1. Overview

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	**Nominal**
Auxiliary Data File Usage	**Nominal**
Correction Error Flags	**Nominal**
Measurement Confidence Flags	**See Sections 5.5, 6.5, 6.6, 6.7 and 6.8**

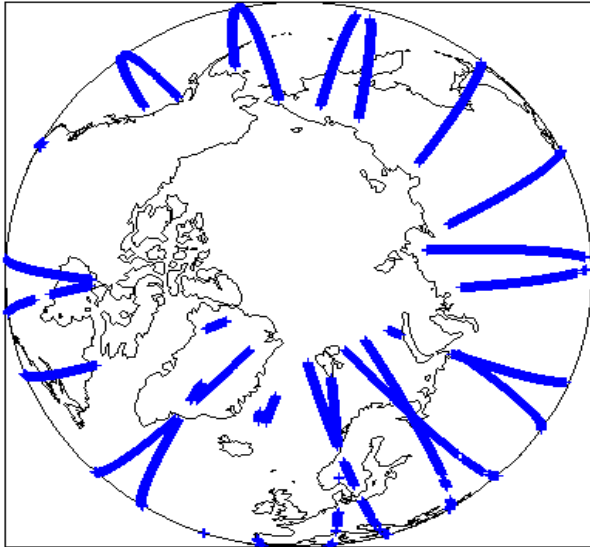|	
Report Production Date:	20-Aug-2013
Data Used:	L1 and L2 Fast Delivery Marine Mode (FDM), and CAL Data

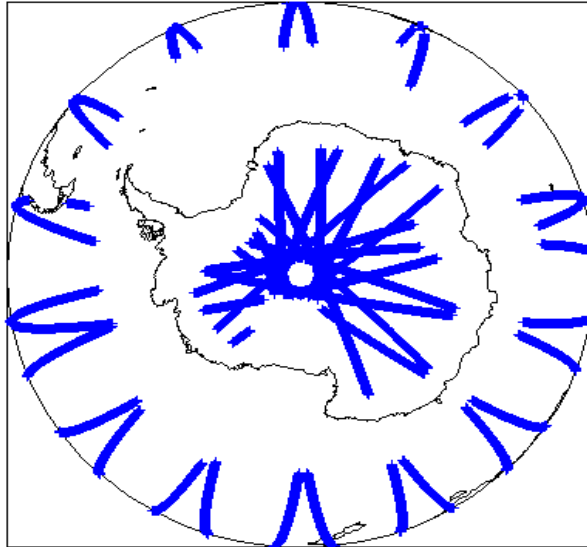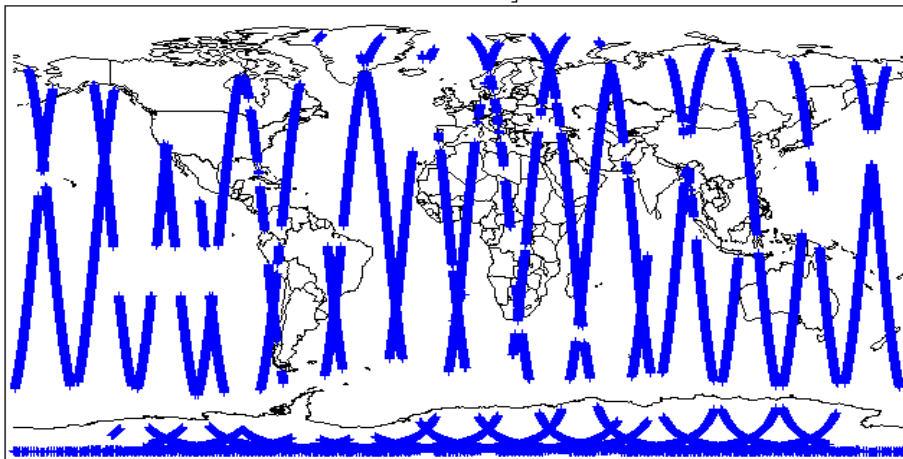| Mission / Instrument News	
18-Aug-2013	None
19-Aug-2013	None
20-Aug-2013	Nothing planned

2. Global Coverage

Global Coverage (north pole view)

Global Coverage (south pole view)

Global Coverage

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 1B Calibration Data Quality Check

4.1 L1 CAL 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 L1 CAL 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

4.3 L1 CAL Auxiliary Data File Usage Check

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

Number of products with errors: 0

4.4 L1 CAL Measurement Confidence Flags

CryoSat Cal1 and Cal2 data includes a measurement confidence flag word (field 11) for each measurement record. The bit value of this flag indicates any problems when set.

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 Auxiliary Data File Usage Check

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

Number of products with errors: 0

5.4 L1B Correction Error Flags

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: 0

5.5 L1B FDM Measurement Confidence Flags

CryoSat L1B data includes a measurement confidence flag word (field 14) for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors: 8

Product	Test Failed	Description
CS_OFFL_SIR_FDM_1B_20130819T025342_20130819T030104_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo.
CS_OFFL_SIR_FDM_1B_20130819T030410_20130819T031639_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo.
CS_OFFL_SIR_FDM_1B_20130819T123116_20130819T123139_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130819T123142_20130819T123808_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130819T141230_20130819T141454_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130819T155306_20130819T155333_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130819T191706_20130819T191753_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130819T210722_20130819T211500_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo.

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 processing chain.

Currently there is a high number of processing error flags set within the Level 2 FDM products (Product_Err and L2_Proc_Flag). These flags are set within L2 Header files (MPH field #19 and SPH field #29) and also within the L2 Product files (MPH field #35 and SPH field #33). They are set by the FDM processor when an error is detected during the L2 processing and also when the percentage of Data Set Records free of processing errors is below the minimum acceptable threshold set within the processor (currently set to 5%).

This issue is under investigation.

Number of products with errors: 0

6.3 L2 FDM Auxiliary Data File Usage Check

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

Number of products with errors: 0

6.4 L2 FDM Correction Error Flags

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: 0

6.5 L2 FDM Measurement Confidence Flags

CryoSat L2 data includes a quality flag word (field 8) for each 20-Hz measurement record. The bit value of this flag is an assessment of the measurement quality by the processing chain.

Number of products with errors: 6

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20130819T025342_20130819T030104_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo.
CS_OFFL_SIR_FDM_2__20130819T030410_20130819T031639_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo.
CS_OFFL_SIR_FDM_2__20130819T123142_20130819T123808_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130819T141230_20130819T141454_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130819T155306_20130819T155333_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130819T191706_20130819T191753_B001	Attitude correction missing	The attitude has not been corrected

6.6 L2 FDM Range Measurement Flags

Each product is checked to detect range measurements flagged by the processing chain as missing or containing errors.

Number of products with errors: 4

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20130819T034820_20130819T041024_B001	OCOG Retracked Range Flag	The master fail flag is set by the OCOG call, for one or more records, indicating the values stored in fields #18, #19, #20 and #21 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20130819T220450_20130819T221311_B001	OCOG Retracked Range Flag	The master fail flag is set by the OCOG call, for one or more records, indicating the values stored in fields #18, #19, #20 and #21 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20130819T221705_20130819T222153_B001	OCOG Retracked Range Flag	The master fail flag is set by the OCOG call, for one or more records, indicating the values stored in fields #18, #19, #20 and #21 should be ignored for these records.
CS_OFFL_SIR_FDM_2__20130819T222316_20130819T222330_B001	OCOG Retracked Range Flag	The master fail flag is set by the OCOG call, for one or more records, indicating the values stored in fields #18, #19, #20 and #21 should be ignored for these records.

6.7 L2 FDM SWH and Backscatter Measurement Flags

Each product is checked to detect parameters related to SWH and sigma0 that are flagged by the processing chain as missing or containing errors.

Number of products with errors: 1

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20130819T072818_20130819T073128_B001	OCOG Backscatter Status Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #47, #48, #49 and #50 should be ignored for these records.

6.8 L2 FDM Geophysical Measurement Flags

Each product is checked to detect geophysical measurements flagged by the processing chain as missing or containing errors.

Number of products with errors: 8

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20130819T025342_20130819T030104_B001	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__20130819T034820_20130819T041024_B001	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__20130819T055555_20130819T060303_B001	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__20130819T084559_20130819T090042_B001	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__20130819T111408_20130819T113255_B001	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__20130819T220450_20130819T221311_B001	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__20130819T221705_20130819T222153_B001	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__20130819T222316_20130819T222330_B001	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.

7. QCC Check

The QCC is a CryoSat facility that performs a primary survey of data products immediately after production by the PDS and LTA processing facilities. A list of the tests which raised errors or warnings is provided below.

Product type	Nb. Products	Nb. QCC Reports	Nb. Valid	Nb. Warnings	Nb. Errors
SIR_FDM_1B	139	134	87	47	0
SIR_FDM_2	128	107	0	107	0

7.1 QCC Errors

Number of QCC reports with errors: 0

7.2 Missing QCC Reports

Number of products with missing QCC reports: 26

Product name
CS_OFFL_SIR_FDM_1B_20130818T235454_20130819T001255_B001
CS_OFFL_SIR_FDM_1B_20130819T201227_20130819T201233_B001
CS_OFFL_SIR_FDM_1B_20130819T214630_20130819T215131_B001
CS_OFFL_SIR_FDM_1B_20130819T215156_20130819T215205_B001
CS_OFFL_SIR_FDM_1B_20130819T222436_20130819T223022_B001
CS_OFFL_SIR_FDM_2__20130818T235454_20130819T001255_B001
CS_OFFL_SIR_FDM_2__20130819T194741_20130819T200436_B001
CS_OFFL_SIR_FDM_2__20130819T201227_20130819T201233_B001
CS_OFFL_SIR_FDM_2__20130819T212941_20130819T214323_B001
CS_OFFL_SIR_FDM_2__20130819T215210_20130819T215341_B001
CS_OFFL_SIR_FDM_2__20130819T220006_20130819T220127_B001
CS_OFFL_SIR_FDM_2__20130819T220450_20130819T221311_B001
CS_OFFL_SIR_FDM_2__20130819T221705_20130819T222153_B001
CS_OFFL_SIR_FDM_2__20130819T222316_20130819T222330_B001
CS_OFFL_SIR_FDM_2__20130819T222436_20130819T223022_B001
CS_OFFL_SIR_FDM_2__20130819T223138_20130819T223358_B001
CS_OFFL_SIR_FDM_2__20130819T224536_20130819T225331_B001
CS_OFFL_SIR_FDM_2__20130819T225334_20130819T225342_B001
CS_OFFL_SIR_FDM_2__20130819T225345_20130819T225355_B001
CS_OFFL_SIR_FDM_2__20130819T225411_20130819T225419_B001
CS_OFFL_SIR_FDM_2__20130819T225422_20130819T225501_B001
CS_OFFL_SIR_FDM_2__20130819T225902_20130819T225947_B001
CS_OFFL_SIR_FDM_2__20130819T230031_20130819T232136_B001
CS_OFFL_SIR_FDM_2__20130819T232703_20130819T233048_B001
CS_OFFL_SIR_FDM_2__20130819T233054_20130819T233103_B001
CS_OFFL_SIR_FDM_2__20130819T233109_20130819T233401_B001