

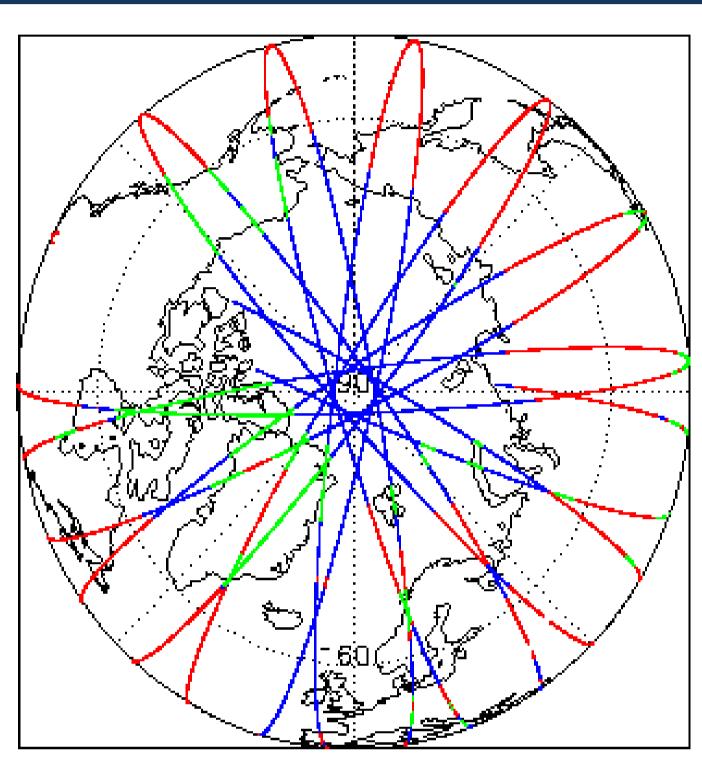
## 1. Overview

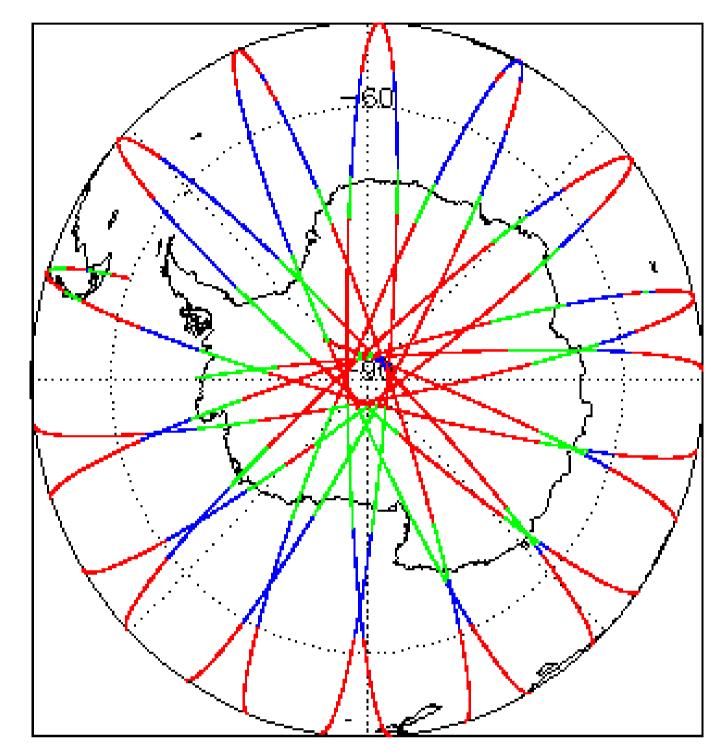
Report Production:	16-Dec-2022	
Processor Used:	CryoSat Ocean Processor	
Data Used:	Geophysical Ocean Products (GOP) L1B, L2 & P2P Science Data	

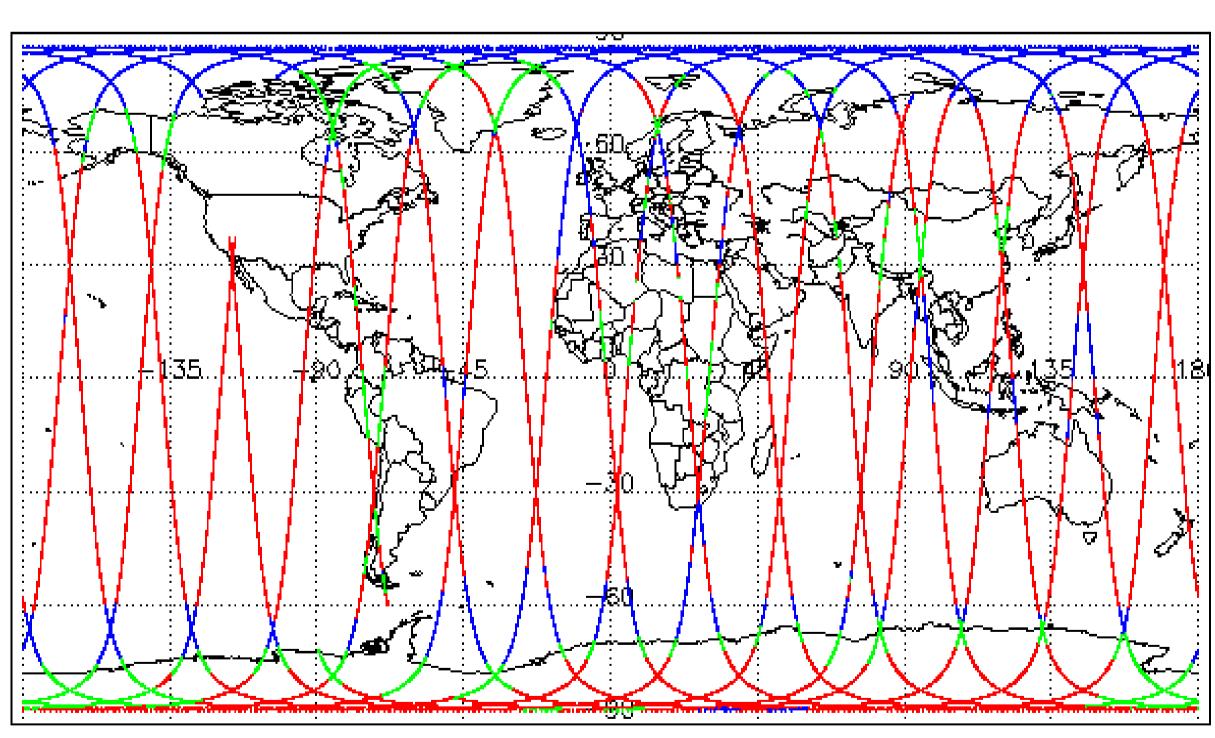
Check	L1 & L2	P2P
Server check: science-pds.cryosat.esa.int	Nominal	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal	Nominal
Product Software Check	Nominal	Nominal
Product Format Check	Nominal	Nominal
Product Header Analysis	Nominal	Nominal
Auxiliary Data File Usage Check	Nominal	Nominal
Auxiliary Correction Error Check	See Section 5.4	See Section 6.4
Measurement Confidence Data Check	See Section 4.5, 4.6	Nominal
Range, SWH & Backscatter Measurement Check	See Section 5.6	See Section 6.6
Ocean Retracking Quality Check	See Section 5.7	See Section 6.7
QCC Error/ Warning Check	See Section 7.1 and 7.2	See Section 7.1, 7.2 and 7.3

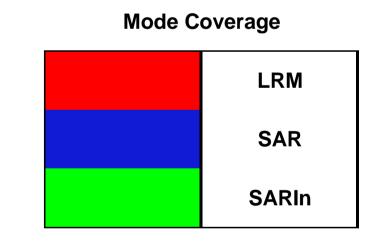
I	Mission / Instrument News		
	16-Nov-2022	None	
	17-Nov-2022	None	
	18-Nov-2022	Nothing planned	

## 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. GOP 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.

L1B Processing Quality HR: The I1b\_proc\_flag\_hr flag is currently set all L1B GOPR and GOPN products because the I1b\_processing\_quality\_hr field is not correctly configured in the OSAR and OSARIn chains. A modification is required in the next release.

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: 0

#### 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 GOPR products due to a configuration issue. This is being investigated and will be updated 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 some products over land, but this is to be expected.

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Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_GOPM1B_20221117T144253_20221117T144519_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPM1B_20221117T201558_20221117T202906_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20221117T072310_20221117T072849_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20221117T104627_20221117T104815_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20221117T113224_20221117T113815_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20221117T130717_20221117T130743_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20221117T180414_20221117T180615_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20221117T225759_20221117T230312_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20221117T003651_20221117T003915_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20221117T035247_20221117T035818_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20221117T092335_20221117T092641_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20221117T121316_20221117T121515_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20221117T144519_20221117T145440_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20221117T175452_20221117T175810_C001	Loss of Echo	The tracking echo is missing for one or more records

## 5. GOP 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:

#### **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:

### **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 that are expected, due to surface type. All common flags are summarised in the list below, followed by a table highlighting any additional issues that 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.
- > 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: 54

Product	Test Failed	Description
CS_OFFL_SIR_GOPM_2_20221117T033051_20221117T033227_C001	IMEAN DYNAMIC LODOGRAPHY (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPM_2_20221117T095902_20221117T101528_C001	Geocentric Ocean Tide (GOT), Total	There is an error with the Mean Dynamic Topography height (solution 1), Total Geocentric Ocean Tide (solution 1: GOT and solution 2: FES) and the Non-Equilibrium Long Period Ocean Tide for one or more records

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CS_OFFL_SIR_GOPM_2_20221117T201558_20221117T202906_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20221117T003915_20221117T004147_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) for one or more records
CS_OFFL_SIR_GOPN_2_20221117T004910_20221117T005053_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20221117T035818_20221117T035937_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20221117T040508_20221117T040825_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20221117T053742_20221117T053856_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) for one or more records
CS_OFFL_SIR_GOPN_2_20221117T054405_20221117T054719_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	1: GOT and solution 2: FES) and the Non-Equilibrium Long Period Ocean
CS_OFFL_SIR_GOPN_2_20221117T071839_20221117T072115_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) for one or more records
CS_OFFL_SIR_GOPN_2_20221117T072310_20221117T072849_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) for one or more records
CS_OFFL_SIR_GOPN_2_20221117T081359_20221117T081905_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) for one or more records
CS_OFFL_SIR_GOPN_2_20221117T085723_20221117T090017_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) for one or more records
CS_OFFL_SIR_GOPN_2_20221117T095308_20221117T095416_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) for one or more records
CS_OFFL_SIR_GOPN_2_20221117T103609_20221117T103818_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) for one or more records
CS_OFFL_SIR_GOPN_2_20221117T113224_20221117T113815_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 height (solution 1) and the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
CS_OFFL_SIR_GOPN_2_20221117T122508_20221117T122737_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20221117T135501_20221117T135624_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20221117T145440_20221117T145836_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20221117T153453_20221117T153822_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) for one or more records
CS_OFFL_SIR_GOPN_2_20221117T171403_20221117T171724_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) for one or more records
CS_OFFL_SIR_GOPN_2_20221117T180414_20221117T180615_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) for one or more records
CS_OFFL_SIR_GOPN_2_20221117T190139_20221117T190248_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) for one or more records
CS_OFFL_SIR_GOPN_2_20221117T194413_20221117T194519_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) for one or more records
CS_OFFL_SIR_GOPN_2_20221117T203840_20221117T204037_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) for one or more records
CS_OFFL_SIR_GOPN_2_20221117T212218_20221117T212435_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) for one or more records
CS_OFFL_SIR_GOPN_2_20221117T222508_20221117T222621_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) for one or more records
CS_OFFL_SIR_GOPN_2_20221117T225759_20221117T230312_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20221117T234753_20221117T235057_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20221117T235733_20221118T000010_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPR_2_20221117T013102_20221117T013851_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) for one or more records
CS_OFFL_SIR_GOPR_2_20221117T030925_20221117T031655_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) for one or more records
CS_OFFL_SIR_GOPR_2_20221117T032605_20221117T032801_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPR_2_20221117T044555_20221117T045459_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) for one or more records
CS_OFFL_SIR_GOPR_2_20221117T045459_20221117T045621_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) for one or more records

CS_OFFL_SIR_GOPR_2_20221117T062719_20221117T063359_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) for one or more records
CS_OFFL_SIR_GOPR_2_20221117T063359_20221117T063804_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) for one or more records
CS_OFFL_SIR_GOPR_2_20221117T080816_20221117T081251_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the GPD Wet Tropospheric correction, the MSS height (solution 1) and tidal corrections for one or more records
CS_OFFL_SIR_GOPR_2_20221117T081251_20221117T081359_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) for one or more records
CS_OFFL_SIR_GOPR_2_20221117T083643_20221117T083827_C001	Mean Sea Surface (1)	There is an error with the MSS height (solution 1) for one or more records
CS_OFFL_SIR_GOPR_2_20221117T085240_20221117T085722_C001	Mean Sea Surface (1)	There is an error with the MSS height (solution 1) for one or more records
CS_OFFL_SIR_GOPR_2_20221117T094633_20221117T094758_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPR_2_20221117T094758_20221117T095308_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) for one or more records
CS_OFFL_SIR_GOPR_2_20221117T112529_20221117T113224_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) for one or more records
CS_OFFL_SIR_GOPR_2_20221117T130743_20221117T131240_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) for one or more records
CS_OFFL_SIR_GOPR_2_20221117T144519_20221117T145440_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) for one or more records
CS_OFFL_SIR_GOPR_2_20221117T161827_20221117T162125_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPR_2_20221117T162533_20221117T163333_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) for one or more records
CS_OFFL_SIR_GOPR_2_20221117T180615_20221117T181354_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) for one or more records
CS_OFFL_SIR_GOPR_2_20221117T194520_20221117T195232_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) for one or more records
CS_OFFL_SIR_GOPR_2_20221117T210005_20221117T210219_C001	Mean Sea Surface (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1) and the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
CS_OFFL_SIR_GOPR_2_20221117T212435_20221117T212630_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) for one or more records
CS_OFFL_SIR_GOPR_2_20221117T212630_20221117T213138_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) for one or more records
CS_OFFL_SIR_GOPR_2_20221117T230312_20221117T230948_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) for one or more records

#### **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.

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0

Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_GOPM_2_20221117T000644_20221117T000659_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_GOPM_2_20221117T001410_20221117T003449_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_GOPM_2_20221117T004148_20221117T004520_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_GOPM_2_20221117T005253_20221117T011902_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_GOPM_2_20221117T015238_20221117T021609_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_GOPM_2_20221117T021938_20221117T022435_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records

OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH 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
OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
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
	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
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
	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, 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
	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, 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
	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
OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH 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
OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH 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
OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH 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
	Backscatter Quality Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality OCOG Altimeter Range Quality, OCOG Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Backscatter Quality OCOG Altimeter Range Quality, OCOG Backscatter Quality Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Ocean Altimeter Range Quality, OCOG Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Ocean Altimeter Range, SSHA, SWH and

20 OFF. 88 2019 1 A27 HTT 1982 1891 1 TT 20 200  20 OFF. 88 2019 1 A27 HTT 1982 1891 1 TT 20 20 200  20 OFF. 88 2019 1 A27 HTT 1982 1891 1 TT 20 20 200  20 OFF. 88 2019 1 A27 HTT 1982 1891 1 TT 20 20 200  20 OFF. 88 2019 1 A27 HTT 1982 1891 1 TT 20 20 200  20 OFF. 88 2019 1 A27 HTT 1982 1891 1 TT 20 20 200  20 OFF. 88 2019 1 A27 HTT 1982 1891 1 TT 20 20 200  20 OFF. 88 2019 1 A27 HTT 1982 1891 1 TT 20 20 200  20 OFF. 88 2019 1 A27 HTT 1982 1891 1 TT 20 20 200  20 OFF. 88 20	CS_OFFL_SIR_GOPM_2_20221117T103819_20221117T104627_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
Description	CS_OFFL_SIR_GOPM_2_20221117T104922_20221117T110414_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
Description Color   Color of Home Program   State   Color of	CS_OFFL_SIR_GOPM_2_20221117T113853_20221117T113910_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
Description of displacement (Custin) (CODD Description of displaceme	CS_OFFL_SIR_GOPM_2_20221117T113947_20221117T115113_C001	_	·
Control   Cont	CS_OFFL_SIR_GOPM_2_20221117T115115_20221117T121316_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS OFFL SIR CORP. 2 70091177159025 7009117715902 CDC African Through a Country of Searce and Caulty (Page 1 Accessed To Age 1 Country of Searce and Caulty (Page 1 Accessed To Age 1 Country of Searce and Caulty (Page 1 Accessed To Age 1 Country of Searce and Caulty (Page 1 Accessed To Age 1 Country of Searce and Caulty (Page 1 Accessed To Age 1 Country of Searce and Caulty (Page 1 Accessed To Age 1 Country of Searce and Caulty (Page 1 Accessed To Age 1 Country of Searce and Caulty (Page 1 Accessed To Age 2 Country (Page 1 Country (Page 1 Accessed To Age 2 Country (Page 1 Accessed To Age 2 Country (Page 2 Country (Page 1 Accessed To Age 2 Country (Page 2 Country (Page 2 Country (Page 2 Country (Page 2 Country (Pa	CS_OFFL_SIR_GOPM_2_20221117T121942_20221117T122508_C001		
SS_OPPL_SIR_GOPPL_2_2221177118762 _2221177118767 _CODI	CS_OFFL_SIR_GOPM_2_20221117T122925_20221117T125257_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
Sead-active Custify	CS_OFFL_SIR_GOPM_2_20221117T132621_20221117T135132_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
Secondario Calify   Seco	CS_OFFL_SIR_GOPM_2_20221117T135624_20221117T135725_C001		
and Backenster Quality, CCCS  OFFL SIR GOPM 2 20221177144253 2022117714459 (2011  CS OFFL SIR GOPM 2 20221177144253 2022117714459 (2011  CS OFFL SIR GOPM 2 20221177144253 202211771459 (2012)  CS OFFL SIR GOPM 2 2022117714508 (202211771459) (2012)  CS OFFL SIR GOPM 2 2022117714508 (202211771559) (2012)  CS OFFL SIR GOPM 2 202211771608 (202211771559) (2012)  CS OFFL SIR GOPM 2 20221177160 (2012) (201	CS_OFFL_SIR_GOPM_2_20221117T135912_20221117T140513_C001		
and Backasster Cuality. GOOD Altrineer Range and Sackasster Quality. GOOD Altrineer Range and Backasster Quality. GOOD Altrineer Range SSHA, SWH and Backasster Quality. GOOD Coen Altrineer Range. SSHA, SWH and Backasster Quality. Flags have been set for one or new records  CS. OFFL SIR. GOPM 2.20221177164290.20221177164397. COO1 Coen Altrineer Range. SSHA, SWH and Backasster Quality. GOOD Backasster Quality. GOOD Coen Altrineer Range. SSHA, SWH and Backasster Quality. Flags have been set for one or new records  CS. OFFL SIR. GOPM 2.20221177164310. 2022117717027 COO1 Coen Altrineer Range. SSHA, SWH and Backasster Quality. Flags have been set for one or new records  CS. OFFL SIR. GOPM 2.20221177174430221177171827. COO1 Coen Altrineer Range Quality. GOOD Backasster Quality. GOOD Back	CS_OFFL_SIR_GOPM_2_20221117T140829_20221117T143447_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS OFFL SR GOPM 2 20221177115382 2022117715382 (COO) Allimoter Range and Backscatter Quality, COOG Backscatter Quality Fags have been set for one or more seconds  CS OFFL SR GOPM 2 2022117715382 2022117715381 (COO) CS OFFL SR GOPM 2 2022117715382 2022117715381 (COO) CS OFFL SR GOPM 2 2022117716773 (COO) CS OFFL SR GOPM 2 2022117716770 (COO) CS OFFL SR GOPM 2 2022117716770 (COO) CS OFFL SR GOPM 2 20221177164910 (COO) CS OFFL SR GOPM 2 20221177164910 (COO) CS OFFL SR GOPM 2 20221177171770 (COO) CS OFFL SR GOPM 2 2022117717170 (COO) CS OFFL SR GOPM 2 202211771710 (COO) CS OFFL SR GOPM 2 20221177171000 (COO) CS OFFL SR GOPM 2 20221177117000 (COO) CS OFFL SR GOPM 2 20221177117000 (COO) CS OFFL SR GOPM 2 2022117711000 (COO) CS OFFL SR GOPM 2 2	CS_OFFL_SIR_GOPM_2_20221117T144253_20221117T144519_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
Bockscatter Quality  CS_OFFL_SIR_GOPM_2_2022117T16753_2022117T1675141_C001  CS_OFFL_SIR_GOPM_2_20221117T16753_20221117T1675141_C001  CS_OFFL_SIR_GOPM_2_20221117T16753_20221117T16751 C001  CS_OFFL_SIR_GOPM_2_20221117T16753_20221117T16753 C001  CS_OFFL_SIR_GOPM_2_20221117T16753_20221117T16753 C001  CS_OFFL_SIR_GOPM_2_20221117T16753_20221117T16753 C001  CS_OFFL_SIR_GOPM_2_20221117T16753_20221117T16753 C001  CS_OFFL_SIR_GOPM_2_20221117T167576_20221117T16753 C001  CS_OFFL_SIR_GOPM_2_20221117T167576_20221117T167576_20221117T171677 C001  CS_OFFL_SIR_GOPM_2_20221117T167576_20221117T171677 C001  CS_OFFL_SIR_GOPM_2_20221117T17177742_20221117T1717177 C001  CS_OFFL_SIR_GOPM_2_20221117T17177742_20221117T1717177 C001  CS_OFFL_SIR_GOPM_2_20221117T171717742_20221117T1717177 C001  CS_OFFL_SIR_GOPM_2_20221117T17177742_20221117T1717177 C001  CS_OFFL_SIR_GOPM_2_20221117T17177742_20221117T1717177 C001  CS_OFFL_SIR_GOPM_2_20221117T1717742_20221117T1717177 C001  CS_OFFL_SIR_GOPM_2_20221117T17177742_20221117T171717171717171717171777 C001  CS_OFFL_SIR_GOPM_2_20221117T171717171717171717171717171717171	CS_OFFL_SIR_GOPM_2_20221117T145836_20221117T153022_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
and backscatter Quality, OCOG Altimeter Range and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags have been set OCS OFFL SIR GOPM 2 20221117T161700 20221117T161731 C001  CS OFFL SIR GOPM 2 20221117T162240 20221117T162532 C001  CS OFFL SIR GOPM 2 20221117T162240 20221117T162532 C001  CS OFFL SIR GOPM 2 20221117T16378 20221117T164837 C001  CS OFFL SIR GOPM 2 20221117T16430 C0221117T164837 C001  CS OFFL SIR GOPM 2 20221117T16430 C0221117T174027 C001  CS OFFL SIR GOPM 2 20221117T1742 20221117T17427 C001  CS OFFL SIR GOPM 2 20221117T1742 20221117T174293 C001  CS OFFL SIR GOPM 2 20221117T1717283 C0221117T174419 C001  CS OFFL SIR GOPM 2 20221117T1717857 C0221117T174419 C001  CS OFFL SIR GOPM 2 20221117T1717857 C0221117T174419 C001  CS OFFL SIR GOPM 2 20221117T1717857 C0221117T174419 C001  CS OFFL SIR GOPM 2 20221117T171857 C0221117T174419 C001  CS OFFL SIR GOPM 2 20221117T171857 C0221117T174419 C001  CS OFFL SIR GOPM 2 20221117T171857 C0221117T194918 C001  CS OFFL SIR GOPM 2 20221117T1857 C0221117T194918 C001  CS OFFL SIR GOPM 2 20221117T190340 20221117T190382 C001	CS_OFFL_SIR_GOPM_2_20221117T153822_20221117T154351_C001		
Backscatter Quality  CS_OFFL_SIR_GOPM_2_20221117T162240_20221117T162532_C001  CS_OFFL_SIR_GOPM_2_20221117T162240_20221117T162532_C001  CS_OFFL_SIR_GOPM_2_20221117T162240_20221117T162532_C001  CS_OFFL_SIR_GOPM_2_20221117T163728_20221117T164837_C001  CS_OFFL_SIR_GOPM_2_20221117T163728_20221117T164837_C001  CS_OFFL_SIR_GOPM_2_20221117T164910_20221117T164837_C001  CS_OFFL_SIR_GOPM_2_20221117T164910_20221117T171027_C001  CS_OFFL_SIR_GOPM_2_20221117T164910_20221117T171027_C001  CS_OFFL_SIR_GOPM_2_20221117T171830_20221117T171827_C001  CS_OFFL_SIR_GOPM_2_20221117T171830_20221117T171827_C001  CS_OFFL_SIR_GOPM_2_20221117T171830_20221117T171830_20221117T171830_20221117T171830_20221117T174419_C001  CS_OFFL_SIR_GOPM_2_20221117T171830_20221117T174419_C001  CS_OFFL_SIR_GOPM_2_20221117T17830_20221117T174419_C001  CS_OFFL_SIR_GOPM_2_20221117T17830_20221117T174419_C001  CS_OFFL_SIR_GOPM_2_20221117T17830_20221117T174419_C001  CS_OFFL_SIR_GOPM_2_20221117T17830_20221117T174419_C001  CS_OFFL_SIR_GOPM_2_20221117T17830_20221117T1784918_C001  CS_OFFL_SIR_GOPM_2_20221117T183765_20221117T184918_C001  CS_OFFL_SIR_GOPM_2_20221117T184918_C001  CS_OFFL_SIR_GOPM_2_20221117T185745_20221117T184918_C001  CS_OFFL_SIR_GOPM_2_20221117T184918_C001  CS_OFFL_SIR_GOPM_2_20221117T184918_C001  CS_OFFL_SIR_GOPM_2_20221117T184918_C001  CS_OFFL_SIR_GOPM_2_20221117T185745_20221117T184918_C001  CS_OFFL_SIR_GOPM_2_20221117T184918_C001  CS_OFFL_SIR_GOPM_2_20221117T185745_20221117T184918_C001  CCS_OFFL_SIR_GOPM_2_20221117T185745_20221117T180020_C001  CCS_OFFL_SIR_GOPM_2_20221117T186982_C0021117T180020_C001  CCS_OFFL_SIR_GOPM_2_20221117T186982_C0021117T180020_C001  CCS_OFFL_SIR_GOPM_2_20221117T180040_C0021117T180020_C001  CCS_OFFL_SIR_GOPM_2_20221117T180040_C0021117T180040_C001  CCS_OFFL_SIR_GOPM_2_20221117T180040_C0021117T180040_C001  CCS_OFFL_SIR_GOPM_2_20221117T180040_C0021117T180040_C001  CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	CS_OFFL_SIR_GOPM_2_20221117T154753_20221117T155141_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags have been St. Ocean Altimeter Range and Backscatter Quality Flags have been St. Ocean Altimeter Range and Backscatter Quality Flags have been St. Ocean Altimeter Range and Backscatter Quality Flags have been St. Ocean Altimeter Range and Backscatter Quality Flags have been St. Ocean Altimeter Range and Backscatter Quality Flags have been St. Ocean Altimeter Range and Backscatter Quality Flags have been St. Ocean Altimeter Range and Backscatter Quality Flags have been St. Ocean Altimeter Range and Backscatter Quality Flags have been St. Ocean Altimeter Range and Backscatter Quality Flags have been St. Ocean Altimeter Range and Backscatter Quality Flags have been St. Ocean Altimeter Range and Backscatter Quality Flags have been St. Ocean Altimeter Range and Backscatter Quality Flags have been St. Ocean Altimeter Range and Backscatter Quality Flags have been St. Ocean Altimeter Range and Backscatter Quality Flags have been St. Ocean Altimeter Range and Backscatter Quality Flags have been St. Ocean Altimeter Range and Backscatter Quality Flags have been St. Ocean Altimeter Range and Backscatter Quality Flags have been St. Ocean Altimeter Range and Backscatter Quality Flags have been St. Ocean Altimeter Range and Backscatter Quality Flags have been St. Ocean Altimeter Range and Backscatter Quality Flags have been St. Ocean Altimeter Rang	CS_OFFL_SIR_GOPM_2_20221117T161700_20221117T161731_C001		
and Backscatter Quality Flags have been and Backscatter Quality Flags have been and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records  CS_OFFL_SIR_GOPM_2_20221117T164910_20221117T171027_C001  CS_OFFL_SIR_GOPM_2_20221117T17724_20221117T171927_C001  CS_OFFL_SIR_GOPM_2_20221117T17724_20221117T171827_C001  CS_OFFL_SIR_GOPM_2_20221117T17724_20221117T171827_C001  CS_OFFL_SIR_GOPM_2_20221117T17830_20221117T17239_C001  CS_OFFL_SIR_GOPM_2_20221117T17830_20221117T178419_C001  CS_OFFL_SIR_GOPM_2_20221117T17830_20221117T178419_C001  CS_OFFL_SIR_GOPM_2_20221117T17830_20221117T178419_C001  CS_OFFL_SIR_GOPM_2_20221117T17830_20221117T178419_C001  CS_OFFL_SIR_GOPM_2_20221117T17830_20221117T178418_C001  CS_OFFL_SIR_GOPM_2_20221117T17830_20221117T178418_C001  CS_OFFL_SIR_GOPM_2_20221117T184575_20221117T190138_C001  CS_OFFL_SIR_GOPM_2_20221117T185745_20221117T190138_C001  CS_OFFL_SIR_GOPM_2_20221117T185745_20221117T190138_C001  CS_OFFL_SIR_GOPM_2_20221117T190640_20221117T19002_C001  Altimeter Range and Backscatter Quality, CCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records  CS_OFFL_SIR_GOPM_2_20221117T190640_20221117T19002_C001  Altimeter Range and Backscatter Quality, CCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records  CS_OFFL_SIR_GOPM_2_20221117T190640_20221117T19002_C001  CS_OFFL_SIR_GOPM_2_20221117T190640_20221117T19002_C001  Altimeter Range and Backscatter Quality, CCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records  CS_OFFL_SIR_GOPM_2_20221117T190640_20221117T19002_C001  CS_OFFL_SIR_GOPM_2_20221117T190640_20221117T19002_C001  CS_OFFL_SIR_GOPM_2_20221117T19002_C001  CS_OFFL_SIR_GOPM_2_20221117T19002_C001  CS_OFFL_SIR_GOPM_2_20221117T19002_C001  CS_OFFL_SIR_GOPM_2_20221117T19002_C001  CS_OFFL_SIR_GOPM_2_20221117T19002_C001  CS_OFFL_SIR_GOPM_2_20221117T19002_C001  CS_OFFL_SIR_GOPM_2_20221117T19002_C001  CS_OFFL_SIR_GOPM_2_20221117T190002_C001  CS_OFFL_SIR_GOPM_2_20221117T190	CS_OFFL_SIR_GOPM_2_20221117T162240_20221117T162532_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_GOPM_2_20221117T164910_20221117T17127_C001  and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records  CS_OFFL_SIR_GOPM_2_20221117T171724_20221117T171827_C001  CS_OFFL_SIR_GOPM_2_20221117T171830_20221117T172239_C001  CS_OFFL_SIR_GOPM_2_20221117T171830_20221117T172239_C001  CS_OFFL_SIR_GOPM_2_20221117T172809_20221117T174419_C001  CS_OFFL_SIR_GOPM_2_20221117T17809_20221117T174419_C001  CS_OFFL_SIR_GOPM_2_20221117T18355_20221117T174419_C001  CS_OFFL_SIR_GOPM_2_20221117T184918_C001  CS_OFFL_SIR_GOPM_2_20221117T184918_C001  CS_OFFL_SIR_GOPM_2_20221117T185745_20221117T190138_C001  CS_OFFL_SIR_GOPM_2_20221117T190640_20221117T190802_C001  COCAN Altimeter Range and Backscatter Quality Flags have been set for one or more records  CS_OFFL_SIR_GOPM_2_20221117T190640_20221117T190802_C001  COCAN Altimeter Range and Backscatter Quality Flags have been set for one or more records  CCOCAN Altimeter Range and Backscatter Quality Flags have been set for one or more records  CCOCAN Altimeter Range and Backscatter Quality Flags have been set for one or more records  CCOCAN Altimeter Range and Backscatter Quality Flags have been set for one or more records  CCOCAN Altimeter Range and	CS_OFFL_SIR_GOPM_2_20221117T163728_20221117T164837_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
Backscatter Quality  Gro one or more records  CS_OFFL_SIR_GOPM_2_20221117T17830_20221117T172239_C001  CS_OFFL_SIR_GOPM_2_20221117T17830_20221117T174419_C001  CS_OFFL_SIR_GOPM_2_20221117T17809_20221117T174419_C001  CS_OFFL_SIR_GOPM_2_20221117T184355_20221117T184918_C001  CS_OFFL_SIR_GOPM_2_20221117T184355_20221117T184918_C001  CS_OFFL_SIR_GOPM_2_20221117T185745_20221117T190138_C001  CS_OFFL_SIR_GOPM_2_20221117T185745_20221117T190828_C001  CS_OFFL_SIR_GOPM_2_20221117T190640_20221117T190802_C001  CS_OFFL_SIR_GOPM_2_20221117T190828_20221117T190802_C001  CS_OFFL_SIR_GOPM_2_20221117T190828_20221117T190808_C001  CS_OFFL_SIR_GOPM_2_20221117T190828_20221117T190802_C001  CS_OFFL_SIR_GOPM_2_20221117T190828_20221117T190808_C001  CS_OFFL_SIR_GOPM_2_20221117T190828_20221117T190808_C001  CS_OFFL_SIR_GOPM_2_20221117T190828_20221117T190808_C001  CS_OFFL_SIR_GOPM_2_20221117T190828_20221117T190808_C001  CS_OFFL_SIR_GOPM_2_20221117T190828_20221117T190808_C001  CS_OFFL_SIR_GOPM_2_20221117T190828_20221117T190802_C001  CS_OFFL_SIR_GOPM_2_20221117T190828_20221117T190802_C001  CS_OFFL_SIR_GOPM_2_20221117T190828_20221117T190802_C001  CS_OFFL_SIR_GOPM_2_20221117T190828_20221117T190802_C001  CS_OFFL_SIR_GOPM_2_20221117T190828_20221117T190802_C001  CS_OFFL_	CS_OFFL_SIR_GOPM_2_20221117T164910_20221117T171027_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
Backscatter Quality  CS_OFFL_SIR_GOPM_2_20221117T17830_20221117T174419_C001  Backscatter Quality  CS_OFFL_SIR_GOPM_2_20221117T172809_20221117T174419_C001  CS_OFFL_SIR_GOPM_2_20221117T181355_20221117T184918_C001  CS_OFFL_SIR_GOPM_2_20221117T185745_20221117T190138_C001  CS_OFFL_SIR_GOPM_2_20221117T190640_20221117T190802_C001  CS_OFFL_SIR_GOPM_2_20221117T190828_20221117T190808_C001  Backscatter Quality  COCan Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records  The Ocean Altimeter Range and Backscatter Quality Flags have been set for one or more records  The Ocean Altimeter Range and Backscatter Quality Flags have been set for one or more records  The Ocean Altimeter Range and Backscatter Quality Flags have been set for one or more records  The Ocean Altimeter Range and Backscatter Quality Flags have been set for one or more records  The Ocean Altimeter Range and Backscatter Quality Flags have been set for one or more records  The Ocean Altimeter Range and Backscatter Quality Flags have been set for one or more records  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records	CS_OFFL_SIR_GOPM_2_20221117T171724_20221117T171827_C001		
CS_OFFL_SIR_GOPM_2_20221117T172809_20221117T174419_C001  and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records  CS_OFFL_SIR_GOPM_2_20221117T181355_20221117T184918_C001  CS_OFFL_SIR_GOPM_2_20221117T185745_20221117T190138_C001  CS_OFFL_SIR_GOPM_2_20221117T190640_20221117T190802_C001  CS_OFFL_SIR_GOPM_2_20221117T190640_20221117T190802_C001  CS_OFFL_SIR_GOPM_2_20221117T190640_20221117T190802_C001  CS_OFFL_SIR_GOPM_2_20221117T190828_20221117T190808_C001  And Backscatter Quality, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records  The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records  The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records  The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records  The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records  CS_OFFL_SIR_GOPM_2_20221117T190640_20221117T190802_C001  CS_OFFL_SIR_GOPM_2_20221117T190828_20221117T190808_C001  CS_OFFL_SIR_GOPM_2_20221117T190828_20221117T194008_C001  And the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records  CS_OFFL_SIR_GOPM_2_20221117T190828_20221117T194008_C001  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records  CS_OFFL_SIR_GOPM_2_20221117T190828_20221117T194008_C001  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records  CS_OFFL_SIR_GOPM_2_20221117T190828_20221117T194008_C001  The Ocean Altimeter Range and Backscatter Quality Flags have been set for one or more records  The Ocean Altimeter Range and Backscatter Quality Flags have been set for one or more records	CS_OFFL_SIR_GOPM_2_20221117T171830_20221117T172239_C001		
CS_OFFL_SIR_GOPM_2_20221117T181355_20221117T184918_C001  and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality, OCOG Backscatter Quality, OCOG Backscatter Quality  CS_OFFL_SIR_GOPM_2_20221117T190640_20221117T190802_C001  CS_OFFL_SIR_GOPM_2_20221117T190640_20221117T190802_C001  CS_OFFL_SIR_GOPM_2_20221117T190828_20221117T190802_C001  Altimeter Range Quality, OCOG Backscatter Quality  CS_OFFL_SIR_GOPM_2_20221117T190640_20221117T190802_C001  Altimeter Range, SSHA, SWH and Backscatter Quality  CS_OFFL_SIR_GOPM_2_20221117T190828_20221117T194008_C001  Altimeter Range, SSHA, SWH and Backscatter Quality  The Ocean Altimeter Range and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records  The Ocean Altimeter Range and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records  The Ocean Altimeter Range and Backscatter Quality Flags have been set for one or more records	CS_OFFL_SIR_GOPM_2_20221117T172809_20221117T174419_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been  CS_OFFL_SIR_GOPM_2_20221117T190840_20221117T190802_C001  Docean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been  CS_OFFL_SIR_GOPM_2_20221117T190828_20221117T194008_C001  Docean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and Backscatter Quality, OCOG  Altimeter Range, SSHA, SWH and Backscatter Quality Flags and Backscatter Quality, OCOG	CS_OFFL_SIR_GOPM_2_20221117T181355_20221117T184918_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_GOPM_2_20221117T190640_20221117T190802_C001  and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags  and the OCOG Altimeter Range and Backscatter Quality Flags  and the OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags  and the OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags  and the OCOG Altimeter Range and Backscatter Quality Flags  and the OCOG Altimeter Range and Backscatter Quality Flags  and the OCOG Altimeter Range and Backscatter Quality Flags  and the OCOG Altimeter Range and Backscatter Quality Flags	CS_OFFL_SIR_GOPM_2_20221117T185745_20221117T190138_C001	_	
CS_OFFL_SIR_GOPM_2_20221117T190828_20221117T194008_C001 and Backscatter Quality, OCOG and the OCOG Altimeter Range and Backscatter Quality Flags have been	CS_OFFL_SIR_GOPM_2_20221117T190640_20221117T190802_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
	CS_OFFL_SIR_GOPM_2_20221117T190828_20221117T194008_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been

CS_OFFL_SIR_GOPM_2_20221117T194122_20221117T194413_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_GOPM_2_20221117T195452_20221117T200704_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_GOPM_2_20221117T201146_20221117T201443_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_GOPM_2_20221117T201558_20221117T202906_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_GOPM_2_20221117T203108_20221117T203625_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_GOPM_2_20221117T203659_20221117T203839_C001		The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20221117T204652_20221117T210005_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_GOPM_2_20221117T210219_20221117T211858_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_GOPM_2_20221117T213552_20221117T213620_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_GOPM_2_20221117T213623_20221117T213627_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_GOPM_2_20221117T214142_20221117T215206_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_GOPM_2_20221117T215346_20221117T220735_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_GOPM_2_20221117T221034_20221117T221537_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_GOPM_2_20221117T221614_20221117T221715_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_GOPM_2_20221117T222634_20221117T222738_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_GOPM_2_20221117T223106_20221117T223620_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_GOPM_2_20221117T223624_20221117T223626_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_GOPM_2_20221117T224721_20221117T225430_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_GOPM_2_20221117T225553_20221117T225735_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_GOPM_2_20221117T232608_20221117T234623_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_GOPM_2_20221117T235057_20221117T235455_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_GOPN_2_20221117T050357_20221117T050417_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_GOPN_2_20221117T102908_20221117T103024_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.

Product	Test Failed	Description
CS_OFFL_SIR_GOPN_2_20221117T001035_20221117T001334_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_GOPN_2_20221117T004910_20221117T005053_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_GOPN_2_20221117T033228_20221117T033333_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_GOPN_2_20221117T033634_20221117T033813_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_GOPN_2_20221117T033829_20221117T034203_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_GOPN_2_20221117T040508_20221117T040825_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_GOPN_2_20221117T045929_20221117T050053_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_GOPN_2_20221117T050526_20221117T050614_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_GOPN_2_20221117T051523_20221117T051728_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_GOPN_2_20221117T054405_20221117T054719_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_GOPN_2_20221117T080810_20221117T080816_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_GOPN_2_20221117T081359_20221117T081905_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_GOPN_2_20221117T093604_20221117T093832_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_GOPN_2_20221117T095514_20221117T095620_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_GOPN_2_20221117T101528_20221117T102107_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_GOPN_2_20221117T102908_20221117T103024_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_GOPN_2_20221117T103609_20221117T103818_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_GOPN_2_20221117T104627_20221117T104815_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_GOPN_2_20221117T113224_20221117T113815_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_GOPN_2_20221117T125533_20221117T125645_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_GOPN_2_20221117T130231_20221117T130311_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_GOPN_2_20221117T130551_20221117T130616_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_GOPN_2_20221117T135501_20221117T135624_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_GOPN_2_20221117T135725_20221117T135912_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_GOPN_2_20221117T162135_20221117T162240_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_GOPN_2_20221117T163333_20221117T163545_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_GOPN_2_20221117T172239_20221117T172403_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_GOPN_2_20221117T174419_20221117T174746_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_GOPN_2_20221117T185110_20221117T185259_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_GOPN_2_20221117T190139_20221117T190248_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_GOPN_2_20221117T202930_20221117T203107_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_GOPN_2_20221117T203840_20221117T204037_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_GOPN_2_20221117T213834_20221117T214142_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_GOPN_2_20221117T220846_20221117T221034_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_GOPN_2_20221117T222826_20221117T223106_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_GOPN_2_20221117T223627_20221117T224110_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_GOPN_2_20221117T224558_20221117T224721_C001		The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPN_2_20221117T225431_20221117T225552_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_GOPN_2_20221117T225759_20221117T230312_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_GOPN_2_20221117T235733_20221118T000010_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_GOPR_2_20221117T005054_20221117T005253_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_GOPR_2_20221117T013102_20221117T013851_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_GOPR_2_20221117T013907_20221117T014118_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_GOPR_2_20221117T030925_20221117T031655_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_GOPR_2_20221117T032055_20221117T032214_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_GOPR_2_20221117T040825_20221117T041225_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_GOPR_2_20221117T044555_20221117T045459_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_GOPR_2_20221117T045459_20221117T045621_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_GOPR_2_20221117T050115_20221117T050357_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_GOPR_2_20221117T050622_20221117T050822_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_GOPR_2_20221117T053324_20221117T053741_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_GOPR_2_20221117T054720_20221117T055058_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_GOPR_2_20221117T062719_20221117T063359_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_GOPR_2_20221117T063359_20221117T063804_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_GOPR_2_20221117T071140_20221117T071839_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_GOPR_2_20221117T080816_20221117T081251_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_GOPR_2_20221117T083643_20221117T083827_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_GOPR_2_20221117T085240_20221117T085722_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_GOPR_2_20221117T092335_20221117T092641_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_GOPR_2_20221117T094633_20221117T094758_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_GOPR_2_20221117T094758_20221117T095308_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_GOPR_2_20221117T110414_20221117T110657_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_GOPR_2_20221117T110705_20221117T111150_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_GOPR_2_20221117T112529_20221117T113224_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_GOPR_2_20221117T130337_20221117T130550_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_GOPR_2_20221117T130617_20221117T130717_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_GOPR_2_20221117T130743_20221117T131240_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_GOPR_2_20221117T144146_20221117T144253_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_GOPR_2_20221117T144519_20221117T145440_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_GOPR_2_20221117T153022_20221117T153453_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_GOPR_2_20221117T154508_20221117T154753_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_GOPR_2_20221117T155141_20221117T155442_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_GOPR_2_20221117T161212_20221117T161339_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_GOPR_2_20221117T161827_20221117T162125_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_GOPR_2_20221117T162533_20221117T163333_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_GOPR_2_20221117T163545_20221117T163643_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_GOPR_2_20221117T172403_20221117T172809_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_GOPR_2_20221117T175241_20221117T175302_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_GOPR_2_20221117T175810_20221117T180220_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_GOPR_2_20221117T180615_20221117T181354_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_GOPR_2_20221117T184918_20221117T185110_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_GOPR_2_20221117T190248_20221117T190640_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_GOPR_2_20221117T194520_20221117T195232_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_GOPR_2_20221117T202906_20221117T202930_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_GOPR_2_20221117T210005_20221117T210219_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_GOPR_2_20221117T211858_20221117T212218_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_GOPR_2_20221117T221537_20221117T221544_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.

Number of products with errors: 177

### 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: 59

## 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 GOPR and GOPN products over sea ice, but this is to be expected.

Number of products with errors: 137

## 6. GOP L2 Pole-to-Pole Data Quality Check

#### **6.1 P2P Product Format Check**

Each product, retrieved and unpacked from the science server, is checked to ensure it consists of both an XML header file (.HDR) and a NetCDF product file (.nc).

Number of products with errors:

#### **6.2 P2P Product Header Analysis**

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

Number of products with errors: 0

## 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 that are expected, due to surface type. All common flags are summarised in the list below, followed by a table highlighting any additional issues that 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.
- > 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 OFFE SIR GOP 2 202211161235600 202211171004537 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) for one or more records
CS_OFFL_SIR_GOP_220221117T004537_20221117T013515_C001	` '	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records

		·
CS_OFFL_SIR_GOP_220221117T013515_20221117T022452_C001	` ' '	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOP_220221117T022452_20221117T031429_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) for one or more records
CS_OFFL_SIR_GOP_220221117T031429_20221117T040407_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) for one or more records
CS_OFFL_SIR_GOP_220221117T040407_20221117T045344_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) for one or more records
CS_OFFL_SIR_GOP_220221117T045344_20221117T054321_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) for one or more records
CS_OFFL_SIR_GOP_220221117T054321_20221117T063259_C001	Tide (GOT), Total Geocentric Ocean  Tide (FES), Non-Equilibrium Long Period	There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1), the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_GOP_220221117T063259_20221117T072236_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) for one or more records
CS_OFFL_SIR_GOP_220221117T072236_20221117T081213_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) for one or more records
CS_OFFL_SIR_GOP_220221117T081213_20221117T090150_C001	· · ·	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOP_220221117T090150_20221117T095128_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) for one or more records
CS_OFFL_SIR_GOP_220221117T095128_20221117T104105_C001	Tide (GOT), Total Geocentric Ocean  Tide (FFS), Non-Equilibrium Long Period	There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1), the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_GOP_220221117T104105_20221117T113042_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) for one or more records
CS_OFFL_SIR_GOP_220221117T113042_20221117T122020_C001	Topography (1), Total Geocentric Ocean	There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
CS_OFFL_SIR_GOP_220221117T122020_20221117T130957_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) for one or more records
CS_OFFL_SIR_GOP_220221117T130957_20221117T135935_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) for one or more records
CS_OFFL_SIR_GOP_220221117T135935_20221117T144912_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) for one or more records
CS_OFFL_SIR_GOP_220221117T144912_20221117T153849_C001	1 · · · · · · · · · · · · · · · · · · ·	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOP_220221117T153849_20221117T162827_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) for one or more records
CS_OFFL_SIR_GOP_220221117T162827_20221117T171804_C001	· ·	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOP_220221117T171804_20221117T180741_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) for one or more records
CS_OFFL_SIR_GOP_220221117T180741_20221117T185719_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) for one or more records
CS_OFFL_SIR_GOP_220221117T185719_20221117T194656_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) for one or more records
CS_OFFL_SIR_GOP_220221117T194656_20221117T203633_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) for one or more records
CS_OFFL_SIR_GOP_220221117T203633_20221117T212610_C001		There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
CS_OFFL_SIR_GOP_220221117T212610_20221117T221548_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) for one or more records
CS_OFFL_SIR_GOP_220221117T221548_20221117T230525_C001		There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOP_220221117T230525_20221117T235503_C002	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOP_220221117T235503_20221118T004440_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records

## 6.5 P2P Measurement Confidence Data 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.

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.

30

29

29

Number of products with errors:

#### 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.

Number of products with errors:

#### 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 full list of products affected.

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 GOPR and GOPN products over sea ice, but this is to be expected.

Number of products with errors:

#### P2P Retracking Flags PLRM

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

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

Number of products with errors: 30

## 7. GOP 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_GOPM1B	199	199	3	196	0
SIR_GOPR1B	112	112	0	112	0
SIR_GOPN1B	102	102	2	100	0
SIR_GOPM_2	199	199	147	52	0
SIR_GOPR_2	112	112	36	74	2
SIR_GOPN_2	102	102	43	59	0
SIR_GOP_P2P	29	29	0	28	1

## 7.1 QCC Errors

Number of QCC reports with errors:

Product Type | RLOBOPNCDF

3

RL

RLOBOPNCDF

Total number of occurrences of each error

RL

SIR_GOPR_2 2	1	2	2	1	2					
Product Type   RLOBOPNCDF	RL	RLOBOPNCDF	RL	-	-	-	-	-	-	-
SIR_GOP_2_ 1	1	1	1							

RL

Test Description Key:						
Abbreviation	Test name	Details				
RLOBOPNCDF	RangeLatitudeOrBlankOP_7NetCDF	Latitude should be between -90E7 and 90E7				
RL	RangeLatitude_6	Latitude should be between -90E6 and 90E6				
RL	RangeLatitude_7	Latitude should be between -90E7 and 90E7				
RLOBOPNCDF	RangeLongitudeOrBlankOP_7NetCDF	Longitude should be between -180E7 and 180E7				

#### 7.2 QCC Warnings

**Number of QCC reports with warnings** 

2178

Total number of occurrences of each warning

	Total Hamber of Goddiffendes of each Warming								
Product Type	BCSHNCDF	IOHHMOOR	MVIOEPFDNCDF	MVIOEPNCDF	MVIONCDF	RBSZOPOEPFDNCDF	RBSZOPOEPFDPLRMNCD		
SIR_GOPM1B	196	0	0	0	0	0	0		
SIR_GOPM_2	0	0	38	37	1	45	0		
SIR_GOPN1B	97	0	0	0	0	0	0		
SIR_GOPN_2	0	0	10	30	2	24	25		
SIR_GOPR1B	106	0	0	0	0	0	0		
SIR_GOPR_2	0	2	40	46	1	35	27		

_								
	Product Type	RBSZOPOEPNCDF	RNELPOTONCDF	RPEPOPFDLRMNCDF	RPEPOPFDPLRMSARI	NCDRPEPOPFDP	LRMSINNCD RPEPOPFDSARNCDF	RPEPOPFDSINNCDF
	SIR_GOPM1B	0	0	0	0	0	0	0
	SIR_GOPM_2	37	1	35	0	0	0	0
	SIR_GOPN1B	0	0	0	0	0	0	0
	SIR_GOPN_2	20	0	0	0	23	0	31
	SIR_GOPR1B	0	0	0	0	0	0	0
	SIR GOPR 2	16	2	0	49	0	52	0

Product Type	RPEPOPLRMNCDF	RPEPOPSARNCDF	RPEPOPSINNCDF	RSSBCONCDF	RSSHAOFDNCDF	RSSHAOFDPLRMNCDF	RSSHAONCDF
SIR_GOPM1B	0	0	0	0	0	0	0
SIR_GOPM_2	27	0	0	5	30	0	5
SIR_GOPN1B	0	0	0	0	0	0	0
SIR_GOPN_2	0	0	26	17	38	50	23
SIR_GOPR1B	0	0	0	0	0	0	0
SIR_GOPR_2	0	45	0	3	63	41	12

Product Type	RSWHOEPFDNCDF	RSWHOEPFDPLRMNCDF	RSWHOEPNCDF	SPHRTASCNSNCDF	SOOHHIFHD	SCSTODHRNCDF	SCSTODNCDF
SIR_GOPM1B	0	0	0	0	0	0	0
SIR_GOPM_2	37	0	3	0	0	0	0
SIR_GOPN1B	0	0	0	1	0	48	1
SIR_GOPN_2	27	24	12	0	0	0	0
SIR_GOPR1B	0	0	0	0	0	112	4
SIR_GOPR_2	44	49	1	0	5	0	0

Product Type	IOHHMOOR	MVIOEPFDNCDF	MVIOEPNCDF	MVIONCDF	RBSZOPOEPFDNCDF	RBSZOPOEPFDPLRMNCD	RBSZOPOEPNCDF
SIR_GOP_2_	16	29	29	4	29	17	29

Product Type	RNELPOTONCDF	RPEPOPFDPLRMSINNCDI	RPEPOPFDSINNCDF	RPEPOPSINNCDF	RSSBCONCDF	RSSHAOFDNCDF	RSSHAOFDPLRMNCDF
SIR_GOP_2_	3	17		23	15	29	17

Product Type	RSSHAONCDF	RSWHOEPFDNCDF	RSWHOEPFDPLRMNCDF	RSWHOEPNCDF	SPHLPQWNCDF	-	-
SIR GOP 2	24	29	17	12	29		

Test Description Key:					
Abbreviation	Test name	Details			
BCSHNCDF	BurstCounterStep20HzNetCDF	The burst counter should be one higher with regard to the previous burst counter			
IOHHMOOR	IndexOf1Hzin20HzMappingOutOfRange	The mapping of 20 Hz to 1 Hz measurements should be in the range 0 to (number of 1 Hz samples - 1)			
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			
RNELPOTONCDF	RangeNELPOceanTideOceanNetCDF	The Non-equilibrium long period ocean loading tide height should be between -40mm and 40mm (or missing) for surface type = ocean			
	RangePeakinessExcludingPolarOPFD2LRMNetCDF	The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees			
RPEPOPFDPLRMSAR NCDF	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			
	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_Stop_v2_NetCDF	Rel_Time_ASC_Node_Stop mismatch			
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			
SCSTODHRNCDF	SequenceCounterStepTODHRNetCDF	The sequence counter should be modulo 4 higher with regard to the previous sequence counter			

# 7.3 Missing QCC Reports

Number of products with missing QCC reports:

L1B and L2 Product name n/a

P2P Product name

CS\_OFFL\_SIR\_GOP\_2\_\_20221117T230525\_20221117T235503\_C002