

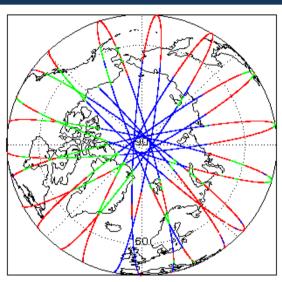
# 1. Overview

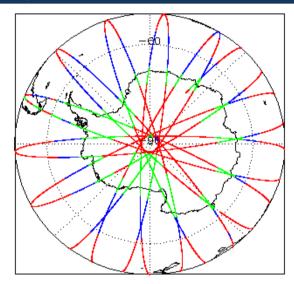
Report Production:	19-Oct-2021
Processor Used: CryoSat Ocean Proces	
Data Used:	Geophysical Ocean Products (GOP) L1B, L2 & P2P Science Data

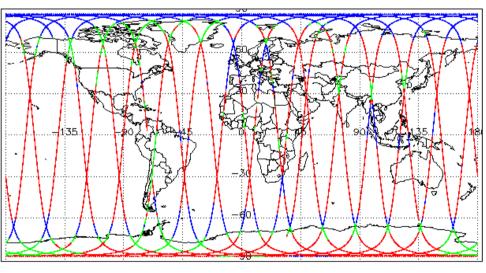
Check	L1 & L2	P2P
Server check: science-pds.cryosat.esa.int	Nominal	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal	Nominal
Product Software Check	Nominal	Nominal
Product Format Check	Nominal	Nominal
Product Header Analysis	Nominal	Nominal
Auxiliary Data File Usage Check	Nominal	Nominal
Auxiliary Correction Error Check	See Section 5.4	See Section 6.4
Measurement Confidence Data Check	See Section 4.5, 4.6 and 5.5	See Section 6.5
Range, SWH & Backscatter Measurement Check	See Section 5.6	See Section 6.6
Ocean Retracking Quality Check	See Section 5.7	See Section 6.7
QCC Error/ Warning Check	See Section 7.2	See Section 7.2 and 7.3

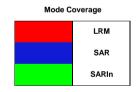
Mission / Instrument News		
16-Sep-2021	SIRAL unavailability due to OCM from 00:55:57 to 02:42:49	
17-Sep-2021	None	
18-Sep-2021	Nothing planned	

# 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

#### 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.

Number of products with errors:

0

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:

Product	Test Failed	Description
CS_OFFL_SIR_GOPM1B_20210917T124635_20210917T125157_C001	Power scaling error	There is an error in the scaling of the L1B waveform for one or more records
CS_OFFL_SIR_GOPM1B_20210917T164339_20210917T165800_C001	Power scaling error	There is an error in the scaling of the L1B waveform for one or more records
CS_OFFL_SIR_GOPM1B_20210917T200134_20210917T201048_C001	Power scaling error	There is an error in the scaling of the L1B waveform for one or more records

#### 4.6 L1B Waveform Group Data Check

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

Loss of Echo Flag: This flag is currently set for some products over land, but this is to be expected.

Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_GOPM1B_20210917T064840_20210917T070623_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPM1B_20210917T083243_20210917T090408_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPM1B_20210917T132842_20210917T140108_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20210917T041407_20210917T041933_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20210917T064402_20210917T064512_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20210917T130452_20210917T130557_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20210917T131300_20210917T131355_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20210917T163506_20210917T163618_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20210917T181240_20210917T181534_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20210917T195000_20210917T195418_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20210917T000142_20210917T000751_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20210917T013933_20210917T014556_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20210917T015659_20210917T015759_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20210917T015802_20210917T020035_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20210917T095848_20210917T100320_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20210917T130323_20210917T130409_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20210917T130416_20210917T130452_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20210917T131641_20210917T132428_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20210917T144843_20210917T145316_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20210917T163618_20210917T164339_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20210917T181534_20210917T182309_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20210917T213241_20210917T214012_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20210917T222956_20210917T223220_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 binary product file (.DBL).

Number of products with errors:

0

### 5.2 L2 Product Header Analysis

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

# 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:

# 5.4 L2 Auxiliary Correction Error Check

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

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

- > ECMWF Meteo Corrections: Currently the following corrections are not computed over CONTINENTAL ICE: Dry Tropospheric Correction, Wet Tropospheric Correction, Inverse Barometric Correction and the U-Wind and V-Wind components of the ECMWF model wind vector. This is a known anomaly (CRYO-COP-3) and will be resolved in a future IPF update. The affected products are not reported in the table below.
- > Sea State Bias & Sea State Bias PLRM: The error value is currently set for products over sea ice, but this is to be expected.
- > 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_20210917T064840_20210917T070623_C001	Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non- Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 1: GOT and solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_GOPM_2_20210917T222513_20210917T222838_C001	GPD Wet Tropospheric Correction	There is an error with the GPD Wet Tropospheric correction for one or more records
CS_OFFL_SIR_GOPM_2_20210917T223220_20210917T225914_C001	GPD Wet Tropospheric Correction	There is an error with the GPD Wet Tropospheric correction for one or more records
CS_OFFL_SIR_GOPM_2_20210917T230040_20210917T230350_C001	GPD Wet Tropospheric Correction	There is an error with the GPD Wet Tropospheric correction for one or more records
CS_OFFL_SIR_GOPN_2_20210917T022828_20210917T022953_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_20210917T023503_20210917T023811_C001	mean Sea Surrace (1), mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES). Non-Equilibrium Long Period	nere is an error with the MSS neight (Solution 1) and the Mean Dynamic Topography height (solution 1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES) and the Non-Equilibrium Long Period Ocean Tide for one or more records
CS_OFFL_SIR_GOPN_2_20210917T040911_20210917T041200_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_20210917T041407_20210917T041933_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_20210917T050501_20210917T050927_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_20210917T054842_20210917T055117_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_20210917T064402_20210917T064513_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_20210917T072042_20210917T072223_C001	Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the Mean Dynamic Topography (solution 1) and the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records
CS_OFFL_SIR_GOPN_2_20210917T072557_20210917T072931_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_20210917T082322_20210917T082547_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_20210917T082553_20210917T082805_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_20210917T090606_20210917T090755_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_20210917T091614_20210917T091835_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_20210917T100320_20210917T100746_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_20210917T114527_20210917T115007_C001	Total Geocentric Ocean Tide (GOT)	There is an error with the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
CS_OFFL_SIR_GOPN_2_20210917T122540_20210917T122918_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_20210917T132651_20210917T132842_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_20210917T140504_20210917T140823_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_20210917T141335_20210917T141501_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_20210917T145554_20210917T145701_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_20210917T155241_20210917T155348_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records

Mean Sea Surface (1), Mean Dynamic Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records  Mean Dynamic Topography (1)  There is an error with the Mean Dynamic Topography (solution more records  There is an error with the Mean Dynamic Topography (solution more records	n Dynamic n Dynamic n Dynamic 1) for one or
CS_OFFL_SIR_GOPN_2_20210917T190815_20210917T191423_C001  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records  Topography (1)  Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Topography (1)  There is an error with the MSS height (solution 1) and the Mean Topography (1)  There is an error with the Mean Dynamic Topography (solution more records  There is an error with the Mean Dynamic Topography (solution more records)	n Dynamic  1) for one or  1) for one or
Topography (1)  Topography (20210917T19615_20210917T196418_C001  Topography (1)  Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) for one or more records  There is an error with the Mean Dynamic Topography (solution more records  There is an error with the Mean Dynamic Topography (solution more records  There is an error with the Mean Dynamic Topography (solution more records)	1) for one or
CS_OFFL_SIR_GOPN_2_20210917T195000_20210917T195418_C001  Topography (1)  Topography height (solution 1) for one or more records  There is an error with the Mean Dynamic Topography (solution more records  There is an error with the Mean Dynamic Topography (solution more records)  CS_OFFL_SIR_GOPN_2_20210917T203450_20210917T204103_C001  Mean Dynamic Topography (1)  Topography (1)  Topography height (solution 1) for one or more records  There is an error with the Mean Dynamic Topography (solution more records)	1) for one or 1) for one or
CS_OFFL_SIR_GOPN_2_202109171203652_202109171204125_C001   Mieall Dynamic Topography (1)   more records    CS_OFFL_SIR_GOPN_2_202109171204750_202109171204125_C001   Mean Dynamic Topography (1)   There is an error with the Mean Dynamic Topography (solution	1) for one or
	•
more records	) Dynamic
CS_OFFL_SIR_GOPN_2_20210917T212852_20210917T213241_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records	
CS_OFFL_SIR_GOPN_2_20210917T222839_20210917T222955_C001  GPD Wet Tropospheric Correction, Mean Dynamic Topography (1)  There is an error with the GPD Wet Tropospheric correction an Dynamic Topography height (solution 1) for one or more record	
CS_OFFL_SIR_GOPN_2_20210917T230350_20210917T230934_C001  GPD Wet Tropospheric Correction, Mean Dynamic Topography (1)  There is an error with the GPD Wet Tropospheric correction an Dynamic Topography height (solution 1) for one or more record	
CS_OFFL_SIR_GOPR_2_20210917T000142_20210917T000752_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records	ı Dynamic
CS_OFFL_SIR_GOPR_2_20210917T001759_20210917T001906_C001  Mean Dynamic Topography (1)  There is an error with the Mean Dynamic Topography (solution more records	1) for one or
CS_OFFL_SIR_GOPR_2_20210917T013933_20210917T014557_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the GPD Wet Tropospheric correction, the height (solution 1) and tidal corrections for one or more records	
CS_OFFL_SIR_GOPR_2_20210917T014557_20210917T014721_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records	n Dynamic
CS_OFFL_SIR_GOPR_2_20210917T015659_20210917T015759_C001  Mean Dynamic Topography (1)  There is an error with the Mean Dynamic Topography (solution more records	1) for one or
CS_OFFL_SIR_GOPR_2_20210917T031730_20210917T032456_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records	n Dynamic
CS_OFFL_SIR_GOPR_2_20210917T032457_20210917T032721_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records	ı Dynamic
CS_OFFL_SIR_GOPR_2_20210917T032925_20210917T033939_C001 Mean Dynamic Topography (1) There is an error with the Mean Dynamic Topography (solution more records	1) for one or
CS_OFFL_SIR_GOPR_2_20210917T045931_20210917T050352_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records	n Dynamic
CS_OFFL_SIR_GOPR_2_20210917T050352_20210917T050501_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records	n Dynamic
CS_OFFL_SIR_GOPR_2_20210917T063721_20210917T064038_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records	n Dynamic
CS_OFFL_SIR_GOPR_2_20210917T064038_20210917T064402_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records	n Dynamic
CS_OFFL_SIR_GOPR_2_20210917T075640_20210917T080301_C001  Mean Dynamic Topography (1)  There is an error with the Mean Dynamic Topography (solution more records	1) for one or
CS_OFFL_SIR_GOPR_2_20210917T081701_20210917T082321_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records	n Dynamic
CS_OFFL_SIR_GOPR_2_20210917T095848_20210917T100320_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records	ı Dynamic
CS_OFFL_SIR_GOPR_2_20210917T113713_20210917T114526_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records	n Dynamic
CS_OFFL_SIR_GOPR_2_20210917T131641_20210917T132428_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records	ı Dynamic
CS_OFFL_SIR_GOPR_2_20210917T145701_20210917T150509_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records	n Dynamic
CS_OFFL_SIR_GOPR_2_20210917T163618_20210917T164339_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records	ı Dynamic
CS_OFFL_SIR_GOPR_2_20210917T181534_20210917T182309_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records	n Dynamic
CS_OFFL_SIR_GOPR_2_20210917T195418_20210917T200113_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records	ı Dynamic
CS_OFFL_SIR_GOPR_2_20210917T213241_20210917T214013_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records	n Dynamic
CS_OFFL_SIR_GOPR_2_20210917T222956_20210917T223220_C001  GPD Wet Tropospheric Correction  There is an error with the GPD Wet Tropospheric correction more records	one or
CS_OFFL_SIR_GOPR_2_20210917T225915_20210917T230040_C001  GPD Wet Tropospheric Correction  There is an error with the GPD Wet Tropospheric correction more records	one or

### 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:

3

Product	Test Failed	Description
CS_OFFL_SIR_GOPM_2_20210917T124635_20210917T125156_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records
CS_OFFL_SIR_GOPM_2_20210917T164339_20210917T165800_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records
CS_OFFL_SIR_GOPM_2_20210917T200134_20210917T201048_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records

# 5.6 L2 Measurement Quality Flag Check

# L2 Quality Flags (20Hz)

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

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

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

81

Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_GOPM_2_20210917T000839_20210917T001551_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_20210917T004218_20210917T004601_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_20210917T005029_20210917T005607_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_20210917T010349_20210917T013607_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_20210917T013708_20210917T013737_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_20210917T013850_20210917T013933_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_20210917T014743_20210917T014757_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_20210917T020838_20210917T022421_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_20210917T022953_20210917T023503_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_20210917T024208_20210917T031730_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_20210917T033939_20210917T034404_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_20210917T034455_20210917T040231_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_20210917T041200_20210917T041406_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_20210917T042148_20210917T045729_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_20210917T050927_20210917T052819_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_20210917T053232_20210917T054258_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_20210917T055118_20210917T055317_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_20210917T055433_20210917T055819_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_20210917T060045_20210917T061539_C001		The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_GOPM_2_20210917T061741_20210917T062704_C001		set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_GOPM_2_20210917T064840_20210917T070623_C001	Range and Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter	set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_GOPM_2_20210917T072224_20210917T072345_C001		set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_GOPM_2_20210917T072932_20210917T073721_C001	Range and Backscatter Quality  OCOG Altimeter Range Quality, OCOG Backscatter Quality	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_20210917T074033_20210917T075445_C001	Ocean Altimeter Range, SSHA, SWH	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_GOPM_2_20210917T082805_20210917T082837_C001	Range and Backscatter Quality  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter	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
	Range and Backscatter Quality  Ocean Altimeter Range, SSHA, SWH	set for one or more records.  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags
CS_OFFL_SIR_GOPM_2_20210917T083243_20210917T090408_C001	and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPM_2_20210917T091024_20210917T091614_C001	,	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPM_2_20210917T092032_20210917T094426_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_20210917T095438_20210917T095700_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_20210917T101545_20210917T101628_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_20210917T101630_20210917T104314_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_20210917T105942_20210917T111939_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_20210917T112646_20210917T112722_C001		The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_GOPM_2_20210917T113022_20210917T113712_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_20210917T115008_20210917T122046_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_20210917T122918_20210917T123456_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_20210917T130826_20210917T130947_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_20210917T131355_20210917T131611_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_20210917T132842_20210917T140108_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_20210917T140823_20210917T141335_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_20210917T141904_20210917T143522_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_20210917T150509_20210917T152937_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_20210917T152950_20210917T154007_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_20210917T154840_20210917T155240_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_20210917T155756_20210917T162331_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_20210917T162347_20210917T163121_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_20210917T163121_20210917T163141_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_20210917T163304_20210917T163505_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_20210917T164339_20210917T165800_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_20210917T170241_20210917T170416_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_20210917T170426_20210917T171530_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_20210917T171627_20210917T171926_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_20210917T172204_20210917T172723_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_20210917T172742_20210917T172945_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_20210917T173827_20210917T175100_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_20210917T175314_20210917T181239_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_20210917T183233_20210917T184204_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_20210917T184440_20210917T185823_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_20210917T190130_20210917T190625_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_20210917T190627_20210917T190635_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_20210917T190642_20210917T190652_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_20210917T193436_20210917T193652_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_20210917T193815_20210917T194041_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_20210917T194650_20210917T194907_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_20210917T194920_20210917T195000_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_20210917T202145_20210917T203709_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_20210917T204124_20210917T204552_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_20210917T205329_20210917T211607_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_20210917T215211_20210917T221613_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_20210917T221947_20210917T222454_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_20210917T222513_20210917T222838_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_20210917T223220_20210917T225914_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_20210917T230040_20210917T230350_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_20210917T231926_20210917T232002_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_20210917T232731_20210917T235539_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_20210917T235933_20210918T000409_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_20210917T014757_20210917T014814_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_GOPN_2_20210917T204553_20210917T204558_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_20210917T222507_20210917T222513_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_GOPR_2_20210917T013933_20210917T014557_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_GOPR_2_20210917T040231_20210917T040911_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.

# L2 Quality Flags (20Hz PLRM)

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

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

Number of products with errors:

Product	Test Failed	Description	
CS_OFFL_SIR_GOPN_2_20210917T004914_20210917T005028_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_20210917T013607_20210917T013708_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_20210917T023503_20210917T023811_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_20210917T034405_20210917T034455_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_20210917T040911_20210917T041200_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_20210917T041407_20210917T041933_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_20210917T050501_20210917T050927_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_20210917T062704_20210917T063011_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one more records.	
CS_OFFL_SIR_GOPN_2_20210917T064402_20210917T064513_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_20210917T070623_20210917T071225_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_20210917T071257_20210917T071822_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_20210917T072042_20210917T072223_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_20210917T073722_20210917T073908_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_20210917T080403_20210917T080745_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_20210917T082553_20210917T082805_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_20210917T082838_20210917T082905_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_20210917T090606_20210917T090755_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_20210917T091614_20210917T091835_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_20210917T094426_20210917T094804_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_20210917T095250_20210917T095306_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_20210917T095815_20210917T095847_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_20210917T100320_20210917T100746_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_20210917T100826_20210917T100949_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_20210917T101306_20210917T101544_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_20210917T104540_20210917T104719_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_20210917T104835_20210917T105006_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_20210917T105432_20210917T105720_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_20210917T114527_20210917T115007_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_20210917T122540_20210917T122918_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_20210917T123456_20210917T123611_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_20210917T130641_20210917T130700_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_20210917T140504_20210917T140823_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_20210917T141335_20210917T141501_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_20210917T143522_20210917T143835_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_20210917T154218_20210917T154555_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_20210917T172025_20210917T172203_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_20210917T172945_20210917T173133_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_20210917T181240_20210917T181534_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_20210917T190815_20210917T191423_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_20210917T194528_20210917T194650_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_20210917T195000_20210917T195418_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_20210917T201048_20210917T201355_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_20210917T203852_20210917T204123_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_20210917T204750_20210917T205101_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_20210917T212852_20210917T213241_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_20210917T214827_20210917T215211_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_20210917T230350_20210917T230934_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_20210917T231840_20210917T231926_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_20210917T235810_20210917T235933_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_20210917T000013_20210917T000142_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.		
S_OFFL_SIR_GOPR_2_20210917T000142_20210917T000752_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 beer set for one or more records.		
CS_OFFL_SIR_GOPR_2_20210917T004602_20210917T004914_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_20210917T005925_20210917T010348_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_20210917T013933_20210917T014557_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_20210917T015112_20210917T015442_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_20210917T015659_20210917T015759_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_20210917T015802_20210917T020035_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_20210917T022421_20210917T022827_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_20210917T023811_20210917T024208_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_20210917T031730_20210917T032456_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_20210917T032925_20210917T033939_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_20210917T040231_20210917T040911_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_20210917T041933_20210917T042148_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_20210917T045931_20210917T050352_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_20210917T054258_20210917T054842_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_20210917T063721_20210917T064038_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_20210917T064038_20210917T064402_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_20210917T075445_20210917T075640_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_20210917T075640_20210917T080301_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_20210917T081701_20210917T082321_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_20210917T090409_20210917T090605_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_20210917T095848_20210917T100320_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_20210917T104314_20210917T104540_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_20210917T113713_20210917T114526_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_20210917T122047_20210917T122540_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_20210917T123611_20210917T123847_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_20210917T131641_20210917T132428_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_20210917T132603_20210917T132651_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_20210917T140109_20210917T140504_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_20210917T141501_20210917T141904_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_20210917T144340_20210917T144416_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_20210917T144843_20210917T145316_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_20210917T145701_20210917T150509_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_20210917T154007_20210917T154217_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_20210917T155349_20210917T155756_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_20210917T163618_20210917T164339_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_20210917T173133_20210917T173728_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_20210917T175108_20210917T175314_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_20210917T181534_20210917T182309_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_20210917T194205_20210917T194222_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_20210917T195418_20210917T200113_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.
	1	

CS_OFFL_SIR_GOPR_2_20210917T200120_20210917T200134_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_20210917T205101_20210917T205329_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_20210917T213241_20210917T214013_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_20210917T214722_20210917T214744_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_20210917T222956_20210917T223220_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_20210917T230934_20210917T231714_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_20210917T235540_20210917T235810_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.	

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

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

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

Number of products with errors: 198

### 5.8 L2 Ocean Retracking Quality Check

#### L2 Retracking Flags (20Hz)

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

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

Number of products with errors: 62

#### L2 Retracking Flags (20Hz, PLRM)

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

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

Number of products with errors: 14

#### 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:

### 6.3 P2P Auxiliary Data File Usage Check

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

Number of products with errors:

#### 6.4 P2P Auxiliary Correction Error Check

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

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

- > ECMWF Meteo Corrections: Currently the following corrections are not computed over CONTINENTAL ICE: Dry Tropospheric 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: 36

Product	Test Failed	Description
CS_OFFL_SIR_GOP_2_20210916T231552_20210917T000530_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_2_20210917T000530_20210917T005507_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_2_20210917T005507_20210917T014445_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_2_20210917T014445_20210917T023422_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

Interest is all error with the MSS height (solution 1) and the Mean Dynamic Topography (1). Total Geocentric Ocean Tide (FES). Non-Equilibrium Long Period Ocean Tide (FES). Non-Equilibrium Long Period Ocean Tide (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (s
Topography (1)  Topography (1)  Topography (2)  Topography (2)  Topography (3)  Topography (4)  Topography (5)  Topography (5)  Topography (6)  Topography (6)  Topography (6)  Topography (6)  Topography (1)  Topography (6)  Topography (6)  Topography (6)  Topography (7)  Topography (8)  Topography (9)  Topography (9)
Topography (1)  Topography (2)  Topography (2)  Topography height (solution 1) for one or more records  Topography height (solution 1) for one or more records  Topography (1)  Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynan Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynan Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynan Topography height (solution 1), the Total Geocentric Ocean Tide height (solution 2). The same records Topography height (solution 1), the Total Geocentric Ocean Tide height (solution 2). The same records Topography height (solution 1), the Total Geocentric Ocean Tide height (solution 2). The same records Topography height (solution 1), the Total Geocentric Ocean Tide height (solution 2). The same records Topography height (solution 1) and the Mean Dynan Topography height (solution 1) for one or more records.  There is an error with the MSS height (solution 1) and the Mean Dynan Topography height (solution 1) for one or more records.  There is an error with the MSS height (solution 1) and the Mean Dynan Topography height (solution 1) for one or more records.  There is an error with the MSS height (solution 1) and the Mean Dynan Topography height (solution 1) for one or more records.  There is an error with the MSS height (solution 1) and the Mean Dynan Topography height (solution 1) for one or more records.  There is an error with the MSS height (solution 1) and the Mean Dynan Topography height (solution 1) for one or more records.  There is an error with the MSS height (solution 1) and the Mean Dynan Topography height (solution 1) for one or more records.  There is an error with the MSS height (solution 1) and the Mean Dynan Topography height (solution 1) for one or more records.
Topography (1)  Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records  Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records  Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1), the Total Geocentric Ocean Tide height (solution 2) for one or more records  Topography height (solution 1), the Total Geocentric Ocean Tide height (solution 2) for one or more records  Topography height (solution 1) for one or more records  Topography height (solution 1) for one or more records  Topography height (solution 1) for one or more records  Topography height (solution 1) for one or more records  Topography height (solution 1) for one or more records  Topography height (solution 1) for one or more records  Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records
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CS_OFFL_SIR_GOP_2_20210917T064229_20210917T073206_C001  Topography (1), Total Geocentric Ocean Tide (solution 1), the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height (solution 1: Period Period Period Ocean Tide height (solution 1: Period Pe
CS_OFFL_SIR_GOP_2_20210917T073206_20210917T082143_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records  CS_OFFL_SIR_GOP_2_20210917T091120_20210917T100058_C001  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynam Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records
Topography (1)  Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic There is an error with the MSS height (solution 1) and the Mean Dynam Topography
Topography (1) Topography height (solution 1) for one or more records  CS_OFFL_SIR_GOP_2_202109171091120_202109171100088_C001  Topography (1) Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic There is an error with the MSS height (solution 1) and the Mean Dynamic
1-5-1-5-1, 1-5-1-5-1-5-1-5-1-5-1-5-1-5-1-5-1-5-1-5
CS_OFFL_SIR_GOP_2_20210917T105035_20210917T114013_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records
Mean Sea Surface (1), Mean Dynamic CS_OFFL_SIR_GOP_2_20210917T114013_20210917T122950_C001  Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)  There is an error with the MSS height (solution 1) and the Total Geocentric Ocean Tide he (solution 1: GOT) for one or more records
CS_OFFL_SIR_GOP_2_20210917T122950_20210917T131927_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOP_2_20210917T131927_20210917T140905_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOP_2_20210917T140905_20210917T145842_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOP_2_20210917T145842_20210917T154819_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOP_2_20210917T154819_20210917T163757_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOP_2_20210917T163757_20210917T172734_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOP_2_20210917T172734_20210917T181711_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOP_2_20210917T181711_20210917T190648_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOP_2_20210917T190648_20210917T195626_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOP_2_20210917T195626_20210917T204603_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOP_2_20210917T204603_20210917T213541_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOP_2_20210917T213541_20210917T222518_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records
GPD Wet Tropospheric Correction, Mean CS_OFFL_SIR_GOP_2_20210917T222518_20210917T231455_C001  GPD Wet Tropospheric Correction, Mean Dynamic Sea Surface (1), Mean Dynamic Topography (1)  GPD Wet Tropospheric Correction, Mean Dynamic (solution 1) and the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOP_2_20210917T231455_20210918T000433_C002  Mean Sea Surface (1), Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records

# 6.5 P2P Measurement Confidence Data Check

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

Number of products with errors:

Product	Test Failed	Description	
CS_OFFL_SIR_GOP_2_20210917T122950_20210917T131927_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records	
CS_OFFL_SIR_GOP_220210917T163757_20210917T172734_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records	
CS_OFFL_SIR_GOP_2_20210917T195626_20210917T204603_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records	

# 6.6 P2P Measurement Quality Flag Check

# P2P Quality Flags (20Hz)

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

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

# P2P Quality Flags (20Hz PLRM)

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

Number of products with errors:

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

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

Number of products with errors:

30

#### 6.8 P2P Ocean Retracking Quality Check

# P2P Retracking Flags (20Hz)

Cryosat P2P data includes an ocean retracking quality flag (field 19) for each 20-Hz measurement record. The bit value of this flag indicates any problems when set.

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

Number of products with errors:

28

#### 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	167	167	4	163	0	
SIR_GOPR1B	100	100	0	100	0	
SIR_GOPN1B	105	105	3	102	0	
SIR_GOPM_2	167	167	113	54	0	
SIR_GOPR_2	100	100	30	70	0	
SIR_GOPN_2	105	105	36	69	0	
SIR_GOP_P2P	29	29	0	29	0	

# 7.1 QCC Errors

Number of QCC reports with errors:

0

# 7.2 QCC Warnings

Number of QCC reports with warnings

2219

#### Total number of occurrences of each warning

Total humber of occurrences of each warming							
Product Type	BCSHNCDF	MVIOEPFDNCDF	MVIOEPNCDF	MVIONCDF	RBSZOPOEPFDNCDF	RBSZOPOEPFDPLRMNCD	RBSZOPOEPNCDF
SIR_GOPM1B	163	0	0	0	0	0	0
SIR_GOPM_2	0	42	45	3	41	0	30
SIR_GOPN1B	100	0	0	0	0	0	0
SIR_GOPN_2	0	10	37	5	25	37	23
SIR_GOPR1B	99	0	0	0	0	0	0
SIR GOPR 2	0	41	42	3	35	32	23

Product Type	RNELPOTONCDF	RPEPOPFDLRMNCDF	RPEPOPFDPLRMSARNCD	RPEPOPFDPLRMSINNCDF	RPEPOPFDSARNCDF	RPEPOPFDSINNCDF	RPEPOPLRMNCDF
SIR_GOPM1B	0	0	0	0	0	0	0
SIR_GOPM_2	0	34	0	0	0	0	30
SIR_GOPN1B	0	0	0	0	0	0	0
SIR_GOPN_2	1	0	0	26	0	37	0
SIR_GOPR1B	0	0	0	0	0	0	0
SIR_GOPR_2	0	0	44	0	50	0	0

Product Type	RPEPOPSARNCDF	RPEPOPSINNCDF	RSSBCONCDF	RSSHAOFDNCDF	RSSHAOFDPLRMNCDF	RSSHAONCDF	RSWHOEPFDNCDF
SIR_GOPM1B	0	0	0	0	0	0	0
SIR_GOPM_2	0	0	4	29	0	4	34
SIR_GOPN1B	0	0	0	0	0	0	0
SIR_GOPN_2	0	30	22	51	51	36	36
SIR_GOPR1B	0	0	0	0	0	0	0
SIR GOPR 2	42	0	1	64	35	10	40

Product Type	RSWHOEPFDPLRMNCDF	RSWHOEPNCDF	SPHRTASCNSNCDF	SOOHHIFHD	SCSTODHRNCDF	SCSTODNCDF	-
SIR_GOPM1B	0	0	1	0	0	0	
SIR_GOPM_2	0	1	1	0	0	0	
SIR_GOPN1B	0	0	1	0	52	2	
SIR_GOPN_2	34	22	0	4	0	0	
SIR_GOPR1B	0	0	0	0	99	4	
SIR_GOPR_2	44	3	0	1	0	0	

Product Type	IOHHMOOR	MVIOEPFDNCDF	MVIOEPNCDF	MVIONCDF	RBSZOPOEPFDNCDF	RBSZOPOEPFDPLRMNCD	RBSZOPOEPNCDF
SIR_GOP_2_	16	28	29	4	28	19	26

SIR_GOP_2_   1   19   28   22   18   28	18

SIR GOP 2 25 20 40 47 20	Product Type	RSSHAONCDF	RSWHOEPFDNCDF	RSWHOEPFDPLRMNCDF	RSWHOEPNCDF	SPHLPQWNCDF	-
SIN_OOT_Z_   25   29   19   17   29	SIR GOP 2	25	29	19	17	29	

Test Description Key:		
Abbreviation	Test name	Details
BCSHNCDF	BurstCounterStep20HzNetCDF	The burst counter should be one higher with regard to the previous burst counter
MVIOEPFDNCDF	MissingValueIntOceanExcludingPolarFD2NetCDF	The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees
MVIOEPNCDF	MissingValueIntOceanExcludingPolarNetCDF	The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees
MVIONCDF	MissingValueIntOceanNetCDF	The value should not be a 'missing value' for surface type 0 only
RBSZOPOEPFDNCDF	RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2NetCDF	The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees

RBSZOPOEPFDPLRM NCDF	RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2PLRMNetCDF	The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RBSZOPOEPNCDF	RangeBackscatterSigmaZeroOPOceanExcludingPolarNetCDF	The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RNELPOTONCDF	RangeNELPOceanTideOceanNetCDF	The Non-equilibrium long period ocean loading tide height should be between -40mm and 40mm (or missing) for surface type = ocean
RPEPOPFDLRMNCDF	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
RSWHOEPFDNCDF	RangeSignificantWaveHeightOceanExcludingPolarFD2NetCDF	The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RSWHOEPFDPLRMNC DF	RangeSignificantWaveHeightOceanExcludingPolarFD2PLRMNetCDF	The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RSWHOEPNCDF	RangeSignificantWaveHeightOceanExcludingPolarNetCDF	The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
SPHRTASCNSNCDF	SPH_Rel_Time_ASC_Node_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
SCSTODNCDF	SequenceCounterStepTODNetCDF	The sequence counter should be one higher (modulo 16384) with regard to the previous sequence counter

# 7.3 Missing QCC Reports

Number of products with missing QCC reports:

Product name

No GOPX reports missing

Product name
CS\_OFFL\_SIR\_GOP\_2\_20210917T231455\_20210918T000433\_C002