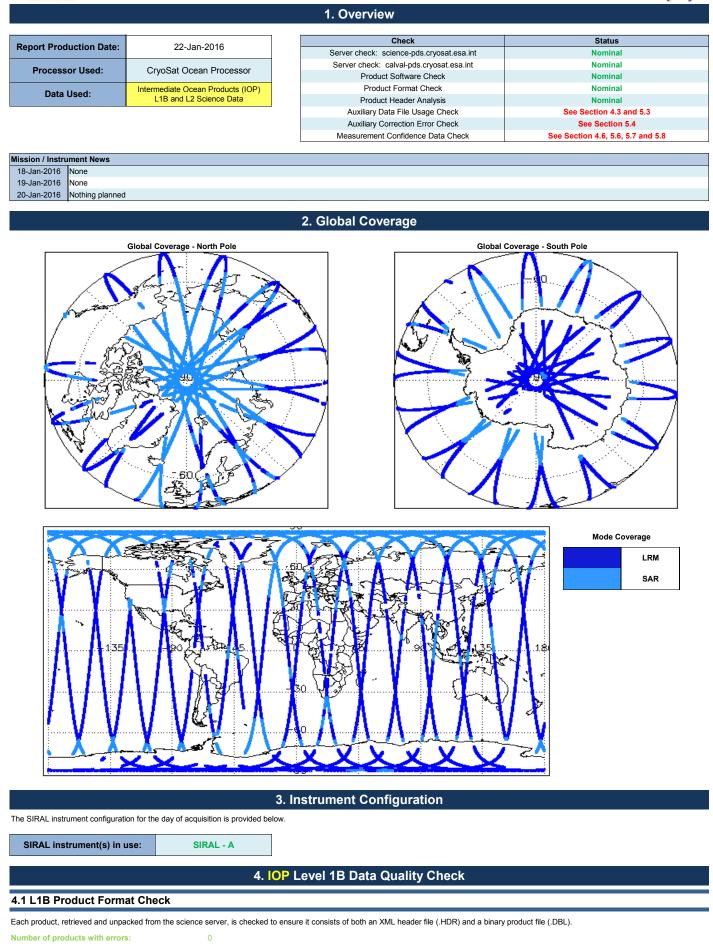


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4.2 L1B Product Header Analysis

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.

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Each product is checked for missing Data Set Descriptors with respect to a pr	re-determined baseline and also to ch	heck the validity of Auxiliary Data Files is correct.
Number of products with errors: 146		
Product	AUX File	Comment
All IOP_1B products from 20160119T115934 onwards (146 products)	Meteo AUX files: 20160119T1 20160120T000000	Auxiliary files delayed and missing at the time of processing
4.4 L1B Auxiliary Correction Error Check		
CryoSat L1B data includes a correction error flag (field 60) for each measurer	ment 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	of this flag indicates any problems when set.
Number of products with errors: 0		
4.6 L1B Waveform Group Data Check		
· · · · · · · · · · · · · · · · · · ·	nent record. The bit value of this flag	indicates any problems when set.
4.6 L1B Waveform Group Data Check CryoSat L1B data includes a waveform data flag (field 65) for each measuren Loss of Echo Flag: This flag is currently set for products over land, but this is	-	indicates any problems when set.
CryoSat L1B data includes a waveform data flag (field 65) for each measuren	-	indicates any problems when set.
CryoSat L1B data includes a waveform data flag (field 65) for each measuren Loss of Echo Flag: This flag is currently set for products over land, but this is Number of products with errors: 14	-	indicates any problems when set. Description
CryoSat L1B data includes a waveform data flag (field 65) for each measuren Loss of Echo Flag: This flag is currently set for products over land, but this is Number of products with errors: 14 Product	s to be expected.	
CryoSat L1B data includes a waveform data flag (field 65) for each measurem Loss of Echo Flag: This flag is currently set for products over land, but this is Number of products with errors: 14 Product CS_OFFL_SIR_IOP_1B_20160119T005018_20160119T0101110_B001	s to be expected. Test Failed	Description
CryoSat L1B data includes a waveform data flag (field 65) for each measurem Loss of Echo Flag: This flag is currently set for products over land, but this is Number of products with errors: 14 Product CS_OFFL_SIR_IOP_1B_20160119T005018_20160119T010110_B001 CS_OFFL_SIR_IOP_1B_20160119T015154_20160119T020431_B001	s to be expected. Test Failed Loss of Echo	Description The tracking echo is missing for one or more records
CryoSat L1B data includes a waveform data flag (field 65) for each measurem Loss of Echo Flag: This flag is currently set for products over land, but this is Number of products with errors: 14 Product CS_OFFL_SIR_IOP_1B_20160119T005018_20160119T010110_B001 CS_OFFL_SIR_IOP_1B_20160119T015154_20160119T020431_B001 CS_OFFL_SIR_IOP_1B_20160119T021332_20160119T022037_B001	s to be expected. Test Failed Loss of Echo Loss of Echo	Description The tracking echo is missing for one or more records The tracking echo is missing for one or more records
CryoSat L1B data includes a waveform data flag (field 65) for each measurem Loss of Echo Flag: This flag is currently set for products over land, but this is Number of products with errors: 14 Product CS_OFFL_SIR_IOP_1B_20160119T005018_20160119T010110_B001 CS_OFFL_SIR_IOP_1B_20160119T015154_20160119T020431_B001 CS_OFFL_SIR_IOP_1B_20160119T021332_20160119T022037_B001 CS_OFFL_SIR_IOP_1B_20160119T052845_20160119T053740_B001	s to be expected. Test Failed Loss of Echo Loss of Echo Loss of Echo	Description The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records
CryoSat L1B data includes a waveform data flag (field 65) for each measurem Loss of Echo Flag: This flag is currently set for products over land, but this is Number of products with errors: 14 Product 14 CS_OFFL_SIR_IOP_1B_20160119T005018_20160119T010110_B001 CS_OFFL_SIR_IOP_1B_20160119T015154_20160119T020431_B001 CS_OFFL_SIR_IOP_1B_20160119T021332_20160119T022037_B001 CS_OFFL_SIR_IOP_1B_20160119T052845_20160119T053740_B001 CS_OFFL_SIR_IOP_1B_20160119T052845_20160119T061638_B001 CS_OFFL_SIR_IOP_1B_20160119T054850_20160119T061638_B001	s to be expected. Test Failed Loss of Echo	Description The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records
CryoSat L1B data includes a waveform data flag (field 65) for each measurem Loss of Echo Flag: This flag is currently set for products over land, but this is Number of products with errors: 14 Product 14 CS_OFFL_SIR_IOP_1B_20160119T005018_20160119T010110_B001 CS_OFFL_SIR_IOP_1B_20160119T015154_20160119T020431_B001 CS_OFFL_SIR_IOP_1B_20160119T021332_20160119T022037_B001 CS_OFFL_SIR_IOP_1B_20160119T052845_20160119T053740_B001 CS_OFFL_SIR_IOP_1B_20160119T054850_20160119T061638_B001 CS_OFFL_SIR_IOP_1B_20160119T072507_20160119T072655_B001	s to be expected. Test Failed Loss of Echo	Description The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records
CryoSat L1B data includes a waveform data flag (field 65) for each measurem CryoSat L1B data includes a waveform data flag (field 65) for each measurem coss of Echo Flag: This flag is currently set for products over land, but this is Number of products with errors: 14 Product 25 COFFL_SIR_IOP_1B_20160119T005018_20160119T010110_B001 25 CS_OFFL_SIR_IOP_1B_20160119T021332_20160119T020431_B001 25 CS_OFFL_SIR_IOP_1B_20160119T052845_20160119T053740_B001 25 CS_OFFL_SIR_IOP_1B_20160119T054850_20160119T061638_B001 25 CS_OFFL_SIR_IOP_1B_20160119T072507_20160119T072655_B001 25 CS_OFFL_SIR_IOP_1B_20160119T112824_20160119T114606_B001 26	s to be expected. Test Failed Loss of Echo	Description The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records
CryoSat L1B data includes a waveform data flag (field 65) for each measurem coss of Echo Flag: This flag is currently set for products over land, but this is Number of products with errors: 14 Product 14 Source 14 Sou	s to be expected. Test Failed Loss of Echo	Description The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records
CryoSat L1B data includes a waveform data flag (field 65) for each measurem Loss of Echo Flag: This flag is currently set for products over land, but this is Number of products with errors: 14 Product 14 CS_OFFL_SIR_IOP_1B_20160119T005018_20160119T010110_B001 CS_OFFL_SIR_IOP_1B_20160119T015154_20160119T020431_B001 CS_OFFL_SIR_IOP_1B_20160119T021332_20160119T022037_B001 CS_OFFL_SIR_IOP_1B_20160119T052845_20160119T053740_B001 CS_OFFL_SIR_IOP_1B_20160119T052845_20160119T07655_B001 CS_OFFL_SIR_IOP_1B_20160119T072507_20160119T072655_B001 CS_OFFL_SIR_IOP_1B_20160119T012824_20160119T114606_B001 CS_OFFL_SIR_IOP_1B_20160119T132235_20160119T132414_B001 CS_OFFL_SIR_IOP_1B_20160119T1322414_20160119T133845_B001 CS_OFFL_SIR_IOP_1B_20160119T132414_20160119T133845_B001	s to be expected. Test Failed Loss of Echo	Description The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records
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CryoSat L1B data includes a waveform data flag (field 65) for each measurem Loss of Echo Flag: This flag is currently set for products over land, but this is Number of products with errors: 14 Product 14 CS_OFFL_SIR_IOP_1B_20160119T005018_20160119T010110_B001 CS_OFFL_SIR_IOP_1B_20160119T015154_20160119T020431_B001 CS_OFFL_SIR_IOP_1B_20160119T021332_20160119T02037_B001 CS_OFFL_SIR_IOP_1B_20160119T052845_20160119T053740_B001 CS_OFFL_SIR_IOP_1B_20160119T052845_20160119T053740_B001 CS_OFFL_SIR_IOP_1B_20160119T072507_20160119T072655_B001 CS_OFFL_SIR_IOP_1B_20160119T112824_20160119T114606_B001 CS_OFFL_SIR_IOP_1B_20160119T13245_20160119T132414_B001 CS_OFFL_SIR_IOP_1B_20160119T1322414_20160119T133845_B001 CS_OFFL_SIR_IOP_1B_20160119T132414_20160119T133845_B001	s to be expected. Test Failed Loss of Echo Loss of Echo	Description The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records

5. IOP Level 2 Data Quality Check

The tracking echo is missing for one or more records

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:

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:

Loss of Echo

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.

CS_OFFL_SIR_IOP_1B_20160119T213758_20160119T215032_B001

Number of products with errors: 143		
Product	AUX File	Comment
All IOP 2 products from 201601191115934 onwards (143 products)	Meteo AUX files: 20160119T180000; 20160120T000000	Auxiliary files delayed and missing at the time of processing

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.

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

Product	Test Failed	Description
All IOP_2 products from 20160119T115934 onwards (143 products)	Propospheric correction, Inverse Barometric correction, I lawind and Va	Due to a missing auxiliary file there is an error with the Dry Tropospheric, We Tropospheric and Inverse Barometric Corrections and the U-Wind and V-Wind components of the ECMWF Wind Model vectors.
CS_OFFL_SIR_IOP_220160119T005018_20160119T010110_B001		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_220160119T035739_20160119T040008_B001	Total Geocentric Ocean Tide (FES), Non-	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_220160119T071925_20160119T072128_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_220160119T075129_20160119T075328_B001	Mean Sea Surface (1)	There is an error with the MSS height (solution 1) for one or more records
CS_OFFL_SIR_IOP_220160119T084338_20160119T085502_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_220160119T090120_20160119T090255_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_220160119T094845_20160119T102119_B001	Mean Sea Surface (2), Total Geocentric Ocean Tide (FES)	There is an error with the MSS height (solution 2) and the Total Geocentric Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_220160119T123451_20160119T123705_B001	Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 2) and the Total Geocentric Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_220160119T130740_20160119T132235_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_220160119T132414_20160119T133845_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_220160119T134509_20160119T134555_B001	Total Geocentric Ocean Tide (GOT)	There is an error with the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
CS_OFFL_SIR_IOP_220160119T134607_20160119T134650_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_220160119T152349_20160119T153100_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_220160119T153556_20160119T153621_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_220160119T180514_20160119T183407_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_220160119T183411_20160119T183608_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_220160119T184134_20160119T184332_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_220160119T235329_20160119T235623_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: 0

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. 35

Product	Test Failed	Description
CS_OFFL_SIR_IOP_220160119T003245_20160119T003317_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T012039_20160119T012534_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T012552_20160119T012604_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T012610_20160119T012728_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T030016_20160119T030502_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T030508_20160119T030517_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T030524_20160119T030642_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T044009_20160119T044401_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T044406_20160119T044416_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T044422_20160119T044747_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T053759_20160119T054031_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T061828_20160119T062315_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T062320_20160119T062650_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T075819_20160119T080343_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T093746_20160119T094241_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T103850_20160119T104522_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T111953_20160119T112146_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T121349_20160119T121648_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.

CS_OFFL_SIR_IOP_220160119T125845_20160119T130058_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T130141_20160119T130558_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T135250_20160119T135325_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T143637_20160119T144501_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T161539_20160119T161735_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T161824_20160119T162316_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T175505_20160119T175535_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T175744_20160119T180342_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T193652_20160119T194213_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T211544_20160119T211654_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T211700_20160119T212107_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T225051_20160119T225552_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T225552_20160119T225558_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T225558_20160119T225605_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T225605_20160119T225613_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T225613_20160119T225924_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T233925_20160119T234242_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.

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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.

Product	Test Failed	Description
CS_OFFL_SIR_IOP_220160119T012039_20160119T012534_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T030508_20160119T030517_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T030524_20160119T030642_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T044009_20160119T044401_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T044422_20160119T044747_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T053759_20160119T054031_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T061828_20160119T062315_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2_20160119T062320_20160119T062650_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T075819_20160119T080343_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T093746_20160119T094241_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T103850_20160119T104522_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T111953_20160119T112146_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T121349_20160119T121648_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T125845_20160119T130058_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T130141_20160119T130558_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T135250_20160119T135325_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T143637_20160119T144501_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2_20160119T161539_20160119T161735_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T161824_20160119T162316_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T175505_20160119T175535_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T175744_20160119T180342_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T193652_20160119T194213_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T211544_20160119T211654_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T225051_20160119T225552_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T225552_20160119T225558_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T225558_20160119T225605_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.

CS_OFFL_SIR_IOP_220160119T225605_20160119T225613_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220160119T225613_20160119T225924_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.

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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.