | |
| Radiation mode | 1 | 16 | p_sw_rad-mod_1 | E/F8936 | (alias n° 6317) |
| High background count detection capability | 1 | 16 | p_sw_bgd-cap_1 | E/F8937 | (alias n° 6308) |
| Counting threshold for radiation overflow | 1 | 16 | p_sw_th-rd-ov_1 | E/F8938 | (0; 65535) |
| Counting filter for radiation overflow | 1 | 16 | p_sw_ft-rd-ov_1 | E/F8939 | (0; 32767) |
| Counting threshold for radiation nominal level | 1 | 16 | p_sw_th-rd-no_1 | E/F8940 | (0;65535) |
| Counting filter for radiation nominal level | 1 | 16 | p_sw_ft-rd-no_1 | E/F8941 | (0;32767) |
| Counting filter for cold plate monitoring | 1 | 16 | p_sw_cnt-ftr_1 | E/F8942 | (0; 15) |
| AFEE energy mode | 1 | 16 | p_sw_af-fnrg_1 | E/F8943 | (alias = 6372) |
| Automatic reconfiguration capability | 1 | 16 | p_sw_rconf-cap_1 | E/F8944 | (alias = 6308) |
| Spare | | | | E/F8945 | |
| Radiations belts crossing detection capability | 1 | 16 | p_sw_rad-cap_1 | E/F8946 | (alias n° 6308) |
| Delay before radiation belts | 1 | 32 | p_sw_dy-bf-rd_1 | E/F8947 | Cc 6414 |
| Deleted | | | | E/F8948 | |
| ACS ROM-RAM delay | 1 | 8 | p_sw_as-mem-dy_1 | E/F8949 | Min=0, max=255, (cc 6329) |
| Delay after radiation belts | 1 | 32 | p_sw_dy-af-rd_1 | E/F8950 | Cc 6414 |
| Deleted | | | | E/F8951 | |
| PSD ROM-RAM delay | 1 | 8 | p_sw_pd-mem-dy_1 | E/F8952 | Min = 0, max = 255, (cc 6329) |
| Imminent eclipse detection | 1 | 16 | p_sw_im-ec_1 | E/F8953 | (alias n° 6308) |
| Delay before eclipse | 1 | 32 | p_sw_dy-bf-ec_1 | E/F8954 | Cc 6414 |
| Deleted | | | | E/F8955 | |
| DFEE ROM-RAM delay | 1 | 8 | p_sw_df-mem-dy_1 | E/F8956 | Min = 0, max = 255, (cc 6329) |
| Deleted | 1 | 16 | | E/F8957 | |
| Deleted | 1 | 16 | | E/F8958 | |
| Deleted | 1 | 16 | | E/F8959 | |
| Imminent switch off detection capability | 1 | 16 | p_sw_im-sw_1 | E/F8960 | (alias n° 6308) |
| ESAM detection capability | 1 | 16 | p_sw_esam_1 | E/F8961 | (alias n° 6308) |
| AFEE LV Temperature monitoring capability | 1 | 16 | p_sw_af-lv-tp_1 | E/F8962 | (alias n° 6308) |
| Cold plate temperature monitoring capability | 1 | 16 | p_sw_cold-cap_1 | E/F8963 | (alias 6308) |
| Sensors (E0391) temperature threshold | 1 | 16 | p_sw_cold-thr_l1 | E/F8964 | Cc 6330 |
| Sensors (E0392) temperature threshold | 1 | 16 | p_sw_cold-thr_l2 | E/F8965 | Cc 6330 |



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| Sensors (E0393) temperature threshold | 1 | 16 | p_sw_cold-thr_l3 | E/F8966 | Cc 6330 |
| Sensors (E0394) temperature threshold | 1 | 16 | p_sw_cold-thr_l4 | E/F8967 | Cc 6330 |
| Correlation capability | 1 | 16 | p_sw_cor-cap_l | E/F8968 | (alias 6308) |
| HK acquisition rate | 1 | 16 | p_sw_hk-aq-rt_l | E/F8969 | (0;1) |
| Length of the block HSL DFEE | 1 | 16 | p_sw_lg-hl-df_l | E/F8970 | (0;24576) |
| Cyclic LSL error filter | 1 | 8 | p_sw_lsl-err_l | E/F8971 | Min = 0, max = 255 |
| Delay before auto-test acquisition | 1 | 16 | p_sw_dy-bf-at_l | E/F8972 | (0; 65536) Cc 6325 |
| Delay before configuration acquisition | 1 | 16 | p_sw_dy-bf-cf_l | E/F8973 | (0; 65536) Cc 6325 |
| Constituents of the spectra | 1 | 16 | p_sw_spectra_l | E/F8974 | (alias 6335) |
| Spectra/photon priority | 1 | 8 | p_sw_sp-ph-pri_l | E/f8975 | (alias 6403) |
| Spectra accumulation duration | 1 | 16 | p_sw_sp-ac-du_l | E/F8976 | (0; 65536) |
| AFEE LV temperature monitoring threshold | 1 | 16 | p_sw_af-lv-th_l | E/F8977 | (Cc 6326) |
| AFEE LV temperature monitoring filter | 1 | 16 | p_sw_af-lv-ft_l | E/F8978 | (1; 12) |
| Photon processing | 1 | 8 | p_sw_phoproc_l | E/F8979 | (alias 6404) |



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1.1.8. CSSW parameters

| Parameter purpose | Nb parameters | Encoding length (bit) | Id name | DB reference | Comments |
|--------------------------------------|---------------|-----------------------|--------------------|--------------|-----------------|
| Dump CSSW MID | 1 | 16 | Dump_cssw_mid | Q4361 | PTC = 2 PFC = 0 |
| Dump CSSW Start physical address MSB | 1 | 16 | Dump_cssw_start_ad | Q4362 | PTC = 2 PFC = 0 |
| Dump CSSW Start physical address LSB | 1 | 16 | Dump_cssw_start-ad | Q4363 | PTC = 2 PFC = 0 |
| Dump CSSW length | 1 | 16 | Dump_cssw_start_lg | Q4364 | PTC = 2 PFC = 0 |



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1.1.9. Diagnostic parameters

| Parameter purpose | Nb parameters | Encoding length (bit) | Id name | DB reference | Comments |
|--|---------------|-----------------------|---------------------------------|----------------------------|--|
| Sub-assemblies identifiers Block acquisition identifier | 96 96 | 8 8 | p_diag_sa-id_ln p_diag_hk_ln | E6901-E6996 E8401-E8496 | PTC = 2, PFC= 8 (alias 6402) PTC = 3, PFC = 4 (min = 0, max = 255) |

1.2. TC PACKET STRUCTURE DEFINITION AND CONTENT

1.2.1. Analogue chains configuration

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|---------------|------|----------|---------|------------|---------------------------|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1025/ 1153 | 5 | 3 | E/F0001 | tc-c_af_hv | AFEE High Voltage setting | 1 | 2 (TID) 1 (FID) TC ID = 1 2 (AFEE) "C" 01 Hex E/F5010 | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| | | | | | | 25 | E/F5028 | | | | | | | |
| | | | | | | 26 | Checksum | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|---------------|------|----------|---------|--------------|----------------------------|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1025/ 1153 | 5 | 3 | E/F0002 | tc-c_af_lwdt | AFEE low threshold setting | 1 | 2 (TID) 2 (FID) TC ID = 1 2 (AFEE) "C" 02 Hex E/F5030 | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| | | | | | | 25 | E/F5048 | | | | | | | |
| | | | | | | 26 | Checksum | | | | | | | |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|---------------|------|----------|---------|----------------|-------------------------|---------|--|----------|----------|----------|----------|----------|----------|-------------|
| 1025/ 1153 | 5 | 3 | E/F0003 | tc-c_af_ch-par | Chain parameter setting | 1 | 2 (TID) 3 (FID) TC ID = 1 2 (AFEE) "C" 03 Hex | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| | | | | | | E5050 | E5070 | E5090 | E5130 | E5150 | 0 | 0 | 0 | |
| | | | | | | 25 | E5068 | E5088 | E5108 | E5148 | E5168 | 0 | 0 | 0 |
| | | | | | | 26 | Checksum | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|---------------|------|----------|---------|---------------|---|----------------------------|--|----------|----------|----------|----------|----------|----------|-------------|
| 1025/ 1153 | 5 | 3 | E/F0004 | tc-c_af_ch-oo | Chains ON/OFF configuration and regeneration setting for AFEE | 1 | 2 (TID) 4 (FID) TC ID = 1 2 (AFEE) "C" 04 Hex | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| | | | | | | | E5177 | E5176 | E5175 | E5174 | E5173 | E5172 | E5171 | E5170 |
| | | | | | | | E5185 | E5184 | E5183 | E5182 | E5181 | E5180 | E5179 | E5178 |
| | | | | | | | 0 | 0 | 0 | 0 | 0 | E5188 | E5187 | E5186 |
| | | | | | | | E5197 | E5196 | E5195 | E5194 | E5193 | E5192 | E5191 | E5190 |
| | | | | | | | E5205 | E5204 | E5203 | E5202 | E5201 | E5200 | E5199 | E5198 |
| | | | | | | | 0 | 0 | 0 | 0 | 0 | E5208 | E5207 | E5206 |
| | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | E5209 |
| | | | | | | E5003 E5004 Checksum | | | | | | | | |

1.2.2. Analogue chains HK acquisition (on-request TC)

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|------------|--|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 4 | E/F0011 | tc-r_af_hv | Requests High Voltage for detectors n° 0 to 18 | 1 2 3 4 5 6 7 8 | | | | | | | | | 2 (TID) 1 (FID) TC ID = 8 2 (AFEE) "K" 01 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|--------------|--|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 4 | E/F0012 | tc-r_af_lwdt | Requests Low Thresholds for detectors n° 0 to 18 | 1 2 3 4 5 6 7 8 | | | | | | | | | 2 (TID) 2 (FID) TC ID = 8 2 (AFEE) "K" 02 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|----------------|--|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 4 | E/F0013 | tc-r_af_ch-par | Requests Chain parameters for detectors n° 0 to 18 | 1 2 3 4 5 6 7 8 | | | | | | | | | 2 (TID) 3 (FID) TC ID = 8 2 (AFEE) "K" 03 Hex 00 Hex CS |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|---------------|---|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|--|
| 1025/1153 | 5 | 4 | E/F0014 | tc-r_af_ch-oo | Requests Chain ON/OFF configuration, generations for detectors n° 0 to 18 | 1 2 3 4 5 6 7 8 | | | | | | | | 2 (TID) 4 (FID) TC ID = 8 2 (AFEE) "K" 04 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|---------------|---|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|---|
| 1025/1153 | 5 | 4 | E/F0020 | tc-r_af_pa2-1 | Request Preampli Temperature for detectors n° 0 to 18 | 1 2 3 4 5 6 7 8 | | | | | | | | 2 (TID) 16 (FID) TC ID = 8 2 (AFEE) "K" 10 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|-------------|---|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|---|
| 1025/1153 | 5 | 4 | E/F0021 | tc-rm_af_hv | Request HVPS voltage for detectors n° 0 to 18 | 1 2 3 4 5 6 7 8 | | | | | | | | 2 (TID) 17 (FID) TC ID = 8 2 (AFEE) "K" 11 Hex 00 Hex CS |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|---------------|--|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|---|
| 1025/1153 | 5 | 4 | E/F0022 | tc-rm_af_lwtd | Request Low Threshold for detectors n° 0 to 18 | 1 2 3 4 5 6 7 8 | | | | | | | | | 2 (TID) 18 (FID) TC ID = 8 2 (AFEE) "K" 12 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|---------------|---|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|---|
| 1025/1153 | 5 | 4 | E/F0023 | tc-rm_af_lvps | Request LVPS voltage for detectors n° 0 to 18 | 1 2 3 4 5 6 7 8 | | | | | | | | | 2 (TID) 19 (FID) TC ID = 8 2 (AFEE) "K" 13 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|---------------|--|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|---|
| 1025/1153 | 5 | 4 | E/F0024 | tc-rm_af_dcde | Request DC-DC converter temperature for detectors n° 0 to 18 | 1 2 3 4 5 6 7 8 | | | | | | | | | 2 (TID) 20 (FID) TC ID = 8 2 (AFEE) "K" 14 Hex 00 Hex CS |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|---------------|---|--------------------------------------|-------------|----------|----------|----------|---|----------|----------|-------------|
| 1025/1153 | 5 | 4 | E/F0025 | tc-r_af_adc-1 | Request ADC temperature for detectors n° 0 to 8 | 1 2 3 4 5 6 7 8 | | | | | 2 (TID) 21 (FID) TC ID = 8 2 (AFEE) "K" 15 Hex 00 Hex CS | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|----------------|---|--------------------------------------|-------------|----------|----------|----------|---|----------|----------|-------------|
| 1025/1153 | 5 | 4 | E/F0026 | tc-r_af_dcoupt | Request Digital Converter Output Voltage for detectors n° 0 to 18 | 1 2 3 4 5 6 7 8 | | | | | 2 (TID) 22 (FID) TC ID = 8 2 (AFEE) "K" 16 Hex 00 Hex CS | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|-----------------|--|--------------------------------------|-------------|----------|----------|----------|---|----------|----------|-------------|
| 1025/1153 | 5 | 4 | E/F0027 | tc-r_af_wrk-rng | Request Configuration for detectors n° 0 to 18 | 1 2 3 4 5 6 7 8 | | | | | 2 (TID) 23 (FID) TC ID = 8 2 (AFEE) "K" 17 Hex 00 Hex CS | | | |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|---------------|---|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|---|
| 1025/1153 | 5 | 4 | E/F0028 | tc-r_af_pa2-2 | Request Preampli Temperature for detectors n° 9 to 18 | 1 2 3 4 5 6 7 8 | | | | | | | | | 2 (TID) 24 (FID) TC ID = 8 2 (AFEE) "K" 18 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|---------------|--|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|---|
| 1025/1153 | 5 | 4 | E/F0029 | tc-r_af_adc-2 | Request ADC temperature for detectors n° 0 to 18 | 1 2 3 4 5 6 7 8 | | | | | | | | | 2 (TID) 25 (FID) TC ID = 8 2 (AFEE) "K" 19 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|---------------|---------------------------------|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|---|
| 1025/1153 | 5 | 4 | E/F0030 | tc-r_af_g-par | Request AFEE general parameters | 1 2 3 4 5 6 7 8 | | | | | | | | | 2 (TID) 32 (FID) TC ID = 8 2 (AFEE) "K" 20 Hex 00 Hex CS |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|---------------|------|----------|---------|--------------|--------------------------------|--------------------------------------|-------------|----------|----------|----------|---|----------|----------|-------------|
| 1025/ 1153 | 5 | 4 | E/F0031 | tc-r_af_cryo | Request Cryogenic Temperatures | 1 2 3 4 5 6 7 8 | | | | | 2 (TID) 33 (FID) TC ID = 8 2 (AFEE) "K" 21 Hex 00 Hex CS | | | |



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1.2.3. DFEE configuration

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|---------------|----------|----------|---------|----------------|------------------------------|---------|--|----------|----------|----------|----------|----------|----------|-------------|
| 1025/ 1153 | 5 | 3 | E/F0101 | tc-c_df_sw-par | Software parameters settings | 1 | 5 (TID) 1 (FID) TC ID = 1 5 (DFEE) "C" 01 Hex | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | 0 | E7697 | E7698 | E7699 | E7700 | | | |
| | | | | | | 8 | 2 | | | | | | | |
| | | | | | | 9 | 0 | 0 | 0 | E7695 | E7696 | | | |
| 33 | 00 Hex | | | | | | | | | | | | | |
| 34 | Checksum | | | | | | | | | | | | | |

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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | | | | | |
|---------------|------|----------|---------|-----------------|---|---------|--|----------|----------|----------------|----------------|----------------|----------------|----------------|---|--|---|--|---|--|
| 1025/ 1153 | 5 | 3 | E/F0102 | tc-c_df_cl-line | Front end lines reset and parameters settings for: dead time calculation, association, acquisition algorithm, HSL configuration | 1 | 5 (TID) 2 (FID) TC ID = 1 5 (DFEE) "C" 02 Hex | | | | | | | | | | | | | |
| | | | | | | 2 | | | | | | | | | | | | | | |
| | | | | | | 3 | | | | | | | | | | | | | | |
| | | | | | | 4 | | | | | | | | | | | | | | |
| | | | | | | 5 | | | | | | | | | | | | | | |
| | | | | | | 6 | | | | | | | | | | | | | | |
| | | | | | | 7 | E7701 | E7702 | E7703 | E7722 | E7721 | E7720 | E7719 | E7718 | | | | | | |
| | | | | | | 8 | E7717 | E7716 | E7715 | E7714 | E7713 | E7712 | E7711 | E7710 | | | | | | |
| | | | | | | 9 | E7709 | E7708 | E7707 | E7706 | E7705 | E7704 | E7723 | E7742 | | | | | | |
| | | | | | | 10 | E7741 | E7740 | E7739 | E7738 | E7737 | E7736 | E7735 | E7734 | | | | | | |
| | | | | | | 11 | E7733 | E7732 | E7731 | E7730 | E7729 | E7728 | E7727 | E7726 | | | | | | |
| | | | | | | 12 | E7725 | E7724 | E7743 | E7744 | E7745 | E7746 | E7747 | E7748 | | | | | | |
| | | | | | | 13 | E7749 | E7750 | E7751 | E7787 | E7786 E7788 | | E7756 E7768 | | | | | | | |
| | | | | | | 14 | E7753 | | | | | | | | | | | | | |
| | | | | | | 15 | E7775 | E7774 | E7773 | E7772 | E7771 | E7770 | E7769 | E7768 | | | | | | |
| | | | | | | 16 | E7767 | E7766 | E7765 | E7764 | E7763 | E7762 | E7761 | E7760 | | | | | | |
| | | | | | | 17 | E7759 | E7758 | E7757 | E7780 E7784 | | E7776 E7781 | | E7785 E7782 | | | | | | |
| | | | | | | 18 | E7777 | E7778 | E7779 | | | | | | | | | | | |
| | | | | | | 19 | LSB | 1 | 1 | 0 | MSB | | | | | | | | | |
| | | | | | | 20 | E7783 | | | | | | | | 0 | | 0 | | 1 | |
| | | | | | | 21 | | | | | | | | | | | | | | |
| | | | | | | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | |
| | | | | | | 23 | 00 Hex CS | | | | | | | | | | | | | |
| | | | | | | 24 | | | | | | | | | | | | | | |

E7752 E7754 E7755 deleted



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | | | | | |
|---------------|------|----------|---------|------------------|---|---------|--|----------|----------|----------|----------|----------|----------|-------------|-------|--|--|--|--|--|
| 1025/ 1153 | 5 | 3 | E/F0103 | tc-c_df_asic-adj | Definition of ASIC parameters for Front End signal alignment and veto gate adjustment | 1 | 5 (TID) 3 (FID) TC ID = 1 5 (DFEE) "C" 03 Hex | | | | | | | | | | | | | |
| | | | | | | 2 | | | | | | | | | | | | | | |
| | | | | | | 3 | | | | | | | | | | | | | | |
| | | | | | | 4 | | | | | | | | | | | | | | |
| | | | | | | 5 | | | | | | | | | | | | | | |
| | | | | | | 6 | | | | | | | | | | | | | | |
| | | | | | | 7 | E7838 | | | | E7818 | | | | | | | | | |
| | | | | | | 8 | E7837 | | | | E7817 | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 24 | E7821 | | | | E7801 | | | | | | | | | |
| | | | | | | 25 | E7820 | | | | E7800 | | | | | | | | | |
| | | | | | | 26 | E7840 | | | | MSB | | | | E7841 | | | | | |
| 27 | LSB | | | | MSB | | | | E7842 | | | | | | | | | | | |
| 28 | LSB | | | | MSB | | | | E7844 | | | | | | | | | | | |
| 29 | LSB | | | | MSB | | | | E7845 | | | | | | | | | | | |
| 30 | LSB | | | | E7843 | | | | 1 | | | | | | | | | | | |
| 31 | 1 | 1 | E7848 | | 0 | 0 | 0 | 0 | 0 | | | | | | | | | | | |
| 32 | CS | | | | | | | | | | | | | | | | | | | |

E7846 E7847 deleted

1.2.4. DFEE HK acquisition (on-request TC)

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|----------------|-----------------------------|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 4 | E/F0111 | tc-r_df_sw-par | Request Software parameters | 1 2 3 4 5 6 7 8 | | | | | | | | | 5 (TID) 1 (FID) TC ID = 8 5 (DFEE) "K" 01 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|-----------------|---------------------------------|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 4 | E/F0112 | tc-r_df_cl-line | Request Control line parameters | 1 2 3 4 5 6 7 8 | | | | | | | | | 5 (TID) 2 (FID) TC ID = 8 5 (DFEE) "K" 02 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|----------------|--|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 4 | E/F0113 | tc-r_df_af-adj | Request AFEE adjustment state machine configuration lines | 1 2 3 4 5 6 7 8 | | | | | | | | | 5 (TID) 3 (FID) TC ID = 8 5 (DFEE) "K" 03 Hex 00 Hex CS |

1.2.5. ACS configuration

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|---------------|------|----------|---------|---------------|--|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1025/ 1153 | 5 | 3 | E/F0201 | tc-c_as_serv1 | System Service 1 (watchdog, test config, response, HV conf) FEE n° 0 to 30 | 1 | 3 (TID) 1 (FID) TC ID = 1 3 (ACS) "C" 01 Hex | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| | | | | | | 0 | 0 | 0 | E5500 | E6000 | E5600 | E5700 | | |
| | | | | | | 37 | 0 | 0 | 0 | E5530 | E6030 | E5630 | E5730 | |
| | | | | | | 38 | CS | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|---------------|------|----------|---------|---------------|---|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1025/ 1153 | 5 | 3 | E/F0202 | tc-c_as_serv2 | System Service 2 (watchdog, test config, response, HV conf) FEE n° 31 to 61 | 1 | 3 (TID) 2 (FID) TC ID = 1 3 (ACS) "C" 02 Hex | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| | | | | | | 0 | 0 | 0 | E5531 | E6031 | E5631 | E5731 | | |
| | | | | | | 37 | 0 | 0 | 0 | E5561 | E6061 | E5661 | E5761 | |
| | | | | | | 38 | CS | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|---------------|------|----------|---------|---------------|---|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| 1025/ 1153 | 5 | 3 | E/F0203 | tc-c_as_serv3 | System Service 3 (watchdog, test config, response, HV conf) FEE n° 62 to 91 | 1 | 3 (TID) | | | | | | | |
| | | | | | | 2 | 3 (FID) | | | | | | | |
| | | | | | | 3 | TC ID = 1 | | | | | | | |
| | | | | | | 4 | 3 (ACS) | | | | | | | |
| | | | | | | 5 | "C" | | | | | | | |
| | | | | | | 6 | 03 Hex | | | | | | | |
| | | | | | | 7 | 0 | 0 | 0 | E5562 | E6062 | E5662 | E5762 | |
| | | | | | | | | | | | | | | |
| | | | | | | 35 | 0 | 0 | 0 | E5590 | E6090 | | E5690 | E5790 |
| | | | | | | 36 | 0 | 0 | 0 | E5591 | E5592 | E6091 | 0 | E5791 |
| | | | | | | 37 | 00 Hex | | | | | | | |
| | | | | | | 38 | CS | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|---------------|------|----------|---------|------------------|--|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| 1025/ 1153 | 5 | 3 | E/F0204 | tc-c_as_vto-cnf1 | Veto signal configuration 1 for FEE 0 to 30 | 1 | 3 (TID) | | | | | | | |
| | | | | | | 2 | 4 (FID) | | | | | | | |
| | | | | | | 3 | TC ID = 1 | | | | | | | |
| | | | | | | 4 | 3 (ACS) | | | | | | | |
| | | | | | | 5 | "C" | | | | | | | |
| | | | | | | 6 | 04 Hex | | | | | | | |
| | | | | | | 7 | 0 | 0 | 0 | E5400 | E6200 | E6100 | E5900 | E5800 |
| | | | | | | | | | | | | | | |
| | | | | | | 37 | 0 | 0 | 0 | E5430 | E6230 | E6130 | E5930 | E5830 |
| | | | | | | 38 | CS | | | | | | | |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|---------------|----------|----------|---------|------------------|------------------------------------|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1025/ 1153 | 5 | 3 | E/F0207 | tc-c_as_rate-mt1 | Rate meter setting for FEE 0 to 30 | 1 | 3 (TID) 7 (FID) TC ID = 1 3 (ACS) "C" 07 Hex | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| 37 | 0 | 0 | 0 | E7530 | E6330 | | | | | | | | | |
| 38 | Checksum | | | | | | | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|---------------|----------|----------|---------|------------------|-------------------------------------|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1025/ 1153 | 5 | 3 | E/F0208 | tc-c_as_rate-mt2 | Rate meter setting for FEE 31 to 61 | 1 | 3 (TID) 8 (FID) TC ID = 1 3 (ACS) "C" 08 Hex | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| 37 | 0 | 0 | 0 | E7561 | E6361 | | | | | | | | | |
| 38 | Checksum | | | | | | | | | | | | | |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|--------------------|----------|---------|------------------|-------------------------------------|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1025/1153 | 5 | 3 | E/F0209 | tc-c_as_rate-mt3 | Rate meter setting for FEE 62 to 91 | 1 | 3 (TID) 9 (FID) TC ID = 1 3 (ACS) "C" 09 Hex | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| 35 | 0 | 0 | 0 | E7590 | E6390 | | | | | | | | | |
| 36 | 0 | 0 | 0 | 0 | E6391 | | | | | | | | | |
| 37 | 00 Hex Checksum | | | | | | | | | | | | | |
| 38 | | | | | | | | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|--------------------|----------|---------|------------------|---|---------|--|----------|----------|----------|----------|----------|----------|-------------|
| 1025/1153 | 5 | 3 | E/F0210 | tc-c_as_vto-dly1 | Veto signal delay setting for FEE 0 to 30 | 1 | 3 (TID) 10 (FID) TC ID = 1 3 (ACS) "C" 0A Hex | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| 21 | E6429 | | | | E6428 | | | | | | | | | |
| 22 | 0 | | | | E6430 | | | | | | | | | |
| 23 | 00 Hex Checksum | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|----------|----------|---------|------------------|--|---------|--|----------|----------|----------|----------|----------|----------|-------------|
| 1025/1153 | 5 | 3 | E/F0211 | tc-c_as_vto-dly2 | Veto signal delay setting for FEE 31 to 61 | 1 | 3 (TID) 11 (FID) TC ID = 1 3 (ACS) "C" 0B Hex | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| 21 | E6460 | | E6459 | | | | | | | | | | | |
| 22 | 0 | | E6461 | | | | | | | | | | | |
| 23 | 00 Hex | | | | | | | | | | | | | |
| 24 | Checksum | | | | | | | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|----------|----------|---------|------------------|--|---------|--|----------|----------|----------|----------|----------|----------|-------------|
| 1025/1153 | 5 | 3 | E/F0212 | tc-c_as_vto-dly3 | Veto signal delay setting for FEE 62 to 91 | 1 | 3 (TID) 12 (FID) TC ID = 1 3 (ACS) "C" 0C Hex | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| 21 | E6491 | E6492 | E6490 | | | | | | | | | | | |
| 22 | Checksum | | | | | | | | | | | | | |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|---------------|------|----------|---------|------------------|---|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1025/ 1153 | 5 | 3 | E/F0213 | tc-c_as_evt-tgr1 | Event trigger threshold definition for FEE 0 to 30 | 1 | 3 (TID) 13 (FID) TC ID = 1 3 (ACS) "C" 0D Hex E6500 | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| | | | | | | 37 | E6530 | | | | | | | |
| | | | | | | 38 | Checksum | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|---------------|------|----------|---------|------------------|--|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1025/ 1153 | 5 | 3 | E/F0214 | tc-c_as_evt-tgr2 | Event trigger threshold definition for FEE 31 to 61 | 1 | 3 (TID) 14 (FID) TC ID = 1 3 (ACS) "C" 0E Hex E6531 | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| | | | | | | 37 | E6561 | | | | | | | |
| | | | | | | 38 | Checksum | | | | | | | |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|------------------|--|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1025/1153 | 5 | 3 | E/F0215 | tc-c_as_evt-tgr3 | Event trigger threshold definition for FEE 62 to 91 | 1 | 3 (TID) 15 (FID) TC ID = 1 3 (ACS) "C" 0F Hex E6562 | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| | | | | | | 36 | E6591 00 Hex Checksum | | | | | | | |
| 37 | | | | | | | | | | | | | | |
| 38 | | | | | | | | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|------------------|--|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1025/1153 | 5 | 3 | E/F0216 | tc-c_as_nrg-dsc1 | Energy discriminator definition for FEE 0 to 30 | 1 | 3 (TID) 16 (FID) TC ID = 1 3 (ACS) "C" 10 Hex E6600 | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| | | | | | | 37 | E6630 Checksum | | | | | | | |
| 38 | | | | | | | | | | | | | | |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|---------------|------|----------|---------|------------------|--|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1025/ 1153 | 5 | 3 | E/F0217 | tc-c_as_nrg-dsc2 | Event discriminator definition for FEE 31 to 61 | 1 | 3 (TID) 17 (FID) TC ID = 1 3 (ACS) "C" 11 Hex E6631 | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| | | | | | | 37 | E6661 | | | | | | | |
| | | | | | | 38 | Checksum | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|---------------|------|----------|---------|------------------|---|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1025/ 1153 | 5 | 3 | E/F0218 | tc-c_as_nrg-dsc3 | Energy discriminator definition for FEE 62 to 91 | 1 | 3 (TID) 18 (FID) TC ID = 1 3 (ACS) "C" 12 Hex E6662 | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| | | | | | | 36 | E6691 | | | | | | | |
| | | | | | | 37 | 00 Hex | | | | | | | |
| | | | | | | 38 | Checksum | | | | | | | |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|---------------|------|----------|---------|-------------|---|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1025/ 1153 | 5 | 3 | E/F0219 | tc-c_as_hv1 | High voltage setting for FEE 0 to 30 | 1 | 3 (TID) 19 (FID) TC ID = 1 3 (ACS) "C" 13 Hex E6700 | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| | | | | | | 37 | E6730 | | | | | | | |
| | | | | | | 38 | Checksum | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|---------------|------|----------|---------|-------------|--|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1025/ 1153 | 5 | 3 | E/F0220 | tc-c_as_hv2 | High voltage setting for FEE 31 to 61 | 1 | 3 (TID) 20 (FID) TC ID = 1 3 (ACS) "C" 14 Hex E6731 | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| | | | | | | 37 | E6761 | | | | | | | |
| | | | | | | 38 | Checksum | | | | | | | |

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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|---------------|------|----------|---------|-------------|--|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1025/ 1153 | 5 | 3 | E/F0221 | tc-c_as_hv3 | High voltage setting for FEE 62 to 91 | 1 | 3 (TID) 21 (FID) TC ID = 1 3 (ACS) "C" 15 Hex E6762 | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | E6791 | | | | | | | |
| | | | | | | | E6792 | | | | | | | |
| | | | | | | | Checksum | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|---------------|------|----------|---------|-----------------|--|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1025/ 1153 | 5 | 3 | E/F0222 | tc-c_as_vto-pls | Veto pulse width setting Veto masked for FEE setting Overall veto masked setting | 1 | 3 (TID) 22 (FID) TC ID = 1 3 (ACS) "C" 16 Hex E6898 | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| | | | | | | | | | | | | | E6807 | E6806 |
| | | | | | | | | | | | | | | |
| | | | | | | | E7000 | 0 | E7025 | E7001 | E6891 | E6890 | E6889 | E6888 |
| | | | | | | | CS | | | | | | | |
| | | | | | | | | | | | | | | |

TC E0223 deleted



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|---------------|--------|----------|---------|----------------|--|---------|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 1025/ 1153 | 5 | 3 | E/F0224 | tc-c_as_isb-oo | ISB communication ON/OFF for each FEE | 1 | 3 (TID) 64 (FID) TC ID = 1 3 (ACS) "C" 40 Hex | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| | | | | | | 8 | E7407 E7415 | E7406 E7414 | E7405 E7413 | E7404 E7411 | E7403 E7411 | E7402 E7410 | E7401 E7409 | E7400 E7408 |
| 18 | 0 | 0 | 0 | 0 | E7491 | E7490 | E7489 | E7488 | | | | | | |
| 19 | 00 Hex | | | | | | | | | | | | | |
| 20 | CS | | | | | | | | | | | | | |

1.2.6. ACS HK acquisition (on-request TC)

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|---------------|--|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|---|
| 1025/1153 | 5 | 4 | E/F0251 | tc-r_as_serv1 | Request for system service (watchdog, test config, response conditions, HV conf) | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 1 (FID) TC ID = 8 3 (ACS) "K" 01 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|---------------|--|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|---|
| 1025/1153 | 5 | 4 | E/F0252 | tc-r_as_serv2 | Request for system service (watchdog, test config, response conditions, HV conf) | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 2 (FID) TC ID = 8 3 (ACS) "K" 02 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|---------------|--|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|---|
| 1025/1153 | 5 | 4 | E/F0253 | tc-r_as_serv3 | Request for system service (watchdog, test config, response conditions, HV conf) | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 3 (FID) TC ID = 8 3 (ACS) "K" 03 Hex 00 Hex CS |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|------------------|--|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|---|
| 1025/1153 | 5 | 4 | E/F0254 | tc-r_as_vto-cnf1 | Request Veto signal generation condition for FEE 0 to 30 | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 4 (FID) TC ID = 8 3 (ACS) "K" 04 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|------------------|---|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|---|
| 1025/1153 | 5 | 4 | E/F0255 | tc-r_as_vto-cnf2 | Request Veto signal generation condition for FEE 31 to 61 | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 5 (FID) TC ID = 8 3 (ACS) "K" 05 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|------------------|---|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|---|
| 1025/1153 | 5 | 4 | E/F0256 | tc-r_as_vto-cnf3 | Request Veto signal generation condition for FEE 62 to 91 | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 6 (FID) TC ID = 8 3 (ACS) "K" 06 Hex 00 Hex CS |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|------------------|------------------------------------|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|---|
| 1025/1153 | 5 | 4 | E/F0257 | tc-r_as_rate-mt1 | Request Rate meter for FEE 0 to 30 | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 7 (FID) TC ID = 8 3 (ACS) "K" 07 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|------------------|-------------------------------------|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|---|
| 1025/1153 | 5 | 4 | E/F0258 | tc-r_as_rate-mt2 | Request Rate meter for FEE 31 to 61 | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 8 (FID) TC ID = 8 3 (ACS) "K" 08 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|------------------|-------------------------------------|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|---|
| 1025/1153 | 5 | 4 | E/F0259 | tc-r_as_rate-mt3 | Request Rate meter for FEE 62 to 91 | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 9 (FID) TC ID = 8 3 (ACS) "K" 09 Hex 00 Hex CS |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|------------------|------------------------------------|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 4 | E/F0260 | tc-r_as_vto-dly1 | Request Veto delay for FEE 0 to 30 | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 10 (FID) TC ID = 8 3 (ACS) "K" 0A Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|------------------|-------------------------------------|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 4 | E/F0261 | tc-r_as_vto-dly2 | Request Veto delay for FEE 31 to 61 | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 11 (FID) TC ID = 8 3 (ACS) "K" 0B Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|------------------|-------------------------------------|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 4 | E/F0262 | tc-r_as_vto-dly3 | Request Veto delay for FEE 62 to 91 | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 12 (FID) TC ID = 8 3 (ACS) "K" 0C Hex 00 Hex CS |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|------------------|--|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 4 | E/F0263 | tc-r_as_evt-tgr1 | Request Event trigger threshold for FEE 0 to 30 | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 13 (FID) TC ID = 8 3 (ACS) "K" 0D Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|------------------|---|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|---|
| 1025/1153 | 5 | 4 | E/F0264 | tc-r_as_evt-tgr2 | Request Event trigger threshold for FEE 31 to 61 | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 14 (FID) TC ID = 8 23 (ACS) "K" 0E Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|------------------|---|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 4 | E/F0265 | tc-r_as_evt-tgr3 | Request Event trigger threshold for FEE 62 to 91 | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 15 (FID) TC ID = 8 3 (ACS) "K" 0F Hex 00 Hex CS |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|------------------|---|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 4 | E/F0266 | tc-r_as_nrg-dsc1 | Request Energy discriminator for FEE 0 to 30 | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 16 (FID) TC ID = 8 3 (ACS) "K" 10 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|------------------|--|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 4 | E/F0267 | tc-r_as_nrg-dsc2 | Request Energy discriminator for FEE 31 to 61 | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 17 (FID) TC ID = 8 3 (ACS) "K" 11 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|------------------|--|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 4 | E/F0268 | tc-r_as_nrg-dsc3 | Request Energy discriminator for FEE 62 to 91 | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 18 (FID) TC ID = 8 3 (ACS) "K" 12 Hex 00 Hex CS |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|-------------|---|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 4 | E/F0269 | tc-r_as_hv1 | Request High voltage for FEE 0 to 30 | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 19 (FID) TC ID = 8 3 (ACS) "K" 13 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|-------------|--|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 4 | E/F0270 | tc-r_as_hv2 | Request High voltage for FEE 31 to 61 | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 20 (FID) TC ID = 8 3 (ACS) "K" 14 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|-------------|--|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 4 | E/F0271 | tc-r_as_hv3 | Request High voltage for FEE 62 to 91 | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 21 (FID) TC ID = 8 3 (ACS) "K" 15 Hex 00 Hex CS |

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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|-----------------|--|--------------------------------------|-------------|----------|----------|----------|--|----------|----------|-------------|
| 1025/1153 | 5 | 4 | E/F0272 | tc-r_as_vto-pls | Request Veto pulse width Request Veto masked for FEE Request Overall veto masked | 1 2 3 4 5 6 7 8 | | | | | 3 (TID) 22 (FID) TC ID = 8 3 (ACS) "K" 16 Hex 00 Hex CS | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|----------------|--------------------------|--------------------------------------|-------------|----------|----------|----------|--|----------|----------|-------------|
| 1025/1153 | 5 | 4 | E/F0273 | tc-r_as_isb-oo | ISB communication ON/OFF | 1 2 3 4 5 6 7 8 | | | | | 3 (TID) 64 (FID) TC ID = 8 3 (ACS) "K" 40 Hex 00 Hex CS | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|-------------|-----------------------------------|--------------------------------------|-------------|----------|----------|----------|--|----------|----------|-------------|
| 1025/1153 | 5 | 4 | E/F0280 | tc-r_as_v-c | Request voltage and current value | 1 2 3 4 5 6 7 8 | | | | | 3 (TID) 23 (FID) TC ID = 8 3 (ACS) "K" 17 Hex 00 Hex CS | | | |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|-----------------|----------------------------------|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 4 | E/F0281 | tc-r_as_shild-t | Request Veto shield temperatures | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 24 (FID) TC ID = 8 3 (ACS) "K" 18 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|-----------------|-------------------------------------|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 4 | E/F0282 | tc-r_as_an-sts1 | Request analogue status FEE 0 to 14 | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 25 (FID) TC ID = 8 3 (ACS) "K" 19 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|-----------------|--------------------------------------|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 4 | E/F0283 | tc-r_as_an-sts2 | Request analogue status FEE 15 to 29 | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 26 (FID) TC ID = 8 3 (ACS) "K" 1A Hex 00 Hex CS |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|-----------------|--------------------------------------|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 4 | E/F0284 | tc-r_as_an-sts3 | Request analogue status FEE 30 to 44 | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 27 (FID) TC ID = 8 3 (ACS) "K" 1B Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|-----------------|--------------------------------------|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 4 | E/F0285 | tc-r_as_an-sts4 | Request analogue status FEE 45 to 59 | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 28 (FID) TC ID = 8 3 (ACS) "K" 1C Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|-----------------|--------------------------------------|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 4 | E/F0286 | tc-r_as_an-sts5 | Request analogue status FEE 60 to 75 | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 29 (FID) TC ID = 8 3 (ACS) "K" 1D Hex 00 Hex CS |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|-----------------|--------------------------------------|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 4 | E/F0287 | tc-r_as_an-sts6 | Request analogue status FEE 76 to 91 | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 30 (FID) TC ID = 8 3 (ACS) "K" 1E Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|-----------------|----------------------------------|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 4 | E/F0288 | tc-r_as_alt-st1 | Request FEE alert status 0 to 30 | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 32 (FID) TC ID = 8 3 (ACS) "K" 20 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|-----------------|-----------------------------------|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 4 | E/F0289 | tc-r_as_alt-st2 | Request FEE alert status 31 to 61 | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 33 (FID) TC ID = 8 3 (ACS) "K" 21 Hex 00 Hex CS |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|-----------------|-----------------------------------|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 4 | E/F0290 | tc-r_as_alt-st3 | Request FEE alert status 62 to 91 | 1 2 3 4 5 6 7 8 | | | | | | | | | 3 (TID) 34 (FID) TC ID = 8 3 (ACS) "K" 22 Hex 00 Hex CS |

1.2.7. PSD configuration

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|---------------|------|----------|---------|-----------------|---------------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|--|
| 1025/ 1153 | 5 | 3 | E/F0300 | tc-c_pd_det-enb | Detector enables settings | 1 | 4 (TID) | | | | | | | | | |
| | | | | | | 2 | 1 (FID) | | | | | | | | | |
| | | | | | | 3 | TC ID = 1 | | | | | | | | | |
| | | | | | | 4 | 4 (PSD) | | | | | | | | | |
| | | | | | | 5 | "C" | | | | | | | | | |
| | | | | | | 6 | 01 Hex | | | | | | | | | |
| | | | | | | 7 | E8657 | E8656 | E8655 | E8654 | E8653 | E8652 | E8651 | E8650 | | |
| | | | | | | 8 | E8665 | E8664 | E8663 | E8662 | E8661 | E8660 | E8659 | E8658 | | |
| | | | | | | 9 | E8604 | | E8603 | E8602 | E8601 | E8600 | E8600 | E8600 | | |
| | | | | | | 10 | 0 | 0 | 0 | E8607 | E8606 | E8605 | E8605 | E8605 | | |
| | | | | | | 11 | E8617 | E8616 | E8615 | E8614 | E8613 | E8612 | E8611 | E8610 | | |
| | | | | | | 12 | E8625 | E8624 | E8623 | E8622 | E8621 | E8620 | E8619 | E8618 | | |
| | | | | | | 13 | E8630 | | E8629 | E8628 | E8627 | E8626 | E8625 | E8624 | | |
| | | | | | | 14 | 0 | 0 | 0 | E8633 | E8632 | E8631 | E8630 | E8629 | | |
| | | | | | | 15 | 00 Hex | | | | | | | | | |
| | | | | | | 16 | CS | | | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|---------------|------|----------|---------|-----------------|--|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|--|
| 1025/ 1153 | 5 | 3 | E/F0301 | tc-c_pd_lw-thr1 | Low Threshold for energy settings (channels n° 0 to n° 8) | 1 | 4 (TID) | | | | | | | | | |
| | | | | | | 2 | 2 (FID) | | | | | | | | | |
| | | | | | | 3 | TC ID = 1 | | | | | | | | | |
| | | | | | | 4 | 4 (PSD) | | | | | | | | | |
| | | | | | | 5 | "C" | | | | | | | | | |
| | | | | | | 6 | 02 Hex | | | | | | | | | |
| | | | | | | 7 | E8758 | | | | | | | | | |
| | | | | | | 8 | 0 | | | | | | | | | |
| | | | | | | 9 | E8670 | | | | | | | | | |
| | | | | | | 10 | E8670 | | | | | | | | | |
| | | | | | | 11 | E8671 | | | | | | | | | |
| | | | | | | 25 | E8678 | | | | | | | | | |
| | | | | | | 26 | E8678 | | | | | | | | | |
| | | | | | | 27 | 00 Hex | | | | | | | | | |
| | | | | | | 28 | CS | | | | | | | | | |

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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|---------------|------|----------|---------|-----------------|---|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|--|
| 1025/ 1153 | 5 | 3 | E/F0302 | tc-c_pd_lw_thr2 | Low Threshold for energy settings (channels n° 9 to n° 18) | 1 | 4 (TID) | | | | | | | | | |
| | | | | | | 2 | 3 (FID) | | | | | | | | | |
| | | | | | | 3 | TC ID = 1 | | | | | | | | | |
| | | | | | | 4 | 4 (PSD) | | | | | | | | | |
| | | | | | | 5 | "C" | | | | | | | | | |
| | | | | | | 6 | 03 Hex | | | | | | | | | |
| | | | | | | 7 | E8679 | | | | | | | | | |
| | | | | | | 8 | E8679 | | | | | | | | | |
| | | | | | | 9 | E8680 | | | | | | | | | |
| | | | | | | 10 | E8680 | | | | | | | | | |
| | | | | | | 11 | E8681 | | | | | | | | | |
| | | | | | | 25 | E8688 | | | | | | | | | |
| | | | | | | 26 | E8688 | | | | | | | | | |
| | | | | | | 27 | 00 Hex | | | | | | | | | |
| | | | | | | 28 | CS | | | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|---------------|------|----------|---------|-----------------|---|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/ 1153 | 5 | 3 | E/F0303 | tc-c_pd_hg_thr1 | High Threshold for energy settings (channels n° 0 to n° 8) | 1 | 4 (TID) | | | | | | | | |
| | | | | | | 2 | 4 (FID) | | | | | | | | |
| | | | | | | 3 | TC ID = 1 | | | | | | | | |
| | | | | | | 4 | 4 (PSD) | | | | | | | | |
| | | | | | | 5 | "C" | | | | | | | | |
| | | | | | | 6 | 04 Hex | | | | | | | | |
| | | | | | | 7 | 00 Hex | | | | | | | | |
| | | | | | | 8 | 00 Hex | | | | | | | | |
| | | | | | | 9 | E8690 | | | | | | | | |
| | | | | | | 10 | E8690 | | | | | | | | |
| | | | | | | 11 | E8691 | | | | | | | | |
| | | | | | | 25 | E8698 | | | | | | | | |
| | | | | | | 26 | E8698 | | | | | | | | |
| | | | | | | 27 | 00 Hex | | | | | | | | |
| | | | | | | 28 | CS | | | | | | | | |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | | |
|---------------|------|----------|---------|-----------------|--|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|-----------|--|--|
| 1025/ 1153 | 5 | 3 | E/F0304 | tc-c_pd_hg-thr2 | High Threshold for energy settings (channels n° 9 to n° 18) | 1 | | | | | | | | | 4 (TID) | | |
| | | | | | | 2 | | | | | | | | | 5 (FID) | | |
| | | | | | | 3 | | | | | | | | | TC ID = 1 | | |
| | | | | | | 4 | | | | | | | | | 4 (PSD) | | |
| | | | | | | 5 | | | | | | | | | "C" | | |
| | | | | | | 6 | | | | | | | | | 05 Hex | | |
| | | | | | | 7 | | | | | | | | | E8699 | | |
| | | | | | | 8 | | | | | | | | | E8699 | | |
| | | | | | | 9 | | | | | | | | | E8700 | | |
| | | | | | | 10 | | | | | | | | | E8700 | | |
| | | | | | | 11 | | | | | | | | | E8701 | | |
| | | | | | | 25 | | | | | | | | | E8708 | | |
| | | | | | | 26 | | | | | | | | | E8708 | | |
| | | | | | | 27 | | | | | | | | | 00 Hex | | |
| | | | | | | 28 | | | | | | | | | CS | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | | |
|---------------|------|----------|---------|-----------------|----------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|-----------|--|--|
| 1025/ 1153 | 5 | 3 | E/F0305 | tc-c_pd_ad-ofst | A/D offsets settings | 1 | | | | | | | | | 4 (TID) | | |
| | | | | | | 2 | | | | | | | | | 6 (FID) | | |
| | | | | | | 3 | | | | | | | | | TC ID = 1 | | |
| | | | | | | 4 | | | | | | | | | 4 (PSD) | | |
| | | | | | | 5 | | | | | | | | | "C" | | |
| | | | | | | 6 | | | | | | | | | 06 Hex | | |
| | | | | | | 7 | | | | | | | | | E8643 | | |
| | | | | | | 8 | | | | | | | | | E8647 | | |
| | | | | | | 9 | | | | | | | | | E8644 | | |
| | | | | | | 10 | | | | | | | | | E8648 | | |
| | | | | | | 11 | | | | | | | | | E8645 | | |
| | | | | | | 12 | | | | | | | | | E8649 | | |
| | | | | | | 13 | | | | | | | | | E8646 | | |
| | | | | | | 14 | | | | | | | | | E8709 | | |
| | | | | | | 15 | | | | | | | | | 00 Hex | | |
| | | | | | | 16 | | | | | | | | | CS | | |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | | | | | | |
|---------------|------|----------|---------|------------------|---|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|-----------|--|-------|-------|-------|--|--|
| 1025/ 1153 | 5 | 3 | E/F0306 | tc-c_pd_lib-se11 | Definition of library selection and control settings n° 1 Detector n° 0 to n° 6 (part) | 1 | | | | | | | | | 4 (TID) | | | | | | |
| | | | | | | 2 | | | | | | | | | 7 (FID) | | | | | | |
| | | | | | | 3 | | | | | | | | | TC ID = 1 | | | | | | |
| | | | | | | 4 | | | | | | | | | 4 (PSD) | | | | | | |
| | | | | | | 5 | | | | | | | | | "C" | | | | | | |
| | | | | | | 6 | | | | | | | | | 07 Hex | | | | | | |
| | | | | | | 7 | | | | | | | | | E8711 | | | E8710 | | | |
| | | | | | | 8 | | | | | | | | | | | E8712 | | | | |
| | | | | | | 9 | | | | | | | | | | | E8713 | | | | |
| | | | | | | 10 | | | | | | | | | | | E8714 | | | | |
| | | | | | | 11 | | | | | | | | | E8716 | | | | E8715 | | |
| | | | | | | 12 | | | | | | | | | | | E8717 | | | | |
| | | | | | | 13 | | | | | | | | | | | E8718 | | | | |
| | | | | | | 14 | | | | | | | | | | | E8719 | | | | |
| | | | | | | 15 | | | | | | | | | E8721 | | | | E8720 | | |
| | | | | | | 16 | | | | | | | | | | | E8722 | | | | |
| | | | | | | 17 | | | | | | | | | | | E8723 | | | | |
| | | | | | | 18 | | | | | | | | | | | E8724 | | | | |
| | | | | | | 19 | | | | | | | | | E8726 | | | | E8725 | | |
| | | | | | | 20 | | | | | | | | | | | E8727 | | | | |
| | | | | | | 21 | | | | | | | | | | | E8728 | | | | |
| | | | | | | 22 | | | | | | | | | | | E8729 | | | | |
| | | | | | | 23 | | | | | | | | | E8731 | | | | E8730 | | |
| | | | | | | 24 | | | | | | | | | | | E8732 | | | | |
| | | | | | | 25 | | | | | | | | | | | E8733 | | | | |
| | | | | | | 26 | | | | | | | | | | | E8734 | | | | |
| | | | | | | 27 | | | | | | | | | E8736 | | | | E8735 | | |
| | | | | | | 28 | | | | | | | | | | | E8737 | | | | |
| | | | | | | 29 | | | | | | | | | | | E8738 | | | | |
| | | | | | | 30 | | | | | | | | | | | E8739 | | | | |
| | | | | | | 31 | | | | | | | | | E8741 | | | | E8740 | | |
| | | | | | | 32 | | | | | | | | | | | E8742 | | | | |
| | | | | | | 33 | | | | | | | | | 00 Hex | | | | | | |
| | | | | | | 34 | | | | | | | | | CS | | | | | | |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|---------------|------|----------|---------|------------------|---|---------|-------------|----------|----------|-----------|----------|----------|----------|-------------|
| 1025/ 1153 | 5 | 3 | E/F0307 | tc-c_pd_lib-sel2 | Definition of library selection and control settings n° 2 Detector n° 6 (part) to n° 12 | 1 | | | | | 4 (TID) | | | |
| | | | | | | 2 | | | | 8 (FID) | | | | |
| | | | | | | 3 | | | | TC ID = 1 | | | | |
| | | | | | | 4 | | | | 4 (PSD) | | | | |
| | | | | | | 5 | | | | "C" | | | | |
| | | | | | | 6 | | | | 08 Hex | | | | |
| | | | | | | 7 | | | | E8743 | | | | |
| | | | | | | 8 | | | | E8744 | | | | |
| | | | | | | 9 | | | | E8291 | | | | E8290 |
| | | | | | | 10 | | | | E8292 | | | | |
| | | | | | | 11 | | | | E8293 | | | | |
| | | | | | | 12 | | | | E8294 | | | | |
| | | | | | | 13 | | | | E8296 | | | | E8295 |
| | | | | | | 14 | | | | E8297 | | | | |
| | | | | | | 15 | | | | E8298 | | | | |
| | | | | | | 16 | | | | E8299 | | | | |
| | | | | | | 17 | | | | E8311 | | | | E8310 |
| | | | | | | 18 | | | | E8312 | | | | |
| | | | | | | 19 | | | | E8313 | | | | |
| | | | | | | 20 | | | | E8314 | | | | |
| | | | | | | 21 | | | | E8316 | | | | E8315 |
| | | | | | | 22 | | | | E8317 | | | | |
| | | | | | | 23 | | | | E8318 | | | | |
| | | | | | | 24 | | | | E8319 | | | | |
| | | | | | | 25 | | | | E8502 | | | | E8501 |
| | | | | | | 26 | | | | E8503 | | | | |
| | | | | | | 27 | | | | E8504 | | | | |
| | | | | | | 28 | | | | E8505 | | | | |
| | | | | | | 29 | | | | E8507 | | | | E8506 |
| | | | | | | 30 | | | | E8508 | | | | |
| | | | | | | 31 | | | | E8509 | | | | |
| | | | | | | 32 | | | | E8510 | | | | |
| | | | | | | 33 | | | | 00 Hex | | | | |
| | | | | | | 34 | | | | CS | | | | |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|---------------|------|----------|---------|------------------|---|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|--|
| 1025/ 1153 | 5 | 3 | E/F0308 | tc-c_pd_lib-sel3 | Definition of library selection and control settings n° 3 Detector n° 13 to n° 18 | 1 | 4 (TID) | | | | | | | | | |
| | | | | | | 2 | 9 (FID) | | | | | | | | | |
| | | | | | | 3 | TC ID = 1 | | | | | | | | | |
| | | | | | | 4 | 4 (PSD) | | | | | | | | | |
| | | | | | | 5 | "C" | | | | | | | | | |
| | | | | | | 6 | 09 Hex | | | | | | | | | |
| | | | | | | 7 | E8521 | | | E8520 | | | | | | |
| | | | | | | 8 | | E8522 | | | | | | | | |
| | | | | | | 9 | | E8523 | | | | | | | | |
| | | | | | | 10 | | E8524 | | | | | | | | |
| | | | | | | 11 | E8526 | | | E8525 | | | | | | |
| | | | | | | 12 | | E8527 | | | | | | | | |
| | | | | | | 13 | | E8528 | | | | | | | | |
| | | | | | | 14 | | E8529 | | | | | | | | |
| | | | | | | 15 | E8534 | | | E8533 | | | | | | |
| | | | | | | 16 | | E8535 | | | | | | | | |
| | | | | | | 17 | | E8536 | | | | | | | | |
| | | | | | | 18 | | E8537 | | | | | | | | |
| | | | | | | 19 | E8539 | | | E8538 | | | | | | |
| | | | | | | 20 | | E8540 | | | | | | | | |
| | | | | | | 21 | | E8541 | | | | | | | | |
| | | | | | | 22 | | E8542 | | | | | | | | |
| | | | | | | 23 | E8553 | | | E8552 | | | | | | |
| | | | | | | 24 | | E8554 | | | | | | | | |
| | | | | | | 25 | | E8555 | | | | | | | | |
| | | | | | | 26 | | E8556 | | | | | | | | |
| | | | | | | 27 | E8558 | | | E8557 | | | | | | |
| | | | | | | 28 | | E8559 | | | | | | | | |
| | | | | | | 29 | | E8560 | | | | | | | | |
| | | | | | | 30 | | E8561 | | | | | | | | |
| | | | | | | 31 | | 00 Hex | | | | | | | | |
| | | | | | | 32 | | 00 Hex | | | | | | | | |
| | | | | | | 33 | | 00 Hex | | | | | | | | |
| | | | | | | 34 | | CS | | | | | | | | |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|---------------|------|----------|---------|-----------------|--|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|-----------|
| 1025/ 1153 | 5 | 3 | E/F0309 | tc-c_pd_crv-rte | Definition of curve transmission rates | 1 | | | | | | | | | 4 (TID) |
| | | | | | | 2 | | | | | | | | | 10 (FID) |
| | | | | | | 3 | | | | | | | | | TC ID = 1 |
| | | | | | | 4 | | | | | | | | | 4 (PSD) |
| | | | | | | 5 | | | | | | | | | "C" |
| | | | | | | 6 | | | | | | | | | 0A Hex |
| | | | | | | 7 | | | | | | | | | E8893 |
| | | | | | | 8 | | | | | | | | | E8894 |
| | | | | | | 9 | | | | | | | | | E8895 |
| | | | | | | 10 | | | | | | | | | E8896 |
| | | | | | | 11 | | | | | | | | | 00 Hex |
| | | | | | | 12 | | | | | | | | | CS |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|---------------|------|----------|---------|--------------|---|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|--|
| 1025/ 1153 | 5 | 3 | E/F0310 | tc-c_pd_lib1 | Definition of library description and control n° 1 | 1 | 4 (TID) | | | | | | | | | |
| | | | | | | 2 | 11 (FID) | | | | | | | | | |
| | | | | | | 3 | TC ID = 1 | | | | | | | | | |
| | | | | | | 4 | 4 (PSD) | | | | | | | | | |
| | | | | | | 5 | "I" | | | | | | | | | |
| | | | | | | 6 | 0B Hex | | | | | | | | | |
| | | | | | | 7 | E8753 | | | | | | | | | |
| | | | | | | 8 | E8754 | | | | | | | | | |
| | | | | | | 9 | E8755 | | | | | | | | | |
| | | | | | | 10 | E8756 | | | | | | | | | |
| | | | | | | 11 | E8757 | | | | | | | | | |
| | | | | | | 12 | E8757 | | | | | | | | | |
| | | | | | | 13 | E8760 | | | | | | | | | |
| | | | | | | 14 | E8760 | | | | | | | | | |
| | | | | | | 15 | E8760 | | | | | | | | | |
| | | | | | | 16 | E8761 | | | | | | | | | |
| | | | | | | 17 | E8761 | | | | | | | | | |
| | | | | | | 18 | E8761 | | | | | | | | | |
| | | | | | | 19 | E8762 | | | | | | | | | |
| | | | | | | 20 | E8762 | | | | | | | | | |
| | | | | | | 21 | E8762 | | | | | | | | | |
| | | | | | | 22 | E8763 | | | | | | | | | |
| | | | | | | 23 | E8763 | | | | | | | | | |
| | | | | | | 24 | E8763 | | | | | | | | | |
| | | | | | | 25 | 00 Hex | | | | | | | | | |
| 26 | CS | | | | | | | | | | | | | | | |

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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|---------------|------|----------|---------|--------------|--------------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|-----------|
| 1025/ 1153 | 5 | 3 | E/F0311 | tc-c_pd_lib2 | Library description n° 2 | 1 | | | | | | | | | 4 (TID) |
| | | | | | | 2 | | | | | | | | | 12 (FID) |
| | | | | | | 3 | | | | | | | | | TC ID = 1 |
| | | | | | | 4 | | | | | | | | | 4 (PSD) |
| | | | | | | 5 | | | | | | | | | "I" |
| | | | | | | 6 | | | | | | | | | 0C Hex |
| | | | | | | 7 | | | | | | | | | E8764 |
| | | | | | | 8 | | | | | | | | | E8764 |
| | | | | | | 9 | | | | | | | | | E8764 |
| | | | | | | 10 | | | | | | | | | E8765 |
| | | | | | | 11 | | | | | | | | | E8765 |
| | | | | | | 12 | | | | | | | | | E8765 |
| | | | | | | 34 | | | | | | | | | E8773 |
| | | | | | | 35 | | | | | | | | | E8773 |
| | | | | | | 36 | | | | | | | | | E8773 |
| | | | | | | 37 | | | | | | | | | 00 Hex |
| | | | | | | 38 | | | | | | | | | CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|---------------|------|----------|---------|--------------|--------------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|-----------|
| 1025/ 1153 | 5 | 3 | E/F0312 | tc-c_pd_lib3 | Library description n° 3 | 1 | | | | | | | | | 4 (TID) |
| | | | | | | 2 | | | | | | | | | 13 (FID) |
| | | | | | | 3 | | | | | | | | | TC ID = 1 |
| | | | | | | 4 | | | | | | | | | 4 (PSD) |
| | | | | | | 5 | | | | | | | | | "I" |
| | | | | | | 6 | | | | | | | | | 0D Hex |
| | | | | | | 7 | | | | | | | | | E8774 |
| | | | | | | 8 | | | | | | | | | E8774 |
| | | | | | | 9 | | | | | | | | | E8774 |
| | | | | | | 10 | | | | | | | | | E8775 |
| | | | | | | 11 | | | | | | | | | E8775 |
| | | | | | | 12 | | | | | | | | | E8775 |
| | | | | | | 34 | | | | | | | | | E8783 |
| | | | | | | 35 | | | | | | | | | E8783 |
| | | | | | | 36 | | | | | | | | | E8783 |
| | | | | | | 37 | | | | | | | | | 00 Hex |
| | | | | | | 38 | | | | | | | | | CS |

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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|---------------|------|----------|---------|--------------|--------------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|--|
| 1025/ 1153 | 5 | 3 | E/F0313 | tc-c_pd_lib4 | Library description n° 4 | 1 | 4 (TID) | | | | | | | | | |
| | | | | | | 2 | 14 (FID) | | | | | | | | | |
| | | | | | | 3 | TC ID = 1 | | | | | | | | | |
| | | | | | | 4 | 4 (PSD) | | | | | | | | | |
| | | | | | | 5 | "I" | | | | | | | | | |
| | | | | | | 6 | 0E Hex | | | | | | | | | |
| | | | | | | 7 | E8784 | | | | | | | | | |
| | | | | | | 8 | E8784 | | | | | | | | | |
| | | | | | | 9 | E8784 | | | | | | | | | |
| | | | | | | 10 | E8785 | | | | | | | | | |
| | | | | | | 11 | E8785 | | | | | | | | | |
| | | | | | | 12 | E8785 | | | | | | | | | |
| | | | | | | 34 | E8793 | | | | | | | | | |
| | | | | | | 35 | E8793 | | | | | | | | | |
| | | | | | | 36 | E8793 | | | | | | | | | |
| | | | | | | 37 | 00 Hex | | | | | | | | | |
| | | | | | | 38 | CS | | | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|---------------|------|----------|---------|--------------|--------------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|--|--|
| 1025/ 1153 | 5 | 3 | E/F0314 | tc-c_pd_lib5 | Library description n° 5 | 1 | 4 (TID) | | | | | | | | | |
| | | | | | | 2 | 15 (FID) | | | | | | | | | |
| | | | | | | 3 | TC ID = 1 | | | | | | | | | |
| | | | | | | 4 | 4 (PSD) | | | | | | | | | |
| | | | | | | 5 | "I" | | | | | | | | | |
| | | | | | | 6 | 0F Hex | | | | | | | | | |
| | | | | | | 7 | E8794 | | | | | | | | | |
| | | | | | | 8 | E8794 | | | | | | | | | |
| | | | | | | 9 | E8794 | | | | | | | | | |
| | | | | | | 10 | E8795 | | | | | | | | | |
| | | | | | | 11 | E8795 | | | | | | | | | |
| | | | | | | 12 | E8795 | | | | | | | | | |
| | | | | | | 34 | E8803 | | | | | | | | | |
| | | | | | | 35 | E8803 | | | | | | | | | |
| | | | | | | 36 | E8803 | | | | | | | | | |
| | | | | | | 37 | 00 Hex | | | | | | | | | |
| | | | | | | 38 | CS | | | | | | | | | |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|-----------|------|----------|---------|--------------|--------------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|-----------|--|
| 1025/1153 | 5 | 3 | E/F0315 | tc-c_pd_lib6 | Library description n° 6 | 1 | | | | | | | | | 4 (TID) | |
| | | | | | | 2 | | | | | | | | | 16 (FID) | |
| | | | | | | 3 | | | | | | | | | TC ID = 1 | |
| | | | | | | 4 | | | | | | | | | 4 (PSD) | |
| | | | | | | 5 | | | | | | | | | "I" | |
| | | | | | | 6 | | | | | | | | | 10 Hex | |
| | | | | | | 7 | | | | | | | | | E8804 | |
| | | | | | | 8 | | | | | | | | | E8804 | |
| | | | | | | 9 | | | | | | | | | E8804 | |
| | | | | | | 10 | | | | | | | | | E8805 | |
| | | | | | | 11 | | | | | | | | | E8805 | |
| | | | | | | 12 | | | | | | | | | E8805 | |
| | | | | | | 34 | | | | | | | | | E8813 | |
| | | | | | | 35 | | | | | | | | | E8813 | |
| | | | | | | 36 | | | | | | | | | E8813 | |
| | | | | | | 37 | | | | | | | | | 00 Hex | |
| | | | | | | 38 | | | | | | | | | CS | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|-----------|------|----------|---------|--------------|-------------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|-----------|--|
| 1025/1153 | 5 | 3 | E/F0316 | tc-c_pd_lib7 | Library description n°7 | 1 | | | | | | | | | 4 (TID) | |
| | | | | | | 2 | | | | | | | | | 17 (FID) | |
| | | | | | | 3 | | | | | | | | | TC ID = 1 | |
| | | | | | | 4 | | | | | | | | | 4 (PSD) | |
| | | | | | | 5 | | | | | | | | | "I" | |
| | | | | | | 6 | | | | | | | | | 11 Hex | |
| | | | | | | 7 | | | | | | | | | E8814 | |
| | | | | | | 8 | | | | | | | | | E8814 | |
| | | | | | | 9 | | | | | | | | | E8814 | |
| | | | | | | 10 | | | | | | | | | E8815 | |
| | | | | | | 11 | | | | | | | | | E8815 | |
| | | | | | | 12 | | | | | | | | | E8815 | |
| | | | | | | 34 | | | | | | | | | E8823 | |
| | | | | | | 35 | | | | | | | | | E8823 | |
| | | | | | | 36 | | | | | | | | | E8823 | |
| | | | | | | 37 | | | | | | | | | 00 Hex | |
| | | | | | | 38 | | | | | | | | | CS | |

1.2.8. PSD HK acquisition (on-request TC)

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|-----------------|------------------|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|---|
| 1025/1153 | 5 | 4 | E/F0320 | tc-r_pd_det-enb | Detector enables | 1 2 3 4 5 6 7 8 | | | | | | | | 4 (TID) 1 (FID) TC ID = 8 4 (PSD) "K" 01 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|-----------------|---|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|---|
| 1025/1153 | 5 | 4 | E/F0321 | tc-r_pd_lw-thr1 | Low Threshold for energy n° 1 (channel n° 0 to n° 8) | 1 2 3 4 5 6 7 8 | | | | | | | | 4 (TID) 2 (FID) TC ID = 8 4 (PSD) "K" 02 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|-----------------|--|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|---|
| 1025/1153 | 5 | 4 | E/F0322 | tc-r_pd_lw-thr2 | Low Threshold for energy n° 2 (channel n° 9 to n° 18) | 1 2 3 4 5 6 7 8 | | | | | | | | 4 (TID) 3 (FID) TC ID = 8 4 (PSD) "K" 03 Hex 00 Hex CS |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|-----------------|--|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|---|
| 1025/1153 | 5 | 4 | E/F0323 | tc-r_pd_hg-thr1 | High Threshold for energy n° 1 (channel n° 0 to n° 8) | 1 2 3 4 5 6 7 8 | | | | | | | | 4 (TID) 4 (FID) TC ID = 8 4 (PSD) "K" 04 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|-----------------|---|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|---|
| 1025/1153 | 5 | 4 | E/F0324 | tc-r_pd_hg-thr2 | High Threshold for energy n° 2 (channel n° 9 to n° 18) | 1 2 3 4 5 6 7 8 | | | | | | | | 4 (TID) 5 (FID) TC ID = 8 4 (PSD) "K" 05 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|-----------------|-------------|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|---|
| 1025/1153 | 5 | 4 | E/F0325 | td-r_pd_ad-ofst | A/D offsets | 1 2 3 4 5 6 7 8 | | | | | | | | 4 (TID) 6 (FID) TC ID = 8 4 (PSD) "K" 06 Hex 00 Hex CS |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|------------------|--|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|---|
| 1025/1153 | 5 | 4 | E/F0326 | tc-r_pd_lib-sel1 | Library selection and control n° 1 (channel n° 0 to n° 6) | 1 2 3 4 5 6 7 8 | | | | | | | | 4 (TID) 7 (FID) TC ID = 8 4 (PSD) "K" 07 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|------------------|---|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|---|
| 1025/1153 | 5 | 4 | E/F0327 | tc-r_pd_lib-sel2 | Library selection and control n° 2 (channel n° 6 to n° 12) | 1 2 3 4 5 6 7 8 | | | | | | | | 4 (TID) 8 (FID) TC ID = 8 4 (PSD) "K" 08 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|------------------|--|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|---|
| 1025/1153 | 5 | 4 | E/F0328 | tc-r_pd_lib-sel3 | Library selection and control n° 3 (channel n° 13 to n° 18) | 1 2 3 4 5 6 7 8 | | | | | | | | 4 (TID) 9 (FID) TC ID = 8 4 (PSD) "K" 09 Hex 00 Hex CS |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|-----------------|--------------------------|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|--|
| 1025/1153 | 5 | 4 | E/F0329 | tc-r_pd_crv-rte | Curve transmission rates | 1 2 3 4 5 6 7 8 | | | | | | | | 4 (TID) 10 (FID) TC ID = 8 4 (PSD) "K" 0A Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|-----------------|--|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|--|
| 1025/1153 | 5 | 4 | E/F0342 | tc-r_pd_lib-st1 | Request running average of baseline and noise n° 0 to 11 | 1 2 3 4 5 6 7 8 | | | | | | | | 4 (TID) 27 (FID) TC ID = 8 4 (PSD) "K" 1B Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|-----------------|---|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|--|
| 1025/1153 | 5 | 4 | E/F0343 | tc-r_pd_lib-st2 | Request average baseline and noise for det n° 12 to 18, soft and analogue control | 1 2 3 4 5 6 7 8 | | | | | | | | 4 (TID) 28 (FID) TC ID = 8 4 (PSD) "K" 1C Hex 00 Hex CS |

1.2.9. DPE management

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|-----------|------|----------|---------|----------------|--|---|-------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1025/1153 | 5 | 3 | E/F0500 | tc_on_off_conf | IASW ON-OFF configuration update S/A self-tests acquisition | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 | | | | | | | | | 1 (TID) 2 (FID) TC ID = 0 1 (IASW) "C" 02 Hex E/F8900 E/F8900 E/F8902 E/F8902 E/F8903 E/F8903 E/F8901 E/F8901 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|---------------|---|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|--|
| 1025/1153 | 5 | 5 | E/F0501 | tc_mode_chg_s | Mode Change CONF to OPERATIONAL "START" | 1 2 3 4 5 6 7 8 | | | | | | | | S 00 Hex TC ID = 3 1 (IASW) "M" S 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|---------------|--|--------------------------------------|-------------|----------|----------|----------|--|----------|----------|-------------|
| 1025/1153 | 5 | 5 | E/F0502 | tc_mode_chg_x | Mode change STANDBY to CONFIGURATION or Back to CONF from OPE, CAL, DIAG modes | 1 2 3 4 5 6 7 8 | | | | | X 00 Hex TC ID = 3 1 (IASW) "M" X 00 Hex CS | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|---------------|--|--------------------------------------|-------------|----------|----------|----------|--|----------|----------|-------------|
| 1025/1153 | 5 | 5 | E/F0503 | tc_mode_chg_c | Mode change CONFIGURATION to CALIBRATION | 1 2 3 4 5 6 7 8 | | | | | C 00 Hex TC ID = 3 1 (IASW) "M" C 00 Hex CS | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|---------------|---|--------------------------------------|-------------|----------|----------|----------|--|----------|----------|-------------|
| 1025/1153 | 5 | 5 | E/F0504 | tc_mode_chg_d | Mode change CONFIGURATION to DIAGNOSTIC | 1 2 3 4 5 6 7 8 | | | | | D 00 Hex TC ID = 3 1 (IASW) "M" D 00 Hex CS | | | |

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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|---------------|--|---------|--|----------|----------|----------|----------|----------|----------|-------------|
| 1025/1153 | 5 | 5 | E/F0505 | tc_mode_chg_y | Mode change Back to STANDBY from CONF, OPE, CAL and DIAG modes | 1 | Y 00 Hex TC ID = 3 1 (IASW) "M" Y 00 Hex CS | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| | | | | | | 8 | | | | | | | | |
| "STBY" | | | | | | | | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-------------|------|----------|---------|---------------|---|---------|--|----------|----------|----------|----------|----------|----------|-------------|
| 1025/1153 | 5 | 5 | E/F0506 | tc_mode_chg_e | Mode change From CONF to TM Emergency mode | 1 | E 00 Hex TC ID = 3 1 (IASW) "M" E 00 Hex CS | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| | | | | | | 8 | | | | | | | | |
| "EMERGENCY" | | | | | | | | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|------------------|--|---------|--|----------|----------|----------|----------|----------|----------|-------------|
| 1025/1153 | 6 | 1 | E/F0507 | tc_record_pch-df | Patch table update and sending loading TC toward DFEE | 1 | 5 (16 bits encoded) (MID) TC ID = 5 5 (DFEE) "L" E/F8904 E/F8904 E/F8904 E/F8907 E/F8908 | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| | | | | | | 8 | | | | | | | | |
| | | | | | | 9 | | | | | | | | |
| | | | | | | 10 | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | 33 | E/F8931 CS | | | | | | | |
| | | | | | | 34 | | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|---------------|------|----------|---------|----------------|--------------------------------|---------|--|----------|----------|----------|----------|----------|----------|-------------|---------|--|
| 1025/ 1153 | 6 | 1 | E/F0508 | tc_load_pch-df | Sending loading TC toward DFEE | 1 | 5 (16 bits encoded) (MID) TC ID = 4 5 (DFEE) "L" E/F8904 E/F8904 E/F8904 E/F8907 E/F8908 | | | | | | | | | |
| | | | | | | 2 | | | | | | | | | | |
| | | | | | | 3 | | | | | | | | | | |
| | | | | | | 4 | | | | | | | | | | |
| | | | | | | 5 | | | | | | | | | | |
| | | | | | | 6 | | | | | | | | | | |
| | | | | | | 7 | | | | | | | | | | |
| | | | | | | 8 | | | | | | | | | | |
| | | | | | | 9 | | | | | | | | | | |
| | | | | | | 10 | | | | | | | | | | |
| | | | | | | 33 | | | | | | | | | E/F8931 | |
| | | | | | | 34 | | | | | | | | | CS | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|---------------|------|----------|---------|------------------|---|---------|---|----------|----------|----------|----------|----------|----------|-------------|---------|--|
| 1025/ 1153 | 6 | 1 | E/F0509 | tc_record_pch-as | Patch table update and sending loading TC toward ACS | 1 | 3 (16 bits encoded) (MID) TC ID = 5 3 (ACS) "L" E/F8904 E/F8904 E/F8904 E/F8907 E/F8908 | | | | | | | | | |
| | | | | | | 2 | | | | | | | | | | |
| | | | | | | 3 | | | | | | | | | | |
| | | | | | | 4 | | | | | | | | | | |
| | | | | | | 5 | | | | | | | | | | |
| | | | | | | 6 | | | | | | | | | | |
| | | | | | | 7 | | | | | | | | | | |
| | | | | | | 8 | | | | | | | | | | |
| | | | | | | 9 | | | | | | | | | | |
| | | | | | | 10 | | | | | | | | | | |
| | | | | | | 33 | | | | | | | | | E/F8931 | |
| | | | | | | 34 | | | | | | | | | CS | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|---------------|------|----------|---------|----------------|-------------------------------|---------|---|----------|----------|----------|----------|----------|----------|-------------|---------|--|
| 1025/ 1153 | 6 | 1 | E/F0510 | tc_load_pch-as | Sending loading TC toward ACS | 1 | 3 (16 bits encoded) (MID) TC ID = 4 3 (ACS) "L" E/F8904 E/F8904 E/F8904 E/F8907 E/F8908 | | | | | | | | | |
| | | | | | | 2 | | | | | | | | | | |
| | | | | | | 3 | | | | | | | | | | |
| | | | | | | 4 | | | | | | | | | | |
| | | | | | | 5 | | | | | | | | | | |
| | | | | | | 6 | | | | | | | | | | |
| | | | | | | 7 | | | | | | | | | | |
| | | | | | | 8 | | | | | | | | | | |
| | | | | | | 9 | | | | | | | | | | |
| | | | | | | 10 | | | | | | | | | | |
| | | | | | | 33 | | | | | | | | | E/F8931 | |
| | | | | | | 34 | | | | | | | | | CS | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|---------------|------|----------|---------|------------------|--|---------|---|----------|----------|----------|----------|----------|----------|-------------|---------|--|
| 1025/ 1153 | 6 | 1 | E/F0511 | tc_record_pch-pd | Patch table update and sending loading TC toward PSD | 1 | 4 (16 bits encoded) (MID) TC ID = 5 4 (PSD) "L" E/F8904 E/F8904 E/F8904 E/F8907 E/F8908 | | | | | | | | | |
| | | | | | | 2 | | | | | | | | | | |
| | | | | | | 3 | | | | | | | | | | |
| | | | | | | 4 | | | | | | | | | | |
| | | | | | | 5 | | | | | | | | | | |
| | | | | | | 6 | | | | | | | | | | |
| | | | | | | 7 | | | | | | | | | | |
| | | | | | | 8 | | | | | | | | | | |
| | | | | | | 9 | | | | | | | | | | |
| | | | | | | 10 | | | | | | | | | | |
| | | | | | | 33 | | | | | | | | | E/F8931 | |
| | | | | | | 34 | | | | | | | | | CS | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | | |
|---------------|------|----------|---------|----------------|-------------------------------|---------|---|----------|----------|----------|----------|----------|----------|-------------|--|--|--|
| 1025/ 1153 | 6 | 1 | E/F0512 | tc_load_pch-pd | Sending loading TC toward PSD | 1 | 4 (16 bits encoded) (MID) TC ID = 4 4 (PSD) "L" E/F8904 E/F8904 E/F8904 E/F8907 E/F8908 | | | | | | | | | | |
| | | | | | | 2 | | | | | | | | | | | |
| | | | | | | 3 | | | | | | | | | | | |
| | | | | | | 4 | | | | | | | | | | | |
| | | | | | | 5 | | | | | | | | | | | |
| | | | | | | 6 | | | | | | | | | | | |
| | | | | | | 7 | | | | | | | | | | | |
| | | | | | | 8 | | | | | | | | | | | |
| | | | | | | 9 | | | | | | | | | | | |
| | | | | | | 10 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | 33 | | | | | | | | E/F8931 | | | |
| | | | | | | 34 | | | | | | | | CS | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | | |
|---------------|------|----------|---------|------------|--|---------|---|----------|----------|----------|----------|----------|----------|-------------|--|--|--|
| 1025/ 1153 | 6 | 2 | E/F0513 | tc_dump-df | Sending dump TC and related acquisition for DFEE | 1 | 5 (16 bits encoded) (MID) TC ID = 6 5 (DFEE) "D" E/F8932 E/F8932 E/F8932 E/F8935 CS | | | | | | | | | | |
| | | | | | | 2 | | | | | | | | | | | |
| | | | | | | 3 | | | | | | | | | | | |
| | | | | | | 4 | | | | | | | | | | | |
| | | | | | | 5 | | | | | | | | | | | |
| | | | | | | 6 | | | | | | | | | | | |
| | | | | | | 7 | | | | | | | | | | | |
| | | | | | | 8 | | | | | | | | | | | |
| | | | | | | 9 | | | | | | | | | | | |
| | | | | | | 10 | | | | | | | | | | | |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|------------|---|---|--|----------|----------|----------|----------|----------|----------|-------------|
| 1025/1153 | 6 | 2 | E/F0514 | tc_dump_as | Sending dump TC and related acquisition for ACS | 1 2 3 4 5 6 7 8 9 10 | 3 (16 bits encoded) (MID) TC ID = 6 3 (ACS) "D" E/F8932 E/F8932 E/F8932 E/F8935 CS | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|------------|---|---|--|----------|----------|----------|----------|----------|----------|-------------|
| 1025/1153 | 6 | 2 | E/F0515 | tc_dump_pd | Sending dump TC and related acquisition for PSD | 1 2 3 4 5 6 7 8 9 10 | 4 (16 bits encoded) (MID) TC ID = 6 4 (PSD) "D" E/F8932 E/F8932 E/F8932 E/F8935 CS | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|----------------|-------------------|--------------------------------------|--|----------|----------|----------|----------|----------|----------|-------------|
| 1025/1153 | 6 | 1 | E/F0516 | tc_reset_patch | Patch table reset | 1 2 3 4 5 6 7 8 | 0 (16 bits encoded) (MID) 1 TC ID = 7 1 (IASW) "L" 00 Hex 00 Hex CS | | | | | | | |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|---------|---------------------|---------|---------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1025/1153 | 13 | 1 | E/F0517 | tc_test | Right TC acceptance | | No application data | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|---------------|---------------------------------|--------------------------------------|--|----------|----------|----------|----------|----------|----------|-------------|
| 1025/1153 | 6 | 1 | E/F0557 | tc_send_patch | Send all patches already loaded | 1 2 3 4 5 6 7 8 | 0 (MID MSB) 1 (MID LSB) TC ID = 8 1 (IASW) "L" 00 Hex 00 Hex CS | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|--------------|--|--------------------------------------|--|----------|----------|----------|----------|----------|----------|-------------|
| 1025/1153 | 5 | 3 | E/F0556 | tc_send_conf | Send all configuration commands already loaded | 1 2 3 4 5 6 7 8 | 1 (TID) 4 (FID) TC ID = 10 1 (IASW) "C" 04 Hex 00 Hex C | | | | | | | |

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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|---------------|------|----------|---------|------------------|--|---------|--------------------------------------|----------|----------|----------|----------|----------|----------|-------------|--|--|
| 1025/ 1153 | 5 | 3 | E/F0518 | tc_def_conf-iasw | Non exposure parameters for IASW configuration | 1 | TID = 1 | | | | | | | | | |
| | | | | | | 2 | FID = 0 | | | | | | | | | |
| | | | | | | 3 | TCID = 2 | | | | | | | | | |
| | | | | | | 4 | 1 (IASW) | | | | | | | | | |
| | | | | | | 5 | "C" | | | | | | | | | |
| | | | | | | 6 | 0 | | | | | | | | | |
| | | | | | | 7 | E/F8936 | | | | | | | | | |
| | | | | | | 8 | E/F8936 | | | | | | | | | |
| | | | | | | 9 | E/F8937 | | | | | | | | | |
| | | | | | | 10 | E/F8937 | | | | | | | | | |
| | | | | | | 11 | E/F8938 | | | | | | | | | |
| | | | | | | 12 | E/F8938 | | | | | | | | | |
| | | | | | | 13 | E/F8939 | | | | | | | | | |
| | | | | | | 14 | E/F8739 | | | | | | | | | |
| | | | | | | 15 | E/F8940 | | | | | | | | | |
| | | | | | | 16 | E/F8940 | | | | | | | | | |
| | | | | | | 17 | E/F8941 | | | | | | | | | |
| | | | | | | 18 | E/F8941 | | | | | | | | | |
| | | | | | | 19 | E/F8942 | | | | | | | | | |
| | | | | | | 20 | E/F8942 | | | | | | | | | |
| | | | | | | 21 | E/F8943 | | | | | | | | | |
| | | | | | | 22 | E/F8943 | | | | | | | | | |
| | | | | | | 23 | E/F8944 | | | | | | | | | |
| | | | | | | 24 | E/F8944 | | | | | | | | | |
| | | | | | | 25 | Spare = FF | | | | | | | | | |
| | | | | | | 26 | Spare = FF | | | | | | | | | |
| | | | | | | 27 | E/F8946 | | | | | | | | | |
| | | | | | | 28 | E/F8946 | | | | | | | | | |
| | | | | | | 29 | E/F8953 Eclipse detection capability | | | | | | | | | |
| | | | | | | 30 | E/F8953 Eclipse detection capability | | | | | | | | | |
| | | | | | | 31 | E/F8947 Delay before radiation belts | | | | | | | | | |
| | | | | | | 32 | E/F8947 Delay before radiation belts | | | | | | | | | |
| | | | | | | 33 | E/F8947 Delay before radiation belts | | | | | | | | | |
| | | | | | | 34 | E/F8947 Delay before radiation belts | | | | | | | | | |
| | | | | | | 35 | E/F8950 Delay after radiation belts | | | | | | | | | |
| | | | | | | 36 | E/F8950 Delay after radiation belts | | | | | | | | | |
| | | | | | | 37 | E/F8950 Delay after radiation belts | | | | | | | | | |
| | | | | | | 38 | E/F8950 Delay after radiation belts | | | | | | | | | |
| | | | | | | 39 | E/F8954 Delay before eclipse | | | | | | | | | |
| | | | | | | 40 | E/F8954 Delay before eclipse | | | | | | | | | |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|------|-------------|--|-------------|----------|----------|--|----------|----------|----------|-------------|
| | | | | | E0518 cont. | 81 82 83 84 85 86 87 88 89 90 | | | | E/F8973 E/F8973 E/F8974 E/F8974 E/F8977 E/F8977 E/F8978 E/F8978 00 Checksum | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|-----------------|---------------------------------------|---|-------------|----------|----------|--|----------|----------|----------|-------------|
| 1025/1153 | 5 | 3 | E/F0519 | tc_def_exp_iasw | Special TC for exposure configuration | 1 2 3 4 5 6 7 8 9 10 11 12 | | | | 1 (TID) 1 (FID) TC ID = 2 1 (IASW) "C" 01 Hex E/F8979 E/F8975 E/F8976 E/F8976 00 Hex Checksum | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|----------------|--|--------------------------------------|-------------|----------|----------|--|----------|----------|----------|-------------|
| 1025/1153 | 5 | 4 | E/F0523 | tc-r_conf_iasw | Request for non exposure configuration | 1 2 3 4 5 6 7 8 | | | | 1 (TID) 0 (FID) TC ID = 8 1 (IASW) "K" 00 Hex 00 Hex Checksum | | | | |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|---------------|------|----------|---------|---------------|------------------------------------|---------|--|----------|----------|----------|----------|----------|----------|-------------|
| 1025/ 1153 | 5 | 4 | E/F0524 | tc-r_exp_iasw | Request for exposure configuration | 1 | 1 (TID) 0 (FID) TC ID = 8 1 (IASW) "K" 01 Hex 00 Hex Checksum | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| | | | | | | 8 | | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|---------------|------|----------|---------|------------------|--------------------------------|---------|--|----------|----------|----------|----------|----------|----------|-------------|
| 1025/ 1153 | 5 | 4 | E/F0525 | tc-r_on_off_conf | Request for IASW ON-OFF status | 1 | 1 (TID) 2 (FID) TC ID = 8 1 (IASW) "K" 02 Hex 00 Hex Checksum | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |
| | | | | | | 5 | | | | | | | | |
| | | | | | | 6 | | | | | | | | |
| | | | | | | 7 | | | | | | | | |
| | | | | | | 8 | | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|---------------|------|----------|---------|-----------------|--|---------|------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1024/ 1152 | 5 | 5 | E/F9023 | Tran_to_initial | (for record) SPI DPE1 mode transition to initial (EGSE need) | 1 | 00 Hex 00 Hex | | | | | | | |
| | | | | | | 2 | | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|---------------|------|----------|---------|-----------------|--|---------|------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1024/ 1152 | 5 | 5 | E/F9024 | Tran_to_nominal | IASW START SPI DPE1 mode transition to nominal (EGSE need) | 1 | 01 Hex 00 Hex | | | | | | | |
| | | | | | | 2 | | | | | | | | |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|------------------|-----------------|--------------------------------------|--|----------|----------|----------|----------|----------|----------|-------------|
| 1025/1153 | 5 | 3 | E/F0555 | tc_ecl-exit_iasw | Eclipse exit tc | 1 2 3 4 5 6 7 8 | 1 (TID) 3 (FID) TC ID = 9 1 (IASW) "C" 03 Hex 00 Hex Checksum | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|------------------|-------------------------------|---------|-------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1025/1153 | 5 | 1 | E/F0563 | tc_start-mtnc_as | Start task sw maintenance ACS | 1 2 | 3 (TID) 00 Hex | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|-----------------|------------------------------|---------|-------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1025/1153 | 5 | 2 | E/F0573 | tc_stop-mtnc_as | Stop task sw maintenance ACS | 1 2 | 3 (TID) 00 Hex | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|------------------|-------------------------------|---------|-------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1025/1153 | 5 | 1 | E/F0564 | tc_start-mtnc_pd | Start task sw maintenance PSD | 1 2 | 4 (TID) 00 Hex | | | | | | | |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|-----------------|------------------------------|---------|-------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1025/1153 | 5 | 2 | E/F0574 | tc_stop-mtnc_pd | Stop task sw maintenance PSD | 1 2 | 4 (TID) 00 Hex | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|------------------|--------------------------------|---------|-------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1025/1153 | 5 | 1 | E/F0565 | tc_start-mtnc_df | Start task sw maintenance DFEE | 1 2 | 5 (TID) 00 Hex | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|-----------------|-------------------------------|---------|-------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1025/1153 | 5 | 2 | E/F0575 | tc_stop-mtnc_df | Stop task sw maintenance DFEE | 1 2 | 5 (TID) 00 Hex | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|-----------------|----------------------------|---------|-------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1025/1153 | 5 | 1 | E/F0566 | tc_start-cal_as | Start task calibration ACS | 1 2 | 3 (TID) 01 Hex | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|-------------|------------------------------|--------------------------------------|--|----------|----------|----------|----------|----------|----------|-------------|
| 1025/1153 | 5 | 4 | E/F0567 | tc-r_cal_as | Request ACS calibration data | 1 2 3 4 5 6 7 8 | 3 (TID) 46 (FID) TC ID = 8 3 (ACS) "K" 2E Hex 00 Hex CS | | | | | | | |

1.2.10. Diagnostic configuration telecommands

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|---------------|----------------------------------|----------|---------|------------|----------------------------------|---------|---|----------|----------------------------------|----------|----------|----------|----------|-------------|----------------------------------|--|
| 1025/ 1153 | 5 | 3 | E/F0581 | tc_diag-n1 | Diagnostic tables definition n°1 | 1 | 1 (TID) 16 (FID) TC ID = 2 1 (IASW) "C" 10 Hex | | | | | | | | E6901 E8401 E6902 E8402 | |
| | | | | | | 2 | | | | | | | | | | |
| | | | | | | 3 | | | | | | | | | | |
| | | | | | | 4 | | | | | | | | | | |
| | | | | | | 5 | | | | | | | | | | |
| | | | | | | 6 | | | | | | | | | | |
| | | | | | | 7 | | | | | | | | | | |
| | | | | | | 8 | E6916 E8416 00 Checksum | | | | | | | | E6916 E8416 00 Checksum | |
| | | | | | | 9 | | | | | | | | | | |
| | | | | | | 10 | | | | | | | | | | |
| 37 | E6916 E8416 00 Checksum | | | | | | | | E6916 E8416 00 Checksum | | | | | | | |
| 38 | | | | | | | | | | | | | | | | |
| 39 | | | | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|---------------|----------------------------------|----------|---------|------------|----------------------------------|---------|---|----------|----------------------------------|----------|----------|----------|----------|-------------|----------------------------------|--|
| 1025/ 1153 | 5 | 3 | E/F0582 | tc_diag-n2 | Diagnostic tables definition n°2 | 1 | 1 (TID) 17 (FID) TC ID = 2 1 (IASW) "C" 11 Hex | | | | | | | | E6917 E8417 E6918 E8418 | |
| | | | | | | 2 | | | | | | | | | | |
| | | | | | | 3 | | | | | | | | | | |
| | | | | | | 4 | | | | | | | | | | |
| | | | | | | 5 | | | | | | | | | | |
| | | | | | | 6 | | | | | | | | | | |
| | | | | | | 7 | | | | | | | | | | |
| | | | | | | 8 | E6932 E8432 00 Checksum | | | | | | | | E6932 E8432 00 Checksum | |
| | | | | | | 9 | | | | | | | | | | |
| | | | | | | 10 | | | | | | | | | | |
| 37 | E6932 E8432 00 Checksum | | | | | | | | E6932 E8432 00 Checksum | | | | | | | |
| 38 | | | | | | | | | | | | | | | | |
| 39 | | | | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | | | | |



CENTRE NATIONAL D'ETUDES SPATIALES

INTEGRAL SPECTROMETER



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|---------------|------|----------|---------|------------|----------------------------------|---------|---|----------|----------|----------|----------|----------|----------|-------------|--|--|
| 1025/ 1153 | 5 | 3 | E/F0583 | tc_diag-n3 | Diagnostic tables definition n°3 | 1 | 1 (TID) 18 (FID) TC ID = 2 1 (IASW) "C" 12 Hex E6933 E8433 E6934 E8434 | | | | | | | | | |
| | | | | | | 2 | | | | | | | | | | |
| | | | | | | 3 | | | | | | | | | | |
| | | | | | | 4 | | | | | | | | | | |
| | | | | | | 5 | | | | | | | | | | |
| | | | | | | 6 | | | | | | | | | | |
| | | | | | | 7 | | | | | | | | | | |
| | | | | | | 8 | | | | | | | | | | |
| | | | | | | 9 | | | | | | | | | | |
| | | | | | | 10 | | | | | | | | | | |
| | | | | | | 37 | E6948 E8448 00 Checksum | | | | | | | | | |
| 38 | | | | | | | | | | | | | | | | |
| 39 | | | | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|---------------|------|----------|---------|------------|----------------------------------|---------|---|----------|----------|----------|----------|----------|----------|-------------|--|--|
| 1025/ 1153 | 5 | 3 | E/F0584 | tc_diag-n4 | Diagnostic tables definition n°4 | 1 | 1 (TID) 19 (FID) TC ID = 2 1 (IASW) "C" 13 Hex E6949 E8449 E6950 E8450 | | | | | | | | | |
| | | | | | | 2 | | | | | | | | | | |
| | | | | | | 3 | | | | | | | | | | |
| | | | | | | 4 | | | | | | | | | | |
| | | | | | | 5 | | | | | | | | | | |
| | | | | | | 6 | | | | | | | | | | |
| | | | | | | 7 | | | | | | | | | | |
| | | | | | | 8 | | | | | | | | | | |
| | | | | | | 9 | | | | | | | | | | |
| | | | | | | 10 | | | | | | | | | | |
| | | | | | | 37 | E6964 E8464 00 Checksum | | | | | | | | | |
| 38 | | | | | | | | | | | | | | | | |
| 39 | | | | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|---------------|------|----------|---------|------------|----------------------------------|---------|---|----------|----------|----------|----------|----------|----------|-------------|--|--|
| 1025/ 1153 | 5 | 3 | E/F0585 | tc_diag-n5 | Diagnostic tables definition n°5 | 1 | 1 (TID) 20 (FID) TC ID = 2 1 (IASW) "C" 14 Hex | | | | | | | | | |
| | | | | | | 2 | | | | | | | | | | |
| | | | | | | 3 | | | | | | | | | | |
| | | | | | | 4 | | | | | | | | | | |
| | | | | | | 5 | | | | | | | | | | |
| | | | | | | 6 | | | | | | | | | | |
| | | | | | | 7 | E6965 | | | | | | | | | |
| | | | | | | 8 | E8465 | | | | | | | | | |
| | | | | | | 9 | E6966 | | | | | | | | | |
| | | | | | | 10 | E8466 | | | | | | | | | |
| | | | | | | 37 | E6980 | | | | | | | | | |
| | | | | | | 38 | E8480 | | | | | | | | | |
| | | | | | | 39 | 00 | | | | | | | | | |
| | | | | | | 40 | Checksum | | | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|---------------|------|----------|---------|------------|----------------------------------|---------|---|----------|----------|----------|----------|----------|----------|-------------|--|--|
| 1025/ 1153 | 5 | 3 | E/F0586 | tc_diag-n6 | Diagnostic tables definition n°6 | 1 | 1 (TID) 21 (FID) TC ID = 2 1 (IASW) "C" 15 Hex | | | | | | | | | |
| | | | | | | 2 | | | | | | | | | | |
| | | | | | | 3 | | | | | | | | | | |
| | | | | | | 4 | | | | | | | | | | |
| | | | | | | 5 | | | | | | | | | | |
| | | | | | | 6 | | | | | | | | | | |
| | | | | | | 7 | E6981 | | | | | | | | | |
| | | | | | | 8 | E8481 | | | | | | | | | |
| | | | | | | 9 | E6982 | | | | | | | | | |
| | | | | | | 10 | E8482 | | | | | | | | | |
| | | | | | | 37 | E6996 | | | | | | | | | |
| | | | | | | 38 | E8496 | | | | | | | | | |
| | | | | | | 39 | 00 | | | | | | | | | |
| | | | | | | 40 | Checksum | | | | | | | | | |

1.2.11. Diagnostic on-request configuration telecommands

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|--------------|--|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|---|
| 1025/1153 | 5 | 4 | E/F0591 | tc-r_diag-n1 | Request diagnostic tables definition n°1 | 1 2 3 4 5 6 7 8 | | | | | | | | 1 (TID) 16 (FID) TC ID = 8 1 (IASW) "K" 10 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|--------------|--|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|---|
| 1025/1153 | 5 | 4 | E/F0592 | tc-r_diag-n2 | Request diagnostic tables definition n°2 | 1 2 3 4 5 6 7 8 | | | | | | | | 1 (TID) 17 (FID) TC ID = 8 1 (IASW) "K" 11 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|--------------|--|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|---|
| 1025/1153 | 5 | 4 | E/F0593 | tc-r_diag-n3 | Request diagnostic tables definition n°3 | 1 2 3 4 5 6 7 8 | | | | | | | | 1 (TID) 18 (FID) TC ID = 8 1 (IASW) "K" 12 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|--------------|--|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|---|
| 1025/1153 | 5 | 4 | E/F0594 | tc-r_diag-n4 | Request diagnostic tables definition n°4 | 1 2 3 4 5 6 7 8 | | | | | | | | 1 (TID) 19 (FID) TC ID = 8 1 (IASW) "K" 13 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|--------------|--|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|---|
| 1025/1153 | 5 | 4 | E/F0595 | tc-r_diag-n5 | Request diagnostic tables definition n°5 | 1 2 3 4 5 6 7 8 | | | | | | | | 1 (TID) 20 (FID) TC ID = 8 1 (IASW) "K" 14 Hex 00 Hex CS |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|------|----------|---------|--------------|--|--------------------------------------|-------------|----------|----------|----------|----------|----------|----------|---|
| 1025/1153 | 5 | 4 | E/F0596 | tc-r_diag-n6 | Request diagnostic tables definition n°6 | 1 2 3 4 5 6 7 8 | | | | | | | | 1 (TID) 21 (FID) TC ID = 8 1 (IASW) "K" 15 Hex 00 Hex CS |

1.2.12. Broadcast packet (TBC)

| APID | Type | Sub-type | MF n° | Name | Description | N° word | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|------|------|----------|-------|------|------------------|---------|---------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|-------------------------------------|
| 129 | 15 | 1 | TBD | TBD | Broadcast packet | 1 | 1 | DRMC | | | | | | | | Radiation Belts Crossing Start Time |
| | | | | | | 1 | 2 | | | | | | | | | Radiation Belts Crossing Start Time |
| | | | | | | 2 | 3 | | | | | | | | | Radiation Belts Crossing Start Time |
| | | | | | | 2 | 4 | | | | | | | | | Radiation Belts Crossing Start Time |
| | | | | | | 3 | 5 | | | | | | | | | Radiation Belts Crossing Exit Time |
| | | | | | | 3 | 6 | | | | | | | | | Radiation Belts Crossing Exit Time |
| | | | | | | 4 | 7 | | | | | | | | | Radiation Belts Crossing Exit Time |
| | | | | | | 4 | 8 | | | | | | | | | Radiation Belts Crossing Exit Time |
| | | | | | | 5 | 9 | | | | | | | | | Eclipse Start Time |
| | | | | | | 5 | 10 | | | | | | | | | Eclipse Start Time |
| | | | | | | 6 | 11 | | | | | | | | | Eclipse Start Time |
| | | | | | | 6 | 12 | | | | | | | | | Eclipse Start Time |
| | | | | | | 7 | 13 | | | | | | | | | Eclipse Exit Time |
| | | | | | | 7 | 14 | | | | | | | | | Eclipse Exit Time |
| | | | | | | 8 | 15 | | | | | | | | | Eclipse Exit Time |
| | | | | | | 8 | 16 | | | | | | | | | Eclipse Exit Time |
| | | | | | | 9 | 17 | | | | | | | | | Spare (all zeros) |
| | | | | | | 9 | 18 | | | | | | | | | Spare (all zeros) |
| | | | | | | 10 | 19 | | | | | | | | | Spare (all zeros) |
| | | | | | | 10 | 20 | | | | | | | | | Spare (all zeros) |
| | | | | | | 11 | 21 | | | | | | | | | Spare (all zeros) |
| | | | | | | 11 | 22 | | | | | | | | | Spare (all zeros) |
| | | | | | | 12 | 23 | | | | | | | | | Spare (all zeros) |
| | | | | | | 12 | 24 | | | | | | | | | Spare (all zeros) |
| | | | | | | 13 | 25 | | | | | | | | | Spare (all zeros) |
| | | | | | | 13 | 26 | | | | | | | | | Spare (all zeros) |
| | | | | | | 14 | 27 | | | | | | | | | Pointing Ident |
| | | | | | | 14 | 28 | | | | | | | | | Pointing Ident |
| | | | | | | 15 | 29 | | | | | | | | | Pointing Ident |
| | | | | | | 15 | 30 | | | | | | | | | Pointing Ident |
| | | | | | | 16 | 31 | | | | | | | | | Pointing Duration |
| | | | | | | 16 | 32 | | | | | | | | | Pointing Duration |
| | | | | | | 17 | 33 | | | | | | | | | Pointing Duration |
| | | | | | | 17 | 34 | | | | | | | | | Pointing Duration |
| | | | | | | 18 | 35 | | | | | | | | | Telemetry Share DPE SPI |
| | | | | | | 18 | 36 | | | | | | | | | Telemetry Share DPE IBIS |
| | | | | | | 19 | 37 | | | | | | | | | Telemetry Share DPE JEM_X1 |
| | | | | | | 19 | 38 | | | | | | | | | Telemetry Share DPE JEM_X2 |
| | | | | | | 20 | 39 | | | | | | | | | Telemetry Share DPE OMC |
| | | | | | | 20 | 40 | | | | | | | | | Spare |



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| APID | Type | Sub-type | MF n° | Name | Description | N° word | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|------|------|----------|-------|------|-------------|---------|---------|-----------------------------------|-------------------|----------|------------------|----------|----------|----------|-------------|--|--|
| | | | | | | 21 | 41 | Spare | | | | | | | | | |
| | | | | | | 21 | 42 | Spare | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | 26 | 52 | Spare | | | | | | | | | |
| | | | | | | 27 | 53 | Radiation Monitor Count rates # 1 | | | | | | | | | |
| | | | | | | 27 | 54 | Radiation Monitor Count rates # 1 | | | | | | | | | |
| | | | | | | 28 | 55 | Radiation Monitor Count rates # 2 | | | | | | | | | |
| | | | | | | 28 | 56 | Radiation Monitor Count rates # 2 | | | | | | | | | |
| | | | | | | 29 | 57 | Radiation Monitor Count rates # 3 | | | | | | | | | |
| | | | | | | 29 | 58 | Radiation Monitor Count rates # 3 | | | | | | | | | |
| | | | | | | 30 | 59 | OTF | Not used set to 0 | | | | | | | | |
| | | | | | | 30 | 60 | | Not used set to 0 | | | | | | | | |
| | | | | | | 31 | 61 | 0 | 0 | ESAM | 0 | 0 | 0 | 0 | 0 | | |
| | | | | | | 31 | 62 | 0 | 0 | 0 | ACC Current Mode | | | | 0 | | |
| | | | | | | 32 | 63 | ACC IPS Submode | | | | | | | | | |
| | | | | | | 32 | 64 | Spare | | | | | | | | | |
| | | | | | | 33 | 65 | Spare | | | | | | | | | |
| | | | | | | 33 | 66 | Spare | | | | | | | | | |
| | | | | | | 34 | 67 | Spare | | | | | | | | | |
| | | | | | | 34 | 68 | Spare | | | | | | | | | |

1.2.13. Cryocoolers (TBC)

1.2.13.1. Compressors management

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|------|------|----------|-------|------------------------|------------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|---|
| 129 | 5 | 3 | E9960 | CDE1_M_LAU NCH_LOCK | Set CDE1 Master in LLM | 1 | TID | | | | | | | | |
| | | | | | | 2 | FID | | | | | | | | |
| | | | | | | 3 | 0 | 1 | | | | | | | 0 |
| | | | | | | 4 | 0 | 1 | | | | | | | 0 |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|------|------|----------|-------|------------------------|-----------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|---|
| 129 | 5 | 3 | E9981 | CDE2_S_LAU NCH_LOCK | Set CDE2 Slave in LLM | 1 | TID | | | | | | | | |
| | | | | | | 2 | FID | | | | | | | | |
| | | | | | | 3 | 1 | 1 | | | | | | | 0 |
| | | | | | | 4 | 0 | 1 | | | | | | | 0 |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|------|------|----------|-------|------------------------|-----------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|---|
| 129 | 5 | 3 | E9961 | CDE1_S_LAU NCH_LOCK | Set CDE1 Slave in LLM | 1 | TID | | | | | | | | |
| | | | | | | 2 | FID | | | | | | | | |
| | | | | | | 3 | 1 | 1 | | | | | | | 0 |
| | | | | | | 4 | 0 | 1 | | | | | | | 0 |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|------|------|----------|-------|------------------------|------------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|---|
| 129 | 5 | 3 | E9980 | CDE2_M_LAU NCH_LOCK | Set CDE2 Master in LLM | 1 | TID | | | | | | | | |
| | | | | | | 2 | FID | | | | | | | | |
| | | | | | | 3 | 0 | 1 | | | | | | | 0 |
| | | | | | | 4 | 0 | 1 | | | | | | | 0 |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|------------------|----------------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| 129 | 5 | 3 | E9962 | CDE1_MASTER_STBY | Set CDE1 Master in Standby | 1 | TID | | | | | | | |
| | | | | | | 2 | FID | | | | | | | |
| | | | | | | 3 | 0 | 0 | | | | | | 0 |
| | | | | | | 4 | 0 | 0 | | | | | | 0 |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|-----------------|---------------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| 129 | 5 | 3 | E9983 | CDE2_SLAVE_STBY | Set CDE2 Slave in Standby | 1 | TID | | | | | | | |
| | | | | | | 2 | FID | | | | | | | |
| | | | | | | 3 | 1 | 0 | | | | | | 0 |
| | | | | | | 4 | 0 | 0 | | | | | | 0 |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|-----------------|---------------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| 129 | 5 | 3 | E9963 | CDE1_SLAVE_STBY | Set CDE1 Slave in Standby | 1 | TID | | | | | | | |
| | | | | | | 2 | FID | | | | | | | |
| | | | | | | 3 | 1 | 0 | | | | | | 0 |
| | | | | | | 4 | 0 | 0 | | | | | | 0 |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|------------------|----------------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| 129 | 5 | 3 | E9982 | CDE2_MASTER_STBY | Set CDE2 Master in Standby | 1 | TID | | | | | | | |
| | | | | | | 2 | FID | | | | | | | |
| | | | | | | 3 | 0 | 0 | | | | | | 0 |
| | | | | | | 4 | 0 | 0 | | | | | | 0 |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|------------------|---|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| 129 | 5 | 3 | E9966 | CDE1_M_CHNG_AMPL | CDE1 Master without lock Change Compressor Amplitude | 1 | TID | | | | | | | |
| | | | | | | 2 | FID | | | | | | | |
| | | | | | | 3 | 0 | 1 | E9960 | | | | | |
| | | | | | | 4 | 1 | 1 | E9961 | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|------------------|--|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| 129 | 5 | 3 | E9967 | CDE1_S_CHNG_AMPL | CDE1 Slave without lock Change Compressor Amplitude | 1 | TID | | | | | | | |
| | | | | | | 2 | FID | | | | | | | |
| | | | | | | 3 | 1 | 1 | E9960 | | | | | |
| | | | | | | 4 | 1 | 1 | E9961 | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|-----------------------|-------------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| 129 | 5 | 3 | E9968 | CDE1 LCL1/2 REL ON | CDE1 powered by 2 lines | 1 | TID | | | | | | | |
| | | | | | | 2 | FID | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|---------------------|------------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| 129 | 5 | 3 | E9969 | CDE1 LCL1 REL ON | CDE1 powered by 1 line | 1 | TID | | | | | | | |
| | | | | | | 2 | FID | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|------------------|---|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| 129 | 5 | 3 | E9986 | CDE1_M_CHNG_AMPL | CDE1 Master without lock Change Compressor Amplitude | 1 | TID | | | | | | | |
| | | | | | | 2 | FID | | | | | | | |
| | | | | | | 3 | 0 | 1 | E9960 | | | | | |
| | | | | | | 4 | 1 | 1 | E9961 | | | | | |

1.2.13.2. CDE ON/OFF telecommands

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|----------------|---------------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| ? | ? | ? | P3031 | CDE1_A_LCL1_ON | CDE1 LCL1 power supply ON | 1 | TID | | | | | | | |
| | | | | | | 2 | FID | | | | | | | |
| | | | | | | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | | | | | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|-----------------|----------------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| ? | ? | ? | P3030 | CDE1_A_LCL1_OFF | CDE1 LCL1 power supply OFF | 1 | TID | | | | | | | |
| | | | | | | 2 | FID | | | | | | | |
| | | | | | | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|----------------|---------------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| ? | ? | ? | P3061 | CDE1_A_LCL2_ON | CDE1 LCL2 power supply ON | 1 | TID | | | | | | | |
| | | | | | | 2 | FID | | | | | | | |
| | | | | | | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | | | | | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|-----------------|----------------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| ? | ? | ? | P3060 | CDE1_A_LCL2_OFF | CDE1 LCL2 power supply OFF | 1 | TID | | | | | | | |
| | | | | | | 2 | FID | | | | | | | |
| | | | | | | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|----------------|---------------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| ? | ? | ? | P3271 | CDE2_B_LCL1_ON | CDE2 LCL1 power supply ON | 1 | TID | | | | | | | |
| | | | | | | 2 | FID | | | | | | | |
| | | | | | | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | | | | | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|-----------------|----------------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| ? | ? | ? | P3270 | CDE2_A_LCL1_OFF | CDE2 LCL1 power supply OFF | 1 | TID | | | | | | | |
| | | | | | | 2 | FID | | | | | | | |
| | | | | | | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|----------------|---------------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| ? | ? | ? | P3301 | CDE2_B_LCL2_ON | CDE2 LCL2 power supply ON | 1 | TID | | | | | | | |
| | | | | | | 2 | FID | | | | | | | |
| | | | | | | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | | | | | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|-----------------|----------------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| ? | ? | ? | P3300 | CDE2_B_LCL2_OFF | CDE2 LCL2 power supply OFF | 1 | TID | | | | | | | |
| | | | | | | 2 | FID | | | | | | | |
| | | | | | | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

1.2.13.3. Compressors heaters ON/OFF telecommands

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|-----------------|--|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| ? | ? | ? | T5001 | lcl_comp_h-a_on | Compressor heater power supply ON Survival switch ON Main | 1 | TID | | | | | | | |
| | | | | | | 2 | FID | | | | | | | |
| | | | | | | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | | | | | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|------------------|--|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| ? | ? | ? | T5000 | lcl_comp_h-a_off | Compressor heater power supply OFF Survival switch OFF Main | 1 | TID | | | | | | | |
| | | | | | | 2 | FID | | | | | | | |
| | | | | | | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|-----------------|---|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| ? | ? | ? | T5101 | lcl_comp_h-b_on | Compressor heater power supply ON Survival switch ON Redundant | 1 | TID | | | | | | | |
| | | | | | | 2 | FID | | | | | | | |
| | | | | | | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | | | | | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|------------------|---|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| ? | ? | ? | T5100 | lcl_comp_h-b_off | Compressor heater power supply OFF Survival switch OFF Redundant | 1 | TID | | | | | | | |
| | | | | | | 2 | FID | | | | | | | |
| | | | | | | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |



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| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|---------------------|---|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| ? | ? | ? | P4459 | TWS_COMPENS_A ON | Compensation heater power supply ON Main | 1 | TID | | | | | | | |
| | | | | | | 2 | FID | | | | | | | |
| | | | | | | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | | | | | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|----------------------|---|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| ? | ? | ? | P4459 | TWS_COMPENS_A OFF | Compensation heater power supply ON Main | 1 | TID | | | | | | | |
| | | | | | | 2 | FID | | | | | | | |
| | | | | | | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|---------------------|--|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| ? | ? | ? | P4209 | TWS_COMPENS_B ON | Compensation heater power supply ON Redundant | 1 | TID | | | | | | | |
| | | | | | | 2 | FID | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|----------------------|---|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| ? | ? | ? | P4209 | TWS_COMPENS_B OFF | Compensation heater power supply OFF Redundant | 1 | TID | | | | | | | |
| | | | | | | 2 | FID | | | | | | | |
| | | | | | | 3 | | | | | | | | |
| | | | | | | 4 | | | | | | | | |

1.2.13.4. CDE heaters ON/OFF telecommands

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|-----------------|---------------------------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| ? | ? | ? | T5576 | tws_cde_htra_on | CDE thermal control heater Main ON | 1 | TID FID | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | | | | | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|------------------|--|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| ? | ? | ? | T5575 | tws_cde_htra_off | CDE thermal control heater Main OFF | 1 | TID FID | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|-----------------|--|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| ? | ? | ? | T5676 | tws_cde_htrb_on | CDE thermal control heater Redundant ON | 1 | TID FID | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | | | | | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |

| APID | Type | Sub-type | MF n° | Name | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|------|------|----------|-------|------------------|---|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| ? | ? | ? | T5675 | tws_cde_htrb_off | CDE thermal control heater Redundant OFF | 1 | TID FID | | | | | | | |
| | | | | | | 2 | | | | | | | | |
| | | | | | | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

1.3. TM PARAMETERS DESCRIPTION

1.3.1. Technical data monitoring: Cold box

| Identification location | Nb measmt. | Kind | Range °C/°K / Volts | Cal. curv or alias | Interfaces | Acq. rate | PTC* | PFC* | Id name | DB reference |
|---|------------|-------|------------------------------|----------------------------|------------|------------|------|------|-----------------|---|
| Cold plate operating temp (operational mode) (annealing mode) | 4 | PT500 | 62 K / 128 K 62 K / 410 K | c6330/c6726 | LSL | 640 s | 3 | 8 | t_cr_coldplt_ln | E/F0391-E/F0394 If E0399 = 1 If E0399 = 0 |
| Thermal braids temp (operational mode) (annealing mode) | 4 | PT500 | 62 K / 128 K 62 K / 410 K | c6331/c6727 c6330/c6726 | LSL | 640 s | 3 | 8 | t_cr_braids_ln | E/F0395-E/F0398 If E0399 = 1 If E0399 = 0 |
| Cryogenic temperature range message | 1 | n/a | n/a | c6331/c6727 (alias 6330) | LSL | 640 s - 8s | 3 | 4 | s_cr_cry-temp_l | E0399 |
| Cold plate temperature C1 C2 | 2 | PT500 | -193 / +63 | c6007 | RTU | 8 s | 3 | 4 | t_cr_coldplt_un | T5107, T5114 |
| 200 K cold box temperature | 4 | PT500 | -110 / +50 | c6002 | mini-RTU | 640 s | 3 | 4 | t_cr_coldbox_rn | E3981-E3984 |
| 200 K cold box temperature I1-I2 | 2 | PT500 | -130 / +35°C | c6006 | RTU | 8 s | 3 | 4 | t_cr_coldbox_un | T5105, T5112 |
| PA 2 temperature | 19 | AD590 | 0 K / 511 K | c6004/c6702 | LSL | 640 s | 3 | 8 | t_af_pa2_ln | E/F0210-E/F0228 |

* **PTC: parameter Type code (cf. AD x: INT-RP-AI-0030)**

PFC: parameter Format code



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1.3.2. Technical data monitoring: Power supply (AFEE2)

| Identification location | Nb measmt. | Kind | Range °C/°K / Volts | Cal. curv or alias | Interfaces | Acq. rate | PTC | PFC | Id name | DB reference |
|--|------------|-------|---------------------|--------------------|------------|-----------|-----|-----|------------------|-----------------|
| AFEE DC-DC converter temperature (LVPS temp) | 19 | AD590 | 0 K / 511 K | c6326 | LSL | 640 s | 3 | 4 | t_af_lvps_ln | E/F0310-E/F0328 |
| AFEE TM/TC power supply board temperature | 1 | TH | - 40 / + 70 | c6001 | mini-RTU | 640 s | 3 | 4 | t_af_pws-board_r | E/F3995 |
| AFEE I/F TM/TC LVPS | 1 | AN | 0 - 5 v | c6005 | mini-RTU | 640 s | 3 | 4 | u_af_tmtc_r | E/F3985 |
| AFEE converter box temperature | 1 | TH | -55 / + 90 | c6008 | RTU | 8 s | 3 | 4 | t_af_conv-box_u | T5011 |

1.3.3. Technical and management data monitoring: Analogue chains (AFEE1)

| Identification location | Nb measmt. | Kind | Range °C/°K / Volts | Cal. curv or alias | Interfaces | Acq. rate | PTC | PFC | Id name | DB reference |
|---|------------|-------|---------------------|---|------------|------------------|--------|--------|-------------------------------|------------------------------------|
| Low detection threshold level | 19 | n/a | 0/255 keV | c6620 - c6638 | LSL | 640 s | 3 | 4 | e_af_lwdt_ln | E/F0270-E/F0288 |
| High voltage level (0 - 5000 V) | 19 | n/a | 0/5.0 kVolts | c6600 - c6618 c6400 | LSL | 3840 s 640 s | 3 3 | 4 4 | r_af_lwdt_ln u_af_hv_ln | E/F0030-E/F0048 E/F0250-E/F0268 |
| High voltage monitoring ON/OFF status | 19 | n/a | n/a | c6421 - c6438 c6707 - c6725 c6500 - c6518 (alias 6306) | LSL | 3840 s 3840 s | 3 2 | 4 1 | r_af_hv_ln r_af_hvps-oo_ln | E/F0010-E/F0028 E/F0190-E/F0208 |
| Low voltage monitoring ON/OFF status | 19 | n/a | n/a | (alias 6306) | LSL | 3840 s | 2 | 1 | r_af_lvps-oo_ln | E0170-E0188 |
| AFEE analogue Digital Converter temp. | 19 | AD590 | 0 K / 511 K | c6009/c6703 | LSL | 640 s | 3 | 8 | t_af_adc_ln | E/F0330-E/F0348 |
| Direct current output voltage | 19 | | 0 V / -2.5 V | c6406/c6705 | LSL | 640 s | 3 | 4 | u_af_dcoutpt_ln | E/F0350-E/F0368 |
| High energy clamping OFF (desaturating impulse for detectors) | 19 | n/a | n/a | (alias 6329) | LSL | 3840 s | 2 | 1 | r_af_hnrg-oo_ln | E0050-E0068 |
| Selection of detector energy working range | 19 | n/a | n/a | (alias 6302) | LSL | 3840 s | 2 | 1 | r_af_wkg-rng_ln | E0070-E0088 |
| Selection of detector energy working range | 19 | n/a | n/a | (alias 6302) | LSL | 640 s | 2 | 1 | s_af_wkg-rng_ln | E0230-E0248 |
| Manual/automatic selection dtor wrkg range | 19 | n/a | n/a | (alias 6303) | LSL | 3840 s | 2 | 1 | r_af_wkg-m/a_ln | E0090-E0108 |
| Manual/automatic selection dtor wrkg range | 19 | n/a | n/a | (alias 6303) | LSL | 640 s | 2 | 1 | s_af_wkg-m/a_ln | E0370-E0388 |
| Main AFEE output selection to DFEE | 19 | n/a | n/a | (alias 6308) | LSL | 3840 s | 2 | 1 | r_af_redt-df_ln | E0150-E0168 |
| Redundant AFEE output selection to DFEE | 19 | n/a | n/a | (alias 6308) | LSL | 3840 s | 2 | 1 | r_af_main-df_ln | E0130-E0148 |
| Temperature range selection for cold plate and thermal braids temperature telemetry | 1 | n/a | n/a | (alias 6307) | LSL | 3840 s | 2 | 1 | r_cr_cry-rng_l | E0209 |
| Detector low voltage acquisition | 19 | n/a | 0 - 12.2 V | c6706/c6378 | LSL | 640 s | 3 | 4 | u_af_lv_ln | E/F0290-E/F0308 |



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| Identification location | Nb measmt. | Kind | Range °C/°K / Volts | Cal. curv or alias | Interfaces | Acq. rate | PTC | PFC | Id name | DB reference |
|---|------------|------|---------------------|--------------------|------------|-----------|-----|-----|------------------|--------------|
| AFEE I/F TM/TC source current 1mA | 1 | | | c6327/c6700 | LSL | 640 s | 3 | 8 | r_af_srce-cu | E/F0001 |
| | | | | | | | | | deleted | E0005 |
| Outgassing/Annealing regulation system 1 | 1 | | + 40 / + 100 | (alias 6361) | LSL | 3840 s | 2 | 8 | r_af_anlg-1_l | E/F0003 |
| | | | | | | | | | deleted | E0006 |
| Outgassing/Annealing regulation system 2 | 1 | | | (alias 6361) | LSL | 3840 s | 2 | 8 | r_af_anlg-2_l | E/F0004 |
| AFEE I/F TM/TC temperature (electronic board) | 1 | TH | -40 / +70 | c6328/c6701 | LSL | 640 s | 3 | 8 | t_af_tmtc_l | E/F0002 |
| AFEE I/F TM/TC box temperature | 1 | TH | -55 / +90 | c6008 | RTU | 8 s | 3 | 4 | t_af_tmtc-box_u | T5010 |
| AFEE current mode status | 1 | n/a | n/a | (alias 6319) | LSL | 8 s | 2 | 3 | s_af_status1_l | E/F3881 (1) |
| AFEE self-test status | 1 | n/a | n/a | (alias 6381) | LSL | 8 s | 2 | 1 | s_af_status2_l | E/F3882 (1) |
| AFEE all commands initiated status | 1 | n/a | n/a | (alias 6002) | LSL | 8 s | 2 | 1 | s_af_status3_l | E/F3883 (1) |
| AFEE ack/nack CS error | 1 | n/a | n/a | (alias 6384) | LSL | 8 s | 2 | 1 | s_af_ack-cs_l | E/F0499 (2) |
| AFEE ack/nack Not allowed command | 1 | n/a | n/a | (alias 6380) | LSL | 8 s | 2 | 1 | s_af_ack-fbcd_l | E/F0498 (2) |
| AFEE ack/nack auto test status | 1 | n/a | n/a | (alias 6381) | LSL | 8 s | 2 | 1 | s_af_ack-st_l | E/F0497 (2) |
| AFEE ack/nack 1 st cmd after reset | 1 | n/a | n/a | (alias 6382) | LSL | 8 s | 2 | 1 | s_af_ack-aftst_l | E/F0496 (2) |
| AFEE ack/nack check | 1 | n/a | n/a | (alias 6383) | LSL | 8 s | 2 | 1 | s_af_ack_chk_l | E/F0495 (2) |
| Output status from AFEE to DFEE (0 Disable; 1 Enable) | 1 | n/a | n/a | (alias 6308) | LSL | 8 s | 2 | 1 | s_af_out-st_l | E/F0896 |
| PROM self-test result (0 = ok; 1 = nok) | 1 | n/a | n/a | (alias 6001) | LSL | 8 s | 2 | 1 | s_af_prom-st_l | E/F0898 |
| RAM self-test result (0 = ok; 1 = nok) | 1 | n/a | n/a | (alias 6001) | LSL | 8 s | 2 | 1 | s_af_ram-st_l | E/F0899 |
| On-board SW issue number | 1 | n/a | n/a | | LSL | 8 s | 2 | 4 | s_af_sw-iss_l | E/F0992 |
| On-board SW revision number | 1 | n/a | n/a | | LSL | 8 s | 2 | 4 | s_af_sw-rev_l | E/F0993 |
| Acknowledgment status byte Involving parameters E0495-E0499 | 1 | n/a | n/a | | LSL | 8 s | 3 | 4 | s_af_hk0_ack_l | E/F2797 |
| HK0 MSB involving parameters E3881 E3882 E3883 | 1 | n/a | n/a | | LSL | 8 s | 3 | 4 | s_af_hk0_msb_l | E/F2594 |
| HK0 mSB unvolving parameters E0896 E0898 E0899 | 1 | n/a | n/a | | LSL | 8 s | 3 | 4 | s_af_hk0_med_l | E/F2595 |
| HK0 LSB unvolving parameters E0992 E0993 | 1 | n/a | n/a | | LSL | 8 s | 3 | 4 | s_af_hk0_lsb_l | E/F2596 |

(1) Status definition

| State or Event | MS bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | Bit n° 7 |
|------------------------|-------------|----------|----------|----------|----------|-------------------|------------|------------------------------------|
| All commands initiated | | | | Reserved | Reserved | | Don't care | 0 = Initiated 1 = Not initiated |
| Status self-test | | | | Reserved | Reserved | 0 = OK 1 = NOK | Don't care | |
| Current Mode: | | | | Reserved | Reserved | | Don't care | |
| STBY | 0 | 0 | 0 | | | | | |
| CONF | 0 | 0 | 1 | | | | | |
| OPER | 0 | 1 | 0 | | | | | |
| DIAG | 0 | 1 | 1 | | | | | |
| CAL | 1 | 0 | 0 | | | | | |
| EMERGENCY | 1 | 0 | 1 | | | | | |

(2) ACK/NACK definition

| State or Event | MS bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | Bit n° 7 |
|-------------------------------------|--|---|----------|------------|------------|-------------------|---------------------------|---------------------------|
| CS error | Bit n° 6 NOR bit n° 7 NOR bit n° 1 | | Reserved | Don't care | Don't care | | | 0 = no error 1 = error |
| Not allowed command | Bit n° 6 NOR bit n° 7 NOR bit n° 1 | | Reserved | Don't care | Don't care | | 0 = no error 1 = error | |
| Status auto-test | Bit n° 6 NOR bit n° 7 NOR bit n° 1 | | Reserved | Don't care | Don't care | 0 = OK 1 = NOK | | |
| 1 st command after reset | Bit n° 6 NOR bit n° 7 NOR bit n° 1 | 0 = no 1 st command 1 = 1 st command | Reserved | Don't care | Don't care | | | |

1.3.4. Technical and management data monitoring: DFEE

| Identification location | Nb measmt. | Kind | Range °C/°K / Volts | Cal. curv or alias | Interfaces | Acq. rate | PTC | PFC | Id name | DB reference |
|--|------------|------|---------------------|--------------------|------------|-----------|-----|-----|-----------------|-------------------------|
| Box temperature | 1 | TH | -40 / +70 | c6001 | mini-RTU | 640 s | 3 | 4 | t_df_box_r | E3986 |
| Box temperature | 1 | TH | -55 / +90 | c6008 | RTU | 8 s | 3 | 4 | t_df_box_u | T5012 R6006 E3987 |
| LVPS | 1 | AN | 0 - 5 V | c6005 | mini-RTU | 8 s | 3 | 4 | u_df_lvps_r | E3987 |
| Rest Front Tframe (RstFronTframe) | 1 | n/a | n/a | (alias 6333) | LSL | 3840 s | 2 | 1 | r_df_rst-tfr_l | E2701 |
| Reset Front Veto (RstFrontVeto) | 1 | n/a | n/a | (alias 6333) | LSL | 3840 s | 2 | 1 | r_df_rst-vto_l | E2702 |
| Reset Front PSD (RstFrontPsd) | 1 | n/a | n/a | (alias 6333) | LSL | 3840 s | 2 | 1 | r_df_rst-psd_l | E2703 |
| Reset Front AFEE n° 0 - n° 18 (RstFrontAfee) | 19 | n/a | n/a | (alias 6333) | LSL | 3840 s | 2 | 1 | r_df_fr-af_ln | E2704-E2722 |
| Reset Count VPSD (RstCountVPsd) | 1 | n/a | n/a | (alias 6333) | LSL | 3840 s | 2 | 1 | r_df_cnt-vpsd_l | E2723 |
| Reset Count AFEE n° 0 - n° 18 (RstCountAfee) | 19 | n/a | n/a | (alias 6333) | LSL | 3840 s | 2 | 1 | r_df_cnt-af_ln | E2724-E2742 |
| Reset ASSO SM (RstAssoSm) | 1 | n/a | n/a | (alias 6333) | LSL | 3840 s | 2 | 1 | r_df_asso_l | E2743 |
| Reset POBJ SM (RstPobjSm) | 1 | n/a | n/a | (alias 6333) | LSL | 3840 s | 2 | 1 | r_df_pobj_l | E2744 |
| Reset RCVE SM (RstRcveSm) | 1 | n/a | n/a | (alias 6333) | LSL | 3840 s | 2 | 1 | r_df_rcve_l | E2745 |
| Reset RCVE Serial (RstRcveSerial) | 1 | n/a | n/a | (alias 6333) | LSL | 3840 s | 2 | 1 | r_df_serial_l | E2746 |
| Reset ACQ SM (RstAcqSm) | 1 | n/a | n/a | (alias 6333) | LSL | 3840 s | 2 | 1 | r_df_acq_l | E2747 |
| Reset Dial SM (RstDialSm) | 1 | n/a | n/a | (alias 6333) | LSL | 3840 s | 2 | 1 | r_df_dial_l | E2748 |
| Enable count Dead Time AFEE (EnCntDtAfee) | 1 | n/a | n/a | (alias 6308) | LSL | 3840 s | 2 | 1 | r_df_dt-af_l | E2749 |
| Enable count Dead Time AFEE SAT (EnCntDtAfeeSat) | 1 | n/a | n/a | (alias 6308) | LSL | 3840 s | 2 | 1 | r_df_dt-afst_l | E2750 |
| Enable count Dead Time Veto gate (EnCntDtVetoGate) | 1 | n/a | n/a | (alias 6308) | LSL | 3840 s | 2 | 1 | r_df_dt-vtg_l | E2751 |



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|--|------------|------|---------------------|-------------------------|------------|-----------|-----|-----|-----------------|--------------|
| CFG ASSO Time Out Drop Energy (ToutScaleDropNjr) | | | | | | | | | deleted | E2752 |
| CFG ASSO Multi Window Size (AssoMultWinSize) | 1 | n/a | n/a | (0, 31) (alias 6390) | LSL | 3840 s | 3 | 1 | r_df_wdw_1 | E2753 |
| CFG ASSO Force Veto (AssoVetoForce) | | | | | | | | | deleted | E2754 |
| CFG ASSO Enable Veto (AssoEnableVeto) | | | | | | | | | deleted | E2755 |
| CFG ASSO Enable PSD (AssoEnablePsd) | 1 | n/a | n/a | (alias 6308) | LSL | 3840 s | 2 | 1 | r_df_enb-pd_1 | E2756 |
| CFG ASSO Enable AFEE n° 0 - n° 18 (AssoEnableAfee) | 19 | n/a | n/a | (alias 6308) | LSL | 3840 s | 2 | 1 | r_df_enb-af_ln | E2757-E2775 |
| CFG RCVE Time Out Miss Energy (ToutValMissNjr) | 1 | n/a | n/a | | LSL | 3840 s | 2 | 5 | r_df_ms-nrg_1 | E2776 |
| CFG ACQ KEEPSE (EvtKeepSE) | 1 | n/a | n/a | (alias 6304) | LSL | 3840 s | 2 | 1 | r_df_se_1 | E2777 |
| EnHslErrAct | 1 | n/a | n/a | (alias 6308) | LSL | 3840 s | 2 | 1 | r_df_enhsler_1 | E2695 |
| NHslErrAct Threshold | 1 | n/a | n/a | | LSL | 3840 s | 2 | 4 | r_dl_enhsler_1 | E2696 |
| CFG ACQ KEEPME (EvtKeepME) | 1 | n/a | n/a | (alias 6304) | LSL | 3840 s | 2 | 1 | r_df_me_1 | E2778 |
| CFG ACQ KEEPPE (EvtKeepPE) | 1 | n/a | n/a | (alias 6304) | LSL | 3840 s | 2 | 1 | r_df_pe_1 | E2779 |
| CFG ACQ KeepPP (EvtKeepPP) | 1 | n/a | n/a | (alias 6304) | LSL | 3840 s | 2 | 1 | r_df_pp_1 | E2780 |
| CFG ACQ Evt Force No vetoed (EvtForceNVeto) | 1 | n/a | n/a | (alias 6304) | LSL | 3840 s | 2 | 1 | r_df_evt-nvto_1 | E2781 |
| CFG ACQ Spectra Storage Mode (SpeStorageMode) | 1 | n/a | n/a | (alias 6370) | LSL | 3840 s | 2 | 2 | r_df_sp-mod_1 | E2782 |
| CFG DIAL HSL Transfer length bit (HslXferLength) | 1 | n/a | n/a | (0; 17408) | LSL | 3840 s | 3 | 12 | r_df_tr-lgth_1 | E2783 |
| EvtSetTimeFmtPE | 1 | n/a | n/a | (alias 6304) | LSL | 3840 s | 2 | 1 | r_df_fmtpe_1 | E2784 |
| EvtForceProc PE | 1 | n/a | n/a | (alias 6304) | LSL | 3840 s | 2 | 1 | r_df_procpe_1 | E2785 |



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|---|------------|------|---------------------|--------------------|------------|-----------|-----|-----|---------------------------------------|-------------------------|
| Adjust Delay for AFEE saturated (DelayAfeeSat_i) | 19 | n/a | n/a | c6380 | LSL | 3840 s | 3 | 0 | r_df_sat-af_ln | E2800-E2818 |
| (XtndGateAbove) | 1 | n/a | n/a | c6383 | LSL | 3840 s | 3 | 4 | r_dt_xgte-ab_l | E2844 |
| (XtndGateBelow) | 1 | n/a | n/a | c6384 | LSL | 3840 s | 3 | 4 | r_dt_xgte-bl_l | E2845 |
| (RouteActoPsd) (RouteMode) (RouteSatToAfee) | 1 | n/a | n/a | (alias 6359) | LSL | 3840 s | 2 | 2 | deleted r_dt_rout-mod_l deleted | E2846 E2848 E2847 |
| Inhibition auto-test CODE | 1 | n/a | n/a | (alias 6355) | LSL | 3840 s | 2 | 1 | r_dt_inib-code_l | E2697 |
| Inhibition auto-test ASIC | 1 | n/a | n/a | (alias 6355) | LSL | 3840 s | 2 | 1 | r_dt_inib-asic_l | E2698 |
| Inhibition auto-test RAM | 1 | n/a | n/a | (alias 6355) | LSL | 3840 s | 2 | 1 | r_dt_inib-ram_l | E2699 |
| Nb HSL error threshold (NbHslErrThreshold) | 1 | n/a | n/a | (0; 15) | LSL | 3840 s | 3 | 0 | r_dt_er-thr_l | E2700 |
| (ToutScaleDropNrx) | 1 | n/a | n/a | Def = 15 | LSL | 3840 s | 3 | 0 | r_dt_drop-nrx_l | E2786 |
| Mode resolution (LowResMode) | 1 | n/a | n/a | (alias 6356) | LSL | 3840 s | 2 | 1 | r_dt_low-mod_l | E2787 |
| Anti-coincidence mode (AcMode) | 1 | n/a | n/a | (alias 6371) | LSL | 3840 s | 2 | 2 | r_dt_ac-mod_l | E2788 |
| Adjust Delay for Time Tag AFEE (DelayAfeeTT_i) | 19 | n/a | n/a | c6380 | LSL | 3840 s | 3 | 0 | r_df_tg-af_ln | E2820-E2838 |
| Delay Veto First (DelayVetoFrst) | 1 | n/a | n/a | c6380 | LSL | 3840 s | 3 | 0 | r_df_dly-fst_l | E2840 |
| Delay Veto Second (DelayVetoScnd) | 1 | n/a | n/a | c6385 | LSL | 3840 s | 3 | 2 | r_df_dly-scd_l | E2841 |
| (XtndThresh) | 1 | n/a | n/a | c6381 | LSL | 3840 s | 3 | 4 | r_df_xtnd-thr_l | E2842 |
| Delay PSD (DlyPsd) | 1 | n/a | n/a | c6382 | LSL | 3840 s | 3 | 1 | r_df_dly-pd_l | E2843 |
| Software parameters | | | | | | | | | deleted | E2880-E2909 |
| DFEE current mode status | 1 | n/a | n/a | (alias 6319) | LSL | 8 s | 2 | 3 | s_df_mode_l | E/F3884 (1) |
| DFEE auto-test nok | 1 | n/a | n/a | (alias 6381) | LSL | 8 s | 2 | 1 | s_df_ststnok_l | E/F3885 (1) |



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|--|------------|------|---------------------|--------------------|------------|-----------|-----|-----|------------------|--------------|
| DFEE ExecTeNinit | 1 | n/a | n/a | (alias 6002) | LSL | 8 s | 2 | 1 | s_df_tcinit_1 | E/F3886 (1) |
| DFEE ack/nack CS error | 1 | n/a | n/a | (alias 6384) | LSL | 8 s | 2 | 1 | s_df_ack-cs_1 | E/F0599 (2) |
| DFEE ack/nack Not allowed command | 1 | n/a | n/a | (alias 6380) | LSL | 8 s | 2 | 1 | s_df_ack-fbcd_1 | E/F0598 (2) |
| DFEE ack/nack auto test status | 1 | n/a | n/a | (alias 6381) | LSL | 8 s | 2 | 1 | s_df_ack-st_1 | E/F0597 (2) |
| DFEE ack/nack 1 st cmd after reset | 1 | n/a | n/a | (alias 6382) | LSL | 8 s | 2 | 1 | s_df_ack-aftst_1 | E/F0596 (2) |
| DFEE ack/nack check | 1 | n/a | n/a | (alias 6383) | LSL | 8 s | 2 | 1 | s_df_ack-chk_1 | E/F0595 (2) |
| DFEE acquisition MSB status | | | | | | | | | | E1092-E1099 |
| DFEE acquisition LSB status | | | | | | | | | | E1192-E1199 |
| AutoTstASIC nok | 1 | n/a | n/a | (alias 6001) | LSL | 8 s | 2 | 1 | s_df_asic-nok_1 | E4001 |
| WarnRunProg | 1 | n/a | n/a | (alias 6001) | LSL | 8 s | 2 | 1 | s_df_runprog_1 | E4002 |
| WarnHslClkOp | 1 | n/a | n/a | (alias 6001) | LSL | 8 s | 2 | 1 | s_df_hslclk_1 | E4003 |
| AlrtCoherTst | 1 | n/a | n/a | (alias 6001) | LSL | 8 s | 2 | 1 | s_df_cortst_1 | E4004 |
| AlrtCoherCfg | 1 | n/a | n/a | (alias 6001) | LSL | 8 s | 2 | 1 | s_df_corecfg_1 | E4005 |
| AlrtPobjPrctl | 1 | n/a | n/a | (alias 6001) | LSL | 8 s | 2 | 1 | s_df_pobj_1 | E4006 |
| AlrtSmNRrun | 1 | n/a | n/a | (alias 6001) | LSL | 8 s | 2 | 1 | s_df_smnrnrun_1 | E4007 |
| AlrtTimeBase | 1 | n/a | n/a | (alias 6001) | LSL | 8 s | 2 | 1 | s_df_timbase_1 | E4008 |
| AlrtHslErr | 1 | n/a | n/a | (alias 6001) | LSL | 8 s | 2 | 1 | s_df_hslerr_1 | E4009 |
| NoteTimeOut | 1 | n/a | n/a | (alias 6001) | LSL | 8 s | 2 | 1 | s_df_timeout_1 | E4010 |
| NoteDrop | 1 | n/a | n/a | (alias 6001) | LSL | 8 s | 2 | 1 | s_df_drop_1 | E4011 |
| NoteItemOvf | 1 | n/a | n/a | (alias 6001) | LSL | 8 s | 2 | 1 | s_df_itovf_1 | E4012 |
| NotePobjOvf | 1 | n/a | n/a | (alias 6001) | LSL | 8 s | 2 | 1 | s_df_pobjovf_1 | E4013 |
| NoteDialPrtl | 1 | n/a | n/a | (alias 6001) | LSL | 8 s | 2 | 1 | s_df_dialprtl_1 | E4014 |
| Note8HzProgr | 1 | n/a | n/a | (alias 6001) | LSL | 8 s | 2 | 1 | s_df_8hprog_1 | E4015 |
| Warn8HzAbsnt | 1 | n/a | n/a | (alias 6001) | LSL | 8 s | 2 | 1 | s_df_8habs_1 | E4016 |
| WarnDialPrty | 1 | n/a | n/a | (alias 6001) | LSL | 8 s | 2 | 1 | s_df_dialpty_1 | E4017 |
| Acknowledgement status byte involving parameters E0595-E0599 | 1 | n/a | n/a | | LSL | 8 s | 3 | 4 | s_df_hko_ach_1 | E2790 |
| HKO status MS byte involving parameters E3884-E3886 E4001 | 1 | n/a | n/a | | LSL | 8 s | 3 | 4 | s_df_hko_msb_1 | E/F2791 |
| HKO status Medium byte involving parameters E4002-E4009 | 1 | n/a | n/a | | LSL | 8 s | 3 | 4 | s_df_hko_med_1 | E/F2792 |
| HKO status LS byte involving parameters E4010-E4017 | 1 | n/a | n/a | | LSL | 8 s | 3 | 4 | s_df_hko_lsb_1 | E/F2793 |

1.3.5. Technical and management data monitoring: PSD

| Identification location | Nb measmt. | Kind | Range °C/°K / Volts | Cal. curv or alias | Interfaces | Acq. rate | PTC | PFC | Id name | DB reference |
|---|------------|------|---------------------|--|------------|-----------|-----|-----|------------------|------------------|
| Box temperature | 1 | TH | -40 / +70 | c6001 | mini-RTU | 640 s | 3 | 4 | t_pd_box_r | E3988 |
| Box temperature | 1 | TH | -55 / +90 | c6008 | RTU | 8 s | 3 | 4 | t_pd_box_u | T5013 |
| LVPS | 1 | AN | 0 - 5 V | c6005 | mini-RTU | 8 s | 3 | 4 | u_pd_lvps_r | E3989 |
| PSD current mode status | 1 | n/a | n/a | (alias 6319) | LSL | 8 s | 2 | 3 | s_pd_status1_l | E/F3890 (1) |
| PSD self-test status | 1 | n/a | n/a | (alias 6381) | LSL | 8 s | 2 | 1 | s_pd_status2_l | E/F3891 (1) |
| PSD all commands initiated status | 1 | n/a | n/a | (alias 6002) | LSL | 8 s | 2 | 1 | s_pd_status3_l | E/F3892 (1) |
| PSD ack/nack CS error | 1 | n/a | n/a | (alias 6384) | LSL | 8 s | 2 | 1 | s_pd_ack-cs_l | E/F0799 (2) |
| PSD ack/nack Not allowed command | 1 | n/a | n/a | (alias 6380) | LSL | 8 s | 2 | 1 | s_pd_ack-fbcd_l | E/F0798 (2) |
| PSD ack/nack status auto-test | 1 | n/a | n/a | (alias 6381) | LSL | 8 s | 2 | 1 | s_pd_ack-st_l | E/F0797 (2) |
| PSD ack/nack 1 st cmd after reset | 1 | n/a | n/a | (alias 6382) | LSL | 8 s | 2 | 1 | s_pd_ack-aftst_l | E/F0796 (2) |
| PSD ack/nack check | 1 | n/a | n/a | (alias 6383) | LSL | 8 s | 2 | 1 | s_pd_ack_chk_l | E/F0795 (2) |
| Program error | 1 | n/a | n/a | (alias 6348) | LSL | 8 s | 2 | 1 | s_pd_prog-er_l | E/F1495 E1493 |
| Library control | 1 | n/a | n/a | (alias 6349) | LSL | 8 s | 2 | 1 | s_pd_lib-er_l | E/F1494 |
| PSD acquisition LSB status | | | | | | | | | unused | E1592-E1599 |
| Global Front End trigger for Operational and Cal modes | 1 | n/a | n/a | (alias 6347) Def = 4 | LSL | 3840 s | 2 | 3 | r_pd_trg-op_l | E3603 |
| Low level discriminator for Operational and Cal modes (LSB) | 1 | n/a | n/a | If 3605 = 0 (alias 6346) def = 2 if not | LSL | 3840 s | 2 | 2 | r_pd_lwd-op_l1 | E3604 |
| Low level discriminator for Operational and Cal modes (MSB) | 1 | n/a | n/a | (alias 6446) Def = 0 | LSL | 3840 s | 2 | 1 | r_pd_lwd-op_l2 | E3605 |
| Acknowledgment status byte involving parameters E0795-E0799 | 1 | n/a | n/a | | LSL | 8 s | 3 | 4 | s_pd_hk0_ack_l | E/F2796 |
| HK0 status MS byte involving parameters E3890 E3891 E3892 | 1 | n/a | n/a | | LSL | 8 s | 3 | 4 | s_pd_hk0_msb_l | E/F2591 |



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|---|------------|------|---------------------|--|------------|-----------|-----|-----|------------------|----------------|
| Time window for Operational and Cal modes | 1 | n/a | n/a | (alias 6345) | LSL | 3840 s | 2 | 3 | r_pd_time-op_1 | E3606 |
| Gain Control for Operational and Cal modes | 1 | n/a | n/a | (alias 6344) | LSL | 3840 s | 2 | 1 | r_pd_gnc-op_1 | E3607 |
| Disable/Enable for detector n°0 to n° 18 for Diag mode | 19 | n/a | n/a | (alias 6322) | LSL | 3840 s | 2 | 1 | r_pd_de-dg_ln | E3610-E3628 |
| Global Front End trigger for Diag mode | 1 | n/a | n/a | (alias 6347) Def = 4 | LSL | 3840 s | 2 | 3 | r_pd_trg-dg_1 | E3629 |
| Low level discriminator for Diag mode (LSB) | 1 | n/a | n/a | If 3631 = 0 (alias 6346) Def = 2 If not (alias 6446) | LSL | 3840 s | 2 | 2 | r_pd_lwd-dg_l1 | E3630 |
| Low level discriminator for Diag mode (MSB) | 1 | n/a | n/a | Def = 0 | LSL | 3840 s | 2 | 1 | r_pd_lwd-dg_l2 | E3631 |
| Time window for Diag mode | 1 | n/a | n/a | (alias 6345) | LSL | 3840 s | 2 | 3 | r_pd_time-dg_1 | E3632 |
| Gain Control for Diag mode | 1 | n/a | n/a | (alias 6344) | LSL | 3840 s | 2 | 1 | r_pd_gnc-dg_1 | E3633 |
| Gain adjustment for converter n° 0 to n° 3 | 4 | n/a | n/a | (-128;+127) | LSL | 3840 s | 4 | 4 | r_pd_gn-conv_ln | E3643-E3646 |
| Offset adjustment for converter n° 0 to n° 2 | 3 | n/a | n/a | (-128;+127) | LSL | 3840 s | 4 | 4 | r_pd_ofs-conv_ln | E3647-E3649 |
| Disable/Enable for detector n° 0 to n° 18 For Operational and Calibration modes | 19 | n/a | n/a | (alias 6322) | LSL | 3840 s | 2 | 1 | r_pd_de-op_ln | E3650-E3668 |
| Disable/Enable for detector n° 0 to n° 18 Current configuration | 19 | n/a | n/a | (alias 6322) | LSL | 640 s | 2 | 1 | p_pd_de-cc_ln | E4920-E4938 |
| Global Front End trigger Current conf | 1 | n/a | n/a | (alias 6347) Def = 4 | LSL | 640 s | 2 | 3 | p_pd_trg-cc_1 | E4939 |
| Low level discriminator Current conf (LSB) | 1 | n/a | n/a | If 4941 = 0 (alias 6346) Def = 2 If not (alias 6446) | LSL | 640 s | 2 | 2 | p_pd_lwd-cc_l1 | E4940 |
| Low level discriminator Current conf (MSB) | 1 | n/a | n/a | Def = 0 | LSL | 640 s | 2 | 1 | p_pd_lwd-cc_l2 | E4941 |
| Time window Current conf | 1 | n/a | n/a | (alias 6345) | LSL | 640 s | 2 | 3 | p_pd_time-cc_1 | E4942 |
| Gain Control Current conf Deleted | 1 | n/a | n/a | (alias 6344) | LSL | 640 s | 2 | 1 | p_pd_gnc-cc_1 | E4943 E3669 |
| Number of postprocessed events after 8 Hz edge | 1 | n/a | n/a | (0; 255) | LSL | 3840 s | 3 | 4 | r_pd_nb-ev-8h_1 | E3758 |
| Low Threshold for detector n° 0 to n° 18 | 19 | n/a | n/a | (0;65535) (0;10) | LSL | 3840 s | 3 | 12 | r_pd_low-th_ln | E3670-E3688 |
| High Threshold for detector n° 0 to n° 18 | 19 | n/a | n/a | (0;65535) (0;511) Def = 511 | LSL | 3840 s | 3 | 12 | r_pd_high-th_ln | E3690-E3708 |
| HK0 status med byte involving parameters E1494 E1495 | 1 | n/a | n/a | | LSL | 8 s | 3 | 4 | s_pd_hk0_med_1 | E/F2592 |
| HK0 status LS byte | 1 | n/a | n/a | | LSL | 8 s | 3 | 4 | s_pd_hk0_ls_b_1 | E/F2593 |



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|--|------------|------|---------------------|--------------------|------------|-----------|-----|-----|------------------|--------------|
| Offset adjustment for converter n° 3 | 1 | n/a | n/a | (-128;+127) | LSL | 3840 s | 4 | 4 | r_pd_ofs-conv_l4 | E3709 |
| Library selection for detector n° 0 | 1 | n/a | n/a | See TC | LSL | 3840 s | 2 | 3 | r_pd_lib-sel_l0 | E3710 |
| Event word decode K5 for detector n° 0 | 1 | n/a | n/a | param | LSL | 3840 s | 3 | 1 | r_pd_evwk5_l0 | E3711 |
| Number of time steps for detector n° 0 | 1 | n/a | n/a | " | LSL | 3840 s | 3 | 4 | r_pd_nb-step_l0 | E3712 |
| Number of templates for detector n° 0 | 1 | n/a | n/a | " | LSL | 3840 s | 3 | 4 | r_pd_nb-tmpl_l0 | E3713 |
| Decode parameter K3 for detector n° 0 | 1 | n/a | n/a | " | LSL | 3840 s | 3 | 4 | r_pd_parak3_l0 | E3714 |
| Library selection for detector n° 1 | 1 | n/a | n/a | | LSL | 3840 s | 2 | 3 | r_pd_lib-sel_l1 | E3715 |
| Event word decode K5 for detector n° 1 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 1 | r_pd_evwk5_l1 | E3716 |
| Number of time steps for detector n° 1 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-step_l1 | E3717 |
| Number of templates for detector n° 1 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-tmpl_l1 | E3718 |
| Decode parameter K3 for detector n° 1 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_parak3_l1 | E3719 |
| Library selection for detector n° 2 | 1 | n/a | n/a | | LSL | 3840 s | 2 | 3 | r_pd_lib-sel_l2 | E3720 |
| Event word decode K5 for detector n° 2 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 1 | r_pd_evwk5_l2 | E3721 |
| Number of time steps for detector n° 2 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-step_l2 | E3722 |
| Number of templates for detector n° 2 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-tmpl_l2 | E3723 |
| Decode parameter K3 for detector n° 2 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_parak3_l2 | E3724 |
| Library selection for detector n° 3 | 1 | n/a | n/a | | LSL | 3840 s | 2 | 3 | r_pd_lib-sel_l3 | E3725 |
| Event word decode K5 for detector n° 3 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 1 | r_pd_evwk5_l3 | E3726 |
| Number of time steps for detector n° 3 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-step_l3 | E3727 |
| Number of templates for detector n° 3 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-tmpl_l3 | E3728 |
| Decode parameter K3 for detector n° 3 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_parak3_l3 | E3729 |
| Library selection for detector n° 4 | 1 | n/a | n/a | | LSL | 3840 s | 2 | 3 | r_pd_lib-sel_l4 | E3730 |
| Event word decode K5 for detector n° 4 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 1 | r_pd_evwk5_l4 | E3731 |
| Number of time steps for detector n° 4 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-step_l4 | E3732 |
| Number of templates for detector n° 4 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-tmpl_l4 | E3733 |
| Decode parameter K3 for detector n° 4 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_parak3_l4 | E3734 |
| Library selection for detector n° 5 | 1 | n/a | n/a | | LSL | 3840 s | 2 | 3 | r_pd_lib-sel_l5 | E3735 |
| Event word decode K5 for detector n° 5 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 1 | r_pd_evwk5_l5 | E3736 |
| Number of time steps for detector n° 5 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-step_l5 | E3737 |
| Number of templates for detector n° 5 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-tmpl_l5 | E3738 |
| Decode parameter K3 for detector n° 5 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_parak3_l5 | E3739 |
| Library selection for detector n° 6 | 1 | n/a | n/a | | LSL | 3840 s | 2 | 3 | r_pd_lib-sel_l6 | E3740 |
| Event word decode K5 for detector n° 6 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 1 | r_pd_evwk5_l6 | E3741 |
| Number of time steps for detector n° 6 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-step_l6 | E3742 |
| Number of templates for detector n° 6 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-tmpl_l6 | E3743 |
| Decode parameter K3 for detector n° 6 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_parak3_l6 | E3744 |
| Library selection for detector n° 7 | 1 | n/a | n/a | | LSL | 3840 s | 2 | 3 | r_pd_lib-sel_l7 | E3290 |



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|---|------------|------|---------------------|--------------------|------------|-----------|-----|-----|------------------|--------------|
| Event word decode K5 for detector n° 7 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 1 | r_pd_evwk5_17 | E3291 |
| Number of time steps for detector n° 7 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-step_17 | E3292 |
| Number of templates for detector n° 7 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-tmpl_17 | E3293 |
| Decode parameter K3 for detector n° 7 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_parak3_17 | E3294 |
| Library selection for detector n° 8 | 1 | n/a | n/a | | LSL | 3840 s | 2 | 3 | r_pd_lib-sel_18 | E3295 |
| Event word decode K5 for detector n° 8 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 1 | r_pd_evwk5_18 | E3296 |
| Number of time steps for detector n° 8 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-step_18 | E3297 |
| Number of templates for detector n° 8 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-tmpl_18 | E3298 |
| Decode parameter K3 for detector n° 8 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_parak3_18 | E3299 |
| Library selection for detector n° 9 | 1 | n/a | n/a | | LSL | 3840 s | 2 | 3 | r_pd_lib-sel_19 | E3310 |
| Event word decode K5 for detector n° 9 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 1 | r_pd_evwk5_19 | E3311 |
| Number of time steps for detector n° 9 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-step_19 | E3312 |
| Number of templates for detector n° 9 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-tmpl_19 | E3313 |
| Decode parameter K3 for detector n° 9 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_parak3_19 | E3314 |
| Library selection for detector n° 10 | 1 | n/a | n/a | | LSL | 3840 s | 2 | 3 | r_pd_lib-sel_110 | E3315 |
| Event word decode K5 for detector n° 10 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 1 | r_pd_evwk5_110 | E3316 |
| Number of time steps for detector n° 10 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-step_110 | E3317 |
| Number of templates for detector n° 10 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-tmpl_110 | E3318 |
| Decode parameter K3 for detector n° 10 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_parak3_110 | E3319 |
| Library selection for detector n° 11 | 1 | n/a | n/a | | LSL | 3840 s | 2 | 3 | r_pd_lib-sel_111 | E3501 |
| Event word decode K5 for detector n° 11 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 1 | r_pd_evwk5_111 | E3502 |
| Number of time steps for detector n° 11 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-step_111 | E3503 |
| Number of templates for detector n° 11 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-tmpl_111 | E3504 |
| Decode parameter K3 for detector n° 11 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_parak3_111 | E3505 |
| Library selection for detector n° 12 | 1 | n/a | n/a | | LSL | 3840 s | 2 | 3 | r_pd_lib-sel_112 | E3506 |
| Event word decode K5 for detector n° 12 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 1 | r_pd_evwk5_112 | E3507 |
| Number of time steps for detector n° 12 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-step_112 | E3508 |
| Number of templates for detector n° 12 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-tmpl_112 | E3509 |
| Decode parameter K3 for detector n° 12 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_parak3_112 | E3510 |
| Library selection for detector n° 13 | 1 | n/a | n/a | | LSL | 3840 s | 2 | 3 | r_pd_lib-sel_113 | E3520 |
| Event word decode K5 for detector n° 13 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 1 | r_pd_evwk5_113 | E3521 |
| Number of time steps for detector n° 13 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-step_113 | E3522 |
| Number of templates for detector n° 13 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-tmpl_113 | E3523 |
| Decode parameter K3 for detector n° 13 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_parak3_113 | E3524 |
| Library selection for detector n° 14 | 1 | n/a | n/a | | LSL | 3840 s | 2 | 3 | r_pd_lib-sel_114 | E3525 |
| Event word decode K5 for detector n° 14 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 1 | r_pd_evwk5_114 | E3526 |
| Number of time steps for detector n° 14 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-step_114 | E3527 |
| Number of templates for detector n° 14 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-tmpl_114 | E3528 |



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|---|------------|------|---------------------|--------------------|------------|-----------|-----|-----|------------------|--------------|
| Decode parameter K3 for detector n° 14 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_parak3_114 | E3529 |
| Library selection for detector n° 15 | 1 | n/a | n/a | | LSL | 3840 s | 2 | 3 | r_pd_lib-sel_115 | E3533 |
| Event word decode K5 for detector n° 15 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 1 | r_pd_evwk5_115 | E3534 |
| Number of time steps for detector n° 15 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-step_115 | E3535 |
| Number of templates for detector n° 15 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-tmpl_115 | E3536 |
| Decode parameter K3 for detector n° 15 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_parak3_115 | E3537 |
| Library selection for detector n° 16 | 1 | n/a | n/a | | LSL | 3840 s | 2 | 3 | r_pd_lib-sel_116 | E3538 |
| Event word decode K5 for detector n° 16 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 1 | r_pd_evwk5_116 | E3539 |
| Number of time steps for detector n° 16 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-step_116 | E3540 |
| Number of templates for detector n° 16 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-tmpl_116 | E3541 |
| Decode parameter K3 for detector n° 16 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_parak3_116 | E3542 |
| Library selection for detector n° 17 | 1 | n/a | n/a | | LSL | 3840 s | 2 | 3 | r_pd_lib-sel_117 | E3552 |
| Event word decode K5 for detector n° 17 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 1 | r_pd_evwk5_117 | E3553 |
| Number of time steps for detector n° 17 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-step_117 | E3554 |
| Number of templates for detector n° 17 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-tmpl_117 | E3555 |
| Decode parameter K3 for detector n° 17 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_parak3_117 | E3556 |
| Library selection for detector n° 18 | 1 | n/a | n/a | | LSL | 3840 s | 2 | 3 | r_pd_lib-sel_118 | E3557 |
| Event word decode K5 for detector n° 18 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 1 | r_pd_evwk5_118 | E3558 |
| Number of time steps for detector n° 18 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-step_118 | E3559 |
| Number of templates for detector n° 18 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-tmpl_118 | E3560 |
| Decode parameter K3 for detector n° 18 | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_parak3_118 | E3561 |
| Nb of curves per 8 Hz cycle for operational mode | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-crv-op_1 | E3893 |
| Periodicity (in 8 Hz cycles) for searching one curve for Oper | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_py-8h-op_1 | E3894 |
| Nb of curves per 8 Hz cycle for calibration and diag mode | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_nb-crv-cd_1 | E3895 |
| Periodicity (in 8 Hz cycles) for searching one curve for Cal/Diag | 1 | n/a | n/a | | LSL | 3840 s | 3 | 4 | r_pd_py-8h-cd_1 | E3896 |

E3749 E3750 E3751 E3752 deleted



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|---|------------|------|---------------------|--------------------|------------|-----------|-----|-----|------------------|--------------------------------|
| + 5 V digital | 1 | n/a | n/a | (cc 6352) | LSL | 64 s | 3 | 6 | u_pd_5v+dig_l | E3824 |
| + 5 V analogue | 1 | n/a | n/a | (cc 6352) | LSL | 64 s | 3 | 6 | u_pd_5v+anl_l | E3825 |
| - 5 V analogue | 1 | n/a | n/a | (cc 6353) | LSL | 64 s | 3 | 6 | u_pd_5v-anl_l | E3826 |
| A/D global offset | 1 | n/a | n/a | (cc 6354) | LSL | 64 s | 3 | 6 | u_pd_a/d-oft_l | E3827 |
| DSP non memory board temperature | 1 | n/a | n/a | (cc 6411) | LSL | 64 s | 3 | 6 | t_pd_dsp-tmp_l | E3828 |
| A/D board temperature | 1 | n/a | n/a | (cc 6411) | LSL | 64 s | 3 | 6 | t_pd_a/d-tmp_l | E3829 |
| Analogue Mux 2 board temperature | 1 | n/a | n/a | (cc 6412) | LSL | 64 s | 3 | 6 | t_pd_mx2-tmp_l | E3830 |
| Analogue Mux 1 board temperature | 1 | n/a | n/a | (cc 6412) | LSL | 64 s | 3 | 6 | t_pd_mx1-tmp_l | E3831 |
| Command count | 1 | n/a | n/a | | LSL | 64 s | 3 | 12 | c_pd_comd_l | E3832 |
| Last received Command Code | 1 | n/a | n/a | (alias 6351) | LSL | 64 s | 2 | 8 | p_pd_lst-cd-c_l | E3833 |
| Last received Command Identifier | 1 | n/a | n/a | (alias 6352) | LSL | 64 s | 2 | 8 | p_pd_lst-cd-i_l | E3834 |
| Last HSL Identifier sent to DFEE: dectector number | 1 | n/a | n/a | (0; 18) | LSL | 64 s | 3 | 1 | p_pd_hsl-id-dt_l | E3835 |
| Last HSL Identifier sent to DFEE: label | 1 | n/a | n/a | (alias deleted) | LSL | 64 s | 3 | 6 | p_pd_hsl-id-lb_l | E3519 Min = 0 Max = 1023 |
| Last HSL Identifier sent to DFEE: flag | 1 | n/a | n/a | (alias deleted) | LSL | 64 s | 2 | 1 | p_pd_hsl-id-fg_l | E3530 |
| 8 Hz counter | 1 | n/a | n/a | | LSL | 64 s | 3 | 12 | c_pd_8hz_l | E3836 |
| Events in HSL buffer n° 0 and n° 1 | 2 | n/a | n/a | | LSL | 64 s | 3 | 4 | c_evt-buf_ln | E3837-E3838 |
| Curves in HSL buffer n° 0 | 1 | n/a | n/a | | LSL | 64 s | 3 | 4 | c_crv-buf_l0 | E3839 |
| Channel rate for detector n° 0 to n° 18 | 19 | n/a | Events/64 s | (cc 6355) | LSL | 64 s | 3 | 4 | p_pd_chl-rte_ln | E3840-E3858 |
| Curves in HSL buffer n° 1 | 1 | n/a | n/a | | LSL | 64 s | 3 | 4 | c_crv-buf_l1 | E3859 |
| Nb of SE for detector n° 0 to n° 18 | 19 | n/a | n/a | (cc 6355) | LSL | 64 s | 3 | 4 | p_pd_nb-se_ln | E3860-E3878 |
| Nb of ME for detector n° 0 to n° 18 | 19 | n/a | n/a | (cc 6355) | LSL | 64 s | 3 | 4 | p_pd_nb-me_ln | E4880-E4898 |



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|--|------------|------|---------------------|--------------------|------------|-----------|-----|-----|------------------|--------------|
| Error count since last Power-On | 1 | n/a | n/a | | LSL | 64 s | 3 | 4 | c_pd_error_l | E3879 |
| Last error type | 1 | n/a | n/a | (alias 6350) | LSL | 64 s | 2 | 8 | p_pd_lst-er-tp_l | E3880 |
| LLD rate for 1 st interval to 32 nd interval | 32 | n/a | n/a | triggers/2s | LSL | 64 s | 3 | 12 | p_pd_lw-rte_ln | E4781-E4812 |
| ULD rate for 1 st interval to 32 nd interval | 32 | n/a | n/a | triggers/2s | LSL | 64 s | 3 | 12 | p_pd_up-rte_ln | E4821-E4852 |
| Average baseline for detector n° 0 to n° 18 | 19 | n/a | n/a | (cc 6357) | LSL | 640 s | 3 | 4 | p_pd_avg-bas_ln | E4860-E4878 |
| Noise for detector n° 0 to n° 18 | 19 | n/a | n/a | (cc 6356) | LSL | 640 s | 3 | 4 | p_pd_noise_ln | E4900-E4918 |
| RAM parameter checksum | 1 | n/a | n/a | | LSL | 640 s | 3 | 4 | P_pd_ram-chk_l | E4813 |
| Number of thrown away events | 1 | n/a | n/a | | LSL | 640 s | 3 | 12 | p_pd_thrown-ev_l | E4814 |

1.3.6. Technical and management data monitoring: ACS

| Identification location | Nb measmt. | Kind | Range °C/°K / Volts | Cal. curv or alias | Interfaces | Acq. rate | PTC | PFC | Id name | DB reference |
|--|------------|------|---------------------|-----------------------------------|------------|-----------|-----|-----|------------------|----------------|
| ACS extended veto generation forced/standard | 91 | n/a | n/a | (alias 6309) | LSL | 3840 s | 2 | 1 | r_as_vto-cnd_ln | E0400-E0490 |
| FEE switch HV On/Off | 91 | n/a | n/a | (alias 6306) | LSL | 3840 s | 2 | 1 | r_as_hv-oo_ln | E0500-E0590 |
| FEE switch HV On/Off PSAC HV1 - HV2 | 2 | n/a | n/a | (alias 6306) | LSL | 3840 s | 2 | 1 | " | E0591-E0592 |
| FEE watchdog configuration report | 91 | n/a | n/a | (alias 6308) | LSL | 3840 s | 2 | 1 | r_as_wdog-ed_ln | E0600-E0690 |
| FEE response enable/disable report | 91 | n/a | n/a | (alias 6308) | LSL | 3840 s | 2 | 1 | r_as_resp-ed_ln | E0700-E0790 |
| Response enable/disable report PSAC | 1 | n/a | n/a | (alias 6308) | LSL | 3840 s | 2 | 1 | " | E0791 |
| FEE veto signal configuration report | 91 | n/a | n/a | (alias 6308) | LSL | 3840 s | 2 | 1 | r_as_vto-ed_ln | E0800-E0890 |
| Veto signal configuration report PSAC | 1 | n/a | n/a | (alias 6308) | LSL | 3840 s | 2 | 1 | " | E0891 |
| FEE veto signal driver configuration report | 91 | n/a | n/a | (alias 6322) | LSL | 3840 s | 2 | 1 | r_as_vto- drv_ln | E0900-E0990 |
| FEE veto signal driver configuration report PSAC | 1 | n/a | n/a | (alias 6322) | LSL | 3840 s | 2 | 1 | " | E0991 |
| FEE veto test signal configuration report | 91 | n/a | n/a | (alias 6318) | LSL | 3840 s | 2 | 2 | r_as_vto-tst_ln | E1000-E1090 |
| Test Pulses Burst | 1 | n/a | n/a | (alias 6323) | LSL | 3840 s | 2 | 1 | r_as_burst_l | E1091 |
| FEE veto generation | 91 | n/a | n/a | (alias 6309) | LSL | 3840 s | 2 | 1 | r_as_vto-nml_ln | E1100-E1190 |
| FEE veto generation PSAC | 1 | n/a | n/a | (alias 6309) | LSL | 3840 s | 2 | 1 | " | E1191 |
| FEE extended veto generation e/d report | 91 | n/a | n/a | (alias 6308) | LSL | 3840 s | 2 | 1 | r_as_vto-ovg_ln | E1200-E1290 |
| FEE rate meter measurement time report | 92 | n/a | n/a | (cc 6402) | LSL | 3840 s | 3 | 0 | r_as_rate-mt_ln | E1300-E1391 |
| FEE veto delay value report | 91 | n/a | n/a | (cc 6311) Min = 0; Max = 11 | LSL | 3840 s | 3 | 0 | r_as_vto-dly_ln | E1400-E1490 |
| PSAC veto delay value report | 1 | n/a | n/a | (alias 6331) | LSL | 3840 s | 2 | 3 | r_as_vto-dlyp_l1 | E1491 |
| PSAC veto delay additional parameter | 1 | n/a | n/a | (alias 6332) | LSL | 3840 s | 2 | 1 | r_as_vto-dlyp_l2 | E1492 |
| FEE Event trigger threshold report | 91 | n/a | n/a | (cc 6319) | LSL | 3840 s | 3 | 4 | r_as_evt-tgr_ln | E1500-E1590 |
| PSAC Event trigger threshold report | 1 | n/a | n/a | (cc 6324) | LSL | 3840 s | 3 | 4 | r_as_evt-tgr_l91 | E1591 |
| FEE energy discriminator report | 91 | n/a | n/a | (cc 6312) Min = 0; Max = 63 | LSL | 3840 s | 3 | 4 | r_as_nrg-dsc_ln | E1600-E1690 |
| PSAC energy discriminator report | 1 | n/a | n/a | (cc 6321) | LSL | 3840 s | 3 | 4 | r_as_nrg-dsc_l91 | E1691 |
| FEE High voltage level report | 91 | n/a | n/a | c 6313 | LSL | 3840 s | 3 | 4 | r_as_hv_ln | E1700-E1790 |
| HV1 PSAC - HV2 PSAC | 2 | n/a | n/a | c 6322 | LSL | 3840 s | 3 | 4 | r_ps-hv-/n | E1791-E1792 |
| FEE veto signal enable/disable report | 92 | n/a | n/a | (alias 6314) | LSL | 3840 s | 2 | 1 | r_as_vto-msk_ln | E1800-E1891 |
| Veto pulse width deleted | 1 | n/a | n/a | (alias 6328) | LSL | 3840 s | 2 | 8 | r_as_vto-plsr_l | E1898 E1899 |



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|---|------------|-------|---------------------|--------------------|------------|-----------|-----|-----|-----------------|----------------------------|
| deleted | | | | | | | | | | E6900-E6991 |
| UCR0 temperature acquisition | 1 | AD590 | - 72°/+127° | (cc 6410) | LSL | 640 s | 3 | 4 | t_as_upr-rg_l0 | E/F2101 |
| UCR1 temperature acquisition | 1 | AD590 | - 72°/+127° | (cc 6410) | LSL | 640 s | 3 | 4 | t_as_upr-rg_l1 | E/F2102 |
| UCR2 temperature acquisition | 1 | AD590 | - 72°/+127° | (cc 6410) | LSL | 640 s | 3 | 4 | t_as_upr-rg_l2 | E/F2103 |
| LCR0 temperature acquisition | 1 | AD590 | - 72°/+127° | (cc 6410) | LSL | 640 s | 3 | 4 | t_as_lwr-rg_l3 | E/F2104 |
| LCR1 temperature acquisition | 1 | AD590 | - 72°/+127° | (cc 6410) | LSL | 640 s | 3 | 4 | t_as_lwr-rg_l4 | E/F2105 |
| LCR2 temperature acquisition | 1 | AD590 | - 72°/+127° | (cc 6410) | LSL | 640 s | 3 | 4 | t_as_lwr-rg_l5 | E/F2106 |
| SSA0 temperature acquisition | 1 | AD590 | - 72°/+127° | (cc 6410) | LSL | 640 s | 3 | 4 | t_as_sid-sh_l6 | E/F2107 |
| SSA1 temperature acquisition | 1 | AD590 | - 72°/+127° | (cc 6410) | LSL | 640 s | 3 | 4 | t_as_sid-sh_l7 | E/F2108 |
| SSA2 temperature acquisition | 1 | AD590 | - 72°/+127° | (cc 6410) | LSL | 640 s | 3 | 4 | t_as_sid-sh_l8 | E/F2109 |
| LVS0 temperature acquisition | 1 | AD590 | - 72°/+127° | (cc 6410) | LSL | 640 s | 3 | 4 | t_as_lwr-sh_l9 | E/F2110 |
| LVS1 temperature acquisition | 1 | AD590 | - 72°/+127° | (cc 6410) | LSL | 640 s | 3 | 4 | t_as_lwr-sh_l10 | E/F2111 |
| LVS2 temperature n° 11 acquisition | 1 | AD590 | - 72°/+127° | (cc 6410) | LSL | 640 s | 3 | 4 | t_as_lwr-sh_l11 | E/F2112 |
| VCU temperature n° 12 acquisition | 1 | AD590 | - 72°/+127° | (cc 6410) | LSL | 640 s | 3 | 4 | t_as_vcu_l12 | E/F2113 |
| PSAC0-PSAC2 Plastic scintillator temperatures | 3 | AD590 | - 72°/+127° | (cc 6410) | LSL | 640 s | 3 | 4 | t_as_psac_ln | E/F2114-E/F2116 |
| FEE digital status 5V | 91 | n/a | n/a | (alias 6400) | LSL | 640 s | 2 | 2 | s_as_dg5v_ln | E2150-E2240 |
| FEE analogue status 5V | 91 | n/a | n/a | (alias 6400) | LSL | 640 s | 2 | 2 | s_as_an5v_ln | E2250-E2340 |
| FEE analogue status - 5V | 91 | n/a | n/a | (alias 6400) | LSL | 640 s | 2 | 2 | s_as_an-5v_ln | E2350-E2399 E3121-E3161 |
| FEE temperature status | 91 | n/a | n/a | (alias 6400) | LSL | 640 s | 2 | 2 | s_as_temp_ln | E3164-E3254 |
| Deleted (Spare = 0) | | | | | | | | | | E3255 |
| Configuration Data switch | 1 | n/a | n/a | (alias 6324) | LSL | 3840 s | 2 | 1 | s_as_vcu/hw_l | E2000 |
| VCU RAM /FEE HW Conf | | | | | | | | | | |
| Overall veto Mask Enable/Disable | 1 | n/a | n/a | (alias 6308) | LSL | 3840 s | 2 | 1 | r_as_ovl-msk_l | E2001 |



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|--|------------|------|---------------------|--|------------|-----------|-----|-----|------------------|---|
| FEE HV status | 91 | n/a | n/a | (alias 6400) | LSL | 640 s | 2 | 2 | s_as_hv-st_ln | E2002-E2024 E2064-E2100 E3256-E3286 |
| VCU watchdog enable / disable FEE PSAC + 5 V | 1 | n/a | n/a | (alias 6308) | LSL | 3840 s | 2 | 1 | r_as_vcuwdg_ed_1 | E2025 |
| | 1 | n/a | n/a | (alias 6400) | LSL | 640 s | 2 | 2 | s_as_pc-5v+_1 | E2241 |
| FEE PSAC +/- 9 V | 1 | n/a | n/a | (alias 6400) | LSL | 640 s | 2 | 2 | s_as_pc-9v_1 | E2341 |
| FEE PSAC 28 V | 1 | n/a | n/a | (alias 6400) | LSL | 640 s | 2 | 2 | s_as_pc-28v_1 | E3162 |
| FEE PSAC HV PS1 status | 1 | n/a | n/a | (alias 6400) | LSL | 640 s | 2 | 2 | s_as_pc-ps1_1 | E3287 |
| FEE PSAC HV PS2 status | 1 | n/a | n/a | (alias 6400) | LSL | 640 s | 2 | 2 | s_as_pc-ps2_1 | E3288 |
| FEE PSAC Auxiliary Analogue Supply | 1 | n/a | n/a | (alias 6400) | LSL | 640 s | 2 | 2 | s_as_pc-an-sup_1 | E3289 |
| Deleted (Spare = 0) | | | | | | | | | | E3290 |
| Cyclic autotest status 0: no error 1: error | 1 | n/a | n/a | (alias 6327) | LSL | 8 s | 2 | 1 | s_as_sftest-er_1 | E/F2131 |
| Rate meter error 0: no error 1: error | 1 | n/a | n/a | (alias 6327) | LSL | 8 s | 2 | 1 | s_as_rtm-er_1 | E/F2132 |
| FEE group number (8 FEE / group) | 1 | n/a | n/a | (alias 6360) (min = 0; max = 11) | LSL | 8 s | 2 | 8 | s_as_gr-nb_1 | E2133 |
| Rate meter of 1 st FEE in group MSB + LSB | 1 | n/a | n/a | | LSL | 8 s | 2 | 12 | s_as_rtm_11 | E2134 |
| Rate meter of 2 nd FEE in group MSB + LSB | 1 | n/a | n/a | | LSL | 8 s | 2 | 12 | s_as_rtm_12 | E2135 |
| Rate meter of 3 rd FEE in group MSB + LSB | 1 | n/a | n/a | | LSL | 8 s | 3 | 12 | s_as_rtm_13 | E2136 |
| Rate meter of 4 th FEE in group MSB + LSB | 1 | n/a | n/a | | LSL | 8 s | 3 | 12 | s_as_rtm_14 | E2137 |
| Rate meter of 5 th FEE in group MSB + LSB | 1 | n/a | n/a | | LSL | 8 s | 3 | 12 | s_as_rtm_15 | E2138 |
| Rate meter of 6 th FEE in group MSB + LSB | 1 | n/a | n/a | | LSL | 8 s | 3 | 12 | s_as_rtm_16 | E2139 |
| Rate meter of 7 th FEE in group MSB + LSB | 1 | n/a | n/a | | LSL | 8 s | 3 | 12 | s_as_rtm_17 | E2140 |



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|---|------------|------|---------------------|---------------------|------------|--------------|-----|-----|-----------------|--------------|
| Rate meter of 8 th FEE in group MSB +LSB | 1 | n/a | n/a | | LSL | 8 s | 3 | 12 | s_as_rtm_l8 | E2141 |
| Enabled/disabled ISB for each FEE | 92 | n/a | n/a | (alias 6308) | LSL | 3840 s | 2 | 1 | r_as_isb-ed_ln | E2400-E2491 |
| FEE veto pulse integration cycles count | 91 | n/a | n/a | (alias 6316) | LSL | 3840 s | 2 | 1 | s_as_cyl-ct_ln | E2500-E2590 |
| FEE alert status | 91 | n/a | n/a | (alias 6401) | LSL | 640 s | 2 | 3 | s_as_alert_ln | E2600-E2690 |
| Record counter | 10 | n/a | n/a | | LSL | 8 s | 3 | 4 | s_as_rcd-cnt_l | E2951-E2960 |
| Overall counter 1 to 160 MSB + LSB | 160 | n/a | n/a | | LSL | 8 s | 3 | 12 | s_as_ovr-cnt_l | E2961-E3120 |
| Calibration data packets counter | 1 | n/a | n/a | | LSL | non cyclical | 3 | 4 | c_as_cal-cnt_l | E2033 |
| Calibration data sample n° 0 to 15 | 16 | n/a | n/a | | LSL | non cyclical | 3 | 12 | p_as_cal-dta_ln | E2034-E2049 |
| Most significant byte of OBT | 1 | n/a | n/a | | LSL | 8 s | 3 | 13 | p_as_ms-obt_l | E2061 |
| Least significant byte of OBT | 1 | n/a | n/a | | LSL | 8 s | 3 | 13 | P_as_ls-obt_l | E2062 |
| 8 Hz delay counter | 1 | n/a | n/a | Expected Value = 64 | LSL | 8 s | 3 | 4 | p_as_8hz-int_l | E2063 |
| VCU AC voltage monitoring 28 V | 1 | AN | 0 -38.46V | c 6415 | mini-RTU | 8 s | 3 | 4 | u_as_vcu_r | E3990 |
| VCU AC voltage monitoring 28 V | 1 | AN | 0 - 34.86 V | c 6403 | LSL | 640 s | 3 | 4 | u_as_vcu-ac_l | E/F2122 |
| VCU AC current monitoring | 1 | AN | 0 - 2,25 A | c 6404 | LSL | 640 s | 3 | 4 | i_as_vcu-ac_l | E/F2121 |
| VCU + 5 V supply voltage | 1 | AN | +5 V | c 6413 | LSL | 640 s | 3 | 4 | u_as_vcu+5v_l | E/F2123 |
| VCU temperature monitoring | 1 | TH | -40 / +70 | c 6001 | mini-RTU | 640 s | 3 | 4 | t_as_vcu_r | E3991 |
| UCR tube | 1 | TH | -55 / +90 | c 6008 | RTU | 8 s | 3 | 4 | t_as_tht_un | T5003 |
| ACS SSA (- Z) | 1 | TH | -55 / +90 | c 6008 | RTU | 8 s | 3 | 4 | t_as_ssam_un | T5021 |



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|---|------------|------|---------------------|--------------------|------------|-----------|-----|-----|------------------|--------------|
| ACS LCR (+ Z) | 1 | TH | -55 / +90 | c 6008 | RTU | 8 s | 3 | 4 | t_as_lcrp_un | T5004 |
| VCU side wall (-y box housing side) | 1 | TH | -55 / +90 | c 6008 | RTU | 8 s | 3 | 4 | t_as_lcrm_un | T5022 |
| PSAC structural ring (+ Z) | 1 | TH | -55 / +90 | c 6008 | RTU | 8 s | 3 | 4 | t_ps_strucp_un | T5005 |
| PSAC structural ring (- Z) | 1 | TH | -55 / +90 | c 6008 | RTU | 8 s | 3 | 4 | t_ps_strucm_un | T5023 |
| ACS current mode status | 1 | n/a | n/a | (alias 6319) | LSL | 8 s | 2 | 3 | s_as_status1_l | E/F3887 (1) |
| ACS self-test status | 1 | n/a | n/a | (alias 6381) | LSL | 8 s | 2 | 1 | s_as_status2_l | E/F3888 (1) |
| ACS all commands initiated status | 1 | n/a | n/a | (alias 6002) | LSL | 8 s | 2 | 1 | s_as_status3_l | E/F3889 (1) |
| ACS ack/nack CS error | 1 | n/a | n/a | (alias 6384) | LSL | 8 s | 2 | 1 | s_as_ack-cs_l | E/F0699 (2) |
| ACS ack/nack Not allowed command | 1 | n/a | n/a | (alias 6380) | LSL | 8 s | 2 | 1 | s_as_ack-fbcd_l | E/F0698 (2) |
| ACS ack/nack status auto-test | 1 | n/a | n/a | (alias 6381) | LSL | 8 s | 2 | 1 | s_as_ack-st_l | E/F0697 (2) |
| ACS ack/nack 1 st cmd after reset | 1 | n/a | n/a | (alias 6382) | LSL | 8 s | 2 | 1 | s_as_ack-aftst_l | E/F0696 (2) |
| ACS ack/nack check | 1 | n/a | n/a | (alias 6383) | LSL | 8 s | 2 | 1 | s_as_ack_chk_l | E/F0695 (2) |
| ACS invalid command code | 1 | n/a | n/a | (alias 6385) | LSL | 8 s | 2 | 1 | s_as_ack_cc_l | E/F0693 |
| ACS invalid command identifier | 1 | n/a | n/a | (alias 6386) | LSL | 8 s | 2 | 1 | s_as_ack_ci_l | E/F0694 |
| ACS acquisition Medium SB status: Normal = 0 / Watchdog = 1 power on | 1 | n/a | n/a | (alias 6325) | LSL | 8 s | 2 | 1 | s_as_wdog_st_l | E/F1292 |
| Gamma measurement data 0 = no loss 1 = loss | 1 | n/a | n/a | (alias 6326) | LSL | 8 s | 2 | 1 | s_as_gam_st_l | E/F1298 |
| FEE Configuration error 0 = no error 1 = error | 1 | n/a | n/a | (alias 6327) | LSL | 8 s | 2 | 1 | s_as_tout_st_l | E/F1297 |
| Conf Cmd param error 0 = no error 1 = error | 1 | n/a | n/a | (alias 6327) | LSL | 8 s | 2 | 1 | s_as_para_st_l | E/F1299 |
| ISB response parity error 0 = no error 1 = error | 1 | n/a | n/a | (alias 6327) | LSL | 8 s | 2 | 1 | s_as_ibs_st_l | E/F1296 |
| OBT synchronisation loss | 1 | n/a | n/a | | LSL | 8 s | 2 | 1 | s_as_obt-st_l | E/F1293 |



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|--|------------|------|---------------------|--------------------|------------|-----------|-----|-----|-------------------|--------------|
| ACS acquisition LSB status: Start Address in Load/Dump cmd error 0 = no error 1 = error Calibration stopped | 1 | n/a | n/a | (alias 6327) | LSL | 8 s | 2 | 1 | s_as_stad_st_1 | E/F1295 |
| Calibration Status | 1 | n/a | n/a | (alias 6342) | LSL | 8 s | 2 | 1 | p_as_cal-qty_1 | E/F1396 |
| VCU watchdog status | 1 | n/a | n/a | (alias 6343) | LSL | 8 s | 2 | 1 | p_as_cal-sts_1 | E/F1399 |
| Acknowledgment status byte involving parameters E0694-E0699 | 1 | n/a | n/a | (alias 6308) | LSL | 8 s | 2 | 1 | s_as_wtchdg_sts_1 | E/F1395 |
| HK0 status MS byte involving parameters E3887 E3888 E3889 | 1 | n/a | n/a | | LSL | 8 s | 3 | 4 | s_as_hk0_ack_1 | E/F2798 |
| HK0 status mcd byte involving parameters E1292 E1293 E1296 E1297 E1298 E1299 E2131 E2132 | 1 | n/a | n/a | | LSL | 8 s | 3 | 4 | s_as_hk0_msb_1 | E/F2597 |
| HK0 status LS byte involving parameters E1295 E1395 E1396 E1399 | 1 | n/a | n/a | | LSL | 8 s | 3 | 4 | s_as_hk0_med_1 | E/F2598 |
| | | | | | | | | | s_as_hk0_lsb_1 | E/F2599 |



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1.3.7. Technical data monitoring: Passive cooling

| Identification location | Nb measmt. | Kind | Range °C/°K / Volts | Cal. curv or alias | Interfaces | Acq. rate | PTC | PFC | Id name | DB reference |
|---|------------|-------|---------------------|--------------------|------------|-----------|-----|-----|----------------|-----------------|
| Heat pipes temperatures acquisition | 2 | PT500 | -110/+50 | c 6002 | mini-RTU | 640 s | 3 | 4 | t_pc_heatpp_rn | E/F3992 E/F3996 |
| Heat pipes NGC J1-J2 | 2 | PT500 | -130 / +35 (2) | c 6006 | RTU | 8 s | 3 | 4 | t_pc_hpngc_un | T5106,T5113 |
| Evaporators K3-K4 | 2 | PT500 | -130 / +35 (2) | c 6006 | RTU | 8 s | 3 | 4 | t_pc_hpevap_un | T5103,T5110 |
| Adiabatic area K1-K2 | 2 | PT500 | -130 / +35 (2) | c 6006 | RTU | 8 s | 3 | 4 | t_pc_hpamo_un | T5102,T5109 |
| Passive radiator temperature acquisition L1-L2 | 2 | PT500 | -130 / +35 (2) | c 6006 | RTU | 8 s | 3 | 4 | t_pc_rad_un | T5104-T5111 |

1.3.8. Technical data monitoring: Active cooling

| Identification location | Nb measmt. | Kind | Range °C/°K / Volts | Cal. curv or alias | Interfaces | Acq. rate | PTC | PFC | Id name | DB reference |
|--|------------|-------|---------------------|--------------------|------------|-----------|-----|-----|----------------|----------------------------|
| Compressors M temperatures acquisition M1-M3 | 2 | TH | -55 / +90 | c 6008 | RTU | 8 s | 3 | 4 | t_ac_compa_un | T5006, T5024 |
| Compressors R temperatures acquisition M2-M4 | 2 | TH | -55 / +90 | c 6008 | RTU | 8 s | 3 | 4 | t_ac_compb_un | T5007-T5025 |
| Displacers box M temperature acquisition N1 | 1 | TH | -55 / +90 | c 6008 | RTU | 8 s | 3 | 4 | t_ac_dispa_u | T5008 |
| Displacers box R temperature acquisition N2 | 1 | TH | -55 / +90 | c 6008 | RTU | 8 s | 3 | 4 | t_ac_disp_b_u | T5026 |
| Active cooling radiator temperature acquisition O1-O2 | 2 | TH | -55 / +90 | c 6008 | RTU | 8 s | 3 | 4 | t_ac_rad_un | T5009, T5027 |
| Cold link tube temperature acquisition F | 1 | PT500 | -110 / +50 | c 6002 | mini-RTU | 640 s | 3 | 4 | t_af_coldlk_r | E3993 |
| Active cooling radiator temperatures acquisition G1 - G2 | 2 | TH | -40 / +70 | c 6001 | mini-RTU | 640 s | 3 | 4 | t_ac_radcool_r | E/F3994 E/F3997 |
| Cryocooler A temperatures acquisition CDE1 | 4 | PT100 | -40 / +60 | | SRTU | 8 s | | | | F9962-F9963 F9966-F9967 |
| Cryocooler B temperatures acquisition CDE2 | 4 | PT100 | -40 / +60 | | SRTU | 8 s | | | | F9982-F9983 F9986-F9987 |
| Amplitude signal engine 1 acquisition CDE1 | 4 | n/a | n/a | | SRTU | 8 s | | | | F9960-F9961 F9964-F9965 |
| Amplitude signal engine 1 acquisition CDE2 | 4 | n/a | n/a | | SRTU | 8 s | | | | F9980-F9981 F9984-F9985 |
| Thermistance measurement | 1 | | | | SRTU | 8 s | | | | T500 |
| Thermistance measurement | 1 | | | | SRTU | 8 s | | | | T501 |
| Compressor demand signal CDE1 | 2 | n/a | n/a | | SRTU | 8 s | | | | F9968-F9969 |
| Compressor demand signal CDE2 | 2 | n/a | n/a | | SRTU | 8 s | | | | F9988-F9989 |
| CDE relay status | 2 | n/a | n/a | | SRTU | 8 s | | | | F9970-F9990 |
| CDE1 mode status | 2 | n/a | n/a | | SRTU | 8 s | | | | F9971-F9972 |
| CDE2 mode status | 2 | n/a | n/a | | SRTU | 8 s | | | | F9991-F9992 |

1.3.9. Technical data monitoring: DPE and others

| Identification location | Nb measmt. | Kind | Range °C/°K / Volts | Cal. curv or alias | Interfaces | Acq. rate | PTC | PFC | Id name | DB reference |
|------------------------------|------------|-------|---------------------|--------------------|------------|-----------|-----|-----|--------------|--------------|
| MASK temperature acquisition | 2 | TH | -55 / +90 | c 6008 | RTU | 8 s | 3 | 4 | t_mask_un | T5001,T5019 |
| LSA temperature acquisition | 2 | TH | -55 / +90 | c 6008 | RTU | 8 s | 3 | 4 | t_lsa_un | T5002,T5020 |
| DPE M temperature monitor | 1 | TH | -40 / +70 | | RTU | 8 s | | | | T5031 |
| DPE R temperature monitor | 1 | TH | -40 / +70 | | RTU | 8 s | | | | T5041 |
| DPE M RELAY 0 Status | 1 | n/a | n/a | | RTU | | | | | E9801 |
| DPE M RELAY 1 Status | 1 | n/a | n/a | | RTU | | | | | E9802 |
| DPE R RELAY 0 Status | 1 | n/a | n/a | | RTU | | | | | F9801 |
| DPE R RELAY 1 Status | 1 | n/a | n/a | | RTU | | | | | F9802 |
| Reference channel n° 22 | 1 | AN | 3.6 V | (cc 6005) | mini-RTU | 8 s | 3 | 4 | u_ref-ch22_r | E/F3998 |
| Reference channel n° 23 | 1 | PT500 | 0 V | TBD | mini-RTU | 640 s | 3 | 4 | u_ref-ch23_r | E/F3999 |
| Reference channel n° 30 | 1 | TH | 0 V | TBD | mini-RTU | 640 s | 3 | 4 | u_ref-ch30_r | E/F4000 |

1.3.10. Science housekeeping data

| Identification location | Nb measmt. | Kind | Range °C/°K / Volts | Cal. curv or alias | Interfaces | Acq. rate | PTC | PFC | Id name | DB reference |
|--|------------|------|---------------------|--------------------|------------|-----------|-----|-----|------------------|-----------------------------|
| Time Front Start: NsecFrontStart | 1 | n/a | n/a | | LSL | 1 s | 3 | 12 | p_df_start_1,s | E3301/E4301 |
| ASIC status: DfeeStatus1 | | | | | | | | | deleted | E3303/E4303 |
| ASIC Status: DfeeStatus2 | | | | | | | | | deleted | E3304/E4304 |
| ASIC Status: DfeeStatus3 | | | | | | | | | deleted | E3305/E4305 |
| ASIC Status: DfeeStatus4 | | | | | | | | | deleted | E3306/E4306 |
| ACS-AFEE Gate count: CntVetoGate | 1 | n/a | n/a | | LSL | 1 s | 3 | 13 | p_df_cafg_1,s | E3307/E4307 |
| ACS dead time: CntVetoGateDTime | 1 | n/a | n/a | | LSL | 1 s | 3 | 13 | p_df_cafdt_1,s | E3308/E4308 |
| PSD event counting: CntPsdTT | 1 | n/a | n/a | | LSL | 1 s | 3 | 12 | p_df_cpdt_1,s | E3309/E4309 |
| Ged event counting rate (all): CntAfeeTT n° 0 to 18 | 19 | n/a | n/a | | LSL | 1 s | 3 | 12 | p_df_cafit_ln,s | E3320-E3338/ E4320-E4338 |
| (WarnRunProg) | 1 | n/a | n/a | | LSL | 8 s | 2 | 1 | s_df_runprog_1,s | E4034/E4058 |
| (WarnHslClkOp) | 1 | n/a | n/a | | LSL | 8 s | 2 | 1 | s_df_hslclk_1,s | E4035/E4059 |
| (AlrtCoherTst) | 1 | n/a | n/a | | LSL | 8 s | 2 | 1 | s_df_cortst_1,s | E4036/E4060 |
| (AltrCoherCfg) | 1 | n/a | n/a | | LSL | 8 s | 2 | 1 | s_df_corcfg_1,s | E4037/E4061 |
| (AlrtPobjPrctl) | 1 | n/a | n/a | | LSL | 8 s | 2 | 1 | s_df_pobj_1,s | E4038/E4062 |
| (AlrtSmNRUn) | 1 | n/a | n/a | | LSL | 8 s | 2 | 1 | s_df_smnrun_1,s | E4039/E4063 |
| (AlrtTimeBase) | 1 | n/a | n/a | | LSL | 8 s | 2 | 1 | s_df_timbase_1,s | E4040/E4064 |
| (HslerrAct) | 1 | n/a | n/a | | LSL | 8 s | 2 | 1 | s_df_hslerr_1,s | E4041/E4065 |
| (WarnSpvWound) | 1 | n/a | n/a | | LSL | 8 s | 2 | 3 | s_df_spv-wd_1,s | E4042/E4043 |
| (WarnStsSerHsl) | 1 | n/a | n/a | | LSL | 8 s | 2 | 3 | s_df_ssrhsl_1,s | E4044/E4045 |
| (WarnCoherPeAddr) | 1 | n/a | n/a | | LSL | 8 s | 2 | 1 | s_df_pe-adr_1,s | E4046/E4047 |
| (WarnPobjPrctlWr) | 1 | n/a | n/a | | LSL | 8 s | 2 | 1 | s_df_pobjpl_1,s | E4048/E4049 |
| (NoteTimeOut) | 1 | n/a | n/a | | LSL | 8 s | 2 | 1 | s_df_timeout_1,s | E4050/E4066 |
| (NoteDrop) | 1 | n/a | n/a | | LSL | 8 s | 2 | 1 | s_df_drop_1,s | E4051/E4067 |
| (NoteItemOvf) | 1 | n/a | n/a | | LSL | 8 s | 2 | 1 | s_df_itovf_1,s | E4052/E4068 |
| (NotePobjOvf) | 1 | n/a | n/a | | LSL | 8 s | 2 | 1 | s_df_pobjovf_1,s | E4053/E4069 |
| (NoteDialPrtl) | 1 | n/a | n/a | | LSL | 8 s | 2 | 1 | s_df_dialprt_1,s | E4054/E4070 |
| (Note8HzProgr) | 1 | n/a | n/a | | LSL | 8 s | 2 | 1 | s_df_8hprog_1,s | E4055/E4071 |



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| Identification location | Nb measmt. | Kind | Range °C/°K / Volts | Cal. curv or alias | Interfaces | Acq. rate | PTC | PFC | Id name | DB reference |
|---|------------|------|---------------------|--------------------|------------|-----------|-----|-----|------------------|---|
| (Warn8HzAbsnt) | 1 | n/a | n/a | | LSL | 8 s | 2 | 1 | s_df_8habs_1,s | E4056/E4072 |
| (WarnDialPrty) | 1 | n/a | n/a | | LSL | 8 s | 2 | 1 | s_df_dialpty_1,s | E4057/E4073 |
| Warning HSL Error Time Frame 8 (WarnHslErrTF8) | 1 | n/a | n/a | | LSL | 8 s | 2 | 1 | s_df_hsl-tf8_1,s | E4018/E4019 |
| Warning HSL Error Time Frame 7 (WarnHslErrTF7) | 1 | n/a | n/a | | LSL | 8 s | 2 | 1 | s_df_hsl-tf7_1,s | E4020/E4021 |
| Warning HSL Error Time Frame 6 (WarnHslErrTF6) | 1 | n/a | n/a | | LSL | 8 s | 2 | 1 | s_df_hsl-tf6_1,s | E4022/E4023 |
| Warning HSL Error Time Frame 5 (WarnHslErrTF5) | 1 | n/a | n/a | | LSL | 8 s | 2 | 1 | s_df_hsl-tf5_1,s | E4024/E4025 |
| Warning HSL Error Time Frame 4 (WarnHslErrTF4) | 1 | n/a | n/a | | LSL | 8 s | 2 | 1 | s_df_hsl-tf4_1,s | E4026/E4027 |
| Warning HSL Error Time Frame 3 (WarnHslErrTF3) | 1 | n/a | n/a | | LSL | 8 s | 2 | 1 | s_df_hsl-tf3_1,s | E4028/E4029 |
| Warning HSL Error Time Frame 2 (WarnHslErrTF2) | 1 | n/a | n/a | | LSL | 8 s | 2 | 1 | s_df_hsl-tf2_1,s | E4030/E4031 |
| Warning HSL Error Time Frame 1 (WarnHslErrTF1) | 1 | n/a | n/a | | LSL | 8 s | 2 | 1 | s_df_hsl-tf1_1,s | E4032/E4033 |
| Ged counting rate above ULD: CntAfeeTTsat n° 0 to 18 | 19 | n/a | n/a | | LSL | 1 s | 3 | 12 | p_df_cafits_ln,s | E3340-E3358/ E4340-E4358 |
| Non-vetoed Ged event counting rate: CntAfeeNveto n° 0 to 18 | 19 | n/a | n/a | | LSL | 1 s | 3 | 12 | p_df_cafnv_ln,s | E3360-E3378/ E4360-E4378 |
| AFEE dead time: CntAfeeDTime n° 0 to 18 | 19 | n/a | n/a | | LSL | 1 s | 3 | 13 | p_df_cafdt_ln,s | E3380-E3398/ E4380-E4398 |
| Clock monitoring: TimeClkMonTF n° 1 to 8 | 8 | n/a | n/a | | LSL | 1 s | 3 | 13 | p_df_clktf_ln,s | E3511-E3518 /E4511-E4518 /E4531-E4538 /E4551-E4558 /E4571-E4578 /E4591-E4598 /E4611-E4618 /E4631-E4638 |
| Veto pulse counting rate: CntVetoBelow | 1 | n/a | n/a | | LSL | 1 s | 3 | 13 | p_df_cnt-bw_1,s | E3500/E4500/ E4520/E4540/ E4560/E4580/ E4600/E4620 |



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| Identification location | Nb measmt. | Kind | Range °C/°K / Volts | Cal. curv or alias | Interfaces | Acq. rate | PTC | PFC | Id name | DB reference |
|--|------------|------|---------------------|--------------------|---------------|-----------|-----|-----|-----------------|---|
| Count PSD drops: CntPsdDropped | 1 | n/a | n/a | | LSL | 1 s | 3 | 12 | p_df_cpddp_1,s | E3531-E3532 |
| Veto pulse counting rate: CntVetoAbove | 1 | n/a | n/a | | LSL | 1 s | 3 | 13 | p_df_cnt-ab_1,s | E3544/E3545/ E3546/E3547/ E3548/E3549/ E3550/E3551 |
| On-Board Time | 1 | n/a | n/a | | DPE parameter | 1 s | 9 | 5 | p_df_obt_1,s | E3562/E3563 /E3564/E3565 /E3566/E3567 /E3568/E3569 |

1.3.11. Science data

| Identification | Encoding length (bit) | PTC | PFC | Id name | DB reference |
|--|-----------------------|-----|-----|---------|--------------|
| Simple Events (buffer) | 16 | 3 | 12 | | |
| Multiple Events (buffer) | 16 | 3 | 12 | | |
| PSD Events (buffer) | 16 | 3 | 12 | | |
| PSD Curves (buffer) | 16 | 3 | 12 | | |
| Number of words for single events partial flag | 1 | 2 | 1 | | |
| Number of words for single events parity bit | 1 | 2 | 1 | | |
| Number of words for single events | 14 | 3 | 10 | | |
| Number of words for multiple events partial flag | 1 | 2 | 1 | | |
| Number of words for multiple events parity bit | 1 | 2 | 1 | | |
| Number of words for multiple events | 14 | 3 | 10 | | |
| Number of words for PSD events partial flag | 1 | 2 | 1 | | |
| Number of words for PSD events parity bit | 1 | 2 | 1 | | |
| Number of words for PSD events | 14 | 3 | 10 | | |
| Number of words for PSD curves partial flag | 1 | 2 | 1 | | |
| Number of words for PSD curves parity bit | 1 | 2 | 1 | | |
| Number of words for PSD curves | 14 | 3 | 10 | | |
| Accumulation beginning date | 48 | 9 | 5 | | |
| Accumulation end date | 48 | 9 | 5 | | |
| Detector address | 16 | 3 | 12 | | |
| Values of spectra | 16 | 3 | 12 | | |
| Number of words after compression | 16 | 3 | 12 | | |
| Synchronisation word | 64 | TBD | TBD | | |
| Total of words for a 125 ms acquisition block | 16 | 3 | 12 | | |

1.3.12. CSSW HK parameters

| Identification | Encoding length (bit) | PTC | PFC | Id name | DB reference |
|---|-----------------------|-----|-----|------------------|----------------------|
| IASW SW version number | 16 | 3 | 12 | p_iasw_sw-no | E/F0029 |
| Mode | 16 | 3 | 12 | p_iasw_mode | E/F0049 (alias 6320) |
| Operational Status | 16 | 3 | 12 | p_iasw_ope-stus | E/F0069 (alias 6321) |
| Eclipse | 16 | 3 | 12 | p_iasw_eclip | E/F0089 (alias 6304) |
| Imminent switch off | 16 | 3 | 12 | p_iasw_iswof | E/F0109 (alias 6304) |
| Imminent radiation belts | 16 | 3 | 12 | p_iasw_irdblt | E/F0129 (alias 6304) |
| High Background count | 16 | 3 | 12 | p_iasw_hbg | E/F0149 (alias 6304) |
| ESAM | 16 | 3 | 12 | p_iasw_esam | E/F0169 (alias 6304) |
| Spare | | | | | E0189 |
| Photon/Photon occupation | 32 | 3 | 14 | r_cssw_ph/ph | E/F0229 |
| Spare | | | | | E0249 |
| Ground TC number read | 16 | 3 | 12 | p_cssw_g-tc-rd | E/F0269 (0 to 32767) |
| On-board TC number read | 16 | 3 | 12 | p_cssw_ob-tc-rd | E/F0289 (0 to 32767) |
| Sequence count of the last Ground TC read | 16 | 3 | 12 | p_cssw_g-tc-lrd | E/F0309 |
| Sequence count of the last On-board TC read | 16 | 3 | 12 | p_cssw_ob-tc-lrd | E/F0329 |
| Ground TC number read failure number | 16 | 3 | 12 | p_cssw_g-tc-rdf | E/F0349 (0 to 32767) |
| Sequence count of Ground TC with failure | 16 | 3 | 12 | p_cssw_g-tc-sf | E/F0369 |
| Radiation belts entry time | 32 | 3 | 14 | rad_belt_st_time | E4100 |
| Radiation belts exit time | 32 | 3 | 14 | rad_belt_ex_time | E4101 |
| Eclipse entry time | 32 | 3 | 14 | eclipse_st_time | E4102 |
| Eclipse exit time | 32 | 3 | 14 | eclipse_ex_time | E4103 |
| Disregard radiation monitor data | 1 | 2 | 1 | drmc | E4104 |
| Echo of PID in BCPrevolution number | 16 | 3 | 12 | bcp_pid_rev | E4105 |
| Echo of PID in BCPpointing number | 16 | 3 | 12 | bcp_pid_pnt | E4106 |
| Pointing duration | 16 | 3 | 14 | obser_duration | E4107 |
| SPI TM share | 8 | 3 | 4 | tm_share_spi | E4108 |
| IBIS TM share | 8 | 3 | 4 | tm_share_ibis | E4109 |
| JEM-X1 TM share | 8 | 3 | 4 | tm_share_jemx1 | E4110 |
| JEM-X2 TM share | 8 | 3 | 4 | tm_share_jemx2 | E4111 |
| OMC TM share | 8 | 3 | 4 | tm_share_omc | E4112 |
| Imminent switch off | 1 | 2 | 1 | imm_instru_off | E4113 |
| Ground station hand over flag | 1 | 2 | 1 | hand_over_flag | E4114 |
| Radiation monitor count rate 1 | 16 | 3 | 12 | rmc_rate_#1 | E4115 |
| Radiation monitor count rate 2 | 16 | 3 | 12 | rmc_rate_#2 | E4116 |
| Radiation monitor count rate 3 | 16 | 3 | 12 | rmc_rate_#3 | E4117 |
| OTF | 1 | 2 | 1 | otf | E4118 |
| AOCS modes | 4 | 2 | 4 | acc_curr_mode | E4119 |
| ESAM flag | 1 | 2 | 1 | esam_flag | E4120 |
| AOCS submodes | 5 | 2 | 5 | acc_ips_submode | E4121 |



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| Identification | Encoding length (bit) | PTC | PFC | Id name | DB reference |
|--|-----------------------|-----|-----|------------------|----------------------|
| SW maintenance status | 8 | 2 | 8 | r-sw_maint | E/F4339 (alias 6340) |
| S/A under maintenance | 8 | 2 | 8 | r-sw_s/a-maint | E/F4359 (alias 6341) |
| SPI DPE1 Number of CSSW ICB TC sub-buffer: Elts occupied | 16 | 3 | 12 | n_cs_ich_tc_sboc | E9018 |
| SPI DPE1 Number of IASW ICB TC sub-buffer: Elts occupied | 16 | 3 | 12 | n_ia_ich_tc_sboc | E9053 |
| SPI DPE1 Number of ICB Science TM sub-buffer: Elts occupied | 16 | 3 | 12 | n_ichs_tm_sboccu | E9019 |
| SPI DPE1 Number of ICB On-request TM sub-buffer: Elts occupied | 16 | 3 | 12 | n_ichor_tm_sboc | E9020 |
| SPI DPE1 Number of ICB On-Event Message sub-buffer: Elts occupied | 16 | 3 | 12 | num_ichoe_sboccu | E9021 |
| SPI DPE1 Minimum percentage CPU margin in previous TM cycle | 16 | 3 | 12 | min_cpumargin | E9022 |
| SPI DPE1 Maximum percentage CPU margin in previous TM cycle | 16 | 3 | 12 | max_cpumargin | E9023 |
| SPI DPE1 BCP 4 Frozen Time (Most Significant word) | 16 | 3 | 12 | bcp4_froztim_msw | E9024 |
| SPI DPE1 BCP 4 Frozen Time (Mid Significant word) | 16 | 3 | 12 | bcp4_frozt_midsw | E9025 |
| SPI DPE1 BCP 4 Frozen Time (Least Significant word) | 16 | 3 | 12 | bcp4_froztim_lsw | E9026 |
| SPI DPE1 DC 5 V Secondary Voltage | 16 | 3 | 12 | 5vdc_sec_v | E9027 |
| SPI DPE1 DC RAM 5 V Secondary Voltage | 16 | 3 | 12 | 5vdcram_sec_v | E9028 |
| SPI DPE1 DC 15 V Relay Secondary Voltage | 16 | 3 | 12 | 15vdcrelay_sec_v | E9029 |
| SPI DPE1 DC 15 V Secondary Voltage | 16 | 3 | 12 | 15vdc_sec_v | E9030 |
| SPI DPE1 DC -15 V Secondary Voltage | 16 | 3 | 12 | -15vdc_sec_v | E9031 |
| SPI DPE1 DPE Hot Point Temperature | 16 | 3 | 12 | dpe_hotpoint_tem | E9032 |
| PH-PH buffer overflow | 16 | 3 | 12 | r_cssw_ph_ovrfw | E/F110 |
| S/A patch table occupation | 16 | 3 | 12 | r_cssw_ptch_occ | E/F111 |
| ICB science sub-buffer counter | 16 | 3 | 12 | r_cssw_ich_cnt | E/F112 |
| SPI DPE1 BIT ANALOG channels | 16 | 3 | 12 | bit_analog_ch | E9033 |
| SPI DPE1 BIT MMU registers | 16 | 3 | 12 | bit_mmu_reg | E9034 |
| SPI DPE1 BIT CPU registers | 16 | 3 | 12 | bit_cpu_reg | E9035 |
| SPI DPE1 Microprocessor configuration register | 16 | 3 | 12 | up_conf_reg | E9036 |
| SPI DPE1 PCC Control register | 16 | 3 | 12 | pcc_control_reg | E9037 |
| SPI DPE1 RBI Status word | 16 | 3 | 12 | rbi_status_word | E9038 |
| SPI DPE1 RBI Configuration register | 16 | 3 | 12 | rbi_config_reg | E9039 |
| SPI DPE1 On-Event Message counter | 4 | 3 | 0 | val_oe_messages | E9040 |
| SPI DPE1 Number of OEM that DPE SW has attempted to generate with or without success | 12 | 3 | 8 | n_oe_mes_attempt | E9041 |
| SPI DPE1 accepted on Ground TCP counter | 8 | 3 | 4 | ac_ongr_tcpcount | E9043 |
| SPI DPE1 accepted On-Board TCP counter | 8 | 3 | 4 | ac_onbo_tcpcount | E9044 |
| SPI DPE1 rejected TCP counter | 8 | 3 | 4 | rej_tcp_counter | E9045 |
| SPI DPE1 last TCP rejection reason | 8 | 3 | 4 | tcp_rej_reason | E9046 |
| SPI DPE1 8 LS bits of the APID in the last received TCP | 8 | 3 | 4 | apid_inlast_tcp | E9047 |
| SPI DPE1 Command Source Identifier (0 = Ground; 1 = On-Board) | 1 | 2 | 1 | command_source | E9048 |
| SPI DPE1 Source Sequence Control of the Last received TCP | 13 | 3 | 9 | ssc_last_tcp | E9049 |
| SPI DPE1 computed CRC | 16 | 3 | 12 | computed_crc | E9051 |

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| Identification | Encoding length (bit) | PTC | PFC | Id name | DB reference |
|--|-----------------------|-----|-----|------------------|---|
| Number of SPI TM packets sent to OBDH for downlink | 8 | 3 | 4 | nr sent tmsp | E9099 |
| On-Event Message n° 1 to 8 Generation Time | 32 | 3 | 14 | time_oem_#i | E9101; E9107; E9113; E9119; E9125; E9131; E9137; E9143 |
| Extension of On-Event Message n° 1 to 8 (Param Id) | 6 | 3 | 2 | oem_#i_param_3 | E9102; E9108; E9114; E9120; E9126; E9132; E9138; E9144 |
| On-Event Message n° 1 to 8 Class | 2 | 2 | 2 | oem_#i_class | E9103; E9109; E9115; E9121; E9127; E9133; E9139; E9145 |
| On-Event Message Identifier n°1 to 8 | 8 | 3 | 4 | em_#i_identifier | E9104; E9110; E9116; E9122; E9128; E9134; E9140; E9146 |
| On-Event Message body first param n° 1 to 8 | 16 | 3 | 12 | oem_#i_param_1 | E9105; E9111; E9117; E9123; E9129; E9135; E9141; E9147 |
| On-Event Message body second param n° 1 to 8 | 16 | 3 | 12 | oem_#i_param_2 | E9106; E9112; E9118; E9124; E9130; E9136; E9142; E9148 |
| The parameter E9036 is subdivided into: | | | | | E9200 E9201 E9202 E9203 E9204 E9205 E9206 E9207 E9208 E9209 E9210 E9211 E9212 E9213 E9214 |

| Identification | Encoding length (bit) | PTC | PFC | Id name | DB reference |
|---|---|---|--|--|---|
| <p>The parameter E9037 is subdivided into:</p> <p>SPI DPE1 PCC Control Register bit 0: Enable</p> <p>SPI DPE1 PCC Control Register bit 1: Enable</p> <p>SPI DPE1 PCC Control Register bit 2: Enable</p> <p>SPI DPE1 PCC Control Register bit 3: Enable</p> <p>SPI DPE1 PCC Control Register bit 4: Enable</p> <p>SPI DPE1 PCC Control Register bit 5: Console</p> <p>SPI DPE1 PCC Control Register bit 6: Single</p> <p>SPI DPE1 PCC Control Register bit 7: Enable</p> <p>SPI DPE1 PCC Control Register bit 8-11</p> <p>SPI DPE1 PCC Control Register bit 12-15: RTC</p> | <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>4</p> <p>4</p> | <p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p> | <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>4</p> <p>4</p> | <p>ena_def_reset</p> <p>ena_edac_sef</p> <p>ena_edac</p> <p>ena_wd_reset</p> <p>ena_parity</p> <p>console_reque</p> <p>single_stepping</p> <p>ena_chkword_w</p> <p>ext_i/o_bus_ena</p> <p>rtc_freq_selec</p> | <p>E9220 (alias 2)</p> <p>E9221 (alias 2)</p> <p>E9222 (alias 2)</p> <p>E9223 (alias 2)</p> <p>E9224 (alias 2)</p> <p>E9225 (alias 321)</p> <p>E9226 (alias 322)</p> <p>E9227 (alias 2)</p> <p>E9228 (alias 2)</p> <p>E9229 (alias 323)</p> |
| <p>The parameter E9038 is subdivided into:</p> <p>SPI DPE1 RBI Status Word bit 0: ICU (DPE)</p> <p>SPI DPE1 RBI Status Word bit 1: ICU (DPE) Wait</p> <p>SPI DPE1 RBI Status Word bit 2: DMA Busy</p> <p>SPI DPE1 RBI Status Word bit 3: ICU (DPE)</p> <p>SPI DPE1 RBI Status Word bit 4: Interrogation</p> <p>SPI DPE1 RBI Status Word bit 5: Interrogation</p> | <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> | <p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p> | <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> | <p>sdpe1_reset</p> <p>sdpe1_wait</p> <p>dma_busy</p> <p>sdpe1_running</p> <p>sdpe1_parity</p> <p>sdpe1_lttton</p> | <p>E9240 (alias 310)</p> <p>E9241 (alias 311)</p> <p>E9242 (alias 312)</p> <p>E9243 (alias 313)</p> <p>E9244 (alias 314)</p> <p>E9245 (alias 315)</p> |
| <p>SPI DPE1 RBI Status Word bit 7: Wrong</p> <p>SPI DPE1 RBI Status Word bit 8: Output transfer</p> <p>SPI DPE1 RBI Status Word bit 9-10: RBI chip flag</p> <p>SPI DPE1 RBI Status Word bit 11: TC source</p> <p>SPI DPE1 RBI Status Word bit 12-15: RTC</p> | <p>1</p> <p>1</p> <p>2</p> <p>1</p> <p>4</p> | <p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p> | <p>1</p> <p>1</p> <p>2</p> <p>1</p> <p>4</p> | <p>sdpe1_interro</p> <p>sdpe1_tm</p> <p>sdpe1_anomaly</p> <p>sdpe1_tc</p> <p>sdpe1_sw_indic</p> | <p>E9246</p> <p>E9247 (alias 316)</p> <p>E9248 (alias 317)</p> <p>E9249 (alias 318)</p> <p>E9250 (alias 319)</p> <p>E9251 (alias 320)</p> |
| <p>The parameter E9039 is subdivided into:</p> | | | | | <p>E9260</p> <p>E9261</p> <p>E9262</p> <p>E9263</p> <p>E9264</p> <p>E9265</p> <p>E9266</p> <p>E9267</p> <p>E9268</p> |

1.3.13. IASW HK parameters

| Identification | Encoding length (bit) | PTC | PFC | Id name | DB reference |
|--|-----------------------|-----|-----|------------------|----------------------|
| AFEE ON/OFF status | 16 | 2 | 0 | r_sw_af-oo_l | E/F3900 (alias 6306) |
| DFEE ON/OFF status | 16 | 2 | 0 | r_sw_df-oo_l | E/F3901 (alias 6306) |
| ACS ON/OFF status | 16 | 2 | 0 | r_sw_as-oo_l | E/F3902 (alias 6306) |
| PSD ON/OFF status | 16 | 2 | 0 | r_sw_pd-oo_l | E/F3903 (alias 6306) |
| 24 data buffer | 8 | 3 | 4 | r_sw_data_ln | E/F3908-E/F3931 |
| Memory dump start address 1 2 3 | 24 | 3 | 13 | r_sw_medp-ad_l | E/F3932 |
| NB bytes to be dumped | 8 | 3 | 4 | r_sw_nbyt-dp_l | E/F3935 |
| Radiation mode | 16 | 3 | 12 | r_sw_rad-mod_l | E/F3936 (alias 6317) |
| High background count detection capability | 16 | 2 | 0 | r_sw_bgd-cap_l | E/F3937 (alias 6308) |
| Counting threshold for radiation overflow | 16 | 3 | 12 | r_sw_th-rd-ov_l | E/F3938 |
| Counting filter for radiation overflow | 16 | 3 | 12 | r_sw_ft-rd-ov_l | E/F3939 |
| Counting threshold for radiation nominal level | 16 | 3 | 12 | r_sw_th-rd-no_l | E/F3940 |
| Counting filter for radiation nominal level | 16 | 3 | 12 | r_sw_ft-rd-no_l | E/F3941 |
| Counting filter for cold plate monitoring | 16 | 3 | 12 | r_sw_cnt-ftr_l | E/F3942 |
| AFEE energy mode | 16 | 2 | 0 | r_sw_af-nrg_l | E/F3943 (alias 6372) |
| Automatic reconfiguration capability | 16 | 2 | 0 | r_sw_rconf-cap_l | E/F3944 (alias 6308) |
| Spare | | | | | E/F3945 |
| Radiations belts crossing detection capability | 1 | 2 | 0 | r_sw_rad-cap_l | E3946 (alias 6308) |
| Delay before radiation belts | 32 | 3 | 14 | r_sw_dy-bf-rd_l | E3947 (Cc 6414) |
| Deleted | | | | | E/F3948 |
| ACS ROM-RAM delay | 8 | 3 | 4 | r_sw_as-mem-dy_l | E3949 (cc 6329) |
| Delay after radiation belts | 32 | 3 | 14 | r_sw_dy-af-rd_l | E/F3950 (Cc 6414) |
| Deleted | | | | | E/F3951 |
| PSD ROM-RAM delay | 8 | 3 | 4 | r_sw_pd-mem-dy_l | E3952 (cc 6329) |
| Imminent eclipse detection | 1 | 3 | 12 | r_sw_im-ec_l | E/F3953 (alias 6308) |
| Delay before eclipse | 32 | 3 | 14 | r_sw_dy-bf-ec_l | E/F3954 (Cc 6414) |
| Deleted | | | | | E/F3955 |
| DFEE ROM-RAM delay | 8 | 3 | 4 | r_sw_df-mem-dy_l | E3956 (cc 6329) |
| | | | | | E/F3959 |
| Imminent switch off detection capability | 16 | 2 | 0 | r_sw_im-sw_l | E/F3960 (alias 6308) |
| ESAM detection capability | 16 | 2 | 0 | r_sw_esam_l | E/F3961 (alias 6308) |
| AFEE LV Temp monitoring capability | 16 | 2 | 0 | r_sw_af-lv-tp_l | E/F3962 (alias 6308) |
| Cold plate temperature capability | 16 | 2 | 0 | r_sw_cold-cap_l | E/F3963 (alias 6308) |



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| Identification | Encoding length (bit) | PTC | PFC | Id name | DB reference |
|---|-----------------------|-----|-----|------------------|-----------------------------------|
| Cold plate temperature threshold for sensor E0391 | 16 | 3 | 12 | r_sw_cold-thr_l1 | E/F3964 (cc 6330 default = 109 K) |
| Cold plate temperature threshold for sensor E0392 | 16 | 3 | 12 | r_sw_cold-thr_l2 | E/F3965 (cc 6330 default = 109 K) |
| Cold plate temperature threshold for sensor E0393 | 16 | 3 | 12 | r_sw_cold-thr_l3 | E/F3966 (cc 6330 default = 109 K) |
| Cold plate temperature threshold for sensor E0394 | 16 | 3 | 12 | r_sw_cold-thr_l4 | E/F3967 (cc 6330 default = 109 K) |
| Correlation capability | 16 | 2 | 0 | r_sw_cor-cap_l | E/F3968 (alias 6308) |
| HK acquisition rate | 16 | 3 | 12 | r_sw_hk-aq-rt_l | E/F3969 |
| Length of the block HSL DFEE | 16 | 3 | 12 | r_sw_lg-hl-df_l | E/F3970 |
| Cyclic LSL error filter | 1 | 3 | 4 | r_sw_lsl-err_l | E/F3971 |
| Delay before auto-test acquisition | 16 | 3 | 12 | r_sw_dy-bf-at_l | E/F3972 |
| Delay before configuration acquisition | 16 | 3 | 12 | r_sw_dy-bf-cf_l | E/F3973 |
| Constituents of the spectra | 16 | 3 | 12 | r_sw_spectra_l | E/F3974 (alias 6335) |
| Spectra/photon priority | 1 | 2 | 8 | r_sw_sp-ph-pi_l | E/F3975 d(alias 6403) |
| Spectra accumulation duration | 16 | 3 | 12 | r_sw_sp-ac-du_l | E/F3976 |
| AFEE LV temperature monitoring threshold | 16 | 3 | 12 | r_sw_af-lv-th_l | E/F3977 cc6326 |
| AFEE LV temperature monitoring filter | 16 | 3 | 12 | r_sw_af-lv-ft_l | E/F3978 |
| Photon processing | 2 | 2 | 8 | r_sw_phoproc_l | E/F3979 (alias 6404) |
| Spectra accumulation factor | 8 | 2 | 8 | p_sw_sp_acc_k | E/F3980 (alias 6405) |



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1.3.14. Diagnostic parameters

| Identification | Encoding length (bit) | PTC | PFC | Id name | DB reference |
|------------------------------|-----------------------|-----|-----|-----------------|---|
| Sub-assembly identifier | 8 | 2 | 8 | r_diag_sa-id_ln | E1901-E1996 (alias 6402), default = 0 |
| Block acquisition identifier | 8 | 3 | 4 | r_diag_hk_ln | E3401-E3496 (min = 0, max = 255, default = 0) |

1.3.15. Cryocoolers TM parameters (TBC)

| Identification | Encoding length (bit) | PTC | PFC | Id name | DB reference |
|--|-----------------------|-----|-----|------------------|--------------|
| Main Compressor 1 temperature | 8 TBC | 3 | 4 | CDE1_TEMPER_1 | F9962 |
| Main Compressor 2 temperature | 8 TBC | 3 | 4 | CDE1_TEMPER_2 | F9963 |
| Main Displacer 1 temperature | 8 TBC | 3 | 4 | CDE1_TEMPER_3 | F9966 |
| Main Displacer 2 temperature | 8 TBC | 3 | 4 | CDE1_TEMPER_4 | F9967 |
| Main Compressor 1 drive amplifier | 8 TBC | 3 | 4 | CDE1_COMPR1_AMP | F9960 |
| Main Compressor 2 drive amplifier | 8 TBC | 3 | 4 | CDE1_COMPR2_AMP | F9961 |
| Main Displacer 1 drive amplifier | 8 TBC | 3 | 4 | CDE1_DISPL1_AMP | F9964 |
| Main Displacer 2 drive amplifier | 8 TBC | 3 | 4 | CDE1_DISPL2_AMP | F9965 |
| Redundant Compressor 1 temperature | 8 TBC | 3 | 4 | CDE2_TEMPER_1 | F9982 |
| Redundant Compressor 2 temperature | 8 TBC | 3 | 4 | CDE2_TEMPER_2 | F9983 |
| Redundant Displacer 1 temperature | 8 TBC | 3 | 4 | CDE2_TEMPER_3 | F9986 |
| Redundant Displacer 2 temperature | 8 TBC | 3 | 4 | CDE2_TEMPER_4 | F9987 |
| Redundant Compressor 1 drive amplifier | 8 TBC | 3 | 4 | CDE2_COMPR1_AMP | F9980 |
| Redundant Compressor 2 drive amplifier | 8 TBC | 3 | 4 | CDE2_COMPR2_AMP | F9981 |
| Redundant Displacer 1 drive amplifier | 8 TBC | 3 | 4 | CDE2_DISPL1_AMP | F9984 |
| Redundant Displacer 2 drive amplifier | 8 TBC | 3 | 4 | CDE2_DISPL2_AMP | F9985 |
| Main Compressor 1 Demand signal | 8 TBC | 3 | 4 | CDE1_COMP1_DEM | F9968 |
| Main Compressor 2 Demand signal | 8 TBC | 3 | 4 | CDE1_COMP2_DEM | F9969 |
| CDE 1 relay status | 8 TBC | 3 | 4 | CDE1_REL_STA | F9970 |
| CDE 1 Standby/Operational mode | 8 TBC | 3 | 4 | CDE1_STBY/OPMODE | F9971 |
| CDE 1 launch lock mode | 8 TBC | 3 | 4 | CDE1_LAUNCHLOCK | F9972 |
| Redundant Compressor 1 Demand signal | 8 TBC | 3 | 4 | CDE2_COMP1_DEM | F9968 |
| Redundant Compressor 2 Demand signal | 8 TBC | 3 | 4 | CDE2_COMP2_DEM | F9969 |
| CDE 2 relay status | 8 TBC | 3 | 4 | CDE2_REL_STA | F9970 |
| CDE 2 Standby/Operational mode | 8 TBC | 3 | 4 | CDE2_STBY/OPMODE | F9971 |
| CDE 2 launch lock mode | 8 TBC | 3 | 4 | CDE2_LAUNCHLOCK | F9972 |
| Compensation heater Main status | 8 | 3 | 4 | | P2222 |
| Compensation heater Redundant status | 8 | 3 | 4 | | P2272 (TBC) |



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1.4. TM PACKET STRUCTURE AND CONTENT DEFINITION

1.4.1. Housekeeping data acquisition

1.4.1.1. 1 second acquired parameters (Science Housekeeping Data)

| TPN n° | Name |
|-----------------|-----------------|
| PKT_60000/65000 | tm_hk-science_1 |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------------|---|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1120/1248 | b 11 | | 433 | 2 | 0 | | 1 - 04 (second n° 1) 2 - 05 (second n° 1) 3 - 06 (second n° 1) 4 - 07 (second n° 1) 5 - 08 (second n° 1) 6 - 09 (second n° 1) 7 - 0A (second n° 1) 8 - 04 (second n° 2) 9 - 05 (second n° 2) 10 - 06 (second n° 2) 11 - 07 (second n° 2) 12 - 08 (second n° 2) 13 - 09 (second n° 2) 14 - 0A (second n° 2) |
| | | | | | | (428) | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | | |
|----------|--|-------------|---------|--------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|--------|--------|--|
| 1/8 | Request counters for PSD, Veto gates and AFEE n° 0 Block n° 1: Odd seconds Block n° 8: Even seconds | 1/215 | 1 | E3562/E3563 | | | | | | | | | | |
| | | 2/216 | 2 | E3562/E3563 | | | | | | | | | | |
| | | 3/217 | 3 | E3562/E3563 | | | | | | | | | | |
| | | 4/218 | 4 | E3562/E3563 | | | | | | | | | | |
| | | 5/219 | 5 | E3562/E3563 | | | | | | | | | | |
| | | 6/220 | 6 | E3562/E3563 | | | | | | | | | | |
| | | 7/221 | 7 | DFEE acknowledgement 04 Hex | | | | | | | | | | |
| | | 8/222 | 8 | | | | | | | | | | | |
| | | 9/223 | 9 | E3301/E4301 | | | | | | | | | | |
| | | 10/224 | 10 | E3301/E4301 | | | | | | | | | | |
| | | 11/225 | 11 | E4018/ | E4020/ | E4022/ | E4024/ | E4026/ | E4028/ | E4030/ | E4032/ | | | |
| | | | | E4019 | E4021 | E4023 | E4025 | E4027 | E4029 | E4031 | E4033 | | | |
| | | 12/226 | 12 | E4034/ | E4035/ | E4036/ | E4037/ | E4038/ | E4039/ | E4040/ | E4041/ | | | |
| | | | | E4058 | E4059 | E4060 | E4061 | E4062 | E4063 | E4064 | E4065 | | | |
| | | 13/227 | 13 | E4042/E4043 | | | | E4044/E4045 | | | | E4046/ | E4048/ | |
| | | | | | | | | | | | | E4047 | E4049 | |
| | | 14/228 | 14 | E4050/ | E4051/ | E4052/ | E4053/ | E4054/ | E4055/ | E4056/ | E4057/ | | | |
| | | | | E4066 | E4067 | E4068 | E4069 | E4070 | E4071 | E4072 | E4073 | | | |
| | | 15/229 | 15 | E3307/E4307 | | | | | | | | | | |
| | | 16/230 | 16 | E3307/E4307 | | | | | | | | | | |
| | | 17/231 | 17 | E3307/E4307 | | | | | | | | | | |
| | | 18/232 | 18 | E3308/E4308 | | | | | | | | | | |
| | | 19/233 | 19 | E3308/E4308 | | | | | | | | | | |
| | | 20/234 | 20 | E3308/E4308 | | | | | | | | | | |
| | | 21/235 | 21 | E3309/E4309 | | | | | | | | | | |
| | | 22/236 | 22 | E3309/E4309 | | | | | | | | | | |
| | | 23/237 | 23 | E3531/E3532 | | | | | | | | | | |
| | | 24/238 | 24 | E3531/E3532 | | | | | | | | | | |
| | | 25/239 | 25 | E3320/E4320 | | | | | | | | | | |
| | | 26/240 | 26 | E3320/E4320 | | | | | | | | | | |
| | | 27/241 | 27 | E3340/E4340 | | | | | | | | | | |
| | | 28/242 | 28 | E3340/E4340 | | | | | | | | | | |
| | | 29/243 | 29 | E3360/E4360 | | | | | | | | | | |
| | | 30/244 | 30 | E3360/E4360 | | | | | | | | | | |
| 31/245 | 31 | E3380/E4380 | | | | | | | | | | | | |
| 32/246 | 32 | E3380/E4380 | | | | | | | | | | | | |
| 33/247 | 33 | E3380/E4380 | | | | | | | | | | | | |
| 34/248 | 34 | E3380/E4380 | | | | | | | | | | | | |
| CS | | | | | | | | | | | | | | |

E3303 E3304 E3305 E3306 E4303 E4304 E4305 E4306 deleted

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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|--------|---------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 2/9 | Request AFEE channels counters n° 1 to 3 Block n° 2: Odd seconds Block n° 9: Even seconds | 35/249 | 1 | DFEE acknowledgement | | | | | | | |
| | | 36/250 | 2 | 05 Hex | | | | | | | |
| | | 37/251 | 3 | E3321/E4321 | | | | | | | |
| | | 38/252 | 4 | E3321/E4321 | | | | | | | |
| | | 39/253 | 5 | E3341/E4341 | | | | | | | |
| | | 40/254 | 6 | E3341/E4341 | | | | | | | |
| | | 41/255 | 7 | E3361/E4361 | | | | | | | |
| | | 42/256 | 8 | E3361/E4361 | | | | | | | |
| | | 43/257 | 9 | E3381/E4381 | | | | | | | |
| | | 44/258 | 10 | E3381/E4381 | | | | | | | |
| | | 45/259 | 11 | E3381/E4381 | | | | | | | |
| | | 46/260 | 12 | E3322/E4322 | | | | | | | |
| | | 47/261 | 13 | E3322/E4322 | | | | | | | |
| | | 48/262 | 14 | E3342/E4342 | | | | | | | |
| | | 49/263 | 15 | E3342/E4342 | | | | | | | |
| | | 50/264 | 16 | E3362/E4362 | | | | | | | |
| | | 51/265 | 17 | E3362/E4362 | | | | | | | |
| | | 52/266 | 18 | E3382/E4382 | | | | | | | |
| | | 53/267 | 19 | E3382/E4382 | | | | | | | |
| | | 54/268 | 20 | E3382/E4382 | | | | | | | |
| | | 55/269 | 21 | E3323/E4323 | | | | | | | |
| | | 56/270 | 22 | E3323/E4323 | | | | | | | |
| | | 57/271 | 23 | E3343/E4343 | | | | | | | |
| | | 58/272 | 24 | E3343/E4343 | | | | | | | |
| | | 59/273 | 25 | E3363/E4363 | | | | | | | |
| | | 60/274 | 26 | E3363/E4363 | | | | | | | |
| | | 61/275 | 27 | E3383/E4383 | | | | | | | |
| | | 62/276 | 28 | E3383/E4383 | | | | | | | |
| | | 63/277 | 29 | E3383/E4383 | | | | | | | |
| | | 64/278 | 30 | CS | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|--------|---------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 3/10 | Request AFEE channels counters n° 4 to 6 Block n° 3: Odd seconds Block n° 10: Even seconds | 65/279 | 1 | DFEE acknowledgement | | | | | | | |
| | | 66/280 | 2 | 06 Hex | | | | | | | |
| | | 67/281 | 3 | E3324/E4324 | | | | | | | |
| | | 68/282 | 4 | E3324/E4324 | | | | | | | |
| | | 69/283 | 5 | E3344/E4344 | | | | | | | |
| | | 70/284 | 6 | E3344/E4344 | | | | | | | |
| | | 71/285 | 7 | E3364/E4364 | | | | | | | |
| | | 72/286 | 8 | E3364/E4364 | | | | | | | |
| | | 73/287 | 9 | E3384/E4384 | | | | | | | |
| | | 74/288 | 10 | E3384/E4384 | | | | | | | |
| | | 75/289 | 11 | E3384/E4384 | | | | | | | |
| | | 76/290 | 12 | E3325/E4325 | | | | | | | |
| | | 77/291 | 13 | E3325/E4325 | | | | | | | |
| | | 78/292 | 14 | E3345/E4345 | | | | | | | |
| | | 79/293 | 15 | E3345/E4345 | | | | | | | |
| | | 80/294 | 16 | E3365/E4365 | | | | | | | |
| | | 81/295 | 17 | E3365/E4365 | | | | | | | |
| | | 82/296 | 18 | E3385/E4385 | | | | | | | |
| | | 83/297 | 19 | E3385/E4385 | | | | | | | |
| | | 84/298 | 20 | E3385/E4385 | | | | | | | |
| | | 85/299 | 21 | E3326/E4326 | | | | | | | |
| | | 86/300 | 22 | E3326/E4326 | | | | | | | |
| | | 87/301 | 23 | E3346/E4346 | | | | | | | |
| | | 88/302 | 24 | E3346/E4346 | | | | | | | |
| | | 89/303 | 25 | E3366/E4366 | | | | | | | |
| | | 90/304 | 26 | E3366/E4366 | | | | | | | |
| | | 91/305 | 27 | E3386/E4386 | | | | | | | |
| | | 92/306 | 28 | E3386/E4386 | | | | | | | |
| | | 93/307 | 29 | E3386/E4386 | | | | | | | |
| | | 94/308 | 30 | CS | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|---------|---------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 4/11 | Request AFEE channels counters n° 7 to 9 Block n° 4: Odd seconds Block n° 11: Even seconds | 95/309 | 1 | DFEE acknowledgement | | | | | | | |
| | | 96/310 | 2 | 07 Hex | | | | | | | |
| | | 97/311 | 3 | E3327/E4327 | | | | | | | |
| | | 98/312 | 4 | E3327/E4327 | | | | | | | |
| | | 99/313 | 5 | E3347/E4347 | | | | | | | |
| | | 100/314 | 6 | E3347/E4347 | | | | | | | |
| | | 101/315 | 7 | E3367/E4367 | | | | | | | |
| | | 102/316 | 8 | E3367/E4367 | | | | | | | |
| | | 103/317 | 9 | E3387/E4387 | | | | | | | |
| | | 104/318 | 10 | E3387/E4387 | | | | | | | |
| | | 105/319 | 11 | E3387/E4387 | | | | | | | |
| | | 106/320 | 12 | E3328/E4328 | | | | | | | |
| | | 107/321 | 13 | E3328/E4328 | | | | | | | |
| | | 108/322 | 14 | E3348/E4348 | | | | | | | |
| | | 109/323 | 15 | E3348/E4348 | | | | | | | |
| | | 110/324 | 16 | E3368/E4368 | | | | | | | |
| | | 111/325 | 17 | E3368/E4368 | | | | | | | |
| | | 112/326 | 18 | E3388/E4388 | | | | | | | |
| | | 113/327 | 19 | E3388/E4388 | | | | | | | |
| | | 114/328 | 20 | E3388/E4388 | | | | | | | |
| | | 115/329 | 21 | E3329/E4329 | | | | | | | |
| | | 116/330 | 22 | E3329/E4329 | | | | | | | |
| | | 117/331 | 23 | E3349/E4349 | | | | | | | |
| | | 118/332 | 24 | E3349/E4349 | | | | | | | |
| | | 119/333 | 25 | E3369/E4369 | | | | | | | |
| | | 120/334 | 26 | E3369/E4369 | | | | | | | |
| | | 121/335 | 27 | E3389/E4389 | | | | | | | |
| | | 122/336 | 28 | E3389/E4389 | | | | | | | |
| | | 123/337 | 29 | E3389/E4389 | | | | | | | |
| | | 124/338 | 30 | CS | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|---------|---------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 5/12 | Request AFEE channels counters n° 10 to 12 Block n° 5: Odd seconds Block n° 12: Even seconds | 125/339 | 1 | DFEE acknowledgement | | | | | | | |
| | | 126/340 | 2 | 08 Hex | | | | | | | |
| | | 127/341 | 3 | E3330/E4330 | | | | | | | |
| | | 128/342 | 4 | E3330/E4330 | | | | | | | |
| | | 129/343 | 5 | E3350/E4350 | | | | | | | |
| | | 130/344 | 6 | E3350/E4350 | | | | | | | |
| | | 131/345 | 7 | E3370/E4370 | | | | | | | |
| | | 132/346 | 8 | E3370/E4370 | | | | | | | |
| | | 133/347 | 9 | E3390/E4390 | | | | | | | |
| | | 134/348 | 10 | E3390/E4390 | | | | | | | |
| | | 135/349 | 11 | E3390/E4390 | | | | | | | |
| | | 136/350 | 12 | E3331/E4331 | | | | | | | |
| | | 137/351 | 13 | E3331/E4331 | | | | | | | |
| | | 138/352 | 14 | E3351/E4351 | | | | | | | |
| | | 139/353 | 15 | E3351/E4351 | | | | | | | |
| | | 140/354 | 16 | E3371/E4371 | | | | | | | |
| | | 141/355 | 17 | E3371/E4371 | | | | | | | |
| | | 142/356 | 18 | E3391/E4391 | | | | | | | |
| | | 143/357 | 19 | E3391/E4391 | | | | | | | |
| | | 144/358 | 20 | E3391/E4391 | | | | | | | |
| | | 145/359 | 21 | E3332/E4332 | | | | | | | |
| | | 146/360 | 22 | E3332/E4332 | | | | | | | |
| | | 147/361 | 23 | E3352/E4352 | | | | | | | |
| | | 148/362 | 24 | E3352/E4352 | | | | | | | |
| | | 149/363 | 25 | E3372/E4372 | | | | | | | |
| | | 150/364 | 26 | E3372/E4372 | | | | | | | |
| | | 151/365 | 27 | E3392/E4392 | | | | | | | |
| | | 152/366 | 28 | E3392/E4392 | | | | | | | |
| | | 153/367 | 29 | E3392/E4392 | | | | | | | |
| | | 154/368 | 30 | CS | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|---------|---------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 6/13 | Request AFEE channels counters n° 13 to 15 Block n° 6: Odd seconds Block n° 13: Even seconds | 155/369 | 1 | DFEE acknowledgement | | | | | | | |
| | | 156/370 | 2 | 09 Hex | | | | | | | |
| | | 157/371 | 3 | E3333/E4333 | | | | | | | |
| | | 158/372 | 4 | E3333/E4333 | | | | | | | |
| | | 159/373 | 5 | E3353/E4353 | | | | | | | |
| | | 160/374 | 6 | E3353/E4353 | | | | | | | |
| | | 161/375 | 7 | E3373/E4373 | | | | | | | |
| | | 162/376 | 8 | E3373/E4373 | | | | | | | |
| | | 163/377 | 9 | E3393/E4393 | | | | | | | |
| | | 164/378 | 10 | E3393/E4393 | | | | | | | |
| | | 165/379 | 11 | E3393/E4393 | | | | | | | |
| | | 166/380 | 12 | E3334/E4334 | | | | | | | |
| | | 167/381 | 13 | E3334/E4334 | | | | | | | |
| | | 168/382 | 14 | E3354/E4354 | | | | | | | |
| | | 169/383 | 15 | E3354/E4354 | | | | | | | |
| | | 170/384 | 16 | E3374/E4374 | | | | | | | |
| | | 171/385 | 17 | E3374/E4374 | | | | | | | |
| | | 172/386 | 18 | E3394/E4394 | | | | | | | |
| | | 173/387 | 19 | E3394/E4394 | | | | | | | |
| | | 174/388 | 20 | E3394/E4394 | | | | | | | |
| | | 175/389 | 21 | E3335/E4335 | | | | | | | |
| | | 176/390 | 22 | E3335/E4335 | | | | | | | |
| | | 177/391 | 23 | E3355/E4355 | | | | | | | |
| | | 178/392 | 24 | E3355/E4355 | | | | | | | |
| | | 179/393 | 25 | E3375/E4375 | | | | | | | |
| | | 180/394 | 26 | E3375/E4375 | | | | | | | |
| | | 181/395 | 27 | E3395/E4395 | | | | | | | |
| | | 182/396 | 28 | E3395/E4395 | | | | | | | |
| | | 183/397 | 29 | E3395/E4395 | | | | | | | |
| | | 184/398 | 30 | CS | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|---------|---------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 7/14 | Request AFEE channels counters n° 16 to 18 Block n° 7: Odd seconds Block n° 14: Even seconds | 185/399 | 1 | DFEE acknowledgement | | | | | | | |
| | | 186/400 | 2 | 0A Hex | | | | | | | |
| | | 187/401 | 3 | E3336/E4336 | | | | | | | |
| | | 188/402 | 4 | E3336/E4336 | | | | | | | |
| | | 189/403 | 5 | E3356/E4356 | | | | | | | |
| | | 190/404 | 6 | E3356/E4356 | | | | | | | |
| | | 191/405 | 7 | E3376/E4376 | | | | | | | |
| | | 192/406 | 8 | E3376/E4376 | | | | | | | |
| | | 193/407 | 9 | E3396/E4396 | | | | | | | |
| | | 194/408 | 10 | E3396/E4396 | | | | | | | |
| | | 195/409 | 11 | E3396/E4396 | | | | | | | |
| | | 196/410 | 12 | E3337/E4337 | | | | | | | |
| | | 197/411 | 13 | E3337/E4337 | | | | | | | |
| | | 198/412 | 14 | E3357/E4357 | | | | | | | |
| | | 199/413 | 15 | E3357/E4357 | | | | | | | |
| | | 200/414 | 16 | E3377/E4377 | | | | | | | |
| | | 201/415 | 17 | E3373/E4373 | | | | | | | |
| | | 202/416 | 18 | E3397/E4397 | | | | | | | |
| | | 203/417 | 19 | E3397/E4397 | | | | | | | |
| | | 204/418 | 20 | E3397/E4397 | | | | | | | |
| | | 205/419 | 21 | E3338/E4338 | | | | | | | |
| | | 206/420 | 22 | E3338/E4338 | | | | | | | |
| | | 207/421 | 23 | E3358/E4358 | | | | | | | |
| | | 208/422 | 24 | E3358/E4358 | | | | | | | |
| | | 209/423 | 25 | E3378/E4378 | | | | | | | |
| | | 210/424 | 26 | E3378/E4378 | | | | | | | |
| | | 211/425 | 27 | E3398/E4398 | | | | | | | |
| | | 212/426 | 28 | E3398/E4398 | | | | | | | |
| | | 213/427 | 29 | E3398/E4398 | | | | | | | |
| | | 214/428 | 30 | CS | | | | | | | |



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| TPN n° | Name |
|-----------------|-----------------|
| PKT_60001/65001 | tm_hk-science_2 |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------------|---|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1121/1249 | b 11 | | 433 | 2 | 1 | | 1 - 04 (second n° 3) 2 - 05 (second n° 3) 3 - 06 (second n° 3) 4 - 07 (second n° 3) 5 - 08 (second n° 3) 6 - 09 (second n° 3) 7 - 0A (second n° 3) 8 - 04 (second n° 4) 9 - 05 (second n° 4) 10 - 06 (second n° 4) 11 - 07 (second n° 4) 12 - 08 (second n° 4) 13 - 09 (second n° 4) 14 - 0A (second n° 4) |
| | | | | | | (428) | | | | |



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| TPN n° | Name |
|-----------------|-----------------|
| PKT_60002/65002 | tm_hk-science_3 |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------------|---|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1122/1250 | b 11 | | 433 | 2 | 2 | | 1 - 04 (second n° 5) 2 - 05 (second n° 5) 3 - 06 (second n° 5) 4 - 07 (second n° 5) 5 - 08 (second n° 5) 6 - 09 (second n° 5) 7 - 0A (second n° 5) 8 - 04 (second n° 6) 9 - 05 (second n° 6) 10 - 06 (second n° 6) 11 - 07 (second n° 6) 12 - 08 (second n° 6) 13 - 09 (second n° 6) 14 - 0A (second n° 6) |
| | | | | | | (428) | | | | |



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| TPN n° | Name |
|-----------------|-----------------|
| PKT_60003/65003 | tm_hk-science_4 |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------------|---|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1123/1251 | b 11 | | 433 | 2 | 3 | | 1 - 04 (second n° 7) 2 - 05 (second n° 7) 3 - 06 (second n° 7) 4 - 07 (second n° 7) 5 - 08 (second n° 7) 6 - 09 (second n° 7) 7 - 0A (second n° 7) 8 - 04 (second n° 8) 9 - 05 (second n° 8) 10 - 06 (second n° 8) 11 - 07 (second n° 8) 12 - 08 (second n° 8) 13 - 09 (second n° 8) 14 - 0A (second n° 8) |
| | | | | | | (428) | | | | |



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| TPN n° | Name |
|-----------------|-----------------|
| PKT_60004/65004 | tm_hk-science_5 |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------------|--|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1124/1252 | b 11 | | 433 | 2 | 4 | | 15 - 0B (second n°1) 16 - 0B (second n°2) 17 - 0B (second n°3) 18 - 0B (second n°4) 19 - 0B (second n°5) 20 - 0B (second n°6) 21 - 0B (second n°7) 22 - 0B (second n°8) |
| | | | | | | (320) | | | | |

Remark: The 1st on-board time E3562 must be equal to the 1st time of the packet TPN 60000
 The 2nd on-board time E3563 must be equal to the 2nd time of the packet TPN 60000
 The 3rd on-board time E3564 must be equal to the 1st time of the packet TPN 60001
 The 4th on-board time E3565 must be equal to the 2nd time of the packet TPN 60001
 The 5th on-board time E3566 must be equal to the 1st time of the packet TPN 60002
 The 6th on-board time E3567 must be equal to the 2nd time of the packet TPN 60002
 The 7th on-board time E3568 must be equal to the 1st time of the packet TPN 60003
 The 8th on-board time E3569 must be equal to the 2nd time of the packet TPN 60003



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| N° Block | Description | Byte n° in the packet | N° Byte | 1 byte | | |
|----------|--|-----------------------------|-------------------------------|---|---|---|
| 15-22 | Request Clock monitor and Veto counts | 1/41/81/121/161/201/241/281 | 1 | E3562/E3563/E3564/E3565/E3566/E3567/E3568/E3569 | | |
| | | 2/42/82/122/162/202/242/282 | 2 | E3562/E3563/E3564/E3565/E3566/E3567/E3568/E3569 | | |
| | | 3/43/83/123/163/203/243/283 | 3 | E3562/E3563/E3564/E3565/E3566/E3567/E3568/E3569 | | |
| | | 4/44/84/124/164/204/244/284 | 4 | E3562/E3563/E3564/E3565/E3566/E3567/E3568/E3569 | | |
| | | 5/45/85/125/165/205/245/285 | 5 | E3562/E3563/E3564/E3565/E3566/E3567/E3568/E3569 | | |
| | | 6/46/86/126/166/206/246/286 | 6 | E3562/E3563/E3564/E3565/E3566/E3567/E3568/E3569 | | |
| | | 7/47/87/127/167/207/247/287 | 7 | | | |
| | TimeClkMon_1-TimeClkMon_8 | | 8/48/88/128/168/208/248/288 | 8 | DFEE acknowledgement | |
| | | | 9/49/89/129/169/209/249/289 | 9 | 0B Hex | |
| | | | 10/50/90/130/170/210/250/290 | 10 | E3511/E4511/E4531/E4551/E4571/E4591/E4611/E4631 | |
| | | | 11/51/91/131/171/211/251/291 | 11 | E3511/E4511/E4531/E4551/E4571/E4591/E4611/E4631 | |
| | | | 12/52/92/132/172/212/252/292 | 12 | E3512/E4512/E4532/E4552/E4572/E4592/E4612/E4632 | |
| | | | 13/53/93/133/173/213/253/293 | 13 | E3512/E4512/E4532/E4552/E4572/E4592/E4612/E4632 | |
| | | | 14/54/94/134/174/214/254/294 | 14 | E3512/E4512/E4532/E4552/E4572/E4592/E4612/E4632 | |
| | | | 15/55/95/135/175/215/255/295 | 15 | E3513/E4513/E4533/E4553/E4573/E4593/E4613/E4633 | |
| | | | 16/56/96/136/176/216/256/296 | 16 | E3513/E4513/E4533/E4553/E4573/E4593/E4613/E4633 | |
| | | | 17/57/97/137/177/217/257/297 | 17 | E3513/E4513/E4533/E4553/E4573/E4593/E4613/E4633 | |
| | | | 18/58/98/138/178/218/258/298 | 18 | E3514/E4514/E4534/E4554/E4574/E4594/E4614/E4634 | |
| | | | 19/59/99/139/179/219/259/299 | 19 | E3514/E4514/E4534/E4554/E4574/E4594/E4614/E4634 | |
| | | | 20/60/100/140/180/220/260/300 | 20 | E3514/E4514/E4534/E4554/E4574/E4594/E4614/E4634 | |
| | | | 21/61/101/141/181/221/261/301 | 21 | E3515/E4515/E4535/E4555/E4575/E4595/E4615/E4635 | |
| | | | 22/62/102/142/182/222/262/302 | 22 | E3515/E4515/E4535/E4555/E4575/E4595/E4615/E4635 | |
| | | | 23/63/103/143/183/223/263/303 | 23 | E3515/E4515/E4535/E4555/E4575/E4595/E4615/E4635 | |
| | | | 24/64/104/144/184/224/264/304 | 24 | E3516/E4516/E4536/E4556/E4576/E4596/E4616/E4636 | |
| | | | 25/65/105/145/185/225/265/305 | 25 | E3516/E4516/E4536/E4556/E4576/E4596/E4616/E4636 | |
| | | | 26/66/106/146/186/226/266/306 | 26 | E3516/E4516/E4536/E4556/E4576/E4596/E4616/E4636 | |
| | | | 27/67/107/147/187/227/267/307 | 27 | E3517/E4517/E4537/E4557/E4577/E4597/E4617/E4637 | |
| | | | 28/68/108/148/188/228/268/308 | 28 | E3517/E4517/E4537/E4557/E4577/E4597/E4617/E4637 | |
| | | | 29/69/109/149/189/229/269/309 | 29 | E3517/E4517/E4537/E4557/E4577/E4597/E4617/E4637 | |
| | | | 30/70/110/150/190/230/270/310 | 30 | E3518/E4518/E4538/E4558/E4578/E4598/E4618/E4638 | |
| | | | 31/71/111/151/191/231/271/311 | 31 | E3518/E4518/E4538/E4558/E4578/E4598/E4618/E4638 | |
| | | | 32/72/112/152/192/232/272/312 | 32 | E3518/E4518/E4538/E4558/E4578/E4598/E4618/E4638 | |
| | | CntVetoAbove | | 33/73/113/153/193/233/273/313 | 33 | E3544/E3545/E3546/E3547/E3548/E3549/E3550/E3551 |
| | | | | 34/74/114/154/194/234/274/314 | 34 | E3544/E3545/E3546/E3547/E3548/E3549/E3550/E3551 |
| | | | | 35/75/115/155/195/235/275/315 | 35 | E3544/E3545/E3546/E3547/E3548/E3549/E3550/E3551 |
| | | CntVetoBelow | | 36/76/116/156/196/236/276/316 | 36 | E3500/E4500/E4520/E4540/E4560/E4580/E4600/E4620 |
| | | | | 37/77/117/157/197/237/277/317 | 37 | E3500/E4500/E4520/E4540/E4560/E4580/E4600/E4620 |
| | | | | 38/78/118/158/198/238/278/318 | 38 | E3500/E4500/E4520/E4540/E4560/E4580/E4600/E4620 |
| | | | | 39/79/119/159/199/239/279/319 | 39 | |
| | | | | 40/80/120/160/200/240/280/320 | 40 | 00 Hex Checksum |



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1.4.1.2. 8 seconds acquired parameters

| TPN n° | Name |
|-----------------|----------------|
| PKT_60011/65011 | tm_one-cycle_1 |

| Packet Header | | | | | | | Data Field Header | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------|-------------------|---------------|------|---|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1025/1153 | b 11 | | 433 | 1 | 5 | | 1 - 1F Hex 2 - 23 Hex 3 - 24 Hex 4 - 25 Hex 5 - 26 Hex 6 - 27 Hex 7 - 28 Hex 8 - 29 Hex 9 - 2A Hex 10 - 2B Hex 11 - 2C Hex 12 - 2D Hex 13 |
| | | | | | | (396) | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|-----------------------|----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 1 | Rate meter and Status | 1 | 1 | ACS acknowledgement | | | | | | | |
| | | 2 | 2 | 1F Hex | | | | | | | |
| | | 3 | 3 | 00 | | | | | | | |
| | | 4 | 4 | 00 | | | | | | | |
| | | 5 | 5 | E2133 | | | | | | | |
| | | 6 | 6 | E2134 | | | | | | | |
| | | 7 | 7 | E2134 | | | | | | | |
| | | 8 | 8 | E2135 | | | | | | | |
| | | 9 | 9 | E2135 | | | | | | | |
| | | 10 | 10 | E2136 | | | | | | | |
| | | 11 | 11 | E2136 | | | | | | | |
| | | 12 | 12 | E2137 | | | | | | | |
| | | 13 | 13 | E2137 | | | | | | | |
| | | 14 | 14 | E2138 | | | | | | | |
| | | 15 | 15 | E2138 | | | | | | | |
| | | 16 | 16 | E2139 | | | | | | | |
| | | 17 | 17 | E2139 | | | | | | | |
| | | 18 | 18 | E2140 | | | | | | | |
| | | 19 | 19 | E2140 | | | | | | | |
| | | 20 | 20 | E2141 | | | | | | | |
| | | 21 | 21 | E2141 | | | | | | | |
| | | 22 | 22 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|------------------------|----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 2 | Gamma Burst Start Time | 23 | 1 | ACS acknowledgement | | | | | | | |
| | | 24 | 2 | 23 Hex | | | | | | | |
| | | 25 | 3 | E2061 | | | | | | | |
| | | 26 | 4 | E2061 | | | | | | | |
| | | 27 | 5 | E2061 | | | | | | | |
| | | 28 | 6 | E2062 | | | | | | | |
| | | 29 | 7 | E2062 | | | | | | | |
| | | 30 | 8 | E2062 | | | | | | | |
| | | 31 | 9 | E2063 | | | | | | | |
| | | 32 | 10 | CS | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|-------------------------|----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 3 | Overall counter records | 33 | 1 | ACS acknowledgement | | | | | | | |
| | | 34 | 2 | 24 Hex | | | | | | | |
| | | 35 | 3 | E2951 | | | | | | | |
| | | 36 | 4 | E2961 | | | | | | | |
| | | 37 | 5 | E2961 | | | | | | | |
| | | 38 | 6 | E2962 | | | | | | | |
| | | 39 | 7 | E2962 | | | | | | | |
| | | 66 | 34 | E2976 | | | | | | | |
| | | 67 | 35 | E2976 | | | | | | | |
| | | 68 | 36 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|-------------------------|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 4 | Overall counter records | 69 | 1 | ACS acknowledgement | | | | | | | |
| | | 70 | 2 | 25 Hex | | | | | | | |
| | | 71 | 3 | E2952 | | | | | | | |
| | | 72 | 4 | E2977 | | | | | | | |
| | | 73 | 5 | E2977 | | | | | | | |
| | | 102 | 34 | E2992 | | | | | | | |
| | | 103 | 35 | E2992 | | | | | | | |
| | | 104 | 36 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|-------------------------|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 5 | Overall counter records | 105 | 1 | ACS acknowledgement | | | | | | | |
| | | 106 | 2 | 26 Hex | | | | | | | |
| | | 107 | 3 | E2953 | | | | | | | |
| | | 108 | 4 | E2993 | | | | | | | |
| | | 109 | 5 | E2993 | | | | | | | |
| | | 138 | 34 | E3008 | | | | | | | |
| | | 139 | 35 | E3008 | | | | | | | |
| | | 140 | 36 | CS | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|-------------------------|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 6 | Overall counter records | 141 | 1 | ACS acknowledgement | | | | | | | |
| | | 142 | 2 | 27 Hex | | | | | | | |
| | | 143 | 3 | E2954 | | | | | | | |
| | | 144 | 4 | E3009 | | | | | | | |
| | | 145 | 5 | E3009 | | | | | | | |
| | | 174 | 34 | E3024 | | | | | | | |
| | | 175 | 35 | E3024 | | | | | | | |
| | | 176 | 36 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|-------------------------|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 7 | Overall counter records | 177 | 1 | ACS acknowledgement | | | | | | | |
| | | 178 | 2 | 28 Hex | | | | | | | |
| | | 179 | 3 | E2955 | | | | | | | |
| | | 180 | 4 | E3025 | | | | | | | |
| | | 181 | 5 | E3025 | | | | | | | |
| | | 210 | 34 | E3040 | | | | | | | |
| | | 211 | 35 | E3040 | | | | | | | |
| | | 212 | 36 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|-------------------------|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 8 | Overall counter records | 213 | 1 | ACS acknowledgement | | | | | | | |
| | | 214 | 2 | 29 Hex | | | | | | | |
| | | 215 | 3 | E2956 | | | | | | | |
| | | 216 | 4 | E3041 | | | | | | | |
| | | 217 | 5 | E3041 | | | | | | | |
| | | 246 | 34 | E3056 | | | | | | | |
| | | 247 | 35 | E3056 | | | | | | | |
| | | 148 | 36 | CS | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|-------------------------|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 9 | Overall counter records | 249 | 1 | ACS acknowledgement | | | | | | | |
| | | 250 | 2 | 2A Hex | | | | | | | |
| | | 251 | 3 | E2957 | | | | | | | |
| | | 252 | 4 | E3057 | | | | | | | |
| | | 253 | 5 | E3057 | | | | | | | |
| | | 282 | 34 | E3072 | | | | | | | |
| | | 283 | 35 | E3072 | | | | | | | |
| | | 284 | 36 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|-------------------------|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 10 | Overall counter records | 285 | 1 | ACS acknowledgement | | | | | | | |
| | | 286 | 2 | 2B Hex | | | | | | | |
| | | 287 | 3 | E2958 | | | | | | | |
| | | 288 | 4 | E3073 | | | | | | | |
| | | 289 | 5 | E3073 | | | | | | | |
| | | 318 | 34 | E3088 | | | | | | | |
| | | 319 | 35 | E3088 | | | | | | | |
| | | 320 | 36 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|-------------------------|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 11 | Overall counter records | 321 | 1 | ACS acknowledgement | | | | | | | |
| | | 322 | 2 | 2C Hex | | | | | | | |
| | | 323 | 3 | E2959 | | | | | | | |
| | | 324 | 4 | E3089 | | | | | | | |
| | | 325 | 5 | E3089 | | | | | | | |
| | | 354 | 34 | E3104 | | | | | | | |
| | | 355 | 35 | E3104 | | | | | | | |
| | | 356 | 36 | CS | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|-------------------------|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 12 | Overall counter records | 357 | 1 | ACS acknowledgement | | | | | | | |
| | | 358 | 2 | 2D Hex | | | | | | | |
| | | 359 | 3 | E2960 | | | | | | | |
| | | 360 | 4 | E3105 | | | | | | | |
| | | 361 | 5 | E3105 | | | | | | | |
| | | 390 | 34 | E3120 | | | | | | | |
| | | 391 | 35 | E3120 | | | | | | | |
| | | 392 | 36 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|-----|---------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 13 | HK technological parameters transmitted by analogue channels Voltage monitoring | 393 | 1 | E/F3985 | | | | | | | |
| | | 394 | 2 | E/F3987 | | | | | | | |
| | | 395 | 3 | E/F3989 | | | | | | | |
| | | 396 | 4 | E/F3990 | | | | | | | |
| | | 397 | 5 | E/F3998 | | | | | | | |
| | | 398 | 6 | 00 Hex | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|------------------------|-----|---------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 14 | Cryogenic temperatures | 399 | 1 | AFEE acknowledgement | | | | | | | |
| | | 400 | 2 | 21 Hex | | | | | | | |
| | | 401 | 3 | E0399 | | | | | | | |
| | | 402 | 4 | 0 | 0 | 0 | 0 | | | | E/F0391 |
| | | 403 | 5 | E/F0391 | | | | | | | |
| | | 404 | 6 | 0 | 0 | 0 | 0 | | | | E/F0392 |
| | | 405 | 7 | E/F0392 | | | | | | | |
| | | 406 | 8 | 0 | 0 | 0 | 0 | | | | E/F0393 |
| | | 407 | 9 | E/F0393 | | | | | | | |
| | | 408 | 10 | 0 | 0 | 0 | 0 | | | | E/F0394 |
| | | 409 | 11 | E/F0394 | | | | | | | |
| | | 410 | 12 | 0 | 0 | 0 | 0 | | | | E/F0395 |
| | | 411 | 13 | E/F0395 | | | | | | | |
| | | 412 | 14 | 0 | 0 | 0 | 0 | | | | E/F0396 |
| | | 413 | 15 | E/F0396 | | | | | | | |
| | | 414 | 16 | 0 | 0 | 0 | 0 | | | | E/F0397 |
| | | 415 | 17 | E/F0397 | | | | | | | |
| | | 416 | 18 | 0 | 0 | 0 | 0 | | | | E/F0398 |
| | | 417 | 19 | E/F0398 | | | | | | | |
| | | 418 | 20 | CS | | | | | | | |



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1.4.1.3. 64 seconds acquired parameters

| TPN n° | Name |
|-----------------|--------------|
| PKT_60060/65060 | tm_8-cycle_1 |

| Packet Header | | | | | | | Data Field Header | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------|-------------------|---------------|------|--|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1025/1153 | b 11 | | 433 | 1 | 6 | | 1 - 12 Hex 2 - 13 Hex 3 - 14 Hex 4 - 15 Hex 5 - 16 Hex 6 - 17 Hex 7 - 18 Hex 8 - 19 Hex 9 - 1A Hex |
| | | | | | | (252) | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|----------|---|----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|-------|
| 1 | A/D HK, Command Type and Count, DFEE identifier | 1 | 1 | PSD acknowledgement | | | | | | | | |
| | | 2 | 2 | 12 Hex | | | | | | | | |
| | | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | E3824 |
| | | 4 | 4 | | | | | E3824 | | | | |
| | | 5 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | E3825 |
| | | 6 | 6 | | | | | E3825 | | | | |
| | | 7 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | E3826 |
| | | 8 | 8 | | | | | E3826 | | | | |
| | | 9 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | E3827 |
| | | 10 | 10 | | | | | E3827 | | | | |
| | | 11 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | E3828 |
| | | 12 | 12 | | | | | E3828 | | | | |
| | | 13 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | E3829 |
| | | 14 | 14 | | | | | E3829 | | | | |
| | | 15 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | E3830 |
| | | 16 | 16 | | | | | E3830 | | | | |
| | | 17 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | E3831 |
| | | 18 | 18 | | | | | E3831 | | | | |
| | | 19 | 19 | | | | | E3832 | | | | |
| | | 20 | 20 | | | | | E3832 | | | | |
| | | 21 | 21 | | | | | E3833 | | | | |
| | | 22 | 22 | | | | | E3834 | | | | |
| | | 23 | 23 | E3530 | | | | | | E3519 | | |
| | | 24 | 24 | | | | | | | | E3835 | |
| | | 25 | 25 | | | | | | | | | |
| | | 26 | 26 | | | | | | | E3836 | | |
| | | 27 | 27 | | | | | | | E3836 | | |
| | | 28 | 28 | | | | | | | 00 Hex | | |
| | | | | | | | | CS | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 2 | Buffer contents, Error Status and Channel rate for detector n° 0 to n° 17 | 29 | 1 | PSD acknowledgement | | | | | | | |
| | | 30 | 2 | 13 Hex | | | | | | | |
| | | 31 | 3 | E3837 | | | | | | | |
| | | 32 | 4 | E3838 | | | | | | | |
| | | 33 | 5 | E3839 | | | | | | | |
| | | 34 | 6 | E3859 | | | | | | | |
| | | 35 | 7 | E3879 | | | | | | | |
| | | 36 | 8 | E3880 | | | | | | | |
| | | 37 | 9 | E3840 | | | | | | | |
| | | 38 | 10 | E3841 | | | | | | | |
| | | 53 | 25 | E3856 | | | | | | | |
| | | 54 | 26 | E3857 | | | | | | | |
| | | 55 | 27 | 00 Hex | | | | | | | |
| | | 56 | 28 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 3 | Channel rate n° 18, Selection statistics channel 0 to 10 | 57 | 1 | PSD acknowledgement | | | | | | | |
| | | 58 | 2 | 14 Hex | | | | | | | |
| | | 59 | 3 | E3858 | | | | | | | |
| | | 60 | 4 | 00 Hex | | | | | | | |
| | | 61 | 5 | E3860 | | | | | | | |
| | | 62 | 6 | E4880 | | | | | | | |
| | | 63 | 7 | E3861 | | | | | | | |
| | | 64 | 8 | E4881 | | | | | | | |
| | | 81 | 25 | E3870 | | | | | | | |
| | | 82 | 26 | E4890 | | | | | | | |
| | | 83 | 27 | 00 Hex | | | | | | | |
| | | 84 | 28 | CS | | | | | | | |

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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|----------|--|--------|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|--|--|
| 4 | Selection Statistics Channel 11 to 18 and rate history for the 1 st and 2 nd interval | 85 | 1 | PSD acknowledgement | | | | | | | | | |
| | | 86 | 2 | 15 Hex | | | | | | | | | |
| | | 87 | 3 | E3871 | | | | | | | | | |
| | | 88 | 4 | E4891 | | | | | | | | | |
| | | 89 | 5 | E3872 | | | | | | | | | |
| | | 90 | 6 | E4892 | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | 101 | 17 | E3878 | | | | | | | | | |
| | | 102 | 18 | E4898 | | | | | | | | | |
| | | 103 | 19 | E4781 | | | | | | | | | |
| | | 104 | 20 | E4781 | | | | | | | | | |
| | | 105 | 21 | E4821 | | | | | | | | | |
| 106 | 22 | E4821 | | | | | | | | | | | |
| 107 | 23 | E4782 | | | | | | | | | | | |
| 108 | 24 | E4782 | | | | | | | | | | | |
| 109 | 25 | E4822 | | | | | | | | | | | |
| 110 | 26 | E4822 | | | | | | | | | | | |
| 111 | 27 | 00 Hex | | | | | | | | | | | |
| 112 | 28 | CS | | | | | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|----------|---|--------|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|--|--|
| 5 | Rate history for the 3 rd to 8 th interval | 113 | 1 | PSD acknowledgement | | | | | | | | | |
| | | 114 | 2 | 16 Hex | | | | | | | | | |
| | | 115 | 3 | E4783 | | | | | | | | | |
| | | 116 | 4 | E4783 | | | | | | | | | |
| | | 117 | 5 | E4823 | | | | | | | | | |
| | | 118 | 6 | E4823 | | | | | | | | | |
| | | 119 | 7 | E4784 | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | 135 | 23 | E4788 | | | | | | | | | |
| | | 136 | 24 | E4788 | | | | | | | | | |
| | | 137 | 25 | E4828 | | | | | | | | | |
| | | 138 | 26 | E4828 | | | | | | | | | |
| 139 | 27 | 00 Hex | | | | | | | | | | | |
| 140 | 28 | CS | | | | | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|-----|---------|-------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 6 | Rate history for the 9 th to 14 th interval | 141 | 1 | PSD acknowledgement 17 Hex | | | | | | | |
| | | 142 | 2 | | | | | | | | |
| | | 143 | 3 | E4789 | | | | | | | |
| | | 144 | 4 | E4789 | | | | | | | |
| | | 145 | 5 | E4829 | | | | | | | |
| | | 146 | 6 | E4829 | | | | | | | |
| | | 147 | 7 | E4790 | | | | | | | |
| | | 163 | 23 | E4794 | | | | | | | |
| | | 164 | 24 | E4794 | | | | | | | |
| | | 165 | 25 | E4834 | | | | | | | |
| | | 166 | 26 | E4834 | | | | | | | |
| | | 167 | 27 | 00 Hex | | | | | | | |
| | | 168 | 28 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|-----|---------|-------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 7 | Rate history for the 15 th to 20 th interval | 169 | 1 | PSD acknowledgement 18 Hex | | | | | | | |
| | | 170 | 2 | | | | | | | | |
| | | 171 | 3 | E4795 | | | | | | | |
| | | 172 | 4 | E4795 | | | | | | | |
| | | 173 | 5 | E4835 | | | | | | | |
| | | 174 | 6 | E4835 | | | | | | | |
| | | 175 | 7 | E4796 | | | | | | | |
| | | 191 | 23 | E4800 | | | | | | | |
| | | 192 | 24 | E4800 | | | | | | | |
| | | 193 | 25 | E4840 | | | | | | | |
| | | 194 | 26 | E4840 | | | | | | | |
| | | 195 | 27 | 00 Hex | | | | | | | |
| | | 196 | 28 | CS | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|----------|---|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|--|--|
| 8 | Rate history for the 21 st to 26 th interval | 197 | 1 | PSD acknowledgement | | | | | | | | | |
| | | 198 | 2 | 19 Hex | | | | | | | | | |
| | | 199 | 3 | E4801 | | | | | | | | | |
| | | 200 | 4 | E4801 | | | | | | | | | |
| | | 201 | 5 | E4841 | | | | | | | | | |
| | | 202 | 6 | E4841 | | | | | | | | | |
| | | 203 | 7 | E4802 | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | 219 | 23 | E4806 | | | | | | | | | |
| | | 220 | 24 | E4806 | | | | | | | | | |
| | | 221 | 25 | E4846 | | | | | | | | | |
| | | 222 | 26 | E4846 | | | | | | | | | |
| | | 223 | 27 | 00 Hex | | | | | | | | | |
| | | 224 | 28 | CS | | | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|----------|---|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|--|--|
| 9 | Rate history for the 27 th to 32 nd interval | 225 | 1 | PSD acknowledgement | | | | | | | | | |
| | | 226 | 2 | 1A Hex | | | | | | | | | |
| | | 227 | 3 | E4807 | | | | | | | | | |
| | | 228 | 4 | E4807 | | | | | | | | | |
| | | 229 | 5 | E4847 | | | | | | | | | |
| | | 230 | 6 | E4847 | | | | | | | | | |
| | | 231 | 7 | E4808 | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | 247 | 23 | E4812 | | | | | | | | | |
| | | 248 | 24 | E4812 | | | | | | | | | |
| | | 249 | 25 | E4852 | | | | | | | | | |
| | | 250 | 26 | E4852 | | | | | | | | | |
| | | 251 | 27 | 00 Hex | | | | | | | | | |
| | | 252 | 28 | CS | | | | | | | | | |



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1.4.1.4. 640 seconds acquired parameters

| TPN n° | Name |
|-----------------|---------------|
| PKT_60601/65601 | tm_80-cycle_1 |

| Packet Header | | | | | | | Data Field Header | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------|-------------------|---------------|------|--|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1025/1153 | b 11 | | 433 | 1 | 7 | | 1 - 10 Hex 2 - 11 Hex 3 - 12 Hex 4 - 13 Hex 5 - 14 Hex 6 - 15 Hex 7 - 16 Hex 8 - 17 Hex 9 - 20 Hex 10 - 17 Hex 11 - 18 Hex 12 - 19 Hex 13 - 1A Hex 14 - 1B Hex 15 - 1C Hex 16 - 1D Hex 17 - 1E Hex |
| | | | | | | (426) | | | | |

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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|----------|--|----|---------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|--|
| 1 | Preampli temperature for detector n° 0 to 8 | 1 | 1 | AFEE acknowledgement | | | | | | | | |
| | | 2 | 2 | 10 Hex | | | | | | | | |
| | | 3 | 3 | 0 | 0 | 0 | 0 | E/F0210 | | | | |
| | | 4 | 4 | E/F0210 | | | | | | | | |
| | | 19 | 19 | 0 | 0 | 0 | 0 | E/F0218 | | | | |
| | | 20 | 20 | E/F0218 | | | | | | | | |
| | | 21 | 21 | 00 Hex | | | | | | | | |
| | | 22 | 22 | CS | | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--------------------------------------|----|---------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 2 | HVPS voltage for detector n° 0 to 18 | 23 | 1 | AFEE acknowledgement | | | | | | | |
| | | 24 | 2 | 11 Hex | | | | | | | |
| | | 25 | 3 | E/F0250 | | | | | | | |
| | | 43 | 21 | E/F0268 | | | | | | | |
| | | 44 | 22 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|----|---------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 3 | Low threshold acquisition for detector n° 0 to 18 | 45 | 1 | AFEE acknowledgement | | | | | | | |
| | | 46 | 2 | 12 Hex | | | | | | | |
| | | 47 | 3 | E/F0270 | | | | | | | |
| | | 65 | 21 | E/F0288 | | | | | | | |
| | | 66 | 22 | CS | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--------------------------------------|----|---------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 4 | LVPS voltage for detector n° 0 to 18 | 67 | 1 | AFEE acknowledgement | | | | | | | |
| | | 68 | 2 | 13 Hex | | | | | | | |
| | | 69 | 3 | E/F0290 | | | | | | | |
| | | 87 | 21 | E/F0308 | | | | | | | |
| | | 88 | 22 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|-----|---------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 5 | DC-DC converter temperature for detector n° 0 to 18 | 89 | 1 | AFEE acknowledgement | | | | | | | |
| | | 90 | 2 | 14 Hex | | | | | | | |
| | | 91 | 3 | E/F0310 | | | | | | | |
| | | 109 | 21 | E/F0328 | | | | | | | |
| | | 110 | 22 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|----------|--|-----|---------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|--|
| 6 | Analogue digital converter temperature for detector n° 0 to 8 | 111 | 1 | AFEE acknowledgement | | | | | | | | |
| | | 112 | 2 | 15 Hex | | | | | | | | |
| | | 113 | 3 | 0 | 0 | 0 | 0 | E/F0330 | | | | |
| | | 114 | 4 | E/F0330 | | | | | | | | |
| | | 129 | 19 | 0 | 0 | 0 | 0 | E/F0338 | | | | |
| | | 130 | 20 | E/F0338 | | | | | | | | |
| | | 131 | 21 | 00 Hex | | | | | | | | |
| | | 132 | 22 | CS | | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|-----|---------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 7 | DC output voltage for detector n° 0 to 18 | 133 | 1 | AFEE acknowledgement | | | | | | | |
| | | 134 | 2 | 16 Hex | | | | | | | |
| | | 135 | 3 | E/F0350 | | | | | | | |
| | | | | | | | | | | | |
| | | 153 | 21 | E/F0368 | | | | | | | |
| | | 154 | 22 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|-----|---------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 8 | Analysis configuration for detector n° 0 to 18 | 155 | 1 | AFEE acknowledgement | | | | | | | |
| | | 156 | 2 | 17 Hex | | | | | | | |
| | | 157 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | E0370 | E0230 |
| | | 158 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | E0371 | E0231 |
| | | 159 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | E0372 | E0232 |
| | | 160 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | E0373 | E0233 |
| | | 161 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | E0374 | E0234 |
| | | 162 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | E0375 | E0235 |
| | | 163 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | E0376 | E0236 |
| | | 164 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | E0377 | E0237 |
| | | 165 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | E0378 | E0238 |
| | | 166 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | E0379 | E0239 |
| | | 167 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | E0380 | E0240 |
| | | 168 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | E0381 | E0241 |
| | | 169 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | E0382 | E0242 |
| | | 170 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | E0383 | E0243 |
| | | 171 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | E0384 | E0244 |
| | | 172 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | E0385 | E0245 |
| | | 173 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | E0386 | E0246 |
| | | 174 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | E0387 | E0247 |
| | | 175 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | E0388 | E0248 |
| | | 176 | 22 | CS | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|-------------------------|-----|---------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 9 | AFEE general parameters | 177 | 1 | AFEE acknowledgement | | | | | | | |
| | | 178 | 2 | 20 Hex | | | | | | | |
| | | 179 | 3 | 0 | 0 | 0 | 0 | E/F0001 | | | |
| | | 180 | 4 | E/F0001 | | | | | | | |
| | | 181 | 5 | 0 | 0 | 0 | 0 | E/F0002 | | | |
| | | 182 | 6 | E/F0002 | | | | | | | |
| | | 183 | 7 | 00 Hex | | | | | | | |
| | | 184 | 8 | 00 Hex | | | | | | | |
| | | 185 | 9 | 00 Hex | | | | | | | |
| | | 186 | 10 | 00 Hex | | | | | | | |
| | | 187 | 11 | 00 Hex | | | | | | | |
| | | 188 | 12 | 00 Hex | | | | | | | |
| | | 189 | 13 | 00 Hex | | | | | | | |
| | | 190 | 14 | 00 Hex | | | | | | | |
| | | 191 | 15 | 00 Hex | | | | | | | |
| | | 192 | 16 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 10 | Power supply voltage and current value | 193 | 1 | ACS acknowledgement | | | | | | | |
| | | 194 | 2 | 17 Hex | | | | | | | |
| | | 195 | 3 | E/F2121 | | | | | | | |
| | | 196 | 4 | E/F2122 | | | | | | | |
| | | 197 | 5 | E/F2123 | | | | | | | |
| | | 198 | 6 | CS | | | | | | | |

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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--------------------------|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 11 | Veto shield temperatures | 199 | 1 | ACS acknowledgement | | | | | | | |
| | | 200 | 2 | 18 Hex | | | | | | | |
| | | 201 | 3 | E/F2101 | | | | | | | |
| | | 202 | 4 | E/F2102 | | | | | | | |
| | | 203 | 5 | E/F2103 | | | | | | | |
| | | 204 | 6 | E/F2104 | | | | | | | |
| | | 205 | 7 | E/F2105 | | | | | | | |
| | | 206 | 8 | E/F2106 | | | | | | | |
| | | 207 | 9 | E/F2107 | | | | | | | |
| | | 208 | 10 | E/F2108 | | | | | | | |
| | | 209 | 11 | E/F2109 | | | | | | | |
| | | 210 | 12 | E/F2110 | | | | | | | |
| | | 211 | 13 | E/F2111 | | | | | | | |
| | | 212 | 14 | E/F2112 | | | | | | | |
| | | 213 | 15 | E/F2113 | | | | | | | |
| | | 214 | 16 | E/F2114 | | | | | | | |
| | | 215 | 17 | E/F2115 | | | | | | | |
| | | 216 | 18 | E/F2116 | | | | | | | |
| | | 217 | 19 | 00 Hex | | | | | | | |
| 218 | 20 | CS | | | | | | | | | |

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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--------------------------------|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 12 | Analogue status of FEE 0 to 14 | 219 | 1 | ACS acknowledgement | | | | | | | |
| | | 220 | 2 | 19 Hex | | | | | | | |
| | | 221 | 3 | E3164 | E2350 | E2250 | E2150 | | | | |
| | | 222 | 4 | 00 | 00 | 00 | E2002 | | | | |
| | | 223 | 5 | E3165 | E2351 | E2251 | E2151 | | | | |
| | | 224 | 6 | 00 | 00 | 00 | E2003 | | | | |
| | | 225 | 7 | E3166 | E2353 | E2252 | E2152 | | | | |
| | | 226 | 8 | 00 | 00 | 00 | E2004 | | | | |
| | | 227 | 9 | E3167 | E2354 | E2253 | E2153 | | | | |
| | | 228 | 10 | 00 | 00 | 00 | E2005 | | | | |
| | | 229 | 11 | E3168 | E2355 | E2254 | E2154 | | | | |
| | | 230 | 12 | 00 | 00 | 00 | E2006 | | | | |
| | | 231 | 13 | E3169 | E2356 | E2255 | E2155 | | | | |
| | | 232 | 14 | 00 | 00 | 00 | E2007 | | | | |
| | | 233 | 15 | E3170 | E2357 | E2256 | E2156 | | | | |
| | | 234 | 16 | 00 | 00 | 00 | E2008 | | | | |
| | | 235 | 17 | E3171 | E2358 | E2257 | E2157 | | | | |
| | | 236 | 18 | 00 | 00 | 00 | E2009 | | | | |
| | | 237 | 19 | E3172 | E2359 | E2258 | E2158 | | | | |
| | | 238 | 20 | 00 | 00 | 00 | E2010 | | | | |
| | | 239 | 21 | E3173 | E2360 | E2259 | E2159 | | | | |
| | | 240 | 22 | 00 | 00 | 00 | E2011 | | | | |
| | | 241 | 23 | E3174 | E2361 | E2260 | E2160 | | | | |
| | | 242 | 24 | 00 | 00 | 00 | E2012 | | | | |
| | | 243 | 25 | E3175 | E2362 | E2261 | E2161 | | | | |
| | | 244 | 26 | 00 | 00 | 00 | E2013 | | | | |
| | | 245 | 27 | E3176 | E2363 | E2262 | E2162 | | | | |
| | | 246 | 28 | 00 | 00 | 00 | E2014 | | | | |
| | | 247 | 29 | E3177 | E2364 | E2263 | E2163 | | | | |
| | | 248 | 30 | 00 | 00 | 00 | E2015 | | | | |
| | | 249 | 31 | E3178 | E2365 | E2264 | E2164 | | | | |
| | | 250 | 32 | 00 | 00 | 00 | E2016 | | | | |
| | | 251 | 33 | 00 Hex | | | | | | | |
| 252 | 34 | CS | | | | | | | | | |

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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---------------------------------|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 13 | Analogue status of FEE 15 to 29 | 253 | 1 | ACS acknowledgement | | | | | | | |
| | | 254 | 2 | 1A Hex | | | | | | | |
| | | 255 | 3 | E3179 | E2365 | E2265 | E2165 | | | | |
| | | 256 | 4 | 00 | 00 | 00 | E2017 | | | | |
| | | 257 | 5 | E3180 | E2366 | E2266 | E2166 | | | | |
| | | 258 | 6 | 00 | 00 | 00 | E2018 | | | | |
| | | 259 | 7 | E3181 | E2367 | E2267 | E2167 | | | | |
| | | 260 | 8 | 00 | 00 | 00 | E2019 | | | | |
| | | 261 | 9 | E3182 | E2368 | E2268 | E2168 | | | | |
| | | 262 | 10 | 00 | 00 | 00 | E2020 | | | | |
| | | 263 | 11 | E3183 | E2369 | E2269 | E2169 | | | | |
| | | 264 | 12 | 00 | 00 | 00 | E2021 | | | | |
| | | 265 | 13 | E3184 | E2370 | E2270 | E2170 | | | | |
| | | 266 | 14 | 00 | 00 | 00 | E2022 | | | | |
| | | 267 | 15 | E3185 | E2371 | E2271 | E2171 | | | | |
| | | 268 | 16 | 00 | 00 | 00 | E2023 | | | | |
| | | 269 | 17 | E3186 | E2372 | E2272 | E2172 | | | | |
| | | 270 | 18 | 00 | 00 | 00 | E2024 | | | | |
| | | 271 | 19 | E3187 | E2373 | E2273 | E2173 | | | | |
| | | 272 | 20 | 00 | 00 | 00 | E2064 | | | | |
| | | 273 | 21 | E3188 | E2374 | E2274 | E2174 | | | | |
| | | 274 | 22 | 00 | 00 | 00 | E2065 | | | | |
| | | 275 | 23 | E3189 | E2375 | E2275 | E2175 | | | | |
| | | 276 | 24 | 00 | 00 | 00 | E2066 | | | | |
| | | 277 | 25 | E3190 | E2376 | E2276 | E2176 | | | | |
| | | 278 | 26 | 00 | 00 | 00 | E2067 | | | | |
| | | 279 | 27 | E3191 | E2377 | E2277 | E2177 | | | | |
| | | 280 | 28 | 00 | 00 | 00 | E2068 | | | | |
| | | 281 | 29 | E3192 | E2378 | E2278 | E2178 | | | | |
| | | 282 | 30 | 00 | 00 | 00 | E2069 | | | | |
| | | 283 | 31 | E3193 | E2379 | E2279 | E2179 | | | | |
| | | 284 | 32 | 00 | 00 | 00 | E2070 | | | | |
| | | 285 | 33 | 00 Hex | | | | | | | |
| | | 286 | 34 | CS | | | | | | | |

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| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|----------|---------------------------------|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|--|
| 14 | Analogue status of FEE 30 to 44 | 287 | ACS acknowledgement | | | | | | | | |
| | | 288 | 1B Hex | | | | | | | | |
| | | 289 | E3194 | E2380 | E2280 | E2180 | | | | | |
| | | 290 | 00 | 00 | 00 | E2071 | | | | | |
| | | 291 | E3195 | E2381 | E2281 | E2181 | | | | | |
| | | 292 | 00 | 00 | 00 | E2072 | | | | | |
| | | 293 | E3196 | E2382 | E2282 | E2182 | | | | | |
| | | 294 | 00 | 00 | 00 | E2073 | | | | | |
| | | 295 | E3197 | E2383 | E2283 | E2183 | | | | | |
| | | 296 | 00 | 00 | 00 | E2074 | | | | | |
| | | 297 | E3198 | E2384 | E2284 | E2184 | | | | | |
| | | 298 | 00 | 00 | 00 | E2075 | | | | | |
| | | 299 | E3199 | E2385 | E2285 | E2185 | | | | | |
| | | 300 | 00 | 00 | 00 | E2076 | | | | | |
| | | 301 | E3200 | E2386 | E2286 | E2186 | | | | | |
| | | 302 | 00 | 00 | 00 | E2077 | | | | | |
| | | 303 | E3201 | E2387 | E2287 | E2187 | | | | | |
| | | 304 | 00 | 00 | 00 | E2078 | | | | | |
| | | 305 | E3202 | E2388 | E2288 | E2188 | | | | | |
| | | 306 | 00 | 00 | 00 | E2079 | | | | | |
| | | 307 | E3203 | E2389 | E2289 | E2189 | | | | | |
| | | 308 | 00 | 00 | 00 | E2080 | | | | | |
| | | 309 | E3204 | E2390 | E2290 | E2190 | | | | | |
| | | 310 | 00 | 00 | 00 | E2081 | | | | | |
| | | 311 | E3205 | E2391 | E2291 | E2191 | | | | | |
| | | 312 | 00 | 00 | 00 | E2082 | | | | | |
| | | 313 | E3206 | E2392 | E2292 | E2192 | | | | | |
| | | 314 | 00 | 00 | 00 | E2083 | | | | | |
| | | 315 | E3207 | E2393 | E2293 | E2193 | | | | | |
| | | 316 | 00 | 00 | 00 | E2084 | | | | | |
| | | 317 | E3208 | E2394 | E2294 | E2194 | | | | | |
| | | 318 | 00 | 00 | 00 | E2085 | | | | | |
| | | 319 | 33 | 00 Hex | | | | | | | |
| | | 320 | 34 | CS | | | | | | | |



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| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|----------|---------------------------------|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|--|
| 15 | Analogue status of FEE 45 to 59 | 321 | ACS acknowledgement | | | | | | | | |
| | | 322 | 1C Hex | | | | | | | | |
| | | 323 | E3209 | E2395 | E2295 | E2195 | | | | | |
| | | 324 | 00 | 00 | 00 | E2086 | | | | | |
| | | 325 | E3210 | E2396 | E2296 | E2196 | | | | | |
| | | 326 | 00 | 00 | 00 | E2087 | | | | | |
| | | 327 | E3211 | E2397 | E2297 | E2197 | | | | | |
| | | 328 | 00 | 00 | 00 | E2088 | | | | | |
| | | 329 | E3212 | E2398 | E2298 | E2198 | | | | | |
| | | 330 | 00 | 00 | 00 | E2089 | | | | | |
| | | 331 | E3213 | E2399 | E2299 | E2199 | | | | | |
| | | 332 | 00 | 00 | 00 | E2090 | | | | | |
| | | 333 | E3214 | E3121 | E2300 | E2200 | | | | | |
| | | 334 | 00 | 00 | 00 | E2091 | | | | | |
| | | 335 | E3215 | E3122 | E2301 | E2201 | | | | | |
| | | 336 | 00 | 00 | 00 | E2092 | | | | | |
| | | 337 | E3216 | E3123 | E2302 | E2202 | | | | | |
| | | 338 | 00 | 00 | 00 | E2093 | | | | | |
| | | 339 | E3217 | E3124 | E2303 | E2203 | | | | | |
| | | 340 | 00 | 00 | 00 | E2094 | | | | | |
| | | 341 | E3218 | E3125 | E2304 | E2204 | | | | | |
| | | 342 | 00 | 00 | 00 | E2095 | | | | | |
| | | 343 | E3219 | E3126 | E2305 | E2205 | | | | | |
| | | 344 | 00 | 00 | 00 | E2096 | | | | | |
| | | 345 | E3220 | E3127 | E2306 | E2206 | | | | | |
| | | 346 | 00 | 00 | 00 | E2097 | | | | | |
| | | 347 | E3221 | E3128 | E2307 | E2207 | | | | | |
| | | 348 | 00 | 00 | 00 | E2098 | | | | | |
| | | 349 | E3222 | E3129 | E2308 | E2208 | | | | | |
| | | 350 | 00 | 00 | 00 | E2099 | | | | | |
| | | 351 | E3223 | E3130 | E2309 | E2209 | | | | | |
| | | 352 | 00 | 00 | 00 | E2100 | | | | | |
| | | 353 | 33 | 00 Hex | | | | | | | |
| | | 354 | 34 | CS | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---------------------------------|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 16 | Analogue status of FEE 60 to 75 | 355 | 1 | ACS acknowledgement | | | | | | | |
| | | 356 | 2 | ID Hex | | | | | | | |
| | | 357 | 3 | E3224 | E3131 | E2310 | E2210 | | | | |
| | | 358 | 4 | 00 | 00 | 00 | E3256 | | | | |
| | | 359 | 5 | E3225 | E3132 | E2311 | E2211 | | | | |
| | | 360 | 6 | 00 | 00 | 00 | E3257 | | | | |
| | | 361 | 7 | E3226 | E3133 | E2312 | E2212 | | | | |
| | | 362 | 8 | 00 | 00 | 00 | E3258 | | | | |
| | | 363 | 9 | E3227 | E3134 | E2313 | E2213 | | | | |
| | | 364 | 10 | 00 | 00 | 00 | E3259 | | | | |
| | | 365 | 11 | E3228 | E3135 | E2314 | E2214 | | | | |
| | | 366 | 12 | 00 | 00 | 00 | E3260 | | | | |
| | | 367 | 13 | E3229 | E3136 | E2315 | E2215 | | | | |
| | | 368 | 14 | 00 | 00 | 00 | E3261 | | | | |
| | | 369 | 15 | E3230 | E3137 | E2316 | E2216 | | | | |
| | | 370 | 16 | 00 | 00 | 00 | E3262 | | | | |
| | | 371 | 17 | E3231 | E3138 | E2317 | E2217 | | | | |
| | | 372 | 18 | 00 | 00 | 00 | E3263 | | | | |
| | | 373 | 19 | E3232 | E3139 | E2318 | E2218 | | | | |
| | | 374 | 20 | 00 | 00 | 00 | E3264 | | | | |
| | | 375 | 21 | E3233 | E3140 | E2319 | E2219 | | | | |
| | | 376 | 22 | 00 | 00 | 00 | E3265 | | | | |
| | | 377 | 23 | E3234 | E3141 | E2320 | E2220 | | | | |
| | | 378 | 24 | 00 | 00 | 00 | E3266 | | | | |
| | | 379 | 25 | E3235 | E3142 | E2321 | E2221 | | | | |
| | | 380 | 26 | 00 | 00 | 00 | E3267 | | | | |
| | | 381 | 27 | E3236 | E3143 | E2322 | E2222 | | | | |
| | | 382 | 28 | 00 | 00 | 00 | E3268 | | | | |
| | | 383 | 29 | E3237 | E3144 | E2323 | E2223 | | | | |
| | | 384 | 30 | 00 | 00 | 00 | E3269 | | | | |
| | | 385 | 31 | E3238 | E3145 | E2324 | E2224 | | | | |
| | | 386 | 32 | 00 | 00 | 00 | E3270 | | | | |
| | | 387 | 33 | E3239 | E3146 | E2325 | E2225 | | | | |
| | | 388 | 34 | 00 | 00 | 00 | E3271 | | | | |
| | | 389 | 35 | 00 Hex | | | | | | | |
| | | 390 | 36 | CS | | | | | | | |

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| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|----------|---------------------------------|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|--|
| 17 | Analogue status of FEE 76 to 91 | 391 | ACS acknowledgement | | | | | | | | |
| | | 392 | 1E Hex | | | | | | | | |
| | | 393 | E3240 | E3147 | E2326 | E2226 | | | | | |
| | | 394 | 00 | 00 | 00 | E3272 | | | | | |
| | | 395 | E3241 | E3148 | E2327 | E2227 | | | | | |
| | | 396 | 00 | 00 | 00 | E3273 | | | | | |
| | | 397 | E3242 | E3149 | E2328 | E2228 | | | | | |
| | | 398 | 00 | 00 | 00 | E3274 | | | | | |
| | | 399 | E3243 | E3150 | E2329 | E2229 | | | | | |
| | | 400 | 00 | 00 | 00 | E3275 | | | | | |
| | | 401 | E3244 | E3151 | E2330 | E2230 | | | | | |
| | | 402 | 00 | 00 | 00 | E3276 | | | | | |
| | | 403 | E3245 | E3152 | E2331 | E2231 | | | | | |
| | | 404 | 00 | 00 | 00 | E3277 | | | | | |
| | | 405 | E3246 | E3153 | E2332 | E2232 | | | | | |
| | | 406 | 00 | 00 | 00 | E3278 | | | | | |
| | | 407 | E3247 | E3154 | E2333 | E2233 | | | | | |
| | | 408 | 00 | 00 | 00 | E3279 | | | | | |
| | | 409 | E3248 | E3155 | E2334 | E2234 | | | | | |
| | | 410 | 00 | 00 | 00 | E3280 | | | | | |
| | | 411 | E3249 | E3156 | E2335 | E2235 | | | | | |
| | | 412 | 00 | 00 | 00 | E3281 | | | | | |
| | | 413 | E3250 | E3157 | E2336 | E2236 | | | | | |
| | | 414 | 00 | 00 | 00 | E3282 | | | | | |
| | | 415 | E3251 | E3158 | E2337 | E2237 | | | | | |
| | | 416 | 00 | 00 | 00 | E3283 | | | | | |
| | | 417 | E3252 | E3159 | E2338 | E2238 | | | | | |
| | | 418 | 00 | 00 | 00 | E3284 | | | | | |
| | | 419 | E3253 | E3160 | E2339 | E2239 | | | | | |
| | | 420 | 00 | 00 | 00 | E3285 | | | | | |
| | | 421 | E3254 | E3161 | E2340 | E2240 | | | | | |
| | | 422 | 00 | 00 | 00 | E3286 | | | | | |
| | | 423 | E3289 | E3162 | E2341 | E2241 | | | | | |
| | | 424 | 00 | 00 | E2388 | E3287 | | | | | |
| | | 425 | 35 | 00 Hex | | | | | | | |
| | | 426 | 36 | CS | | | | | | | |



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| TPN n° | Name |
|-----------------|---------------|
| PKT_60602/65602 | tm_80-cycle_2 |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------------|---|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1025/1153 | b 11 | | 433 | 1 | 8 | | 1 - 20 Hex 2 - 21 Hex 3 - 22 Hex 4 5 - 1B Hex 6 - 1C Hex 7 - 18 Hex 8 - 19 Hex 9 - 21 Hex 10 |
| | | | | | | (256) | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--------------------------|----|---------|---------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1 | FEE alert status 0 to 30 | 1 | 1 | ACS acknowledgement | | | | | | | |
| | | 2 | 2 | 20 Hex | | | | | | | |
| | | 3 | 3 | 0 | 0 | 0 | 0 | 0 | E2600 | | |
| | | 33 | 33 | 0 | 0 | 0 | 0 | 0 | E2630 | | |
| | | 34 | 34 | CS | | | | | | | |

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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---------------------------|----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 2 | FEE alert status 31 to 61 | 35 | 1 | ACS acknowledgement | | | | | | | |
| | | 36 | 2 | 21 Hex | | | | | | | |
| | | 37 | 3 | 0 | 0 | 0 | 0 | 0 | E2631 | | |
| | | 67 | 33 | 0 | 0 | 0 | 0 | 0 | E2661 | | |
| | | 68 | 34 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---------------------------|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 3 | FEE alert status 62 to 90 | 69 | 1 | ACS acknowledgement | | | | | | | |
| | | 70 | 2 | 22 Hex | | | | | | | |
| | | 71 | 3 | 0 | 0 | 0 | 0 | 0 | E2662 | | |
| | | 99 | 31 | 0 | 0 | 0 | 0 | 0 | E2690 | | |
| | | 100 | 32 | 00 Hex | | | | | | | |
| | | 101 | 33 | 00 Hex | | | | | | | |
| | | 102 | 34 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|-----|---------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 4 | HK technological parameters transmitted by analogue channels | 103 | 1 | 00 Hex | | | | | | | |
| | | 104 | 2 | 00 Hex | | | | | | | |
| | | 105 | 3 | 00 Hex | | | | | | | |
| | | 106 | 4 | 00 Hex | | | | | | | |
| | | 107 | 5 | 00 Hex | | | | | | | |
| | | 108 | 6 | 00 Hex | | | | | | | |
| | | 109 | 7 | 00 Hex | | | | | | | |
| | | 110 | 8 | 00 Hex | | | | | | | |
| | | 111 | 9 | 00 Hex | | | | | | | |
| | | 112 | 10 | 00 Hex | | | | | | | |
| | | 113 | 11 | 00 Hex | | | | | | | |
| | | 114 | 12 | 00 Hex | | | | | | | |
| | | 115 | 13 | 00 Hex | | | | | | | |
| | | 116 | 14 | 00 Hex | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 5 | Running average of baseline and noise for detector n° 0 to n° 11 | 117 | 1 | PSD acknowledgement | | | | | | | |
| | | 118 | 2 | 1B Hex | | | | | | | |
| | | 119 | 3 | E4860 | | | | | | | |
| | | 120 | 4 | E4900 | | | | | | | |
| | | 121 | 5 | E4861 | | | | | | | |
| | | 122 | 6 | E4901 | | | | | | | |
| | | 141 | 25 | E4871 | | | | | | | |
| | | 142 | 26 | E4911 | | | | | | | |
| | | 143 | 27 | 00 Hex | | | | | | | |
| | | 144 | 28 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 6 | Running average of baseline and noise for detector n° 12 to 18, soft and analogue control | 145 | 1 | PSD acknowledgement | | | | | | | |
| | | 146 | 2 | 1C Hex | | | | | | | |
| | | 147 | 3 | E4872 | | | | | | | |
| | | 148 | 4 | E4912 | | | | | | | |
| | | 149 | 5 | E4873 | | | | | | | |
| | | 150 | 6 | E4913 | | | | | | | |
| | | 159 | 15 | E4878 | | | | | | | |
| | | 160 | 16 | E4918 | | | | | | | |
| | | 161 | 17 | E4813 | | | | | | | |
| | | 162 | 18 | 00 Hex | | | | | | | |
| | | 163 | 19 | E4927 | E4926 | E4925 | E4924 | E4923 | E4922 | E4921 | E4920 |
| | | 164 | 20 | E4935 | E4934 | E4933 | E4932 | E4931 | E4930 | E4929 | E4928 |
| | | 165 | 21 | E4940 | | E4939 | | E4938 | | E4937 | |
| | | 166 | 22 | 0 | 0 | 0 | E4943 | E4942 | | E4941 | |
| | | 167 | 23 | E4814 | | | | | | | |
| | | 168 | 24 | E4814 | | | | | | | |
| | | 169 | 25 | 00 Hex | | | | | | | |
| | | 170 | 26 | 00 Hex | | | | | | | |
| | | 171 | 27 | 00 Hex | | | | | | | |
| | | 172 | 28 | CS | | | | | | | |

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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|----------|---|-----|---------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|--|
| 7 | Preampli temperature for detector n° 9 to 18 | 173 | 1 | AFEE acknowledgement | | | | | | | | |
| | | 174 | 2 | 18 Hex | | | | | | | | |
| | | 175 | 3 | 0 | 0 | 0 | 0 | E/F0219 | | | | |
| | | 176 | 4 | E/F0219 | | | | | | | | |
| | | 193 | 21 | 0 | 0 | 0 | 0 | E/F0228 | | | | |
| | | 194 | 22 | E/F0228 | | | | | | | | |
| | | 195 | 23 | 00 Hex | | | | | | | | |
| | | 196 | 24 | CS | | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|----------|---|-----|---------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|--|
| 8 | Analogue digital converter temperature for detector n° 9 to 18 | 197 | 1 | AFEE acknowledgement | | | | | | | | |
| | | 198 | 2 | 19 Hex | | | | | | | | |
| | | 199 | 3 | 0 | 0 | 0 | 0 | E/F0339 | | | | |
| | | 200 | 4 | E/F0339 | | | | | | | | |
| | | 217 | 21 | 0 | 0 | 0 | 0 | E/F0348 | | | | |
| | | 218 | 22 | E/F0348 | | | | | | | | |
| | | 219 | 23 | 00 Hex | | | | | | | | |
| | | 220 | 24 | CS | | | | | | | | |

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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|----------|------------------------|-----|---------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|---------|
| 9 | Cryogenic temperatures | 221 | 1 | AFEE acknowledgement | | | | | | | | |
| | | 222 | 2 | 21 Hex | | | | | | | | |
| | | 223 | 3 | E0399 | | | | | | | | |
| | | 224 | 4 | 0 | 0 | 0 | 0 | | | | | E/F0391 |
| | | 225 | 5 | E/F0391 | | | | | | | | E/F0391 |
| | | 226 | 6 | 0 | 0 | 0 | 0 | | | | | E/F0392 |
| | | 227 | 7 | E/F0392 | | | | | | | | E/F0392 |
| | | 228 | 8 | 0 | 0 | 0 | 0 | | | | | E/F0393 |
| | | 229 | 9 | E/F0393 | | | | | | | | E/F0393 |
| | | 230 | 10 | 0 | 0 | 0 | 0 | | | | | E/F0394 |
| | | 231 | 11 | E/F0394 | | | | | | | | E/F0394 |
| | | 232 | 12 | 0 | 0 | 0 | 0 | | | | | E/F0395 |
| | | 233 | 13 | E/F0395 | | | | | | | | E/F0395 |
| | | 234 | 14 | 0 | 0 | 0 | 0 | | | | | E/F0396 |
| | | 235 | 15 | E/F0396 | | | | | | | | E/F0396 |
| | | 236 | 16 | 0 | 0 | 0 | 0 | | | | | E/F0397 |
| | | 237 | 17 | E/F0397 | | | | | | | | E/F0397 |
| | | 238 | 18 | 0 | 0 | 0 | 0 | | | | | E/F0398 |
| | | 239 | 19 | E/F0398 | | | | | | | | E/F0398 |
| | | 240 | 20 | CS | | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|-----|---------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 10 | HK technological parameters transmitted by analogue channels | 241 | 1 | E3981 | | | | | | | |
| | | 242 | 2 | E3982 | | | | | | | |
| | | 243 | 3 | E3983 | | | | | | | |
| | | 244 | 4 | E3984 | | | | | | | |
| | | 245 | 5 | E/F3986 | | | | | | | |
| | | 246 | 6 | E/F3988 | | | | | | | |
| | | 247 | 7 | E/F3991 | | | | | | | |
| | | 248 | 8 | E/F3992 | | | | | | | |
| | | 249 | 9 | E/F3993 | | | | | | | |
| | | 250 | 10 | E/F3994 | | | | | | | |
| | | 251 | 11 | E/F3995 | | | | | | | |
| | | 252 | 12 | E/F3996 | | | | | | | |
| | | 253 | 13 | E/F3997 | | | | | | | |
| | | 254 | 14 | E/F3999 | | | | | | | |
| | | 255 | 15 | E/F4000 | | | | | | | |
| | | 256 | 16 | 00 Hex | | | | | | | |



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1.4.1.5. 3840 seconds acquired parameters

| TPN n° | Name |
|-----------------|----------------|
| PKT_63841/68841 | tm_480-cycle_1 |

| Packet Header | | | | | | | Data Field Header | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------|-------------------|---------------|------|--|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1025/1153 | b 11 | | 433 | 1 | 9 | | 1 - 01 Hex 2 - 02 Hex 3 - 03 Hex 4 - 04 Hex 5 - 02 Hex 6 - 03 Hex 7 - 01 Hex 8 - 01 Hex 9 - 02 Hex 10 - 03 Hex 11 - 04 Hex 12 - 05 Hex 13 - 06 Hex 14 - 07 Hex 15 - 08 Hex |
| | | | | | | (426) | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|----|---------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 1 | AFEE high voltage configuration for detector n° 0 to 18 | 1 | 1 | AFEE acknowledgement | | | | | | | |
| | | 2 | 2 | 01 Hex | | | | | | | |
| | | 3 | 3 | E/F0010 | | | | | | | |
| | | 21 | 21 | E/F0028 | | | | | | | |
| | | 22 | 22 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|----|---------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 2 | Low threshold configuration for detector n° 0 to 18 | 23 | 1 | AFEE acknowledgement | | | | | | | |
| | | 24 | 2 | 02 Hex | | | | | | | |
| | | 25 | 3 | E/F0030 | | | | | | | |
| | | 43 | 23 | E/F0048 | | | | | | | |
| | | 44 | 22 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|----|---------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 3 | Chain parameter configuration for detector n° 0 to 18 | 45 | 1 | AFEE acknowledgement | | | | | | | |
| | | 46 | 2 | 03 Hex | | | | | | | |
| | | 47 | 3 | E0050 | E0070 | E0090 | E0130 | E0150 | 0 | 0 | 0 |
| | | 65 | 21 | E0068 | E0088 | E0108 | E0148 | E0168 | 0 | 0 | 0 |
| | | 66 | 22 | CS | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|----|---------|--------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 4 | Chain ON/OFF configuration and regeneration for detector n° 1 to 18 | 67 | 1 | AFEE acknowledgement 04 Hex | | | | | | | |
| | | 68 | 2 | E0177 | E0176 | E0175 | E0174 | E0173 | E0172 | E0171 | E0170 |
| | | 70 | 3 | E0185 | E0184 | E0183 | E0182 | E0181 | E0180 | E0179 | E0178 |
| | | 71 | 4 | 0 | 0 | 0 | 0 | 0 | E0188 | E0187 | E0186 |
| | | 72 | 5 | E0197 | E0196 | E0195 | E0194 | E0193 | E0192 | E0191 | E0190 |
| | | 73 | 6 | E0205 | E0204 | E0203 | E0202 | E0201 | E0200 | E0199 | E0198 |
| | | 74 | 7 | 0 | 0 | 0 | 0 | 0 | E0208 | E0207 | E0206 |
| | | 75 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | E0209 |
| | | 76 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 77 | 10 | E/F0003 | | | | | | | |
| | | 78 | 11 | E/F0004 | | | | | | | |
| | | | 12 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|----|---------|--------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 5 | Front end lines reset and parameters settings for: dead time calculation, association, acquisition algorithm, HSL configuration | 79 | 1 | DFEE acknowledgement 02 Hex | | | | | | | |
| | | 80 | 2 | E2701 | E2702 | E2703 | E2722 | E2721 | E2720 | E2719 | E2718 |
| | | 81 | 3 | E2717 | E2716 | E2715 | E2714 | E2713 | E2712 | E2711 | E2710 |
| | | 82 | 4 | E2709 | E2708 | E2707 | E2706 | E2705 | E2704 | E2723 | E2742 |
| | | 83 | 5 | E2741 | E2740 | E2739 | E2738 | E2737 | E2736 | E2735 | E2734 |
| | | 84 | 6 | E2733 | E2732 | E2731 | E2730 | E2729 | E2728 | E2727 | E2726 |
| | | 85 | 7 | E2725 | E2724 | E2743 | E2744 | E2745 | E2746 | E2747 | E2748 |
| | | 86 | 8 | E2749 | E2750 | E2751 | E2787 | | | E2786 | |
| | | 87 | 9 | | | E2753 | | | | E2788 | |
| | | 88 | 10 | E2775 | E2774 | E2773 | E2772 | E2771 | E2770 | E2769 | E2756 |
| | | 89 | 11 | E2767 | E2766 | E2765 | E2764 | E2763 | E2762 | E2761 | E2768 |
| | | 90 | 12 | E2759 | E2758 | E2757 | | | E2776 | | E2760 |
| | | 91 | 13 | E2777 | E2778 | E2779 | E2780 | E2784 | E2781 | E2785 | E2782 |
| | | 92 | 14 | LSBcont' | 1 | 1 | 0 | | | MSB | |
| | | 93 | 15 | | | | E2783 | | | | |
| | | 94 | 16 | | | LSB | | 0 | 0 | 0 | 1 |
| | | 95 | 17 | | | | | | | | |
| | | 96 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 97 | 19 | 00 Hex | | | | | | | |
| | | 98 | 20 | CS | | | | | | | |

E2752 E2754 E2755 deleted

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|----------|--|-----|---------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|---|---|
| 6 | Definition of ASIC parameters for Front End signal alignment and veto gate adjustment | 99 | 1 | DFEE acknowledgement | | | | | | | | | |
| | | 100 | 2 | 03 Hex | | | | | | | | | |
| | | 101 | 3 | E2838 | | | | E2818 | | | | | |
| | | 102 | 4 | E2837 | | | | E2817 | | | | | |
| | | 118 | 20 | E2821 | | | | E2801 | | | | | |
| | | 119 | 21 | E2820 | | | | E2800 | | | | | |
| | | 120 | 22 | E2840 | | | | MSB | E2841 | | | | |
| | | 121 | 23 | LSB | MSB | | | | E2842 | | | | |
| | | 122 | 24 | LSB | MSB | | | | E2844 | | | | |
| | | 123 | 25 | LSB | MSB | | | | E2845 | | | | |
| | | 124 | 26 | LSB | E2843 | | | | 1 | | | | |
| | | 125 | 27 | 1 | 1 | E2848 | | | | 0 | 0 | 0 | 0 |
| | | 126 | 28 | CS | | | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---------------------|-----|---------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 7 | Software parameters | 127 | 1 | DFEE acknowledgement | | | | | | | |
| | | 128 | 2 | 01 Hex | | | | | | | |
| | | 129 | 3 | 0 | E2697 | E2698 | E2699 | E2700 | | | |
| | | 130 | 4 | 2 | | | | | | | |
| | | 131 | 5 | 0 | 0 | 0 | E2695 | E2696 | | | |
| | | 155 | 29 | 00 Hex | | | | | | | |
| | | 156 | 30 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 8 | System Service 1 (watchdog, test config, response, HV conf) FEE n° 0 to 30 | 157 | 1 | ACS acknowledgement | | | | | | | |
| | | 158 | 2 | 01 Hex | | | | | | | |
| | | 159 | 3 | 0 | 0 | 0 | E0500 | E1000 | | E0600 | E0700 |
| | | 189 | 33 | 0 | 0 | 0 | E0530 | E1030 | | E0630 | E0730 |
| | | 190 | 34 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 9 | System Service 2 (watchdog, test config, response, HV conf) FEE n° 31 to 61 | 191 | 1 | ACS acknowledgement | | | | | | | |
| | | 192 | 2 | 02 Hex | | | | | | | |
| | | 193 | 3 | 0 | 0 | 0 | E0531 | E1031 | E0631 | E0731 | |
| | | 223 | 33 | 0 | 0 | 0 | E0561 | E1061 | E0661 | E0761 | |
| | | 224 | 34 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 10 | System Service 3 (watchdog, test config, response, HV conf) FEE n° 62 to 91 | 225 | 1 | ACS acknowledgement | | | | | | | |
| | | 226 | 2 | 03 Hex | | | | | | | |
| | | 227 | 3 | 0 | 0 | 0 | E0562 | E1062 | E0662 | E0762 | |
| | | 255 | 31 | 0 | 0 | 0 | E0590 | E1090 | E0690 | E0790 | |
| | | 256 | 32 | 0 | 0 | 0 | E0591 | E0592 | E1091 | 0 | E0791 |
| | | 257 | 33 | 00 Hex | | | | | | | |
| | | 258 | 34 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---------------------------------------|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 11 | Veto generation condition FEE 0 to 30 | 259 | 1 | ACS acknowledgement | | | | | | | |
| | | 260 | 2 | 04 Hex | | | | | | | |
| | | 261 | 3 | 0 | 0 | 0 | E0400 | E1200 | E1100 | E0900 | E0800 |
| | | 291 | 33 | 0 | 0 | 0 | E0430 | E1230 | E1130 | E0930 | E0830 |
| | | 292 | 34 | CS | | | | | | | |

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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 12 | Veto generation condition FEE 31 to 61 | 293 | 1 | ACS acknowledgement | | | | | | | |
| | | 294 | 2 | 05 Hex | | | | | | | |
| | | 295 | 3 | 0 | 0 | 0 | E0431 | E1231 | E1131 | E0931 | E0831 |
| | | 325 | 33 | 0 | 0 | 0 | E0461 | E1261 | E1161 | E0961 | E0861 |
| | | 326 | 34 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 13 | Veto generation condition FEE 62 to 91 | 327 | 1 | ACS acknowledgement | | | | | | | |
| | | 328 | 2 | 06 Hex | | | | | | | |
| | | 329 | 3 | 0 | 0 | 0 | E0462 | E1262 | E1162 | E0962 | E0862 |
| | | 357 | 32 | 0 | 0 | 0 | E0490 | E1290 | E1190 | E0990 | E0890 |
| | | 358 | 32 | 0 | 0 | 0 | 0 | 0 | E1191 | E0991 | E0891 |
| | | 359 | 33 | 00 Hex | | | | | | | |
| | | 360 | 34 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|----------|--------------------------------|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|--|
| 14 | Rate meter setting FEE 0 to 30 | 361 | 1 | ACS acknowledgement | | | | | | | | |
| | | 362 | 2 | 07 Hex | | | | | | | | |
| | | 363 | 3 | 0 | 0 | 0 | E2500 | E1300 | | | | |
| | | 393 | 33 | 0 | 0 | 0 | E2530 | E1330 | | | | |
| | | 394 | 34 | CS | | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|----------|---------------------------------|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|--|
| 15 | Rate meter setting FEE 31 to 61 | 395 | 1 | ACS acknowledgement | | | | | | | | |
| | | 396 | 2 | 08 Hex | | | | | | | | |
| | | 397 | 3 | 0 | 0 | 0 | E2531 | E1331 | | | | |
| | | | | | | | | | | | | |
| | | 427 | 33 | 0 | 0 | 0 | E2561 | E1361 | | | | |
| | | 428 | 34 | CS | | | | | | | | |



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| TPN n° | Name |
|-----------------|----------------|
| PKT_63842/68842 | tm_480-cycle_2 |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------------|--|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1025/1153 | b 11 | | 433 | 1 | 10 | | 1 - 09 Hex 2 - 0A Hex 3 - 0B Hex 4 - 0C Hex 5 - 0D Hex 6 - 0E Hex 7- 0F Hex 8 - 10 Hex 9 - 11 Hex 10 - 12 Hex 11 - 13 Hex 12 - 14 Hex 13 - 15 Hex 14 - 16 Hex |
| | | | | | | (414) | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---------------------------------|----|---------|---------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Rate meter setting FEE 62 to 91 | 1 | 1 | ACS acknowledgement | | | | | | | |
| | | 2 | 2 | 09 Hex | | | | | | | |
| | | 3 | 3 | 0 | 0 | 0 | E2562 | E1362 | | | |
| | | | | | | | | | | | |
| | | 31 | 31 | 0 | 0 | 0 | E2590 | E1390 | | | |
| | | 32 | 32 | 0 | 0 | 0 | 0 | E1391 | | | |
| | | 33 | 33 | | | | | | | | |
| | | 34 | 34 | 00 Hex CS | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|------------------------------------|----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 2 | Veto delay setting for FEE 0 to 30 | 35 | 1 | ACS acknowledgement | | | | | | | |
| | | 36 | 2 | 0A Hex | | | | | | | |
| | | 37 | 3 | E1401 | | | | E1400 | | | |
| | | 52 | 18 | 0 | | | | E1430 | | | |
| | | 53 | 19 | 00 Hex | | | | | | | |
| | | 54 | 20 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---------------------------------|----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 3 | Veto delay setting FEE 31 to 61 | 55 | 1 | ACS acknowledgement | | | | | | | |
| | | 56 | 2 | 0B Hex | | | | | | | |
| | | 57 | 3 | E1432 | | | | E1431 | | | |
| | | 72 | 18 | 0 | | | | E1461 | | | |
| | | 73 | 19 | 00 Hex | | | | | | | |
| | | 74 | 20 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---------------------------------|----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 4 | Veto delay setting FEE 62 to 91 | 75 | 1 | ACS acknowledgement | | | | | | | |
| | | 76 | 2 | 0C Hex | | | | | | | |
| | | 77 | 3 | E1463 | | | | E1462 | | | |
| | | 91 | 17 | E1491 | | E1492 | | E1490 | | | |
| | | 92 | 18 | CS | | | | | | | |

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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 5 | Event trigger threshold conf FEE 0 to 30 | 93 | 1 | ACS acknowledgement | | | | | | | |
| | | 94 | 2 | 0D Hex | | | | | | | |
| | | 95 | 3 | E1500 | | | | | | | |
| | | 125 | 33 | E1530 | | | | | | | |
| | | 126 | 34 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 6 | Event trigger threshold conf FEE 31 to 61 | 127 | 1 | ACS acknowledgement | | | | | | | |
| | | 128 | 2 | 0E Hex | | | | | | | |
| | | 129 | 3 | E1531 | | | | | | | |
| | | 159 | 33 | E1561 | | | | | | | |
| | | 160 | 34 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 7 | Event trigger threshold conf FEE 62 to 91 | 161 | 1 | ACS acknowledgement | | | | | | | |
| | | 162 | 2 | 0F Hex | | | | | | | |
| | | 163 | 3 | E1562 | | | | | | | |
| | | 192 | 32 | E1591 | | | | | | | |
| | | 193 | 33 | 00 Hex | | | | | | | |
| | | 194 | 34 | CS | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---------------------------------------|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 8 | Energy discriminator conf FEE 0 to 30 | 195 | 1 | ACS acknowledgement | | | | | | | |
| | | 196 | 2 | 10 Hex | | | | | | | |
| | | 197 | 3 | E1600 | | | | | | | |
| | | 227 | 33 | E1630 | | | | | | | |
| | | 228 | 34 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 9 | Energy discriminator conf FEE 31 to 61 | 229 | 1 | ACS acknowledgement | | | | | | | |
| | | 230 | 2 | 11 Hex | | | | | | | |
| | | 231 | 3 | E1631 | | | | | | | |
| | | 261 | 33 | E1661 | | | | | | | |
| | | 262 | 34 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 10 | Energy discriminator conf FEE 62 to 91 | 263 | 1 | ACS acknowledgement | | | | | | | |
| | | 264 | 2 | 12 Hex | | | | | | | |
| | | 265 | 3 | E1662 | | | | | | | |
| | | 294 | 32 | E1691 | | | | | | | |
| | | 295 | 33 | 00 Hex | | | | | | | |
| | | 296 | 34 | CS | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|-------------------------------|-----|---------|-------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 11 | High voltage conf FEE 0 to 30 | 297 | 1 | ACS acknowledgement 13 Hex | | | | | | | |
| | | 298 | 2 | | | | | | | | |
| | | 299 | 3 | E1700 | | | | | | | |
| | | 323 | 33 | E1730 | | | | | | | |
| | | 330 | 34 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--------------------------------|-----|---------|-------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 12 | High voltage conf FEE 31 to 61 | 331 | 1 | ACS acknowledgement 14 Hex | | | | | | | |
| | | 332 | 2 | | | | | | | | |
| | | 333 | 3 | E1731 | | | | | | | |
| | | 363 | 33 | E1761 | | | | | | | |
| | | 364 | 34 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--------------------------------|-----|---------|-------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 13 | High voltage conf FEE 62 to 91 | 365 | 1 | ACS acknowledgement 15 Hex | | | | | | | |
| | | 366 | 2 | | | | | | | | |
| | | 367 | 3 | E1762 | | | | | | | |
| | | 396 | 32 | E1791 | | | | | | | |
| | | 397 | 33 | E1792 | | | | | | | |
| | | 398 | 34 | CS | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 14 | Veto pulse width and veto mask configuration for FEE 0 to 91 Overall veto masked setting | 399 | 1 | ACS acknowledgement | | | | | | | |
| | | 400 | 2 | 16 Hex | | | | | | | |
| | | 401 | 3 | E1898 | | | | | | | |
| | | 402 | 4 | E1807 | E1806 | E1805 | E1804 | E1803 | E1802 | E1801 | E1800 |
| | | 413 | 15 | E2000 | 0 | E2025 | E2001 | E1891 | E1890 | E1889 | E1888 |
| | | 414 | 16 | CS | | | | | | | |



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| TPN n° | Name |
|-----------------|----------------|
| PKT_63843/68843 | tm_480-cycle_3 |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------------|---|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1025/1153 | b 11 | | 433 | 1 | 11 | | 1 - 01 Hex 2 - 02 Hex 3 - 03 Hex 4 - 04 Hex 5 - 05 Hex 6 - 06 Hex 7 - 07 Hex 8 - 08 Hex 9 - 09 Hex 10 - 0A Hex 11 - 00 Hex 12 - 01 Hex 13 - 02 Hex 14 - 40 Hex |
| | | | | | | (340) | | | | |

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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--------------------------|----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 1 | Detector enable settings | 1 | 1 | PSD acknowledgement | | | | | | | |
| | | 2 | 2 | 01 Hex | | | | | | | |
| | | 3 | 3 | E3657 | E3656 | E3655 | E3654 | E3653 | E3652 | E3651 | E3650 |
| | | 4 | 4 | E3665 | E3664 | E3663 | E3662 | E3661 | E3660 | E3659 | E3658 |
| | | 5 | 5 | E3604 | | E3603 | E3602 | E3601 | E3600 | E3600 | E3600 |
| | | 6 | 6 | 0 | 0 | 0 | E3607 | E3606 | E3606 | E3605 | E3605 |
| | | 7 | 7 | E3617 | E3616 | E3615 | E3614 | E3613 | E3612 | E3611 | E3610 |
| | | 8 | 8 | E3625 | E3624 | E3623 | E3622 | E3621 | E3620 | E3619 | E3618 |
| | | 9 | 9 | E3630 | | E3629 | E3628 | E3627 | E3626 | E3625 | E3624 |
| | | 10 | 10 | 0 | 0 | 0 | E3633 | E3632 | E3631 | E3630 | E3629 |
| | | 11 | 11 | 00 Hex | | | | | | | |
| | | 12 | 12 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 2 | Low threshold for energy (channel n° 0 to n° 8) | 13 | 1 | PSD acknowledgement | | | | | | | |
| | | 14 | 2 | 02 Hex | | | | | | | |
| | | 15 | 3 | E3758 | | | | | | | |
| | | 16 | 4 | 00 Hex | | | | | | | |
| | | 17 | 5 | E3670 | | | | | | | |
| | | 18 | 6 | E3670 | | | | | | | |
| | | 19 | 7 | E3671 | | | | | | | |
| | | 33 | 21 | E3678 | | | | | | | |
| | | 34 | 22 | E3678 | | | | | | | |
| | | 35 | 23 | 00 Hex | | | | | | | |
| | | 36 | 24 | CS | | | | | | | |

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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|----------|---|----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|--|--|
| 3 | Low threshold for energy (channel n° 9 to n° 18) | 37 | 1 | PSD acknowledgement | | | | | | | | | |
| | | 38 | 2 | 03 Hex | | | | | | | | | |
| | | 39 | 3 | E3679 | | | | | | | | | |
| | | 40 | 4 | E3679 | | | | | | | | | |
| | | 41 | 5 | E3680 | | | | | | | | | |
| | | 42 | 6 | E3680 | | | | | | | | | |
| | | 43 | 7 | E3681 | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | 57 | 21 | E3688 | | | | | | | |
| | | | | 58 | 22 | E3688 | | | | | | | |
| | | 59 | 23 | 00 Hex | | | | | | | | | |
| | | 60 | 24 | CS | | | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|----------|---|----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|--|--|
| 4 | High threshold for energy (channel n° 0 to n° 8) | 61 | 1 | PSD acknowledgement | | | | | | | | | |
| | | 62 | 2 | 04 Hex | | | | | | | | | |
| | | 63 | 3 | 00 Hex | | | | | | | | | |
| | | 64 | 4 | 00 Hex | | | | | | | | | |
| | | 65 | 5 | E3690 | | | | | | | | | |
| | | 66 | 6 | E3690 | | | | | | | | | |
| | | 67 | 7 | E3691 | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | 81 | 21 | E3698 | | | | | | | |
| | | | | 82 | 22 | E3698 | | | | | | | |
| | | 83 | 23 | 00 Hex | | | | | | | | | |
| | | 84 | 24 | CS | | | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 5 | High threshold for energy (channel n° 9 to n° 18) | 85 | 1 | PSD acknowledgement | | | | | | | |
| | | 86 | 2 | 05 Hex | | | | | | | |
| | | 87 | 3 | E3699 | | | | | | | |
| | | 88 | 4 | E3699 | | | | | | | |
| | | 89 | 5 | E3700 | | | | | | | |
| | | 90 | 6 | E3700 | | | | | | | |
| | | 91 | 7 | E3701 | | | | | | | |
| | | | | | | | | | | | |
| | | 105 | 21 | E3708 | | | | | | | |
| | | 106 | 22 | E3708 | | | | | | | |
| | | 107 | 23 | 00 Hex | | | | | | | |
| | | 108 | 24 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|-------------|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 6 | A/D offsets | 109 | 1 | PSD acknowledgement | | | | | | | |
| | | 110 | 2 | 06 Hex | | | | | | | |
| | | 111 | 3 | E3643 | | | | | | | |
| | | 112 | 4 | E3647 | | | | | | | |
| | | 113 | 5 | E3644 | | | | | | | |
| | | 114 | 6 | E3648 | | | | | | | |
| | | 115 | 7 | E3645 | | | | | | | |
| | | 116 | 8 | E3649 | | | | | | | |
| | | 117 | 9 | E3646 | | | | | | | |
| | | 118 | 10 | E3709 | | | | | | | |
| | | 119 | 11 | 00 Hex | | | | | | | |
| | | 120 | 12 | CS | | | | | | | |

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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 7 | Definition of library selection and control n° 1 Detector n° 0 to n° 6 | 121 | 1 | PSD acknowledgement | | | | | | | |
| | | 122 | 2 | 07 Hex | | | | | | | |
| | | 123 | 3 | | | | | | | | |
| | | 124 | 4 | | | | | | | | |
| | | 125 | 5 | | | | | | | | |
| | | 126 | 6 | | | | | | | | |
| | | 127 | 7 | | | | | | | | |
| | | 128 | 8 | | | | | | | | |
| | | 129 | 9 | | | | | | | | |
| | | 130 | 10 | | | | | | | | |
| | | 131 | 11 | | | | | | | | |
| | | 132 | 12 | | | | | | | | |
| | | 133 | 13 | | | | | | | | |
| | | 134 | 14 | | | | | | | | |
| | | 135 | 15 | | | | | | | | |
| | | 136 | 16 | | | | | | | | |
| | | 137 | 17 | | | | | | | | |
| | | 138 | 18 | | | | | | | | |
| | | 139 | 19 | | | | | | | | |
| | | 140 | 20 | | | | | | | | |
| | | 141 | 21 | | | | | | | | |
| | | 142 | 22 | | | | | | | | |
| | | 143 | 23 | | | | | | | | |
| | | 144 | 24 | | | | | | | | |
| | | 145 | 25 | | | | | | | | |
| | | 146 | 26 | | | | | | | | |
| | | 147 | 27 | | | | | | | | |
| | | 148 | 28 | | | | | | | | |
| | | 149 | 29 | | | | | | | | |
| | | 150 | 30 | | | | | | | | |
| | | | | 00 Hex | | | | | | | |
| | | | | CS | | | | | | | |

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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|----------|--|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|-------|
| 8 | Definition of library selection and control n° 2 Detector n° 7 to n° 12 | 151 | 1 | PSD acknowledgement | | | | | | | | |
| | | 152 | 2 | 08 Hex | | | | | | | | |
| | | 153 | 3 | | | | | E3743 | | | | |
| | | 154 | 4 | | | | | E3744 | | | | |
| | | 155 | 5 | | | E3291 | | | | | E3290 | |
| | | 156 | 6 | | | | | E3292 | | | | |
| | | 157 | 7 | | | | | E3293 | | | | |
| | | 158 | 8 | | | | | E3294 | | | | |
| | | 159 | 9 | | | E3296 | | | | | E3295 | |
| | | 160 | 10 | | | | | E3297 | | | | |
| | | 161 | 11 | | | | | E3298 | | | | |
| | | 162 | 12 | | | | | E3299 | | | | |
| | | 163 | 13 | | | | E3311 | | | | | E3310 |
| | | 164 | 14 | | | | | E3312 | | | | |
| | | 165 | 15 | | | | | E3313 | | | | |
| | | 166 | 16 | | | | | E3314 | | | | |
| | | 167 | 17 | | | E3316 | | | | | | E3315 |
| | | 168 | 18 | | | | | E3317 | | | | |
| | | 169 | 19 | | | | | E3318 | | | | |
| | | 170 | 20 | | | | | E3319 | | | | |
| | | 171 | 21 | | | E3502 | | | | | | E3501 |
| | | 172 | 22 | | | | | E3503 | | | | |
| | | 173 | 23 | | | | | E3504 | | | | |
| | | 174 | 24 | | | | | E3505 | | | | |
| | | 175 | 25 | | | E3507 | | | | | | E3506 |
| | | 176 | 26 | | | | | E3508 | | | | |
| | | 177 | 27 | | | | | E3509 | | | | |
| | | 178 | 28 | | | | | E3510 | | | | |
| 179 | 29 | | | 00 Hex | | | | | | | | |
| 180 | 30 | | | CS | | | | | | | | |

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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|-------|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 9 | Definition of library selection and control n° 3 Detector n° 13 to n° 18 | 181 | 1 | PSD acknowledgement | | | | | | | |
| | | 182 | 2 | 09 Hex | | | | | | | |
| | | 183 | 3 | | | | | | | | |
| | | 184 | 4 | E3521 | | E3522 | | E3520 | | | |
| | | 185 | 5 | | | E3523 | | | | | |
| | | 186 | 6 | | | E3524 | | | | | |
| | | 187 | 7 | E3526 | | | | E3525 | | | |
| | | 188 | 8 | | | E3527 | | | | | |
| | | 189 | 9 | | | E3528 | | | | | |
| | | 190 | 10 | | | E3529 | | | | | |
| | | 191 | 11 | E3534 | | | | E3533 | | | |
| | | 192 | 12 | | | E3535 | | | | | |
| | | 193 | 13 | | | E3536 | | | | | |
| | | 194 | 14 | | | E3537 | | | | | |
| | | 195 | 15 | E3539 | | | | E3538 | | | |
| | | 196 | 16 | | | E3540 | | | | | |
| | | 197 | 17 | | | E3541 | | | | | |
| | | 198 | 18 | | | E3542 | | | | | |
| | | 199 | 19 | E3553 | | | | E3552 | | | |
| | | 200 | 20 | | | E3554 | | | | | |
| 201 | 21 | | | E3555 | | | | | | | |
| 202 | 22 | | | E3556 | | | | | | | |
| 203 | 23 | E3558 | | | | E3557 | | | | | |
| 204 | 24 | | | E3559 | | | | | | | |
| 205 | 25 | | | E3560 | | | | | | | |
| 206 | 26 | | | E3561 | | | | | | | |
| 207 | 27 | | | 00 Hex | | | | | | | |
| 208 | 28 | | | 00 Hex | | | | | | | |
| 209 | 29 | | | 00 Hex | | | | | | | |
| 210 | 30 | | | CS | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 10 | Definition of curve transmission rates | 211 | 1 | PSD acknowledgement | | | | | | | |
| | | 212 | 2 | 0A Hex | | | | | | | |
| | | 213 | 3 | E3893 | | | | | | | |
| | | 214 | 4 | E3894 | | | | | | | |
| | | 215 | 5 | E3895 | | | | | | | |
| | | 216 | 6 | E3896 | | | | | | | |
| | | 217 | 7 | 00 Hex | | | | | | | |
| | | 218 | 8 | CS | | | | | | | |

E3749 E3750 E3751 E3752 deleted

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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|-----|---------|--------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 11 | Non exposure parameters for IASW configuration cyclical acquisition | 219 | 1 | <i>IASW TBD</i> | | | | | | | |
| | | 220 | 2 | 00 Hex | | | | | | | |
| | | 221 | 3 | E/F3936 | | | | | | | |
| | | 222 | 4 | E/F3936 | | | | | | | |
| | | 223 | 5 | E/F3937 | | | | | | | |
| | | 224 | 6 | E/F3937 | | | | | | | |
| | | 225 | 7 | E/F3938 | | | | | | | |
| | | 226 | 8 | E/F3938 | | | | | | | |
| | | 227 | 9 | E/F3939 | | | | | | | |
| | | 228 | 10 | E/F3939 | | | | | | | |
| | | 229 | 11 | E/F3940 | | | | | | | |
| | | 230 | 12 | E/F3940 | | | | | | | |
| | | 231 | 13 | E/F3941 | | | | | | | |
| | | 232 | 14 | E/F3941 | | | | | | | |
| | | 233 | 15 | E/F3942 | | | | | | | |
| | | 234 | 16 | E/F3942 | | | | | | | |
| | | 235 | 17 | E/F3943 | | | | | | | |
| | | 236 | 18 | E/F3943 | | | | | | | |
| | | 237 | 19 | E/F3944 | | | | | | | |
| | | 238 | 20 | E/F3944 | | | | | | | |
| | | 239 | 21 | Spare = FF | | | | | | | |
| | | 240 | 22 | Spare = FF | | | | | | | |
| | | 241 | 23 | E/F3946 | | | | | | | |
| | | 242 | 24 | E/F3946 | | | | | | | |
| | | 243 | 25 | E/F3953 Eclipse detection capability | | | | | | | |
| | | 244 | 26 | E/F3953 Eclipse detection capability | | | | | | | |
| | | 245 | 27 | E/F3947 Delay before radiation belts | | | | | | | |
| | | 246 | 28 | E/F3947 Delay before radiation belts | | | | | | | |
| | | 247 | 29 | E/F3947 Delay before radiation belts | | | | | | | |
| | | 248 | 30 | E/F3947 Delay before radiation belts | | | | | | | |
| | | 249 | 31 | E/F3950 Delay after radiation belts | | | | | | | |
| | | 250 | 32 | E/F3950 Delay after radiation belts | | | | | | | |
| | | 251 | 33 | E/F3950 Delay after radiation belts | | | | | | | |
| | | 252 | 34 | E/F3950 Delay after radiation belts | | | | | | | |
| | | 253 | 35 | E/F3954 Delay before eclipse | | | | | | | |
| | | 254 | 36 | E/F3954 Delay before eclipse | | | | | | | |
| | | 255 | 37 | E/F3954 Delay before eclipse | | | | | | | |
| | | 256 | 38 | E/F3954 Delay before eclipse | | | | | | | |
| | | 257 | 39 | E/F3949 ACS ROM-RAM delay | | | | | | | |
| | | 258 | 40 | E/F3952 PSD ROM-RAM delay | | | | | | | |
| | | 259 | 41 | E/F3956 DFEE ROM-RAM delay | | | | | | | |
| | | 260 | 42 | Spare = FF | | | | | | | |
| | | 261 | 43 | Spare = FF | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|-----|---------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 12 | Exposure parameters for IASW configuration cyclical acquisition | 305 | 1 | IASW | | | | | | | |
| | | 306 | 2 | 01 Hex | | | | | | | |
| | | 307 | 3 | 00 Hex | | | | | | | |
| | | 308 | 4 | E/F3975 | | | | | | | |
| | | 309 | 5 | E/F3976 | | | | | | | |
| | | 310 | 6 | E/F3976 | | | | | | | |
| | | 311 | 7 | 00 Hex | | | | | | | |
| | | 312 | 8 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|-----|---------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 13 | IASW On-Off configuration cyclical acquisition | 313 | 1 | IASW | | | | | | | |
| | | 314 | 2 | 02 Hex | | | | | | | |
| | | 315 | 3 | E/F3900 | | | | | | | |
| | | 316 | 4 | E/F3900 | | | | | | | |
| | | 317 | 5 | E/F3902 | | | | | | | |
| | | 318 | 6 | E/F3902 | | | | | | | |
| | | 319 | 7 | E/F3903 | | | | | | | |
| | | 320 | 8 | E/F3903 | | | | | | | |
| | | 321 | 9 | E/F3901 | | | | | | | |
| | | 322 | 10 | E/F3901 | | | | | | | |
| | | 323 | 11 | 00 Hex | | | | | | | |
| | | 324 | 12 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---------------------------------------|-----|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 14 | ISB communication status for each FEE | 325 | 1 | ACS acknowledgement | | | | | | | |
| | | 326 | 2 | 40 Hex | | | | | | | |
| | | 327 | 3 | E2407 | E2406 | E2405 | E2404 | E2403 | E2402 | E2401 | E2400 |
| | | 328 | 4 | E2415 | E2414 | E2413 | E2412 | E2411 | E2410 | E2409 | E2408 |
| | | | | | | | | | | | |
| | | 338 | 14 | 0 | 0 | 0 | 0 | E2491 | E2490 | E2489 | E2488 |
| | | 339 | 15 | 00 Hex | | | | | | | |
| | | 340 | 16 | CS | | | | | | | |



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| TPN n° | Name |
|-----------------|----------------|
| PKT_63844/68844 | tm_cyclic-diag |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------------|--|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1025/1153 | b 11 | | 433 | 1 | 12 | | 1 - 10 Hex 2 - 11 Hex 3 - 12 Hex 4 - 13 Hex 5 - 14 Hex 6 - 15 Hex |
| | | | | | | (216) | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|----------------------------------|----|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Diagnostic tables definition n°1 | 1 | 1 | IASW | | | | | | | |
| | | 2 | 2 | 10 Hex | | | | | | | |
| | | 3 | 3 | E1901 | | | | | | | |
| | | 4 | 4 | E3401 | | | | | | | |
| | | 5 | 5 | E1902 | | | | | | | |
| | | 6 | 6 | E3402 | | | | | | | |
| | | | | | | | | | | | |
| | | 33 | 33 | E1916 | | | | | | | |
| | | 34 | 34 | E3416 | | | | | | | |
| | | 35 | 35 | 00 Hex | | | | | | | |
| | | 36 | 36 | CS | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|-----------------------------------|----|---------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 2 | Diagnostic tables definition n° 2 | 1 | 37 | IASW | | | | | | | |
| | | 2 | 38 | 11 Hex | | | | | | | |
| | | 3 | 39 | E1917 | | | | | | | |
| | | 4 | 40 | E3417 | | | | | | | |
| | | 5 | 41 | E1918 | | | | | | | |
| | | 6 | 42 | E3418 | | | | | | | |
| | | | | | | | | | | | |
| | | 33 | 69 | E1932 | | | | | | | |
| | | 34 | 70 | E3432 | | | | | | | |
| | | 35 | 71 | 00 Hex | | | | | | | |
| | | 36 | 72 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|-----------------------------------|----|---------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 3 | Diagnostic tables definition n° 3 | 1 | 73 | IASW | | | | | | | |
| | | 2 | 74 | 12 Hex | | | | | | | |
| | | 3 | 75 | E1933 | | | | | | | |
| | | 4 | 76 | E3433 | | | | | | | |
| | | 5 | 77 | E1934 | | | | | | | |
| | | 6 | 78 | E3434 | | | | | | | |
| | | | | | | | | | | | |
| | | 33 | 105 | E1948 | | | | | | | |
| | | 34 | 106 | E3448 | | | | | | | |
| | | 35 | 107 | 00 Hex | | | | | | | |
| | | 36 | 108 | CS | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|-----------------------------------|----|---------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 4 | Diagnostic tables definition n° 4 | 1 | 109 | IASW | | | | | | | |
| | | 2 | 110 | 13 Hex | | | | | | | |
| | | 3 | 111 | E1949 | | | | | | | |
| | | 4 | 112 | E3449 | | | | | | | |
| | | 5 | 113 | E1950 | | | | | | | |
| | | 6 | 114 | E3450 | | | | | | | |
| | | | | | | | | | | | |
| | | 33 | 141 | E1964 | | | | | | | |
| | | 34 | 142 | E3464 | | | | | | | |
| | | 35 | 143 | 00 Hex | | | | | | | |
| | | 36 | 144 | CS | | | | | | | |

| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|-----------------------------------|----|---------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 5 | Diagnostic tables definition n° 5 | 1 | 145 | IASW | | | | | | | |
| | | 2 | 146 | 14 Hex | | | | | | | |
| | | 3 | 147 | E1965 | | | | | | | |
| | | 4 | 148 | E3465 | | | | | | | |
| | | 5 | 149 | E1966 | | | | | | | |
| | | 6 | 150 | E3466 | | | | | | | |
| | | | | | | | | | | | |
| | | 33 | 177 | E1980 | | | | | | | |
| | | 34 | 178 | E3480 | | | | | | | |
| | | 35 | 179 | 00 Hex | | | | | | | |
| | | 36 | 180 | CS | | | | | | | |



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| N° Block | Description | | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|-----------------------------------|----|---------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 6 | Diagnostic tables definition n° 6 | 1 | 181 | IASW | | | | | | | |
| | | 2 | 182 | 15 Hex | | | | | | | |
| | | 3 | 183 | E1981 | | | | | | | |
| | | 4 | 184 | E3481 | | | | | | | |
| | | 5 | 185 | E1982 | | | | | | | |
| | | 6 | 186 | E3482 | | | | | | | |
| | | 33 | 213 | E1996 | | | | | | | |
| | | 34 | 214 | E3496 | | | | | | | |
| | | 35 | 215 | 00 Hex | | | | | | | |
| | | 36 | 216 | CS | | | | | | | |

1.4.2. On-request - Task management

| | |
|----------------------|-------------|
| TPN n° 64000/69000 | Name |
| FTPn PKT_64000/69000 | tm-or_af_hv |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 01 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | AFEE high voltage configuration for detector n° 0 to 18 | 1 | TID = 2 FID = 1 TC ID = 8 2 (AFEE) AFEE acknowledgement 01 Hex E/F0010 E/F0028 CS | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | 25 | | | | | | | | |
| | | 26 | | | | | | | | |



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| | |
|----------------------|---------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64001/69001 | tm-or_af_lwdt |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 02 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|---------|----------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1 | AFEE low threshold configuration for detector n° 0 to 18 | 1 | TID = 2 | | | | | | | |
| | | 2 | FID = 2 | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | |
| | | 4 | 2 (AFEE) | | | | | | | |
| | | 5 | AFEE acknowledgement | | | | | | | |
| | | 6 | 02 Hex | | | | | | | |
| | | 7 | E/F0030 | | | | | | | |
| | | | | | | | | | | |
| | | 25 | E/F0048 | | | | | | | |
| | | 26 | CS | | | | | | | |



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| | |
|----------------------|-----------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64002/69002 | tm-or_af_ch-par |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 03 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Chain parameter configuration for detector n° 0 to 18 | 1 | TID = 2 FID = 3 TC ID = 8 2 (AFEE) AFEE acknowledgement 03 Hex | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| 25 | E0068 | E0088 | E0108 | E0148 | E0168 | 0 | 0 | 0 | | |
| 26 | CS | | | | | | | | | |



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| | |
|----------------------|----------------|
| TPN n° 64000/69000 | Name |
| FTPn PKT_64003/69003 | tm-or_af_ch-oo |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 04 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Chain ON/OFF configuration and regeneration for detector n° 1 to 18 | 1 | TID = 2 FID = 4 TC ID = 8 2 (AFEE) AFEE acknowledgement 04 Hex | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | E0177 | E0176 | E0175 | E0174 | E0173 | E0172 | E0171 | E0170 |
| | | 8 | E0185 | E0184 | E0183 | E0182 | E0181 | E0180 | E0179 | E0178 |
| | | 9 | 0 | 0 | 0 | 0 | 0 | E0188 | E0187 | E0186 |
| | | 10 | E0197 | E0196 | E0195 | E0194 | E0193 | E0192 | E0191 | E0190 |
| | | 11 | E0205 | E0204 | E0204 | E0202 | E0201 | E0200 | E0199 | E0198 |
| | | 12 | 0 | 0 | 0 | 0 | 0 | E0208 | E0207 | E0206 |
| | | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | E0209 |
| | | 14 | E0003 | | | | | | | |
| | | 15 | E0004 | | | | | | | |
| | | 16 | CS | | | | | | | |



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| | |
|----------------------|------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64004/69004 | tm-or_df_cl-line |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 02 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|---------|----------------------|----------|----------|----------|----------|----------|----------|-------------|
| | Front end lines reset and parameters settings for: dead time calculation, association, acquisition algorithm, HSL configuration | 1 | TID = 5 | | | | | | | |
| | | 2 | FID = 2 | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | |
| | | 4 | 5 (DFEE) | | | | | | | |
| | | 5 | DFEE acknowledgement | | | | | | | |
| | | 6 | 02 Hex | | | | | | | |
| | | 7 | E2701 | E2702 | E2703 | E2722 | E2721 | E2720 | E2719 | E2718 |
| | | 8 | E2717 | E2716 | E2715 | E2714 | E2713 | E2712 | E2711 | E2710 |
| | | 9 | E2709 | E2708 | E2707 | E2706 | E2705 | E2704 | E2723 | E2742 |
| | | 10 | E2741 | E2740 | E2739 | E2738 | E2737 | E2736 | E2735 | E2734 |
| | | 11 | E2733 | E2732 | E2731 | E2730 | E2729 | E2728 | E2727 | E2726 |
| | | 12 | E2725 | E2724 | E2743 | E2744 | E2745 | E2746 | E2747 | E2748 |
| | | 13 | E2749 | E2750 | E2751 | E2787 | E2786 | | | |
| | | 14 | | | E2753 | | | E2788 | | E2756 |
| | | 15 | E2775 | E2774 | E2773 | E2772 | E2771 | E2770 | E2769 | E2768 |
| | | 16 | E2767 | E2766 | E2765 | E2764 | E2763 | E2762 | E2761 | E2760 |
| | | 17 | E2759 | E2758 | E2757 | | | E2776 | | |
| | | 18 | E2777 | E2778 | E2779 | E2780 | E2784 | E2781 | E2785 | E2782 |
| | | 19 | LSB | 1 | 1 | 0 | MSB | | | |
| | | 20 | | | | | E2783 | | | |
| | | 21 | | | LSB | | 0 | 0 | 1 | 1 |
| | | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 23 | 00 Hex | | | | | | | |
| | | 24 | CS | | | | | | | |

E2752 E2754 E2755 deleted



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|----------------------|------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64005/69005 | tm-or_df_asic-ad |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 03 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|----------|---|---------|---|----------|----------|----------|-----------|----------|----------|-------------|-------|--|
| 1 | Definition of ASIC parameters for front end signal alignment and veto gate adjustment | 1 | TID = 5 FID = 3 TC ID = 8 5 (DFEE) DFEE acknowledgement 03 Hex | | | | | | | | | |
| | | 2 | | | | | | | | | | |
| | | 3 | | | | | | | | | | |
| | | 4 | | | | | | | | | | |
| | | 5 | DFEE acknowledgement 03 Hex | | | | | | | | | |
| | | 6 | | | | | | | | | | |
| | | 7 | E2838 | | | | E2818 | | | | | |
| | | 8 | E2837 | | | | E2817 | | | | | |
| | | | | | | | | | | | | |
| | | 24 | E2821 | | | | E2801 | | | | | |
| | | 25 | E2820 | | | | E2800 | | | | | |
| | | 26 | E2840 | | | | MSB E2841 | | | | | |
| | | 27 | LSB | | MSB | | MSB | | E2842 | | E2844 | |
| | | 28 | LSB | | MSB | | MSB | | E2844 | | E2845 | |
| | | 29 | LSB | | MSB | | MSB | | E2845 | | E2845 | |
| | | 30 | LSB | | MSB | | MSB | | E2843 | | 1 | |
| | | 31 | 1 | 1 | E2848 | | 0 | 0 | 0 | 0 | | |
| | | 32 | CS | | | | | | | | | |

E2846 E2847 deleted



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| | |
|----------------------|-----------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64006/69006 | tm-or_df_sw-par |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 01 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---------------------|---------|----------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Software parameters | 1 | TID = 5 | | | | | | | |
| | | 2 | FID = 1 | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | |
| | | 4 | 5 (DFEE) | | | | | | | |
| | | 5 | DFEE acknowledgement | | | | | | | |
| | | 6 | 01 Hex | | | | | | | |
| | | 7 | 0 | E2697 | E2698 | E2699 | | | | E2700 |
| | | 8 | | | | | | | | |
| | | 9 | 0 | 0 | 0 | E2695 | 2 | E2696 | | |
| | | | | | | | | | | |
| | | 29 | 00 Hex | | | | | | | |
| | | 30 | CS | | | | | | | |



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| | |
|----------------------|----------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64007/69007 | tm-or_as_serv1 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 01 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | System Service 1 (watchdog, test config, response, HV conf) FEE n° 0 to 30 | 1 | TID = 3 FID = 1 TC ID = 8 3 (ACS) ACS acknowledgement 01 Hex | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | | 0 | 0 | 0 | E0500 | E1000 | E0600 | E0700 | |
| | | 37 | 0 | 0 | 0 | E0530 | E1030 | E0630 | E0730 | |
| | | 38 | CS | | | | | | | |



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| | |
|----------------------|----------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64008/69008 | tm-or_as_serv2 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 02 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | System Service 2 (watchdog, test config, response, HV conf) FEE n° 31 to 61 | 1 | TID = 3 FID = 2 TC ID = 8 3 (ACS) ACS acknowledgement 02 Hex | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | | 0 | 0 | 0 | E0531 | E1031 | E0631 | E0731 | |
| | | 37 | 0 | 0 | 0 | E0561 | E1061 | E0661 | E0761 | |
| | | 38 | CS | | | | | | | |



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| | |
|----------------------|----------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64009/65009 | tm-or_as_serv3 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 03 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|---------|---------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1 | System Service 3 (watchdog, test config, response, HV conf) FEE n° 62 to 91 | 1 | TID = 3 | | | | | | | |
| | | 2 | FID = 3 | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | |
| | | 4 | 3 (ACS) | | | | | | | |
| | | 5 | ACS acknowledgement | | | | | | | |
| | | 6 | 03 Hex | | | | | | | |
| | | 7 | 0 | 0 | 0 | E0562 | E1062 | E0662 | E0762 | |
| | | 35 | 0 | 0 | 0 | E0590 | E1090 | E0662 | E0790 | |
| | | 36 | 0 | 0 | 0 | E0591 | E0592 | E1091 | E0690 | E0791 |
| | | 37 | 00 Hex | | | | | | | |
| | | 38 | CS | | | | | | | |



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| | |
|----------------------|-------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64010/69010 | tm-or_as_vto-cnf1 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 04 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---------------------------------------|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Veto generation condition FEE 0 to 30 | 1 | TID = 3 FID = 4 TC ID = 8 3 (ACS) ACS acknowledgement 04 Hex | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | 37 | 0 | 0 | 0 | E0430 | E1230 | E1130 | E0930 | E0830 |
| | | 38 | CS | | | | | | | |



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| | |
|----------------------|-------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64011/69011 | tm-or_as_vto-cnf2 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 05 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Veto generation condition FEE 31 to 61 | 1 | TID = 3 FID = 5 TC ID = 8 3 (ACS) ACS acknowledgement 05 Hex | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | 37 | 0 | 0 | 0 | E0461 | E1261 | E1161 | E0961 | E0861 |
| | | 38 | CS | | | | | | | |



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| | |
|----------------------|-------------------|
| TPN n° 64000/69000 | Name |
| FTPn PKT_64012/69012 | tm-or_as_vto-cnf3 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 06 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Veto generation condition FEE 62 to 91 | 1 | TID = 3 FID = 6 TC ID = 8 3 (ACS) ACS acknowledgement 06 Hex | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | | 0 | 0 | 0 | E0462 | E1262 | E1162 | E0962 | E0862 |
| | | 35 | 0 | 0 | 0 | E0490 | E1290 | E1190 | E0990 | E0890 |
| | | 36 | 0 | 0 | 0 | 0 | 0 | E1191 | E0991 | E0891 |
| | | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 38 | CS | | | | | | | |



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| | |
|----------------------|-------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64013/69013 | tm-or_as_rate-mtl |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 07 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--------------------------------|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Rate meter setting FEE 0 to 30 | 1 | TID = 3 FID = 7 TC ID = 8 3 (ACS) ACS acknowledgement 07 Hex | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | 37 | 0 | 0 | 0 | E2530 | E1330 | | | |
| | | 38 | CS | | | | | | | |



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| | |
|----------------------|-------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64014/69014 | tm-or_as_rate-mt2 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 08 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---------------------------------|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Rate meter setting FEE 31 to 61 | 1 | TID = 3 FID = 8 TC ID = 8 3 (ACS) ACS acknowledgement 08 Hex | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | 37 | 0 | 0 | 0 | E2561 | E1361 | | | |
| | | 38 | CS | | | | | | | |



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|----------------------|-------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64015/69015 | tm-or_as_rate-mt3 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 09 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---------------------------------|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Rate meter setting FEE 62 to 91 | 1 | TID = 3 FID = 9 TC ID = 8 3 (ACS) ACS acknowledgement 09 Hex | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | | 0 | 0 | 0 | E2562 | | | E1362 | |
| | | 35 | 0 | 0 | 0 | E2590 | | | E1390 | |
| | | 36 | 0 | 0 | 0 | 0 | | | E1391 | |
| | | 37 | 00 Hex | | | | | | | |
| | | 38 | CS | | | | | | | |



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| | |
|----------------------|-------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64016/69016 | tm-or_as_vto-dly1 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 0A Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|------------------------------------|---------|--|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Veto delay setting for FEE 0 to 30 | 1 | TID = 3 FID = 10 TC ID = 8 3 (ACS) ACS acknowledgement 0A Hex | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | 22 | 0 | E1430 | | | | | | |
| | | 23 | 00 Hex | | | | | | | |
| | | 24 | CS | | | | | | | |



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| | |
|----------------------|-------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64017/69017 | tm-or_as_vto-dly2 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 0B Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|-------------------------------------|---------|--|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Veto delay setting for FEE 31 to 61 | 1 | TID = 3 FID = 11 TC ID = 8 3 (ACS) ACS acknowledgement 0B Hex | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | 22 | 0 | E1461 | | | | | | |
| | | 23 | 00 Hex | | | | | | | |
| | | 24 | CS | | | | | | | |



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| | |
|----------------------|-------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64018/69018 | tm-or_as_vto-dly3 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029 | b 11 | | 433 | 5 | 4 | | 1 - 0C Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|-------------------------------------|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Veto delay setting for FEE 62 to 91 | 1 | TID = 3 FID = 12 TC ID = 8 3 (ACS) ACS acknowledgement 0C Hex E1463 E1462 | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | 21 | E1491 | | E1492 | E1490 | | | | |
| | | 22 | CS | | | | | | | |



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| | |
|----------------------|-------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64019/69019 | tm-or_as_evt-trg1 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 0D Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Event trigger threshold conf FEE 0 to 30 | 1 | TID = 3 FID = 13 TC ID = 8 3 (ACS) ACS acknowledgement 0D Hex E1500 | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | 37 | E1530 | | | | | | | |
| | | 38 | CS | | | | | | | |



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| | |
|----------------------|-------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64020/69020 | tm-or_as_evt-trg2 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 0E Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Event trigger threshold conf FEE 31 to 61 | 1 | TID = 3 FID = 14 TC ID = 8 3 (ACS) ACS acknowledgement 0E Hex E1531 | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | 37 | E1561 | | | | | | | |
| | | 38 | CS | | | | | | | |



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| | |
|----------------------|-------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64021/69021 | tm-or_as_evt-trg3 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 0F Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Event trigger threshold conf FEE 62 to 91 | 1 | TID = 3 FID = 15 TC ID = 8 3 (ACS) ACS acknowledgement 0F Hex E1562 | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | 36 | E1591 | | | | | | | |
| | | 37 | 00 Hex | | | | | | | |
| | | 38 | CS | | | | | | | |



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| | |
|----------------------|-------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64022/69022 | tm-or_as_nrg-dsc1 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 10 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---------------------------------------|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Energy discriminator conf FEE 0 to 30 | 1 | TID = 3 FID = 16 TC ID = 8 3 (ACS) ACS acknowledgement 10 Hex E1600 | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | 37 | E1630 | | | | | | | |
| | | 38 | CS | | | | | | | |



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| | |
|----------------------|-------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64023/69023 | tm-or_as_nrg-dsc2 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 11 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Energy discriminator conf FEE 31 to 61 | 1 | TID = 3 FID = 17 TC ID = 8 3 (ACS) ACS acknowledgement 11 Hex E1631 | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | 37 | E1661 | | | | | | | |
| | | 38 | CS | | | | | | | |



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| | |
|----------------------|-------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64024/69024 | tm-or_as_nrg-dsc3 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 12 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Energy discriminator conf FEE 62 to 91 | 1 | TID = 3 FID = 18 TC ID = 8 3 (ACS) ACS acknowledgement 12 Hex E1662 | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | 36 | E1691 | | | | | | | |
| | | 37 | 00 Hex | | | | | | | |
| | | 38 | CS | | | | | | | |



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| | |
|----------------------|--------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64025/69025 | tm-or_as_hv1 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 13 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|-------------------------------|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | High voltage conf FEE 0 to 30 | 1 | TID = 3 FID = 19 TC ID = 8 3 (ACS) ACS acknowledgement 13 Hex E1700 | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | 37 | E1730 | | | | | | | |
| | | 38 | CS | | | | | | | |



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| | |
|----------------------|--------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64026/69026 | tm-or_as_hv2 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 14 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--------------------------------|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | High voltage conf FEE 31 to 61 | 1 | TID = 3 FID = 20 TC ID = 8 3 (ACS) ACS acknowledgement 14 Hex E1731 | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | 37 | E1761 | | | | | | | |
| | | 38 | CS | | | | | | | |



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| | |
|----------------------|--------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64027/69027 | tm-or_as_hv3 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 15 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--------------------------------|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | High voltage conf FEE 62 to 91 | 1 | TID = 3 FID = 21 TC ID = 8 3 (ACS) ACS acknowledgement 15 Hex E1762 | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | 36 | E1791 | | | | | | | |
| | | 37 | E1792 | | | | | | | |
| | | 38 | CS | | | | | | | |



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| | |
|----------------------|------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64028/69028 | tm-or_as_vto-pls |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 16 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Veto pulse width and veto mask configuration for FEE 1 to 91 Overall veto masked setting | 1 | TID = 3 FID = 22 TC ID = 8 3 (ACS) ACS acknowledgement 16 Hex E1898 | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | 8 | | | | | | | | |
| | | | E1807 | E1806 | E1805 | E1804 | E1803 | E1802 | E1801 | E1800 |
| | | 19 | E2000 | 0 | E2025 | E2001 | E1891 | E1890 | E1889 | E1888 |
| | | 20 | CS | | | | | | | |



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| | |
|----------------------|------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64029/69029 | tm-or_pd_det-enb |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|------|----------|------------|-------------------|-----------|---------------|------------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029 | b 11 | | 433 | 5 | 4 | | 1 - 01 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|------------------|---------|---------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Detector enables | 1 | TID = 4 | | | | | | | |
| | | 2 | FID = 1 | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | |
| | | 4 | 4 (PSD) | | | | | | | |
| | | 5 | PSD acknowledgement | | | | | | | |
| | | 6 | 01 Hex | | | | | | | |
| | | 7 | E3657 | E3656 | E3655 | E3654 | E3653 | E3652 | E3651 | E3650 |
| | | 8 | E3665 | E3664 | E3663 | E3662 | E3661 | E3660 | E3659 | E3658 |
| | | 9 | E3604 | | E3603 | E3607 | E3606 | E3606 | E3606 | E3605 |
| | | 10 | 0 | 0 | 0 | E3614 | E3613 | E3612 | E3611 | E3610 |
| | | 11 | E3617 | E3616 | E3615 | E3614 | E3613 | E3612 | E3611 | E3610 |
| | | 12 | E3625 | E3624 | E3623 | E3622 | E3621 | E3620 | E3619 | E3618 |
| | | 13 | E3630 | | E3629 | E3629 | E3628 | E3627 | E3627 | E3626 |
| | | 14 | 0 | 0 | 0 | E3633 | E3632 | E3632 | E3631 | E3631 |
| | | 15 | 00 Hex | | | | | | | |
| | | 16 | CS | | | | | | | |



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| | |
|----------------------|------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64030/69030 | tm-or_pd_lw-thr1 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029 | b 11 | | 433 | 5 | 4 | | 1 - 02 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|---------|---------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Low threshold for energy (channel n° 0 to n° 8) | 1 | TID = 4 | | | | | | | |
| | | 2 | FID = 2 | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | |
| | | 4 | 4 (PSD) | | | | | | | |
| | | 5 | PSD acknowledgement | | | | | | | |
| | | 6 | 02 Hex | | | | | | | |
| | | 7 | E3758 | | | | | | | |
| | | 8 | 00 Hex | | | | | | | |
| | | 9 | E3670 | | | | | | | |
| | | 10 | E3670 | | | | | | | |
| | | 11 | E3671 | | | | | | | |
| | | | | | | | | | | |
| | | 25 | E3678 | | | | | | | |
| | | 26 | E3678 | | | | | | | |
| | | 27 | 00 Hex | | | | | | | |
| | | 28 | CS | | | | | | | |



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| | |
|----------------------|------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64031/69031 | tm-or_pd_lw-thr2 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 03 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|---------|---------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Low threshold for energy (channel n° 9 to n° 18) | 1 | TID = 4 | | | | | | | |
| | | 2 | FID = 3 | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | |
| | | 4 | 4 (PSD) | | | | | | | |
| | | 5 | PSD acknowledgement | | | | | | | |
| | | 6 | 03 Hex | | | | | | | |
| | | 7 | E3679 | | | | | | | |
| | | 8 | E3679 | | | | | | | |
| | | 9 | E3680 | | | | | | | |
| | | 10 | E3680 | | | | | | | |
| | | 11 | E3681 | | | | | | | |
| | | | | | | | | | | |
| | | 25 | E3688 | | | | | | | |
| | | 26 | E3688 | | | | | | | |
| | | 27 | 00 Hex | | | | | | | |
| | | 28 | CS | | | | | | | |



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| | |
|----------------------|------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64032/69032 | tm-or_pd_hg-thr1 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 04 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|---------|---------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1 | High threshold for energy (channel n° 0 to n° 8) | 1 | TID = 4 | | | | | | | |
| | | 2 | FID = 4 | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | |
| | | 4 | 4 (PSD) | | | | | | | |
| | | 5 | PSD acknowledgement | | | | | | | |
| | | 6 | 04 Hex | | | | | | | |
| | | 7 | E3689 | | | | | | | |
| | | 8 | E3689 | | | | | | | |
| | | 9 | E3690 | | | | | | | |
| | | 10 | E3690 | | | | | | | |
| | | 11 | E3691 | | | | | | | |
| | | | | | | | | | | |
| | | 25 | E3698 | | | | | | | |
| | | 26 | E3698 | | | | | | | |
| | | 27 | 00 Hex | | | | | | | |
| | | 28 | CS | | | | | | | |



CENTRE NATIONAL D'ETUDES SPATIALES

INTEGRAL SPECTROMETER



SPI-MU-0-1062V4-CNES
 Issue : 5
 Revision : 0
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| | |
|----------------------|------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64033/69033 | tm-or_pd_hg-thr1 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 05 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|---------|---------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1 | High threshold for energy (channel n° 9 to n° 18) | 1 | TID = 4 | | | | | | | |
| | | 2 | FID = 5 | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | |
| | | 4 | 4 (PSD) | | | | | | | |
| | | 5 | PSD acknowledgement | | | | | | | |
| | | 6 | 05 Hex | | | | | | | |
| | | 7 | E3699 | | | | | | | |
| | | 8 | E3699 | | | | | | | |
| | | 9 | E3700 | | | | | | | |
| | | 10 | E3700 | | | | | | | |
| | | 11 | E3701 | | | | | | | |
| | | | | | | | | | | |
| | | 25 | E3708 | | | | | | | |
| | | 26 | E3708 | | | | | | | |
| | | 27 | 00 Hex | | | | | | | |
| | | 28 | CS | | | | | | | |



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INTEGRAL SPECTROMETER



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 Issue : 5
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| | |
|----------------------|------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64034/69034 | tm-or_pd_ad-ofst |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 06 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|-------------|---------|---------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1 | A/D offsets | 1 | TID = 4 | | | | | | | |
| | | 2 | FID = 6 | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | |
| | | 4 | 4 (PSD) | | | | | | | |
| | | 5 | PSD acknowledgement | | | | | | | |
| | | 6 | 06 Hex | | | | | | | |
| | | 7 | E3643 | | | | | | | |
| | | 8 | E3647 | | | | | | | |
| | | 9 | E3644 | | | | | | | |
| | | 10 | E3648 | | | | | | | |
| | | 11 | E3645 | | | | | | | |
| | | 12 | E3649 | | | | | | | |
| | | 13 | E3646 | | | | | | | |
| | | 14 | E3709 | | | | | | | |
| | | 15 | 00 Hex | | | | | | | |
| | | 16 | CS | | | | | | | |



CENTRE NATIONAL D'ETUDES SPATIALES

INTEGRAL SPECTROMETER



SPI-MU-0-1062V4-CNES
Issue : 5
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| | |
|----------------------|-------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64035/69035 | tm-or_pd_lib-sel1 |

| Packet Header | | | | | | | Data Field Header | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------|-------------------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 07 Hex |

INTEGRAL SPECTROMETER



| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|---------|---|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 1 | Definition of library selection and control n° 1 Detector n° 0 to n° 6 | 1 | TID = 4 FID = 7 TC ID = 8 4 (PSD) PSD acknowledgement 07 Hex | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | E3711 | | | | | | | |
| | | 7 | | | | | | | | |
| | | 8 | | | | | | | | |
| | | 9 | | | | | | | | |
| | | 10 | | | | | | | | |
| | | 11 | E3716 | | | | | | | |
| | | 12 | | | | | | | | |
| | | 13 | | | | | | | | |
| | | 14 | | | | | | | | |
| | | 15 | | | | | | | | |
| | | 16 | E3721 | | | | | | | |
| | | 17 | | | | | | | | |
| | | 18 | | | | | | | | |
| | | 19 | | | | | | | | |
| | | 20 | | | | | | | | |
| | | 21 | E3726 | | | | | | | |
| | | 22 | | | | | | | | |
| | | 23 | | | | | | | | |
| | | 24 | | | | | | | | |
| | | 25 | | | | | | | | |
| | | 26 | E3731 | | | | | | | |
| | | 27 | | | | | | | | |
| | | 28 | | | | | | | | |
| | | 29 | | | | | | | | |
| | | 30 | | | | | | | | |
| | | 31 | E3736 | | | | | | | |
| | | 32 | | | | | | | | |
| | | 33 | | | | | | | | |
| | | 34 | | | | | | | | |
| 35 | | | | | | | | | | |
| 36 | E3741 | | | | | | | | | |
| 37 | | | | | | | | | | |
| 38 | | | | | | | | | | |
| 39 | | | | | | | | | | |
| 40 | | | | | | | | | | |
| 41 | E3742 | | | | | | | | | |
| 42 | | | | | | | | | | |
| 43 | | | | | | | | | | |
| 44 | | | | | | | | | | |
| 45 | | | | | | | | | | |
| 46 | 00 Hex CS | | | | | | | | | |
| 47 | | | | | | | | | | |
| 48 | | | | | | | | | | |
| 49 | | | | | | | | | | |
| 50 | | | | | | | | | | |



CENTRE NATIONAL D'ETUDES SPATIALES

INTEGRAL SPECTROMETER



SPI-MU-0-1062V4-CNES
Issue : 5
Revision : 0
Date : 28/02/02
Page No. : 245

| | |
|----------------------|-------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64036/69036 | tm-or_pd_lib-sel2 |

| Packet Header | | | | | | | Data Field Header | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------|-------------------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 08 Hex |



CENTRE NATIONAL D'ETUDES SPATIALES

INTEGRAL SPECTROMETER



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| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 1 | Definition of library selection and control n° 2 Detector n° 6 to n° 12 | 1 | TID = 4 | | | | | | | |
| | | 2 | FID = 8 | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | |
| | | 4 | 4 (PSD) | | | | | | | |
| | | 5 | PSD acknowledgement | | | | | | | |
| | | 6 | 08 Hex | | | | | | | |
| | | 7 | E3743 | | | | | | | |
| | | 8 | E3744 | | | | | | | |
| | | 9 | E3291 E3290 | | | | | | | |
| | | 10 | E3292 | | | | | | | |
| | | 11 | E3293 | | | | | | | |
| | | 12 | E3294 | | | | | | | |
| | | 13 | E3296 E3295 | | | | | | | |
| | | 14 | E3297 | | | | | | | |
| | | 15 | E3298 | | | | | | | |
| | | 16 | E3299 | | | | | | | |
| | | 17 | E3311 E3310 | | | | | | | |
| | | 18 | E3312 | | | | | | | |
| | | 19 | E3313 | | | | | | | |
| | | 20 | E3314 | | | | | | | |
| | | 21 | E3316 E3315 | | | | | | | |
| | | 22 | E3317 | | | | | | | |
| | | 23 | E3318 | | | | | | | |
| | | 24 | E3319 | | | | | | | |
| | | 25 | E3502 E3501 | | | | | | | |
| | | 26 | E3503 | | | | | | | |
| | | 27 | E3504 | | | | | | | |
| | | 28 | E3505 | | | | | | | |
| | | 29 | E3507 E3506 | | | | | | | |
| | | 30 | E3508 | | | | | | | |
| | | 31 | E3509 | | | | | | | |
| | | 32 | E3510 | | | | | | | |
| | | 33 | 00 Hex | | | | | | | |
| | | 34 | CS | | | | | | | |



CENTRE NATIONAL D'ETUDES SPATIALES

INTEGRAL SPECTROMETER



SPI-MU-0-1062V4-CNES
Issue : 5
Revision : 0
Date : 28/02/02
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| | |
|----------------------|-------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64037/69037 | tm-or_pd_lib-sel3 |

| Packet Header | | | | | | | Data Field Header | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------|-------------------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 09 Hex |

INTEGRAL SPECTROMETER



| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 1 | Definition of library selection and control n° 3 Detector n° 13 to n° 18 | 1 | TID = 4 | | | | | | | |
| | | 2 | FID = 9 | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | |
| | | 4 | 4 (PSD) | | | | | | | |
| | | 5 | PSD acknowledgement | | | | | | | |
| | | 6 | 09 Hex | | | | | | | |
| | | 7 | E3521 | | | | | | E3520 | |
| | | 8 | | | E3522 | | | | | |
| | | 9 | | | E3523 | | | | | |
| | | 10 | | | E3524 | | | | | |
| | | 11 | E3526 | | | | | | E3525 | |
| | | 12 | | | E3527 | | | | | |
| | | 13 | | | E3528 | | | | | |
| | | 14 | | | E3529 | | | | | |
| | | 15 | E3534 | | | | | | E3533 | |
| | | 16 | | | E3535 | | | | | |
| | | 17 | | | E3536 | | | | | |
| | | 18 | | | E3537 | | | | | |
| | | 19 | E3539 | | | | | | E3538 | |
| | | 20 | | | E3540 | | | | | |
| | | 21 | | | E3541 | | | | | |
| | | 22 | | | E3542 | | | | | |
| | | 23 | E3553 | | | | | | E3552 | |
| | | 24 | | | E3554 | | | | | |
| | | 25 | | | E3555 | | | | | |
| | | 26 | | | E3556 | | | | | |
| | | 27 | E3558 | | | | | | E3557 | |
| | | 28 | | | E3559 | | | | | |
| | | 29 | | | E3560 | | | | | |
| | | 30 | | | E3561 | | | | | |
| | | 31 | | | 00 Hex | | | | | |
| | | 32 | | | 00 Hex | | | | | |
| | | 33 | | | 00 Hex | | | | | |
| | | 34 | | | CS | | | | | |



CENTRE NATIONAL D'ETUDES SPATIALES

INTEGRAL SPECTROMETER



SPI-MU-0-1062V4-CNES
 Issue : 5
 Revision : 0
 Date : 28/02/02
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| | |
|----------------------|------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64038/69038 | tm-or_pd_crv-rte |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 0A Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|---------|---------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Definition of curve transmission rates | 1 | TID = 4 | | | | | | | |
| | | 2 | FID = 10 | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | |
| | | 4 | 4 (PSD) | | | | | | | |
| | | 5 | PSD acknowledgement | | | | | | | |
| | | 6 | 0A Hex | | | | | | | |
| | | 7 | E3893 | | | | | | | |
| | | 8 | E3894 | | | | | | | |
| | | 9 | E3895 | | | | | | | |
| | | 10 | E3896 | | | | | | | |
| | | 11 | 00 Hex | | | | | | | |
| | | 12 | CS | | | | | | | |



CENTRE NATIONAL D'ETUDES SPATIALES

INTEGRAL SPECTROMETER



SPI-MU-0-1062V4-CNES
Issue : 5
Revision : 0
Date : 28/02/02
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| | |
|----------------------|-----------------|
| TPN n° 64000/69000 | Name |
| FTPn PKT_64039/69039 | tm-or_iasw_nexp |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 00 Hex |



INTEGRAL SPECTROMETER



SPI-MU-0-1062V4-CNES
 Issue : 5
 Revision : 1
 Date : 18/06/02
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| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|---------|--------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 1 | On-request non exposure parameters for IASW configuration | 1 | TID = 1 | | | | | | | |
| | | 2 | FID = 0 | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | |
| | | 4 | 1 (IASW) | | | | | | | |
| | | 5 | IASW (TBC) | | | | | | | |
| | | 6 | 0 | | | | | | | |
| | | 7 | E/F3936 | | | | | | | |
| | | 8 | E/F3936 | | | | | | | |
| | | 9 | E/F3937 | | | | | | | |
| | | 10 | E/F3937 | | | | | | | |
| | | 11 | E/F3938 | | | | | | | |
| | | 12 | E/F3938 | | | | | | | |
| | | 13 | E/F3939 | | | | | | | |
| | | 14 | E/F3939 | | | | | | | |
| | | 15 | E/F3940 | | | | | | | |
| | | 16 | E/F3940 | | | | | | | |
| | | 17 | E/F3941 | | | | | | | |
| | | 18 | E/F3941 | | | | | | | |
| | | 19 | E/F3942 | | | | | | | |
| | | 20 | E/F3942 | | | | | | | |
| | | 21 | E/F3943 | | | | | | | |
| | | 22 | E/F3943 | | | | | | | |
| | | 23 | E/F3944 | | | | | | | |
| | | 24 | E/F3944 | | | | | | | |
| | | 25 | Spare = F | | | | | | | |
| | | 26 | Spare = F | | | | | | | |
| | | 27 | E/F3946 | | | | | | | |
| | | 28 | E/F3946 | | | | | | | |
| | | 29 | E/F3953 Eclipse detection capability | | | | | | | |
| | | 30 | E/F3953 Eclipse detection capability | | | | | | | |
| | | 31 | E/F3947 Delay before radiation belts | | | | | | | |
| | | 32 | E/F3947 Delay before radiation belts | | | | | | | |
| | | 33 | E/F3947 Delay before radiation belts | | | | | | | |
| | | 34 | E/F3947 Delay before radiation belts | | | | | | | |
| | | 35 | E/F3950 Delay after radiation belts | | | | | | | |
| | | 36 | E/F3950 Delay after radiation belts | | | | | | | |
| | | 37 | E/F3950 Delay after radiation belts | | | | | | | |
| | | 38 | E/F3950 Delay after radiation belts | | | | | | | |
| | | 39 | E/F3954 Delay before eclipse | | | | | | | |
| | | 40 | E/F3954 Delay before eclipse | | | | | | | |
| | | 41 | E/F3954 Delay before eclipse | | | | | | | |
| | | 42 | E/F3954 Delay before eclipse | | | | | | | |
| | | 43 | E/F3949 ACS ROM-RAM delay | | | | | | | |
| | | 44 | E/F3952 PSD ROM-RAM delay | | | | | | | |



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INTEGRAL SPECTROMETER



SPI-MU-0-1062V4-CNES
 Issue : 6
 Revision : 0
 Date : 08/02/07
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| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|-------------|---------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| | | 45 | | | | | | | | |
| | | 46 | | | | | | | | |
| | | 47 | | | | | | | | |
| | | 48 | | | | | | | | |
| | | 49 | | | | | | | | |
| | | 50 | | | | | | | | |
| | | 51 | | | | | | | | |
| | | 52 | | | | | | | | |
| | | 53 | | | | | | | | |
| | | 54 | | | | | | | | |
| | | 55 | | | | | | | | |
| | | 56 | | | | | | | | |
| | | 57 | | | | | | | | |
| | | 58 | | | | | | | | |
| | | 59 | | | | | | | | |
| | | 60 | | | | | | | | |
| | | 61 | | | | | | | | |
| | | 62 | | | | | | | | |
| | | 63 | | | | | | | | |
| | | 64 | | | | | | | | |
| | | 65 | | | | | | | | |
| | | 66 | | | | | | | | |
| | | 67 | | | | | | | | |
| | | 68 | | | | | | | | |
| | | 69 | | | | | | | | |
| | | 70 | | | | | | | | |
| | | 71 | | | | | | | | |
| | | 72 | | | | | | | | |
| | | 73 | | | | | | | | |
| | | 74 | | | | | | | | |
| | | 75 | | | | | | | | |
| | | 76 | | | | | | | | |
| | | 77 | | | | | | | | |
| | | 78 | | | | | | | | |
| | | 79 | | | | | | | | |
| | | 80 | | | | | | | | |
| | | 81 | | | | | | | | |
| | | 82 | | | | | | | | |
| | | 83 | | | | | | | | |
| | | 84 | | | | | | | | |
| | | 85 | | | | | | | | |
| | | 86 | | | | | | | | |
| | | 87 | | | | | | | | |
| | | 88 | | | | | | | | |
| | | 89 | | | | | | | | |
| | | 90 | | | | | | | | |

E/F3956 DFEE ROM-RAM delay
 Spare = FF
 Spare = FF
 Spare = FF
 Spare = FF
 Spare = FF
 Spare = FF
 Spare = FF
 Spare = FF
 Spare = FF
 Spare = FF
 E/F3960
 E/F3960
 E/F3961
 E/F3961
 E/F3962
 E/F3962
 E/F3963
 E/F3963
 E/F3964
 E/F3964
 E/F3965
 E/F3965
 E/F3966
 E/F3966
 E/F3967
 E/F3967
 E/F3968
 E/F3968
 E/F3969
 E/F3969
 E/F3970
 E/F3970
 E/F3980
 E/F3971 Cyclic LSL error filter
 E/F3972
 E/F3972
 E/F3973
 E/F3973
 E/F3974
 E/F3974
 E/F3974
 E/F3974
 E/F3977
 E/F3977
 E/F3978
 E/F3978
 0
 Checksum



CENTRE NATIONAL D'ETUDES SPATIALES

INTEGRAL SPECTROMETER



SPI-MU-0-1062V4-CNES
 Issue : 5
 Revision : 3
 Date : 17/03/03
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| | |
|----------------------|----------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64040/69040 | tm-or_iasw_exp |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 01 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| 1 | On-request exposure parameters for IASW configuration | 1 | TID = 1 | | | | | | | |
| | | 2 | 1 (FID) | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | |
| | | 4 | 1 (IASW) | | | | | | | |
| | | 5 | IASW | | | | | | | |
| | | 6 | 01 Hex | | | | | | | |
| | | 7 | E/F3979 | | | | | | | |
| | | 8 | E/F 3975 | | | | | | | |
| | | 9 | E/F3976 | | | | | | | |
| | | 10 | E/F3976 | | | | | | | |
| | | 11 | 00 Hex | | | | | | | |
| | | 12 | CS | | | | | | | |



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| | |
|----------------------|-------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64041/69041 | tm-or_iasw_on_off |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 02 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--------------------------------------|---------|-------------|----------|----------|----------|----------|----------|----------|-------------|
| 1 | On-request IASW On-Off configuration | 1 | TID = 1 | | | | | | | |
| | | 2 | 2 (FID) | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | |
| | | 4 | 1 (IASW) | | | | | | | |
| | | 5 | IASW (TBD) | | | | | | | |
| | | 6 | 02 Hex | | | | | | | |
| | | 7 | E/F3900 | | | | | | | |
| | | 8 | E/F3900 | | | | | | | |
| | | 9 | E/F3902 | | | | | | | |
| | | 10 | E/F3902 | | | | | | | |
| | | 11 | E/F3903 | | | | | | | |
| | | 12 | E/F3903 | | | | | | | |
| | | 13 | E/F3901 | | | | | | | |
| | | 14 | E/F3901 | | | | | | | |
| | | 15 | 00 Hex | | | | | | | |
| | | 16 | CS | | | | | | | |



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| | |
|----------------------|-----------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64046/69046 | tm-or_fee-hv-ed |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---------------------------------------|---------|--|----------|----------|----------|----------|----------|----------|-------------|
| 14 | ISB communication ON/OFF for each FEE | 1 | TID = 3 FID = 64 TC ID = 8 3 (ACS) ACS acknowledgement 40 Hex | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | E2407 | E2406 | E2405 | E2404 | E2403 | E2402 | E2401 | E2400 |
| | | 8 | E2415 | E2414 | E2413 | E2412 | E2411 | E2410 | E2409 | E2408 |
| | | 18 | 0 | 0 | 0 | 0 | E2491 | E2490 | E2489 | E2488 |
| | | 19 | 00 Hex | | | | | | | |
| | | 20 | CS | | | | | | | |



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| | |
|----------------------|---------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64641/69641 | tm-or_af_hv-m |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--------------------------------------|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | HVPS voltage for detector n° 0 to 18 | 1 | TID = 2 FID = 17 TC ID = 8 2 (AFEE) AFEE acknowledgement 11 Hex E/F0250 | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | 25 | E/F0268 | | | | | | | |
| | | 26 | CS | | | | | | | |



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| | |
|----------------------|-----------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64642/69642 | tm-or_af_lwdt-m |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Low threshold acquisition for detector n° 0 to 18 | 1 | TID = 2 FID = 18 TC ID = 8 2 (AFEE) AFEE acknowledgement 12 Hex E/F0270 | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | 25 | E/F0288 | | | | | | | |
| | | 26 | CS | | | | | | | |



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| | |
|----------------------|-------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64643/69643 | tm-or_af_lv |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--------------------------------------|---------|----------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1 | LVPS voltage for detector n° 0 to 18 | 1 | TID = 2 | | | | | | | |
| | | 2 | FID = 19 | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | |
| | | 4 | 2 (AFEE) | | | | | | | |
| | | 5 | AFEE acknowledgement | | | | | | | |
| | | 6 | 13 Hex | | | | | | | |
| | | 7 | E/F0290 | | | | | | | |
| | | | | | | | | | | |
| | | 25 | E/F0308 | | | | | | | |
| | | 26 | CS | | | | | | | |



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|----------------------|---------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64644/69644 | tm-or_af_lvps |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | DC-DC converter temperature for detector n° 0 to 18 | 1 | TID = 2 FID = 20 TC ID = 8 2 (AFEE) AFEE acknowledgement 14 Hex E/F0310 | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | 25 | E/F0328 | | | | | | | |
| | | 26 | CS | | | | | | | |



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| | |
|---------------------|----------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_6464569645 | tm-or_af_adc-1 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|----------|---|---------|----------------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1 | Analogue digital converter temperature for detector n° 0 to 8 | 1 | TID = 2 | | | | | | | | |
| | | 2 | FID = 21 | | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | | |
| | | 4 | 2 (AFEE) | | | | | | | | |
| | | 5 | AFEE acknowledgement | | | | | | | | |
| | | 6 | 15 Hex | | | | | | | | |
| | | 7 | 0 | 0 | 0 | 0 | E/F0330 | | | | |
| | | 8 | E/F0330 | | | | | | | | |
| | | 23 | 0 | 0 | 0 | 0 | E/F0338 | | | | |
| | | 24 | E/F0338 | | | | | | | | |
| | | 25 | 00 Hex | | | | | | | | |
| | | 26 | CS | | | | | | | | |



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| | |
|----------------------|------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64646/69646 | tm-or_af_dcoutpt |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Digital converter output voltage for detector n° 0 to 18 | 1 | TID = 2 FID = 22 TC ID = 8 2 (AFEE) AFEE acknowledgement 16 Hex E/F0350 | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | 25 | E/F0368 | | | | | | | |
| | | 26 | CS | | | | | | | |



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| | |
|----------------------|------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64647/69647 | tm-or_af_wrk-rng |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|---------|--|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Analysis configuration for detector n° 0 to 18 | 1 | TID = 2 FID = 23 TC ID = 8 2 (AFEE) AFEE acknowledgement 17 Hex | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | 0 | 0 | 0 | 0 | 0 | 0 | E0370 | E0230 |
| | | 8 | 0 | 0 | 0 | 0 | 0 | 0 | E0371 | E0231 |
| | | 9 | 0 | 0 | 0 | 0 | 0 | 0 | E0372 | E0232 |
| | | 10 | 0 | 0 | 0 | 0 | 0 | 0 | E0373 | E0233 |
| | | 11 | 0 | 0 | 0 | 0 | 0 | 0 | E0374 | E0234 |
| | | 12 | 0 | 0 | 0 | 0 | 0 | 0 | E0375 | E0235 |
| | | 13 | 0 | 0 | 0 | 0 | 0 | 0 | E0376 | E0236 |
| | | 14 | 0 | 0 | 0 | 0 | 0 | 0 | E0377 | E0237 |
| | | 15 | 0 | 0 | 0 | 0 | 0 | 0 | E0378 | E0238 |
| | | 16 | 0 | 0 | 0 | 0 | 0 | 0 | E0379 | E0239 |
| | | 17 | 0 | 0 | 0 | 0 | 0 | 0 | E0380 | E0240 |
| | | 18 | 0 | 0 | 0 | 0 | 0 | 0 | E0381 | E0241 |
| | | 19 | 0 | 0 | 0 | 0 | 0 | 0 | E0382 | E0242 |
| | | 20 | 0 | 0 | 0 | 0 | 0 | 0 | E0383 | E0243 |
| | | 21 | 0 | 0 | 0 | 0 | 0 | 0 | E0384 | E0244 |
| | | 22 | 0 | 0 | 0 | 0 | 0 | 0 | E0385 | E0245 |
| | | 23 | 0 | 0 | 0 | 0 | 0 | 0 | E0386 | E0246 |
| | | 24 | 0 | 0 | 0 | 0 | 0 | 0 | E0387 | E0247 |
| | | 25 | 0 | 0 | 0 | 0 | 0 | 0 | E0388 | E0248 |
| | | 26 | CS | | | | | | | |



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| | |
|----------------------|----------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64648/69648 | tm-or_af_pa2-2 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|----------|--|---------|----------------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1 | Preampli temperature for detector n° 9 to 18 | 1 | TID = 2 | | | | | | | | |
| | | 2 | FID = 24 | | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | | |
| | | 4 | 2 (AFEE) | | | | | | | | |
| | | 5 | AFEE acknowledgement | | | | | | | | |
| | | 6 | 18 Hex | | | | | | | | |
| | | 7 | 0 | 0 | 0 | 0 | E/F0219 | | | | |
| | | 8 | E/F0219 | | | | | | | | |
| | | 25 | 0 | 0 | 0 | 0 | E/F0228 | | | | |
| | | 26 | E/F0228 | | | | | | | | |
| | | 27 | 00 Hex | | | | | | | | |
| | | 28 | CS | | | | | | | | |



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| | |
|----------------------|----------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64649/69649 | tm-or_af_adc-2 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | |
|----------|--|---------|----------------------|----------|----------|----------|----------|----------|----------|-------------|--|
| 1 | Analogue digital converter temperature for detector n° 9 to 18 | 1 | TID = 2 | | | | | | | | |
| | | 2 | FID = 25 | | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | | |
| | | 4 | 2 (AFEE) | | | | | | | | |
| | | 5 | AFEE acknowledgement | | | | | | | | |
| | | 6 | 19 Hex | | | | | | | | |
| | | 7 | 0 | 0 | 0 | 0 | E/F0339 | | | | |
| | | 8 | E/F0339 | | | | | | | | |
| | | 25 | 0 | 0 | 0 | 0 | E/F0348 | | | | |
| | | 26 | E/F0348 | | | | | | | | |
| | | 27 | 00 Hex | | | | | | | | |
| | | 28 | CS | | | | | | | | |



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|----------------------|----------------|
| TPN n° 64000/69000 | Name |
| FTPn PKT_64650/69650 | tm-or_af_g-par |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|-------------------------|---------|----------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1 | AFEE general parameters | 1 | TID = 2 | | | | | | | |
| | | 2 | FID = 32 | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | |
| | | 4 | 2 (AFEE) | | | | | | | |
| | | 5 | AFEE acknowledgement | | | | | | | |
| | | 6 | 20 Hex | | | | | | | |
| | | 7 | 0 | 0 | 0 | 0 | E/F0001 | | | |
| | | 8 | | | | | E/F0001 | | | |
| | | 9 | 0 | 0 | 0 | 0 | E/F0002 | | | |
| | | 10 | | | | | E/F0002 | | | |
| | | 11 | 00 Hex | | | | | | | |
| | | 12 | 00 Hex | | | | | | | |
| | | 13 | 00 Hex | | | | | | | |
| | | 14 | 00 Hex | | | | | | | |
| | | 15 | 00 Hex | | | | | | | |
| | | 16 | 00 Hex | | | | | | | |
| | | 17 | 00 Hex | | | | | | | |
| | | 18 | 00 Hex | | | | | | | |
| | | 19 | 00 Hex | | | | | | | |
| | | 20 | CS | | | | | | | |



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| | |
|----------------------|---------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64651/69651 | tm-or_af_cryo |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|------------------------|---------|----------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Cryogenic temperatures | 1 | TID = 2 | | | | | | | |
| | | 2 | FID = 33 | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | |
| | | 4 | 2 (AFEE) | | | | | | | |
| | | 5 | AFEE acknowledgement | | | | | | | |
| | | 6 | 21 Hex | | | | | | | |
| | | 7 | E0399 | | | | | | | |
| | | 8 | 0 | 0 | 0 | 0 | | | | E/F0391 |
| | | 9 | | | | | | | | E/F0391 |
| | | 10 | 0 | 0 | 0 | 0 | | | | E/F0392 |
| | | 11 | | | | | | | | E/F0392 |
| | | 12 | 0 | 0 | 0 | 0 | | | | E/F0393 |
| | | 13 | | | | | | | | E/F0393 |
| | | 14 | 0 | 0 | 0 | 0 | | | | E/F0394 |
| | | 15 | | | | | | | | E/F0394 |
| | | 16 | 0 | 0 | 0 | 0 | | | | E/F0395 |
| | | 17 | | | | | | | | E/F0395 |
| | | 18 | 0 | 0 | 0 | 0 | | | | E/F0396 |
| | | 19 | | | | | | | | E/F0396 |
| | | 20 | 0 | 0 | 0 | 0 | | | | E/F0397 |
| | | 21 | | | | | | | | E/F0397 |
| | | 22 | 0 | 0 | 0 | 0 | | | | E/F0398 |
| | | 23 | | | | | | | | E/F0398 |
| | | 24 | CS | | | | | | | |



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| | |
|----------------------|--------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64652/69652 | tm-or_as_v-c |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Power supply voltage and current value | 1 | TID = 3 FID = 23 TC ID = 8 3 (ACS) ACS acknowledgement 17 Hex E/F2121 E/F2122 E/F2123 CS | | | | | | | |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |



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|----------------------|------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64653/69653 | tm-or_as_shild-t |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--------------------------|---------|---------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Veto shield temperatures | 1 | TID = 3 | | | | | | | |
| | | 2 | FID = 24 | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | |
| | | 4 | 3 (ACS) | | | | | | | |
| | | 5 | ACS acknowledgement | | | | | | | |
| | | 6 | 18 Hex | | | | | | | |
| | | 7 | E/F2101 | | | | | | | |
| | | 8 | E/F2102 | | | | | | | |
| | | 9 | E/F2103 | | | | | | | |
| | | 10 | E/F2104 | | | | | | | |
| | | 11 | E/F2105 | | | | | | | |
| | | 12 | E/F2106 | | | | | | | |
| | | 13 | E/F2107 | | | | | | | |
| | | 14 | E/F2108 | | | | | | | |
| | | 15 | E/F2109 | | | | | | | |
| | | 16 | E/F2110 | | | | | | | |
| | | 17 | E/F2111 | | | | | | | |
| | | 18 | E/F2112 | | | | | | | |
| | | 19 | E/F2113 | | | | | | | |
| | | 20 | E/F2114 | | | | | | | |
| | | 21 | E/F2115 | | | | | | | |
| | | 22 | E/F2116 | | | | | | | |
| | | 23 | 00 Hex | | | | | | | |
| | | 24 | CS | | | | | | | |



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| | |
|----------------------|------------------|
| TPN n° 64000/69000 | Name |
| FTPn PKT_64654/69654 | tm-or_as_an-sts1 |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 |



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| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--------------------------------|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 1 | Analogue status to FEE 0 to 14 | 1 | TID = 3 | | | | | | | |
| | | 2 | FID = 25 | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | |
| | | 4 | 3 (ACS) | | | | | | | |
| | | 5 | ACS acknowledgement | | | | | | | |
| | | 6 | 19 Hex | | | | | | | |
| | | 7 | E3164 | | E2350 | | E2250 | | E2150 | |
| | | 8 | 00 | | 00 | | 00 | | E2002 | |
| | | 9 | E3165 | | E2351 | | E2251 | | E2151 | |
| | | 10 | 00 | | 00 | | 00 | | E2003 | |
| | | 11 | E3166 | | E2352 | | E2252 | | E2152 | |
| | | 12 | 00 | | 00 | | 00 | | E2004 | |
| | | 13 | E3167 | | E2353 | | E2253 | | E2153 | |
| | | 14 | 00 | | 00 | | 00 | | E2005 | |
| | | 15 | E3168 | | E2354 | | E2254 | | E2154 | |
| | | 16 | 00 | | 00 | | 00 | | E2006 | |
| | | 17 | E3169 | | E2355 | | E2255 | | E2155 | |
| | | 18 | 00 | | 00 | | 00 | | E2007 | |
| | | 19 | E3170 | | E2356 | | E2256 | | E2156 | |
| | | 20 | 00 | | 00 | | 00 | | E2008 | |
| | | 21 | E3171 | | E2357 | | E2257 | | E2157 | |
| | | 22 | 00 | | 00 | | 00 | | E2009 | |
| | | 23 | E3172 | | E2358 | | E2258 | | E2158 | |
| | | 24 | 00 | | 00 | | 00 | | E2010 | |
| | | 25 | E3173 | | E2359 | | E2259 | | E2159 | |
| | | 26 | 00 | | 00 | | 00 | | E2011 | |
| | | 27 | E3174 | | E2360 | | E2260 | | E2160 | |
| | | 28 | 00 | | 00 | | 00 | | E2012 | |
| | | 29 | E3175 | | E2361 | | E2261 | | E2161 | |
| | | 30 | 00 | | 00 | | 00 | | E2013 | |
| | | 31 | E3176 | | E2362 | | E2262 | | E2162 | |
| | | 32 | 00 | | 00 | | 00 | | E2014 | |
| | | 33 | E3177 | | E2363 | | E2263 | | E2163 | |
| | | 34 | 00 | | 00 | | 00 | | E2015 | |
| | | 35 | E3178 | | E2364 | | E2264 | | E2164 | |
| | | 36 | 00 | | 00 | | 00 | | E2016 | |
| | | 37 | 00 Hex | | | | | | | |
| | | 38 | CS | | | | | | | |



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| | |
|----------------------|------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64655/69655 | tm-or_as_an-sts2 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 |

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| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|----------|---------------------------------|---------|--|-------------|-------------|-------------|-------------|-------------|-------------|----------------|--|--|
| 1 | Analogue status to FEE 15 to 29 | 1 | TID = 3 FID = 26 TC ID = 8 3 (ACS) ACS acknowledgement 1A Hex | | | | | | | | | |
| | | 2 | | | | | | | | | | |
| | | 3 | | | | | | | | | | |
| | | 4 | | | | | | | | | | |
| | | 5 | | | | | | | | | | |
| | | 6 | | | | | | | | | | |
| | | 7 | | | | | | | | | | |
| | | 8 | E3179 | 00 | E2365 | 00 | E2265 | 00 | E2165 | | | |
| | | 9 | E3180 | 00 | E2366 | 00 | E2266 | 00 | E2166 | | | |
| | | 10 | E3181 | 00 | E2367 | 00 | E2267 | 00 | E2167 | | | |
| | | 11 | E3182 | 00 | E2368 | 00 | E2268 | 00 | E2168 | | | |
| | | 12 | E3183 | 00 | E2369 | 00 | E2269 | 00 | E2169 | | | |
| | | 13 | E3184 | 00 | E2370 | 00 | E2270 | 00 | E2170 | | | |
| | | 14 | E3185 | 00 | E2371 | 00 | E2271 | 00 | E2171 | | | |
| | | 15 | E3186 | 00 | E2372 | 00 | E2272 | 00 | E2172 | | | |
| | | 16 | E3187 | 00 | E2373 | 00 | E2273 | 00 | E2173 | | | |
| | | 17 | E3188 | 00 | E2374 | 00 | E2274 | 00 | E2174 | | | |
| | | 18 | E3189 | 00 | E2375 | 00 | E2275 | 00 | E2175 | | | |
| | | 19 | E3190 | 00 | E2376 | 00 | E2276 | 00 | E2176 | | | |
| | | 20 | E3191 | 00 | E2377 | 00 | E2277 | 00 | E2177 | | | |
| | | 21 | E3192 | 00 | E2378 | 00 | E2278 | 00 | E2178 | | | |
| | | 22 | E3193 | 00 | E2379 | 00 | E2279 | 00 | E2179 | | | |
| | | 23 | 00 | 00 | 00 | 00 | 00 | 00 | E2069 | | | |
| | | 24 | 00 | 00 | 00 | 00 | 00 | 00 | E2070 | | | |
| | | 25 | 00 | 00 | 00 | 00 | 00 | 00 | E2065 | | | |
| | | 26 | 00 | 00 | 00 | 00 | 00 | 00 | E2066 | | | |
| | | 27 | 00 | 00 | 00 | 00 | 00 | 00 | E2067 | | | |
| | | 28 | 00 | 00 | 00 | 00 | 00 | 00 | E2068 | | | |
| | | 29 | 00 | 00 | 00 | 00 | 00 | 00 | E2069 | | | |
| | | 30 | 00 | 00 | 00 | 00 | 00 | 00 | E2070 | | | |
| | | 31 | 00 | 00 | 00 | 00 | 00 | 00 | E2065 | | | |
| | | 32 | 00 | 00 | 00 | 00 | 00 | 00 | E2066 | | | |
| | | 33 | 00 | 00 | 00 | 00 | 00 | 00 | E2067 | | | |
| | | 34 | 00 | 00 | 00 | 00 | 00 | 00 | E2068 | | | |
| | | 35 | 00 | 00 | 00 | 00 | 00 | 00 | E2069 | | | |
| | | 36 | 00 | 00 | 00 | 00 | 00 | 00 | E2070 | | | |
| | | 37 | 00 Hex | | | | | | | | | |
| | | 38 | CS | | | | | | | | | |



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|----------------------|------------------|
| TPN n° 64000/69000 | Name |
| FTPn PKT_64656/69656 | tm-or_as_an-sts3 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 |



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| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|----------|---------------------------------|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|--|--|
| 1 | Analogue status to FEE 30 to 44 | 1 | TID = 3 | | | | | | | | | |
| | | 2 | FID = 27 | | | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | | | |
| | | 4 | 3 (ACS) | | | | | | | | | |
| | | 5 | ACS acknowledgement | | | | | | | | | |
| | | 6 | 1B Hex | | | | | | | | | |
| | | 7 | E3194 | E2380 | E2280 | E2180 | | | | | | |
| | | 8 | 00 | 00 | 00 | E2071 | | | | | | |
| | | 9 | E3195 | E2381 | E2281 | E2181 | | | | | | |
| | | 10 | 00 | 00 | 00 | E2072 | | | | | | |
| | | 11 | E3196 | E2382 | E2282 | E2182 | | | | | | |
| | | 12 | 00 | 00 | 00 | E2073 | | | | | | |
| | | 13 | E3197 | E2383 | E2283 | E2183 | | | | | | |
| | | 14 | 00 | 00 | 00 | E2074 | | | | | | |
| | | 15 | E3198 | E2384 | E2284 | E2184 | | | | | | |
| | | 16 | 00 | 00 | 00 | E2075 | | | | | | |
| | | 17 | E3199 | E2385 | E2285 | E2185 | | | | | | |
| | | 18 | 00 | 00 | 00 | E2076 | | | | | | |
| | | 19 | E3200 | E2386 | E2286 | E2186 | | | | | | |
| | | 20 | 00 | 00 | 00 | E2077 | | | | | | |
| | | 21 | E3201 | E2387 | E2287 | E2187 | | | | | | |
| | | 22 | 00 | 00 | 00 | E2078 | | | | | | |
| | | 23 | E3202 | E2388 | E2288 | E2188 | | | | | | |
| | | 24 | 00 | 00 | 00 | E2079 | | | | | | |
| | | 25 | E3203 | E2389 | E2289 | E2189 | | | | | | |
| | | 26 | 00 | 00 | 00 | E2080 | | | | | | |
| | | 27 | E3204 | E2390 | E2290 | E2190 | | | | | | |
| | | 28 | 00 | 00 | 00 | E2081 | | | | | | |
| | | 29 | E3205 | E2391 | E2291 | E2191 | | | | | | |
| | | 30 | 00 | 00 | 00 | E2082 | | | | | | |
| | | 31 | E3206 | E2392 | E2292 | E2192 | | | | | | |
| | | 32 | 00 | 00 | 00 | E2083 | | | | | | |
| | | 33 | E3207 | E2393 | E2293 | E2193 | | | | | | |
| | | 34 | 00 | 00 | 00 | E2084 | | | | | | |
| | | 35 | E3208 | E2394 | E2294 | E2194 | | | | | | |
| | | 36 | 00 | 00 | 00 | E2085 | | | | | | |
| | | 37 | 00 Hex | | | | | | | | | |
| | | 38 | CS | | | | | | | | | |



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|----------------------|------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64657/69657 | tm-or_as_an-sts4 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 |



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| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|----------|---------------------------------|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|--|--|
| 1 | Analogue status to FEE 45 to 59 | 1 | TID = 3 | | | | | | | | | |
| | | 2 | FID = 28 | | | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | | | |
| | | 4 | 3 (ACS) | | | | | | | | | |
| | | 5 | ACS acknowledgement | | | | | | | | | |
| | | 6 | 1C Hex | | | | | | | | | |
| | | 7 | E3209 | E2395 | E2295 | E2195 | | | | | | |
| | | 8 | 00 | 00 | 00 | E2086 | | | | | | |
| | | 9 | E3210 | E2396 | E2296 | E2196 | | | | | | |
| | | 10 | 00 | 00 | 00 | E2087 | | | | | | |
| | | 11 | E3211 | E2397 | E2297 | E2197 | | | | | | |
| | | 12 | 00 | 00 | 00 | E2088 | | | | | | |
| | | 13 | E3212 | E2398 | E2298 | E2198 | | | | | | |
| | | 14 | 00 | 00 | 00 | E2089 | | | | | | |
| | | 15 | E3213 | E2399 | E2299 | E2199 | | | | | | |
| | | 16 | 00 | 00 | 00 | E2090 | | | | | | |
| | | 17 | E3214 | E2400 | E2300 | E2200 | | | | | | |
| | | 18 | 00 | 00 | 00 | E2091 | | | | | | |
| | | 19 | E3215 | E2401 | E2301 | E2201 | | | | | | |
| | | 20 | 00 | 00 | 00 | E2092 | | | | | | |
| | | 21 | E3216 | E2402 | E2302 | E2202 | | | | | | |
| | | 22 | 00 | 00 | 00 | E2093 | | | | | | |
| | | 23 | E3217 | E2403 | E2303 | E2203 | | | | | | |
| | | 24 | 00 | 00 | 00 | E2094 | | | | | | |
| | | 25 | E3218 | E2404 | E2304 | E2204 | | | | | | |
| | | 26 | 00 | 00 | 00 | E2095 | | | | | | |
| | | 27 | E3219 | E2405 | E2305 | E2205 | | | | | | |
| | | 28 | 00 | 00 | 00 | E2096 | | | | | | |
| | | 29 | E3220 | E2406 | E2306 | E2206 | | | | | | |
| | | 30 | 00 | 00 | 00 | E2097 | | | | | | |
| | | 31 | E3221 | E2407 | E2307 | E2207 | | | | | | |
| | | 32 | 00 | 00 | 00 | E2098 | | | | | | |
| | | 33 | E3222 | E2408 | E2308 | E2208 | | | | | | |
| | | 34 | 00 | 00 | 00 | E2099 | | | | | | |
| | | 35 | E3223 | E2409 | E2309 | E2209 | | | | | | |
| | | 36 | 00 | 00 | 00 | E2100 | | | | | | |
| | | 37 | 00 Hex | | | | | | | | | |
| | | 38 | CS | | | | | | | | | |



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|----------------------|------------------|
| TPN n° 64000/69000 | Name |
| FTPn PKT_64658/69658 | tm-or_as_an-sts5 |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 |

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| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---------------------------------|---------|--|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 1 | Analogue status to FEE 60 to 75 | 1 | TID = 3 FID = 29 TC ID = 8 3 (ACS) ACS acknowledgement 1D Hex | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | E3224 | E3131 | E2310 | E2210 | | | | |
| | | 8 | 00 | 00 | 00 | E3256 | | | | |
| | | 9 | E3225 | E3132 | E2311 | E2211 | | | | |
| | | 10 | 00 | 00 | 00 | E3257 | | | | |
| | | 11 | E3226 | E3133 | E2312 | E2212 | | | | |
| | | 12 | 00 | 00 | 00 | E3258 | | | | |
| | | 13 | E3227 | E3134 | E2313 | E2213 | | | | |
| | | 14 | 00 | 00 | 00 | E3259 | | | | |
| | | 15 | E3228 | E3135 | E2314 | E2214 | | | | |
| | | 16 | 00 | 00 | 00 | E3260 | | | | |
| | | 17 | E3229 | E3136 | E2315 | E2215 | | | | |
| | | 18 | 00 | 00 | 00 | E3261 | | | | |
| | | 19 | E3230 | E3137 | E2316 | E2216 | | | | |
| | | 20 | 00 | 00 | 00 | E3262 | | | | |
| | | 21 | E3231 | E3138 | E2317 | E2217 | | | | |
| | | 22 | 00 | 00 | 00 | E3263 | | | | |
| | | 23 | E3232 | E3139 | E2318 | E2218 | | | | |
| | | 24 | 00 | 00 | 00 | E3264 | | | | |
| | | 25 | E3233 | E3140 | E2319 | E2219 | | | | |
| | | 26 | 00 | 00 | 00 | E3265 | | | | |
| | | 27 | E3234 | E3141 | E2320 | E2220 | | | | |
| | | 28 | 00 | 00 | 00 | E3266 | | | | |
| | | 29 | E3235 | E3142 | E2321 | E2221 | | | | |
| | | 30 | 00 | 00 | 00 | E3267 | | | | |
| | | 31 | E3236 | E3143 | E2322 | E2222 | | | | |
| | | 32 | 00 | 00 | 00 | E3268 | | | | |
| | | 33 | E3237 | E3144 | E2323 | E2223 | | | | |
| | | 34 | 00 | 00 | 00 | E3269 | | | | |
| | | 35 | E3238 | E3145 | E2324 | E2224 | | | | |
| | | 36 | 00 | 00 | 00 | E3270 | | | | |
| | | 37 | E3239 | E3146 | E2325 | E2225 | | | | |
| | | 38 | 00 | 00 | 00 | E3271 | | | | |
| | | 38 | 00 Hex | | | | | | | |
| 39 | CS | | | | | | | | | |



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| | |
|----------------------|------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64659/69659 | tm-or_as_an-sts6 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 |

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| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---------------------------------|---------|--|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| 1 | Analogue status to FEE 76 to 91 | 1 | TID = 3 FID = 30 TC ID = 8 3 (ACS) ACS acknowledgement 1E Hex | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | E3240 | E3147 | E2326 | E2226 | | | | |
| | | 8 | 00 | 00 | 00 | E3272 | | | | |
| | | 9 | E3241 | E3148 | E2327 | E2227 | | | | |
| | | 10 | 00 | 00 | 00 | E3273 | | | | |
| | | 11 | E3242 | E3149 | E2328 | E2228 | | | | |
| | | 12 | 00 | 00 | 00 | E3274 | | | | |
| | | 13 | E3243 | E3150 | E2329 | E2229 | | | | |
| | | 14 | 00 | 00 | 00 | E3275 | | | | |
| | | 15 | E3244 | E3151 | E2330 | E2230 | | | | |
| | | 16 | 00 | 00 | 00 | E3276 | | | | |
| | | 17 | E3245 | E3152 | E2331 | E2231 | | | | |
| | | 18 | 00 | 00 | 00 | E3277 | | | | |
| | | 19 | E3246 | E3153 | E2332 | E2232 | | | | |
| | | 20 | 00 | 00 | 00 | E3278 | | | | |
| | | 21 | E3247 | E3154 | E2333 | E2233 | | | | |
| | | 22 | 00 | 00 | 00 | E3279 | | | | |
| | | 23 | E3248 | E3155 | E2334 | E2234 | | | | |
| | | 24 | 00 | 00 | 00 | E3280 | | | | |
| | | 25 | E3249 | E3156 | E2335 | E2235 | | | | |
| | | 26 | 00 | 00 | 00 | E3281 | | | | |
| | | 27 | E3250 | E3157 | E2336 | E2236 | | | | |
| | | 28 | 00 | 00 | 00 | E3282 | | | | |
| | | 29 | E3251 | E3158 | E2337 | E2237 | | | | |
| | | 30 | 00 | 00 | 00 | E3283 | | | | |
| | | 31 | E3252 | E3159 | E2338 | E2238 | | | | |
| | | 32 | 00 | 00 | 00 | E3284 | | | | |
| | | 33 | E3253 | E3160 | E2339 | E2239 | | | | |
| | | 34 | 00 | 00 | 00 | E3285 | | | | |
| | | 35 | E3254 | E3161 | E2340 | E2240 | | | | |
| | | 36 | 00 | 00 | 00 | E3286 | | | | |
| | | 37 | E3289 | E3162 | E2341 | E2241 | | | | |
| | | 38 | 00 | 00 | 00 | E3287 | | | | |
| | | 39 | 00 Hex | | | | | | | |
| 40 | CS | | | | | | | | | |



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| | |
|----------------------|------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64660/69660 | tm-or_as_alt-st1 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--------------------------|---------|--|----------|----------|----------|----------|----------|----------|-------------|
| 1 | FEE alert status 0 to 30 | 1 | TID = 3 FID = 32 TC ID = 8 2 (ACS) ACS acknowledgement 20 Hex | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | | 0 | 0 | 0 | 0 | 0 | | E2600 | |
| | | | 0 | 0 | 0 | 0 | 0 | | E2630 | |
| | | | CS | | | | | | | |



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| | |
|----------------------|------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64661/69661 | tm-or_as_alt-st2 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---------------------------|---------|--|----------|----------|----------|----------|----------|----------|-------------|
| 1 | FEE alert status 31 to 61 | 1 | TID = 3 FID = 33 TC ID = 8 3 (ACS) ACS acknowledgement 21 Hex | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | 37 | 0 | 0 | 0 | 0 | 0 | E2661 | | |
| | | 38 | CS | | | | | | | |



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| | |
|----------------------|------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64662/69662 | tm-or_as_alt-st3 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---------------------------|---------|--|----------|----------|----------|----------|----------|----------|-------------|
| 1 | FEE alert status 62 to 90 | 1 | TID = 3 FID = 34 TC ID = 8 3 (ACS) ACS acknowledgement 22 Hex | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | | 0 | 0 | 0 | 0 | 0 | | E2662 | |
| | | | 0 | 0 | 0 | 0 | 0 | | E2690 | |
| | | 35 | 00 Hex 00 Hex CS | | | | | | | |
| 36 | | | | | | | | | | |
| 37 | | | | | | | | | | |
| 38 | | | | | | | | | | |



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| | |
|----------------------|------------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64663/69663 | tm-or_pd_lid-st1 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---|---------|---------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Request running average of baseline and noise for detector n° 0 to 11 | 1 | TID = 4 | | | | | | | |
| | | 2 | FID = 27 | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | |
| | | 4 | 4 (PSD) | | | | | | | |
| | | 5 | PSD acknowledgement | | | | | | | |
| | | 6 | 1B Hex | | | | | | | |
| | | 7 | E4860 | | | | | | | |
| | | 8 | E4900 | | | | | | | |
| | | 9 | E4861 | | | | | | | |
| | | 10 | E4901 | | | | | | | |
| | | | | | | | | | | |
| | | 29 | E4871 | | | | | | | |
| | | 30 | E4911 | | | | | | | |
| | | 31 | 00 Hex | | | | | | | |
| | | 32 | CS | | | | | | | |



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|----------------------|------------------|
| TPN n° 64000/69000 | Name |
| FTPn PKT_64664/69664 | tm-or_pd_lid-st2 |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 |



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| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|----------|---|---------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|-------|-------|
| 1 | Request average baseline and noise for detector n° 12 to 18 Soft and analogue control | 1 | TID = 4 | | | | | | | | | |
| | | 2 | FID = 28 | | | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | | | |
| | | 4 | 4 (PSD) | | | | | | | | | |
| | | 5 | PSD acknowledgement | | | | | | | | | |
| | | 6 | 1C Hex | | | | | | | | | |
| | | 7 | E4872 | | | | | | | | | |
| | | 8 | E4912 | | | | | | | | | |
| | | 9 | E4873 | | | | | | | | | |
| | | 10 | E4913 | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | 19 | E4878 | | | | | | | |
| | | | | 20 | E4918 | | | | | | | |
| | | | | 21 | E4813 | | | | | | | |
| | | | | 22 | 00 Hex | | | | | | | |
| | | | | 23 | E4927 | E4926 | E4925 | E4924 | E4923 | E4922 | E4921 | E4920 |
| | | | | 24 | E4935 | E4934 | E4933 | E4932 | E4931 | E4930 | E4929 | E4928 |
| | | | | 25 | E4940 | | | E4939 | | E4938 | E4937 | E4936 |
| | | | | 26 | 0 | 0 | 0 | E4943 | | E4942 | | E4941 |
| | | | | 27 | E4814 | | | | | | | |
| | | | | 28 | E4814 | | | | | | | |
| | | | | 29 | 00 Hex | | | | | | | |
| | | | | 30 | 00 Hex | | | | | | | |
| | | | | 31 | 00 Hex | | | | | | | |
| | | | | 32 | CS | | | | | | | |



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| | |
|----------------------|--------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64700/69700 | tm-or_pd_cal |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|----------------------|---------|---------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1 | ACS calibration data | 1 | TID = 3 | | | | | | | |
| | | 2 | FID = 46 | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | |
| | | 4 | 3 (ACS) | | | | | | | |
| | | 5 | ACS acknowledgement | | | | | | | |
| | | 6 | 2E Hex | | | | | | | |
| | | 7 | E2033 | | | | | | | |
| | | 8 | E2034 | | | | | | | |
| | | 9 | E2034 | | | | | | | |
| | | 10 | E2035 | | | | | | | |
| | | 11 | E2035 | | | | | | | |
| | | 12 | E2036 | | | | | | | |
| | | 13 | E2036 | | | | | | | |
| | | 34 | E2047 | | | | | | | |
| | | 35 | E2047 | | | | | | | |
| | | 36 | E2048 | | | | | | | |
| | | 37 | E2048 | | | | | | | |
| | | 38 | E2049 | | | | | | | |
| | | 39 | E2049 | | | | | | | |
| | | 40 | CS | | | | | | | |



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1.4.3. On-request - Memory dump (TBC)

| | |
|----------------------|---------------|
| TPN n° 64042/69042 | Name |
| FTPN PKT_64042/69042 | tm-or_dump-df |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1030/1158 | b 11 | | 433 | 6 | 2 | | 1 |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|----------------------|---------|---------------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1 | On-request dump DFEE | 1 | 5 (16 bits encoded) (MID) | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | TC ID = 6 | | | | | | | |
| | | 5 | 5 (DFEE) | | | | | | | |
| | | 6 | User's acknowledgement | | | | | | | |
| | | 7 | "D" | | | | | | | |
| | | 8 | E/F3932 | | | | | | | |
| | | 9 | E/F3932 | | | | | | | |
| | | 10 | E/F3932 | | | | | | | |
| | | 11 | E/F3935 | | | | | | | |
| | | 12 | E/F3908 | | | | | | | |
| | | | E/F3909 | | | | | | | |
| | | 34 | E/F3931 | | | | | | | |
| | | 35 | 00 Hex | | | | | | | |
| | | 36 | CS | | | | | | | |



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| | |
|----------------------|---------------|
| TPN n° 64043/69043 | Name |
| FTPN PKT_64043/69043 | tm-or_dump-as |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1030/1158 | b 11 | | 433 | 6 | 2 | | 1 |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---------------------|---------|---------------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1 | On-request dump ACS | 1 | 3 (16 bits encoded) (MID) | | | | | | | |
| | | 2 | TC ID = 6 | | | | | | | |
| | | 3 | 3 (DFEE) | | | | | | | |
| | | 4 | User's acknowledgement | | | | | | | |
| | | 5 | "D" | | | | | | | |
| | | 6 | E/F3932 | | | | | | | |
| | | 7 | E/F3932 | | | | | | | |
| | | 8 | E/F3932 | | | | | | | |
| | | 9 | E/F3932 | | | | | | | |
| | | 10 | E/F3935 | | | | | | | |
| | | 11 | E/F3908 | | | | | | | |
| | | 12 | E/F3909 | | | | | | | |
| | | | | | | | | | | |
| | | 34 | E/F3931 | | | | | | | |
| | | 35 | 00 Hex | | | | | | | |
| | | 36 | CS | | | | | | | |



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| | |
|----------------------|---------------|
| TPN n° 64044/69044 | Name |
| FTPN PKT_64044/69044 | tm-or_dump-pd |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1030/1158 | b 11 | | 433 | 6 | 2 | | 1 |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|---------------------|---------|---------------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1 | On-request dump PSD | 1 | 4 (16 bits encoded) (MID) | | | | | | | |
| | | 2 | TC ID = 6 | | | | | | | |
| | | 3 | 4 (DPS) | | | | | | | |
| | | 4 | User's acknowledgement | | | | | | | |
| | | 5 | "D" | | | | | | | |
| | | 6 | E/F3932 | | | | | | | |
| | | 7 | E/F3932 | | | | | | | |
| | | 8 | E/F3932 | | | | | | | |
| | | 9 | E/F3932 | | | | | | | |
| | | 10 | E/F3935 | | | | | | | |
| | | 11 | E/F3908 | | | | | | | |
| | | 12 | E/F3909 | | | | | | | |
| | | | | | | | | | | |
| | | 34 | E/F3931 | | | | | | | |
| | | 35 | 00 Hex | | | | | | | |
| | | 36 | CS | | | | | | | |



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1.4.4. On-request - Monitoring

Not applicable

1.4.5. On-request - TLM management

Not applicable

1.4.6. On-request - Diagnostic



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| | |
|----------------------|---------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64901/69901 | tm-or_diag_n1 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 10 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | On-request diagnostic table configuration n° 1 | 1 | TID = 1 FID = 16 TC ID = 8 1 (IASW) S/A acknowledgement 10 Hex | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | 8 | | | | | | | | |
| | | 9 | | | | | | | | |
| | | 10 | | | | | | | | |
| | | | E1901 E3401 E1902 E3402 | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | E1916 E3416 00 CS | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |



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| | |
|----------------------|---------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64902/69902 | tm-or_diag_n2 |

| Packet Header | | | | | | Data Field Header | | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 11 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | On-request diagnostic table configuration n° 2 | 1 | TID = 1 FID = 17 TC ID = 8 1 (IASW) S/A acknowledgement 11 Hex | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | 8 | | | | | | | | |
| | | 9 | | | | | | | | |
| | | 10 | | | | | | | | |
| | | 37 | E1932 E3432 00 CS | | | | | | | |
| | | 38 | | | | | | | | |
| | | 39 | | | | | | | | |
| | | 40 | | | | | | | | |



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| | |
|----------------------|---------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64904/69904 | tm-or_diag_n4 |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 13 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|---------|---------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1 | On-request diagnostic table configuration n° 4 | 1 | TID = 1 | | | | | | | |
| | | 2 | FID = 19 | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | |
| | | 4 | 1 (IASW) | | | | | | | |
| | | 5 | S/A acknowledgement | | | | | | | |
| | | 6 | 13 Hex | | | | | | | |
| | | 7 | E1949 | | | | | | | |
| | | 8 | E3449 | | | | | | | |
| | | 9 | E1950 | | | | | | | |
| | | 10 | E3450 | | | | | | | |
| | | | | | | | | | | |
| | | 37 | E1964 | | | | | | | |
| | | 38 | E3464 | | | | | | | |
| | | 39 | 00 | | | | | | | |
| | | 40 | CS | | | | | | | |



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| | |
|----------------------|---------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64905/69905 | tm-or_diag_n5 |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 14 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | On-request diagnostic table configuration n° 5 | 1 | TID = 1 FID = 20 TC ID = 8 1 (IASW) S/A acknowledgement 14 Hex | | | | | | | |
| | | 2 | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 4 | | | | | | | | |
| | | 5 | | | | | | | | |
| | | 6 | | | | | | | | |
| | | 7 | | | | | | | | |
| | | 8 | | | | | | | | |
| | | 9 | | | | | | | | |
| | | 10 | | | | | | | | |
| | | 37 | E1980 E3480 00 CS | | | | | | | |
| | | 38 | | | | | | | | |
| | | 39 | | | | | | | | |
| | | 40 | | | | | | | | |



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| | |
|----------------------|---------------|
| TPN n° 64000/69000 | Name |
| FTPN PKT_64906/69906 | tm-or_diag_n6 |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1029/1157 | b 11 | | 433 | 5 | 4 | | 1 - 15 Hex |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|---------|---------------------|----------|----------|----------|----------|----------|----------|-------------|
| 1 | On-request diagnostic table configuration n° 6 | 1 | TID = 1 | | | | | | | |
| | | 2 | FID = 21 | | | | | | | |
| | | 3 | TC ID = 8 | | | | | | | |
| | | 4 | 1 (IASW) | | | | | | | |
| | | 5 | S/A acknowledgement | | | | | | | |
| | | 6 | 15 Hex | | | | | | | |
| | | 7 | E1981 | | | | | | | |
| | | 8 | E3481 | | | | | | | |
| | | 9 | E1982 | | | | | | | |
| | | 10 | E3482 | | | | | | | |
| | | | | | | | | | | |
| | | 37 | E1996 | | | | | | | |
| | | 38 | E3496 | | | | | | | |
| | | 39 | 00 | | | | | | | |
| | | 40 | CS | | | | | | | |



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1.4.7. DIAGNOSTIC TELEMETRY

| TPN n° | Name |
|-----------------|-------------|
| PKT_61136/66264 | tm_diag-1-8 |

| Packet Header | | | | | | | Data Field Header | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------|-------------------|---------------|------|--|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1136/1264 | b 11 | | 433 | 3 | 0 | | HK diag 1 HK diag 2 HK diag 3 HK diag 4 HK diag 5 HK diag 6 HK diag 7 HK diag 8 |
| | | | | | | (288) | | | | |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|-------------|---------|---------------------|----------|----------|----------|----------|----------|----------|-------------|
| HK diag 1 | | 1 | S/A acknowledgement | | | | | | | |
| | | 2 | S/A block ident | | | | | | | |
| | | 36 | CS* | | | | | | | |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|-----------|-------------|---------|---------------------|----------|----------|----------|----------|----------|----------|-------------|
| HK diag 8 | | 253 | S/A acknowledgement | | | | | | | |
| | | 254 | S/A block ident | | | | | | | |
| | | 288 | CS* | | | | | | | |

* The diagnostic blocks inside the diagnostic packet have always the same structure (36 bytes) but the check scan can be located anywhere in the block depending of which S/A block has been selected. The non used bytes are set to 0.



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| TPN n° | Name |
|-----------------|--------------|
| PKT_61137/66265 | tm_diag-9-16 |

| Packet Header | | | | | | | Data Field Header | | | Data Field |
|---------------|------|------|-----------|----------|------------|------------------|-------------------|---------------|------|---|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1137/1265 | b 11 | | 433 (288) | 3 | 1 | | HK diag 9 HK diag 10 HK diag 11 HK diag 12 HK diag 13 HK diag 14 HK diag 15 HK diag 16 |

| TPN n° | Name |
|-----------------|---------------|
| PKT_61138/66266 | tm_diag-17-24 |

| Packet Header | | | | | | | Data Field Header | | | Data Field |
|---------------|------|------|-----------|----------|------------|------------------|-------------------|---------------|------|--|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1138/1266 | b 11 | | 433 (288) | 3 | 2 | | HK diag 17 HK diag 18 HK diag 19 HK diag 20 HK diag 21 HK diag 22 HK diag 23 HK diag 24 |



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| TPN n° | Name |
|-----------------|---------------|
| PKT_61139/66267 | tm_diag-25-32 |

| Packet Header | | | | | | | Data Field Header | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------|-------------------|---------------|------|--|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1139/1267 | b 11 | | 433 | 3 | 3 | | HK diag 25 HK diag 26 HK diag 27 HK diag 28 HK diag 29 HK diag 30 HK diag 31 HK diag 32 |
| | | | | | | (288) | | | | |

| TPN n° | Name |
|-----------------|---------------|
| PKT_61140/66268 | tm_diag-33-40 |

| Packet Header | | | | | | | Data Field Header | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------|-------------------|---------------|------|--|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1140/1268 | b 11 | | 433 | 3 | 4 | | HK diag 33 HK diag 34 HK diag 35 HK diag 36 HK diag 37 HK diag 38 HK diag 39 HK diag 40 |
| | | | | | | (288) | | | | |



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| TPN n° | Name |
|-----------------|---------------|
| PKT_61141/66269 | tm_diag-41-48 |

| Packet Header | | | | | | | Data Field Header | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------|-------------------|---------------|------|--|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1141/1269 | b 11 | | 433 | 3 | 5 | | HK diag 41 HK diag 42 HK diag 43 HK diag 44 HK diag 45 HK diag 46 HK diag 47 HK diag 48 |
| | | | | | | (288) | | | | |

| TPN n° | Name |
|-----------------|---------------|
| PKT_61142/66270 | tm_diag-49-56 |

| Packet Header | | | | | | | Data Field Header | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------|-------------------|---------------|------|--|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1142/1270 | b 11 | | 433 | 3 | 6 | | HK diag 49 HK diag 50 HK diag 51 HK diag 52 HK diag 53 HK diag 54 HK diag 55 HK diag 56 |
| | | | | | | (288) | | | | |



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| TPN n° | Name |
|-----------------|---------------|
| PKT_61143/66271 | tm_diag-57-64 |

| Packet Header | | | | | | | Data Field Header | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------|-------------------|---------------|------|--|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1143/1271 | b 11 | | 433 | 3 | 7 | | HK diag 57 HK diag 58 HK diag 59 HK diag 60 HK diag 61 HK diag 62 HK diag 63 HK diag 64 |
| | | | | | | (288) | | | | |

| TPN n° | Name |
|-----------------|---------------|
| PKT_61144/66272 | tm_diag-65-72 |

| Packet Header | | | | | | | Data Field Header | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------|-------------------|---------------|------|--|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1144/1272 | b 11 | | 433 | 3 | 8 | | HK diag 65 HK diag 66 HK diag 67 HK diag 68 HK diag 69 HK diag 70 HK diag 71 HK diag 72 |
| | | | | | | (288) | | | | |



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| TPN n° | Name |
|-----------------|---------------|
| PKT_61145/66273 | tm_diag-73-80 |

| Packet Header | | | | | | | Data Field Header | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------|-------------------|---------------|------|--|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1145/1273 | b 11 | | 433 | 3 | 9 | | HK diag 73 HK diag 74 HK diag 75 HK diag 76 HK diag 77 HK diag 78 HK diag 79 HK diag 80 |
| | | | | | | (288) | | | | |

| TPN n° | Name |
|-----------------|---------------|
| PKT_61146/66274 | tm_diag-81-88 |

| Packet Header | | | | | | | Data Field Header | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------|-------------------|---------------|------|--|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1146/1274 | b 11 | | 433 | 3 | 10 | | HK diag 81 HK diag 82 HK diag 83 HK diag 84 HK diag 85 HK diag 86 HK diag 87 HK diag 88 |
| | | | | | | (288) | | | | |



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| TPN n° | Name |
|-----------------|---------------|
| PKT_61147/66275 | tm_diag-89-96 |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------------|--|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1147/1275 | b 11 | | 433 | 3 | 11 | | HK diag 89 HK diag 90 HK diag 91 HK diag 92 HK diag 93 HK diag 94 HK diag 95 HK diag 96 |
| | | | | | | (288) | | | | |



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1.4.8. CSSW HK PACKET (TBC)

| | |
|-------------|------|
| TPN n° | Name |
| FTPN 240108 | TBD |

| Packet Header | | | | | | | Data Field Header | | | Data Field |
|---------------|------|------|------|----------|------------|-------------|-------------------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1024 | b 11 | | 433 | 1 | 8 | | 1 |



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| N° Block | Description | N° Word | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|----------|--------------------|---------|-------------------|--|-------------|-------------|-------------|-------------|-------------|-------------|----------------|--|--|
| 1 | IASW HK parameters | 1 | 1 | E0029 IASW Version number | | | | | | | | | |
| | | 1 | 2 | E0029 IASW Version number | | | | | | | | | |
| | | 2 | 3 | E0049 Instrument mode | | | | | | | | | |
| | | 2 | 4 | E0049 Instrument mode | | | | | | | | | |
| | | 3 | 5 | E0069 IASW operational status | | | | | | | | | |
| | | 3 | 6 | E0069 IASW operational status | | | | | | | | | |
| | | 4 | 7 | E0089 Eclipse | | | | | | | | | |
| | | 4 | 8 | E0089 Eclipse | | | | | | | | | |
| | | 5 | 9 | E0109 Imminent switch OFF | | | | | | | | | |
| | | 5 | 10 | E0109 Imminent switch OFF | | | | | | | | | |
| | | 6 | 11 | E0129 Imminent radiation belts | | | | | | | | | |
| | | 6 | 12 | E0129 Imminent radiation belts | | | | | | | | | |
| | | 7 | 13 | E0149 High background count | | | | | | | | | |
| | | 7 | 14 | E0149 High background count | | | | | | | | | |
| | | 8 | 15 | E0169 ESAM | | | | | | | | | |
| | | 8 | 16 | E0169 ESAM | | | | | | | | | |
| | | 9 | 17 | E4339 Maintenance in progress | | | | | | | | | |
| | | 9 | 18 | E4359 S/A under maintenance | | | | | | | | | |
| | | 10 | 19 | E0229 Photon/Photon occupation | | | | | | | | | |
| | | 10 | 20 | E0229 Photon/Photon occupation | | | | | | | | | |
| | | 11 | 21 | E0229 Photon/Photon occupation | | | | | | | | | |
| | | 11 | 22 | E0229 Photon/Photon occupation | | | | | | | | | |
| | | 12 | 23 | E0269 Ground TC number read | | | | | | | | | |
| | | 12 | 24 | E0269 Ground TC number read | | | | | | | | | |
| | | 13 | 25 | E0289 On-Board command number read | | | | | | | | | |
| | | 13 | 26 | E0289 On-Board command number read | | | | | | | | | |
| | | 14 | 27 | E0309 Sequence count of the last ground TC read | | | | | | | | | |
| | | 14 | 28 | E0309 Sequence count of the last ground TC read | | | | | | | | | |
| | | 15 | 29 | E0329 Sequence count of the last On-Board command read | | | | | | | | | |
| | | 15 | 30 | E0329 Sequence count of the last On-Board command read | | | | | | | | | |
| | | 16 | 31 | E0349 Ground TC number read failure number | | | | | | | | | |
| | | 16 | 32 | E0349 Ground TC number read failure number | | | | | | | | | |
| | | 17 | 33 | E0369 Sequence count of ground TC with failure | | | | | | | | | |
| | | 17 | 34 | E0369 Sequence count of ground TC with failure | | | | | | | | | |
| | | 18 | 35 ⁽⁵⁾ | E0495 | E0496 | 0 | 0 | 0 | E0497 | E0498 | E0499 | | |
| | | 18 | 36 | 00 Hex | | | | | | | | | |
| | | 19 | 37 ⁽⁶⁾ | E3881 | | | 0 | 0 | E3882 | 0 | E3883 | | |
| | | 19 | 38 ⁽⁷⁾ | 0 | 0 | 0 | 0 | E0896 | 0 | E0898 | E0899 | | |
| | | 20 | 39 ⁽⁸⁾ | E0992 | | | | E0993 | | | | | |
| | | 20 | 40 | Checksum (Comment: on 5 bytes AFEE status) | | | | | | | | | |
| | | 21 | 41 ⁽⁹⁾ | E0695 | E0696 | 0 | E0693 | E0694 | E0697 | E0698 | E0699 | | |
| | | 21 | 42 | 00 Hex | | | | | | | | | |



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| N° Block | Description | N° Word | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|--|---------|--------------------|--|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| | | 22 | 43 ⁽¹⁰⁾ | E3887 | | | 0 | 0 | E3888 | 0 | E3889 |
| | | 22 | 44 ⁽¹¹⁾ | E1292 | E1293 | E2131 | E2132 | E1296 | E1297 | E1298 | E1299 |
| | | 23 | 45 ⁽¹²⁾ | E1295 | 0 | 0 | E1395 | E1396 | E1399 | | |
| | | 23 | 46 | Checksum (Comment: on 5 bytes ACS status) | | | | | | | |
| | | 24 | 47 ⁽¹³⁾ | E0795 | E0796 | 0 | 0 | 0 | E0797 | E0798 | E0799 |
| | | 24 | 48 | 00 Hex | | | | | | | |
| | | 25 | 49 ⁽¹⁴⁾ | E3890 | | | 0 | 0 | E3891 | 0 | E3892 |
| | | 25 | 50 ⁽¹⁵⁾ | E1495 | 0 | 0 | 0 | 0 | E1494 | 0 | 0 |
| | | 26 | 51 ⁽¹⁶⁾ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 26 | 52 | Checksum (Comment: on 5 bytes PSD status) | | | | | | | |
| | | 27 | 53 (1) | E0595 | E0596 | 0 | 0 | 0 | E0597 | E0598 | E0599 |
| | | 27 | 54 | 00 Hex | | | | | | | |
| | | 28 | 55 (2) | E3884 | | | 0 | 0 | E3885 | E4001 | E3886 |
| | | 28 | 56 (3) | E4002 | E4003 | E4004 | E4005 | E4006 | E4007 | E4008 | E4009 |
| | | 29 | 57 (4) | E4010 | E4011 | E4012 | E4013 | E4014 | E4015 | E4016 | E4017 |
| | | 29 | 58 | Checksum (Comment: on 5 bytes DFEE status) | | | | | | | |
| | | 30 | 59 | E/F0110 | | | | | | | |
| | | 30 | 60 | E/F0110 | | | | | | | |
| | | 31 | 61 | E/F0111 | | | | | | | |
| | | 31 | 62 | E/F0111 | | | | | | | |
| | | 32 | 63 | E/F0112 | | | | | | | |
| | | 32 | 64 | E/F0112 | | | | | | | |
| 2 | Digital converter output voltage for detector n° 0 to 18 | 33 | 65 | AFEE acknowledgement | | | | | | | |
| | | 33 | 66 | 16 Hex | | | | | | | |
| | | 34 | 67 | E/F0350 | | | | | | | |
| | | 43 | 85 | E/F0368 | | | | | | | |
| | | 43 | 86 | CS | | | | | | | |
| 3 | HVPS voltage for detector n° 0 to 18 | 44 | 87 | AFEE acknowledgement | | | | | | | |
| | | 44 | 88 | 11 Hex | | | | | | | |
| | | 45 | 89 | E/F0250 | | | | | | | |
| | | 54 | 107 | E/F0268 | | | | | | | |
| | | 54 | 108 | CS | | | | | | | |

E1493 deleted



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| N° Block | Description | N° Word | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|----------|-----------------------|---------|---------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|-------|-----------|
| 4 | New BCP TM parameters | 55 | 109 | | | | | | | | E4100 | | |
| | | 55 | 110 | | | | | | | | | E4100 | |
| | | 56 | 111 | | | | | | | | | E4100 | |
| | | 56 | 112 | | | | | | | | | E4100 | |
| | | 57 | 113 | | | | | | | | | E4101 | |
| | | 57 | 114 | | | | | | | | | E4101 | |
| | | 58 | 115 | | | | | | | | | E4101 | |
| | | 58 | 116 | | | | | | | | | E4101 | |
| | | 59 | 117 | | | | | | | | | E4102 | |
| | | 59 | 118 | | | | | | | | | E4102 | |
| | | 60 | 119 | | | | | | | | | E4102 | |
| | | 60 | 120 | | | | | | | | | E4102 | |
| | | 61 | 121 | | | | | | | | | E4103 | |
| | | 61 | 122 | | | | | | | | | E4103 | |
| | | 62 | 123 | | | | | | | | | E4103 | |
| | | 62 | 124 | | | | | | | | | E4103 | |
| | | 63 | 125 | | | E4104 | BCP spare | | | | | | |
| | | 63 | 126 | | | | | | | | | | BCP spare |
| | | 64 | 127 | | | | | | | | | | BCP spare |
| | | 64 | 128 | | | | | | | | | | BCP spare |
| | | 65 | 129 | | | | | | | | | | BCP spare |
| | | 65 | 130 | | | | | | | | | | BCP spare |
| | | 66 | 131 | | | | | | | | | | BCP spare |
| | | 66 | 132 | | | | | | | | | | BCP spare |
| | | 67 | 133 | | | | | | | | | | BCP spare |
| | | 67 | 134 | | | | | | | | | | BCP spare |
| | | 68 | 135 | | | | | | | | | | E4105 |
| | | 68 | 136 | | | | | | | | | | E4105 |
| | | 69 | 137 | | | | | | | | | | E4106 |
| | | 69 | 138 | | | | | | | | | | E4106 |
| | | 70 | 139 | | | | | | | | | | E4107 |
| | | 70 | 140 | | | | | | | | | | E4107 |
| | | 71 | 141 | | | | | | | | | | E4107 |
| | | 71 | 142 | | | | | | | | | | E4107 |
| | | 72 | 143 | | | | | | | | | | E4108 |
| | | 72 | 144 | | | | | | | | | | E4109 |
| | | 73 | 145 | | | | | | | | | | E4110 |
| | | 73 | 146 | | | | | | | | | | E4111 |
| | | 74 | 147 | | | | | | | | | | E4112 |
| | | 74 | 148 | | | E4113 | E4114 | BCP spare | | | | | |



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| N° Block | Description | N° Word | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|-------------|---------|---------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| | | 75 | 149 | | | | | | | | |
| | | 75 | 150 | | | | | | | | |
| | | 76 | 151 | | | | | | | | |
| | | 76 | 152 | | | | | | | | |
| | | 77 | 153 | | | | | | | | |
| | | 77 | 154 | | | | | | | | |
| | | 78 | 155 | | | | | | | | |
| | | 78 | 156 | | | | | | | | |
| | | 79 | 157 | | | | | | | | |
| | | 79 | 158 | | | | | | | | |
| | | 80 | 159 | | | | | | | | |
| | | 80 | 160 | | | | | | | | |
| | | 81 | 161 | | | | | | | | |
| | | 81 | 162 | | | | | | | | |
| | | 82 | 163 | | | | | | | | |
| | | 82 | 164 | | | | | | | | |
| | | 83 | 165 | | | | | | | | |
| | | 83 | 166 | | | | | | | | |
| | | 84 | 167 | E4118 | BCP spare | | | | | | |
| | | 84 | 168 | BCP spare | | | | E4119 | | | |
| | | 85 | 169 | BCP spare | | E4120 | BCP spare | | | | |
| | | 85 | 170 | BCP spare | | E4121 | | | | | |
| | | 86 | 171 | Spare | | | | | | | |
| | | 145 | 290 | Spare | | | | | | | |



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| N° Block | Description | N° Word | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|--------------------------------------|-----------------|---|--|--|-------------|-------------|-------------|-----------------|-------------|-------------|----------------|
| 5 | CSSW Parameters | 146 | 291 | 9 words reserved for future expansion of the CSSW HK data | | | | | | | |
| | | 146 | 292 | | | | | | | | |
| | | 154 | 307 | Default values: all zero | | | | | | | |
| | | 154 | 308 | | | | | | | | |
| | | 155 | 309 | E9018 SPI DPE1 Number of CSSW ICB TC sub-buffer : Elements occupied | | | | | | | |
| | | 155 | 310 | E9053 SPI DPE1 Number of IASW ICB TC sub-buffer : Elements occupied | | | | | | | |
| | | 156 | 311 | E9019 SPI DPE1 Number of ICB Science TM sub-buffer : Elements occupied | | | | | | | |
| | | 156 | 312 | E9020 SPI DPE1 Number of ICB On-request TM sub-buffer : Elements occupied | | | | | | | |
| | | 157 | 313 | E9021 SPI DPE1 Number of ICB On-event Message sub-buffer : Elements occupied | | | | | | | |
| | | 157 | 314 | E9099 | | | | | | | |
| 158 | 315 | E9022 SPI DPE1 Minimum Percentage CPU margin in previous TM cycle | | | | | | | | | |
| 158 | 316 | E9023 SPI DPE1 Maximum Percentage CPU margin in previous TM cycle | | | | | | | | | |
| 159 | 317 | E9024 SPI DPE1 BCP 4 Frozen Time (Most Significant word) | | | | | | | | | |
| 159 | 318 | E9024 SPI DPE1 BCP 4 Frozen Time (Most Significant word) | | | | | | | | | |
| 160 | 319 | E9025 SPI DPE1 BCP 4 Frozen Time (Mid Significant word) | | | | | | | | | |
| 160 | 320 | E9025 SPI DPE1 BCP 4 Frozen Time (Mid Significant word) | | | | | | | | | |
| 161 | 321 | E9026 SPI DPE1 BCP 4 Frozen Time (Least Significant word) | | | | | | | | | |
| 161 | 322 | E9026 SPI DPE1 BCP 4 Frozen Time (Least Significant word) | | | | | | | | | |
| 162 | 323 | E9027 SPI DPE1 DC 5 V Secondary voltage | | | | | | | | | |
| 162 | 324 | E9028 SPI DPE1 DC RAM 5 V Secondary voltage | | | | | | | | | |
| 163 | 325 | E9029 SPI DPE1 DC 15 V Relay Secondary Voltage | | | | | | | | | |
| 163 | 326 | E9030 SPI DPE1 DC 15 V Secondary Voltage | | | | | | | | | |
| 164 | 327 | E9031 SPI DPE1 DC -15 V Secondary Voltage | | | | | | | | | |
| 164 | 328 | E9032 SPI DPE1 DPE Hot Point Temperature | | | | | | | | | |
| 165 | 329 | Spare | | | | | | | | | |
| E9033 SPI DPE1 BIT Analogue channels | 165 | 330 | Spare | | | | | | | | |
| E9034 SPI DPE1 BIT MMU Registers | 165 | 330 | E9033 | | | | | | | | |
| E9035 SPI DPE1 BIT CPU Registers | 165 | 330 | Spare | | | | | | | | |
| | 166 | 331 | E9036 SPI DPE1 Microprocessor Configuration Register | | | | | | | | |
| | 166 | 332 | E9036 SPI DPE1 Microprocessor Configuration Register | | | | | | | | |
| | 167 | 333 | E9037 SPI DPE1 PCC Control Register | | | | | | | | |
| | 167 | 334 | E9037 SPI DPE1 PCC Control Register | | | | | | | | |
| | 168 | 335 | E9038 SPI DPE1 RBI Status Word | | | | | | | | |
| | 168 | 336 | E9038 SPI DPE1 RBI Status Word | | | | | | | | |
| | 169 | 337 | E9039 SPI DPE1 RBI Configuration Register | | | | | | | | |
| | 169 | 338 | E9039 SPI DPE1 RBI Configuration Register | | | | | | | | |
| 6 | | 170 | 339 | E9040 SPI DPE1 nb of valid OEM in TM | | | | E9041 nb of OEM | | | |
| | | 170 | 340 | E9041 nb of OEM that the DPE SW has attempted to generate, with or not success | | | | | | | |



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| | | | | |
|----|-------------------------------|-----|-----|---|
| 7 | On-Event Report message n° 1 | 171 | 341 | E9101 SPI DPE1 On-Event message # 1 generation time |
| | | 171 | 342 | E9101 SPI DPE1 On-Event message # 1 generation time |
| | | 172 | 343 | E9101 SPI DPE1 On-Event message # 1 generation time |
| | | 172 | 344 | E9101 SPI DPE1 On-Event message # 1 generation time |
| | | 173 | 345 | E9101 SPI DPE1 On-Event message # 1 generation time |
| | | 173 | 346 | E9102 Extension of On-Event Message # 1 body |
| | | 174 | 347 | E9103 OEM #1 Class |
| | | 174 | 348 | E9104 On-Event Message # 1 Identifier |
| | | 175 | 349 | E9105 Message Body 1 # 1 |
| | | 175 | 350 | E9105 Message Body 1 # 1 |
| 8 | On-Event Report message n° 2 | 176 | 351 | E9106 Message Body 2 # 1 |
| | | | | E9106 Message Body 2 # 1 |
| 14 | On-Event Report message n° 8 | 206 | 411 | E9143 SPI DPE1 On-Event message # 8 generation time |
| | | 206 | 412 | E9143 SPI DPE1 On-Event message # 8 generation time |
| | | 207 | 413 | E9143 SPI DPE1 On-Event message # 8 generation time |
| | | 207 | 414 | E9143 SPI DPE1 On-Event message # 8 generation time |
| | | 208 | 415 | E9143 SPI DPE1 On-Event message # 8 generation time |
| | | 208 | 416 | E9144 Extension of On-Event Message # 8 body |
| | | 209 | 417 | E9145 OEM #8 Class |
| | | 209 | 418 | E9146 On-Event Message # 8 Identifier |
| | | 210 | 419 | E9147 Message Body 1 # 8 |
| | | 210 | 420 | E9147 Message Body 1 # 8 |
| 15 | TC packet Verification Report | 211 | 421 | E9148 Message Body 2 # 8 |
| | | 211 | 422 | E9148 Message Body 2 # 8 |
| | | 212 | 423 | 0 0 0 0 0 0 0 0 |
| | | 212 | 424 | E9043 Accepted Ground TCP counter |
| | | 213 | 425 | E9044 Accepted On_board TCP counter |
| | | 213 | 426 | E9045 Rejected TCP counter |
| | | 214 | 427 | E9046 Last TCP rejection reason |
| | | 214 | 427 | E9047 8 LSB of the APID in the last received TCP |
| | | 214 | 428 | 0 0 E9048 E9049 TCP Source Sequence Counter |
| | | 214 | 428 | E9049 TCP Source Sequence Counter |

- | | |
|-----------------------------------|------------------------------------|
| (1) byte also identified as E2790 | (9) byte also identified as E2798 |
| (2) byte also identified as E2791 | (10) byte also identified as E2597 |
| (3) byte also identified as E2792 | (11) byte also identified as E2598 |
| (4) byte also identified as E2793 | (12) byte also identified as E2599 |
| (5) byte also identified as E2797 | (13) byte also identified as E2796 |
| (6) byte also identified as E2594 | (14) byte also identified as E2591 |
| (7) byte also identified as E2595 | (15) byte also identified as E2592 |
| (8) byte also identified as E2596 | (16) byte also identified as E2593 |



for warning/alert management purpose



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1.4.9. SCIENCE TELEMETRY

1.4.9.1. PHOTON/PHOTON ACQUISITION IN NOMINAL MODE (MODE 6)

| TPN n° | Name |
|-----------------|--------------|
| PKT_61000/66000 | tm_ph-ph-nom |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|-----------|----------|------------|-------------------|-----------|---------------|------------|--|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1088/1216 | b 11 | | 433 | 0 | 0 | | Variable : part of block or n block + part of block |



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| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 | | |
|----------|---|---------------------------------|--|---------------------------------|--------------------|-------------|-------------|-------------|-------------|----------------|--|--|
| | Goods Events for 125 ms acquisition time | 1 | Synchronisation word (1) | | | | | | | | | |
| | | 2 | Synchronisation word (1) | | | | | | | | | |
| | | 3 | Synchronisation word (1) | | | | | | | | | |
| | | 4 | Synchronisation word (1) | | | | | | | | | |
| | | 5 | Synchronisation word (1) | | | | | | | | | |
| | | 6 | Synchronisation word (1) | | | | | | | | | |
| | | 7 | Synchronisation word (1) | | | | | | | | | |
| | | 8 | Synchronisation word (1) | | | | | | | | | |
| | | 9 | On - board time | | | | | | | | | |
| | | 10 | On - board time | | | | | | | | | |
| | | 11 | On - board time | | | | | | | | | |
| | | 12 | On - board time | | | | | | | | | |
| | | 13 | On - board time | | | | | | | | | |
| | | 14 | On - board time | | | | | | | | | |
| | | 15 | Total of words for 125 ms acquisition time | | | | | | | | | |
| | | 16 | Total of words for 125 ms acquisition time | | | | | | | | | |
| | | 17 | Simple events data | | | | | | | | | |
| | | 18 | Simple events data | | | | | | | | | |
| | | | | | Simple events data | | | | | | | |
| | | | | | Simple events data | | | | | | | |
| | | Evt flag | Parity flg | Number of words simple events | | | | | | | | |
| | | Number of words simple events | | | | | | | | | | |
| | | Multiple events data | | | | | | | | | | |
| | | Multiple events data | | | | | | | | | | |
| | | Multiple events data | | | | | | | | | | |
| | | Multiple events data | | | | | | | | | | |
| | | Evt flag | Parity flg | Number of words multiple events | | | | | | | | |
| | | Number of words multiple events | | | | | | | | | | |
| | | PSD Events data | | | | | | | | | | |
| | | PSD Events data | | | | | | | | | | |
| | | PSD Events data | | | | | | | | | | |
| | | PSD Events data | | | | | | | | | | |

| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|----------|-------------|---------|---------------------------------|-------------|---------------------------------|-------------|-------------|-------------|-------------|----------------|
| | | m | Evt flag | Parity flg | Number of words PSD events data | | | | | |
| | | | Number of words PSD events data | | | | | | | |
| | | | PSD curves data | | | | | | | |
| | | | PSD curves data | | | | | | | |
| | | | PSD curves data | | | | | | | |
| | | | PSD curves data | | | | | | | |
| | | n | Evt flag | Parity flg | Number of words PSD curves data | | | | | |
| | | | Number of words PSD curves data | | | | | | | |

(1) The Synchronisation word is included once per polling cycle (every 64 blocks)

For more details on all events data, decoding and decompressing processes, see User's Manual Volume 3 SPI-MU-0-1062V3-CNES.

SPI science data format specification – SPI-ST-0-2911-CNES.



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1.4.9.2. PHOTON/PHOTON ACQUISITION IN EMERGENCY TM MODE (OPERATIONAL MODE 6)

| TPN n° | Name |
|----------------|---------------|
| PKT_61001/6601 | tm_ph-ph-emgy |

| Packet Header | | | | | | | Data Field Header | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------|-------------------|---------------|------|--|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1089/1217 | b 11 | | 433 | 0 | 1 | | Variable: part of block or n block + part of block cf. § 1.4.9.1 |



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1.4.9.3. PHOTON/PHOTON ACQUISITION IN CALIBRATION MODE

| TPN n° | Name |
|-----------------|--------------|
| PKT_61002/66002 | tm_ph-ph-cal |

| Packet Header | | | | | | | Data Field Header | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------|-------------------|---------------|------|--|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1090/1218 | b 11 | | 433 | 0 | 2 | | Variable: part of block or n block + part of block cf. § 1.4.9.1 |



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1.4.9.4. PHOTON/PHOTON ACQUISITION IN DIAGNOSTIC MODE

| TPN n° | Name |
|-----------------|---------------|
| PKT_61003/66003 | tm_ph-ph-diag |

| Packet Header | | | | | | | Data Field Header | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------|-------------------|---------------|------|---|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1091/1219 | b 11 | | 433 | 0 | 3 | | Variable: part of block or n block + part of block Same structure as cf. § 1.4.9.1 |



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1.4.9.5. SPECTRA ACQUISITION IN PHOTON/PHOTON MODE

| TPN n° | Name |
|-----------------|--------------|
| PKT_61100/66100 | tm_spt_ph_ph |

| Packet Header | | | | | | | Data Field Header | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------|-------------------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1104/1232 | b 11 | | 433 | 1 | 0 | | Variable |



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| N° Block | Description | N° Byte | MS Bit n° 0 | Bit n° 1 | Bit n° 2 | Bit n° 3 | Bit n° 4 | Bit n° 5 | Bit n° 6 | LS Bit n° 7 |
|--------------------|-------------|---------|--|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| block continued | | | Accumulation end date | | | | | | | |
| | | | Accumulation end date | | | | | | | |
| | | | Detector address nb i | | | | | | | |
| | | | Detector address nb i | | | | | | | |
| | | | Compressed values of spectra for detector nb i (1) | | | | | | | |
| | | | Compressed values of spectra for detector nb i (1) | | | | | | | |

(1) Compressed values details ; See also RD 22

| |
|---|
| Number of words after compression for channel-16 detector i |
| Number of complete words for channel-16 # 1 detector i |
| Number of bits in last word for channel-16 # 1 detector i |
| Values of channel-16 # 1 detector i |
| |
| Values of channel-16 # j detector i |



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1.4.9.6. SPECTRA ACQUISITION IN TM EMERGENCY MODE

| TPN n° | Name |
|-----------------|-------------|
| PKT_61101/66101 | tm_spt_emgy |

| Packet Header | | | | | | | Data Field Header | | | Data Field |
|---------------|------|------|-----------|----------|------------|-------------|-------------------|---------------|------|--|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | 1105/1233 | b 11 | | 433 | 1 | 1 | | Variable: Variable cf. § 1.4.9.5 |



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1.4.10. CRYOCOOLERS TELEMETRY (TBC)

| TPN n° | Name |
|--------|------|
| ? | ? |

| Packet Header | | | | | | | Data Field Header | | | Data Field |
|---------------|------|------|------|----------|------------|-------------|-------------------|---------------|------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | ? | b 11 | | 433 | ? | ? | | |

| N° Block | Description | N° Byte | MS Bit n° 7 | Bit n° 6 | Bit n° 5 | Bit n° 4 | Bit n° 3 | Bit n° 2 | Bit n° 1 | LS Bit n° 0 |
|----------|--------------------------------|---------|---|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Analogue telemetry Via CDE1 | 1 | TID | | | | | | | |
| | | 2 | FID | | | | | | | |
| | | 3 | Compressor 1 temperature – F9962 | | | | | | | |
| | | 4 | Compressor 2 temperature – F9963 | | | | | | | |
| | | 5 | Displacer 1 temperature – F9966 | | | | | | | |
| | | 6 | Displacer 2 temperature – F9967 | | | | | | | |
| | | 7 | Compressor 1 drive amplifier – F9960 | | | | | | | |
| | | 8 | Compressor 2 drive amplifier – F9961 | | | | | | | |
| | | 9 | Displacer 1 drive amplifier – F9964 | | | | | | | |
| | | 10 | Displacer 2 drive amplifier – F9965 | | | | | | | |
| | | 11 | Compressor 1 demand signal – F9968 | | | | | | | |
| | | 12 | Compressor 2 demand signal – F9969 | | | | | | | |
| | | 13 | Relay Status – F9970 | | | | | | | |
| | | 14 | Standby/Operational mode status – F9971 | | | | | | | |
| | | 15 | Launch Lock mode status – F9972 | | | | | | | |



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| TPN n° | Name |
|--------|------|
| ? | ? |

| Packet Header | | | | | | Data Field Header | | | Data Field | |
|---------------|------|------|------|----------|------------|-------------------|-----------|---------------|------------|------------------------|
| Version | Type | Flag | APID | Seq. Flg | Seq. Count | Pkt. length | Pkt. Type | Pkt. Sub-type | Time | N° block - Block Ident |
| b 100 | b 0 | b 1 | ? | b 11 | | 433 | ? | ? | | |

| N° Block | Description | N° Byte | MS Bit n° 7 | Bit n° 6 | Bit n° 5 | Bit n° 4 | Bit n° 3 | Bit n° 2 | Bit n° 1 | LS Bit n° 0 |
|----------|--------------------------------|---|-------------|----------|----------|----------|----------|----------|----------|-------------|
| 1 | Analogue telemetry Via CDE2 | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 | | | | | | | | |

TID
 FID
 Compressor 1 temperature – F9982
 Compressor 2 temperature – F9983
 Displacer 1 temperature – F9986
 Displacer 2 temperature – F9987
 Compressor 1 drive amplifier – F9980
 Compressor 2 drive amplifier – F9981
 Displacer 1 drive amplifier – F9984
 Displacer 2 drive amplifier – F9985
 Compressor 1 demand signal – F9988
 Compressor 2 demand signal – F9989
 Relay Status – F9990
 Standby/Operational mode status – F9991
 Launch Lock mode status – F9992

1.5. CALIBRATION CURVES AND ALIASES

1.5.1. CALIBRATION CURVES

| Curve Ident | x-raw value (decimal) | y-physical value / Time | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-------------------------|---------|---|
| 350 | 0 | 0 | | E9101 E9107 E9113 E9119 E9125 E9131 E9137 |
| | 4294967295 | 16777215.99609 | | E9143 |

| Curve Ident | x-raw value (decimal) | y-physical value | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------|---------|----------------------------------|
| 351 | 0 | 0 | | E9027 |
| | 255 | 6.39488 | | |

| Curve Ident | x-raw value (decimal) | y-physical value | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------|---------|----------------------------------|
| 352 | 0 | 0 | | E9028 |
| | 255 | 6.64576 | | |

| Curve Ident | x-raw value (decimal) | y-physical value | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------|---------|----------------------------------|
| 353 | 0 | 0 | | E9030 |
| | 255 | 17.12832 | | |

| Curve Ident | x-raw value (decimal) | y-physical value | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------|---------|----------------------------------|
| 354 | 0 | 0 | | E9031 |
| | 255 | -19.10272 | | |

| Curve Ident | x-raw value (decimal) | y-physical value | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------|---------|----------------------------------|
| 355 | 0 | 0 | | E9029 |
| | 255 | 20.7872 | | |



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| Curve Ident | x-raw value (decimal) | y-physical value / temp °C | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|----------------------------|---------|----------------------------------|
| 356 | 0 | -109.42 | | E9032 |
| | 8 | -104.73 | | |
| | 17 | -99.43 | | |
| | 25 | -94.69 | | |
| | 34 | -89.34 | | |
| | 42 | -84.57 | | |
| | 51 | -79.17 | | |
| | 59 | -74.35 | | |
| | 68 | -68.90 | | |
| | 76 | -64.04 | | |
| | 85 | -58.55 | | |
| | 93 | -53.64 | | |
| | 102 | -48.10 | | |
| | 110 | -43.16 | | |
| | 119 | -37.57 | | |
| | 127 | -32.58 | | |
| | 136 | -26.95 | | |
| | 144 | -21.92 | | |
| | 153 | -16.24 | | |
| | 161 | -11.17 | | |
| | 170 | -5.45 | | |
| | 178 | -0.34 | | |
| | 187 | 5.43 | | |
| | 195 | 10.58 | | |
| | 204 | 16.39 | | |
| | 212 | 21.58 | | |
| | 221 | 27.44 | | |
| | 229 | 32.67 | | |
| | 238 | 38.58 | | |
| | 246 | 43.85 | | |
| | 255 | 49.80 | | |



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| Curve Ident | x-raw value (decimal) | y-physical value / temp °C | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|----------------------------|----------------------------------|---|
| 6001 | 0 | 70.260 | YSI calibration curve (mini-RTU) | E/F3986 E/F3988 E/F3991 E/F3994 E/F3995 E/F3997 |
| | 10 | 59.61 | | |
| | 20 | 51.58 | | |
| | 30 | 45.09 | | |
| | 40 | 39.59 | | |
| | 50 | 34.78 | | |
| | 60 | 30.47 | | |
| | 100 | 16.21 | | |
| | 154 | 0.02 | | |
| | 190 | -10.98 | | |
| | 220 | -21.77 | | |
| | 230 | -26.11 | | |
| | 240 | -31.14 | | |
| | 255 | -41.06 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / temp °C | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|----------------------------|-------------------|---|
| 6002 | 0 | -109.42 | PT 500 (mini-RTU) | E3981 E3982 E3983 E3984 E/F3992 E/F3993 E/F3996 |
| | 60 | -73.74 | | |
| | 179 | 0.3 | | |
| | 255 | 49.8 | | |

Curve 6003 deleted.



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| Curve Ident | x-raw value (decimal) | y-physical value / temp K | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|---------------------------|-----------------------|----------------------------------|
| 6004 | 0 | 0 | Y = raw value * 0.154 | E0210-E0228 |
| | 4095 | 629.4015 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / Volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|--------------------------|---------|----------------------------------|
| 6005 | 0 | 0 | | E/F3985 E/F3987 E/F3989 E/F3998 |
| | 255 | 5.1 | | |



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| Curve Ident | x-raw value (decimal) | y-physical value / temp °C | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|----------------------------|-------------|----------------------------------|
| 6006 | 22 | -165,79 | PT500 (RTU) | T5102-T5106 T5109-T5113 |
| | 27 | -160,82 | | |
| | 31 | -155,36 | | |
| | 36 | -149,44 | | |
| | 40 | -143,07 | | |
| | 44 | -136,29 | | |
| | 49 | -129,12 | | |
| | 54 | -121,59 | | |
| | 58 | -113,71 | | |
| | 64 | -105,51 | | |
| | 68 | -97,01 | | |
| | 72 | -88,24 | | |
| | 75 | -79,23 | | |
| | 80 | -69,99 | | |
| | 85 | -60,54 | | |
| | 89 | -50,92 | | |
| | 93 | -41,14 | | |
| | 98 | -31,23 | | |
| | 101 | -21,21 | | |
| | 105 | -11,11 | | |
| | 110 | -0,94 | | |
| | 114 | 9,24 | | |
| | 118 | 19,45 | | |
| | 122 | 29,68 | | |
| | 126 | 39,95 | | |
| | 130 | 50,25 | | |



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|-------------|-----------------------|----------------------------|-------------|----------------------------------|
| 6007 | 22 | -220,05 | PT500 (RTU) | T5107 T5114 |
| | 27 | -191,07 | | |
| | 31 | -182,03 | | |
| | 36 | -172,91 | | |
| | 40 | -163,73 | | |
| | 44 | -154,47 | | |
| | 49 | -145,13 | | |
| | 54 | -135,80 | | |
| | 58 | -126,21 | | |
| | 64 | -116,56 | | |
| | 68 | -106,86 | | |
| | 72 | -97,10 | | |
| | 75 | -87,30 | | |
| | 80 | -77,46 | | |
| | 85 | -67,56 | | |
| | 89 | -57,63 | | |
| | 93 | -47,65 | | |
| | 98 | -37,63 | | |
| | 101 | -27,57 | | |
| | 105 | -17,48 | | |
| | 110 | -7,35 | | |
| | 114 | 2,82 | | |
| | 118 | 13,01 | | |
| | 122 | 23,24 | | |
| | 126 | 33,49 | | |
| | 130 | 43,78 | | |
| | 133 | 54,10 | | |
| | 138 | 64,45 | | |
| | 142 | 74,84 | | |
| | 145 | 85,25 | | |
| | 148 | 95,71 | | |
| | 161 | 127,25 | | |



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| Curve Ident | x-raw value (decimal) | y-physical value / temp °C | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|----------------------------|-----------|----------------------------------|
| 6008 | 10 | 89.5 | YSI (RTU) | T5001 - T5013 T5019 - T5027 |
| | 11 | 83.8 | | T5042 - T5048 |
| | 13 | 79.1 | | |
| | 18 | 68.3 | | |
| | 21 | 62.9 | | |
| | 25 | 57.5 | | |
| | 30 | 52.2 | | |
| | 35 | 47.2 | | |
| | 40 | 42.5 | | |
| | 47 | 37.6 | | |
| | 53 | 33.3 | | |
| | 70 | 24.2 | | |
| | 79 | 20.1 | | |
| | 89 | 16 | | |
| | 99 | 11.7 | | |
| | 110 | 7.8 | | |
| | 121 | 3.9 | | |
| | 133 | -0.4 | | |
| | 142 | -3.6 | | |
| | 153 | -7.4 | | |
| | 163 | -11 | | |
| | 173 | -14.6 | | |
| | 181 | -17.6 | | |
| | 190 | -21.3 | | |
| | 204 | -27.7 | | |
| | 211 | -31.7 | | |
| | 215 | -33.9 | | |
| | 220 | -36.8 | | |
| | 224 | -39.9 | | |
| | 229 | -43.6 | | |
| | 233 | -48.2 | | |
| | 238 | -54.6 | | |



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| Curve Ident | x-raw value (decimal) | y-physical value / temp K | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|---------------------------|-----------------------|----------------------------------|
| 6009 | 0 | 0 | Y = raw value * 0.127 | E0330-E0348 |
| | 4095 | 518.8365 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / nS | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-----------------------|------------------------------|----------------------------------|
| 6311 | 0 | 0 | Shortest propagation delay | Veto Delay |
| | 1 | 10 | Add (10 +/- 5) nS delay | E6400-E6490 and E1400-E1490 |
| | 2 | 25 | Add (25 +/- 5) nS delay | |
| | 3 | 46 | Add (25+ 1*21nS+/-5nS) delay | |
| | 11 | 214 | Add (25+ 9*21nS+/-5nS) delay | All other values are forbidden |

| Curve Ident | x-raw value (decimal) | y-physical value / milliVolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-------------------------------|--------------------|----------------------------------|
| 6312 | 0 | 78 | 1*78 mV (0.39 pc) | FEE energy discriminator |
| | 1 | 156 | 2*78 mV (0.78 pc) | E6600-E6690 and E1600-E1690 |
| | 63 | 4992 | 64*78 mV (25.0 pc) | |

| Curve Ident | x-raw value (decimal) | y-physical value / Volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|--------------------------|----------------|----------------------------------|
| 6313 | 0 | 980 | 980 V | FEE High Voltage |
| | 1 | 993.55 | 980 + 1*13.55 | E6700-E6790 and E1700-E1790 |
| | 31 | 1400.05 | 980 + 31*13.55 | |

Curves 6314 6315 6316 6317 deleted



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| Curve Ident | x-raw value (decimal) | y-physical value / milliVolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-------------------------------|----------------------|----------------------------------|
| 6319 | 0 | 4.4 | 1*4.4 mV (0.022 pc) | FEE Event trigger threshold |
| | 1 | 8.8 | 2*4.4 mV (0.044 pc) | E1500-E1590 E6500-E6590 |
| | 31 | 140.8 | 32*4.4 mV (0.701 pc) | |

| Curve Ident | x-raw value (decimal) | y-physical value / milliVolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-------------------------------|-------------------------------------|----------------------------------|
| 6321 | 0 | 50 | 50 mV | PSAC Energy discriminator |
| | 1 | 81. | 1*31 + 50 | E1691 E6691 |
| | 63 | 2003 | 63*31 + 50 | |
| | 255. | 2003 | All other values shall be forbidden | |

| Curve Ident | x-raw value (decimal) | y-physical value / Volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|--------------------------|--------------|----------------------------------|
| 6322 | 0 | 850 | 850 V | High Voltage for PSAC HV1 HV2 |
| | 1 | 856.3 | 1*6.3 + 850 | E6791 E6792 and E1791 E1792 |
| | 63 | 1246.9 | 63*6.3 + 850 | |

Curve 6323 deleted. Replaced by alias 6328

| Curve Ident | x-raw value (decimal) | y-physical value / milliVolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-------------------------------|---------|----------------------------------|
| 6324 | 0 | 0 | 0 | Event trigger threshold for PSAC |
| | 1 | 4.5 | 1*4.5 | E6591 E1591 |
| | 31 | 139.5 | 31*4.5 | |



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| Curve Ident | x-raw value (decimal) | y-physical value / Seconds | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|----------------------------|-------------|----------------------------------|
| 6325 | 0 | 0 | 0 | |
| | 1 | 0.125 | 1*0.125 | E/F3972 E/F3973 E/F8972 E/F8973 |
| | 65535 | 8191.875. | 65535*0.125 | |

| Curve Ident | x-raw value (decimal) | y-physical value / temp K | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|---------------------------|----------------------|----------------------------------|
| 6326 | 0 | 0 | = raw value * 2.0323 | E0310-E0328 E3977 E8977 |
| | 255 | 517.2165 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / mA | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-----------------------|-------------------------|----------------------------------|
| 6327 | 0 | 0 | = raw value* 1.27*0.001 | AFEE TM/TC source current |
| | 4095 | 5.20065 | | E0001 |

| Curve Ident | x-raw value (decimal) | y-physical value / temp °C | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|----------------------------|---------------------------|----------------------------------|
| 6328 | 0 | -273 | = raw value * 0.127 - 273 | E0002 |
| | 4095 | 247.065 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / seconds | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|----------------------------|-------------|----------------------------------|
| 6329 | 0 | 0 | 0 | |
| | 1 | 0.125 | 1 x 0.125 | E8949 E8952 E8956 |
| | 255 | 31.875 | 255 x 0.125 | E3949 E3952 E3956 |



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| Curve Ident | x-raw value (decimal) | y-physical value / temp K | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|---------------------------|---------|----------------------------------|
| 6330 | 0 | 61.233 | | E0391-E0398 |
| | 130 | 63.397 | | E3964-E3967 E8964-E8967 |
| | 260 | 65.542 | | Narrow range |
| | 390 | 67.673 | | |
| | 520 | 69.791 | | |
| | 650 | 71.901 | | |
| | 780 | 74.005 | | |
| | 910 | 76.103 | | |
| | 1040 | 78.199 | | |
| | 1170 | 80.293 | | |
| | 1300 | 82.386 | | |
| | 1430 | 84.480 | | |
| | 1560 | 86.576 | | |
| | 1690 | 88.673 | | |
| | 1820 | 90.773 | | |
| | 1950 | 92.876 | | |
| | 2080 | 94.983 | | |
| | 2210 | 97.093 | | |
| | 2340 | 99.208 | | |
| | 2470 | 101.327 | | |
| | 2600 | 103.451 | | |
| | 2730 | 105.579 | | |
| | 2860 | 107.713 | | |
| | 2990 | 109.851 | | |
| | 3120 | 111.995 | | |
| | 3260 | 114.309 | | |
| | 3400 | 116.628 | | |
| | 3540 | 118.954 | | |
| | 3680 | 121.286 | | |
| | 3820 | 123.623 | | |
| | 3960 | 125.966 | | |
| | 4095 | 128.230 | | |



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| Curve Ident | x-raw value (decimal) | y-physical value / temp K | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|---------------------------|---------|----------------------------------|
| 6331 | 0 | 61.262 | | E0391-E0398 |
| | 130 | 71.696 | | |
| | 260 | 81.951 | | |
| | 390 | 92.205 | | |
| | 520 | 102.538 | | |
| | 650 | 112.982 | | |
| | 780 | 123.546 | | |
| | 910 | 134.227 | | |
| | 1040 | 145.017 | | |
| | 1170 | 155.906 | | |
| | 1300 | 166.884 | | |
| | 1430 | 177.943 | | |
| | 1560 | 189.074 | | |
| | 1690 | 200.273 | | |
| | 1820 | 211.531 | | |
| | 1950 | 222.846 | | |
| | 2080 | 234.213 | | |
| | 2210 | 245.628 | | |
| | 2340 | 257.088 | | |
| | 2470 | 268.591 | | |
| | 2600 | 280.136 | | |
| | 2730 | 291.723 | | |
| | 2860 | 303.352 | | |
| | 2990 | 315.023 | | |
| | 3120 | 326.736 | | |
| | 3260 | 339.398 | | |
| | 3400 | 352.111 | | |
| | 3540 | 364.873 | | |
| | 3680 | 377.687 | | |
| | 3820 | 390.552 | | |
| | 3960 | 403.469 | | |
| | 4095 | 415.974 | | |

Curve 6351 deleted



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| Curve Ident | x-raw value (decimal) | y-physical value / Volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|--------------------------|----------------------|----------------------------------|
| 6352 | 0 | 0 | = raw value * 0.0098 | E3824 E3825 |
| | 1023 | 10.0254 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / Volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|--------------------------|-----------------------|----------------------------------|
| 6353 | 0 | 0 | = raw value * -0.0098 | E3826 |
| | 1023 | -10.0254 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / Volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|--------------------------|----------------------|----------------------------------|
| 6354 | 0 | 0 | = raw value * 0.0024 | E3827 |
| | 1023 | 2.4552 | | |



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| Curve Ident | x-row value (decimal) | y-physical value/nb of events for 64 s | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|---|---------|----------------------------------|
| 6355 | 0 | 0 | | E3840-E3858 E3860-E3878 |
| | 31 | 496 | | E4880-E4898 |
| | 32 | 0 | | |
| | 63 | 992 | | |
| | 64 | 0 | | |
| | 95 | 1984 | | |
| | 96 | 0 | | |
| | 127 | 3968 | | |
| | 128 | 0 | | |
| | 159 | 7936 | | |
| | 160 | 0 | | |
| | 191 | 15872 | | |
| | 192 | 0 | | |
| | 223 | 31744 | | |
| | 224 | 0 | | |
| | 255 | 63488 | | |

| Curve Ident | x-row value (decimal) | y-physical value / counts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|---------------------------|------------------|----------------------------------|
| 6356 | 0 | 0 | = raw value * 32 | E4900-E4918 |
| | 255 | 8160 | | |

| Curve Ident | x-row value (decimal) | y-physical value / counts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|---------------------------|--------------------|----------------------------------|
| 6357 | 0 | 0 | = raw value * 0.25 | E4860-E4878 |
| | 255 | 63.75 | | |

| Curve Ident | x-row value (decimal) | y-physical value | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------|---------|----------------------------------|
| 6358 | 0 | 0 | | E8670-E8688 E8690-E8708 |
| | 65535 | 65535 | | E3670-E3688 E3690-E3708 |



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| Curve Ident | x-raw value (decimal) | y-physical value / Volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|--------------------------|---------------------------------------|----------------------------------|
| 6378 | 0 | 0 | $y (V) = 0.0502 * (\text{raw value})$ | E0290 |
| | 255 | 12.75 | | |

Curve 6379 deleted

| Curve Ident | x-raw value (decimal) | y-physical value / nS | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-----------------------|---|----------------------------------|
| 6380 | 0 | 0 | $Y = \text{raw value} * 50 \text{ nanoseconds}$ | E7800-E7818 E7820-E7838 E7840 |
| | 15 | 750 | | E2800-E2818 E2820-E2838 E2840 |

| Curve Ident | x-raw value (decimal) | y-physical value / nS | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-----------------------|---|----------------------------------|
| 6381 | 0 | 100 | $Y = (\text{raw value} + 2) * 50 \text{ nanoseconds}$ | E7842 |
| | 255 | 12850 | | E2842 |

| Curve Ident | x-raw value (decimal) | y-physical value / nS | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-----------------------|---|----------------------------------|
| 6382 | 0 | 0 | $Y = \text{raw value} * 50 \text{ nanoseconds}$ | E7843 |
| | 31 | 1550 | | E2843 |

| Curve Ident | x-raw value (decimal) | y-physical value / nS | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-----------------------|---|----------------------------------|
| 6383 | 0 | -50 | $Y = (4 * \text{raw value} - 1) * 50 \text{ nanoseconds}$ | E7844 |
| | 255 | 50950 | | E2844 |



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| Curve Ident | x-raw value (decimal) | y-physical value / kilo Volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-------------------------------|---|----------------------------------|
| 6384 | 0 | -50 | $Y = (\text{raw value} - 1) * 50 \text{ nanoseconds}$ | E7845 |
| | 255 | 12700 | | E2845 |

| Curve Ident | x-raw value (decimal) | y-physical value / kilo Volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-------------------------------|---|----------------------------------|
| 6385 | 0 | 0 | $Y = \text{raw value} * 50 \text{ nanoseconds}$ | E7841 |
| | 63. | 3150 | | E2841 |

Curves 6386 to 6399 deleted

| Curve Ident | x-raw value (decimal) | y-physical value / kilo Volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-------------------------------|---------------------------------------|----------------------------------|
| 6400 | 0 | 0 | $Y(x) = \text{raw value} * 0.0209002$ | E0250 |
| | 255 | 5.329551 | | |

Curve 6401 deleted.

| Curve Ident | x-raw value (decimal) | y-physical value / Seconds | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|----------------------------|---------|----------------------------------|
| 6402 | 0 | 0 | | FEE rate meter status report |
| | 1 | 0.131 | | E1300-E1391 E6300-E6391 |
| | 8 | 1.048 | | |
| | 15 | 1.965 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / Volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|--------------------------|-----------------------------------|----------------------------------|
| 6403 | 0 | 0 | $y = (\text{raw value}) * 0.1367$ | E/F2122 |
| | 255 | 34.86 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / AMP | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|------------------------------------|----------------------------------|
| 6404 | 0 | 0 | | E/F2121 |
| | 255 | 2.43 | $y = (\text{raw value}) * 0.00953$ | |

Curve 6405 deleted, replaced by Alias 6361.



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Curves 6407 to 6409 deleted

| Curve Ident | x-raw value (decimal) | y-physical value / temp °C | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|----------------------------|-------------------|----------------------------------|
| 6406 | 0 | 0 | Y (x) = raw value | E0350-E/F0368 |
| | 255 | -2.652 | -0.0104 | |

| Curve Ident | x-raw value (decimal) | y-physical value / temp °C | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|----------------------------|---|----------------------------------|
| 6410 | 0 | 126.8 | $t (^{\circ}\text{C}) = 126.8 - (\text{raw value}) * 0.78125$ | E/F2101-E/F2116 |
| | 255 | -72.41 | | |



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| Curve Ident | x-raw value (decimal) | y-physical value / temp °C | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|----------------------------|--|----------------------------------|
| 6411 | 0 | 361.07 | $Y = 1 / (A + f * (B + C * P)) - 273.15$ | E3828 E3829 |
| | 27 | 144.14 | $f = 10000 * \text{raw value} / (1024 - \text{raw value})$ | |
| | 78 | 99.638 | A = 0.00102991332524 | |
| | 100 | 90.022 | B = 0.000239040276215 | |
| | 135 | 78.635 | C = 0.000000156792094551 | |
| | 170 | 69.969 | | |
| | 205 | 62.917 | | |
| | 240 | 56.919 | | |
| | 275 | 51.656 | | |
| | 310 | 46.926 | | |
| | 345 | 42.593 | | |
| | 380 | 38.562 | | |
| | 415 | 34.760 | | |
| | 450 | 31.132 | | |
| | 485 | 27.633 | | |
| | 520 | 24.223 | | |
| | 555 | 20.868 | | |
| | 590 | 17.537 | | |
| | 625 | 14.195 | | |
| | 660 | 10.810 | | |
| | 695 | 7.3426 | | |
| | 730 | 3.7471 | | |
| | 765 | -0.034075 | | |
| | 800 | -4.0788 | | |
| | 835 | -8.4987 | | |
| | 870 | -13.468 | | |
| | 905 | -19.286 | | |
| | 940 | -26.553 | | |
| | 975 | -36.811 | | |
| | 1010 | -57.593 | | |
| | 1023 | -92.890 | | |



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| Curve Ident | x-raw value (decimal) | y-physical value / temp °C | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|----------------------------|--|----------------------------------|
| 6412 | 0 | 365.19 | $Y = 1 / (A + f * (B + C * P)) - 273.15$ | E3830 E3831 |
| | 46 | 144.21 | $f = 10000 * \text{raw value} / (1024 - \text{raw value}) - 200$ | |
| | 95 | 99.722 | $A = 0.00102991332524$ | |
| | 100 | 97.204 | $B = 0.000239040276215$ | |
| | 135 | 83.307 | $C = 0.000000156792094551$ | |
| | 70 | 73.315 | | |
| | 205 | 65.452 | | |
| | 240 | 58.912 | | |
| | 275 | 53.263 | | |
| | 310 | 48.245 | | |
| | 345 | 43.690 | | |
| | 380 | 39.484 | | |
| | 415 | 35.540 | | |
| | 450 | 31.796 | | |
| | 485 | 28.199 | | |
| | 520 | 24.707 | | |
| | 555 | 21.282 | | |
| | 590 | 17.890 | | |
| | 625 | 14.496 | | |
| | 660 | 11.064 | | |
| | 695 | 7.5565 | | |
| | 730 | 3.9253 | | |
| | 765 | 0.11239 | | |
| | 800 | -3.9605 | | |
| | 835 | -8.4056 | | |
| | 870 | -13.397 | | |
| | 905 | -19.236 | | |
| | 940 | -26.520 | | |
| | 975 | -36.794 | | |
| | 1000 | -49.069 | | |
| | 1010 | -57.589 | | |
| | 1023 | -92.980 | | |



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| Curve Ident | x-raw value (decimal) | y-physical value / Volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|--------------------------|--------------------------------------|----------------------------------|
| 6413 | 0 | 0 | $y = 0.0390625 * (\text{raw value})$ | E/F2123 |
| | 255 | 9.961 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / sec | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|---------|----------------------------------|
| 6414 | 0. | 0 | | E3947 E/F3950 E/F3954 |
| | 4294967295 | 16777215.99609 | | E8947 E/F8950 E/F8954 |

| Curve Ident | x-raw value (decimal) | y-physical value / Volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|--------------------------|--|----------------------------------|
| 6415 | 0 | 0.67 | $y = \text{raw value} * 0.1482 + 0.67$ | E/F3990 |
| | 255 | 38.46 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|--|----------------------------------|
| 6421 | 0 | 0 | $Y (x) = \text{raw value} * 0.0211217$ | E0251 |
| | 255 | 5.3860335 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|--|----------------------------------|
| 6422 | 0 | 0 | $Y (x) = \text{raw value} * 0.0207803$ | E0252 |
| | 255 | 5.2989765 | | |

| Curve Ident | x-raw value (decimal) | kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------|--|----------------------------------|
| 6423 | 0 | 0 | $Y (x) = \text{raw value} * 0.0207803$ | E0253 |
| | 255 | 5.29899765 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|--|----------------------------------|
| 6424 | 0 | 0 | $Y (x) = \text{raw value} * 0.0208229$ | E0254 |
| | 255 | 5.3098395 | | |



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| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6425 | 0 | 0 | $Y(x) = \text{raw value} * 0.0208615$ | E0255 |
| | 255 | 5.3196825 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6426 | 0 | 0 | $Y(x) = \text{raw value} * 0.0212056$ | E0256 |
| | 255 | 5.407428 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6427 | 0 | 0 | $Y(x) = \text{raw value} * 0.0207762$ | E0257 |
| | 255 | 5.297931 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6428 | 0 | 0 | $Y(x) = \text{raw value} * 0.0206957$ | E0258 |
| | 255 | 5.2774035 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6429 | 0 | 0 | $Y(x) = \text{raw value} * 0.0209559$ | E0259 |
| | 255 | 5.3437545 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6430 | 0 | 0 | $Y(x) = \text{raw value} * 0.0209517$ | E0260 |
| | 255 | 5.3426835 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6431 | 0 | 0 | $Y(x) = \text{raw value} * 0.0207338$ | E0261 |
| | 255 | 5.287119 | | |



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| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6432 | 0 | 0 | $Y(x) = \text{raw value} * 0.0210779$ | E0262 |
| | 255 | 5.3748645 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6433 | 0 | 0 | $Y(x) = \text{raw value} * 0.0210779$ | E0263 |
| | 255 | 5.3748645 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6434 | 0 | 0 | $Y(x) = \text{raw value} * 0.0207803$ | E0264 |
| | 255 | 5.2989765 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6435 | 0 | 0 | $Y(x) = \text{raw value} * 0.0210821$ | E0265 |
| | 255 | 5.3759355 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6436 | 0 | 0 | $Y(x) = \text{raw value} * 0.0210384$ | E0266 |
| | 255 | 5.364792 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6437 | 0 | 0 | $Y(x) = \text{raw value} * 0.0208698$ | E0267 |
| | 255 | 5.321799 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6438 | 0 | 0 | $Y(x) = \text{raw value} * 0.0207803$ | E0268 |
| | 255 | 5.2989765 | | |



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| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|------------------------------------|----------------------------------|
| 6500 | 0 | 0 | $Y(x) = \text{raw value} * 0.0196$ | E/F0010 E/F5010 |
| | 255 | 4.998 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6501 | 0 | 0 | $Y(x) = \text{raw value} * 0.0196039$ | E/F0011 E/F5011 |
| | 255 | 4.9989945 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6502 | 0 | 0 | $Y(x) = \text{raw value} * 0.0196078$ | E/F0012 E/F5012 |
| | 255 | 4.999989 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6503 | 0 | 0 | $Y(x) = \text{raw value} * 0.0196078$ | E/F0013 E5/F013 |
| | 255 | 4.999989 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6504 | 0 | 0 | $Y(x) = \text{raw value} * 0.0196078$ | E/F0014 E/F5014 |
| | 255 | 4.999989 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6505 | 0 | 0 | $Y(x) = \text{raw value} * 0.0196039$ | E/F0015 E/F5015 |
| | 255 | 4.9989945 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|------------------------------------|----------------------------------|
| 6506 | 0 | 0 | $Y(x) = \text{raw value} * 0.0196$ | E/F0016 E/F5016 |
| | 255 | 4.998 | | |



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| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6507 | 0 | 0 | $Y(x) = \text{raw value} * 0.0196039$ | E/F0017 E/F5017 |
| | 255 | 4.9989945 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6508 | 0 | 0 | $Y(x) = \text{raw value} * 0.0196078$ | E/F0018 E/F5018 |
| | 255 | 4.999989 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6509 | 0 | 0 | $Y(x) = \text{raw value} * 0.0196118$ | E/F0019 E/F5019 |
| | 255 | 5.001009 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6510 | 0 | 0 | $Y(x) = \text{raw value} * 0.0196078$ | E/F0020 E/F5020 |
| | 255 | 4.999989 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6511 | 0 | 0 | $Y(x) = \text{raw value} * 0.0196039$ | E/F0021 E/F5021 |
| | 255 | 4.9989945 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6512 | 0 | 0 | $Y(x) = \text{raw value} * 0.0196039$ | E/F0022 E/F5022 |
| | 255 | 4.9989945 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6513 | 0 | 0 | $Y(x) = \text{raw value} * 0.0196039$ | E/F0023 E/F5023 |
| | 255 | 4.998945 | | |



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| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6514 | 0 | 0 | $Y(x) = \text{raw value} * 0.0196078$ | E/F0024 E/F5024 |
| | 255 | 4.999989 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6515 | 0 | 0 | $Y(x) = \text{raw value} * 0.0196078$ | E/F0025 E/F5025 |
| | 255 | 4.999989 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6516 | 0 | 0 | $Y(x) = \text{raw value} * 0.0196078$ | E/F0026 E/F5026 |
| | 255 | 4.999989 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6517 | 0 | 0 | $Y(x) = \text{raw value} * 0.0196118$ | E/F0027 E/F5027 |
| | 255 | 5.001009 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilovolts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------------|---------------------------------------|----------------------------------|
| 6518 | 0 | 0 | $Y(x) = \text{raw value} * 0.0196078$ | E/F0028 E/F5028 |
| | 255 | 4.999989 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6600 | 0 | 3.21 | $Y = (\text{raw value} * 1.12) + 3.21$ | E/F5030 E/F0030 |
| | 255 | 288.81 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6601 | 0 | -2.56 | $Y = (\text{raw value} * 1.11) - 2.56$ | E/F5031 E/F0031 |
| | 255 | 280.49 | | |



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| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6602 | 0 | 1.06 | $Y = (\text{raw value} * 1.12) + 1.06$ | E/F5032 E/F0032 |
| | 255 | 286.66 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6603 | 0 | 4.18 | $Y = (\text{raw value} * 1.12) + 4.18$ | E/F5033 E/F0033 |
| | 255 | 289.78 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6604 | 0 | 0.48 | $Y = (\text{raw value} * 1.19) + 0.48$ | E/F5034 E/F0034 |
| | 255 | 303.93 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6605 | 0 | 3.23 | $Y = (\text{raw value} * 1.14) + 3.23$ | E/F5035 E/F0035 |
| | 255 | 293.93 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6606 | 0 | 3.53 | $Y = (\text{raw value} * 1.17) + 3.53$ | E/F5036 E/F0036 |
| | 255 | 301.88 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6607 | 0 | 6.32 | $Y = (\text{raw value} * 1.15) + 6.32$ | E/F5037 E/F0037 |
| | 255 | 299.57 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6608 | 0 | 3.43 | $Y = (\text{raw value} * 1.13) + 3.43$ | E/F5038 E/F0038 |
| | 255 | 291.58 | | |



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| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6609 | 0 | 3.17 | $Y = (\text{raw value} * 1.12) + 3.17$ | E/F5039 E/F0039 |
| | 255 | 288.77 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6610 | 0 | 7.35 | $Y = (\text{raw value} * 1.16) + 7.35$ | E/F5040 E/F0040 |
| | 255 | 303.15 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|---------------------------------------|----------------------------------|
| 6611 | 0 | 0.2 | $Y = (\text{raw value} * 1.16) + 0.2$ | E/F5041 E/F0041 |
| | 255 | 296 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6612 | 0 | 1.43 | $Y = (\text{raw value} * 1.14) + 1.43$ | E/F5042 E/F0042 |
| | 255 | 292.13 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6613 | 0 | 2.77 | $Y = (\text{raw value} * 1.07) + 2.77$ | E/F5043 E/F0043 |
| | 255 | 275.62 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6614 | 0 | 2.64 | $Y = (\text{raw value} * 1.08) + 2.64$ | E/F5044 E/F0044 |
| | 255 | 278.04 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6615 | 0 | 2.85 | $Y = (\text{raw value} * 1.14) + 2.85$ | E/F5045 E/F0045 |
| | 255 | 293.55 | | |



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| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|---------------------------------------|----------------------------------|
| 6616 | 0 | 4.70 | $Y = (\text{raw value} * 1.10) + 4.7$ | E/F5046 E/F0046 |
| | 255 | 285.2 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6617 | 0 | -2.86 | $Y = (\text{raw value} * 1.11) - 2.86$ | E/F5047 E/F0047 |
| | 255 | 280.19 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6618 | 0 | -0.39 | $Y = (\text{raw value} * 1.08) - 0.39$ | E/F5048 E/F0048 |
| | 255 | 275.01 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6620 | 0 | 3.21 | $Y = (\text{raw value} * 1.14) + 3.21$ | E/F0270 |
| | 255 | 293.91 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6621 | 0 | -2.56 | $Y = (\text{raw value} * 1.13) - 2.56$ | E/F0271 |
| | 255 | 285.59 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6622 | 0 | 1.06 | $Y = (\text{raw value} * 1.14) + 1.06$ | E/F0272 |
| | 255 | 291.76 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6623 | 0 | 4.18 | $Y = (\text{raw value} * 1.14) + 4.18$ | E/F0273 |
| | 255 | 294.88 | | |



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| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6624 | 0 | 0.48 | $Y = (\text{raw value} * 1.20) + 0.48$ | E/F0274 |
| | 255 | 306.48 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6625 | 0 | 3.23 | $Y = (\text{raw value} * 1.16) + 3.23$ | E/F0275 |
| | 255 | 299.03 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6626 | 0 | 3.53 | $Y = (\text{raw value} * 1.19) + 3.53$ | E/F0276 |
| | 255 | 306.99 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6627 | 0 | 6.32 | $Y = (\text{raw value} * 1.17) + 6.32$ | E/F0277 |
| | 255 | 304.67 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6628 | 0 | 3.43 | $Y = (\text{raw value} * 1.14) + 3.43$ | E/F0278 |
| | 255 | 294.13 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6629 | 0 | 3.17 | $Y = (\text{raw value} * 1.13) + 3.17$ | E/F0279 |
| | 255 | 291.32 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6630 | 0 | 7.35 | $Y = (\text{raw value} * 1.18) + 7.35$ | E/F0280 |
| | 255 | 308.25 | | |



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| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|---------------------------------------|----------------------------------|
| 6631 | 0 | 0.20 | $Y = (\text{raw value} * 1.18) + 0.2$ | E/F0281 |
| | 255 | 301.1 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6632 | 0 | 1.43 | $Y = (\text{raw value} * 1.16) + 1.43$ | E/F0282 |
| | 255 | 297.23 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6633 | 0 | 2.77 | $Y = (\text{raw value} * 1.09) + 2.77$ | E/F0283 |
| | 255 | 280.72 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6634 | 0 | 2.64 | $Y = (\text{raw value} * 1.09) + 2.64$ | E/F0284 |
| | 255 | 280.59 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6635 | 0 | 2.85 | $Y = (\text{raw value} * 1.15) + 2.85$ | E/F0285 |
| | 255 | 296.1 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6636 | 0 | 4.70 | $Y = (\text{raw value} * 1.11) + 4.70$ | E/F0286 |
| | 255 | 287.75 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6637 | 0 | -2.86 | $Y = (\text{raw value} * 1.13) - 2.86$ | E/F0287 |
| | 255 | 285.29 | | |



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| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|--|----------------------------------|
| 6638 | 0 | -0.39 | $Y = (\text{raw value} * 1.09) - 0.39$ | E/F0288 |
| | 255 | 277.56 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / mA | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-----------------------|--|----------------------------------|
| 6700 | 0 | 0. | $Y = \text{raw value} * 1.265 * 0.001$ | F0001 |
| | 4095 | 5.1802 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / temp c | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|---------------------------|---|----------------------------------|
| 6701 | 0 | - 273 | $Y = (\text{raw value} * 0.1265) - 273$ | F0002 |
| | 4095 | 245.02 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / temp K | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|---------------------------|---------------------------------|----------------------------------|
| 6702 | 0 | 0. | $Y = \text{raw value} * 0.1534$ | F0210-F0228 |
| | 4095 | 627.173 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / temp K | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|---------------------------|---------------------------------|----------------------------------|
| 6703 | 0 | 0. | $Y = \text{raw value} * 0.1265$ | F0330-F0348 |
| | 4095 | 518.02 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / temp K | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|---------------------------|---------------------------------|----------------------------------|
| 6704 | 0 | 0. | $Y = \text{raw value} * 2.0243$ | F0310-F0328 F3977 F8977 |
| | 255 | 516.1965 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / Volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|--------------------------|-----------------------------------|----------------------------------|
| 6705 | 0 | 0. | $Y = \text{raw value} * - 0.0103$ | F0350-F0368 |
| | 255 | - 2.6265 | | |



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| Curve Ident | x-raw value (decimal) | y-physical value / Volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|--------------------------|---------------------------------|----------------------------------|
| 6706 | 0 | 0. | $Y = \text{raw value} * 0.0500$ | F0290-F0308 |
| | 255 | 12.75 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilo volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-------------------------------|------------------------------------|----------------------------------|
| 6707 | 0 | 0. | $Y = \text{raw value} * 0.0208174$ | F0250 |
| | 255 | 5.3084 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilo volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-------------------------------|-----------------------------------|----------------------------------|
| 6708 | 0 | 0. | $Y = \text{raw value} * 0.021038$ | F0251 |
| | 255 | 5.3647 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilo volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-------------------------------|-----------------------------------|----------------------------------|
| 6709 | 0 | 0. | $Y = \text{raw value} * 0.020698$ | F0252 |
| | 255 | 5.27799 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilo volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-------------------------------|-----------------------------------|----------------------------------|
| 6710 | 0 | 0. | $Y = \text{raw value} * 0.020698$ | F0253 |
| | 255 | 5.27799 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilo volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-------------------------------|------------------------------------|----------------------------------|
| 6711 | 0 | 0. | $Y = \text{raw value} * 0.0207404$ | F0254 |
| | 255 | 5.2888 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilo volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-------------------------------|------------------------------------|----------------------------------|
| 6712 | 0 | 0. | $Y = \text{raw value} * 0.0207788$ | F0255 |
| | 255 | 5.2986 | | |



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| Curve Ident | x-raw value (decimal) | y-physical value / kilo volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-------------------------------|---------------------------|----------------------------------|
| 6713 | 0 | 0. | Y = raw value * 0.0211216 | F0256 |
| | 255 | 5.386 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilo volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-------------------------------|---------------------------|----------------------------------|
| 6714 | 0 | 0. | Y = raw value * 0.0206939 | F0257 |
| | 255 | 5.27694 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilo volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-------------------------------|---------------------------|----------------------------------|
| 6715 | 0 | 0. | Y = raw value * 0.0206137 | F0258 |
| | 255 | 5.25649 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilo volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-------------------------------|---------------------------|----------------------------------|
| 6716 | 0 | 0. | Y = raw value * 0.0208729 | F0259 |
| | 255 | 5.32258 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilo volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-------------------------------|---------------------------|----------------------------------|
| 6717 | 0 | 0. | Y = raw value * 0.0208687 | F0260 |
| | 255 | 5.32152 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilo volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-------------------------------|---------------------------|----------------------------------|
| 6718 | 0 | 0. | Y = raw value * 0.0206516 | F0261 |
| | 255 | 5.26616 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilo volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-------------------------------|---------------------------|----------------------------------|
| 6719 | 0 | 0. | Y = raw value * 0.0209944 | F0262 |
| | 255 | 5.35357 | | |



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| Curve Ident | x-raw value (decimal) | y-physical value / kilo volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-------------------------------|---------------------------|----------------------------------|
| 6720 | 0 | 0. | Y = raw value * 0.0209944 | F0263 |
| | 255 | 5.35357 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilo volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-------------------------------|--------------------------|----------------------------------|
| 6721 | 0 | 0. | Y = raw value * 0.020698 | F0264 |
| | 255 | 5.27799 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilo volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-------------------------------|---------------------------|----------------------------------|
| 6722 | 0 | 0. | Y = raw value * 0.0209986 | F0265 |
| | 255 | 5.35464 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilo volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-------------------------------|---------------------------|----------------------------------|
| 6723 | 0 | 0. | Y = raw value * 0.0209551 | F0266 |
| | 255 | 5.3435 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilo volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-------------------------------|---------------------------|----------------------------------|
| 6724 | 0 | 0. | Y = raw value * 0.0207871 | F0267 |
| | 255 | 5.30071 | | |

| Curve Ident | x-raw value (decimal) | y-physical value / kilo volts | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|-------------------------------|--------------------------|----------------------------------|
| 6725 | 0 | 0. | Y = raw value * 0.020698 | F0268 |
| | 255 | 5.27799 | | |



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| Curve Ident | x-raw value (decimal) | y-physical value / temp K | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|---------------------------|---------|----------------------------------|
| 6726 | 0 | 60.962 | | F0391-F0398 |
| | 130 | 63.124 | | F3964-F3967 F8964-F8967 |
| | 260 | 65.267 | | Narrow range |
| | 390 | 67.394 | | |
| | 520 | 69.510 | | |
| | 650 | 71.617 | | |
| | 780 | 73.716 | | |
| | 910 | 75.811 | | |
| | 1040 | 77.903 | | |
| | 1170 | 79.992 | | |
| | 1300 | 82.082 | | |
| | 1430 | 84.171 | | |
| | 1560 | 86.262 | | |
| | 1690 | 88.354 | | |
| | 1820 | 90.449 | | |
| | 1950 | 92.548 | | |
| | 2080 | 94.649 | | |
| | 2210 | 96.755 | | |
| | 2340 | 98.864 | | |
| | 2470 | 100.978 | | |
| | 2600 | 103.097 | | |
| | 2730 | 105.220 | | |
| | 2860 | 107.348 | | |
| | 2990 | 109.482 | | |
| | 3120 | 111.620 | | |
| | 3260 | 113.928 | | |
| | 3400 | 116.242 | | |
| | 3540 | 118.562 | | |
| | 3680 | 120.887 | | |
| | 3820 | 123.219 | | |
| | 3960 | 125.556 | | |
| | 4095 | 127.814 | | |



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| Curve Ident | x-raw value (decimal) | y-physical value / keV | Meaning | Concerned Parameters or Comments |
|-------------|-----------------------|------------------------|---------|----------------------------------|
| 6727 | 0 | 61.006 | | F0391-F0398 |
| | 130 | 71.426 | | F3964-F3967 F8964-F8967 |
| | 260 | 81.659 | | Wide range |
| | 390 | 91.890 | | |
| | 520 | 102.197 | | |
| | 650 | 112.614 | | |
| | 780 | 123.151 | | |
| | 910 | 133.804 | | |
| | 1040 | 144.566 | | |
| | 1170 | 155.427 | | |
| | 1300 | 166.377 | | |
| | 1430 | 177.408 | | |
| | 1560 | 188.512 | | |
| | 1690 | 199.682 | | |
| | 1820 | 210.913 | | |
| | 1950 | 222.200 | | |
| | 2080 | 233.539 | | |
| | 2210 | 244.926 | | |
| | 2340 | 256.359 | | |
| | 2470 | 267.834 | | |
| | 2600 | 279.351 | | |
| | 2730 | 290.909 | | |
| | 2860 | 302.510 | | |
| | 2990 | 314.152 | | |
| | 3120 | 325.836 | | |
| | 3260 | 338.467 | | |
| | 3400 | 351.148 | | |
| | 3540 | 363.879 | | |
| | 3680 | 376.660 | | |
| | 3820 | 389.493 | | |
| | 3960 | 402.377 | | |
| | 4095 | 414.851 | | |



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1.5.2 ALIASES

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 2 | 0 | Disabled | E9220-E9224 E9227-E9228 |
| | 1 | Enabled | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 301 | 0 | Failed | E9033-E9035 |
| | 1 | Passed | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 302 | 0 | Illegal APID | E9046 |
| | 1 | Wrong CRC | |
| | 2 | Invalid Fix | |
| | 3 | ICB TC Full | |
| | 4 | Spare | |
| | 5 | Wrong Length | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|---|
| 308 | 0 | Events | E9103 E9109 E9115 E9121 E9127 E9133 E9139 E9145 |
| | 1 | Exception | |
| | 2 | Major Abnormal | |
| | 3 | Reject/Fail | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 309 | 0 | GROUND_SRC | E9048 |
| | 1 | ON-BOARD SRC | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 310 | 0 | NO-RESET | E9240 |
| | 1 | RESET | |



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| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 311 | 0 | NOT-WAIT | E9241 |
| | 1 | WAIT | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 312 | 0 | DMA_NOT_BUSY | E9242 |
| | 1 | DMA_BUSY | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 313 | 0 | NOT_RUNNING | E9243 |
| | 1 | RUNNING | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 314 | 0 | NO_ERROR | E9244 |
| | 1 | PARITY_ERROR | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 315 | 0 | VAL_LITTON | E9245 |
| | 1 | INVAL_LITTON | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 316 | 0 | NO_ERROR | E9247 |
| | 1 | WRONG_INTERR | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 317 | 0 | NO_RQST | E9248 |
| | 1 | RQST_TRANS | |



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| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 318 | 0 | NO_ANOMALY | E9249 |
| | 1 | ILL_ACCESS | |
| | 2 | DMA_NOTGRAN | |
| | 3 | WD_EXT_FLAG | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 319 | 0 | NOT_READY | E9250 |
| | 1 | READY | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 320 | 0 | TBDbyICU | E9251 |
| | 1 | TBDbyICU | |
| | 2 | TBDbyICU | |
| | 15 | TBDbyICU | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 321 | 0 | Not Requested | E9225 |
| | 1 | Requested | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 322 | 0 | No Action | E9226 |
| | 1 | Perform Step | |



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| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 323 | 0 | 256 Hz | E9229 |
| | 1 | 128 Hz | |
| | 2 | 64 Hz | |
| | 3 | 32 Hz | |
| | 4 | 16 Hz | |
| | 5 | 8 Hz | |
| | 6 | 4 Hz | |
| | 7 | 2 Hz | |
| | 8 | 1 Hz | |
| | 9 | 0.5 Hz | |
| | 10 | 0.25 Hz | |
| | 11 | 0.125 Hz | |
| | 12 | RTC disabled | |
| | 13 | RTC disabled | |
| | 14 | RTC disabled | |
| | 15 | RTC disabled | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 6001 | 0 | ok | E/F0898 E/F0899 |
| | 1 | nok | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 6002 | 0 | Initiated | E/F3883 E/F3886 E/F3889 E/F3892 |
| | 1 | Not initiated | |

Alias 6011 6022 6033 6100 6101 6102 6200 6201 6202 6203 6204 6301 deleted

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|-------------------------------------|
| 6302 | 0 | 0Kev-2Mev | E0070-E0088 E0230-E0248 E5070-E5088 |
| | 1 | 0Kev-8Mev | |



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|-------------|--------------|----------------|-------------------------------------|
| 6303 | 0 | Auto | E0090-E0108 E0370-E0388 E5090-E5108 |
| | 1 | Manual | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|--|
| 6304 | 0 | No | E/F0089 E/F0109 E/F0129 E/F0149 E/F0169 |
| | 1 | Yes | E7777-E7781 E7784 E7785 E2777-E2781 E2784-E2785 |

Alias 6305 deleted

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|--|
| 6306 | 0 | OFF | E0170-E0188 E0190-E0208 E0500-E0592 E5170-E5188 E5190-E5208 |
| | 1 | ON | E5500-E5592 E/F3900 E/F3901 E/F3902 E/F3903 E/F8900 E/F8901 E/F8902 E/F8903 |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 6307 | 0 | 62K-410K | E0209 E5209 E0399 |
| | 1 | 62K-128K | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|---|
| 6308 | 0 | Disable | E0130-E0148 E0150-E0168 E0600-E0690 E0700-E0791 E0800-E0891 E/F0896 E1200-E1290 E2001 E2025 E2400-E2491 E2695 E2749-E2751 E2756-E2775 E3650-E3668 E/F3937 E3946 E/F3953 E/F3960 E/F3961 E3962 E3963 E/F3968 E/F3944 E5130-E5148 E5150-E5168 E5600 E5690 E5700-E5791 E5800-E5891 E6200-6290 E7001 E7025 E7400-E7491 E/F8937 E/F8946 E/F8953 E/F8960 E/F8961 E/F8962 E/F8963 E/F8968 E7749-E7751 E/F8944 E1395 |
| | 1 | Enable | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 6309 | 0 | Standard | E0400-E0490 E1100-E1191 |
| | 1 | Forced | E5400-E5490 E6100-E6191 |

6310 some as 6308



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|-------------|--------------|----------------|----------------------------------|
| 6314 | 0 | Veto Disable | E1800-E1891 |
| | 1 | Veto Enable | E6800-E6891 |

Alias 6315 deleted, see alias 6333

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 6316 | 0 | Veto pulses | E2500-E2590 |
| | 1 | Integ cycles | E7500-E7590 |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 6317 | 2 | STAND-BY | E/F3936 |
| | 3 | CONF | E/F8936 |
| | 4 | OPER | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|---|----------------------------------|
| 6318 | 0 | No test pulse | E1000-E1090 |
| | 1 | 3.9 kHz continuous | E6000-E6090 |
| | 2 | 3.9 kHz burst of 2047 pulses test | |
| | 3 | 62.5 kHz continuous test pulses – Test pulses burst | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 6319 | 0 | STAND-BY | E/F3881 E/F3884 E/F3887 E/F3890 |
| | 1 | CONF | |
| | 2 | OPER | |
| | 3 | DIAG | |
| | 4 | CAL | |



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|-------------|--------------|----------------|----------------------------------|
| 6320 | 0 | INIT | E/F0049 |
| | 1 | STAND_BY 1 | |
| | 2 | STAND_BY 2 | |
| | 3 | CONF | |
| | 4 | PHOTON | |
| | 5 | CAL | |
| | 6 | EMCY | |
| | 7 | DIAG | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 6321 | 0 | COMMANDED | E/F0069 |
| | 1 | AUTO | |
| | 2 | PROTECTED | |
| | 3 | IMMINENT-OFF | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|---|
| 6322 | 0 | ENABLE | E0900-E0991 E3610-E3628 E3650-E3668 E4920-E4938 |
| | 1 | DISABLE | E5900-E5991 E8610-E8628 E8650-E8668 |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 6323 | 0 | No Test Pulses | E1091 |
| | 1 | Burst 129pul | E6091 |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|-------------------|----------------------------------|
| 6324 | 0 | VCU RAM CONF | E2000 |
| | 1 | FEE commands echo | E7000 |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|-------------------|----------------------------------|
| 6325 | 0 | Normal power on | E/F1292 |
| | 1 | Watchdog power on | |



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| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 6326 | 0 | No loss | E/F1298 |
| | 1 | Loss | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|---|
| 6327 | 0 | No Error | E/F1295 E/F1296 E/F1297 E/F1299 E/F1493 E/F2131 E/F2132 |
| | 1 | Error | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 6328 | 0 | 154 ns | E1898 E6898 |
| | 8 | 172 ns | |
| | 9 | 187 ns | |
| | 18 | 202 ns | |
| | 19 | 217 ns | |
| | 28 | 247 ns | |
| | 29 | 280 ns | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 6329 | 0 | ON | E0050-E0068 |
| | 1 | OFF | E5050-E5068 |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 6330 | 0 | 62K-410K | E0399 |
| | 1 | 62K-128K | |



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| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 6331 | 0 | 0 ns | E1491 |
| | 1 | 32.4 ns | E6491 |
| | 2 | 64.8 ns | |
| | 3 | 97.2 ns | |
| | 4 | 129.6 ns | |
| | 5 | 162.0 ns | |
| | 6 | 194.4 ns | |
| | 7 | 226.8 ns | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|
| 6332 | 0 | + 0 ns | E1492 |
| | 1 | + 13.5 ns | E6492 |

| Alias Ident | Status Value | Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------|----------------------------------|
| 6333 | 0 | No reset | E7701-E7748 |
| | 1 | Reset | E2701-E2748 |

Alias 6334 deleted

| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|--------------------------|----------------------------------|
| 6335 | 0 | ALL PE | SP + all PE | E/F8974 E/F3974 |
| | 1 | MULTIPLE PE | SP + PE as multiple only | |

| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|-------------------------|----------------------------------|
| 6340 | 0 | No-Maint | No maintenance | E4339 |
| | 1 | Active-Maint | Maintenance in progress | |



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| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------|----------------------------------|
| 6341 | 3 | Maint/ACS | ACS under s/w maintenance | E4359 |
| | 4 | Maint/PSD | PSD under s/w maintenance | |
| | 5 | Maint/DFEE | DFEE under s/w maintenance | |

| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|-------------------------|----------------------------------|
| 6342 | 0 | ACS-Cal/Ok | ACS calibration nominal | E/F1396 |
| | 1 | ACS-Cal/Nok | ACS calibration aborted | |

| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------------------------|----------------------------------|
| 6343 | 0 | ACS-Cal/NA | Calibration not allowed | E/F1399 |
| | 1 | ACS-Cal/wt | Calibration measurement awaiting | |
| | 2 | ACS-Cal/On | Calibration active | |
| | 3 | ACS-Cal/RD | Calibration Ready for Dump | |
| | 4 | ACS-Cal/D | Calibration Dump on progress | |
| | 5 | ACS-Cal/DC | Calibration Dump completed | |

| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------|----------------------------------|
| 6344 | 0 | 0 – 2 MeV | Gain 0-2 MeV | E8607 E8633 E4943 |
| | 1 | 0 – 6 MeV | Gain 0-6 MeV | E3607 E3633 |



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| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|--|----------------------------------|
| 6345 | 0 | 200 ns | Time Window (for all modes) | E8606 E8632 E3606 E3632 E4942 |
| | 1 | 354 ns | | |
| | 2 | 518 ns | | |
| | 3 | 706 ns | | |
| | 4 | 910 ns | | |
| | 5 | 1120 ns | | |
| | 6 | 1370 ns | | |
| | 7 | 1560 ns | Where nothing is vetoed because the veto pulse is too late, useful for looking at baseline noise | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|--|
| 6346 | 0 | 0.5 mV | E3604 E3630 E4940 |
| | 1 | 2.6 mV | E8604 E8630 |
| | 2 | 4.7 mV | |
| | 3 | 6.9 mV | Alias valid if E3605=E3631=E4941=E8605=E8631=0 |

| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------|----------------------------------|
| 6347 | 0 | 6.1 mV | | E3603 E3629 E4939 |
| | 1 | 5.4 mV | | E8603 E8629 |
| | 2 | 4.7 mV | | |
| | 3 | 4.0 mV | | |
| | 4 | 3.3 mV | | |
| | 5 | 2.5 mV | | |
| | 6 | 1.8 mV | | |
| | 7 | 1.2 mV | | |



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| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|-------------------------------|----------------------------------|
| 6348 | 0 | No-error | | E/F1495 |
| | 1 | Prog-error | Is cleared when HK 13 is read | |

| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|---|----------------------------------|
| 6349 | 0 | Completed | Set to 0 at the reception of the last command | E/F1494 |
| | 1 | Processing | Set to 1 upon reception of first library upload cmd (I0B Hex) and until the 7 blocks (0B Hex to 11 Hex) | |

| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|---------------------------|----------------------------------|
| 6350 | 1 | No8HzClk | No 8 Hz clock | E3880 |
| | 2 | Bad8HzClk | Bad 8 Hz clock | |
| | 3 | NoHSL | No HSL | |
| | 4 | BadLibCRC | Bad Library CRC | |
| | 5 | BadCommand | Bad Command | |
| | 6 | BadSerial | Bad serial | |
| | 48 | CurvNbSmll | Curve number too small | |
| | 49 | CurvNbHigh | Curve number too large | |
| | 50 | SetNbSmll | Set number too small | |
| | 51 | SetNbHigh | Set number too large | |
| | 52 | DetNbSmll | Detector number too small | |
| | 53 | DetNbHigh | Detector number too large | |



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| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|---|----------------------------------|
| | 54 | CurvLenSmll | Curve length too small | |
| | 55 | CurvLenHigh | Curve length too large | |
| | 56 | TempNbSmll | Number of templates too small | |
| | 57 | TempNbHigh | Number of templates too large | |
| | 58 | StartBinSmll | Start_bins too small | |
| | 59 | StartBinHigh | Start_bins too large | |
| | 60 | EndBinSmll | End_bins too small | |
| | 61 | EndBinHigh | End_bins too large | |
| | 62 | TimeMidSmll | Mid_time too small | |
| | 63 | TimeMidHigh | Mid_time too large | |
| | 64 | EpromWrite | Failed to write to EEPROM | |
| | 65 | SetSelSmll | Set number too small | |
| | 66 | SetSelHigh | Set number too large | |
| | 67 | TempBinSmll | Too few bins used for template | |
| | 68 | TempBinHigh | Too many bins used for template | |
| | 69 | TempSelSmll | Too few templates used | |
| | 70 | TempSelHigh | Too many templates used | |
| | 71 | NoLibTemp | No valid library template available | |
| | 72 | LibTempHigh | Too many library templates available | |
| | 73 | BinNbErr | Number of bins in shape not 96 | |
| | 74 | NbSttBinSmll | Number of bins in start block too small | |
| | 75 | NbSttBinHigh | Number of bins in start block too large | |
| | 76 | NbEndBinSmll | Number of bins in end block too small | |
| | 77 | NbEndBinHigh | Number of bins in end block too large | |
| | 78 | NbMidBinSmll | Mean bin index too small | |
| | 79 | NbMidBinHigh | Mean bin index too large | |
| | 128 | LostEvents | Lost events | |



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| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|------------------------|----------------------------------|
| 6351 | 67 | C_Conf_Cd | Configuration command | E3833 |
| | 68 | D_Mem_Dp | Memory dump command | |
| | 73 | I_Lib_up_Cd | Library upload command | |
| | 76 | L_Mem_Ld_Cd | Memory load command | |
| | 77 | M_PSD_Mod_Cd | PSD mode command | |
| | 80 | P_Param_Cd | Parameter command | |
| | 82 | R_SW_Cd | Software command | |

| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|------------------|--|----------------------------------|
| 6352 | 1 | C_det-enable | (C) - Definition of detector enable settings | E3834 |
| | 2 | C_low-thr_1g | (C) - Definition of low threshold for energy settings n°1 (channel n°0 to 8) | |
| | 3 | C_low-thr_2g | (C) - Definition of low threshold for energy settings n°2 (channel n°9 to 18) | |
| | 4 | C_hi-thr_1g | (C) - Definition of high threshold for energy settings n°1 (channel n°0 to 8) | |
| | 5 | C_hi-thr_1g | (C) - Definition of high threshold for energy settings n°2 (channel n°9 to 18) | |
| | 6 | C_A/D_offst | (C) - Definition of A/D offset control settings | |
| | 7 | C_lib-sel_1 | (C) - Definition of library selection and control settings n°1 | |
| | 8 | C_lib-sel_2 | (C) - Definition of library selection and control settings n°2 | |
| | 9 | C_lib-sel_3 | (C) - Definition of library selection and control settings n°3 | |
| | 10 | C_crv-rates | (C) - Definition of curve transmission rates | |
| | 11 | I_lib-up_1 | (I) - Description and control block n°1 for library uploading | |
| | 12 | I_lib-up_2 | (I) - Description and control block n°2 for library uploading | |
| | 13 | I_lib-up_3 | (I) - Description and control block n°3 for library uploading | |
| | 14 | I_lib-up_4 | (I) - Description and control block n°4 for library uploading | |
| | 15 | I_lib-up_5 | (I) - Description and control block n°5 for library uploading | |
| | 16 | I_lib-up_6 | (I) - Description and control block n°6 for library uploading | |
| | 17 | I_lib-up_7 | (I) - Description and control block n°7 for library uploading | |
| | 67 | M_cal | (M) - Cal | |
| | 68 | M_diag | (M) - Diag | |
| | 77 | R_SW-maint | (R) - SW Maintenance | |
| 82 | R_SW-restart | (R) - SW Restart | | |
| 83 | M_start | (M) - Start | | |
| 88 | M_conf | (M) - Conf | | |
| 89 | M_standby | (M) - Stand-by | | |

Alias 6353 6354 deleted



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|-------------|--------------|----------------|---------------------|----------------------------------|
| 6355 | 0 | Noninibit | Perform auto-test | E7697 E7698 E7699 |
| | 1 | inibit | Auto-test inhibited | E2697 E2698 E2699 |

| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|-------------------------------|----------------------------------|
| 6356 | 0 | Normal Res Clk | 20 MHz datation (Normal mode) | E7787 E2787 |
| | 1 | Lo Res Clk | 10 MHz datation doubleMultwin | |

| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|------------------------------------|----------------------------------|
| 6359 | 0 | NoRouting | Route nothing (Normal mode) | E7848 E2848 |
| | 1 | RouteSat | Route AfeeSat TTs as AFEE Nom TTs | |
| | 2 | RouteAcleft | Route Acgate left edge as PSD TT | |
| | 3 | RouteAcBoth | Route Acgate both edges as PSD TTs | |

| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|-----------------------|----------------------------------|
| 6360 | 0 | FEE gr No=0 | FEE0 to FEE7 | E2133 |
| | 1 | FEE gr No=1 | FEE8 to FEE15 | |
| | 2 | FEE gr No=2 | FEE16 to FEE23 | |
| | 3 | FEE gr No=3 | FEE24 to FEE31 | |
| | 4 | FEE gr No=4 | FEE32 to FEE39 | |
| | 5 | FEE gr No=5 | FEE40 to FEE47 | |
| | 6 | FEE gr No=6 | FEE48 to FEE55 | |
| | 7 | FEE gr No=7 | FEE56 to FEE63 | |
| | 8 | FEE gr No=8 | FEE64 to FEE71 | |
| | 9 | FEE gr No=9 | FEE72 to FEE79 | |
| | 10 | FEE gr No=10 | FEE80 to FEE87 | |
| | 11 | FEE gr No=11 | FEE88 to FEE91 (PSAC) | |



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| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|-----------------------------|----------------------------------|
| 6361 | 0 | Annealing | Annealing mode temperature | E/F5003 E/F0003 |
| | 255 | Outgassing | Outgassing mode temperature | E/F5004 E/F0004 |

| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|-----------------|---|----------------------------------|
| 6370 | 0 | Spectra off | No spectra is sent to DPE | E7782 E2782 |
| | 1 | Veto only | Only vetoed events are accumulated | |
| | 2 | SE Nvetoed only | Only Single and non-vetoed events are accumulated | |
| | 3 | All events | All events are accumulated | |

| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|---|----------------------------------|
| 6371 | 0 | AcOff | Ac disabled (always OFF, no events vetoed at Asso) | E7788 E2788 |
| | 1 | AcOn | Ac enabled (as received, events vetoed if ACGate = 1) Normal mode | |
| | 2 | AcInverted | Ac enabled inverted (anti-veto, events vetoed if ACGate = 0) | |
| | 3 | AcForced | Ac forced (always ON, all events vetoed at Asso) | |

| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------|----------------------------------|
| 6372 | 0 | Automatic | | E/F8943 E/F3943 |
| | 1 | Manual | | |

| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------|------------------------------------|
| 6380 | 0 | Allowed-cmd | | E/F0498 E/F0598 E/F0698 E/F0798 |
| | 1 | Notallwd-cmd | | |

| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------|------------------------------------|
| 6381 | 0 | Autotest-ok | | E/F0497 E/F0597 E/F0697 E/F0797 |
| | 1 | Autotest-nok | | E/F3882 E/F3885 E/F3891 E/F3888 |



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| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|------------------------|----------------|------------------------------------|
| 6382 | 0 | No-1 st -md | | E/F0496 E/F0596 E/F0696 E/F0796 |
| | 1 | 1 st -cmd | | |

| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------|------------------------------------|
| 6383 | 0 | Acknack-eror | | E/F0495 E/F0595 E/F0695 E/F0795 |
| | 1 | Acknack-noer | | |

| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------|------------------------------------|
| 6384 | 0 | No-CS-error | | E/F0499 E/F0599 E/F0699 E/F0799 |
| | 1 | CS-error | | |

| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------|----------------------------------|
| 6385 | 0 | Cmd-Cod-noer | | E/F0694 |
| | 1 | Cmd-Cod-eror | | |

| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------|----------------------------------|
| 6386 | 0 | Cmd-Id-noer | | E/F0693 |
| | 1 | Cmd-Id-eror | | |

| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|----------------|----------------------------------|
| 6390 | 0 | 3200 ns | | |
| | 1 | 3250 ns | | |
| | 2 | 150 ns | | |
| | 3 | 150 ns | 3 x 50 ns | E7753-E2753 |
| | 4 | 200 ns | 4 x 50 ns | |
| | 31 | 1550 ns | 31 x 50 ns | |



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| Alias Ident | Status Value | Status Meaning | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|--|--|
| 6400 | 0 | Param>Spec | Value of measured parameter higher than specified | Analogue Status |
| | 1 | No exist val | Non existing value | E2002-E2024 E2150-E2241 |
| | 2 | Correct val | Correct value | E2250-E2341 E2350-E2399 |
| | 3 | Param<Spec | Value of measured parameter lower than specified (also when the voltages are OFF) | E3121-E3162 E3164-E3254 E3256-E3289 E2064 E2100 |

| Alias Ident | Status Value | Status Meaning | Status Meaning | | | Concerned Parameters or Comments |
|-------------|--------------|----------------|-------------------------------|--------------------------|-------------------------------|----------------------------------|
| 6401 | 0 | OK | No over-range event | HV not higher than limit | No watchdog reset occurred | FEE Alert Status |
| | 1 | Wrst | No over-range event | HV not higher than limit | A watchdog reset has occurred | E2600-E2690 |
| | 2 | HV> | No over-range event | HV higher than limit | No watchdog reset occurred | |
| | 3 | HV >Wrst | No over-range event | HV higher than limit | A watchdog reset has occurred | |
| | 4 | EV> | Over-range event has occurred | HV not higher than limit | No watchdog reset occurred | |
| | 5 | EV>Wrst | Over-range event has occurred | HV not higher than limit | A watchdog reset has occurred | |
| | 6 | EV> HV | Over-range event has occurred | HV higher than limit | No watchdog reset occurred | |
| | 7 | EV>HV>Wrst | Over-range event has occurred | HV higher than limit | A watchdog reset has occurred | |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|---|
| 6446 | 0 | 9.0 mV | E3604 E3630 E4940 |
| | 1 | 11.0 mV | E8604 E8630 |
| | 2 | 13.0 mV | |
| | 3 | 15.1 mV | Alias valid if E3605=E3631=E4941=E8605=E8631=1 |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|---|
| 6402 | 2 | AFEE | Concerned S/A identifier: AFEE E6901-E6996 |
| | 3 | ACS | Concerned S/A identifier: ACS E1901-E1996 |
| | 4 | PSD | Concerned S/A identifier: PSD |
| | 5 | DFEE | Concerned S/A identifier: DFEE |

| Alias Ident | Status Value | Status Meaning | Concerned Parameters or Comments |
|-------------|--------------|----------------|---------------------------------------|
| 6403 | 0 | PHOTON>SPECTRA | Spectra-low/photon-medium E/F 3975 |
| | 1 | SPECTRA>PHOTON | Spectra-medium/photon-low E/F 8975 |



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| Alias Ident | Status Value | Status Meaning | | Concerned Parameters or Comments |
|-------------|--------------|----------------|-------------------------------|----------------------------------|
| 6404 | 0 | SEandME | SE filtering and ME reduction | E/F3979 |
| | 1 | MEonly | ME reduction only | E/F8979 |
| | 2 | SEonly | SE filtering only | |
| | 3 | Nothing | No special processing | |

| Alias Ident | Status Value | Status Meaning | | Concerned Parameters or Comments |
|-------------|--------------|--|--|----------------------------------|
| 6405 | 1 | 1 out of 19 events are used by the accumulation process | | E/F3980 |
| | 2 | 2 out of 19 events are used by the accumulation process | | E/F8980 |
| | 3 | 3 out of 19 events are used by the accumulation process | | |
| | 4 | 4 out of 19 events are used by the accumulation process | | |
| | 5 | 5 out of 19 events are used by the accumulation process | | |
| | 6 | 6 out of 19 events are used by the accumulation process | | |
| | 7 | 7 out of 19 events are used by the accumulation process | | |
| | 8 | 8 out of 19 events are used by the accumulation process | | |
| | 9 | 9 out of 19 events are used by the accumulation process | | |
| | 10 | 10 out of 19 events are used by the accumulation process | | |
| | 11 | 11 out of 19 events are used by the accumulation process | | |
| | 12 | 12 out of 19 events are used by the accumulation process | | |
| | 13 | 13 out of 19 events are used by the accumulation process | | |
| | 14 | 14 out of 19 events are used by the accumulation process | | |
| | 15 | 15 out of 19 events are used by the accumulation process | | |
| | 16 | 16 out of 19 events are used by the accumulation process | | |
| | 17 | 17 out of 19 events are used by the accumulation process | | |
| | 18 | 18 out of 19 events are used by the accumulation process | | |
| | 19 | 19 out of 19 events are used by the accumulation process | | |



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| Alias Ident | Status Value | Status Meaning: IASW state | Concerned Parameters or Comments |
|-------------|--------------|----------------------------|----------------------------------|
| 6850 | 4 | Commanded | E9750 |
| | 8 | Automatic | |
| | 12 | Protected | |
| | 16 | Off | |

| Alias Ident | Status Value | Status Meaning: IASW mode | Concerned Parameters or Comments |
|-------------|--------------|---------------------------|----------------------------------|
| 6851 | 67 | Calibration | E9751 E9752 |
| | 68 | Diagnostic | |
| | 69 | Emergency_TM | |
| | 73 | Init | |
| | 83 | Photon | |
| | 88 | Conf | |
| | 89 | Standby1 | |
| | 96 | Standby2 | |

| Alias Ident | Status Value | Status Meaning: On-board events state | Concerned Parameters or Comments |
|-------------|--------------|---------------------------------------|----------------------------------|
| 6852 | 0 | Begin | E9753 |
| | 255 | End | |

| Alias Ident | Status Value | Status Meaning: On-board events type | Concerned Parameters or Comments |
|-------------|--------------|--------------------------------------|----------------------------------|
| 6853 | 1 | Switch Off | E9754 |
| | 2 | Eclipse | |
| | 3 | Flare | |
| | 4 | ESAM | |

| Alias Ident | Status Value | Status Meaning: IASW state | Concerned Parameters or Comments |
|-------------|--------------|----------------------------|----------------------------------|
| 6854 | 0 | Commanded | E9755 E9756 |
| | 1 | Automatic | |
| | 2 | Protected | |
| | 3 | Off imminent | |



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| Alias Ident | Status Value | Status Meaning: mRTU error type | Concerned Parameters or Comments |
|-------------|--------------|---------------------------------|----------------------------------|
| 6855 | 4 | Time-out | E9756 |
| | 8 | Ex_analog_acquisition_error | |

| Alias Ident | Status Value | Status Meaning: mRTU error – parameter concerned | Concerned Parameters or Comments |
|-------------|--------------|--|----------------------------------|
| 6856 | 6 | E3985 | E9758 |
| | 12 | E3989 | |
| | 14 | E3990 | |
| | 16 | E3987 | |
| | 22 | E3981 | |
| | 23 | E3982 | |
| | 24 | E3983 | |
| | 25 | E3984 | |
| | 26 | E3992 | |
| | 27 | E3996 | |
| | 28 | E3993 | |
| | 32 | E3995 | |
| | 33 | E3994 | |
| | 34 | E3997 | |
| | 35 | E3988 | |
| | 36 | E3991 | |
| | 37 | E3986 | |
| | 59 | REF ANALOG | |
| | 60 | REF PT 500 | |
| | 65 | REF YSI | |



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| Alias Ident | Status Value | Status Meaning: LSL error type | Concerned Parameters or Comments |
|-------------|--------------|--------------------------------|----------------------------------|
| 6857 | 4 | Time-out | E9759 |
| | 8 | Overrun-error | |
| | 12 | Checksum error | |
| | 16 | Nack received | |
| | 20 | Command not sent (too late) | |

| Alias Ident | Status Value | Status Meaning: LSL error – S/A link concerned | Concerned Parameters or Comments |
|-------------|--------------|--|----------------------------------|
| 6858 | 0 | DFEE | E9760 |
| | 1 | PSD | |
| | 2 | AFEE | |
| | 3 | ACS | |

| Alias Ident | Status Value | Status Meaning: LSL error – type of telecommand | Concerned Parameters or Comments |
|-------------|--------------|---|----------------------------------|
| 6859 | 67 | C | E9762 |
| | 68 | D | |
| | 73 | I | |
| | 75 | K | |
| | 76 | L | |
| | 77 | M | |
| | 80 | P | |
| | 82 | R | |

| Alias Ident | Status Value | Status Meaning: Autotest/configuration error – S/A concerned | Concerned Parameters or Comments |
|-------------|--------------|--|----------------------------------|
| 6860 | 4 | AFEE | E9765 |
| | 8 | ACS | |
| | 12 | PSD | |
| | 16 | DFEE | |



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| Alias Ident | Status Value | Status Meaning: Automatic reconfiguration error – step concerned | Concerned Parameters or Comments |
|-------------|--------------|--|----------------------------------|
| 6861 | 4 | Autotest step | E9769 |
| | 8 | Configuration mode step | |
| | 12 | Configuration load step | |
| | 16 | Patch load step | |
| | 20 | Configuration status step | |
| | 24 | Start mode step | |

| Alias Ident | Status Value | Status Meaning: TC not executed – reason of the reject | Concerned Parameters or Comments |
|-------------|--------------|--|----------------------------------|
| 6862 | 1 | Incorrect type or subtype | E9771 |
| | 2 | TC not allowed | |
| | 3 | TC executed badly | |
| | 4 | TC time out | |
| | 5 | State OFF | |

| Alias Ident | Status Value | Status Meaning: Cold plate temperature overflow status | Concerned Parameters or Comments |
|-------------|--------------|--|----------------------------------|
| 6864 | 0 | No trigger | E9773 E9774 E9775 E9776 |
| | 1 | Trigger | |



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| Alias Ident | Status Value | Status Meaning: Partial flag – subbock identifier | Concerned Parameters or Comments |
|-------------|--------------|---|----------------------------------|
| 6865 | 0 | SE | E9783 E9774 E9775 E9776 |
| | 1 | ME | |
| | 2 | PE | |
| | 3 | SP0 | |
| | 4 | SP1 | |
| | 5 | SP2 | |
| | 6 | SP3 | |
| | 7 | SP4 | |
| | 8 | SP5 | |
| | 9 | SP6 | |
| | 10 | SP7 | |
| | 11 | SP8 | |
| | 12 | SP9 | |
| | 13 | SP10 | |
| | 14 | SP11 | |
| | 15 | SP12 | |
| | 16 | SP13 | |
| | 17 | SP14 | |
| | 18 | SP15 | |
| | 19 | SP16 | |
| | 20 | SP17 | |
| | 21 | SP18 | |

| Alias Ident | Status Value | Status Meaning: Spectra building phases | Concerned Parameters or Comments |
|-------------|--------------|---|----------------------------------|
| 6866 | 0 | Start building | E9784 |
| | 1 | Stop building | |
| | 4 | Start compression | |
| | 5 | Stop compression | |
| | 8 | Start transmission | |
| | 9 | Stop transmission | |



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| Alias Ident | Status Value | Status Meaning: | Concerned Parameters or Comments |
|-------------|--------------|-----------------|----------------------------------|
| 6867 | | TBD | E9785 |

| Alias Ident | Status Value | Status Meaning: Failure in analysing HSL data – S/A concerned | Concerned Parameters or Comments |
|-------------|--------------|---|----------------------------------|
| 6868 | 0 | DFEE | E9786 |
| | 1 | PSD | |

| Alias Ident | Status Value | Status Meaning: Failure in analysing HSL data – synchro word concerned | Concerned Parameters or Comments |
|-------------|--------------|--|----------------------------------|
| 6869 | 1 | EOT | E9787 |
| | 2 | EOP | |
| | 3 | SOP | |
| | 4 | Invalid number of events and curves | |

| Alias Ident | Status Value | Status Meaning: Failure in analysing HSL data – level of error | Concerned Parameters or Comments |
|-------------|--------------|--|----------------------------------|
| 6870 | 1 | Single | E9788 |
| | 2 | Double | |
| | 3 | Invalid | |

| Alias Ident | Status Value | Status Meaning: Packet number max exceeded per 8 s – packet type | Concerned Parameters or Comments |
|-------------|--------------|--|----------------------------------|
| 6871 | 0 | Techno HK | E9790 |
| | 4 | On request | |
| | 8 | Science HK | |
| | 12 | Photon data | |
| | 16 | Spectra data | |

| Alias Ident | Status Value | Status Meaning: Photon/Photon buffer reading error – error type | Concerned Parameters or Comments |
|-------------|--------------|---|----------------------------------|
| 6872 | 0 | No packet number | E9792 |
| | 4 | Consistency error | |



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1.6. DEFAULT VALUES

1.6.1. IASW

| DB ref | Description | On-board default value (raw values in Dec) | Curve | Alias | DPE1 Nominal | | DPE2 Redundant | |
|-------------|--|---|-------|-------|--------------|-----------|----------------|-----------|
| | | | | | Eng value | Raw value | Eng value | Raw value |
| E6901-E6996 | S/A identifiers for diagnostic | 2 | - | 6402 | AFEE | 2 | AFEE | 2 |
| E8401-E8496 | Block acquisition identifiers for diagnostic | 255 | - | - | | FF | | FF |
| E/F8936 | Radiation mode | 3 | - | 6317 | Conf | 3 | Conf | 3 |
| E/F8937 | High background count | 1 | - | 6308 | Disable | 0 | Disable | 0 |
| E/F8938 | Counting threshold for radiation overflow | 40 000 | - | - | | 50 000 | | 50 000 |
| E/F8939 | Counting filter for radiation overflow | 10 | - | - | | 3 | | 3 |
| E/F8940 | Counting threshold for radiation nominal level | 20 000 | - | - | | 40 000 | | 40 000 |
| E/F8941 | Counting filter for radiation nominal level | 10 | - | - | | 3 | | 3 |
| E/F8942 | Counting filter for cold plate monitoring | 3 | | | | 3 | | 3 |
| E/F8943 | AFEE Energy mode | 0 | | 6372 | Auto | 0 | Auto | 0 |
| E/F8944 | Automatic reconfiguration capability | 1 | | 6308 | Disable | 0 | Disable | 0 |
| E/F8946 | Radiation belts crossing detection capability | 1 | - | 6308 | Enable | 1 | Enable | 1 |
| E/F8947 | Delay before radiation belts | 2048 | 6414 | - | 8 s | 2048 | 8 s | 2048 |
| E/F8949 | ACS ROM-RAM delay | 8 | 6329 | | 1 s | 8 | 1 s | 8 |
| E/F8950 | Delay after radiations belts | 2048 | 6414 | - | 8 s | 2048 | 8 s | 2048 |
| E/F8952 | PSD ROM-RAM delay | 1 | 6329 | | 0.125 s | 1 | 0.125 s | 1 |
| E/F8953 | Imminent eclipse detection | 1 | - | 6308 | Enable | 1 | Enable | 1 |
| E/F8954 | Delay before eclipse | 2048 | 6414 | - | 8 s | 2048 | 8 s | 2048 |
| E/F8956 | DFEE ROM-RAM delay | 72 | 6329 | | 9 s | 72 | 9 s | 72 |
| E/F8960 | Imminent switch off detection capability | 1 | - | 6308 | Disable | 0 | Disable | 0 |
| E/F8961 | ESAM detection capability | 1 | - | 6308 | Enable | 1 | Enable | 1 |
| E/F8962 | AFEE LV temperature monitoring capability | 1 | - | 6308 | Enable | 1 | Enable | 1 |
| E/F8963 | Cold plate monitoring temperature capability | 0 | - | 6308 | Enable | 1 | Enable | 1 |
| E/F8964 | Cold plate temperature threshold (sensor E391) | 2936 | 6330 | | 90 K | 1772 | 90 K | 1789 |
| E/F8965 | Cold plate temperature threshold (sensor E392) | 2936 | 6330 | | 90 K | 1772 | 90 K | 1789 |
| E/F8966 | Cold plate temperature threshold (sensor E393) | 2936 | 6330 | | 90 K | 1772 | 90 K | 1789 |



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| DB ref | Description | On-board default value (raw value in dec) | Curve | Alias | DPE1 Nominal | | DPE2 Redundant | |
|---------|--|---|-------|-------|----------------|-----------|----------------|-----------|
| | | | | | Eng value | Raw value | Eng value | Raw value |
| E/F8967 | Cold plate temperature threshold (sensor E394) | 2936 | 6330 | | 90 K | 1772 | 90 K | 1789 |
| E/F8968 | Correlation capability | 1 | - | 6308 | Enable | 1 | Enable | 1 |
| E/F8969 | HK acquisition rate | 1 | - | - | | 1 | | 1 |
| E/F8970 | Length of the block HSL DFEE | 3072 | - | - | | 3 072 | | 3 072 |
| E/F8971 | LSL error filter | 3 | - | - | | 3 | | 3 |
| E/F8972 | Delay before auto-test configuration | 64 | 6325 | - | 8 s | 64 | 8 s | 64 |
| E/F8973 | Delay before configuration acquisition | 256 | 6325 | - | 32 s | 256 | 32 s | 256 |
| E/F8974 | Constituents of the spectra | 0 | - | 6335 | All PE | 0 | All | 0 |
| E/F8975 | Spectra/photon priority | 0 | - | 6403 | Photon>spectra | 0 | Photon>spectra | 0 |
| E/F8976 | Spectra accumulation duration | 1620 | - | - | | 0 | | 0 |
| E/F8977 | AFEE LV temperature monitoring threshold | 164 | 6326 | - | 328.6 K | 162 | 328.6 K | 162 |
| E/F8978 | AFEE LV temperature monitoring filter | 3 | - | - | | 3 | | 3 |
| E/F8979 | Photon processing | 3 | - | 6404 | Nothing | 3 | Nothing | 3 |

1.6.2. AFEE

| DB ref | Description | On-board default value (raw value in dec) | Curve | Alias | DPE1 Nominal | | DPE2 Redundant | |
|--------|--|---|-------|-------|--------------|-----------|----------------|-----------|
| | | | | | Eng value | Raw value | Eng value | Raw value |
| E5003 | Outgasing / annealing selection for system 1 | 0 | - | 6361 | Outgassing | 255 | | |
| E5004 | Outgasing / annealing selection for system 2 | 0 | - | 6361 | Outgassing | 255 | | |
| E5010 | High voltage level detector # 0 | 0 | 6500 | - | 0 KV | 0 | | |
| E5011 | High voltage level detector # 1 | 0 | 6501 | | 0 KV | 0 | | |
| E5012 | High voltage level detector # 2 | 0 | 6502 | | 0 KV | 0 | | |
| E5013 | High voltage level detector # 3 | 0 | 6503 | | 0 KV | 0 | | |
| E5014 | High voltage level detector # 4 | 0 | 6504 | | 0 KV | 0 | | |
| E5015 | High voltage level detector # 5 | 0 | 6505 | | 0 KV | 0 | | |
| E5016 | High voltage level detector # 6 | 0 | 6506 | | 0 KV | 0 | | |
| E5011 | High voltage level detector # 7 | 0 | 6507 | | 0 KV | 0 | | |
| E5018 | High voltage level detector # 8 | 0 | 6508 | | 0 KV | 0 | | |
| E5019 | High voltage level detector # 9 | 0 | 6509 | | 0 KV | 0 | | |
| E5020 | High voltage level detector # 10 | 0 | 6510 | | 0 KV | 0 | | |
| E5021 | High voltage level detector # 11 | 0 | 6511 | | 0 KV | 0 | | |



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| DB ref | Description | On-board default value (raw value in dec) | Curve | Alias | DPE1 Nominal | | DPE2 Redundant | |
|--------|---|---|-------|-------|--------------|-----------|----------------|-----------|
| | | | | | Eng value | Raw value | Eng value | Raw value |
| E5022 | High voltage level detector # 12 | 0 | 6512 | | 0 KV | 0 | | |
| E5023 | High voltage level detector # 13 | 0 | 6513 | | 0 KV | 0 | | |
| E5024 | High voltage level detector # 14 | 0 | 6514 | | 0 Kv | 0 | | |
| E5025 | High voltage level detector # 15 | 0 | 6515 | | 0 KV | 0 | | |
| E5026 | High voltage level detector # 16 | 0 | 6516 | | 0 KV | 0 | | |
| E5027 | High voltage level detector # 17 | 0 | 6517 | | 0 KV | 0 | | |
| E5028 | High voltage level detector # 18 | 0 | 6518 | | 0 KV | 0 | | |
| E5030 | Low detection threshold for detector # 0 | 128 | 6600 | - | 20 KeV | 15 | | |
| E5031 | Low detection threshold for detector # 1 | 128 | 6601 | - | 20 KeV | 20 | | |
| E5032 | Low detection threshold for detector # 2 | 128 | 6602 | - | 20 KeV | 17 | | |
| E5033 | Low detection threshold for detector # 3 | 128 | 6603 | - | 20 KeV | 14 | | |
| E5034 | Low detection threshold for detector # 4 | 128 | 6604 | - | 20 KeV | 16 | | |
| E5035 | Low detection threshold for detector # 5 | 128 | 6605 | - | 20 KeV | 15 | | |
| E5036 | Low detection threshold for detector # 6 | 128 | 6606 | - | 20 KeV | 14 | | |
| E5037 | Low detection threshold for detector # 7 | 128 | 6607 | - | 20 KeV | 12 | | |
| E5038 | Low detection threshold for detector # 8 | 128 | 6608 | - | 20 KeV | 15 | | |
| E5039 | Low detection threshold for detector # 9 | 128 | 6609 | - | 20 KeV | 15 | | |
| E5040 | Low detection threshold for detector # 10 | 128 | 6610 | - | 20 KeV | 11 | | |



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| DB ref | Description | On-board default value (raw value in dec) | Curve | Alias | DPE1 Nominal | | DPE2 Redundant | |
|-------------|---|---|-------|-------|--------------|----|----------------|--|
| | | | | | | | | |
| E/F5041 | Low detection threshold for detector # 11 | 128 | 6611 | - | 20 KeV | 17 | | |
| E/F5042 | Low detection threshold for detector # 12 | 128 | 6612 | - | 20 KeV | 16 | | |
| E/F5043 | Low detection threshold for detector # 13 | 128 | 6613 | - | 20 KeV | 16 | | |
| E/F5044 | Low detection threshold for detector # 14 | 128 | 6614 | - | 20 KeV | 16 | | |
| E/F5045 | Low detection threshold for detector # 15 | 128 | 6615 | - | 20 KeV | 15 | | |
| E/F5046 | Low detection threshold for detector # 16 | 128 | 6616 | - | 20 KeV | 14 | | |
| E/F5047 | Low detection threshold for detector # 17 | 128 | 6617 | - | 20 KeV | 21 | | |
| E/F5048 | Low detection threshold for detector # 18 | 128 | 6618 | - | 20 KeV | 19 | | |
| E5050-E5068 | High energy clamping for detector | 0 | - | 6329 | OFF | 1 | | |
| E5070-E5088 | Energy working range detector 0 | 0 | - | 6302 | 0 - 8 MeV | 1 | | |
| E5090-E5108 | Auto/Man. Selection range for detector 0 | 0 | - | 6303 | Auto | 0 | | |
| E5130-E5148 | Redundant AFEE output selection for detector | 0 | - | 6308 | Disable | 0 | | |
| E5150-E5168 | Main AFEE output selection for detector 0 | 0 | - | 6308 | Enable | 1 | | |
| E5170-E5188 | On/off LVPS AFEE 0 | 0 | - | 6306 | on | 1 | | |
| E5190-E5208 | On/off HVPS AFEE 0 | 0 | - | 6306 | OFF | | | |
| E5209 | Temperature range selection for Cold Plate an | 0 | - | 6307 | 62 - 128 K | 1 | | |



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1.6.3. ACS

| DB ref | Description | On-board default value (raw value in dec) | Curve | Alias | DPE1 Nominal | | DPE2 Redundant | |
|-------------|---|---|-------|-------|---------------|-----------|----------------|-----------|
| | | | | | Eng value | Raw value | Eng value | Raw value |
| E5400-E5490 | Extended veto generation forced/standard | 0 | - | 6309 | Standart | 0 | | |
| E5500-E5590 | Fee switch High Voltage ON/OFF | 0 | - | 6306 | OFF | 0 | | |
| E5591 | PSAC switch High Voltage ON/OFF HV1 | 0 | - | 6306 | OFF | 0 | | |
| E5592 | PSAC switch High Voltage ON/OFF HV2 | 0 | - | 6306 | OFF | 0 | | |
| E5600-E5690 | FEE watchdog configuration | 0 | - | 6308 | Enable | 1 | | |
| E5700-E5790 | FEE response | 1 | - | 6308 | Enable | 1 | | |
| E5791 | PSAC response condition | 1 | - | 6308 | Enable | 1 | | |
| E5800-E5890 | FEE veto signal configuration | 0 | - | 6308 | Enable | 1 | | |
| E5891 | PSAC veto signal configuration | 0 | - | 6308 | Enable | 1 | | |
| E5900-E5990 | FEE veto signal driver configuration | 1 | - | 6322 | Enable | 0 | | |
| E5991 | PSAC veto signal driver configuration | 1 | - | 6322 | Enable | 0 | | |
| E6000-E6090 | FEE veto test signal configuration | 0 | - | 6318 | NOTEST PULSE | 0 | | |
| E6091 | PSAC Test Pulses Burst | 0 | - | 6323 | NOTEST PULSES | 0 | | |
| E6100-E6190 | FEE veto signal generation Forced/standard | 0 | - | 6309 | Standart | 0 | | |
| E6191 | PSAC veto signal generation Forced/standard | 0 | - | 6309 | Standart | 0 | | |
| E6200-E6290 | FEE extended veto signal generation | 0 | - | 6308 | Enable | 1 | | |
| E6300-E6391 | FEE veto rate meter measurement time | 8 | 6402 | - | 1.048 s | 8 | | |
| E6400 | FEE veto delay setting #0 | 0 | 6311 | - | 25 | 2 | | |
| E6401 | FEE veto delay setting #1 | 0 | 6311 | - | 25 | 2 | | |
| E6402 | FEE veto delay setting #2 | 0 | 6311 | - | 25 | 2 | | |
| E6403 | FEE veto delay setting #3 | 0 | 6311 | - | 25 | 2 | | |
| E6404 | FEE veto delay setting #4 | 0 | 6311 | - | 25 | 2 | | |
| E6405 | FEE veto delay setting #5 | 0 | 6311 | - | 25 | 2 | | |
| E6406 | FEE veto delay setting #6 | 0 | 6311 | - | 25 | 2 | | |
| E6407 | FEE veto delay setting #7 | 0 | 6311 | - | 25 | 2 | | |
| E6408 | FEE veto delay setting #8 | 0 | 6311 | - | 25 | 2 | | |
| E6409 | FEE veto delay setting #9 | 0 | 6311 | - | 25 | 2 | | |
| E6410 | FEE veto delay setting #10 | 0 | 6311 | - | 10 | 1 | | |



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|--------|----------------------------|--|-------|-------|--------------|-----------|----------------|-----------|
| | | | | | Eng value | Raw value | Eng value | Raw value |
| E6411 | FEE veto delay setting #11 | 0 | 6311 | - | 25 | 2 | | |
| E6412 | FEE veto delay setting #12 | 0 | 6311 | - | 25 | 2 | | |
| E6413 | FEE veto delay setting #13 | 0 | 6311 | - | 25 | 2 | | |
| E6414 | FEE veto delay setting #14 | 0 | 6311 | - | 25 | 2 | | |
| E6415 | FEE veto delay setting #15 | 0 | 6311 | - | 10 | 1 | | |
| E6416 | FEE veto delay setting #16 | 0 | 6311 | - | 25 | 2 | | |
| E6417 | FEE veto delay setting #17 | 0 | 6311 | - | 25 | 2 | | |
| E6418 | FEE veto delay setting #18 | 0 | 6311 | - | 25 | 2 | | |
| E6419 | FEE veto delay setting #19 | 0 | 6311 | - | 46 | 3 | | |
| E6420 | FEE veto delay setting #20 | 0 | 6311 | - | 46 | 3 | | |
| E6421 | FEE veto delay setting #21 | 0 | 6311 | - | 46 | 3 | | |
| E6422 | FEE veto delay setting #22 | 0 | 6311 | - | 46 | 3 | | |
| E6423 | FEE veto delay setting #23 | 0 | 6311 | - | 46 | 3 | | |
| E6424 | FEE veto delay setting #24 | 0 | 6311 | - | 25 | 2 | | |
| E6425 | FEE veto delay setting #25 | 0 | 6311 | - | 25 | 2 | | |
| E6426 | FEE veto delay setting #26 | 0 | 6311 | - | 46 | 3 | | |
| E6427 | FEE veto delay setting #27 | 0 | 6311 | - | 46 | 3 | | |
| E6428 | FEE veto delay setting #28 | 0 | 6311 | - | 46 | 3 | | |
| E6429 | FEE veto delay setting #29 | 0 | 6311 | - | 25 | 2 | | |
| E6430 | FEE veto delay setting #30 | 0 | 6311 | - | 25 | 2 | | |
| E6431 | FEE veto delay setting #31 | 0 | 6311 | - | 46 | 3 | | |
| E6432 | FEE veto delay setting #32 | 0 | 6311 | - | 46 | 3 | | |
| E6433 | FEE veto delay setting #33 | 0 | 6311 | - | 46 | 3 | | |
| E6434 | FEE veto delay setting #34 | 0 | 6311 | - | 25 | 2 | | |
| E6435 | FEE veto delay setting #35 | 0 | 6311 | - | 25 | 2 | | |
| E6436 | FEE veto delay setting #36 | 0 | 6311 | - | 10 | 1 | | |
| E6437 | FEE veto delay setting #37 | 0 | 6311 | - | 25 | 2 | | |
| E6438 | FEE veto delay setting #38 | 0 | 6311 | - | 10 | 1 | | |
| E6439 | FEE veto delay setting #39 | 0 | 6311 | - | 25 | 2 | | |
| E6440 | FEE veto delay setting #40 | 0 | 6311 | - | 10 | 1 | | |



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|--------|----------------------------|------------------------|-------|-------|--------------|-----------|----------------|-----------|
| | | | | | Eng value | Raw value | Eng value | Raw value |
| E6441 | FEE veto delay setting #41 | 0 | 6311 | - | 10 | 1 | | |
| E6442 | FEE veto delay setting #42 | 0 | 6311 | - | 25 | 2 | | |
| E6443 | FEE veto delay setting #43 | 0 | 6311 | - | 25 | 2 | | |
| E6444 | FEE veto delay setting #44 | 0 | 6311 | - | 10 | 1 | | |
| E6445 | FEE veto delay setting #45 | 0 | 6311 | - | 25 | 2 | | |
| E6446 | FEE veto delay setting #46 | 0 | 6311 | - | 10 | 1 | | |
| E6447 | FEE veto delay setting #47 | 0 | 6311 | - | 10 | 1 | | |
| E6448 | FEE veto delay setting #48 | 0 | 6311 | - | 10 | 1 | | |
| E6449 | FEE veto delay setting #49 | 0 | 6311 | - | 10 | 1 | | |
| E6450 | FEE veto delay setting #50 | 0 | 6311 | - | 25 | 2 | | |
| E6451 | FEE veto delay setting #51 | 0 | 6311 | - | 10 | 1 | | |
| E6452 | FEE veto delay setting #52 | 0 | 6311 | - | 10 | 1 | | |
| E6453 | FEE veto delay setting #53 | 0 | 6311 | - | 10 | 1 | | |
| E6454 | FEE veto delay setting #54 | 0 | 6311 | - | 25 | 2 | | |
| E6455 | FEE veto delay setting #55 | 0 | 6311 | - | 25 | 2 | | |
| E6456 | FEE veto delay setting #56 | 0 | 6311 | - | 46 | 3 | | |
| E6457 | FEE veto delay setting #57 | 0 | 6311 | - | 46 | 3 | | |
| E6458 | FEE veto delay setting #58 | 0 | 6311 | - | 25 | 2 | | |
| E6459 | FEE veto delay setting #59 | 0 | 6311 | - | 25 | 2 | | |
| E6460 | FEE veto delay setting #60 | 0 | 6311 | - | 25 | 2 | | |
| E6461 | FEE veto delay setting #61 | 0 | 6311 | - | 25 | 2 | | |
| E6462 | FEE veto delay setting #62 | 0 | 6311 | - | 25 | 2 | | |
| E6463 | FEE veto delay setting #63 | 0 | 6311 | - | 25 | 2 | | |
| E6464 | FEE veto delay setting #64 | 0 | 6311 | - | 25 | 2 | | |
| E6465 | FEE veto delay setting #65 | 0 | 6311 | - | 10 | 1 | | |
| E6466 | FEE veto delay setting #66 | 0 | 6311 | - | 25 | 2 | | |
| E6467 | FEE veto delay setting #67 | 0 | 6311 | - | 25 | 2 | | |
| E6468 | FEE veto delay setting #68 | 0 | 6311 | - | 25 | 2 | | |
| E6469 | FEE veto delay setting #69 | 0 | 6311 | - | 25 | 2 | | |
| E6470 | FEE veto delay setting #70 | 0 | 6311 | - | 25 | 2 | | |
| E6471 | FEE veto delay setting #71 | 0 | 6311 | - | 25 | 2 | | |



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|--------|----------------------------|---|-------|-------|--------------|----------|----------------|--|
| | | | | | | | | |
| E6472 | FEE veto delay setting #72 | 0 | 6311 | | 46 | 3 | | |
| E6473 | FEE veto delay setting #73 | 0 | 6311 | | 25 | 2 | | |
| E6474 | FEE veto delay setting #74 | 0 | 6311 | | 46 | 3 | | |
| E6475 | FEE veto delay setting #75 | 0 | 6311 | | 46 | 3 | | |
| E6476 | FEE veto delay setting #76 | 0 | 6311 | - | 46 | 3 | | |
| E6477 | FEE veto delay setting #77 | 0 | 6311 | - | 10 | 1 | | |
| E6478 | FEE veto delay setting #78 | 0 | 6311 | - | 46 | 3 | | |
| E6479 | FEE veto delay setting #79 | 0 | 6311 | - | 46 | 3 | | |
| E6480 | FEE veto delay setting #80 | 0 | 6311 | - | 46 | 3 | | |
| E6481 | FEE veto delay setting #81 | 0 | 6311 | - | 46 | 3 | | |
| E6482 | FEE veto delay setting #82 | 0 | 6311 | - | 25 | 2 | | |
| E6483 | FEE veto delay setting #83 | 0 | 6311 | - | 25 | 2 | | |
| E6484 | FEE veto delay setting #84 | 0 | 6311 | - | 46 | 3 | | |



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|-------------|--|---|-------|-------|----------------|-----------|----------------|-----------|
| | | | | | Eng value | Raw value | Eng value | Raw value |
| E6485 | FEE veto delay setting #85 | 0 | 6311 | - | 25 | 2 | | |
| E6486 | FEE veto delay setting #86 | 0 | 6311 | - | 46 | 3 | | |
| E6487 | FEE veto delay setting #87 | 0 | 6311 | - | 46 | 3 | | |
| E6488 | FEE veto delay setting #88 | 0 | 6311 | - | 46 | 3 | | |
| E6489 | FEE veto delay setting #89 | 0 | 6311 | - | 46 | 3 | | |
| E6490 | FEE veto delay setting #90 | 0 | 6311 | - | 46 | 3 | | |
| E6491 | PSAC veto delay setting (3 bits) | 0 | - | 6331 | 0 ns | 0 | | |
| E6492 | PSAC veto additional delay setting (1 bit) | 0 | - | 6332 | 13.5 ns | 1 | | |
| E6500-E6505 | FEE event trigger Threshold #0 to #5 | 31 | 6319 | - | 74.8 mV | 16 | | |
| E6506 | FEE event trigger Threshold #6 | 31 | 6319 | - | 48.4 mV | 10 | | |
| E6507-E6519 | FEE event trigger Threshold #7 to #19 | 31 | 6319 | - | 74.8 mV | 16 | | |
| E6520 | FEE event trigger Threshold #20 | 31 | 6319 | - | 61.6 mV | 13 | | |
| E6521-E6529 | FEE event trigger Threshold #21 to #29 | 31 | 6319 | - | 74.8 mV | 16 | | |
| E6530 | FEE event trigger Threshold #30 | 31 | 6319 | - | 52.8 mV | 11 | | |
| E6531 | FEE event trigger Threshold #31 | 31 | 6319 | - | 74.8 mV | 16 | | |
| E6532 | FEE event trigger Threshold #32 | 31 | 6319 | - | 101.2 mV | 22 | | |
| E6533 | FEE event trigger Threshold #33 | 31 | 6319 | - | 74.8 mV | 16 | | |
| E6534 | FEE event trigger Threshold #34 | 31 | 6319 | - | 101.2 mV | 22 | | |
| E6535 | FEE event trigger Threshold #35 | 31 | 6319 | - | 74.8 mV | 16 | | |
| E6536 | FEE event trigger Threshold #36 | 31 | 6319 | - | 61.6 mV | 13 | | |
| E6537-E6539 | FEE event trigger Threshold #37 to #39 | 31 | 6319 | - | 74.8 mV | 16 | | |
| E6540 | FEE event trigger Threshold #40 | 31 | 6319 | - | 66 mV | 14 | | |
| E6541-E6547 | FEE event trigger Threshold #41 to #47 | 31 | 6319 | - | 74.8 mV | 16 | | |
| E6548 | FEE event trigger Threshold #48 | 31 | 6319 | - | 101.2 mV | 22 | | |
| E6549-E6588 | FEE event trigger Threshold #49 to #88 | 31 | 6319 | - | 74.8 mV | 16 | | |
| E6589 | FEE event trigger Threshold #89 | 31 | 6319 | - | 92.4 mV | 20 | | |
| E6590 | FEE event trigger Threshold #90 | 31 | 6319 | - | 74.8 mV | 16 | | |
| E6591 | FEE event trigger Threshold #91 | 31 | 6324 | - | 67.5 | 15 | | |
| E6600-E6690 | FEE Energy discriminator #0 to #90 | 63 | 6312 | - | See § 1.6.3.1. | | | |



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|--------|--------------------------------|---|-------|-------|--------------|-----------|----------------|-----------|
| | | | | | Eng value | Raw value | Eng value | Raw value |
| E6691 | PSAC Energy discriminator | 63 | 6321 | - | 763 | 23 | | |
| E6700 | High voltage level for FEE #0 | 0 | 6313 | - | 1196.8 | 16 | | |
| E6701 | High voltage level for FEE #1 | 0 | 6313 | - | 1129.05 | 11 | | |
| E6702 | High voltage level for FEE #2 | 0 | 6313 | - | 1088.4 | 8 | | |
| E6703 | High voltage level for FEE #3 | 0 | 6313 | - | 1169.7 | 14 | | |
| E6704 | High voltage level for FEE #4 | 0 | 6313 | - | 1156.15 | 13 | | |
| E6705 | High voltage level for FEE #5 | 0 | 6313 | - | 1129.05 | 11 | | |
| E6706 | High voltage level for FEE #6 | 0 | 6313 | - | 1223.9 | 18 | | |
| E6707 | High voltage level for FEE #7 | 0 | 6313 | - | 1223.9 | 18 | | |
| E6708 | High voltage level for FEE #8 | 0 | 6313 | - | 1129.05 | 11 | | |
| E6709 | High voltage level for FEE #9 | 0 | 6313 | - | 1251 | 20 | | |
| E6710 | High voltage level for FEE #10 | 0 | 6313 | - | 1047.75 | 5 | | |
| E6711 | High voltage level for FEE #11 | 0 | 6313 | - | 1251 | 20 | | |
| E6712 | High voltage level for FEE #12 | 0 | 6313 | - | 1129.05 | 11 | | |
| E6713 | High voltage level for FEE #13 | 0 | 6313 | - | 1264.55 | 21 | | |
| E6714 | High voltage level for FEE #14 | 0 | 6313 | - | 1210.35 | 17 | | |
| E6715 | High voltage level for FEE #15 | 0 | 6313 | - | 1142.6 | 12 | | |
| E6716 | High voltage level for FEE #16 | 0 | 6313 | - | 1115.5 | 10 | | |
| E6717 | High voltage level for FEE #17 | 0 | 6313 | - | 1196.8 | 16 | | |



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|--------|--------------------------------|---|-------|-------|----------------|-----------|----------------|-----------|
| | | | | | Eng value | Raw value | Eng value | Raw value |
| E6718 | High voltage level for FEE #18 | 0 | 6313 | - | 1210.35 | 17 | | |
| E6719 | High voltage level for FEE #19 | 0 | 6313 | - | 1088.4 | 8 | | |
| E6720 | High voltage level for FEE #20 | 0 | 6313 | - | 993.55 | 1 | | |
| E6721 | High voltage level for FEE #21 | 0 | 6313 | - | 1251 | 20 | | |
| E6722 | High voltage level for FEE #22 | 0 | 6313 | - | 1210.35 | 17 | | |
| E6723 | High voltage level for FEE #23 | 0 | 6313 | - | 1156.15 | 13 | | |
| E6724 | High voltage level for FEE #24 | 0 | 6313 | - | 1034.2 | 4 | | |
| E6725 | High voltage level for FEE #25 | 0 | 6313 | - | 1264.55 | 21 | | |
| E6726 | High voltage level for FEE #26 | 0 | 6313 | - | 980 | 0 | | |
| E6727 | High voltage level for FEE #27 | 0 | 6313 | - | 993.55 | 1 | | |
| E6728 | High voltage level for FEE #28 | 0 | 6313 | - | 1183.25 | 15 | | |
| E6729 | High voltage level for FEE #29 | 0 | 6313 | - | 1115.5 | 10 | | |
| E6730 | High voltage level for FEE #30 | 0 | 6313 | - | 993.55 | 1 | | |
| E6731 | High voltage level for FEE #31 | 0 | 6313 | - | 1183.25 | 15 | | |
| E6732 | High voltage level for FEE #32 | 0 | 6313 | - | 1264.55 | 21 | | |
| E6733 | High voltage level for FEE #33 | 0 | 6313 | - | 1074.85 | 7 | | |
| E6734 | High voltage level for FEE #34 | 0 | 6313 | - | 1007.1 | 2 | | |
| E6735 | High voltage level for FEE #35 | 0 | 6313 | - | 1115.5 | 10 | | |
| E6736 | High voltage level for FEE #36 | 0 | 6313 | - | 993.55 | 1 | | |
| E6737 | High voltage level for FEE #37 | 0 | 6313 | - | 1088.4 | 8 | | |
| E6738 | High voltage level for FEE #38 | 0 | 6313 | - | 1156.15 | 13 | | |
| E6739 | High voltage level for FEE #39 | 0 | 6313 | - | 1237.45 | 19 | | |
| E6740 | High voltage level for FEE #40 | 0 | 6313 | - | 1047.75 | 5 | | |
| E6741 | High voltage level for FEE #41 | 0 | 6313 | - | 1251 | 20 | | |
| E6742 | High voltage level for FEE #42 | 0 | 6313 | - | 1156.15 | 13 | | |
| E6743 | High voltage level for FEE #43 | 0 | 6313 | - | 1129.05 | 11 | | |
| E6744 | High voltage level for FEE #44 | 0 | 6313 | - | 1115.5 | 10 | | |
| E6745 | High voltage level for FEE #45 | 0 | 6313 | - | 1223.9 | 18 | | |
| E6746 | High voltage level for FEE #46 | 0 | 6313 | - | 1223.9 | 18 | | |
| E6747 | High voltage level for FEE #47 | 0 | 6313 | - | 1007.1 | 2 | | |



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| DB ref | Description | On-board default value (raw value in dec) | Curve | Alias | DPE1 Nominal | | DPE2 Redundant | |
|--------|--------------------------------|---|-------|-------|--------------|-----------|----------------|-----------|
| | | | | | Eng value | Raw value | Eng value | Raw value |
| E6748 | High voltage level for FEE #48 | 0 | 6313 | - | 1156.15 | 13 | | |
| E6749 | High voltage level for FEE #49 | 0 | 6313 | - | 993.55 | 1 | | |
| E6750 | High voltage level for FEE #50 | 0 | 6313 | - | 1047.75 | 5 | | |
| E6751 | High voltage level for FEE #51 | 0 | 6313 | - | 1074.85 | 7 | | |
| E6752 | High voltage level for FEE #52 | 0 | 6313 | - | 993.55 | 1 | | |
| E6753 | High voltage level for FEE #53 | 0 | 6313 | - | 1034.2 | 4 | | |
| E6754 | High voltage level for FEE #54 | 0 | 6313 | - | 1047.75 | 5 | | |
| E6755 | High voltage level for FEE #55 | 0 | 6313 | - | 1156.15 | 13 | | |
| E6756 | High voltage level for FEE #56 | 0 | 6313 | - | 1129.05 | 11 | | |
| E6757 | High voltage level for FEE #57 | 0 | 6313 | - | 1223.9 | 18 | | |
| E6758 | High voltage level for FEE #58 | 0 | 6313 | - | 1223.9 | 18 | | |
| E6759 | High voltage level for FEE #59 | 0 | 6313 | - | 1237.45 | 19 | | |
| E6760 | High voltage level for FEE #60 | 0 | 6313 | - | 1020.6 | 3 | | |
| E6761 | High voltage level for FEE #61 | 0 | 6313 | - | 1223.9 | 18 | | |
| E6762 | High voltage level for FEE #62 | 0 | 6313 | - | 1061.3 | 6 | | |
| E6763 | High voltage level for FEE #63 | 0 | 6313 | - | 1088.4 | 8 | | |
| E6764 | High voltage level for FEE #64 | 0 | 6313 | - | 1088.4 | 8 | | |
| E6765 | High voltage level for FEE #65 | 0 | 6313 | - | 1156.15 | 13 | | |
| E6766 | High voltage level for FEE #66 | 0 | 6313 | - | 980 | 0 | | |
| E6767 | High voltage level for FEE #67 | 0 | 6313 | - | 1101.95 | 9 | | |
| E6768 | High voltage level for FEE #69 | 0 | 6313 | - | 1183.25 | 15 | | |
| E6769 | High voltage level for FEE #69 | 0 | 6313 | - | 1034.2 | 4 | | |
| E6770 | High voltage level for FEE #70 | 0 | 6313 | - | 1196.8 | 16 | | |
| E6771 | High voltage level for FEE #71 | 0 | 6313 | - | 1156.15 | 13 | | |
| E6772 | High voltage level for FEE #72 | 0 | 6313 | - | 1034.2 | 4 | | |
| E6773 | High voltage level for FEE #73 | 0 | 6313 | - | 1129.05 | 11 | | |
| E6774 | High voltage level for FEE #74 | 0 | 6313 | - | 1061.3 | 6 | | |
| E6775 | High voltage level for FEE #75 | 0 | 6313 | - | 1088.4 | 8 | | |
| E6776 | High voltage level for FEE #76 | 0 | 6313 | - | 1007.1 | 2 | | |
| E6777 | High voltage level for FEE #77 | 0 | 6313 | - | 1020.65 | 3 | | |



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|-------------|---|---|-------|-------|--------------|-----------|----------------|-----------|
| | | | | | Eng value | Raw value | Eng value | Raw value |
| E6778 | High voltage level for FEE #78 | 0 | 6313 | - | 1129.05 | 11 | | |
| E6779 | High voltage level for FEE #79 | 0 | 6313 | - | 1047.75 | 5 | | |
| E6780 | High voltage level for FEE #80 | 0 | 6313 | - | 1115.5 | 10 | | |
| E6781 | High voltage level for FEE #81 | 0 | 6313 | - | 1129.05 | 11 | | |
| E6782 | High voltage level for FEE #82 | 0 | 6313 | - | 1129.05 | 11 | | |
| E6783 | High voltage level for FEE #83 | 0 | 6313 | - | 993.55 | 1 | | |
| E6784 | High voltage level for FEE #84 | 0 | 6313 | - | 1115.5 | 10 | | |
| E6785 | High voltage level for FEE #85 | 0 | 6313 | - | 993.55 | 1 | | |
| E6786 | High voltage level for FEE #86 | 0 | 6313 | - | 1210.35 | 17 | | |
| E6787 | High voltage level for FEE #87 | 0 | 6313 | - | 1047.75 | 5 | | |
| E6788 | High voltage level for FEE #88 | 0 | 6313 | - | 1034.2 | 4 | | |
| E6789 | High voltage level for FEE #89 | 0 | 6313 | - | 980 | 0 | | |
| E6790 | High voltage level for FEE #90 | 0 | 6313 | - | 1237.45 | 19 | | |
| E6791 | High voltage level for PSAC HV1 | 0 | 6322 | - | 1102 | 0 | | |
| E6792 | High voltage level for PSAC HV2 | 0 | 6322 | - | 1102 | 0 | | |
| E6800-E6891 | FEE veto signal mask | 0 | - | 6314 | enable | 1 | | |
| E6898 | FEE veto pulse width | 0 | - | 6328 | 187 ns | 9 | | |
| E7000 | Configuration Data switch VCU RAM/FEE HW Conf | 0 | - | 6324 | FEE CMD ECHO | 1 | | |
| E7001 | Overall veto mask | 0 | - | 6310 | enable | 1 | | |
| E7025 | VCU Watchdog | 0 | - | 6308 | enable | 1 | | |
| E7400-E7491 | ISB enabled/disabled for FEE | 1 | - | 6308 | enable | 1 | | |
| E7500-E7590 | FEE veto pulse / integration cycles count | 0 | - | 6316 | VETO PULSES | 0 | | |



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1.6.3.1. FEE ENERGY DISCRIMINATOR PARAMETERS SETTING

According to the energy threshold selected. The nominal value is 75 keV.

| DB ref | Description | Energy threshold = 75 keV | | Energy threshold = 100 keV | | Energy threshold = 150 keV | | Energy threshold = 200 keV | | Energy threshold = 300 keV | |
|--------|------------------------------|---------------------------|-----------|----------------------------|-----------|----------------------------|-----------|----------------------------|-----------|----------------------------|-----------|
| | | Eng value | Raw value | Eng value | Raw value | Eng value | Raw value | Eng value | Raw value | Eng value | Raw value |
| E6600 | FEE Energy discriminator #0 | 312 | 3 | 390 | 4 | 702 | 8 | 1092 | 13 | 1794 | 22 |
| E6601 | FEE Energy discriminator #1 | 312 | 3 | 390 | 4 | 780 | 9 | 1170 | 14 | 1872 | 23 |
| E6602 | FEE Energy discriminator #2 | 546 | 6 | 702 | 8 | 1092 | 13 | 1560 | 19 | 2418 | 30 |
| E6603 | FEE Energy discriminator #3 | 546 | 6 | 702 | 8 | 1092 | 13 | 1560 | 19 | 2340 | 29 |
| E6604 | FEE Energy discriminator #4 | 624 | 7 | 780 | 9 | 1248 | 15 | 1794 | 22 | 2652 | 33 |
| E6605 | FEE Energy discriminator #5 | 312 | 3 | 390 | 4 | 468 | 5 | 702 | 8 | 1092 | 13 |
| E6606 | FEE Energy discriminator #6 | 156 | 1 | 312 | 3 | 312 | 3 | 468 | 5 | 858 | 10 |
| E6607 | FEE Energy discriminator #7 | 624 | 7 | 780 | 9 | 1170 | 14 | 1560 | 19 | 2262 | 28 |
| E6608 | FEE Energy discriminator #8 | 468 | 5 | 624 | 7 | 1170 | 14 | 1638 | 20 | 2652 | 33 |
| E6609 | FEE Energy discriminator #9 | 780 | 9 | 1014 | 12 | 1482 | 18 | 1950 | 24 | 2964 | 37 |
| E6610 | FEE Energy discriminator #10 | 468 | 5 | 624 | 7 | 1014 | 12 | 1482 | 18 | 2340 | 29 |
| E6611 | FEE Energy discriminator #11 | 468 | 5 | 624 | 7 | 1014 | 12 | 1248 | 15 | 1872 | 23 |
| E6612 | FEE Energy discriminator #12 | 780 | 9 | 1014 | 12 | 1482 | 18 | 1950 | 24 | 2964 | 37 |
| E6613 | FEE Energy discriminator #13 | 468 | 5 | 624 | 7 | 1092 | 13 | 1482 | 18 | 2340 | 29 |
| E6614 | FEE Energy discriminator #14 | 624 | 7 | 780 | 9 | 1170 | 14 | 1638 | 20 | 2652 | 33 |
| E6615 | FEE Energy discriminator #15 | 702 | 8 | 858 | 10 | 1248 | 15 | 1794 | 22 | 2652 | 33 |
| E6616 | FEE Energy discriminator #16 | 546 | 6 | 702 | 8 | 1170 | 14 | 1638 | 20 | 2652 | 33 |
| E6617 | FEE Energy discriminator #17 | 546 | 6 | 702 | 8 | 1092 | 13 | 1560 | 19 | 2418 | 30 |
| E6618 | FEE Energy discriminator #18 | 468 | 5 | 624 | 7 | 1014 | 12 | 1482 | 18 | 2262 | 28 |
| E6619 | FEE Energy discriminator #19 | 624 | 7 | 780 | 9 | 1170 | 14 | 1638 | 20 | 2574 | 32 |
| E6620 | FEE Energy discriminator #20 | 234 | 2 | 312 | 3 | 624 | 7 | 1014 | 12 | 1560 | 19 |
| E6621 | FEE Energy discriminator #21 | 390 | 4 | 468 | 5 | 1014 | 12 | 1248 | 15 | 2028 | 25 |
| E6622 | FEE Energy discriminator #22 | 390 | 4 | 468 | 5 | 858 | 10 | 1248 | 15 | 1950 | 24 |
| E6623 | FEE Energy discriminator #23 | 624 | 7 | 780 | 9 | 1248 | 15 | 1638 | 20 | 2574 | 32 |
| E6624 | FEE Energy discriminator #24 | 390 | 4 | 468 | 5 | 858 | 10 | 1404 | 17 | 2184 | 27 |
| E6625 | FEE Energy discriminator #25 | 546 | 6 | 702 | 8 | 1248 | 15 | 1794 | 22 | 2730 | 34 |



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|-------|------------------------------|------|----|------|----|------|----|------|----|------|----|
| E6626 | FEE Energy discriminator #26 | 1014 | 12 | 1248 | 15 | 1794 | 22 | 2340 | 29 | 3432 | 43 |
| E6627 | FEE Energy discriminator #27 | 468 | 5 | 624 | 7 | 1170 | 14 | 1560 | 19 | 2574 | 32 |
| E6628 | FEE Energy discriminator #28 | 312 | 3 | 390 | 4 | 780 | 9 | 1248 | 15 | 2028 | 25 |
| E6629 | FEE Energy discriminator #29 | 468 | 5 | 624 | 7 | 858 | 10 | 1248 | 15 | 2028 | 25 |
| E6630 | FEE Energy discriminator #30 | 156 | 1 | 234 | 2 | 468 | 5 | 780 | 9 | 1482 | 18 |
| E6631 | FEE Energy discriminator #31 | 546 | 6 | 702 | 8 | 1170 | 14 | 1560 | 19 | 2574 | 32 |
| E6632 | FEE Energy discriminator #32 | 858 | 10 | 1092 | 13 | 1638 | 20 | 2262 | 28 | 3432 | 43 |
| E6633 | FEE Energy discriminator #33 | 858 | 10 | 1092 | 13 | 1638 | 20 | 2184 | 27 | 3198 | 40 |
| E6634 | FEE Energy discriminator #34 | 780 | 9 | 1014 | 12 | 1482 | 18 | 1950 | 24 | 2964 | 37 |
| E6635 | FEE Energy discriminator #35 | 312 | 3 | 390 | 4 | 702 | 8 | 1092 | 13 | 1794 | 22 |
| E6636 | FEE Energy discriminator #36 | 156 | 1 | 234 | 2 | 390 | 4 | 702 | 8 | 1404 | 17 |
| E6637 | FEE Energy discriminator #37 | 156 | 1 | 234 | 2 | 468 | 5 | 780 | 9 | 1482 | 18 |
| E6638 | FEE Energy discriminator #38 | 312 | 3 | 390 | 4 | 858 | 10 | 1248 | 15 | 2028 | 25 |
| E6639 | FEE Energy discriminator #39 | 390 | 4 | 468 | 5 | 780 | 9 | 1170 | 14 | 2028 | 25 |
| E6640 | FEE Energy discriminator #40 | 156 | 1 | 234 | 2 | 312 | 3 | 780 | 9 | 1794 | 22 |
| E6641 | FEE Energy discriminator #41 | 390 | 4 | 468 | 5 | 858 | 10 | 1248 | 15 | 2028 | 25 |
| E6642 | FEE Energy discriminator #42 | 156 | 1 | 234 | 2 | 468 | 5 | 780 | 9 | 1482 | 18 |
| E6643 | FEE Energy discriminator #43 | 312 | 3 | 390 | 4 | 780 | 9 | 1092 | 13 | 1872 | 23 |
| E6644 | FEE Energy discriminator #44 | 312 | 3 | 390 | 4 | 780 | 9 | 1092 | 13 | 1872 | 23 |
| E6645 | FEE Energy discriminator #45 | 390 | 4 | 468 | 5 | 858 | 10 | 1248 | 15 | 2184 | 27 |
| E6646 | FEE Energy discriminator #46 | 468 | 5 | 624 | 7 | 1014 | 12 | 1404 | 17 | 2262 | 28 |
| E6647 | FEE Energy discriminator #47 | 234 | 2 | 312 | 3 | 624 | 7 | 858 | 10 | 1482 | 18 |
| E6648 | FEE Energy discriminator #48 | 234 | 2 | 312 | 3 | 702 | 8 | 1092 | 13 | 1872 | 23 |
| E6649 | FEE Energy discriminator #49 | 234 | 2 | 312 | 3 | 702 | 8 | 1092 | 13 | 1794 | 22 |
| E6650 | FEE Energy discriminator #50 | 312 | 3 | 390 | 4 | 702 | 8 | 1092 | 13 | 1638 | 20 |
| E6651 | FEE Energy discriminator #51 | 624 | 7 | 780 | 9 | 1170 | 14 | 1482 | 18 | 2184 | 27 |
| E6652 | FEE Energy discriminator #52 | 312 | 3 | 390 | 4 | 858 | 10 | 1248 | 15 | 1950 | 24 |
| E6653 | FEE Energy discriminator #53 | 234 | 2 | 312 | 3 | 624 | 7 | 1014 | 12 | 1638 | 20 |
| E6654 | FEE Energy discriminator #54 | 312 | 3 | 390 | 4 | 624 | 7 | 702 | 8 | 780 | 9 |
| E6655 | FEE Energy discriminator #55 | 234 | 2 | 312 | 3 | 858 | 10 | 1482 | 18 | 2652 | 33 |
| E6656 | FEE Energy discriminator #56 | 936 | 11 | 1170 | 14 | 1638 | 20 | 2028 | 25 | 2964 | 37 |
| E6657 | FEE Energy discriminator #57 | 546 | 6 | 702 | 8 | 1248 | 15 | 1794 | 22 | 2808 | 35 |
| E6658 | FEE Energy discriminator #58 | 1014 | 12 | 1248 | 15 | 2028 | 25 | 2652 | 33 | 3354 | 42 |



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|-------|------------------------------|------|----|------|----|------|----|------|----|------|----|
| E6659 | FEE Energy discriminator #59 | 858 | 10 | 1092 | 13 | 1560 | 19 | 1950 | 24 | 2964 | 37 |
| E6660 | FEE Energy discriminator #60 | 936 | 11 | 1170 | 14 | 1638 | 20 | 2028 | 25 | 3042 | 38 |
| E6661 | FEE Energy discriminator #61 | 702 | 8 | 858 | 10 | 1014 | 12 | 1482 | 18 | 2340 | 29 |
| E6662 | FEE Energy discriminator #62 | 468 | 5 | 624 | 7 | 1092 | 13 | 1560 | 19 | 2418 | 30 |
| E6663 | FEE Energy discriminator #63 | 1014 | 12 | 1248 | 15 | 1638 | 20 | 2184 | 27 | 3042 | 38 |
| E6664 | FEE Energy discriminator #64 | 780 | 9 | 1014 | 12 | 1404 | 17 | 1872 | 23 | 2730 | 34 |
| E6665 | FEE Energy discriminator #65 | 780 | 9 | 1014 | 12 | 1482 | 18 | 1950 | 24 | 2808 | 35 |
| E6666 | FEE Energy discriminator #66 | 1014 | 12 | 1248 | 15 | 1404 | 17 | 2418 | 30 | 3120 | 39 |
| E6667 | FEE Energy discriminator #67 | 702 | 8 | 858 | 10 | 1404 | 17 | 1872 | 23 | 2964 | 37 |
| E6668 | FEE Energy discriminator #68 | 390 | 4 | 468 | 5 | 858 | 10 | 1404 | 17 | 2340 | 29 |
| E6669 | FEE Energy discriminator #69 | 1014 | 12 | 1248 | 15 | 1638 | 20 | 2184 | 27 | 3042 | 38 |
| E6670 | FEE Energy discriminator #70 | 468 | 5 | 624 | 7 | 1092 | 13 | 1482 | 18 | 2340 | 29 |
| E6671 | FEE Energy discriminator #71 | 624 | 7 | 780 | 9 | 1404 | 17 | 1872 | 23 | 2964 | 37 |
| E6672 | FEE Energy discriminator #72 | 780 | 9 | 1014 | 12 | 1482 | 18 | 1950 | 24 | 2964 | 37 |
| E6673 | FEE Energy discriminator #73 | 624 | 7 | 780 | 9 | 1170 | 14 | 1638 | 20 | 2574 | 32 |
| E6674 | FEE Energy discriminator #74 | 858 | 10 | 1092 | 13 | 1560 | 19 | 2028 | 25 | 3120 | 39 |
| E6675 | FEE Energy discriminator #75 | 1014 | 12 | 1248 | 15 | 1794 | 22 | 2340 | 29 | 3354 | 42 |
| E6676 | FEE Energy discriminator #76 | 546 | 6 | 702 | 8 | 1170 | 14 | 1638 | 20 | 2652 | 33 |
| E6677 | FEE Energy discriminator #77 | 1092 | 13 | 1404 | 17 | 1872 | 23 | 2340 | 29 | 3198 | 40 |
| E6678 | FEE Energy discriminator #78 | 624 | 7 | 780 | 9 | 1248 | 15 | 1794 | 22 | 2808 | 35 |
| E6679 | FEE Energy discriminator #79 | 624 | 7 | 780 | 9 | 1248 | 15 | 1794 | 22 | 2652 | 33 |
| E6680 | FEE Energy discriminator #80 | 702 | 8 | 858 | 10 | 1482 | 18 | 1950 | 24 | 3042 | 38 |
| E6681 | FEE Energy discriminator #81 | 468 | 5 | 624 | 7 | 1092 | 13 | 1482 | 18 | 2340 | 29 |
| E6682 | FEE Energy discriminator #82 | 780 | 9 | 1014 | 12 | 1248 | 15 | 1872 | 23 | 2340 | 29 |
| E6683 | FEE Energy discriminator #83 | 780 | 9 | 1014 | 12 | 1404 | 17 | 1950 | 24 | 2730 | 34 |
| E6684 | FEE Energy discriminator #84 | 702 | 8 | 858 | 10 | 1404 | 17 | 1950 | 24 | 2964 | 37 |
| E6685 | FEE Energy discriminator #85 | 468 | 5 | 624 | 7 | 1014 | 12 | 1482 | 18 | 2340 | 29 |
| E6686 | FEE Energy discriminator #86 | 780 | 9 | 1014 | 12 | 1248 | 15 | 1872 | 23 | 2808 | 35 |
| E6687 | FEE Energy discriminator #87 | 624 | 7 | 780 | 9 | 1248 | 15 | 1794 | 22 | 2652 | 33 |
| E6688 | FEE Energy discriminator #88 | 1248 | 15 | 1560 | 19 | 1950 | 24 | 2418 | 30 | 3432 | 43 |
| E6689 | FEE Energy discriminator #89 | 624 | 7 | 780 | 9 | 1014 | 12 | 1716 | 21 | 2574 | 32 |
| E6690 | FEE Energy discriminator #90 | 2028 | 25 | 2574 | 32 | 3510 | 44 | 4992 | 63 | 6240 | 79 |



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1.6.4. PSD

| DB ref | Description | On-board default value | Curve | Alias | DPE1 Nominal or DPE2 Redundant | |
|---|--------------------------------------|------------------------|-------|-------|--------------------------------|-----------|
| | | | | | Eng value | Raw value |
| E8290, E8295, E8310, E8315, E8501, E8506, E8520, E8525, E8533, E8538, E8552, E8557, E8710, E8715, E8720, E8725, E8730, E8735, E8740 | Library selection for detector #i | 0 | - | - | 0 | 0 |
| E8291, E8296, E8311, E8316, E8502, E8507, E8521, E8526, E8534, E8539, E8553, E8558, E8711, E8716, E8721, E8726, E8731, E8736, E8741 | Event word decode K5 for detector | 0 | - | - | 0 | 0 |
| E8292, E8297, E8312, E8317, E8503, E8508, E8522, E8527, E8535, E8540, E8554, E8559, E8712, E8717, E8722, E8727, E8732, E8737, E8742 | Number of time steps for detector #i | 64 | - | - | 64 | 64 |



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| DB ref | Description | On-board default value | Curve | Alias | DPE1 Nominal or DPE2 Redundant | |
|---|--|------------------------|-------|-------|--------------------------------|-----------|
| | | | | | Eng value | Raw value |
| E8293, E8298, E8313, E8318, E8504, E8509, E8523, E8528, E8536, E8541, E8555, E8560, E8713, E8718, E8723, E8728, E8733, E8738, E8743 | Number of templates for detector #i | 26 | - | - | 24 | 24 |
| E8294, E8299, E8314, E8319, E8505, E8510, E8524, E8529, E8537, E8542, E8556, E8561, E8714, E8719, E8724, E8729, E8734, E8739, E8744 | Decode parameter K3 for detector #i | 0 | - | - | 0 | 0 |
| E8603 | Global front end trigger for operational and CAL modes | 4 | - | 6347 | 1.8 mV | 6 |
| E8604 | Low level discriminator for OPER and CAL modes (LSB) | 2 | - | 6346 | 4.7 mV | 2 |
| E8605 | Low level discriminator for OPER and CAL modes (MSB) | 0 | - | - | - | 1 |
| E8606 | Time window for OPER and CAL modes | 1 | - | 6345 | 200 nS | 0 |
| E8607 | Gain control for OPER and CAL modes | 0 | - | 6344 | 0-2 Mev | 0 |
| E8610-E8628 | DIS/ENA for detector #i for DIAG mode | 0 | - | 6322 | ENABLE | 0 |
| E8629 | Global Front End trigger for DIAG mode | 4 | - | 6347 | 1.8 mV | 6 |
| E8630 | Low level discriminator for DIAG mode (LSB) | 2 | - | 6346 | 4.7 mV | 2 |
| E8631 | Low level discriminator for DIAG mode (MSB) | 0 | - | - | - | 1 |
| E8632 | Time window for DIAG mode | 1 | - | 6345 | 200 nS | 0 |



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| DB ref | Description | On-board default value | Curve | Alias | DPE1 Nominal or DPE2 Redundant | |
|-----------------------|---|------------------------|-------|-------|--------------------------------|-----------|
| | | | | | Eng value | Raw value |
| E8633 | Gain control for DIAG mode | 0 | - | 6344 | 0-2 Mev | 0 |
| E8643-E8646 | Gain adjustement for converter 0-3 | 0 | - | - | 0 | 0 |
| E8647-E8649, E8709 | Offset adjustement for converter 0-3 | 0 | - | - | 0 | 0 |
| E8650-E8668 | Disable/enable for detector #i | 0 | - | 6322 | ENABLE | 0 |
| E8670-E8688 | Low Threshold for detector i | 10 | - | - | 80 | 80 |
| E8690-E8708 | High Threshold for detector i | 511 | - | - | 300 | 300 |
| E8758 | Number of postprocessed events after 8 Hz edge | 1 | - | - | 2 | 2 |
| E8893 | Nb of curves per 8 Hz cycle for PER mode | 0 | - | - | 0 | 0 |
| E8894 | Periodicity (in 8 Hz cycles) for searching one curve for OPE | 32 | - | - | 32 | 32 |
| E8895 | Nb of curves per 8 Hz cycle for CAL and DIAG mode | 5 | - | - | 5 | 5 |
| E8896 | Periodicity (in 8 Hz cycles) for searching one curve for CAL/DIAG modes | 0 | - | - | 0 | 0 |



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1.6.5. DFEE

| DB ref | Description | On-board default value | Curve | Alias | DPE1 Nominal | | DPE2 Redundant | |
|-------------|--|------------------------|-------|-------|--------------|-----------|----------------|-----------|
| | | | | | Eng value | Raw value | Eng value | Raw value |
| E7695 | Automatic ASIC reset on HSL error (EnHslErrAct) | 0 | | 6308 | enable | 1 | | |
| E7696 | HSL error filter (NhsErrActThreshold) | 0 | | | 2 | 2 | | |
| E7697 | Inhibition auto-test CODE | 0 | | 6355 | NONINIBIT | 0 | | |
| E7698 | Inhibition auto-test ASIC | 0 | | 6355 | NONINIBIT | 0 | | |
| E7699 | Inhibition auto-test RAM | 0 | | 6355 | NONINIBIT | 0 | | |
| E7700 | Nb HSL error threshold (NbHslErrThresh.) | 0 | | | 3 | 3 | | |
| E7701 | Reset Front Tframe (RstFrontFrame) | 0 | | 6333 | no reset | 0 | | |
| E7702 | Reset Front Veto (RstFrontVeto) | 0 | | 6333 | no reset | 0 | | |
| E7703 | Reset Front PSD (RstFrontPsd) | 0 | | 6333 | no reset | 0 | | |
| E7704-E7722 | Reset Front AFEE n. 0 (RstFrontAfee) | 0 | | 6333 | no reset | 0 | | |
| E7723 | Reset Count VPSD (RstCountVPsd) | 0 | | 6333 | no reset | 0 | | |
| E7724-E7742 | Reset Count AFE n. 0 (RstCountAfee) | 0 | | 6333 | no reset | 0 | | |
| E7743 | Reset ASSO SM (RstAssoSm) | 0 | | 6333 | no reset | 0 | | |
| E7744 | Reset POBJ SM (RstPobjSm) | 0 | | 6333 | no reset | 0 | | |
| E7745 | Reset RCVE SM (RstRcveSm) | 0 | | 6333 | no reset | 0 | | |
| E7746 | Reset RCVE Serial (RstRcveSerial) | 0 | | 6333 | no reset | 0 | | |
| E7747 | Reset ACQ SM (RstAcqSm) | 0 | | 6333 | no reset | 0 | | |
| E7748 | Reset Dial SM (RstDialSm) | 0 | | 6333 | no reset | 0 | | |
| E7749 | Enable count Dead Time AFEE (EnCntDtAfee) | 0 | | 6308 | Enable | 1 | | |
| E7750 | Enable count Dead Time AFEE SAT (EnCntDtAfeeSat) | 0 | | 6308 | Enable | 1 | | |
| E7751 | Enable count Dead Time Veto gate (EnCntDtVetoGate) | 0 | | 6308 | Enable | 1 | | |
| E7753 | CFG ASSO Multi Window Size (AssoVetoForce) | 0 | | 6390 | 350 ns | 7 | | |
| E7756 | CFG ASSO Enable PSD (AssoEnablePsd) | 0 | | 6304 | Yes | 1 | | |



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|-------------|---|------------------------|-------|-------|--------------|-----------|----------------|-----------|
| | | | | | Eng value | Raw value | Eng value | Raw value |
| E7757-E7775 | CFG ASSO Enable AFEE n. 0 (AssoEnableAfee) | 0 | | 6304 | Yes | 1 | | |
| E7776 | CFG RVCVE Time Out Miss Energy (ToutValMissNrg) | 0 | | | | 7 | | |
| E7777 | CFG ACQ KEEPSE (EvtKeepSE) | 0 | | 6304 | YES | 1 | | |
| E7778 | CFG ACQ KEEPME (EvtKeepME) | 0 | | 6304 | Yes | 1 | | |
| E7779 | CFG ACQ KEEPE (EvtKeepPE) | 0 | | 6304 | Yes | 1 | | |
| E7780 | CFG ACQ KeepPP (EvtKeepPP) | 0 | | 6304 | No | 0 | | |
| E7781 | CFG ACQ Evt Force No vetoed (EvtForceNVeto) | 0 | | 6304 | No | 0 | | |
| E7782 | CFG ACQ Spectra Storage Mode (SpeStorageMode) | 0 | | 6370 | SPECTRA OFF | 0 | | |
| E7783 | CFG DIAL HSL Transfert length bit (HslXferLength) | 0 | | | 3072 words | 3072 | | |
| E7784 | EvtSetTimeFmtPE | 0 | | 6304 | No | 0 | | |
| E7785 | EvtForceProcPE | 0 | | 6304 | No | 0 | | |
| E7786 | (toutScaleDropNrg) | 0 | | | 89.6 10E-6 s | 15 | | |
| E7787 | (lowResMode) | 0 | | 6356 | NORMALRESCLK | 0 | | |
| E7788 | (AcMode) | 0 | | 6371 | Ac On | 1 | | |
| E7800 | Adjust Delay for AFEE saturated (DelayAfeeSat) | 0 | C6380 | | 550 ns | 11 | 550 ns | 11 |
| E7801 | Adjust Delay for AFEE saturated (DelayAfeeSat) | 0 | C6380 | | 600 ns | 12 | 600 ns | 12 |
| E7802 | Adjust Delay for AFEE saturated (DelayAfeeSat) | 0 | C6380 | | 600 ns | 12 | 600 ns | 12 |
| E7803 | Adjust Delay for AFEE saturated (DelayAfeeSat) | 0 | C6380 | | 550 ns | 11 | 550 ns | 11 |
| E7804 | Adjust Delay for AFEE saturated (DelayAfeeSat) | 0 | C6380 | | 600 ns | 12 | 600 ns | 12 |
| E7805 | Adjust Delay for AFEE saturated (DelayAfeeSat) | 0 | C6380 | | 550 ns | 11 | 550 ns | 11 |
| E7806 | Adjust Delay for AFEE saturated (DelayAfeeSat) | 0 | C6380 | | 500 ns | 10 | 550 ns | 11 |
| E7807 | Adjust Delay for AFEE saturated (DelayAfeeSat) | 0 | C6380 | | 550 ns | 11 | 550 ns | 11 |
| E7808 | Adjust Delay for AFEE saturated (DelayAfeeSat) | 0 | C6380 | | 500 ns | 10 | 550 ns | 11 |
| E7809 | Adjust Delay for AFEE saturated (DelayAfeeSat) | 0 | C6380 | | 350 ns | 7 | 350 ns | 7 |



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|--------|--|------------------------|-------|-------|--------------|-----------|----------------|-----------|
| | | | | | Eng value | Raw value | Eng value | Raw value |
| E7810 | Adjust Delay for AFEE saturated (DelayAfeeSat) | 0 | C6380 | | 550 ns | 11 | 550 ns | 11 |
| E7811 | Adjust Delay for AFEE saturated (DelayAfeeSat) | 0 | C6380 | | 450 ns | 9 | 450 ns | 9 |
| E7812 | Adjust Delay for AFEE saturated (DelayAfeeSat) | 0 | C6380 | | 350 ns | 7 | 350 ns | 7 |
| E7813 | Adjust Delay for AFEE saturated (DelayAfeeSat) | 0 | C6380 | | 500 ns | 10 | 500 ns | 10 |
| E7814 | Adjust Delay for AFEE saturated (DelayAfeeSat) | 0 | C6380 | | 500 ns | 10 | 500 ns | 10 |
| E7815 | Adjust Delay for AFEE saturated (DelayAfeeSat) | 0 | C6380 | | 550 ns | 11 | 550 ns | 11 |
| E7816 | Adjust Delay for AFEE saturated (DelayAfeeSat) | 0 | C6380 | | 500 ns | 10 | 500 ns | 10 |
| E7817 | Adjust Delay for AFEE saturated (DelayAfeeSat) | 0 | C6380 | | 600 ns | 12 | 650 ns | 13 |
| E7818 | Adjust Delay for AFEE saturated (DelayAfeeSat) | 0 | C6380 | | 500 ns | 10 | 500 ns | 10 |
| E7820 | Adjust Delay for Time Tag AFEE 0 (DelayAfeeTT) | 0 | C6380 | | 0 ns | 0 | 0 ns | 0 |
| E7821 | Adjust Delay for Time Tag AFEE 1 (DelayAfeeTT) | 0 | C6380 | | 0 ns | 0 | 50 ns | 1 |
| E7822 | Adjust Delay for Time Tag AFEE 2 (DelayAfeeTT) | 0 | C6380 | | 0 ns | 0 | 50 ns | 1 |
| E7823 | Adjust Delay for Time Tag AFEE 3 (DelayAfeeTT) | 0 | C6380 | | 0 ns | 0 | 0 ns | 0 |
| E7824 | Adjust Delay for Time Tag AFEE 4 (DelayAfeeTT) | 0 | C6380 | | 0 ns | 0 | 50 ns | 1 |
| E7825 | Adjust Delay for Time Tag AFEE 5 (DelayAfeeTT) | 0 | C6380 | | 0 ns | 0 | 50 ns | 1 |
| E7826 | Adjust Delay for Time Tag AFEE 6 (DelayAfeeTT) | 0 | C6380 | | 0 ns | 0 | 50 ns | 1 |
| E7827 | Adjust Delay for Time Tag AFEE 7 (DelayAfeeTT) | 0 | C6380 | | 0 ns | 0 | 0 ns | 0 |
| E7828 | Adjust Delay for Time Tag AFEE 8 (DelayAfeeTT) | 0 | C6380 | | 0 ns | 0 | 0 ns | 0 |
| E7829 | Adjust Delay for Time Tag AFEE 9 (DelayAfeeTT) | 0 | C6380 | | 0 ns | 0 | 0 ns | 0 |



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|--------|---|------------------------|-------|-------|--------------|-----------|----------------|-----------|
| | | | | | Eng value | Raw value | Eng value | Raw value |
| E7830 | Adjust Delay for Time Tag AFEE 10 (DelayAfeeTT) | 0 | C6380 | | 0 ns | 0 | 0 | 0 |
| E7831 | Adjust Delay for Time Tag AFEE 11 (DelayAfeeTT) | 0 | C6380 | | 0 ns | 0 | 0 | 0 |
| E7832 | Adjust Delay for Time Tag AFEE 12 (DelayAfeeTT) | 0 | C6380 | | 0 ns | 0 | 0 | 0 |
| E7833 | Adjust Delay for Time Tag AFEE 13 (DelayAfeeTT) | 0 | C6380 | | 0 ns | 0 | 0 | 0 |
| E7834 | Adjust Delay for Time Tag AFEE 14 (DelayAfeeTT) | 0 | C6380 | | 0 ns | 0 | 0 | 0 |
| E7835 | Adjust Delay for Time Tag AFEE 15 (DelayAfeeTT) | 0 | C6380 | | 0 ns | 0 | 0 | 0 |
| E7836 | Adjust Delay for Time Tag AFEE 16 (DelayAfeeTT) | 0 | C6380 | | 0 ns | 0 | 0 | 0 |
| E7837 | Adjust Delay for Time Tag AFEE 17 (DelayAfeeTT) | 0 | C6380 | | 0 ns | 0 | 50 ns | 1 |
| E7838 | Adjust Delay for Time Tag AFEE 18 (DelayAfeeTT) | 0 | C6380 | | 0 ns | 0 | 0 | 0 |
| E7840 | Delay Veto First (DlyVetoFirst) | 0 | C6380 | | 500 ns | 10 | | |
| E7841 | Delay Veto Second (DlyVetoScnd) | 0 | C6385 | | 950 ns | 19 | | |
| E7842 | Extended threshold (Xtnd Thresh) | 0 | C6381 | | 2100 ns | 40 | | |
| E7843 | Delay PSD (DlyPsd) | 0 | C6382 | | 600 ns | 12 | | |
| E7844 | Extended gate above threshold (XntGateAbove) | 0 | C6383 | | 2950 ns | 15 | | |
| E7845 | Extended gate below threshold (XntGateBelow) | 0 | C6384 | | 550 ns | 12 | | |
| E7848 | (RouteMode) | 0 | | 6359 | NOROUTING . | 0 | | |