

**1. Overview**

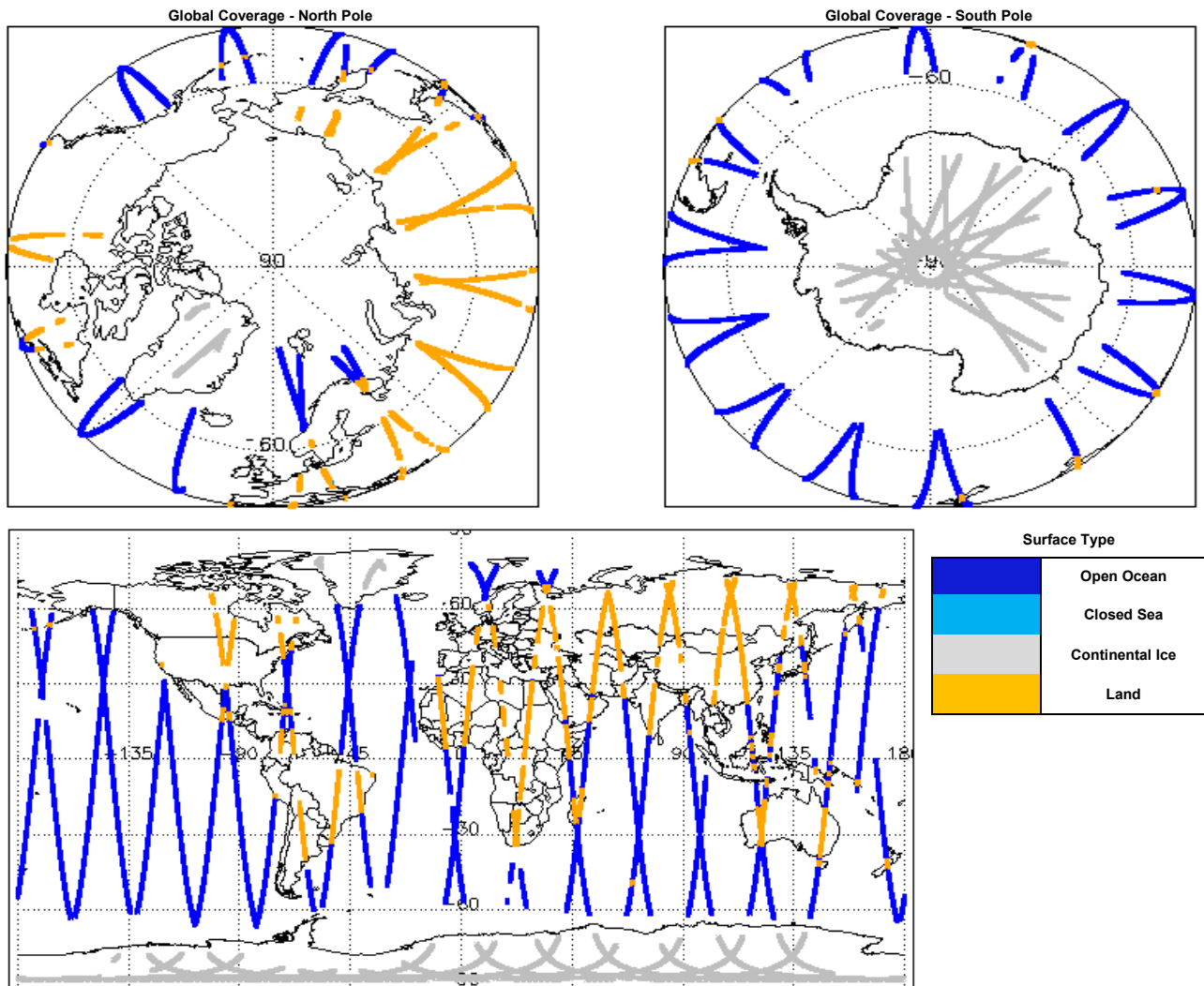
<b>Report Production Date:</b>	22-Dec-2015
<b>Processor Used:</b>	CryoSat Ice Processor
<b>Data Used:</b>	L1 and L2 Fast Delivery Marine (FDM) Mode and L0 Data

Check	Status
Server check: science-pds.cryosat.esa.int	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal
Product Software Check	Nominal
Product Format Check	Nominal
Product Header Analysis	See Section 4.2
Star Tracker Usage Check	See Section 5.3
Calibration Usage Check	Nominal
Auxiliary Data File Usage Check	See Section 5.5 and 6.3
Auxiliary Correction Error Check	See Section 5.6 and 6.4
Measurement Confidence Data Check	See Section 5.7, 6.6, 6.7 and 6.8

**Mission / Instrument News**

20-Dec-2015	None
21-Dec-2015	None
22-Dec-2015	Nothing planned

**2. Global Coverage**



**3. Instrument Configuration**

The SIRAL instrument configuration for the day of acquisition is provided below.

<b>SIRAL instrument(s) in use:</b>	SIRAL - A
<b>Star Tracker(s) in use:</b>	Star Tracker 1 & 2

**4. Level 0 Data Quality Check**

**4.1 L0 Product Format Check**

Each product, retrieved and unpacked from the science server, is checked to ensure it consists of both an XML header file (.HDR) and a binary product file (.DBL).

Number of products with errors: 0

## 4.2 L0 Product Header Analysis

For all products, a series of pre-defined checks are carried out on the MPH and SPH in order to identify any inconsistencies and/or errors raised by the processing chain.

Number of products with errors: 5

Product	Test Failed
CS_OPER_SIR1SAR_0_20151221T232937_20151221T233727_0001.HDR	Percentage of processing errors detected greater than minimum acceptable threshold.
CS_OPER_SIR1SAR_0_20151221T231527_20151221T232205_0001.HDR	Percentage of processing errors detected greater than minimum acceptable threshold.
CS_OPER_SIR1SAR_0_20151221T213542_20151221T213944_0001.HDR	Percentage of processing errors detected greater than minimum acceptable threshold.
CS_OPER_SIR1SIN_0_20151221T143054_20151221T143229_0001.HDR	Percentage of processing errors detected greater than minimum acceptable threshold.
CS_OPER_SIR2SIN_0_20151221T060239_20151221T060504_0001.HDR	Percentage of processing errors detected greater than minimum acceptable threshold.

## 5. Level 1B FDM Data Quality Check

### 5.1 L1B FDM Product Format Check

Each product, retrieved and unpacked from the science server, is checked to ensure it consists of both an XML header file (.HDR) and a binary product file (.DBL).

Number of products with errors: 0

### 5.2 L1B FDM Product Header Analysis

For all products, a series of pre-defined checks are carried out on the MPH and SPH in order to identify any inconsistencies and/or errors raised by the ground-segment processing chain.

Number of products with errors: 0

### 5.3 L1B FDM Star Tracker Usage Check

Each product is checked in order to ensure a valid star tracker file has been used in processing.

Number of products with errors: 4

Product	Test Failed
CS_OFFL_SIR_FDM_1B_20151220T234131_20151221T001437_C001	No Star Tracker file used in the processing of this product
CS_OFFL_SIR_FDM_1B_20151221T181834_20151221T182518_C001	No Star Tracker file used in the processing of this product
CS_OFFL_SIR_FDM_1B_20151221T200101_20151221T200212_C001	No Star Tracker file used in the processing of this product
CS_OFFL_SIR_FDM_1B_20151221T214038_20151221T214101_C001	No Star Tracker file used in the processing of this product

### 5.4 L1B FDM Calibration Usage Check

Each product is checked in order to ensure the necessary calibration files have been used in processing.

Number of products with errors: 0

### 5.5 L1B FDM Auxiliary Data File Usage Check

Each product is checked for missing Data Set Descriptors with respect to a pre-determined baseline and also to check the validity of Auxiliary Data Files is correct.

Number of products with errors: 6

Product	AUX File	Comment
All FDM_1B products from 20151221T121046 to T123512 (6 products)	CS_OPER_AUXIV_WIND_20151221T180000_20151221T180000_0001	Auxiliary File AUXIV_WIND missing at time of processing

### 5.6 L1B FDM Auxiliary Correction Error Check

CryoSat L1B data includes a correction error flag (field 54) for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors: 6

Product	Test Failed	Description
CS_OFFL_SIR_FDM_1B_20151221T121046_20151221T123512_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20151221T124448_20151221T124640_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20151221T130943_20151221T131102_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20151221T131543_20151221T132342_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20151221T132345_20151221T132405_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_1B_20151221T132408_20151221T132423_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections

### 5.7 L1B FDM Measurement Confidence Data Check

CryoSat L1B data includes a measurement confidence flag (field 18) for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors: 4

Product	Test Failed	Description
CS_OFFL_SIR_FDM_1B_20151220T234131_20151221T001437_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20151221T181834_20151221T182518_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20151221T200101_20151221T200212_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20151221T214038_20151221T214101_C001	Attitude correction missing	The attitude has not been corrected

## 6. Level 2 FDM Data Quality Check

### 6.1 L2 FDM Product Format Check

Each product, retrieved and unpacked from the science server, is checked to ensure it consists of both an XML header file (.HDR) and a binary product file (.DBL).

Number of products with errors: 0

### 6.2 L2 FDM Product Header Analysis

For all products, a series of pre-defined checks are carried out on the MPH and SPH in order to identify any inconsistencies and/or errors raised by the ground-segment processing chain.

Number of products with errors: 0

### 6.3 L2 FDM Auxiliary Data File Usage Check

Each product is checked for missing Data Set Descriptors with respect to a pre-determined baseline and also to check the validity of Auxiliary Data Files is correct.

Number of products with errors: 6

Product	AUX File	Comment
All FDM_2 products from 20151221T121046 to T123512 (6 products)	CS_OPER_AUXIV_WIND_20151221T180000_20151221T180000_0001	Auxiliary File AUXIV_WIND missing at time of processing

### 6.4 L2 FDM Auxiliary Correction Error Check

Each product is checked to detect auxiliary corrections flagged by the ground-station processing chain as missing or containing errors.

Number of products with errors: 42

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2_20151221T004644_20151221T010409_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20151221T012238_20151221T013503_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20151221T013629_20151221T015322_C001	Sea State Bias Correction	There is an error with the Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20151221T021455_20151221T022421_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20151221T022423_20151221T022601_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20151221T022804_20151221T024304_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20151221T025910_20151221T030327_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20151221T031650_20151221T032925_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20151221T040708_20151221T042225_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20151221T054203_20151221T060134_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20151221T061600_20151221T064237_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20151221T071546_20151221T074027_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20151221T075636_20151221T082939_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20151221T091434_20151221T091621_C001	Sea State Bias Correction	There is an error with the Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20151221T091821_20151221T091838_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20151221T093514_20151221T095642_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20151221T095927_20151221T100855_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20151221T103159_20151221T105753_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20151221T111409_20151221T113148_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20151221T121046_20151221T123512_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_2_20151221T124448_20151221T124640_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_2_20151221T130943_20151221T131102_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction, Sea State Bias Correction, Altimetric Wind Speed	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections. There is also an error with the Sea State Bias Correction and Altimetric Wind Speed for one or more records.
CS_OFFL_SIR_FDM_2_20151221T131543_20151221T132342_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction, Sea State Bias Correction, Altimetric Wind Speed	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections. There is also an error with the Sea State Bias Correction and Altimetric Wind Speed for one or more records.
CS_OFFL_SIR_FDM_2_20151221T132345_20151221T132405_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_2_20151221T132408_20151221T132423_C001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary Files there is an error with the Dry Tropospheric, Wet Tropospheric and Inverse Barometric Corrections
CS_OFFL_SIR_FDM_2_20151221T134350_20151221T135942_C001	Sea State Bias Correction	There is an error with the Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20151221T140157_20151221T141645_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20151221T143252_20151221T144731_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20151221T144910_20151221T150351_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20151221T152700_20151221T153659_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20151221T154349_20151221T155813_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20151221T161231_20151221T163506_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2_20151221T171057_20151221T173710_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records

CS_OFFL_SIR_FDM_2__20151221T175143_20151221T181655_C001	Mean Sea Surface height	There is an error with the Mean Sea Surface Height for one or more records
CS_OFFL_SIR_FDM_2__20151221T184942_20151221T191508_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2__20151221T193059_20151221T195848_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2__20151221T202126_20151221T205447_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2__20151221T211343_20151221T211504_C001	Sea State Bias Correction	There is an error with the Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2__20151221T220054_20151221T220946_C001	Sea State Bias Correction	There is an error with the Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2__20151221T225050_20151221T230107_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2__20151221T230254_20151221T231526_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records
CS_OFFL_SIR_FDM_2__20151221T233940_20151222T001303_C001	Sea State Bias Correction, Altimetric Wind Speed	There is an error with the Altimetric Wind Speed and Sea State Bias Correction for one or more records

## 6.5 L2 FDM Measurement Confidence Data Check

CryoSat L2 data includes a measurement confidence flag (field 8) for each 20-Hz measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors: 0

## 6.6 L2 FDM Range Measurement Check

CryoSat L2 data includes a CFI (field 17) and OCOG (field 22) Range Averaging Status flag for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors: 22

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20151221T004644_20151221T010409_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20151221T012238_20151221T013503_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20151221T021455_20151221T022421_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20151221T022423_20151221T022601_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20151221T022804_20151221T024304_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20151221T025910_20151221T030327_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20151221T031650_20151221T032925_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20151221T054203_20151221T060134_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20151221T061600_20151221T064237_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20151221T071546_20151221T074027_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20151221T111409_20151221T113148_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20151221T130943_20151221T131102_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20151221T140157_20151221T141645_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20151221T144910_20151221T150351_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20151221T152700_20151221T153659_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20151221T154349_20151221T155813_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20151221T161231_20151221T163506_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20151221T171057_20151221T173710_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20151221T193059_20151221T195848_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20151221T202126_20151221T205447_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20151221T225050_20151221T230107_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20151221T233940_20151222T001303_C001	CFI Retracked Range Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #13, #14, #15 and #16 should be ignored for these records.

## 6.7 L2 FDM SWH and Backscatter Measurement Check

CryoSat L2 data includes a SWH-Squared Averaging Status flag (field 39) and an CFI (field 45) and OCOG (field 51) Backscatter Averaging Status flag for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors: 22



