



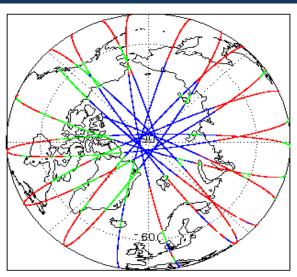
# 1. Overview

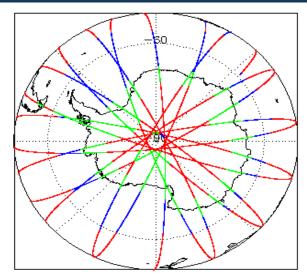
Report Production:	20-Sep-2019	
Processor Used:	CryoSat Ocean Processor	
Data Used:	Intermediate Ocean Products (IOP) L1B, L2 & P2P Science Data	

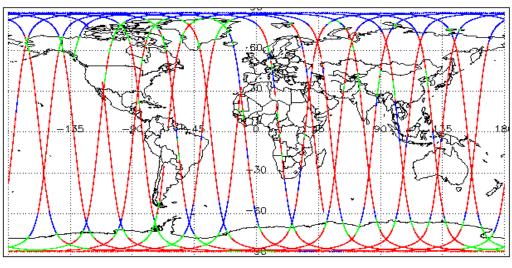
Check	L1 & L2	P2P
Server check: science-pds.cryosat.esa.int	Nominal	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal	Nominal
Product Software Check	Nominal	Nominal
Product Format Check	Nominal	Nominal
Product Header Analysis	Nominal	Nominal
Auxiliary Data File Usage Check	Nominal	Nominal
Auxiliary Correction Error Check	See Section 5.4	See Section 6.4
Measurement Confidence Data Check	See Section 4.5, 4.6 and 5.5	See Section 6.5
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

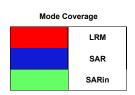
Mission / Instrument News		
16-Sep-2019	None	
17-Sep-2019	SIRAL unavailability on 17-Sep-2019 from 13:54:41 to 15:49:40 due to a planned orbit manoeuvre.	
18-Sep-2019	Nothing planned	

# 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).

#### 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 pert release

Number of products with errors:

### 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:

0

#### 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.

Number of products with errors:

Ω

#### 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:

2

Product	Test Failed	Description
CS_OFFL_SIR_IOPM1B_20190917T201723_20190917T202659_C001	Power scaling error	There is an error in the scaling of the L1B waveform for one or more records
CS_OFFL_SIR_IOPM1B_20190917T204239_20190917T211405_C001	Power scaling error	There is an error in the scaling of the L1B waveform for one or more records

## 4.6 L1B Waveform Group Data Check

CryoSat L1B data includes a waveform data flag 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_20190917T065356_20190917T070946_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPM1B_20190917T185901_20190917T191621_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPM1B_20190917T232943_20190917T233721_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190917T035437_20190917T035715_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190917T070946_20190917T071247_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190917T162408_20190917T162932_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190917T171502_20190917T171925_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190917T185359_20190917T185511_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190917T185638_20190917T185901_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190917T203319_20190917T203543_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190917T203556_20190917T203742_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20190917T045359_20190917T050001_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:

C

### 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:

51

Maco Dynamic Topography (1) Total Concentro Control Table (2011) Total Control Table (2011) Total Concentro Control Table (2011) Total Control Table (2011) Total Concentro Control Table (2011) Total Control Table (2011) To	Product	Test Failed	Description
Security   Concentro Constant Res (2017)   Table   Constant Res (2017)   Table   Constant Res (2017)   Table   Constant Res (2017)   Table	CS_OFFL_SIR_IOPM_2_20190917T003414_20190917T003531_C001	Mean Dynamic Topography (1)	
Security Security Communication (Security Communication) (Security Security Communication) (Security Securit	CS_OFFL_SIR_IOPM_2_20190917T104021_20190917T104402_C001	Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-	Total Geocentric Ocean Tide (solution 1: GOT and solution 2: FES) and
Topography (1) Topography hegit (colution 1) Topography (2) Topography hegit (colution 1) Topography (2) Topography hegit (colution 1) Topography (3) Topography hegit (colution 1) Topography (4) Topography hegit (colution 1) and the Mean Dynamic Topography hegit (colution 1) and the Mean Dynamic Topography hegit (colution 1) There is an error with the MSS hegit (colution 1) and the Mean Dynamic Topography hegit (colution 1) There is an error with the MSS hegit (colution 1) and the Mean Dynamic Topography hegit (colution 1) There is an error with the MSS hegit (colution 1) and the Mean Dynamic Topography (1) Topography (1) Topography hegit (colution 1) and the Mean Dynamic Topography (1) Topography (1) Topography hegit (colution 1) and the Mean Dynamic Topography hegit (colution 1) Topography (1) Topography hegit (colution 1) and the Mean Dynamic Topography hegit (colution 1) and the Mean Dynamic Topography hegit (colution 1) Topography hegit (colution 1) and the Mean Dynamic Topography hegit (colution 1) Topography hegit (colution 1) and the Mean Dynamic Topography hegit (colution 1) Topograph	CS_OFFL_SIR_IOPM_2_20190917T181046_20190917T182540_C001	Mean Dynamic Topography (1)	
Mean Sea Surface (1) Mean Dynamic Topography (edution 1) and the Mean Dynamic Topography (1).  Mean Dynamic Topography (1) There is an error with the MSS height (edution 1) and the Mean Dynamic Topography (1). There is an error with the MSS height (edution 1) and the Mean Dynamic Topography (1). There is an error with the MSS height (edution 1) and the Mean Dynamic Topography (1). There is an error with the MSS height (edution 1) and the Mean Dynamic Topography (1). There is an error with the MSS height (edution 1) and the Mean Dynamic Topography (1). There is an error with the MSS height (edution 1) and the Mean Dynamic Topography (1). There is an error with the MSS height (edution 1) and the Mss Dynamic Topography (1). There is an error with the MSS height (edution 1) and the Mss Dynamic Topography (1). There is an error with the MSS height (edution 1) and the Mss Dynamic Topography (1). There is an error with the MSS height (edution 1) and the Mss Dynamic Topography (1). There is an error with the MSS height (edution 1) and the Mss Dynamic Topography (1). There is an error with the MSS height (edution 1) and the Mss Dynamic Topography (1). There is an error with the MSS height (edution 1) and the Mss Dynamic Topography (1). There is an error with the MSS height (edution 1) and the Mss Dynamic Topography (1). There is an error with the MSS height (edution 1) and the Mss Dynamic Topography (1). There is an error with the MSS height (edution 1) and the Mss Dynamic Topography (1). There is an error with the MSS height (edution 1) and the Mss Dynamic Topography (1). There is an error with the MSS height (edution 1) and the Mss Dynamic Topography (1). There is an error with the Mss Dynamic Topography height feelidean 1. There is an error with the Mss Dynamic Topography height feelidean 1. There is an error with the Mss Dynamic Topography height feelidean 1. There is an error with the Mss Dynamic Topography height feelidean 1. There is an error with the Mss Dynamic Topography height feelidean 1. There is an error w	CS_OFFL_SIR_IOPN_2_20190917T012648_20190917T013000_C001		There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
Topography (1)  Topography (2)  Topography (3)  Topography (3)  Topography (4)  Topography (4)  Topography (4)  Topography (4)  There is an error with the Mean Dynamic Topography height footion (7)  There is an error with the Mean Dynamic Topography height (doution (7)). The Mean Dynamic Topography (4)  Topography (1)  Topography (1)  Topography (1)  Topography (1)  Topography (1)  There is an error with the MSS height (doution (7)). The Mean Dynamic Topography (1)  Topography (1)  Topography (1)  Topography (1)  There is an error with the MSS height (doution (7)) and the Mean Dynamic Topography (1)  Topography (1)  Topography (1)  Topography (1)  There is an error with the MSS height (doution (7)) and the Mean Dynamic Topography (1)  Topography (1)  Topography (1)  There is an error with the MSS height (doution (7)) and the Mean Dynamic Topography (1)  Topography (1)  Topography (1)  There is an error with the MSS height (doution (7)) and the Mean Dynamic Topography (1)  Topography (1)  Topography (1)  There is an error with the MSS height (doution (7)) and the Mean Dynamic Topography (1)  Topography (1)  Topography (1)  There is an error with the MSS height (doution (7)) and the Mean Dynamic Topography (1)  Topography (1)  Topography (1)  There is an error with the MSS height (doution (7)) and the Mean Dynamic Topography (1)  Topography (1)  Topography (1)  There is an error with the MSS height (doution (7)) and the Mean Dynamic Topography (1)  Topography (1)  There is an error with the MSS height (doution (7)) and the Mean Dynamic Topography (1)  There is an error with the MSS height (doution (7)) and the Mean Dynamic Topography (1)  There is an error with the MSS height (doution (7)) and the Mean Dynamic Topography (1)  There is an error with the MSS height (doution (7)) and the Mean Dynamic Topography (1)  There is an error with the MSS height (doution (7)) and the Mean Dynamic Topography (1)  There is an error with the MSS height (doution (7) and the Mean Dynamic Topography (1)  There is an error with the	CS_OFFL_SIR_IOPN_2_20190917T013520_20190917T013636_C001	Mean Dynamic Topography (1)	
more records  Sec. OFFL_SIR_JOPN_2_20190917103514_20190917103575_0001  The FES. Non-Equilibrium (orp period Topography) (1). Total Geocentric Ocean Title (GOT), Total Geocentric Ocean Title (GOT) Total Total Geocent	CS_OFFL_SIR_IOPN_2_20190917T030529_20190917T030848_C001		There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
Topography (1), Total Geocemic Ocean Tide (FE), Non-Equilibrium Long Period Color Titot Geocemic Ocean Tide (FE), Non-Equilibrium Long Period Color Titot Geocemic Ocean Tide (FE), Non-Equilibrium Long Period Color Titot Geocemic Ocean Tide (FE), Non-Equilibrium Long Period Color Titot Mana Sas Sarface (1), Mean Dynamic Topography (2), 10000171035718, 201909171035753, 2001  Mean Sas Sarface (1), Mean Dynamic Topography (2), 1000017105553, 201909171055550, 2001  Mean Sas Sarface (1), Mean Dynamic Topography (1)	CS_OFFL_SIR_IOPN_2_20190917T031416_20190917T031541_C001		
Topography (1)  Topography (2)  Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (2)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (2)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (3)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (3)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (4)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (6)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (6)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (6)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (6)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (6)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (7)  Mean Sea Surface (1), Mean Dynamic Topography (6)  There is an error with the MSS height (solution 1), the Mean Dynamic Topography (7)  Mean Dynamic Topography (8)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (7)  Mean Dynamic Topography (8)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)	CS_OFFL_SIR_IOPN_2_20190917T035437_20190917T035715_C001	Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period	Topography (solution 1) and tidal corrections for one or more records
Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  Topography (1)  Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1). There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1). There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  Topography (1)  Topography (1)  Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography (1)  Topography (1)  Topography (1)  Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  Topography (1)  Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  Topography (1)  Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  Topography (1)  Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  Topography (1)  Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  Topography (1)  Topography (1)  There is an error with the MSS height (solution 1)  There is an error with	CS_OFFL_SIR_IOPN_2_20190917T035718_20190917T035753_C001		There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
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Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography (1)  Topography (2)  Topography (2)  Topography (3)  Mean Dynamic Topography (1)  Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography (1)  Topography (2)  Topography (3)  Mean Dynamic Topography (1)  Mean Dynamic Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  Sea OFFL SIR_IOPN_2_20190917T085032_20190917T095157_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography (1)  Sea OFFL_SIR_IOPN_2_20190917T134738_20190917T134816_C001  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (SOT) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography (1), the Total Geocentric Ocean Tide (SOT) for one or more records  There is an error with the MSS height (solution 1), the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (solution 1), the Mean Dynamic Topography (1), the Total Geocentric Ocean	CS_OFFL_SIR_IOPN_2_20190917T062111_20190917T062252_C001	Mean Dynamic Topography (1)	
Topography (1). Total Geocentric Ocean Tide (GOT) Topography (2). Total Geocentric Ocean Tide (GOT) Topography (3). Total Geocentric Ocean Tide (GOT) Topography (3). Total Geocentric Ocean Tide (GOT) Topography (3). Total Geocentric Ocean Tide (GOT) There is an error with the Mean Dynamic Topography (1). There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1). There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1). There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1). There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1). There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1). There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1). There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1). There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1). There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1). There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1). There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1). There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1). Topography (1). Total Geocentric Ocean Tide (GOT). Tot	CS_OFFL_SIR_IOPN_2_20190917T063003_20190917T063217_C001		There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
Mean Sea Surface (1), Mean Dynamic Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography height (solution 1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)  Mean Sea Surface (1), Mean Dynamic Topography (solution 1), the Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  Topography (1)  Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  Topography (1)  Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  Topography (1)  Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  Topography (1)  Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic	CS_OFFL_SIR_IOPN_2_20190917T071351_20190917T071604_C001	Topography (1), Total Geocentric Ocean	Topography (solution 1), the Total Geocentric Ocean Tide (solution 1:
Topography (1) Topography (201909171080834_201909171081346_C001 Topography (1) Topography (1) Topography (1) Topography (201909171080932_201909171085428_C001 Topography (1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1) Topography (1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1) Topography (1) There is an error with the MSS height (solution 1) There is an error with the MSS height (solution 1) There is an error with the MSS height (solution 1) There is an error with the MSS height (solution 1) There is an error with the MSS height (solution 1) There is an error with the MSS height (solution 1) There is an error with the MSS height (solution 1) There is an error with the MSS height (solution 1) There is an error with the MSS height (solution 1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (SOT) for or or or or records Topography (1), Total Geocentric Ocean Tide (SOT) for or or or or records Topography (1), Total Geocentric Ocean Tide (SOT) for or or or or records Topography (1), Total Geocentric Ocean Tide (SOT) for or or or or records Topography (1), Total Geocentric Ocean Tide (SOT) for or or or or records Topography (1), Total Geocentric Ocean Tide (SOT) for or or or or records Topography (1), Total Geocentric Ocean Tide (SOT) for or or or or records Topography (1), Total Geocentric Ocean Tide (SOT) for or or or or records Topography (1), Total Geocentric Ocean Tide (SOT) for or or or or records Topography (1), Total Geocentric Ocean Tide (SOT) for or or or or records Topography (1), Total Geocentric Ocean Tide (SOLUtion 1) and the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (SOLUtion 1) and the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (SOLUtion 1) and the Me	CS_OFFL_SIR_IOPN_2_20190917T080021_20190917T080208_C001	Mean Dynamic Topography (1)	
Topography (1)  Topography (1)  Topography height (solution 1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)  There is an error with the MSS height (solution 1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)  There is an error with the MSS height (solution 1)  There is an error with the MSS height (solution 1)  There is an error with the MSS height (solution 1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide (GOT)  SS_OFFL_SIR_IOPN_2_20190917T175843_20190917T180118_C001  There is an error with the MSS height (solution 1), the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)  Topography (1), Total Geocentric Ocean Tide (GOT)  There is an error with the MSS height (solution 1), the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)  Topography (1), Total Geocentric Ocean Tide (GOT)  There is an error with the MSS height (solution 1), the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)  There is an error with the MSS height (solution 1) and the 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)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (solution 1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1),	CS_OFFL_SIR_IOPN_2_20190917T080854_20190917T081346_C001		There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
Topography (1)  Topography (2 201909171093015 20190917T134816 C001  Mean Dynamic Topography (1)  Topography (1)  Topography height (solution 1)  There is an error with the Mean Dynamic Topography height for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide (GOT), Total Geocentric Ocean Tide (GOT), Tota	CS_OFFL_SIR_IOPN_2_20190917T085032_20190917T085428_C001	. /-	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
Mean Sea Surface (1), Mean Dynamic Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography height (solution 1). There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1). There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)  Mean Sea Surface (1), Mean Dynamic Topography (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records  There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (GOT)  Mean Sea Surface (1), Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  There is an error with the Mean Dynamic Topography (solution 1)  There is an error with the Mean Dynamic Topography (solution 1)  There is an error with the Mean Dynamic Topography (solution 1)  There is an error with the Mean Dynamic Topography (solution 1)  There is an error with the Mean Dynamic Topography (solution 1) and the Mean Dynamic Topography (solution 1)  There is an error with the Mean Dynamic Topography (solution 1)  There is an error with the Mean Dynamic Topography (solution 1)  There is an error with the Mean Dynamic Topography (solution 1) and the Mean Dynamic Topography (solution 1)  There is	CS_OFFL_SIR_IOPN_2_20190917T095003_20190917T095157_C001		There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)  Topography height (solution 1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)  Topography height (solution 1), the Mean Dynamic Topography (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (GOT)  Topography (solution 1)  There is an error with the Mean Dynamic Topography (solution 1) and the Mean Dynamic Topography (solution 1)  Topography (solution 1)  There is an error with the Mean Dynamic Topography (solution 1) and the Mean Dynamic Topography (solution 1)  Topography (solution 1)  There is an error with the Mean Dynamic Topography (solution 1) and the Mean Dynamic Topography (solution 1)  Topography (solution 1)  There is an error with the Mean Dynamic Topography (solution 1) and the Mean Dynamic Topography (solution 1)  There is an error with the Mean Dynamic Topography (solution 1) and the Mean Dynamic Topography (solution 1)  There is an error with the Mean Dynamic Topography (solut	CS_OFFL_SIR_IOPN_2_20190917T134738_20190917T134816_C001	Mean Dynamic Topography (1)	
Topography (1), Total Geocentric Ocean Tide (GOT), Mean Dynamic Topography (solution 1), and tidal corrections for one or more records Ocean Tide (GOT)  There is an error with the MSS height (solution 1), the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography (solution 1), the Mean Dynamic Topography (solution 1), and tide Mean Dynamic Topography (solution 1), the Mean Dynamic Topography (solution 1), and tide Topography (solution 1), the Mean Dynamic Topography (solution 1), and tide Topography (solution 1), and tide Topography (solution 1), the Mean Dynamic Topography (solution 1), the Mean Dynamic Topography (solution 1), and tide Topography (solution 1), the Mean Dynamic Topography (solution 1), and tide Topography (solution 1), and tide Topography (solution 1), the Mean Dynamic Topography (solution 1), and the Mean Dynamic Topography (solution 1), the Mean Dynamic Top	CS_OFFL_SIR_IOPN_2_20190917T161906_20190917T162159_C001	Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
Topography (1), Total Geocentric Ocean Tide (solution 1: GOT)  Topography (2), Total Geocentric Ocean Tide (solution 1: GOT)  Topography (3), Total Geocentric Ocean Tide (solution 1: GOT) for one or more records  Topography (5), Total Geocentric Ocean Tide (solution 1: GOT) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (Solution 1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (Solution 1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)  There is an error with the Mean Dynamic Topography (solution 1) and the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)  There is an error with the Mean Dynamic Topography (solution 1) and the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (solution 1: GOT) for one or more records  Topography (1), Total Geocentric Ocean Tide (solution 1) and the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (solution 1: GOT) for one or more records  Topography (1), Total Geocentric Ocean Tide (solution 1) and the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (solution 1: GOT) for one or more records  Topography (1), Total Geocentric Ocean Tide (solution 1: GOT) for one or more records  There is an error with the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (solution 1: GOT) for one or more records  Topography (1), Total Geocentric Ocean Tide (solution 1: GOT) for one or more records  There is an error with the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (solution 1: GOT) for one or more records	CS_OFFL_SIR_IOPN_2_20190917T171502_20190917T171925_C001	Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period	Topography (colution 1), and tidal corrections for one or more records
Topography (1)  Topography height (solution 1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)  Topography (1)  Topography height (solution 1)  There is an error with the Mean Dynamic Topography (solution 1) and the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)  There is an error with the Mean Dynamic Topography (solution 1) and the Mean Dynamic Topography (solution 1) and the Mean Dynamic Topography (solution 1) and the Mean Dynamic Topography (solution 1)  Topography height (solution 1)  There is an error with the Mean Dynamic Topography height (solution 1)	CS_OFFL_SIR_IOPN_2_20190917T175843_20190917T180118_C001	Topography (1), Total Geocentric Ocean	Topography (solution 1), the Total Geocentric Ocean Tide (solution 1:
Topography (1)  Topography height (solution 1)  There is an error with the Mean Dynamic Topography (solution 1) and the Geocentric Ocean Tide (GOT)  Topography height (solution 1)  There is an error with the Mean Dynamic Topography (solution 1) and the Geocentric Ocean Tide (GOT)  Topography height (solution 1)  There is an error with the Mean Dynamic Topography height for one or more records  There is an error with the Mean Dynamic Topography height for one or	CS_OFFL_SIR_IOPN_2_20190917T193550_20190917T193934_C001		There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
Geocentric Ocean Tide (GOT)  Total Geocentric Ocean Tide (solution 1: GOT) for one or more records  There is an error with the Mean Dynamic Topography height for one or	CS_OFFL_SIR_IOPN_2_20190917T203319_20190917T203543_C001		There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)
	CS_OFFL_SIR_IOPN_2_20190917T203556_20190917T203742_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_20190917T211602_20190917T211753_C001	Mean Dynamic Topography (1)	

CS_OFFL_SIR_IOPN_2_20190917T212615_20190917T212829_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_20190917T221310_20190917T221740_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_20190917T225538_20190917T225717_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_20190917T235519_20190918T000011_C001	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_IOPR_2_20190917T002721_20190917T002925_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_20190917T003824_20190917T004621_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 1)
CS_OFFL_SIR_IOPR_2_20190917T021700_20190917T022522_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 1)
CS_OFFL_SIR_IOPR_2_20190917T035753_20190917T040428_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 1)
CS_OFFL_SIR_IOPR_2_20190917T053650_20190917T054232_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 1)
CS_OFFL_SIR_IOPR_2_20190917T054247_20190917T054419_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_20190917T071605_20190917T071959_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 1)
CS_OFFL_SIR_IOPR_2_20190917T071959_20190917T072259_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_20190917T085428_20190917T085949_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 1)
CS_OFFL_SIR_IOPR_2_20190917T103248_20190917T103944_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 1)
CS_OFFL_SIR_IOPR_2_20190917T121114_20190917T121751_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 1)
CS_OFFL_SIR_IOPR_2_20190917T122810_20190917T122909_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_20190917T134937_20190917T135441_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 1)
CS_OFFL_SIR_IOPR_2_20190917T170930_20190917T171352_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 1)
CS_OFFL_SIR_IOPR_2_20190917T171352_20190917T171502_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 1)
CS_OFFL_SIR_IOPR_2_20190917T184719_20190917T185031_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 1)
CS_OFFL_SIR_IOPR_2_20190917T185031_20190917T185359_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 1)
CS_OFFL_SIR_IOPR_2_20190917T200444_20190917T201033_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_20190917T202659_20190917T203319_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 1)
CS_OFFL_SIR_IOPR_2_20190917T220845_20190917T221310_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 1)
CS_OFFL_SIR_IOPR_2_20190917T234706_20190917T235519_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 1)

# 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:

Product	Test Failed	Description
CS_OFFL_SIR_IOPM_2_20190917T201723_20190917T202659_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records
CS_OFFL_SIR_IOPM_2_20190917T204239_20190917T211405_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records

# 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:

Product	Test Failed	Description
Floduct		·
CS_OFFL_SIR_IOPM_2_20190917T000015_20190917T002254_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T003539_20190917T003800_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T004926_20190917T012221_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T013001_20190917T013520_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_20190917T015922_20190917T020107_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_20190917T021256_20190917T021700_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T022522_20190917T022549_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T022622_20190917T022640_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T022717_20190917T023801_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T024047_20190917T030209_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T031010_20190917T031416_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_20190917T031947_20190917T032922_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T033110_20190917T033721_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T033813_20190917T033834_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_20190917T040552_20190917T044029_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T044351_20190917T044900_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_20190917T044907_20190917T044913_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_20190917T050001_20190917T053051_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T053224_20190917T053451_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_20190917T053451_20190917T053553_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_20190917T054420_20190917T060437_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T060521_20190917T062010_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T062253_20190917T062758_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_20190917T062837_20190917T063003_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_20190917T063733_20190917T064737_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T065356_20190917T070946_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T071247_20190917T071343_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T072259_20190917T074342_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T074522_20190917T075846_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T080208_20190917T080709_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_20190917T080751_20190917T080854_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_20190917T081512_20190917T083733_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T083855_20190917T085032_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T091022_20190917T091059_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_20190917T091634_20190917T093705_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T094250_20190917T094625_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_20190917T095352_20190917T102135_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T103944_20190917T103959_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T104021_20190917T104402_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T105228_20190917T111658_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T112032_20190917T112539_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_20190917T113318_20190917T120634_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T121843_20190917T122553_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T125220_20190917T125606_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T130031_20190917T130612_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_20190917T131356_20190917T134501_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T134503_20190917T134604_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T134816_20190917T134839_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T154940_20190917T155413_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T155456_20190917T161231_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.

	Ocean Altimeter Range, SSHA, SWH	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags
CS_OFFL_SIR_IOPM_2_20190917T163152_20190917T170729_C001	and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T171925_20190917T173828_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T173921_20190917T175249_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T180119_20190917T180317_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_20190917T181046_20190917T182540_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T182741_20190917T183703_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T185901_20190917T191621_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T193230_20190917T193345_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T193935_20190917T194721_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_20190917T195031_20190917T200443_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T203743_20190917T203843_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T203859_20190917T204116_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T204239_20190917T211405_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T211753_20190917T212008_C001	OCOG Altimeter Range Quality, OCOG	The OCOG Altimeter Range and Backscatter Quality Flags have been set
	Backscatter Quality	for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T212018_20190917T212614_C001	Backscatter Quality  OCOG Altimeter Range Quality, OCOG Backscatter Quality	for one or more records.  The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
	OCOG Altimeter Range Quality, OCOG	The OCOG Altimeter Range and Backscatter Quality Flags have been set
CS_OFFL_SIR_IOPM_2_20190917T212018_20190917T212614_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPM_2_20190917T212018_20190917T212614_C001  CS_OFFL_SIR_IOPM_2_20190917T213022_20190917T215435_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPM_2_20190917T212018_20190917T212614_C001  CS_OFFL_SIR_IOPM_2_20190917T213022_20190917T215435_C001  CS_OFFL_SIR_IOPM_2_20190917T220434_20190917T220657_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPM_2_20190917T212018_20190917T212614_C001  CS_OFFL_SIR_IOPM_2_20190917T213022_20190917T215435_C001  CS_OFFL_SIR_IOPM_2_20190917T220434_20190917T220657_C001  CS_OFFL_SIR_IOPM_2_20190917T222542_20190917T225313_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  OCOG Altimeter Range Quality, OCOG	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T212018_20190917T212614_C001  CS_OFFL_SIR_IOPM_2_20190917T213022_20190917T215435_C001  CS_OFFL_SIR_IOPM_2_20190917T220434_20190917T220657_C001  CS_OFFL_SIR_IOPM_2_20190917T222542_20190917T225313_C001  CS_OFFL_SIR_IOPM_2_20190917T222542_20190917T230423_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  OCOG Altimeter Range Quality, OCOG Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPM_2_20190917T212018_20190917T212614_C001  CS_OFFL_SIR_IOPM_2_20190917T213022_20190917T215435_C001  CS_OFFL_SIR_IOPM_2_20190917T220434_20190917T220657_C001  CS_OFFL_SIR_IOPM_2_20190917T222542_20190917T225313_C001  CS_OFFL_SIR_IOPM_2_20190917T230004_20190917T230423_C001  CS_OFFL_SIR_IOPM_2_20190917T230941_20190917T232940_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  OCOG Altimeter Range Quality, OCOG Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG  Altimeter Range and Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T212018_20190917T212614_C001  CS_OFFL_SIR_IOPM_2_20190917T213022_20190917T215435_C001  CS_OFFL_SIR_IOPM_2_20190917T220434_20190917T220657_C001  CS_OFFL_SIR_IOPM_2_20190917T222542_20190917T225313_C001  CS_OFFL_SIR_IOPM_2_20190917T230004_20190917T230423_C001  CS_OFFL_SIR_IOPM_2_20190917T230941_20190917T232940_C001  CS_OFFL_SIR_IOPM_2_20190917T230941_20190917T232940_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  OCOG Altimeter Range Quality, OCOG Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  OCOG Altimeter Range Quality, OCOG Altimeter Range and Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T212018_20190917T212614_C001  CS_OFFL_SIR_IOPM_2_20190917T213022_20190917T215435_C001  CS_OFFL_SIR_IOPM_2_20190917T220434_20190917T220657_C001  CS_OFFL_SIR_IOPM_2_20190917T222542_20190917T225313_C001  CS_OFFL_SIR_IOPM_2_20190917T230004_20190917T230423_C001  CS_OFFL_SIR_IOPM_2_20190917T230941_20190917T232940_C001  CS_OFFL_SIR_IOPM_2_20190917T230941_20190917T234706_C001  CS_OFFL_SIR_IOPM_2_20190917T020844_20190917T020853_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  OCOG Altimeter Range Quality, OCOG Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T212018_20190917T212614_C001  CS_OFFL_SIR_IOPM_2_20190917T213022_20190917T215435_C001  CS_OFFL_SIR_IOPM_2_20190917T220434_20190917T220657_C001  CS_OFFL_SIR_IOPM_2_20190917T222542_20190917T225313_C001  CS_OFFL_SIR_IOPM_2_20190917T230004_20190917T230423_C001  CS_OFFL_SIR_IOPM_2_20190917T230941_20190917T232940_C001  CS_OFFL_SIR_IOPM_2_20190917T234020_20190917T234706_C001  CS_OFFL_SIR_IOPM_2_20190917T020844_20190917T020853_C001  CS_OFFL_SIR_IOPN_2_20190917T020844_20190917T020853_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  OCOG Altimeter Range Quality, OCOG Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  OCOG Altimeter Range Quality, OCOG Backscatter Quality  OCOG Altimeter Range Quality, OCOG Backscatter Quality  OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190917T212018_20190917T212614_C001  CS_OFFL_SIR_IOPM_2_20190917T213022_20190917T215435_C001  CS_OFFL_SIR_IOPM_2_20190917T220434_20190917T220657_C001  CS_OFFL_SIR_IOPM_2_20190917T222542_20190917T225313_C001  CS_OFFL_SIR_IOPM_2_20190917T230004_20190917T230423_C001  CS_OFFL_SIR_IOPM_2_20190917T230941_20190917T232940_C001  CS_OFFL_SIR_IOPM_2_20190917T234020_20190917T234706_C001  CS_OFFL_SIR_IOPM_2_20190917T020844_20190917T020853_C001  CS_OFFL_SIR_IOPN_2_20190917T104402_20190917T104416_C001  CS_OFFL_SIR_IOPN_2_20190917T104402_20190917T104416_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  OCOG Altimeter Range Quality, OCOG Backscatter Quality  OCOG Altimeter Range Quality, OCOG Backscatter Quality  OCOG Altimeter Range, SSHA, SWH and Backscatter Quality  OCOG Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  OCOG Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  OCOG Altimeter Range Quality, OCOG Backscatter Quality  OCOG Altimeter Range Quality, OCOG Backscatter Quality  OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The Ocean Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.

CS_OFFL_SIR_IOPN_2_20190917T212615_20190917T212829_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190917T215435_20190917T215802_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_IOPR_2_20190917T004736_20190917T004756_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_IOPR_2_20190917T104000_20190917T104021_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190917T130929_20190917T131356_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.

# 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.

Number of products with errors: 75

Product	Test Failed	Description
CS_OFFL_SIR_IOPN_2_20190917T004621_20190917T004736_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_20190917T012648_20190917T013000_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190917T015423_20190917T015511_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_20190917T021129_20190917T021256_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_20190917T022640_20190917T022717_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_20190917T030529_20190917T030848_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190917T035437_20190917T035715_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_20190917T053051_20190917T053223_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_20190917T053553_20190917T053650_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_20190917T062111_20190917T062252_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190917T063003_20190917T063217_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190917T070946_20190917T071247_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_20190917T071351_20190917T071604_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_20190917T080021_20190917T080208_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_20190917T080854_20190917T081346_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_20190917T085032_20190917T085428_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190917T090925_20190917T091022_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_20190917T091059_20190917T091440_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_20190917T112914_20190917T113045_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_20190917T124028_20190917T124123_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_20190917T125914_20190917T130031_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190917T130814_20190917T130929_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_20190917T134605_20190917T134725_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_20190917T161906_20190917T162159_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190917T162408_20190917T162932_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190917T170836_20190917T170930_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_20190917T171502_20190917T171925_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_20190917T183704_20190917T184018_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_20190917T185359_20190917T185511_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_20190917T193550_20190917T193934_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_20190917T194721_20190917T194907_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_20190917T203843_20190917T203859_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_20190917T220658_20190917T220714_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_20190917T221310_20190917T221740_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_20190917T222320_20190917T222541_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_20190917T225538_20190917T225717_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190917T230423_20190917T230715_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190917T235519_20190918T000011_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_IOPR_2_20190917T003246_20190917T003414_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_IOPR_2_20190917T003824_20190917T004621_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190917T012221_20190917T012648_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190917T020418_20190917T020752_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_IOPR_2_20190917T021700_20190917T022522_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190917T031542_20190917T031947_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190917T035753_20190917T040428_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190917T045359_20190917T050001_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.

CS_OFFL_SIR_IOPR_2_20190917T053650_20190917T054232_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190917T063217_20190917T063733_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190917T065144_20190917T065356_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_IOPR_2_20190917T071605_20190917T071959_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190917T085428_20190917T085949_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190917T091440_20190917T091519_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_IOPR_2_20190917T093705_20190917T094017_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190917T103248_20190917T103944_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190917T113045_20190917T113317_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190917T120833_20190917T120849_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_IOPR_2_20190917T121114_20190917T121751_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190917T124758_20190917T125220_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_IOPR_2_20190917T125606_20190917T125913_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190917T130929_20190917T131356_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190917T134937_20190917T135441_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190917T170930_20190917T171352_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190917T171352_20190917T171502_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190917T173828_20190917T173921_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_IOPR_2_20190917T175249_20190917T175843_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190917T184719_20190917T185031_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_IOPR_2_20190917T194907_20190917T195031_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190917T200444_20190917T201033_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_IOPR_2_20190917T201033_20190917T201259_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_IOPR_2_20190917T202659_20190917T203319_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_IOPR_2_20190917T212829_20190917T213021_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190917T220845_20190917T221310_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190917T225313_20190917T225537_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.

Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been CS OFFL SIR IOPR 2 20190917T230715 20190917T230941 C001 Altimeter Range and Backscatter Quality set for one or more records Ocean Altimeter Range, SSHA, SWH The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and Backscatter Quality PLRM, OCOG and the OCOG Altimeter Range and Backscatter Quality Flags have been CS\_OFFL\_SIR\_IOPR\_2\_20190917T234706\_20190917T235519\_C001

Altimeter Range and Backscatter Quality

set for one or more records.

#### 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:

#### 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.

PLRM

Number of products with errors:

#### 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 IOPR and IOPN products over sea ice, but this is to be expected.

Number of products with errors:

# 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).

Number 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:

#### 6.3 P2P 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:

#### 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 Corection, 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

Description

Test Failed

- > 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: 27

Product

Toddet	163t i alieu	Description
CS_OFFL_SIR_IOP_220190916T235120_20190917T004056_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 1)
CS_OFFL_SIR_IOP_220190917T004056_20190917T013033_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 1)
CS_OFFL_SIR_IOP_220190917T013033_20190917T022009_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 1)
CS_OFFL_SIR_IOP_220190917T022009_20190917T030947_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 1)
CS_OFFL_SIR_IOP_220190917T030947_20190917T035923_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), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records
CS_OFFL_SIR_IOP_220190917T035923_20190917T044900_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 1)
CS_OFFL_SIR_IOP_220190917T044900_20190917T053836_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 1)
CS_OFFL_SIR_IOP_220190917T053836_20190917T062814_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), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 2: FES) and the Non-Equilibrium Long Period Ocean Tide for one or more records
CS_OFFL_SIR_IOP_220190917T062814_20190917T071750_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records
CS_OFFL_SIR_IOP_220190917T071750_20190917T080728_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 1)

CS_OFFL_SIR_IOP_220190917T080728_20190917T085703_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 1)
CS_OFFL_SIR_IOP_220190917T085703_20190917T094641_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 1)
CS_OFFL_SIR_IOP_220190917T094641_20190917T103617_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 1)
CS_OFFL_SIR_IOP_220190917T103617_20190917T112555_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), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records
CS_OFFL_SIR_IOP_220190917T112555_20190917T121530_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 1)
CS_OFFL_SIR_IOP_220190917T121530_20190917T130508_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 1)
CS_OFFL_SIR_IOP_220190917T130508_20190917T135444_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 1)
CS_OFFL_SIR_IOP_2_20190917T153357_20190917T162335_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 1)
CS_OFFL_SIR_IOP_2_20190917T162335_20190917T171311_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 1)
CS_OFFL_SIR_IOP_220190917T171311_20190917T180249_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), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records
CS_OFFL_SIR_IOP_220190917T180249_20190917T185225_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 1)
CS_OFFL_SIR_IOP_220190917T185225_20190917T194203_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 1)
CS_OFFL_SIR_IOP_2_20190917T194203_20190917T203138_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 1)
CS_OFFL_SIR_IOP_2_20190917T203138_20190917T212116_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records
CS_OFFL_SIR_IOP_2_20190917T212116_20190917T221052_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 1)
CS_OFFL_SIR_IOP_2_20190917T221052_20190917T230030_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 1)
CS_OFFL_SIR_IOP_220190917T235005_20190918T003944_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) 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:

Product	Test Failed	Description
CS_OFFL_SIR_IOP_220190917T194203_20190917T203138_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records
CS_OFFL_SIR_IOP_220190917T203138_20190917T212116_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records

### 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:

#### 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: 2

## 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 IOPR and IOPN products over sea ice, but this is to be expected.

Number of products with errors:

2