

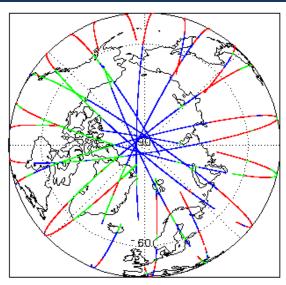
## 1. Overview

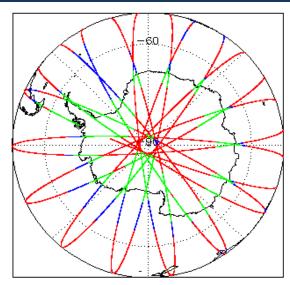
Report Production:	07-Feb-2022	
Processor Used:	CryoSat Ocean Processor	
Data Used:	Near Real Time Ocean Products (NOP) L1B & L2 Science Data	

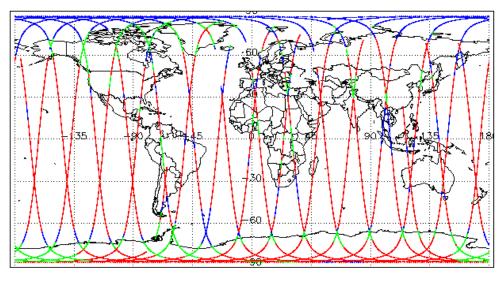
Check	L1 & L2
Server check: science-pds.cryosat.esa.int	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal
Product Software Check	Nominal
Product Format Check	Nominal
Product Header Analysis	Nominal
Auxiliary Data File Usage Check	Nominal
Auxiliary Correction Error Check	See Section 5.4
Measurement Confidence Data Check	See Section 4.5, 4.6 and 5.5
Measurement Quality Flag Check	See Section 5.6
Ocean Retracking Quality Check	See Section 5.7
QCC Error/ Warning Check	See Section 7.1 and 7.2

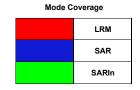
I	Mission / Instru	ment News
	05-Feb-2022	None
	06-Feb-2022	None
	07-Feb-2022	Nothing planned

# 2. Global Coverage









## 3. Instrument Configuration

The SIRAL instrument configuration for the day of acquisition is provided below.

SIRAL instrument(s) in use:	SIRAL - A
Star Tracker(s) in use:	Star Tracker 1

### 4. NOP 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 NOPR and NOPN 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.

> Dynamic Atmospheric Correction: The DAC is missing in all products because the auxiliary files required are not available in time for processing. This known and expected behaviour.

Number of products with errors:

0

#### 4.4 L1B Auxiliary Correction Error Check

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

Number of products with errors:

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#### 4.5 L1B Measurement Confidence Data Check

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

> Attitude Correction Missing: This flag is currently set in error for NOPR products due to a configuration issue. The attitude correction is not actually missing, 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\_NOPM1B\_20220206T005005\_20220206T005115\_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 occasional products over land, but this is to be expected

Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_NOPM1B_20220206T030435_20220206T033043_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPM1B_20220206T061528_20220206T064947_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPM1B_20220206T120139_20220206T120516_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPM1B_20220206T161715_20220206T164458_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20220206T011027_20220206T011248_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20220206T092206_20220206T092323_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20220206T105659_20220206T110051_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20220206T110105_20220206T110236_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20220206T123723_20220206T124127_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20220206T192305_20220206T192354_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20220206T224030_20220206T224151_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPR1B_20220206T060204_20220206T060314_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPR1B_20220206T100021_20220206T100109_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPR1B_20220206T123354_20220206T123614_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPR1B_20220206T192354_20220206T192421_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPR1B_20220206T192917_20220206T193057_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPR1B_20220206T220253_20220206T220331_C001	Loss of Echo	The tracking echo is missing for one or more records

### 5. NOP Level 2 Data Quality Check

#### 5.1 L2 Product Format Check

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

Number of products with errors:

0

#### 5.2 L2 Product Header Analysis

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

Number of products with errors:

0

#### 5.3 L2 Auxiliary Data File Usage Check

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

Wind Model File Usage: This file is currently not included in all L2 products

Number of products with errors:

0

### 5.4 L2 Auxiliary Correction Error Check

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

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

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

Number of products with errors:

45

CS_OFFL_SIR_NOPM_2_20220206T00950_20220206T00951_C001  CS_OFFL_SIR_NOPM_2_20220206T000850_20220206T000951_C001  CS_OFFL_SIR_NOPM_2_20220206T000850_20220206T000951_C001  CS_OFFL_SIR_NOPM_2_20220206T001053_20220206T001414_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPM_2_20220206T011027_20220206T011248_C001  CS_OFFL_SIR_NOPM_2_20220206T011027_20220206T011248_C001  CS_OFFL_SIR_NOPM_2_20220206T015308_20220206T015500_C001  CS_OFFL_SIR_NOPM_2_20220206T015308_20220206T015500_C001  CS_OFFL_SIR_NOPM_2_20220206T055008_20220206T055445_C001  CS_OFFL_SIR_NOPM_2_20220206T033248_20220206T033426_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPM_2_20220206T033248_20220206T033426_C001  Mean Dynamic Topography (1)  The more than th	here is an error with the Mean Dynamic Topography height for one or ore records  here is an error with the MSS height (solution 1) and the Mean Dynamic oppography height (solution 1) for one or more records  here is an error with the MSS height (solution 1) and the Mean Dynamic oppography height (solution 1) for one or more records  here is an error with the Mean Dynamic Topography height for one or ore records  here is an error with the MSS height (solution 1), the Mean Dynamic oppography height (solution 1) and the Total Geocentric Ocean Tide oppography height (solution 1) for one or more records  here is an error with the MSS height (solution 1) and the Mean Dynamic oppography height (solution 1) for one or more records  here is an error with the MSS height (solution 1) and the Mean Dynamic oppography height (solution 1) for one or more records  here is an error with the Mean Dynamic Topography height for one or ore records  here is an error with the Mean Dynamic Topography height for one or ore records  here is an error with the Mean Dynamic Topography height for one or ore records  here is an error with the MSS height (solution 1), the Mean Dynamic oppography height (solution 1) and the Total Geocentric Ocean Tide oppography height (solution 1: GOT) for one or more records  here is an error with the MSS height (solution 1) and the Mean Dynamic oppography height (solution 1) for one or more records  here is an error with the MSS height (solution 1) and the Mean Dynamic oppography height (solution 1) for one or more records  here is an error with the MSS height (solution 1) and the Mean Dynamic oppography height (solution 1) for one or more records  here is an error with the MSS height (solution 1) and the Mean Dynamic oppography height (solution 1) for one or more records
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CS_OFFL_SIR_NOPN_2_20220206T033248_20220206T033426_C001  CS_OFFL_SIR_NOPN_2_20220206T033248_20220206T033426_C001  Mean Dynamic Topography (1)  The more comparison of the prography (2) Total Geocentric Ocean Tide (GOT)  CS_OFFL_SIR_NOPN_2_20220206T051239_20220206T051625_C001  CS_OFFL_SIR_NOPN_2_20220206T051239_20220206T051625_C001  CS_OFFL_SIR_NOPN_2_20220206T051239_20220206T051625_C001  CS_OFFL_SIR_NOPN_2_20220206T060020_20220206T060109_C001  CS_OFFL_SIR_NOPN_2_20220206T060020_20220206T060109_C001  CS_OFFL_SIR_NOPN_2_20220206T065214_20220206T065531_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  The Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T065214_20220206T065531_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T074306_20220206T074355_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T083952_20220206T084059_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T092206_20220206T092323_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T110105_20220206T110236_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T115524_20220206T120139_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T15524_20220206T120139_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T155018_20220206T124127_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T155018_20220206T155643_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T155018_20220206T155643_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  Mean Sea Surface (1), Mean Dy	popgraphy height (solution 1) for one or more records  there is an error with the MSS height (solution 1) and the Mean Dynamic popgraphy height (solution 1) for one or more records  there is an error with the Mean Dynamic Topography height for one or ore records  there is an error with the Mean Dynamic Topography height for one or ore records  there is an error with the MSS height (solution 1), the Mean Dynamic popgraphy height (solution 1) and the Total Geocentric Ocean Tide eight (solution 1: GOT) for one or more records  there is an error with the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records  there is an error with the MSS height (solution 1) and the Mean Dynamic popgraphy 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 MSS height (solution 1) and the Mean Dynamic popgraphy height (solution 1) for one or more records  there is an error with the MSS height (solution 1) and the Mean Dynamic popgraphy height (solution 1) for one or more records
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CS_OFFL_SIR_NOPN_2_20220206T043052_20220206T043110_C001  Mean Dynamic Topography (1)  The more comparison of the property of t	here is an error with the MSS height (solution 1), the Mean Dynamic Dy
CS_OFFL_SIR_NOPN_2_20220206T051239_20220206T051625_C001  Mean Sea Surface (1), Mean Dynamic Topography (1) Total Geocentric Ocean Fide (GOT)  CS_OFFL_SIR_NOPN_2_20220206T060020_20220206T060109_C001  Total Geocentric Ocean Tide (GOT)  The GO'  CS_OFFL_SIR_NOPN_2_20220206T065214_20220206T065531_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T074306_20220206T074355_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T083952_20220206T084059_C001  CS_OFFL_SIR_NOPN_2_20220206T083952_20220206T092323_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T092206_20220206T092323_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T110105_20220206T110236_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T115524_20220206T120139_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T115524_20220206T120139_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T133444_20220206T124127_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  The Topography (1)  Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Total Geocen	here is an error with the MSS height (solution 1), the Mean Dynamic prography height (solution 1) and the Total Geocentric Ocean Tide eight (solution 1: GOT) for one or more records here is an error with the Total Geocentric Ocean Tide height (solution 1: OT) for one or more records here is an error with the MSS height (solution 1) and the Mean Dynamic prography height (solution 1) for one or more records here is an error with the MSS height (solution 1) for one or more records here is an error with the MSS height (solution 1) and the Mean Dynamic prography height (solution 1) for one or more records here is an error with the MSS height (solution 1) and the Mean Dynamic prography height (solution 1) for one or more records here is an error with the MSS height (solution 1) and the Mean Dynamic prography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20220206T051239_20220206T060159_C001  CS_OFFL_SIR_NOPN_2_20220206T060020_20220206T060109_C001  Total Geocentric Ocean Tide (GOT)  CS_OFFL_SIR_NOPN_2_20220206T060214_20220206T065531_C001  Mean Sea Surface (1), Mean Dynamic The Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T074306_20220206T074355_C001  Mean Sea Surface (1)  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T083952_20220206T084059_C001  CS_OFFL_SIR_NOPN_2_20220206T092206_20220206T092323_C001  CS_OFFL_SIR_NOPN_2_20220206T110105_20220206T110236_C001  CS_OFFL_SIR_NOPN_2_20220206T110105_20220206T110236_C001  CS_OFFL_SIR_NOPN_2_20220206T115524_20220206T120139_C001  CS_OFFL_SIR_NOPN_2_20220206T123723_20220206T124127_C001  CS_OFFL_SIR_NOPN_2_20220206T133444_20220206T124127_C001  CS_OFFL_SIR_NOPN_2_20220206T155018_20220206T155643_C001  CS_OFFL_SIR_NOPN_2_20220206T155018_20220206T155643_C001  CS_OFFL_SIR_NOPN_2_20220206T165451_20220206T165611_C001  Mean Dynamic Topography (1)  Total Geocentric Ocean Tide (GOT), Non-Cquilibrium Long Period Ocean Tide (GOT), Non-Cquil	popgraphy height (solution 1) and the Total Geocentric Ocean Tide eight (solution 1: GOT) for one or more records here is an error with the Total Geocentric Ocean Tide height (solution 1: OT) for one or more records  here is an error with the MSS height (solution 1) and the Mean Dynamic prography height (solution 1) for one or more records  here is an error with the MSS height (solution 1) for one or more records  here is an error with the MSS height (solution 1) and the Mean Dynamic prography height (solution 1) for one or more records  here is an error with the MSS height (solution 1) and the Mean Dynamic prography height (solution 1) for one or more records  here is an error with the MSS height (solution 1) and the Mean Dynamic prography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20220206T065214_20220206T065531_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T074306_20220206T074355_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T083952_20220206T084059_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T092206_20220206T092323_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T110105_20220206T110236_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T115524_20220206T120139_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T123723_20220206T120139_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T123723_20220206T124127_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T133444_20220206T133805_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide  CS_OFFL_SIR_NOPN_2_20220206T165451_20220206T165611_C001  Mean Dynamic Topography (1)  Mean Dynamic Topography (1)  The Mean Dynamic Topography (1)	OT) for one or more records  here is an error with the MSS height (solution 1) and the Mean Dynamic oppography height (solution 1) for one or more records  here is an error with the MSS height (solution 1) for one or more records  here is an error with the MSS height (solution 1) and the Mean Dynamic oppography height (solution 1) for one or more records  here is an error with the MSS height (solution 1) and the Mean Dynamic oppography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20220206T074306_20220206T074355_C001  Mean Sea Surface (1)  Mean Sea Surface (1)  Mean Sea Surface (1)  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T083952_20220206T092323_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T092206_20220206T092323_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T110105_20220206T110236_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T115524_20220206T120139_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T123723_20220206T124127_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  The Topography (1)  Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography (1)  Total Geocentric Ocean Tide (GOT), The Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide  CS_OFFL_SIR_NOPN_2_20220206T165451_20220206T165611_C001  Mean Dynamic Topography (1)  The Mean Dynamic Topography (1)	popgraphy 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 MSS height (solution 1) and the Mean Dynamic  popgraphy height (solution 1) for one or more records  there is an error with the MSS height (solution 1) and the Mean Dynamic  popgraphy height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20220206T083952_20220206T092323_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography (1)  Topography (1)  Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide  CS_OFFL_SIR_NOPN_2_20220206T165451_20220206T165611_C001  Mean Dynamic Topography (1)  The Mean Dynamic Topography (1)	here is an error with the MSS height (solution 1) and the Mean Dynamic opography height (solution 1) for one or more records here is an error with the MSS height (solution 1) and the Mean Dynamic opography height (solution 1) for one or more records
Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T092206_20220206T092323_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T110105_20220206T110236_C001  CS_OFFL_SIR_NOPN_2_20220206T115524_20220206T120139_C001  CS_OFFL_SIR_NOPN_2_20220206T123723_20220206T120139_C001  CS_OFFL_SIR_NOPN_2_20220206T123723_20220206T124127_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T123723_20220206T124127_C001  CS_OFFL_SIR_NOPN_2_20220206T133444_20220206T133805_C001  CS_OFFL_SIR_NOPN_2_20220206T155018_20220206T155643_C001  CS_OFFL_SIR_NOPN_2_20220206T165018_20220206T165611_C001  Mean Dynamic Topography (1)  Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide  CS_OFFL_SIR_NOPN_2_20220206T165451_20220206T165611_C001  Mean Dynamic Topography (1)  The Mean Dynamic Topography (1)	opography height (solution 1) for one or more records  here is an error with the MSS height (solution 1) and the Mean Dynamic opography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20220206T110105_20220206T110236_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T115524_20220206T120139_C001  CS_OFFL_SIR_NOPN_2_20220206T123723_20220206T124127_C001  CS_OFFL_SIR_NOPN_2_20220206T123723_20220206T124127_C001  CS_OFFL_SIR_NOPN_2_20220206T133444_20220206T133805_C001  CS_OFFL_SIR_NOPN_2_20220206T155018_20220206T155643_C001  CS_OFFL_SIR_NOPN_2_20220206T155018_20220206T155643_C001  CS_OFFL_SIR_NOPN_2_20220206T165451_20220206T165611_C001  Mean Dynamic Topography (1)  The Mean Dynamic Topography (1)	opography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20220206T115524_20220206T120139_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20220206T123723_20220206T124127_C001  CS_OFFL_SIR_NOPN_2_20220206T123723_20220206T124127_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography (1)  Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide  CS_OFFL_SIR_NOPN_2_20220206T165451_20220206T165611_C001  Mean Dynamic Topography (1)  The Mean Dynamic Topography (1)	here is an error with the MSS height (solution 1) and the Mean Dynamic
CS_OFFL_SIR_NOPN_2_20220206T123723_20220206T124127_C001	opography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20220206T123723_20220206T124T27_C001  Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography (1)  Topography (1)  Topography (1)  Topography (1)  Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide  CS_OFFL_SIR_NOPN_2_20220206T165451_20220206T165611_C001  Mean Dynamic Topography (1)  The more CS_OFFL_SIR_NOPN_2_20220206T165451_20220206T173405_C001  Mean Dynamic Topography (1)  The more CS_OFFL_SIR_NOPN_2_20220206T173341_20220206T173405_C001  Mean Dynamic Topography (1)	here is an error with the MSS height (solution 1) and the Mean Dynamic oppography height (solution 1) for one or more records
Topography (1)  Topography (1)  Topography (1)  Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide  CS_OFFL_SIR_NOPN_2_20220206T165451_20220206T165611_C001  Mean Dynamic Topography (1)  The mon	nere is an error with the MSS height (solution 1) and the Mean Dynamic opography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20220206T155018_20220206T155643_C001	here is an error with the MSS height (solution 1) and the Mean Dynamic oppography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_202202061165451_202202061165611_C001   Mean Dynamic Topography (1)   The	here is an error with the Total Geocentric Ocean Tide height (solution 1: OT and 2: FES) and the Non-equilibrium Long Period Ocean Tide heigh rr one or more records
	here is an error with the Mean Dynamic Topography height for one or ore records
	nere is an error with the Mean Dynamic Topography height for one or ore records
	nere is an error with the Mean Dynamic Topography height for one or ore records
	here is an error with the MSS height (solution 1) and the Mean Dynamic oppography height (solution 1) for one or more records
	here is an error with the Mean Dynamic Topography height for one or ore records
	here is an error with the MSS height (solution 1) and the Mean Dynamic oppography height (solution 1) for one or more records
Topography (1) Top	here is an error with the MSS height (solution 1) and the Mean Dynamic oppography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20220206T224030_20220206T224151_C001 Topography (1), Total Geocentric Ocean Topography	here is an error with the MSS height (solution 1), the Mean Dynamic opography height (solution 1) and the Total Geocentric Ocean Tide eight (solution 1: GOT) for one or more records
	here is an error with the MSS height (solution 1) and the Mean Dynamic oppography height (solution 1) for one or more records
	here is an error with the MSS height (solution 1) and the Mean Dynamic oppography height (solution 1) for one or more records
	here is an error with the MSS height (solution 1) and the Mean Dynamic
CS_OFFL_SIR_NOPR_2_20220206T042304_20220206T043052_C001 Mean Sea Surface (1), Mean Dynamic Topography (1)	opography height (solution 1) for one or more records

### 5.5 L2 Measurement Confidence Data Check

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

Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_NOPM_2_20220206T005005_20220206T005115_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 (20 Hz)

Product

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.

Test Failed

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

Number of products with errors: 93

	10001000	2000
CS_OFFL_SIR_NOPM_2_20220206T000951_20220206T001053_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_NOPM_2_20220206T001649_20220206T001948_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_NOPM_2_20220206T001955_20220206T002428_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_NOPM_2_20220206T002639_20220206T004116_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_NOPM_2_20220206T010323_20220206T010416_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_NOPM_2_20220206T011945_20220206T012358_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_NOPM_2_20220206T012400_20220206T012535_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_NOPM_2_20220206T012820_20220206T015228_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_NOPM_2_20220206T015500_20220206T020327_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_NOPM_2_20220206T020557_20220206T023137_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_NOPM_2_20220206T030435_20220206T033043_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_NOPM_2_20220206T033713_20220206T034129_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_NOPM_2_20220206T034446_20220206T041150_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_NOPM_2_20220206T041240_20220206T041436_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_NOPM_2_20220206T041523_20220206T041647_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_NOPM_2_20220206T042232_20220206T042304_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_NOPM_2_20220206T043740_20220206T050957_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_NOPM_2_20220206T051625_20220206T052210_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_NOPM_2_20220206T052334_20220206T052950_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_NOPM_2_20220206T060109_20220206T060204_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_NOPM_2_20220206T061528_20220206T064947_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_NOPM_2_20220206T065531_20220206T070043_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_NOPM_2_20220206T070239_20220206T072208_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_NOPM_2_20220206T075407_20220206T082244_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_NOPM_2_20220206T082255_20220206T082803_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_NOPM_2_20220206T083538_20220206T083952_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_NOPM_2_20220206T084146_20220206T084256_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_NOPM_2_20220206T084313_20220206T090918_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_NOPM_2_20220206T093455_20220206T093624_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_NOPM_2_20220206T093716_20220206T094526_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_NOPM_2_20220206T094947_20220206T095915_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_NOPM_2_20220206T100109_20220206T100735_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_NOPM_2_20220206T100910_20220206T101431_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_NOPM_2_20220206T101450_20220206T101700_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_NOPM_2_20220206T102542_20220206T103805_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_NOPM_2_20220206T103948_20220206T104834_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_NOPM_2_20220206T105000_20220206T105659_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been
	Altimeter Range and Backscatter Quality	
CS_OFFL_SIR_NOPM_2_20220206T111927_20220206T112907_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_NOPM_2_20220206T113109_20220206T113822_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_NOPM_2_20220206T113942_20220206T114627_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_NOPM_2_20220206T114837_20220206T115332_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_NOPM_2_20220206T115407_20220206T115524_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_NOPM_2_20220206T120139_20220206T120516_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_NOPM_2_20220206T121933_20220206T122800_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_NOPM_2_20220206T122916_20220206T123230_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_NOPM_2_20220206T125835_20220206T125840_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_NOPM_2_20220206T130945_20220206T132535_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_NOPM_2_20220206T132817_20220206T133300_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_NOPM_2_20220206T133322_20220206T133444_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_NOPM_2_20220206T133912_20220206T140236_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_NOPM_2_20220206T140238_20220206T140616_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_NOPM_2_20220206T143909_20220206T150519_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_NOPM_2_20220206T150803_20220206T151201_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_NOPM_2_20220206T151205_20220206T151215_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_NOPM_2_20220206T151221_20220206T151546_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_NOPM_2_20220206T151810_20220206T154543_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_NOPM_2_20220206T161715_20220206T164458_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_NOPM_2_20220206T164632_20220206T165116_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_NOPM_2_20220206T165120_20220206T165451_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_NOPM_2_20220206T165849_20220206T173241_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_NOPM_2_20220206T174535_20220206T174725_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_NOPM_2_20220206T181716_20220206T181930_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_NOPM_2_20220206T182129_20220206T182422_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_NOPM_2_20220206T182621_20220206T183144_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_NOPM_2_20220206T183734_20220206T185950_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_NOPM_2_20220206T190235_20220206T191147_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_NOPM_2_20220206T192421_20220206T192746_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_NOPM_2_20220206T193510_20220206T194035_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_NOPM_2_20220206T194353_20220206T194903_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_NOPM_2_20220206T195032_20220206T200346_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_NOPM_2_20220206T200551_20220206T201044_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_NOPM_2_20220206T201653_20220206T202305_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_NOPM_2_20220206T202312_20220206T204910_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_NOPM_2_20220206T205245_20220206T205249_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_NOPM_2_20220206T211100_20220206T211354_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_NOPM_2_20220206T211524_20220206T213823_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_NOPM_2_20220206T215627_20220206T220253_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_NOPM_2_20220206T221852_20220206T222625_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_NOPM_2_20220206T224151_20220206T224500_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_NOPM_2_20220206T224726_20220206T230254_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_NOPM_2_20220206T230508_20220206T232006_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_NOPM_2_20220206T232648_20220206T232904_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_NOPM_2_20220206T232943_20220206T233403_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_NOPM_2_20220206T233545_20220206T235041_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_NOPM_2_20220206T235220_20220206T235410_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_NOPM_2_20220206T235412_20220207T000419_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_NOPR_2_20220206T055707_20220206T055814_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_NOPR_2_20220206T074021_20220206T074306_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_NOPR_2_20220206T103805_20220206T103948_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_NOPR_2_20220206T204910_20220206T205220_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_NOPR_2_20220206T211354_20220206T211524_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_NOPR_2_20220206T220253_20220206T220331_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_NOPR_2_20220206T221411_20220206T221852_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records

#### L2 Quality Flags (20 Hz PLRM)

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

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

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Number of products with errors:

Test Failed Product Description OCOG Altimeter Range Quality PLRM, The OCOG Range and Backscatter Quality Flags have been set for one or CS\_OFFL\_SIR\_NOPN\_2\_20220206T000850\_20220206T000951\_C001 OCOG Backscatter Quality more records OCOG Altimeter Range Quality PLRM, The OCOG Range and Backscatter Quality Flags have been set for one or CS\_OFFL\_SIR\_NOPN\_2\_20220206T002428\_20220206T002612\_C001 OCOG Backscatter Quality more records 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 and Backscatter Quality PLRM, OCOG CS\_OFFL\_SIR\_NOPN\_2\_20220206T011027\_20220206T011248\_C001 Altimeter Range and Backscatter Quality 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 and Backscatter Quality PLRM, OCOG CS\_OFFL\_SIR\_NOPN\_2\_20220206T011316\_20220206T011503\_C001 Altimeter Range and Backscatter Quality set for one or more records OCOG Altimeter Range Quality PLRM, The OCOG Range and Backscatter Quality Flags have been set for one or CS\_OFFL\_SIR\_NOPN\_2\_20220206T015308\_20220206T015500\_C001 OCOG Backscatter Quality more records OCOG Altimeter Range Quality PLRM, The OCOG Range and Backscatter Quality Flags have been set for one or CS OFFL SIR NOPN 2 20220206T023137 20220206T023512 C001 OCOG Backscatter Quality more records OCOG Altimeter Range Quality PLRM, The OCOG Range and Backscatter Quality Flags have been set for one or CS OFFL SIR NOPN 2 20220206T023945 20220206T024108 C001 OCOG Backscatter Quality more records 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 and Backscatter Quality PLRM, OCOG CS OFFL SIR NOPN 2 20220206T025008 20220206T025445 C001 Altimeter Range and Backscatter Quality OCOG Altimeter Range Quality PLRM, The OCOG Range and Backscatter Quality Flags have been set for one or CS\_OFFL\_SIR\_NOPN\_2\_20220206T025530\_20220206T025652\_C001\_ OCOG Backscatter Quality more records OCOG Altimeter Range Quality PLRM, The OCOG Range and Backscatter Quality Flags have been set for one or CS OFFL SIR NOPN 2 20220206T030045 20220206T030252 C001 OCOG Backscatter Quality more records OCOG Altimeter Range Quality PLRM, The OCOG Range and Backscatter Quality Flags have been set for one or CS OFFL SIR NOPN 2 20220206T033248 20220206T033426 C001 OCOG Backscatter Quality more records OCOG Altimeter Range Quality PLRM, The OCOG Range and Backscatter Quality Flags have been set for one or CS OFFL SIR NOPN 2 20220206T034129 20220206T034421 C001 OCOG Backscatter Quality Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags CS OFFL SIR NOPN 2 20220206T043119 20220206T043740 C001 and the OCOG Altimeter Range and Backscatter Quality Flags have been Altimeter Range and Backscatter Quality set for one or more records PLRM Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags CS OFFL SIR NOPN 2 20220206T052210 20220206T052324 C001 and the OCOG Altimeter Range and Backscatter Quality Flags have been Altimeter Range and Backscatter Quality set for one or more records PLRM OCOG Altimeter Range Quality PLRM, The OCOG Range and Backscatter Quality Flags have been set for one or CS OFFL SIR NOPN 2 20220206T053900 20220206T054234 C001 OCOG Backscatter Quality OCOG Altimeter Range Quality PLRM, The OCOG Range and Backscatter Quality Flags have been set for one or CS\_OFFL\_SIR\_NOPN\_2\_20220206T054250\_20220206T054429\_C001 OCOG Backscatter Quality Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags CS\_OFFL\_SIR\_NOPN\_2\_20220206T055100\_20220206T055306\_C001 and the OCOG Altimeter Range and Backscatter Quality Flags have been Altimeter Range and Backscatter Quality set for one or more records PLRM OCOG Altimeter Range Quality PLRM, The OCOG Range and Backscatter Quality Flags have been set for one or CS\_OFFL\_SIR\_NOPN\_2\_20220206T061135\_20220206T061300\_C001 OCOG Backscatter Quality more records

CS_OFFL_SIR_NOPN_2_20220206T074306_20220206T074355_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_NOPN_2_20220206T082930_20220206T083330_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_NOPN_2_20220206T091847_20220206T092056_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_NOPN_2_20220206T101700_20220206T101843_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_NOPN_2_20220206T105659_20220206T110051_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_NOPN_2_20220206T111531_20220206T111927_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_NOPN_2_20220206T115524_20220206T120139_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_NOPN_2_20220206T121331_20220206T121933_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_NOPN_2_20220206T132610_20220206T132817_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_NOPN_2_20220206T141600_20220206T141640_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_NOPN_2_20220206T143706_20220206T143909_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_NOPN_2_20220206T155018_20220206T155643_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_NOPN_2_20220206T173241_20220206T173405_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_NOPN_2_20220206T173443_20220206T173612_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_NOPN_2_20220206T175324_20220206T175349_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_NOPN_2_20220206T181024_20220206T181146_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_NOPN_2_20220206T193057_20220206T193107_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_NOPN_2_20220206T201044_20220206T201410_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_NOPN_2_20220206T210608_20220206T210657_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_NOPN_2_20220206T214522_20220206T214757_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_NOPN_2_20220206T224030_20220206T224151_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_NOPN_2_20220206T224500_20220206T224726_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_NOPN_2_20220206T232044_20220206T232143_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_NOPN_2_20220206T232147_20220206T232648_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_NOPN_2_20220206T233403_20220206T233540_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_NOPR_2_20220206T000650_20220206T000721_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_NOPR_2_20220206T004116_20220206T004801_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_NOPR_2_20220206T010416_20220206T011027_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_NOPR_2_20220206T011552_20220206T011822_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_NOPR_2_20220206T012535_20220206T012616_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_NOPR_2_20220206T024146_20220206T024408_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_NOPR_2_20220206T024427_20220206T024525_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_NOPR_2_20220206T042304_20220206T043052_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_NOPR_2_20220206T055707_20220206T055814_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_NOPR_2_20220206T060204_20220206T060314_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_NOPR_2_20220206T060321_20220206T061135_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_NOPR_2_20220206T061300_20220206T061339_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_NOPR_2_20220206T074021_20220206T074306_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_NOPR_2_20220206T074355_20220206T075407_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_NOPR_2_20220206T082803_20220206T082930_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_NOPR_2_20220206T092324_20220206T093048_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_NOPR_2_20220206T093227_20220206T093255_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_NOPR_2_20220206T110236_20220206T110757_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_NOPR_2_20220206T113822_20220206T113942_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_NOPR_2_20220206T115332_20220206T115336_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_NOPR_2_20220206T123354_20220206T123614_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_NOPR_2_20220206T124309_20220206T124835_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_NOPR_2_20220206T125342_20220206T125416_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_NOPR_2_20220206T130211_20220206T130945_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_NOPR_2_20220206T133805_20220206T133912_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_NOPR_2_20220206T141950_20220206T142511_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_NOPR_2_20220206T151701_20220206T151810_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_NOPR_2_20220206T155643_20220206T160541_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_NOPR_2_20220206T160604_20220206T160833_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_NOPR_2_20220206T165611_20220206T165849_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_NOPR_2_20220206T173405_20220206T173443_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_NOPR_2_20220206T173612_20220206T174205_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_NOPR_2_20220206T174205_20220206T174230_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_NOPR_2_20220206T174725_20220206T174934_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_NOPR_2_20220206T181531_20220206T181716_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_NOPR_2_20220206T193314_20220206T193510_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_NOPR_2_20220206T204910_20220206T205220_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_NOPR_2_20220206T213823_20220206T214522_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_NOPR_2_20220206T222916_20220206T222938_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_NOPR_2_20220206T230254_20220206T230508_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_NOPR_2_20220206T235041_20220206T235220_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records

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

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

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

Number of products with errors:

### 5.7 L2 Ocean Retracking Quality Check

#### L2 Retracking Flags (20 Hz)

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

> Ocean Retracking Quality Flag: This flag is currently set for products falling at ocean/ land boundaries, but this is expected.

Number of products with errors: 6

## L2 Retracking Flags (20 Hz PLRM)

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

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

Number of products with errors: 13

## 7. NOP 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_NOPM1B	212	212	4	208	0
SIR_NOPR1B	118	118	0	118	0
SIR_NOPN1B	111	111	0	109	2
SIR_NOPM_2	212	212	149	63	0
SIR_NOPR_2	118	118	43	72	3
SIR_NOPN_2	109	109	42	67	0

### 7.1 QCC Errors

Number of QCC reports with errors:

10

Total number of occurrences of each error

<b>Product Type</b>	RLOBOPNCDF	RL	RLOBOPNCDF	RL	USSOPOBHRNO	-	-	-	-	-	-
SIR_NOPN1B	0	0	0	0	2						
SIR_NOPR_2	3	3	3	3	0						

<b>Test Description Key:</b>		
Abbreviation	Test name	Details

RLOBOPNCDF	RangeLatitudeOrBlankOP_7NetCDF	Latitude should be between -90E7 and 90E7 - NetCDF
RL	RangeLatitude_7	Latitude should be between -90E7 and 90E7
RLOBOPNCDF	RangeLongitudeOrBlankOP_7NetCDF	Longitude should be between -180E7 and 180E7 - NetCDF
RL	RangeLongitude_7	Longitude should be between -180E7 and 180E7
RRTAISSOPOBHRNCD	RangeRecordTAlStartStopOPOrBlankHRNetC	The time value should be between the record TAI start/stop times of the SPH

## 7.2 QCC Warnings

### Number of QCC reports with warnings

174

### Total number of occurrences of each warning

Product Type	BCSHNCDF	IOHHMOOR	MVIOEPFDNCDF	MVIOEPNCDF	MVIONCDF	RBSZOPOEPFDNCDF	RBSZOPOEPFDPLRMNCD
SIR_NOPM1B	208	0	0	0	0	0	0
SIR_NOPM_2	0	0	40	38	0	45	0
SIR_NOPN1B	109	0	0	0	0	0	0
SIR_NOPN_2	0	0	10	37	5	29	35
SIR_NOPR1B	112	0	0	0	0	0	0
SIR_NOPR_2	0	3	22	34	1	27	25

Product Type	RBSZOPOEPNCDF	RPEPOPFDLRMNCDF	RPEPOPFDPLRMSARNCE	RPEPOPFDPLRMSINNCD	RPEPOPFDSARNCDF	RPEPOPFDSINNCDF	RPEPOPLRMNCDF
SIR_NOPM1B	0	0	0	0	0	0	0
SIR_NOPM_2	37	35	0	0	0	0	24
SIR_NOPN1B	0	0	0	0	0	0	0
SIR_NOPN_2	15	0	0	25	0	37	0
SIR_NOPR1B	0	0	0	0	0	0	0
SIR_NOPR_2	11	0	37	0	44	0	0

	Product Type	RPEPOPSARNCDF	RPEPOPSINNCDF	RSSBCONCDF	RSSHAOFDNCDF	RSSHAOFDPLRMNCDF	RSSHAONCDF	RSWHOEPFDNCDF
	SIR_NOPM1B	0	0	0	0	0	0	0
	SIR_NOPM_2	0	0	3	24	0	3	31
	SIR_NOPN1B	0	0	0	0	0	0	0
	SIR_NOPN_2	0	29	12	42	55	27	35
	SIR_NOPR1B	0	0	0	0	0	0	0
Г	SIR NOPR 2	33	0	3	50	34	11	26

Product Type	RSWHOEPFDPLRMNCDF	RSWHOEPNCDF	SPHRTASCNSNCDF	SPHRTASCNSNCDF	SOOHHIFHD	SCSTODHRNCDF	SCSTODNCDF
SIR_NOPM1B	0	0	0	1	0	0	0
SIR_NOPM_2	0	1	0	1	0	0	0
SIR_NOPN1B	0	0	0	1	0	54	1
SIR_NOPN_2	33	14	0	0	1	0	0
SIR_NOPR1B	0	0	1	1	0	118	5
SIR NOPR 2	39	1	0	0	6	0	0

Test Description Key:		
Abbreviation	Test name	Details
BCSHNCDF	BurstCounterStep20HzNetCDF	The burst counter should be one higher with regard to the previous burst counter
IOHHMOOR	IndexOf1Hzin20HzMappingOutOfRange	The mapping of 20 Hz to 1 Hz measurements should be in the range 0 to (number of 1 Hz samples - 1)
MVIOEPFDNCDF	MissingValueIntOceanExcludingPolarFD2NetCDF	The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees
MVIOEPNCDF	MissingValueIntOceanExcludingPolarNetCDF	The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees
MVIONCDF	MissingValueIntOceanNetCDF	The value should not be a 'missing value' for surface type 0 only
RBSZOPOEPFDNCDF	RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2NetCDF	The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RBSZOPOEPFDPLRM NCDF	RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2PLRMNetCDF	The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RBSZOPOEPNCDF	RangeBackscatterSigmaZeroOPOceanExcludingPolarNetCDF	The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
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_Start_v2_NetCDF	Rel_Time_ASC_Node_Start mismatch (DBL ASC, rounded up to 0.1)
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