

### 1. Overview

Report Production:	20-Jan-2023
Processor Used:	CryoSat Ocean Processor
Data Used:	Intermediate Ocean Products (IOP) L1B, L2 & P2P Science Data

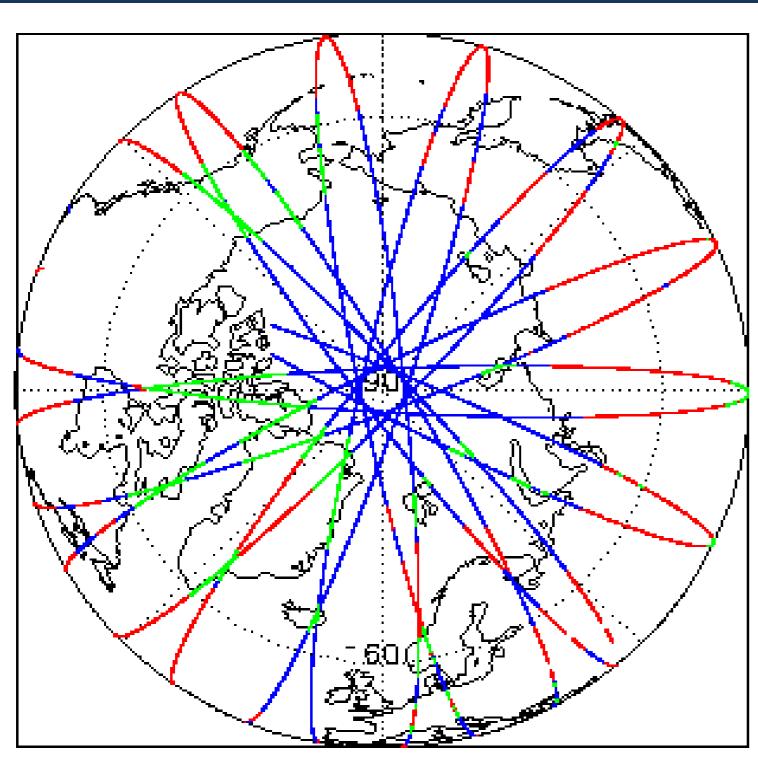
We would love to hear from you!
se let us know your feedback about these daily
reports: What do you like/ dislike? What quality
rmation do you need? Send your feedback to

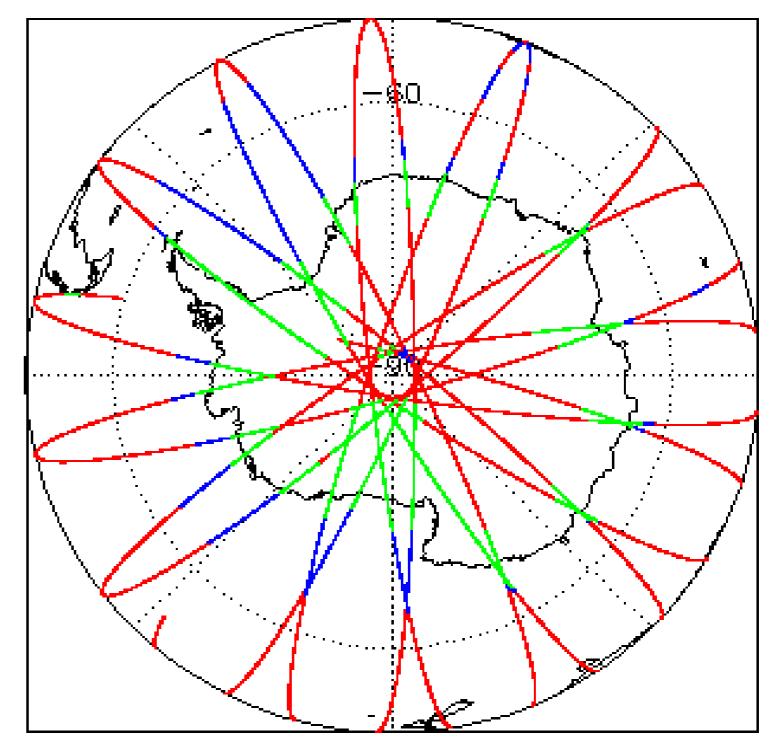
Pleas quality information do you need? Send your feedback to cs2\_qc\_team@telespazio.com

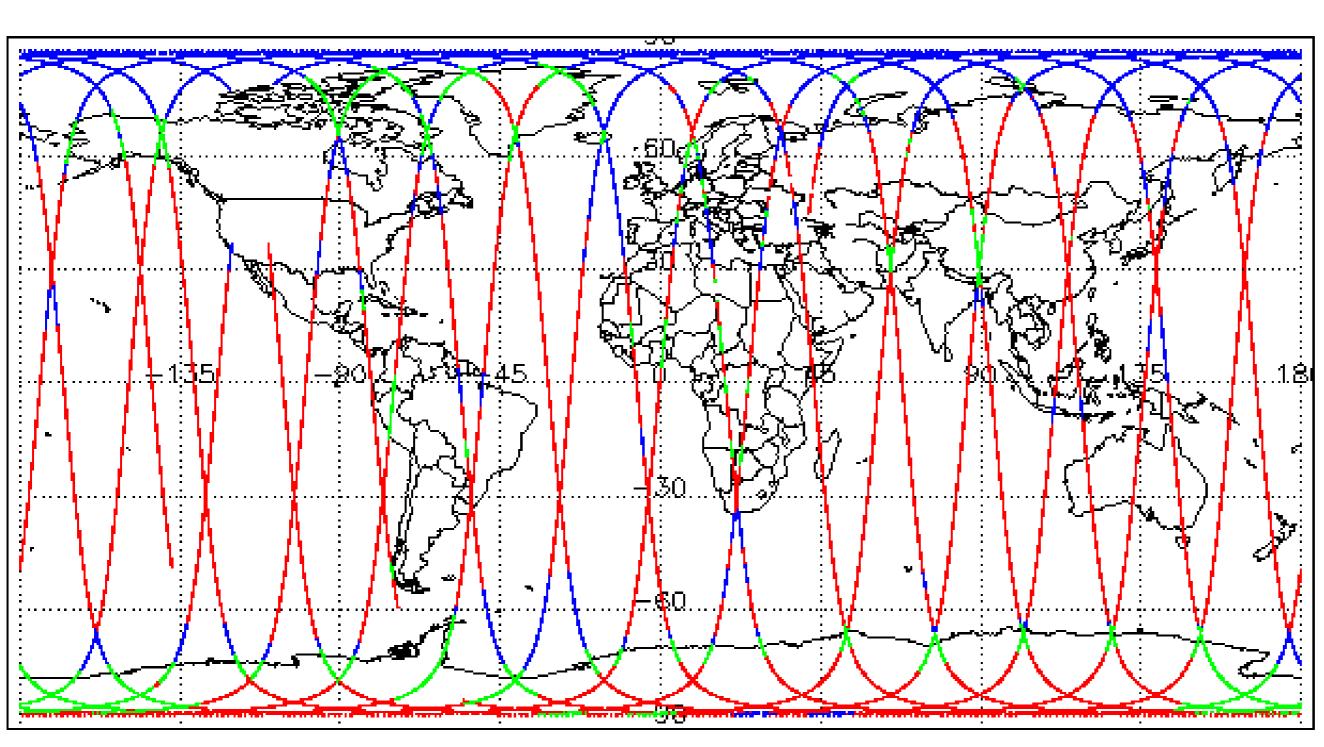
Check	L1 & L2	P2P
Server check: science-pds.cryosat.esa.int	Nominal	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal	Nominal
Product Software Check	Nominal	Nominal
Product Format Check	Nominal	Nominal
Product Header Analysis	Nominal	Nominal
Auxiliary Data File Usage Check	Nominal	Nominal
Auxiliary Correction Error Check	See Section 5.4	See Section 6.4
Measurement Confidence Data Check	See Section 4.5, 4.6	Nominal
Range, SWH & Backscatter Measurement Check	See Section 5.6	See Section 6.6
Ocean Retracking Quality Check	See Section 5.7	See Section 6.7
QCC Error/ Warning Check	See Section 7.2	See Section 7.2

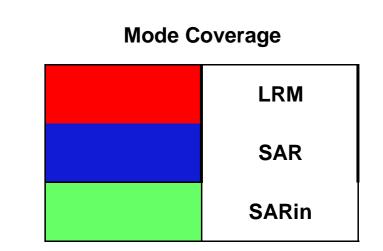
Mission / Instrument News		
15-Jan-2023	None	
16-Jan-2023	None	
17-Jan-2023	Nothing planned	

## 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 NetCDF product file (.nc).

### **4.2 L1B Product Header Analysis**

For all products, a series of pre-defined checks are performed on the MPH and SPH in order to identify any inconsistencies and/or errors raised by the ground-segment processing chain.

Number of products with errors:

#### 4.3 L1B Auxilary Data File Usage Check

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

Number of products with errors:

#### **4.4 L1B Auxiliary Correction Error Check**

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

0

Number of products with errors:

#### 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. The attitude correction is actually not missing. This will be resolved in the next SW update.

Number of products with errors:

#### 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. The table provides the full list of products flagged.

Number of products with errors:

17

0

Product	Test Failed	Description
CS_OFFL_SIR_IOPM1B_20230116T045329_20230116T050911_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPM1B_20230116T151057_20230116T151546_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPM1B_20230116T173254_20230116T173628_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20230116T012846_20230116T013156_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20230116T072104_20230116T072313_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20230116T085610_20230116T090103_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20230116T094822_20230116T095035_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20230116T134408_20230116T134507_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20230116T152654_20230116T152957_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20230116T184148_20230116T184443_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20230116T184557_20230116T184812_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20230116T195005_20230116T195106_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20230116T230123_20230116T230250_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20230116T043525_20230116T044222_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20230116T072614_20230116T072732_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20230116T121024_20230116T121828_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20230116T180420_20230116T180947_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 NetCDF product file (.nc).

Number of products with errors: 0

### 5.2 L2 Product Header Analysis

For all products, a series of pre-defined checks are performed on the MPH and SPH in order to identify any inconsistencies and/or errors raised by the ground-segment processing chain.

Number of products with errors: 0

#### 5.3 L2 Auxiliary Data File Usage Check

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

Number of products with errors: 0

#### **5.4 L2 Auxiliary Correction Error Check**

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

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

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

Number of products with errors: 59

Product Test Failed Description

CS_OFFL_SIR_IOPM_2_20230116T115858_20230116T115920_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPM_2_20230116T120646_20230116T120843_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPM_2_20230116T221442_20230116T221521_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPN_2_20230116T002947_20230116T003109_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_IOPN_2_20230116T005031_20230116T005047_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPN_2_20230116T012156_20230116T012322_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPN_2_20230116T012846_20230116T013156_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_IOPN_2_20230116T030136_20230116T030250_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPN_2_20230116T030745_20230116T031109_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_IOPN_2_20230116T044223_20230116T044458_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_IOPN_2_20230116T044651_20230116T045317_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPN_2_20230116T053735_20230116T053855_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_IOPN_2_20230116T061744_20230116T062350_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_IOPN_2_20230116T071656_20230116T071912_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_IOPN_2_20230116T075952_20230116T080142_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPN_2_20230116T081009_20230116T081157_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPN_2_20230116T085610_20230116T090103_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_IOPN_2_20230116T102859_20230116T102934_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPN_2_20230116T112042_20230116T112254_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_IOPN_2_20230116T125847_20230116T130202_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_IOPN_2_20230116T144619_20230116T144743_C001	IIVIean Dynamic Tobodrabny (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPN_2_20230116T152654_20230116T152957_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_IOPN_2_20230116T170758_20230116T170857_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_IOPN_2_20230116T180210_20230116T180420_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_IOPN_2_20230116T184557_20230116T184812_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_IOPN_2_20230116T193229_20230116T193415_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPN_2_20230116T202238_20230116T202638_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPN_2_20230116T212201_20230116T212400_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPR_2_20230116T003315_20230116T003854_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_20230116T003854_20230116T004240_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_20230116T004429_20230116T004634_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPR_2_20230116T005014_20230116T005030_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPR_2_20230116T005048_20230116T005202_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPR_2_20230116T020847_20230116T021837_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_20230116T021837_20230116T022008_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_20230116T035103_20230116T035735_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_20230116T035736_20230116T040313_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_20230116T053019_20230116T053622_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_20230116T053623_20230116T053734_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_20230116T055957_20230116T060211_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_IOPR_2_20230116T071004_20230116T071059_C001	Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the Mean Dynamic Topography (solution 1) and the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records
CS_OFFL_SIR_IOPR_2_20230116T071235_20230116T071410_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_20230116T071410_20230116T071656_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_20230116T072614_20230116T072732_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPR_2_20230116T084857_20230116T084951_C001	Mean Sea Surface (1)	There is an error with the MSS height (solution 1) for one or more records
CS_OFFL_SIR_IOPR_2_20230116T084951_20230116T085610_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_20230116T103123_20230116T103633_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_20230116T115920_20230116T120121_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPR_2_20230116T120454_20230116T120646_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPR_2_20230116T121024_20230116T121828_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_20230116T134907_20230116T135744_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_20230116T152958_20230116T153651_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_20230116T153653_20230116T153743_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPR_2_20230116T170858_20230116T171440_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_20230116T184813_20230116T185247_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_20230116T185247_20230116T185458_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPR_2_20230116T202638_20230116T203201_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_20230116T220501_20230116T221442_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_20230116T234242_20230116T234955_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:

# 5.6 L2 Measurement Quality Flag Check

### L2 Quality Flags (20 Hz)

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.

87

0

Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_IOPM_2_20230115T235552_20230116T002946_C001		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_20230116T004241_20230116T004429_C001	1	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been
	Altimeter Range and Backscatter Quality	set for one or more records
CS_OFFL_SIR_IOPM_2_20230116T011429_20230116T011631_C001		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_20230116T011831_20230116T012123_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_20230116T012322_20230116T012845_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_20230116T013436_20230116T015651_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_20230116T015938_20230116T020846_C001		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_20230116T022127_20230116T022446_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_20230116T024055_20230116T030046_C001		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_20230116T031351_20230116T034619_C001		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_20230116T034952_20230116T035015_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_20230116T040920_20230116T041138_C001		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_20230116T041228_20230116T043524_C001		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_20230116T044458_20230116T044651_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_20230116T045329_20230116T050911_C001		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_20230116T050942_20230116T051113_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_20230116T051554_20230116T052339_C001		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_20230116T053856_20230116T054200_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_20230116T054420_20230116T055957_C001		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_20230116T060211_20230116T061704_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_20230116T062351_20230116T062604_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_20230116T062646_20230116T063104_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_20230116T063246_20230116T064742_C001		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_20230116T064922_20230116T070106_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_20230116T070425_20230116T070432_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_20230116T072733_20230116T073918_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_20230116T074354_20230116T075847_C001		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_20230116T080143_20230116T081009_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_20230116T081225_20230116T083511_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_20230116T091105_20230116T093817_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_20230116T094047_20230116T094242_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_20230116T094333_20230116T094822_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_20230116T095101_20230116T095351_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_20230116T095457_20230116T101720_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_20230116T105001_20230116T111603_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_20230116T112254_20230116T112850_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_20230116T113024_20230116T115850_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_20230116T120646_20230116T120843_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_20230116T122139_20230116T125552_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_20230116T130203_20230116T130722_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_20230116T130922_20230116T131248_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_20230116T131358_20230116T131520_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_20230116T131804_20230116T132157_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_20230116T134823_20230116T134907_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_20230116T140135_20230116T141006_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_20230116T141252_20230116T143508_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_20230116T144054_20230116T144206_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_20230116T144212_20230116T144618_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_20230116T144825_20230116T150124_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_20230116T150311_20230116T150916_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_20230116T151057_20230116T151546_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_20230116T154022_20230116T161356_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_20230116T161602_20230116T162105_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_20230116T162125_20230116T162432_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_20230116T163204_20230116T170306_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_20230116T172224_20230116T173049_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_20230116T173254_20230116T173628_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_20230116T173630_20230116T175308_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_20230116T175456_20230116T180004_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_20230116T180948_20230116T181941_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_20230116T182600_20230116T183725_C001	•	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_20230116T185458_20230116T185819_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_20230116T190403_20230116T191550_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_20230116T191730_20230116T193201_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_20230116T193416_20230116T193915_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_20230116T193923_20230116T193934_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_20230116T194753_20230116T195005_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_20230116T195107_20230116T200302_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_20230116T200307_20230116T200939_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_20230116T201223_20230116T201923_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_20230116T204830_20230116T211143_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_20230116T211455_20230116T211833_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_20230116T212447_20230116T215105_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_20230116T222452_20230116T225100_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_20230116T225239_20230116T225748_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_20230116T225755_20230116T230122_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_20230116T230504_20230116T233829_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_20230116T071656_20230116T071912_C001	-	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_20230116T134002_20230116T134037_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_IOPN_2_20230116T202238_20230116T202638_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_20230116T052459_20230116T052502_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_20230116T053623_20230116T053734_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_20230116T071913_20230116T072103_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_20230116T134351_20230116T134354_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_20230116T171845_20230116T171847_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_20230116T193201_20230116T193229_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_20230116T234242_20230116T234955_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 (20 Hz 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:

86

Product	Test Failed	Description
CS_OFFL_SIR_IOPN_2_20230116T003148_20230116T003314_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_20230116T012156_20230116T012322_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_20230116T022941_20230116T023025_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_20230116T023740_20230116T024055_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_20230116T030136_20230116T030250_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_20230116T040313_20230116T040358_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_20230116T044651_20230116T045317_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_20230116T053735_20230116T053855_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_20230116T061744_20230116T062350_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_20230116T071656_20230116T071912_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_20230116T072104_20230116T072313_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_20230116T073918_20230116T074353_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_20230116T085610_20230116T090103_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_20230116T094243_20230116T094333_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_20230116T101721_20230116T101846_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_20230116T111855_20230116T112015_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_20230116T112851_20230116T113019_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_20230116T125847_20230116T130202_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_20230116T130723_20230116T130842_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_20230116T132637_20230116T132744_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_20230116T132938_20230116T133123_C001		The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_IOPN_2_20230116T134134_20230116T134205_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_20230116T135938_20230116T140046_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_20230116T150916_20230116T151057_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_20230116T152420_20230116T152501_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_20230116T152654_20230116T152957_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_20230116T162432_20230116T162609_C001	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_20230116T175316_20230116T175456_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_20230116T180210_20230116T180420_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_20230116T181941_20230116T182047_C001	, and the second	The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_IOPN_2_20230116T184148_20230116T184443_C001	Tann Backgraffor Challin Pi Rivi Cic Cic	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_20230116T184557_20230116T184812_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_20230116T190357_20230116T190403_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_20230116T202238_20230116T202638_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_20230116T204303_20230116T204648_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_20230116T222320_20230116T222452_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_20230116T225103_20230116T225238_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_20230116T233829_20230116T234219_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_20230116T234955_20230116T235024_C001	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_20230116T003315_20230116T003854_C001	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_20230116T003854_20230116T004240_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

Control Contro	CS_OFFL_SIR_IOPR_2_20230116T004429_20230116T004634_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records
### COOK APPENDED AND COUNTY OF A COUNTY O	CS_OFFL_SIR_IOPR_2_20230116T013156_20230116T013435_C001	and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	and the OCOG Altimeter Range and Backscatter Quality Flags have been
Discription   Color	CS_OFFL_SIR_IOPR_2_20230116T020847_20230116T021837_C001	and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	and the OCOG Altimeter Range and Backscatter Quality Flags have been
The standard Dubly P-SE COUNTY	CS_OFFL_SIR_IOPR_2_20230116T035103_20230116T035735_C001	and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS OFFL SRI OFFL 2 2020116709359 2020116709402 CONT	CS_OFFL_SIR_IOPR_2_20230116T035736_20230116T040313_C001	and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFT_SIR_OPT_2_0220118T05569_2000118T0501_021  CS_OFT_SIR_OPT_2_0220118T05569_2000118T0501_021  CS_OFT_SIR_OPT_2_0220118T05569_2000118T0501_021  CS_OFT_SIR_OPT_2_0220118T05569_2000118T0501_021  CS_OFT_SIR_OPT_2_0220118T05569_2000118T0501_021  CS_OFT_SIR_OPT_2_0220118T05569_2000118T0501_021  CS_OFT_SIR_OPT_2_0220118T05569_2000118T0501_021  CS_OFT_SIR_OPT_2_0220118T05569_2000118T0501_021  CS_OFT_SIR_OPT_2_0220118T05569_2000118T0501_021  CS_OFT_SIR_OPT_2_0220118T0569_2000118T0501_021  CS_OFT_SIR_OPT_2_0220	CS_OFFL_SIR_IOPR_2_20230116T043525_20230116T044222_C001	and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality	and the OCOG Altimeter Range and Backscatter Quality Flags have been
SS_OFFIL_BIR_LORE_2_222311-97053019_0223011-9705392_0009  GS_OFFIL_BIR_LORE_2_2223011-97073019_0223011-9705392_0009  GS_OFFIL_BIR_LORE_2_2223011-97073019_023011-9705392_0009  GS_OFFIL_BIR_LORE_2_2223011-97073019_023011-9705392_0009  GS_OFFIL_BIR_LORE_2_2223011-97073019_023011-9705392_0009  GS_OFFIL_BIR_LORE_2_2223011-97073019_023011-9705392_0009  GS_OFFIL_BIR_LORE_2_2223011-97073019_023011-9705392_0009  GS_OFFIL_BIR_LORE_2_2223011-97073019_023011-9705392_0009  GS_OFFIL_BIR_LORE_2_2223011-97073011-9705392_0009  GS_OFFIL_BIR_LORE_2_2223011-97073019_023011-9705392_0009  GS_OFFIL_BIR_LORE_2_2223011-97073019_023011-9705392_0009  GS_OFFIL_BIR_LORE_2_2223011-97073019_023011-9705392_0009  GS_OFFIL_BIR_LORE_2_2223011-9703019_023011-9705392_0009  GS_OFFIL_BIR_LORE_2_2223011-9703019_023011-9705392_0009  GS_OFFIL_BIR_LORE_2_2223011-9703019_023011-9705392_0009  GS_OFFIL_BIR_LORE_2_2223011-9703019_023011-9705392_0009  GS_OFFIL_BIR_LORE_2_2223011-9703019_023011-9705392_0009  GS_OFFIL_BIR_LORE_2_2223011-9703011-97030392_0009  GS_OFFIL_BIR_LORE_2_2223011-9703019_023011-9703011-000009  GS_OFFIL_BIR_LORE_2_2223011-9703011-97030392_0009  GS_OFFIL_BIR_LORE_2_2223011-9703011-97030392_0009  GS_OFFIL_BIR_LORE_2_2223011-9703011-97030392_0009  GS_OFFIL_BIR_LORE_2_2223011-9703011-97030392_0009  GS_OFFIL_BIR_LORE_2_2223011-9703011-97030392_0009  GS_OFFIL_BIR_LORE_2_2223011-97030492_0009011-97030392_0009  GS_OFFIL_BIR_LORE_2_2223011-97030492_0009011-97030392_00	CS_OFFL_SIR_IOPR_2_20230116T052625_20230116T052642_C001	1	
September 2, 20220116105987, 2	CS_OFFL_SIR_IOPR_2_20230116T053019_20230116T053622_C001	and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	and the OCOG Altimeter Range and Backscatter Quality Flags have been
SO GPTL SIR IOPR 2 2020/11/ET07/14/0 2020/11/ET07/15/COV Abredo Range and Backersonic Country Flags Abredo Range and Backersonic Country Flags Abredo Range and Backersonic Country Flags Abredo Range and Randersonic Country Abred	CS_OFFL_SIR_IOPR_2_20230116T055957_20230116T060211_C001	and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPR_2_20230116T0913_0x220116T02712_CO1  And Packscarter Quality PI RM OCOD Addresses Managers and Seasonated Quality Plags three been addressed for the process of the proces	CS_OFFL_SIR_IOPR_2_20230116T071410_20230116T071656_C001	and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality	and the OCOG Altimeter Range and Backscatter Quality Flags have been
and Backescater Quality FLRM, OCOD Altrends Range and Backescater Quality Flags have been set for one or more records.  GS_OFFL_SIR_IOPR_2_202301167084957_202301167084951_C001  CS_OFFL_SIR_IOPR_2_202301167084951_202301167084951_C001  CS_OFFL_SIR_IOPR_2_202301167084951_202301167085910_C001  CS_OFFL_SIR_IOPR_2_202301167084951_20230116708494_C001  CS_OFFL_SIR_IOPR_2_20230116708048_20230116708044_C001  CS_OFFL_SIR_IOPR_2_20230116708048_202301167080110_C001  CS_OFFL_SIR_IOPR_2_20230116708048_202301167080110_C001  CS_OFFL_SIR_IOPR_2_202301167108048_20230116708110_C001  CS_OFFL_SIR_IOPR_2_202301167108048_20230116708110_C001  CS_OFFL_SIR_IOPR_2_202301167108048_20230116708110_C001  CS_OFFL_SIR_IOPR_2_202301167108048_20230116708110_C001  CS_OFFL_SIR_IOPR_2_202301167108048_20230116708110_C001  CS_OFFL_SIR_IOPR_2_202301167108048_20230116708110_C001  CS_OFFL_SIR_IOPR_2_202301167108048_20230116708110_C001  CS_OFFL_SIR_IOPR_2_202301167108048_20230116708110_C001  CS_OFFL_SIR_IOPR_2_202301167108048_20230116708110_C001  CS_OFFL_SIR_IOPR_2_202301167108112_202301167102810_C001  CS_OFFL_SIR_IOPR_2_202301167108122_202301167108080_C001  CS_OFFL_SIR_IOPR_2_20230116710812_202301167108080_C001  CS_OFFL_SIR_IOPR_2_202301167108112_202301167108080_C001  CS_OFFL_SIR_IOPR_2_202301167108181_202301167108080_C001  CS_OFFL_SIR_IOPR_2_202301167108181_C001  CS_OFFL_SIR_IOPR_2_202301167108184_20230116710880_C001  CS_OFFL_SIR_IOPR_2_202301167108184_C0030116710880_C001  CS_OFFL_SIR_IOPR_2_202301167108184_C0030116710880_C001  CS_OFFL_SIR_IOPR_2_202301167108486_C001  CS_OFFL_SIR_IOPR_2_20230116713808_C0030116713804_C001  CS_OFFL_SIR_IOPR_2_20230116713804_C0030116713804_C001  CS_OFFL_SIR_IOPR_2_20230116713804_C0030116713804_C001  CS_OFFL_SIR_IOPR_2_20230116713804_C0030116713804_C001  CS_OFFL_SIR_IOPR_2_20230116713804_C0030116713804_C001  CS_OFFL_SIR_IOPR_2_20230116713804_C0030116713804_C001  CS_OFFL_SIR_IOPR_2_20230116713804_C0030116713804_C001  CS_OFFL_SIR_IOPR_2_20230116713804_C0030116713804_C001  CS_OFFL_SIR_IOPR_2_20230116713804_C0030116713804_C001	CS_OFFL_SIR_IOPR_2_20230116T071913_20230116T072103_C001	and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPR_2_20230116T1084661_20230116T086691_00001  CS_OFFL_SIR_IOPR_2_20230116T084661_20230116T086691_00001  CS_OFFL_SIR_IOPR_2_20230116T080131_20230118T090194 COOL  Altimoter Range and Backscatter Quality PLRM.  CS_OFFL_SIR_IOPR_2_20230116T1808484_20230118T09195 CO01  CS_OFFL_SIR_IOPR_2_20230116T108132_20230118T108633_CO01  CS_OFFL_SIR_IOPR_2_20230116T108144_20230118T109500 CO01  CS_OFFL_SIR_IOPR_2_20230116T108144_20230118T109500 CO01  CS_OFFL_SIR_IOPR_2_20230116T108464_20230118T1095440_CO01  CS_OFFL_SIR_IOPR_2_20230116T108464_20230118T1096440_CO01  CS_OFFL_SIR_IOPR_2_20230116T109644_20230118T1096440_CO01  CS_OFFL_SIR_IOPR_2_20230116T109644_20230118T1096440_CO01  CS_OFFL_SIR_IOPR_2_20230116T109644_20230118T1096440_CO01  CS_OFFL_SIR_IOPR_2_20230116T109644_20230118T1096440_CO01  CCC_OFFL_SIR_IOPR_2_20230116T109644_20230118T1096440_CO01  CCC_OFFL_SIR_IOPR_2_20230116T109644_20230118T1096440_CO01  CCC_OFFL_SIR_IOPR_2_20230116T109644_20230118T1096440_CO01  CCC_OFFL_SIR_IOPR_2_20230116T109644_20230118T1096440_CO01  CCC_OFFL_SIR_IOPR_2_20230116T109644_20230118T1096440_CO01  CCC_OFFL_SIR_IOPR_2_20230116T109644_20230118T1096440_CO01  CCC_OFFL_SIR_IOPR_2_20230116T109644_20230118T1096440_CO01  CCC_OFFL_SIR_IOPR_2_20230116T109644_20230118T109	CS_OFFL_SIR_IOPR_2_20230116T072614_20230116T072732_C001	and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality	and the OCOG Altimeter Range and Backscatter Quality Flags have been
GS_OFFL_SIR_IOPR_2_20230116T084951_20230116T085810_COO1  All maker family PLRM, OCOG A	CS_OFFL_SIR_IOPR_2_20230116T084857_20230116T084951_C001		
and Backscatter Quality PLRM, COCG Altimeter Range and Backscatter Quality PLRM CS_OFFL_SIR_IOPR_2_20230116T090848_20230116T09105_C001  CS_OFFL_SIR_IOPR_2_20230116T090848_20230116T091105_C001  CS_OFFL_SIR_IOPR_2_20230116T102711_20230116T102819_C001  CS_OFFL_SIR_IOPR_2_20230116T102711_20230116T102819_C001  CS_OFFL_SIR_IOPR_2_20230116T102711_20230116T102819_C001  CS_OFFL_SIR_IOPR_2_20230116T103123_20230116T103833_C001  CS_OFFL_SIR_IOPR_2_20230116T103123_20230116T103833_C001  CS_OFFL_SIR_IOPR_2_20230116T103123_20230116T103833_C001  CS_OFFL_SIR_IOPR_2_20230116T104814_20230116T105000_C001  CS_OFFL_SIR_IOPR_2_20230116T104814_20230116T105000_C001  CS_OFFL_SIR_IOPR_2_20230116T104814_20230116T105000_C001  CS_OFFL_SIR_IOPR_2_20230116T104814_20230116T105000_C001  CS_OFFL_SIR_IOPR_2_20230116T104814_20230116T105000_C001  CS_OFFL_SIR_IOPR_2_20230116T104814_20230116T105000_C001  CS_OFFL_SIR_IOPR_2_20230116T104814_20230116T105000_C001  CS_OFFL_SIR_IOPR_2_20230116T104814_20230116T105000_C001  CS_OFFL_SIR_IOPR_2_20230116T104846_C001  CS_OFFL_SIR_IOPR_2_20230116T10	CS_OFFL_SIR_IOPR_2_20230116T084951_20230116T085610_C001	and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	and the OCOG Altimeter Range and Backscatter Quality Flags have been
OCCG Backscatter Quality Flags and Backscatter Quality Flags The CCOG Range and Backscatter Quality Flags have been set for one or more records  CS OFFL SIR IOPR 2 20230116T120454 20230116T120846 C001  CS OFFL SIR IOPR 2 20230116T12024 20230116T121828 C001  CS OFFL SIR IOPR 2 20230116T125533 20230116T12886 C001  CS OFFL SIR IOPR 2 20230116T12553 20230116T12886 C001  CS OFFL SIR IOPR 2 20230116T131804 C001  CS OFFL SIR IOPR 2 20230116T131807 20230116T131804 C001  CS OFFL SIR IOPR 2 20230116T131807 20230116T131804 C001  CS OFFL SIR IOPR 2 20230116T133807 20230116T134001 C001  CS OFFL SIR IOPR 2 20230116T13807 20230116T134001 C001  CS OFFL SIR IOPR 2 2023	CS_OFFL_SIR_IOPR_2_20230116T090131_20230116T090404_C001	and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality	and the OCOG Altimeter Range and Backscatter Quality Flags have been
and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM  CS_OFFL_SIR_IOPR_2_20230116T103123_20230116T103833_C001  CS_OFFL_SIR_IOPR_2_20230116T103123_20230116T103833_C001  CS_OFFL_SIR_IOPR_2_20230116T103123_20230116T103833_C001  CS_OFFL_SIR_IOPR_2_20230116T104814_20230116T105000_C001  CS_OFFL_SIR_IOPR_2_20230116T104814_20230116T105000_C001  CS_OFFL_SIR_IOPR_2_20230116T104814_20230116T105000_C001  CS_OFFL_SIR_IOPR_2_20230116T115920_20230116T120121_C001  CS_OFFL_SIR_IOPR_2_20230116T120454_20230116T120646_C001  CS_OFFL_SIR_IOPR_2_20230116T120454_20230116T120646_C001  CS_OFFL_SIR_IOPR_2_20230116T120454_20230116T12886_C001  CS_OFFL_SIR_IOPR_2_20230116T121024_20230116T12886_C001  CS_OFFL_SIR_IOPR_2_20230116T125553_20230116T128846_C001  CS_OFFL_SIR_IOPR_2_20230116T13520_20230116T128846_C001  CS_OFFL_SIR_IOPR_2_20230116T13520_20230116T13804_C001  CS_OFFL_SIR_IOPR_2_20230116T131520_20230116T13804_C001  CS_OFFL_SIR_IOPR_2_20230116T131520_20230116T138001_C001  CS_OFFL_SIR_IOPR_2_20230116T131520_20230116T138001_C001  CS_OFFL_SIR_IOPR_2_20230116T131520_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CCG_OFFL_SIR_IOPR_2_20230116T133607_20230116T134	CS_OFFL_SIR_IOPR_2_20230116T090848_20230116T091105_C001		
CS_OFFL_SIR_IOPR_2_20230116T103123_20230116T103633_C001  Alimeter Range and Backscatter Quality PLRM. COCG Alimeter Range and Backscatter Quality Flags have been set for one or more records  CS_OFFL_SIR_IOPR_2_20230116T104814_20230116T105000_C001  CS_OFFL_SIR_IOPR_2_20230116T115920_20230116T120121_C001  CS_OFFL_SIR_IOPR_2_20230116T115920_20230116T120121_C001  CS_OFFL_SIR_IOPR_2_20230116T120454_20230116T120121_C001  CS_OFFL_SIR_IOPR_2_20230116T120454_20230116T120646_C001  CS_OFFL_SIR_IOPR_2_20230116T120454_20230116T120646_C001  CS_OFFL_SIR_IOPR_2_20230116T120454_20230116T120646_C001  CS_OFFL_SIR_IOPR_2_20230116T121024_20230116T121828 C001  CS_OFFL_SIR_IOPR_2_20230116T121024_20230116T121828 C001  CS_OFFL_SIR_IOPR_2_20230116T125553_20230116T125846_C001  CS_OFFL_SIR_IOPR_2_20230116T13550_20230116T125846_C001  CS_OFFL_SIR_IOPR_2_20230116T13550_20230116T131804_C001  CS_OFFL_SIR_IOPR_2_20230116T131520_20230116T131804_C001  CS_OFFL_SIR_IOPR_2_20230116T131500_20230116T131804_C001  CS_OFFL_SIR_IOPR_2_20230116T131500_20230116T131804_C001  CS_OFFL_SIR_IOPR_2_20230116T131500_20230116T131804_C001  CCS_OFFL_SIR_IOPR_2_20230116T131500_20230116T131804_C001  CCS_OFFL_SIR_IOPR_2_20230116T131500_20230116T131804_C001  CCS_OFFL_SIR_IOPR_2_20230116T131500_20230116T131804_C001  CCOG Altimeter Range Quality PLRM. COCG Backscatter Quality Flags have been set for one or more records  CCS_OFFL_SIR_IOPR_2_20230116T131500_20230116T131804_C001  CCS_OFFL_SIR_IOPR_2_20230116T131500_20230116T131804_C001  CCS_OFFL_SIR_IOPR_2_20230116T131500_20230116T131804_C001  CCCG Altimeter Range Quality PLRM. COCG Range and Backscatter Quality Flags have been set for one or more records  The OCGG Range and Backscatter Quality Flags have been set for one or more records  The OCGG Range and Backscatter Quality Flags have been set for one or more records  The OCGG Range and Backscatter Quality Flags have been set for one or more records  The OCGG Range and Backscatter Quality Flags have been set for one or more records  The OCGG Range and Backscatter Quality Fl	CS_OFFL_SIR_IOPR_2_20230116T102711_20230116T102819_C001	and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPR_2_20230116T113920_20230116T120121 C001  CS_OFFL_SIR_IOPR_2_20230116T115920_20230116T120121 C001  CS_OFFL_SIR_IOPR_2_20230116T120454_20230116T120646_C001  CS_OFFL_SIR_IOPR_2_20230116T12044_20230116T121828_C001  CS_OFFL_SIR_IOPR_2_20230116T121024_20230116T121828_C001  CS_OFFL_SIR_IOPR_2_20230116T125553_20230116T125846_C001  CS_OFFL_SIR_IOPR_2_20230116T125553_20230116T125846_C001  CS_OFFL_SIR_IOPR_2_20230116T131520_20230116T131804_C001  CS_OFFL_SIR_IOPR_2_20230116T131507_20230116T131804_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CCG_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CCG_OFFL_SIR_IOPR_2_20230116T133607	CS_OFFL_SIR_IOPR_2_20230116T103123_20230116T103633_C001	and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPR_2_20230116T120454_20230116T120646_C001  CS_OFFL_SIR_IOPR_2_20230116T120454_20230116T120646_C001  CS_OFFL_SIR_IOPR_2_20230116T121024_20230116T121828_C001  CS_OFFL_SIR_IOPR_2_20230116T121024_20230116T121828_C001  CS_OFFL_SIR_IOPR_2_20230116T125553_20230116T125846_C001  CS_OFFL_SIR_IOPR_2_20230116T125553_20230116T125846_C001  CS_OFFL_SIR_IOPR_2_20230116T131520_20230116T131804_C001  CS_OFFL_SIR_IOPR_2_20230116T131520_20230116T131804_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133205_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133205_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133205_20230116T134001_C001  CCOG Altimeter Range Quality PLRM, OCOG Range and Backscatter Quality Flags have been set for one or more records  CCOG Altimeter Range Quality PLRM, The OCOG Range and Backscatter Quality Flags have been set for one or more records  CCOG Altimeter Range Quality PLRM, The OCOG Range and Backscatter Quality Flags have been set for one or more records	CS_OFFL_SIR_IOPR_2_20230116T104814_20230116T105000_C001	1	
CS_OFFL_SIR_IOPR_2_20230116T12044_20230116T121828_C001  CS_OFFL_SIR_IOPR_2_20230116T121024_20230116T121828_C001  CS_OFFL_SIR_IOPR_2_20230116T125553_20230116T125846_C001  CS_OFFL_SIR_IOPR_2_20230116T13520_20230116T131804_C001  CS_OFFL_SIR_IOPR_2_20230116T131520_20230116T131804_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133205_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T134205_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T134205_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T134205_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T134205_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T134205_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T134001_C001  CS_	CS_OFFL_SIR_IOPR_2_20230116T115920_20230116T120121_C001		, 3
CS_OFFL_SIR_IOPR_2_20230116T121024_20230116T121828_C001  and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM Ocean Altimeter Range and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records  CS_OFFL_SIR_IOPR_2_20230116T131520_20230116T131804_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality PLRM, The OCOG Range and Backscatter Quality Flags have been set for one or more records	CS_OFFL_SIR_IOPR_2_20230116T120454_20230116T120646_C001		
and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM  CS_OFFL_SIR_IOPR_2_20230116T131520_20230116T131804_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001  CS_OFFL_SIR_IOPR_2_20230116T134205_20230116T134339_C001  CS_OFFL_SIR_IOPR_2_20230116T134205_20230116T134339_C001  CS_OFFL_SIR_IOPR_2_20230116T134205_20230116T134339_C001  CS_OFFL_SIR_IOPR_2_20230116T134205_20230116T134339_C001	CS_OFFL_SIR_IOPR_2_20230116T121024_20230116T121828_C001	and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPR_2_20230116T131520_20230116T131804_C001  OCOG Backscatter Quality  OCOG Altimeter Range Quality PLRM, OCOG Range and Backscatter Quality Flags have been set for one or more records  OCOG Altimeter Range Quality PLRM, OCOG Range and Backscatter Quality Flags have been set for one or more records  OCOG Altimeter Range Quality PLRM, The OCOG Range and Backscatter Quality Flags have been set for one or ocog Range and Backscatter Quality Flags have been set for one or ocog Range and Backscatter Quality Flags have been set for one or ocog Range and Backscatter Quality Flags have been set for one or ocog Range and Backscatter Quality Flags have been set for one or ocog Range and Backscatter Quality Flags have been set for one or ocog Range and Backscatter Quality Flags have been set for one or ocog Range and Backscatter Quality Flags have been set for one or ocog Range and Backscatter Quality Flags have been set for one or ocog Range and Backscatter Quality Flags have been set for one or ocog Range Range Range Quality PLRM,	CS_OFFL_SIR_IOPR_2_20230116T125553_20230116T125846_C001	and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPR_2_202301161133607_202301161134001_C001  OCOG Backscatter Quality  More records  OCOG Backscatter Quality  The OCOG Range and Backscatter Quality Flags have been set for one or	CS_OFFL_SIR_IOPR_2_20230116T131520_20230116T131804_C001		, , ,
US OFFI SIR IOPR / 202301161134205 202301161134339 COOL	CS_OFFL_SIR_IOPR_2_20230116T133607_20230116T134001_C001	1	
OCOG Backscatter Quality more records	CS_OFFL_SIR_IOPR_2_20230116T134205_20230116T134339_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	

CS_OFFL_SIR_IOPR_2_20230116T134907_20230116T135744_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_20230116T135923_20230116T135938_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_20230116T170858_20230116T171440_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_20230116T171456_20230116T171615_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_20230116T171857_20230116T172223_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_20230116T180004_20230116T180010_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_20230116T180420_20230116T180947_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_20230116T182347_20230116T182600_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_20230116T184044_20230116T184148_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_20230116T184443_20230116T184557_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_20230116T184813_20230116T185247_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_20230116T185247_20230116T185458_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_20230116T201924_20230116T202211_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_20230116T202638_20230116T203201_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_20230116T203231_20230116T203325_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_20230116T204659_20230116T204830_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_20230116T220501_20230116T221442_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_20230116T234242_20230116T234955_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_20230116T235024_20230116T235502_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records

#### L2 Quality Flags (1 Hz & 1 Hz PLRM)

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

> 1 Hz and 1 Hz Ocean SSHA Quality Flags: These flags are currently set for products over sea ice, which is to be expected. The number of products with this error flag set is given below.

Number of products with errors: 192

### **5.8 L2 Ocean Retracking Quality Check**

### L2 Retracking Flags (20 Hz)

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

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

Number of products with errors: 56

### L2 Retracking Flags (20 Hz 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. The number of products with this error flag set is given below.

### 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: 0

#### **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).

0

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 check.

- > 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:

30

Product	Test Failed	Description
CS_OFFL_SIR_IOP_220230115T234830_20230116T003808_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_220230116T003808_20230116T012744_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_220230116T012744_20230116T021722_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_220230116T021722_20230116T030659_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_220230116T030659_20230116T035637_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_220230116T035637_20230116T044614_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_220230116T044614_20230116T053552_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_220230116T053552_20230116T062528_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_220230116T062528_20230116T071506_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_220230116T071506_20230116T080443_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_220230116T080443_20230116T085421_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_220230116T085421_20230116T094358_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_220230116T094358_20230116T103336_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_220230116T103336_20230116T112312_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	Topography (solution 1) and tidal corrections for one or more records
CS_OFFL_SIR_IOP_220230116T112312_20230116T121250_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_220230116T121250_20230116T130227_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_220230116T130227_20230116T135205_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_220230116T135205_20230116T144142_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_220230116T144142_20230116T153120_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_220230116T153120_20230116T162056_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_220230116T162056_20230116T171034_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_220230116T171034_20230116T180011_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_220230116T180011_20230116T184949_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_220230116T184949_20230116T193926_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_220230116T193926_20230116T202904_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_220230116T202904_20230116T211840_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_220230116T211840_20230116T220819_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_220230116T220819_20230116T225755_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_220230116T225755_20230116T234733_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_220230116T234733_20230117T003710_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)

#### **6.5 P2P Measurement Confidence Data Check**

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

Number of products with errors:

### **6.6 P2P Measurement Quality Flag Check**

### P2P Quality Flags (20 Hz)

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

0

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. The number of P2P products affected is given below.

Number of products with errors: 29

#### P2P Quality Flags (20 Hz 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. The number of P2P products affected is given below.

Number of products with errors: 28

#### P2P Quality Flags (1 Hz & 1 Hz PLRM)

Since the P2P Quality Flags are copied directly from the L2 Quality Flags, please see Section 5.6 for the number of L2 products affected. The number of P2P products affected is given below.

Number of products with errors: 30

### 6.8 P2P Ocean Retracking Quality Check

#### P2P Retracking Flags (20 Hz)

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: 29

#### 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: 30

### 7. IOP QCC Report Analysis

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

Product type	No. Products	No. QCC Reports	No. Valid	No. Warnings	No. Errors
SIR_IOPM1B	189	189	3	186	0
SIR_IOPR1B	141	98	1	97	0
SIR_IOPN1B	98	141	0	141	0
SIR_IOPM_2	189	189	141	48	0
SIR_IOPR_2	141	98	34	64	0
SIR_IOPN_2	98	141	60	81	0
SIR_IOP_P2P	29	29	0	29	0

### 7.1 QCC Errors

Number of QCC reports with errors:

0

### 7.2 QCC Warnings

**Number of QCC reports with warnings** 

2143

Total numb	er of occurrences of ea	ch warning
_	MYZONODE	DDOZODOED

Product Type	BCSHNCDF	MVIOEPFDNCDF	MVIOEPNCDF	MVIONCDF	RBSZOPOEPFDNCDF	RBSZOPOEPFDPLRMNCD	RBSZOPOEPNCDF
SIR_IOPM1B	186	0	0	0	0	0	0

SIR_IOPM_2	0	36	38	0	42	0	34
SIR_IOPN1B	94	0	0	0	0	0	0
SIR_IOPN_2	0	9	31	4	22	27	17
SIR_IOPR1B	134	0	0	0	0	0	0
SIR_IOPR_2	0	26	46	2	20	20	11
	•						
Product Type	RPEPOPFDLRMNCDF	RPEPOPFDPLRMSARNCI	RPEPOPFDPLRMSINNCD	RPEPOPFDSARNCDF	RPEPOPFDSINNCDF	RPEPOPLRMNCDF	RPEPOPSARNCDF
SIR_IOPM1B	0	0	0	0	0	0	0
SIR_IOPM_2	29	0	0	0	0	23	0
SIR_IOPN1B	0	0	0	0	0	0	0
SIR_IOPN_2	0	0	21	0	33	0	0
SIR_IOPR1B	0	0	0	0	0	0	0
SIR_IOPR_2	0	40	0	52	0	0	39
					•	•	
Product Type	RPEPOPSINNCDF	RSSBCONCDF	RSSHAOFDNCDF	RSSHAOFDPLRMNCDF	RSSHAONCDF	RSWHOEPFDNCDF	RSWHOEPFDPLRMNCDI
Product Type SIR_IOPM1B	RPEPOPSINNCDF 0	RSSBCONCDF 0	RSSHAOFDNCDF 0	RSSHAOFDPLRMNCDF 0	RSSHAONCDF 0	RSWHOEPFDNCDF 0	RSWHOEPFDPLRMNCDI
		RSSBCONCDF  0 4	RSSHAOFDNCDF 0 22	RSSHAOFDPLRMNCDF 0 0	RSSHAONCDF 0 3	RSWHOEPFDNCDF  0  37	RSWHOEPFDPLRMNCDI 0 0
SIR_IOPM1B		RSSBCONCDF  0 4 0	0	RSSHAOFDPLRMNCDF  0  0  0	RSSHAONCDF  0  3  0	0	RSWHOEPFDPLRMNCDF  0  0  0
SIR_IOPM1B SIR_IOPM_2	0 0	RSSBCONCDF  0 4 0 16	0	RSSHAOFDPLRMNCDF  0 0 0 48	RSSHAONCDF  0 3 0 34	0	RSWHOEPFDPLRMNCDI  0 0 0 29
SIR_IOPM1B SIR_IOPM_2 SIR_IOPN1B	0 0 0	0 4 0	0 22 0	0 0 0	0 3 0	0 37 0	RSWHOEPFDPLRMNCDI   0   0   0   0   29   0
SIR_IOPM1B SIR_IOPM_2 SIR_IOPN1B SIR_IOPN_2	0 0 0	0 4 0	0 22 0 45 0	0 0 0	0 3 0	0 37 0	RSWHOEPFDPLRMNCDF
SIR_IOPM1B SIR_IOPM_2 SIR_IOPN1B SIR_IOPN_2 SIR_IOPR1B	0 0 0 0 26 0	0 4 0 16 0	0 22 0 45 0	0 0 0 0 48 0	0 3 0 34 0	0 37 0 25 0	0 0 0 0 29 0
SIR_IOPM1B SIR_IOPM_2 SIR_IOPN1B SIR_IOPN_2 SIR_IOPR1B	0 0 0 0 26 0	0 4 0 16 0	0 22 0 45 0 64	0 0 0 0 48 0	0 3 0 34 0	0 37 0 25 0	0 0 0 0 29 0
SIR_IOPM1B SIR_IOPM_2 SIR_IOPN1B SIR_IOPN_2 SIR_IOPR1B SIR_IOPR_2	0 0 0 26 0 0	0 4 0 16 0 3	0 22 0 45 0 64	0 0 0 48 0 37	0 3 0 34 0 12	0 37 0 25 0	0 0 0 0 29 0
SIR_IOPM1B SIR_IOPM_2 SIR_IOPN1B SIR_IOPN_2 SIR_IOPR1B SIR_IOPR_2	0 0 0 26 0 0 0	0 4 0 16 0 3 SPHRTASCNSNCDF	0 22 0 45 0 64	0 0 0 48 0 37	0 3 0 34 0 12	0 37 0 25 0	0 0 0 0 29 0
SIR_IOPM1B SIR_IOPM_2 SIR_IOPN1B SIR_IOPN_2 SIR_IOPR1B SIR_IOPR_2  Product Type SIR_IOPM1B	0 0 0 26 0 0 0 <b>RSWHOEPNCDF</b>	0 4 0 16 0 3 SPHRTASCNSNCDF	0 22 0 45 0 64	0 0 0 48 0 37	0 3 0 34 0 12	0 37 0 25 0	0 0 0 0 29 0

Product Type	ROWHOLFINGDE	SPIRIAGENGINEDE	SOOHHIFHD	3C3TODHKNODF	SCSTODINGDE	-
SIR_IOPM1B	0	0	0	0	0	
SIR_IOPM_2	2	0	0	0	0	
SIR_IOPN1B	0	1	0	43	2	
SIR_IOPN_2	14	0	0	0	0	
SIR_IOPR1B	0	0	0	141	8	
SIR_IOPR_2	3	0	2	0	0	

Product Type	IOHHMOOR	MVIOEPFDNCDF	MVIOEPNCDF	MVIONCDF	RBSZOPOEPFDNCDF	RBSZOPOEPFDPLRMNCD	RBSZOPOEPNCDF
SIR_IOP_2_	16	29	29	4		20	29

Product Type	RPEPOPFDPLRMSINNCD	RPEPOPFDSINNCDF	RPEPOPSINNCDF	RSSBCONCDF	RSSHAOFDNCDF	RSSHAOFDPLRMNCDF	RSSHAONCDF
SIR_IOP_2_	16	27	23	16	29	19	26
Product Type	RSWHOEPFDNCDF	RSWHOEPFDPLRMNCDF	RSWHOEPNCDF	SPHLPQWNCDF	-	-	-

Test Description Key:								
Abbreviation	Test name	Details						
BCSHNCDF	BurstCounterStep20HzNetCDF	The burst counter should be one higher with regard to the previous burst counter						
MVIOEPFDNCDF	MissingValueIntOceanExcludingPolarFD2NetCDF	The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees						
MVIOEPNCDF	MissingValueIntOceanExcludingPolarNetCDF	The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees						
MVIONCDF	MissingValueIntOceanNetCDF	The value should not be a 'missing value' for surface type 0 only						
RBSZOPOEPFDNCDF	RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2NetCDF	The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees						
RBSZOPOEPFDPLRM NCDF	RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2PLRMNetCDF	The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees						
RBSZOPOEPNCDF	RangeBackscatterSigmaZeroOPOceanExcludingPolarNetCDF	The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees						
	RangePeakinessExcludingPolarOPFD2LRMNetCDF	The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees						
	RangePeakinessExcludingPolarOPFD2PLRMSARNetCDF	The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees						
RPEPOPFDPLRMSINN CDF	RangePeakinessExcludingPolarOPFD2PLRMSINNetCDF	The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees						
RPEPOPFDSARNCDF	RangePeakinessExcludingPolarOPFD2SARNetCDF	The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees						
RPEPOPFDSINNCDF	RangePeakinessExcludingPolarOPFD2SINNetCDF	The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees						
RPEPOPLRMNCDF	RangePeakinessExcludingPolarOPLRMNetCDF	The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees						
RPEPOPSARNCDF	RangePeakinessExcludingPolarOPSARNetCDF	The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees						
RPEPOPSINNCDF	RangePeakinessExcludingPolarOPSINNetCDF	The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees						
RSSBCONCDF	RangeSeaStateBiasCorrectionOceanNetCDF	The sea state bias correction should be between -500mm and 0mm (or missing) for surface type = ocean						
RSSHAOFDNCDF	RangeSeaSurfaceHeightAnomalyOceanFD3NetCDF	The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean						
RSSHAOFDPLRMNCD F	RangeSeaSurfaceHeightAnomalyOceanFD3PLRMNetCDF	The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean						
RSSHAONCDF	RangeSeaSurfaceHeightAnomalyOceanNetCDF	The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean						
RSWHOEPFDNCDF	RangeSignificantWaveHeightOceanExcludingPolarFD2NetCDF	The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees						
RSWHOEPFDPLRMNC DF	RangeSignificantWaveHeightOceanExcludingPolarFD2PLRMNetCDF	The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees						
RSWHOEPNCDF	RangeSignificantWaveHeightOceanExcludingPolarNetCDF	The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees						
SPHRTASCNSNCDF	SPH_Rel_Time_ASC_Node_Start_v2_NetCDF	Rel_Time_ASC_Node_Start mismatch (DBL ASC, rounded up to 0.1)						
SOOHHIFHD	SameOrOneHigher1HzIndexFor20HzData	The 1 Hz index of a 20 Hz sample should be the same or 1 higher than its previous sample						
SCSTODHRNCDF	SequenceCounterStepTODHRNetCDF	The sequence counter should be modulo 4 higher with regard to the previous sequence counter						
SCSTODNCDF	SequenceCounterStepTODNetCDF	The sequence counter should be one higher (modulo 16384) with regard to the previous sequence counter						

# 7.3 Missing QCC Reports