



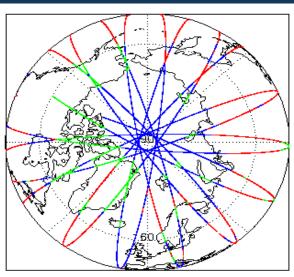
1. Overview

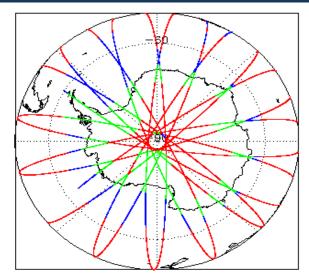
Report Production:	13-Jun-2019
Processor Used:	CryoSat Ocean Processor
Data Used:	Intermediate Ocean Products (IOP) L1B, L2 & P2P Science Data

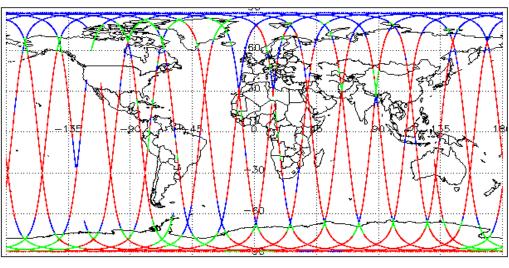
Check	L1 & L2	P2P
Server check: science-pds.cryosat.esa.int	Nominal	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal	Nominal
Product Software Check	Nominal	Nominal
Product Format Check	Nominal	Nominal
Product Header Analysis	Nominal	Nominal
Auxiliary Data File Usage Check	Nominal	Nominal
Auxiliary Correction Error Check	See Section 5.4	See Section 6.4
Measurement Confidence Data Check	See Section 4.5, 4.6	Nominal
Range, SWH & Backscatter Measurement Check	See Section 5.6	See Section 6.6
Ocean Retracking Quality Check	See Section 5.7	See Section 6.7

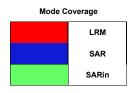
Mission / Instrument News	
25-May-2019	COP IPF1 v3.7 & IPF2 v3.9 installed into operations.
26-May-2019	None
27-May-2010	Nothing planned

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

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.

L1B Processing Quality HR: The I1b_proc_flag_hr flag is currently set all L1B IOPR and IOPN products because the I1b_processing_quality_hr field is not correctly configured in the OSAR and OSARIn chains. A modification is required in the next release.

4.3 L1B 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:

4.4 L1B Auxiliary Correction Error Check

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

lumber of products with errors:

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4.5 L1B Measurement Confidence Data Check

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

Attitude Correction Missing: This flag is currently set in error for IOPR products due to a configuration issue. This is being investigated and will be updated in the next SW update.

Number of products with errors:

0

4.6 L1B Waveform Group Data Check

CryoSat L1B data includes a waveform data flag 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:

12

Product	Test Failed	Description
CS_OFFL_SIR_IOPM1B_20190526T061247_20190526T061322_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPM1B_20190526T112654_20190526T114239_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190526T011749_20190526T011836_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190526T030202_20190526T030652_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190526T043410_20190526T043515_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190526T093229_20190526T093543_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190526T125141_20190526T125355_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190526T175541_20190526T175605_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20190526T013216_20190526T013313_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20190526T075445_20190526T080338_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20190526T124424_20190526T124458_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20190526T174804_20190526T175540_C001	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.

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 some 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.

- > ECMWF Meteo Corrections: Currently the following corrections are not computed over CONTINENTAL ICE: Dry Tropospheric Correction, Wet Tropospheric Correction, Inverse Barometric Correction and the U-Wind and V-Wind components of the ECMWF model wind vector. This is a known anomaly (CRYO-COP-3) and will be resolved in a future IPF update. The affected products are not reported in the table below.
- > Sea State Bias & Sea State Bias PLRM: The error value is currently set for products over sea ice, but this is to be expected.
- > Mean Sea Surface: The error value is currently set for products over land and sea ice, but this is to be expected.
- > Mean Dynamic Topography: 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:

Product	Test Failed	Description
CS_OFFL_SIR_IOPM_2_20190526T030652_20190526T030732_C001		There is an error with the Mean Sea Surface height, Mean Dynamic Topography, and tidal corrections for one or more records
CS_OFFL_SIR_IOPM_2_20190526T162025_20190526T162155_C001		There is an error with the Mean Dynamic Topography (solution 1) and the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records
CS_OFFL_SIR_IOPN_2_20190526T002338_20190526T002939_C001		There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPN_2_20190526T003654_20190526T003832_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records

CS_OFFL_SIR_IOPN_2_20190526T012249_20190526T012502_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPN_2_20190526T021601_20190526T021754_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_IOPN_2_20190526T030202_20190526T030652_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPN_2_20190526T043410_20190526T043515_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_IOPN_2_20190526T044226_20190526T044746_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_IOPN_2_20190526T052622_20190526T052842_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Mean Sea Surface height, Mean Dynamic Topography, and tidal corrections for one or more records
CS_OFFL_SIR_IOPN_2_20190526T070436_20190526T070749_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPN_2_20190526T071308_20190526T071425_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_IOPN_2_20190526T084317_20190526T084636_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPN_2_20190526T085205_20190526T085330_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_IOPN_2_20190526T093229_20190526T093543_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Mean Sea Surface height, Mean Dynamic Topography, and tidal corrections for one or more records
CS_OFFL_SIR_IOPN_2_20190526T103007_20190526T103148_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPN_2_20190526T110845_20190526T111015_C001	Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the Mean Dynamic Topography (solution 1) and the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records
CS_OFFL_SIR_IOPN_2_20190526T111344_20190526T111441_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPN_2_20190526T115859_20190526T120040_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_IOPN_2_20190526T120752_20190526T121005_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPN_2_20190526T125141_20190526T125355_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide heigh (solution 1: GOT) for one or more records
CS_OFFL_SIR_IOPN_2_20190526T133810_20190526T133957_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_IOPN_2_20190526T134642_20190526T135135_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPN_2_20190526T142823_20190526T143219_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPN_2_20190526T152750_20190526T152945_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPN_2_20190526T165646_20190526T165820_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_IOPN_2_20190526T201618_20190526T201744_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPN_2_20190526T202254_20190526T202600_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Mean Sea Surface height, Mean Dynamic Topography, and tidal corrections for one or more records
CS_OFFL_SIR_IOPN_2_20190526T215652_20190526T215946_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPN_2_20190526T220157_20190526T220720_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPN_2_20190526T225253_20190526T225715_C001	Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FC), Near Equilibrium Loss Pasied	#N/A
CS_OFFL_SIR_IOPN_2_20190526T233631_20190526T233907_C001	Tide (FES) Non-Equilibrium I one Period Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide heigh (solution 1: GOT) for one or more records
CS_OFFL_SIR_IOPR_2_20190526T011837_20190526T012000_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPR_2_20190526T012000_20190526T012249_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPR_2_20190526T013216_20190526T013313_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide heigh (solution 1: GOT) for one or more records
CS_OFFL_SIR_IOPR_2_20190526T025534_20190526T030202_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPR_2_20190526T043710_20190526T044226_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)

CS_OFFL_SIR_IOPR_2_20190526T060510_20190526T060715_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_IOPR_2_20190526T061038_20190526T061247_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_IOPR_2_20190526T061614_20190526T062412_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPR_2_20190526T075445_20190526T080338_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPR_2_20190526T093543_20190526T094229_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPR_2_20190526T111441_20190526T112023_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPR_2_20190526T112038_20190526T112201_C001	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_IOPR_2_20190526T125355_20190526T125402_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPR_2_20190526T125402_20190526T130041_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPR_2_20190526T143219_20190526T143740_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPR_2_20190526T161039_20190526T162024_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPR_2_20190526T174804_20190526T175540_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPR_2_20190526T180602_20190526T180659_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_IOPR_2_20190526T192648_20190526T193350_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPR_2_20190526T193350_20190526T193514_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPR_2_20190526T210534_20190526T211249_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPR_2_20190526T211249_20190526T211518_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPR_2_20190526T224720_20190526T225143_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOPR_2_20190526T225143_20190526T225252_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)

5.5 L2 Measurement Confidence Data Check

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

Number of products with errors:

5.6 L2 Measurement Quality Flag Check

L2 Quality Flags (20Hz)

CryoSat L2 data includes Quality Flags for each 20 Hz, 20 Hz PLRM and 1 Hz measurement record. The bit value of this flag indicates any problems when set.

Currently, there are several common flags raised in the Level 2 products, which are summarised below. The table provides the full list of products flagged.

- > Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags: These flags are currently set for some records over ocean.
- > OCOG Altimeter Range and Backscatter Quality Flags: These flags are currently set for some records over continental ice.

Number of products with errors:

77

Product	Test Failed	Description
CS_OFFL_SIR_IOPM_2_20190526T003234_20190526T003654_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T003903_20190526T005336_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T005658_20190526T010647_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T013313_20190526T013915_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T014910_20190526T020411_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T020728_20190526T021600_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T021832_20190526T024104_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T031835_20190526T034313_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T034923_20190526T035406_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.

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CS_OFFL_SIR_IOPM_2_20190526T035800_20190526T042326_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T045548_20190526T050542_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T051120_20190526T052202_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T052605_20190526T052622_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T052842_20190526T053437_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T053626_20190526T060426_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T061329_20190526T061430_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T062717_20190526T070102_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T070749_20190526T071308_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T071546_20190526T071747_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T075047_20190526T075445_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T080646_20190526T081551_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T081836_20190526T084024_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T084758_20190526T085204_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T085510_20190526T090711_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T090859_20190526T091509_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T091654_20190526T092134_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T094555_20190526T101911_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T102140_20190526T102649_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T102709_20190526T103007_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T103750_20190526T110827_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T111015_20190526T111236_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T112654_20190526T114239_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T114310_20190526T115832_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T120041_20190526T120546_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T120625_20190526T120751_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T121523_20190526T122526_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T123146_20190526T124424_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T130041_20190526T132131_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T132311_20190526T133727_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T135227_20190526T141244_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T141645_20190526T142510_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T145421_20190526T151624_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T152038_20190526T152414_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T152436_20190526T152749_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.

CS_OFFL_SIR_IOPM_2_20190526T153055_20190526T155924_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T163019_20190526T165624_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T165820_20190526T170328_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T170334_20190526T170702_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T172713_20190526T174423_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T180720_20190526T181850_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T183009_20190526T183538_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T183819_20190526T184400_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T185012_20190526T192354_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T193656_20190526T193753_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T195630_20190526T201446_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T201744_20190526T202254_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T202912_20190526T210321_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T211518_20190526T211539_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T212729_20190526T213204_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T213245_20190526T215019_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T215946_20190526T220156_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T220910_20190526T223952_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T224101_20190526T224132_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T225753_20190526T231620_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T231710_20190526T233035_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T233907_20190526T234105_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T234228_20190526T234608_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190526T234804_20190527T000329_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190526T142823_20190526T143219_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190526T192528_20190526T192607_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190526T043258_20190526T043410_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190526T070102_20190526T070435_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190526T074752_20190526T074920_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190526T111441_20190526T112023_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190526T135136_20190526T135139_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190526T172135_20190526T172323_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190526T225143_20190526T225252_C001	Ocean Altimeter Range Quality, Ocean SSHA Quality, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
I 2 Quality Flags (20Hz PI PM)		

L2 Quality Flags (20Hz PLRM)

Currently, there are several common flags raised in the Level 2 products, which are summarised below. The table provides the full list of products flagged.

- > Ocean Altimeter Range, SSHA, SWH and Backscatter PLRM Quality Flags: These flags are currently set for occasional records over sea ice.
- > OCOG Altimeter Range and Backscatter PLRM Quality Flags: These flags are currently set for occasional records over continental ice.

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Product	Test Failed	Description
CS_OFFL_SIR_IOPN_2_20190526T003654_20190526T003832_C001	Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality Ocean Allimeter Range Quality PLRM,	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190526T012249_20190526T012502_C001	OCGA Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality Ocean Rackscatter	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags, and the OCOG Altimeter Range and Backscatter Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190526T034515_20190526T034636_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190526T035406_20190526T035622_C001	Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190526T052444_20190526T052605_C001	Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality Ocean Allimeter Range Quality PLRM,	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190526T071308_20190526T071425_C001	OCOG Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags, and the OCOG Altimeter Range and Backscatter Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190526T085205_20190526T085330_C001	CWH Quality Ocean Rackscatter Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190526T111344_20190526T111441_C001	Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190526T120752_20190526T121005_C001	Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190526T133810_20190526T133957_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190526T142823_20190526T143219_C001	Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190526T151805_20190526T152038_C001	Ocean Allinfeter Kange Quality PLRM, OCOG Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality Ocean Rackscatter	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags, and the OCOG Altimeter Range and Backscatter Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190526T152414_20190526T152421_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190526T152750_20190526T152945_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190526T170702_20190526T170833_C001	Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190526T183701_20190526T183819_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190526T202254_20190526T202600_C001	Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality Ocean Allimeter Kange Quality PLRM,	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190526T215652_20190526T215946_C001	OCOG Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SV&ลกพลแทน	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags, and the OCOG Altimeter Range and Backscatter Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190526T220157_20190526T220720_C001	OCOG Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality Ocean Rackscatter	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags, and the OCOG Altimeter Range and Backscatter Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190526T225253_20190526T225715_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality Ocean Aumeter Range Quality PLRM,	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190526T233631_20190526T233907_C001	OCOG Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality Ocean Rackscatter	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags, and the OCOG Altimeter Range and Backscatter Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190526T234105_20190526T234228_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality Ocean Altimeter Range Quality PLRM,	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190526T234608_20190526T234746_C001	Ocean SSHA Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM,	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190526T011837_20190526T012000_C001	Ocean SSHA Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM,	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190526T012000_20190526T012249_C001	Ocean Stha Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM,	
CS_OFFL_SIR_IOPR_2_20190526T012502_20190526T012641_C001	Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM,	
CS_OFFL_SIR_IOPR_2_20190526T025534_20190526T030202_C001	Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM,	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190526T034313_20190526T034515_C001	Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM,	
CS_OFFL_SIR_IOPR_2_20190526T043710_20190526T044226_C001	Ocean SSHA Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM,	
CS_OFFL_SIR_IOPR_2_20190526T061430_20190526T061551_C001	Ocean SSHA Quality PLRM, Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM,	
CS_OFFL_SIR_IOPR_2_20190526T061614_20190526T062412_C001	Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM,	
CS_OFFL_SIR_IOPR_2_20190526T070102_20190526T070435_C001	Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM,	
CS_OFFL_SIR_IOPR_2_20190526T071425_20190526T071546_C001	Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM,	
CS_OFFL_SIR_IOPR_2_20190526T075445_20190526T080338_C001	Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.

Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags CS_OFFL_SIR_IOPR_2_20190526T084024_20190526T084317_C001 have been set for one or more records SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM, The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags CS OFFL SIR IOPR 2 20190526T093543 20190526T094229 C001 Ocean SSHA Quality PLRM, Ocean have been set for one or more records SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM, The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags Ocean SSHA Quality PLRM, Ocean CS OFFL SIR IOPR 2 20190526T111441 20190526T112023 C001 nave been set for one or more records SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM, The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags CS OFFL SIR IOPR 2 20190526T112431 20190526T112654 C001 Ocean SSHA Quality PLRM, Ocean have been set for one or more records. SWH Quality, Ocean Backscatter Quality OCOG Altimeter Range Quality PLRM, The OCOG Range and Backscatter Quality Flags have been set for one or CS_OFFL_SIR_IOPR_2_20190526T120547_20190526T120553_C001 OCOG Backscatter Quality Ocean Altimeter Range Quality PLRM, The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags CS_OFFL_SIR_IOPR_2_20190526T121005_20190526T121523_C001 Ocean SSHA Quality PLRM, Ocean have been set for one or more records. SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM, The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags CS_OFFL_SIR_IOPR_2_20190526T125402_20190526T130041_C001 Ocean SSHA Quality PLRM, Ocean have been set for one or more records. SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM. The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags Ocean SSHA Quality PLRM, Ocean CS OFFL SIR IOPR 2 20190526T132132 20190526T132311 C001 have been set for one or more records. SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags CS_OFFL_SIR_IOPR_2_20190526T143219_20190526T143740_C001 have been set for one or more records. SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags CS_OFFL_SIR_IOPR_2_20190526T161039_20190526T162024_C001 have been set for one or more records. SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM, Ocean SSHA Quality PLRM, Ocean The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags CS OFFL SIR IOPR 2 20190526T170833 20190526T171037 C001 have been set for one or more records. SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM, The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags CS OFFL SIR IOPR 2 20190526T174804 20190526T175540 C001 Ocean SSHA Quality PLRM, Ocean have been set for one or more records. SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM, The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags CS_OFFL_SIR_IOPR_2_20190526T192607_20190526T192628_C001 Ocean SSHA Quality PLRM, Ocean have been set for one or more records. SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM, The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags CS_OFFL_SIR_IOPR_2_20190526T192648_20190526T193350_C001 Ocean SSHA Quality PLRM, Ocean nave been set for one or more records SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM, The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags CS_OFFL_SIR_IOPR_2_20190526T193350_20190526T193514_C001 Ocean SSHA Quality PLRM, Ocean have been set for one or more records SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM, The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags CS_OFFL_SIR_IOPR_2_20190526T202601_20190526T202911_C001 Ocean SSHA Quality PLRM, Ócean have been set for one or more records. SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM, The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags CS_OFFL_SIR_IOPR_2_20190526T210534_20190526T211249_C001 Ocean SSHA Quality PLRM, Ocean have been set for one or more records SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM, The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags CS_OFFL_SIR_IOPR_2_20190526T211249_20190526T211518_C001 Ocean SSHA Quality PLRM, Ocean have been set for one or more records SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM, The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags CS OFFL SIR IOPR 2 20190526T220720 20190526T220910 C001 Ocean SSHA Quality PLRM, Ocean have been set for one or more records SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM, The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags CS_OFFL_SIR_IOPR_2_20190526T224720_20190526T225143_C001 Ocean SSHA Quality PLRM, Ocean ave been set for one or more records SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM, The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags CS OFFL SIR IOPR 2 20190526T225143 20190526T225252 C001 Ocean SSHA Quality PLRM, Ocean SWH Quality, Ocean Backscatter Quality Ocean Altimeter Range Quality PLRM, The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags CS_OFFL_SIR_IOPR_2_20190526T233035_20190526T233631_C001 Ocean SSHA Quality PLRM, Ocean have been set for one or more records. SWH Quality, Ocean Backscatter Quality

L2 Quality Flags (1 Hz & 1Hz PLRM)

Currently, there are several common flags raised in the Level 2 products, which are summarised below.

> 1Hz and 1Hz Ocean SSHA Quality Flags: These flags are currently set for products over sea ice, which is to be expected.

Number of products with errors: 19

5.8 L2 Ocean Retracking Quality Check

L2 Retracking Flags (20Hz)

CryoSat L2 data includes an ocean retracking quality flag 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: 4

L2 Retracking Flags (20Hz, PLRM)

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

Ocean Retracking Quality Flag (PLRM): This flag is currently set for products NOPR and NOPN products over sea ice, but this is to be expected.

Number of products with errors: 149

6. IOP L2 Pole-to-Pole Data Quality Check

6.1 P2P 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 NetCDF product file (.nc).

umber of products with errors:

6.2 P2P 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:

(

6.4 P2P 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 some 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.

- > ECMWF Meteo Corrections: Currently the following corrections are not computed over CONTINENTAL ICE: Dry Tropospheric Correction, Wet Tropospheric Correction, Inverse Barometric Correction and the U-Wind and V-Wind components of the ECMWF model wind vector. This is a known anomaly (CRYO-COP-3) and will be resolved in a future IPF update. The affected products are not reported in the table below.
- > Sea State Bias & Sea State Bias PLRM: The error value is currently set for products over sea ice, but this is to be expected.
- > Mean Sea Surface: The error value is currently set for products over land and sea ice, but this is to be expected.
- > Mean Dynamic Topography: 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:

29

Product	Test Failed	Description
CS_OFFL_SIR_IOP_220190525T234151_20190526T003127_C002	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOP_220190526T003127_20190526T012104_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOP_220190526T012104_20190526T021041_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide heigh (solution 1: GOT) for one or more records
CS_OFFL_SIR_IOP_220190526T021041_20190526T030018_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOP_220190526T030018_20190526T034955_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	Topography (solution 1) and the tidal corrections for one or more records
CS_OFFL_SIR_IOP_220190526T034955_20190526T043932_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOP_220190526T043932_20190526T052908_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	Topography (solution 1) and the tidal corrections for one or more records
CS_OFFL_SIR_IOP_220190526T052908_20190526T061845_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOP_220190526T061845_20190526T070822_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOP_220190526T070822_20190526T075759_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOP_220190526T075759_20190526T084735_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOP_220190526T084735_20190526T093712_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (solution 1) and the tidal corrections for one or more records
CS_OFFL_SIR_IOP_220190526T093712_20190526T102649_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOP_220190526T102649_20190526T111626_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide heig (solution 1: GOT) for one or more records
CS_OFFL_SIR_IOP_220190526T111626_20190526T120602_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (solution 1) and the tidal corrections for one or more records
CS_OFFL_SIR_IOP_220190526T120602_20190526T125539_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide heig (solution 1: GOT) for one or more records
CS_OFFL_SIR_IOP_220190526T125539_20190526T134516_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOP_220190526T134516_20190526T143453_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOP_220190526T143453_20190526T152430_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOP_220190526T152430_20190526T161407_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOP_220190526T161407_20190526T170343_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide heig (solution 1: GOT) for one or more records
CS_OFFL_SIR_IOP_220190526T170343_20190526T175320_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOP_220190526T175320_20190526T184257_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOP_220190526T184257_20190526T193234_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOP_220190526T193234_20190526T202210_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)

CS_OFFL_SIR_IOP_220190526T202210_20190526T211147_C001	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (solution 1) and the tidal corrections for one or more records
CS_OFFL_SIR_IOP_220190526T2111147_20190526T220124_C001	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOP_220190526T220124_20190526T225101_C001	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 2)
CS_OFFL_SIR_IOP_220190526T225101_20190526T234037_C001	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (solution 1) and the tidal corrections for one or more records

6.5 P2P Measurement Confidence Data Check

CryoSat P2P data includes a measurement confidence flag for each 20-Hz measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors:

6.6 P2P Measurement Quality Flag Check

P2P Quality Flags (20Hz)

CryoSat P2P data includes Quality Flags for each 20 Hz, 20 Hz PLRM and 1 Hz measurement record, copied from the corresponding L2 products.

Since the P2P Quality Flags are copied directly from the L2 Quality Flags, please see Section 5.6 for the full list of products affected.

Number of products with errors:

P2P Quality Flags (20Hz PLRM)

Since the P2P Quality Flags are copied directly from the L2 Quality Flags, please see Section 5.6 for the full list of products affected.

Number of products with errors:

29

P2P Quality Flags (1 Hz & 1Hz PLRM)

Since the P2P Quality Flags are copied directly from the L2 Quality Flags, please see Section 5.6 for the full list of products affected.

Number of products with errors:

6.8 P2P Ocean Retracking Quality Check

P2P Retracking Flags (20Hz)

Cryosat P2P 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 (PLRM): This flag is currently set for products IOPR and IOPN products over sea ice, but this is to be expected.

Number of products with errors:

P2P Retracking Flags PLRM

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

Ocean Retracking Quality Flag (PLRM): This flag is currently set for products NOPR and NOPN products over sea ice, but this is to be expected.

Number of products with errors: