1. Overview

Report Production Date:	28-Sep-2016
Processor Used:	CryoSat Ice Processor
Data Used:	L1 and L2 Fast Delivery Marine (FDM) Mode and L0 Data

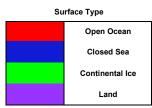| Check	Status
Server check: science-pds.cryosat.esa.int	**Nominal**
Server check: calval-pds.cryosat.esa.int	**Nominal**
Product Software Check	**Nominal**
Product Format Check	**Nominal**
Product Header Analysis	**See Section 4.2**
Star Tracker Usage Check	**See Section 5.3**
Calibration Usage Check	**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, 6.5, 6.6, 6.7 and 6.8**

Mission / Instrument News	
20-Sep-2016	All FDM data missing on 20-Sep-2016 due to planned PDS upgrade activities
21-Sep-2016	FDM data missing on 21-Sep-2016 from 00:00:00 to 03:46:23, 05:22:18 to 06:59:50 and from 08:39:19 onwards due to planned PDS upgrade activities
22-Sep-2016	FDM data missing on 22-Sep-2016 from 00:00:00 to 17:12:00 and from 17:44:30 onwards due to planned PDS upgrade activities

2. Global Coverage

Global Coverage - North Pole

Global Coverage - South Pole

Surface Type

(red)	Open Ocean
(blue)	Closed Sea
(green)	Continental Ice
(purple)	Land

3. Instrument Configuration

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

SIRAL instrument(s) in use:	**SIRAL - A**
Star Tracker(s) in use:	**Star Tracker 1**

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: 0

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: 10

Product	Test Failed
CS_OFFL_SIR_FDM_1B_20160921T034623_20160921T034818_C001	No Star Tracker file used in the processing of this product
CS_OFFL_SIR_FDM_1B_20160921T034825_20160921T034854_C001	No Star Tracker file used in the processing of this product
CS_OFFL_SIR_FDM_1B_20160921T051612_20160921T052218_C001	No Star Tracker file used in the processing of this product
CS_OFFL_SIR_FDM_1B_20160921T065950_20160921T070203_C001	No Star Tracker file used in the processing of this product
CS_OFFL_SIR_FDM_1B_20160921T070422_20160921T070459_C001	No Star Tracker file used in the processing of this product
CS_OFFL_SIR_FDM_1B_20160921T070535_20160921T070715_C001	No Star Tracker file used in the processing of this product
CS_OFFL_SIR_FDM_1B_20160921T071911_20160921T075215_C001	No Star Tracker file used in the processing of this product
CS_OFFL_SIR_FDM_1B_20160921T075942_20160921T080455_C001	No Star Tracker file used in the processing of this product
CS_OFFL_SIR_FDM_1B_20160921T081142_20160921T081603_C001	No Star Tracker file used in the processing of this product
CS_OFFL_SIR_FDM_1B_20160921T081610_20160921T083049_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 Auxilary 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: 17

Product	AUX File	Comment
All FDM_1B products (17 product)	CS_OPER_AUXIIONGIM_20160921T000000_20160921T235959_0001	Missing AUXIIONGIM file at the time of FDM 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: 17

Product	Test Failed	Description
All FDM_1B products (17 product)	GIM Ionspheric Correction	Due to a missing Forecast Auxiliary File there is an error with the Ionospheric Correction

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: 10

Product	Test Failed	Description
CS_OFFL_SIR_FDM_1B_20160921T034623_20160921T034818_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20160921T034825_20160921T034854_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20160921T051612_20160921T052218_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20160921T065950_20160921T070203_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20160921T070422_20160921T070459_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20160921T070535_20160921T070715_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20160921T071911_20160921T075215_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20160921T075942_20160921T080455_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20160921T081142_20160921T081603_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20160921T081610_20160921T083049_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: 17

Product	AUX File	Comment
All FDM_2_ products (17 product)	CS_OPER_AUXIIONGIM_20160921T000000_20160921T235959_0001	Missing AUXIIONGIM file at the time of FDM 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: 17

Product	Test Failed	Description
All FDM_2_ products (17 product)	GIM Ionospheric Correction	Due to a missing Forecast Auxiliary File there is an error with the Ionospheric Correction
CS_OFFL_SIR_FDM_2__20160921T034623_20160921T034818_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__20160921T040110_20160921T043445_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__20160921T045051_20160921T051609_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__20160921T070535_20160921T070715_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__20160921T071911_20160921T075215_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__20160921T081610_20160921T083049_C001	Sea State Bias Correction	There is an error with the 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: 10

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20160921T034623_20160921T034818_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20160921T034825_20160921T034854_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20160921T051612_20160921T052218_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20160921T065950_20160921T070203_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20160921T070422_20160921T070459_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20160921T070535_20160921T070715_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20160921T071911_20160921T075215_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20160921T075942_20160921T080455_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20160921T081142_20160921T081603_C001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20160921T081610_20160921T083049_C001	Attitude correction missing	The attitude has not been corrected

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: 3

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20160921T034623_20160921T034818_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__20160921T045051_20160921T051609_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__20160921T070535_20160921T070715_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: 3

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20160921T034623_20160921T034818_C001	CFI Backscatter Status Flag, SWH Squared Averaging Status Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #41, #42, #43 and #44 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20160921T045051_20160921T051609_C001	CFI Backscatter Status Flag, SWH Squared Averaging Status Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #41, #42, #43 and #44 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20160921T070535_20160921T070715_C001	CFI Backscatter Status Flag, SWH Squared Averaging Status Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #41, #42, #43 and #44 should be ignored for these records.

6.8 L2 FDM Ocean Retracking Quality Check

CryoSat L2 data includes an ocean retracking quality flag (field 66) for each 20-Hz measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors: 5

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20160921T034623_20160921T034818_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records.
CS_OFFL_SIR_FDM_2__20160921T045051_20160921T051609_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records.
CS_OFFL_SIR_FDM_2__20160921T070535_20160921T070715_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records.
CS_OFFL_SIR_FDM_2__20160921T071911_20160921T075215_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records.
CS_OFFL_SIR_FDM_2__20160921T081610_20160921T083049_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records.