

1. Overview

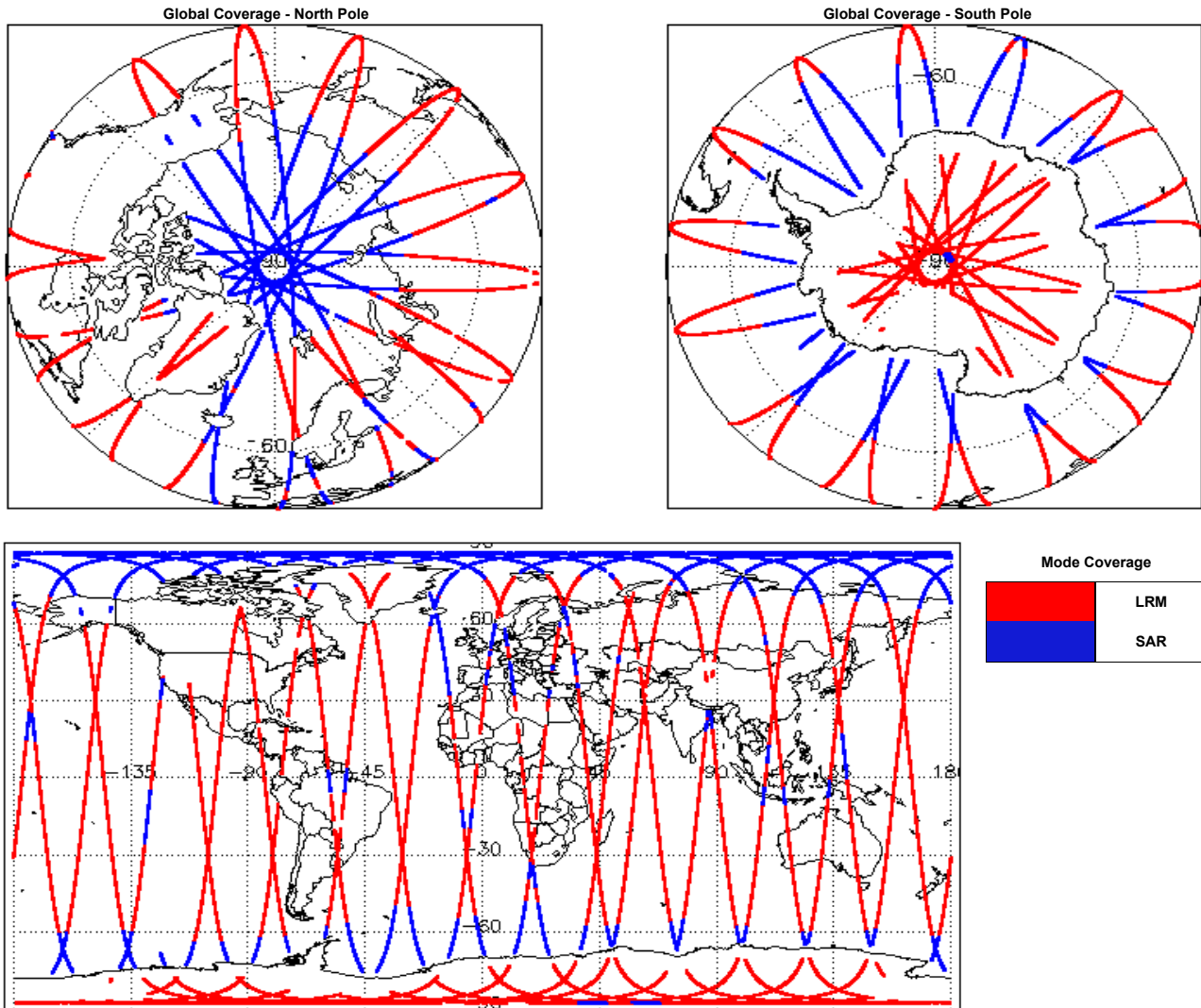
Report Production Date:	14-Sep-2017
Processor Used:	CryoSat Ocean Processor
Data Used:	Intermediate Ocean Products (IOP) L1B and L2 Science Data

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	Nominal
Auxiliary Data File Usage Check	Nominal
Auxiliary Correction Error Check	See Section 5.4
Measurement Confidence Data Check	See Section 4.5, 4.6, 5.5, 5.6, 5.7 and 5.8

Mission / Instrument News

11-Sep-2017	None
12-Sep-2017	None
13-Sep-2017	Nothing planned

2. Global Coverage



3. Instrument Configuration

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

SIRAL instrument(s) in use:	SIRAL - A
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4. IOP Level 1B Data Quality Check

4.1 L1B 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 L1B Product Header Analysis

For all products, a series of pre-defined checks are performed 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

4.3 L1B 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: 0

4.4 L1B Auxiliary Correction Error Check

CryoSat L1B data includes a correction error flag (field 60) for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors: 0

4.5 L1B Measurement Confidence Data Check

CryoSat L1B data includes a measurement confidence flag (field 12) 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_IOP_1B_20170912T000955_20170912T003554_B001	Power scaling error	There is an error in the scaling of the L1B waveform for one or more records
CS_OFFL_SIR_IOP_1B_20170912T041603_20170912T044702_B001	Power scaling error	There is an error in the scaling of the L1B waveform for one or more records
CS_OFFL_SIR_IOP_1B_20170912T130337_20170912T130553_B001	Power scaling error	There is an error in the scaling of the L1B waveform for one or more records
CS_OFFL_SIR_IOP_1B_20170912T210616_20170912T211827_B001	Power scaling error	There is an error in the scaling of the L1B waveform for one or more records

4.6 L1B Waveform Group Data Check

CryoSat L1B data includes a waveform data flag (field 65) for each measurement record. The bit value of this flag indicates any problems when set.

Loss of Echo Flag: This flag is currently set for products over land, but this is to be expected.

Number of products with errors: 16

Product	Test Failed	Description
CS_OFFL_SIR_IOP_1B_20170912T012918_20170912T013718_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20170912T030703_20170912T031612_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20170912T053123_20170912T053823_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20170912T062559_20170912T063329_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20170912T114358_20170912T114554_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20170912T130337_20170912T130553_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20170912T130619_20170912T131415_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20170912T160656_20170912T161140_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20170912T162049_20170912T162224_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20170912T163348_20170912T170826_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20170912T183317_20170912T184805_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20170912T192152_20170912T193747_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20170912T194359_20170912T195054_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20170912T195054_20170912T200713_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20170912T220504_20170912T220815_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20170912T235843_20170913T000116_B001	Loss of Echo	The tracking echo is missing for one or more records

5. IOP Level 2 Data Quality Check

5.1 L2 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 L2 Product Header Analysis

For all products, a series of pre-defined checks are performed 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 L2 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.

Wind Model File Usage: This file is currently not included in all L2 products.

Number of products with errors: 0

5.4 L2 Auxiliary Correction Error Check

For all products, the auxiliary corrections within the Geophysical Group are checked for the default error value (32767).

Currently, there are two common auxiliary correction errors raised in the Level 2 products which are expected due to surface type. All common flags are summarised in the list below, followed by a table highlighting any additional issues which may arise from this test.

Sea State Bias Error: The error value is currently set for products over land and sea ice, but this is to be expected.

Altimetric Wind Speed Error: The error value is currently set for products over land and sea ice, but this is to be expected.

Number of products with errors: 15

Product	Test Failed	Description
CS_OFFL_SIR_IOP_2_20170912T000955_20170912T003554_B001	Geoid Height	There is an error with the Geoid height for one or more records
CS_OFFL_SIR_IOP_2_20170912T013718_20170912T014049_B001	Total Geocentric Ocean Tide (FES)	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) for one or more records

CS_OFFL_SIR_IOP_2__20170912T062559_20170912T063329_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2__20170912T070213_20170912T071252_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2__20170912T081857_20170912T082050_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2__20170912T093842_20170912T094558_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2__20170912T095658_20170912T100843_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2__20170912T144452_20170912T145314_B001	Geoid height	There is an error with the Geoid height for one or more records
CS_OFFL_SIR_IOP_2__20170912T181040_20170912T181215_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2__20170912T183144_20170912T183317_B001	Total Geocentric Ocean Tide (FES)	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) for one or more records
CS_OFFL_SIR_IOP_2__20170912T192152_20170912T193747_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2__20170912T195054_20170912T200713_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2__20170912T210616_20170912T211827_B001	Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 1: GOT and solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2__20170912T212817_20170912T212938_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2__20170912T230812_20170912T231033_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records

5.5 L2 Measurement Confidence Data Check

CryoSat L2 data includes a measurement confidence flag (field 14) for each 20-Hz 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_IOP_2__20170912T000955_20170912T003554_B001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records
CS_OFFL_SIR_IOP_2__20170912T041603_20170912T044702_B001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records
CS_OFFL_SIR_IOP_2__20170912T130337_20170912T130553_B001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records
CS_OFFL_SIR_IOP_2__20170912T210616_20170912T211827_B001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records

5.6 L2 Range Measurement Check

CryoSat L2 data includes an Ocean (field 25) and Ice (field 30) Range Averaging Status flag for each measurement record. The bit value of this flag indicates any problems when set.

Currently, there are two common status flags raised in the Level 2 products which are expected due to surface type. All common flags are summarised in the list below, followed by a table highlighting any additional issues which may arise from this test.

Ocean Range Averaging Status Flag: This flag is currently set for products over land and sea ice, but this is to be expected.

Ice Range Averaging Status Flag: This flag is currently set for products over land, but this is to be expected.

Number of products with errors: 32

Product	Test Failed	Description
CS_OFFL_SIR_IOP_2__20170912T003942_20170912T004421_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T004424_20170912T004757_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T021925_20170912T022447_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T035941_20170912T040346_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T054058_20170912T054252_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T054556_20170912T054721_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T063450_20170912T063821_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T071945_20170912T072206_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T072239_20170912T072701_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T085733_20170912T090609_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T103645_20170912T103836_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T103932_20170912T104410_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T121614_20170912T121624_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T121850_20170912T122444_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T135757_20170912T140315_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T153642_20170912T153758_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T153806_20170912T154212_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T171144_20170912T171657_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.

CS_OFFL_SIR_IOP_2__20170912T171657_20170912T171702_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T171716_20170912T172008_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T180007_20170912T180349_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T185050_20170912T185554_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T185608_20170912T185614_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T185633_20170912T185758_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T203505_20170912T203512_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T203512_20170912T203524_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T203546_20170912T203651_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T221047_20170912T221421_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T221428_20170912T221437_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T221443_20170912T221804_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T234830_20170912T235335_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T235342_20170912T235710_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.

5.7 L2 SWH and Backscatter Measurement Check

CryoSat L2 data includes a SWH Averaging Status flag (field 49) and an Ocean (field 55) and Ice (field 61) Backscatter Averaging Status flag for each measurement record. The bit value of this flag indicates any problems when set.

Currently, there are three common status flags raised in the Level 2 products which are expected due to surface type. All common flags are summarised in the list below, followed by a table highlighting any additional issues which may arise from this test.

SWH Averaging Status Flag: This flag is currently set for products over land and sea ice, but this is to be expected.

Ocean Backscatter Averaging Status Flag: This flag is currently set for products over land and sea ice, but this is to be expected.

Ice Backscatter Averaging Status Flag: This flag is currently set for products over land, but this is to be expected.

Number of products with errors: 25

Product	Test Failed	Description
CS_OFFL_SIR_IOP_2__20170912T003942_20170912T004421_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T004424_20170912T004757_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T021925_20170912T022447_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T035941_20170912T040346_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T054058_20170912T054252_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T054556_20170912T054721_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T071945_20170912T072206_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T072239_20170912T072701_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T085733_20170912T090609_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T103645_20170912T103836_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T103932_20170912T104410_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T121850_20170912T122444_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T135757_20170912T140315_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T153642_20170912T153758_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T153806_20170912T154212_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T171144_20170912T171657_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T171716_20170912T172008_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T180007_20170912T180349_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T185608_20170912T185614_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T185633_20170912T185758_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T203546_20170912T203651_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T221047_20170912T221421_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T221443_20170912T221804_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T234830_20170912T235335_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20170912T235342_20170912T235710_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.

5.8 L2 Ocean Retracking Quality Check

CryoSat L2 data includes an ocean retracking quality flag (field 19) for each 20-Hz measurement record. The bit value of this flag indicates any problems when set.

Ocean Retracking Quality Flag: This flag is currently set for products over land and sea ice, but this is to be expected. The number of products with this error flag set is given below.

Number of products with errors: 143

6. IOP QCC Report Analysis

The Quality Control for CryoSat (QCC) facility 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_IOP_1B	240	240	240	0	0
SIR_IOP_2	238	238	238	0	0

6.1 QCC Errors

Number of QCC reports with errors: 0

6.2 QCC Warnings

Number of QCC reports with warnings: 0

6.3 Missing QCC Reports

Number of products with missing QCC reports: 0