



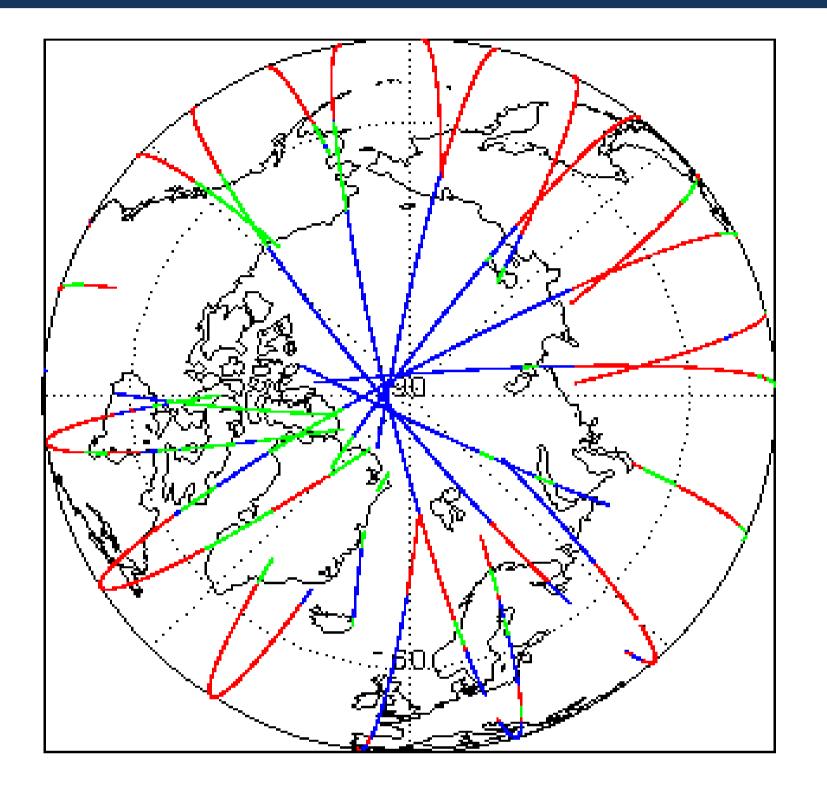
# 1. Overview

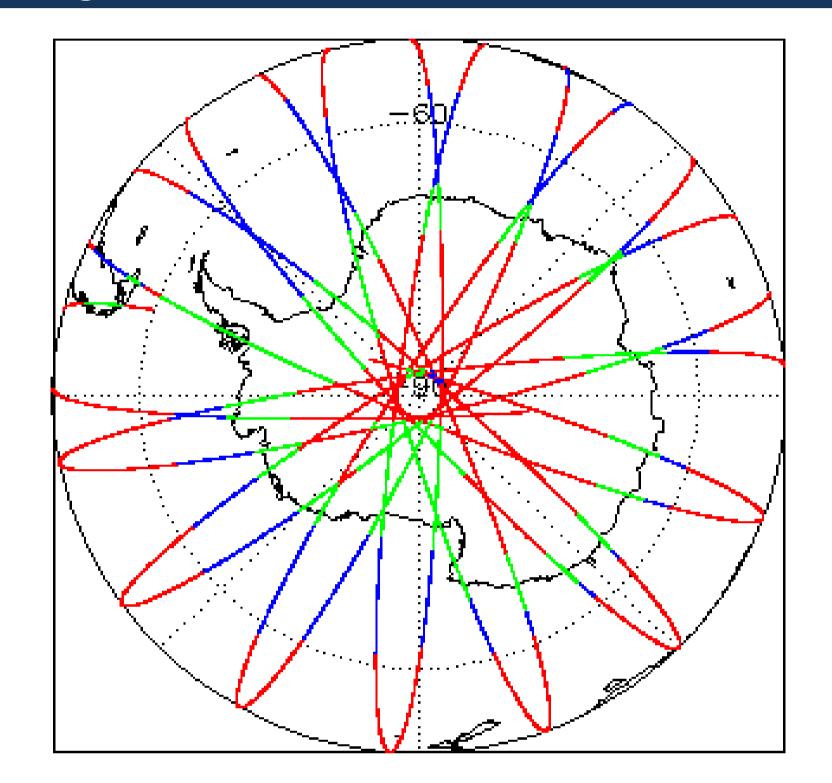
<b>Report Production:</b>	18-Nov-2020
Processor Used:	CryoSat Ocean Processor
Data Used:	Near Real Time Ocean Products (NOP) L1B & L2 Science Data

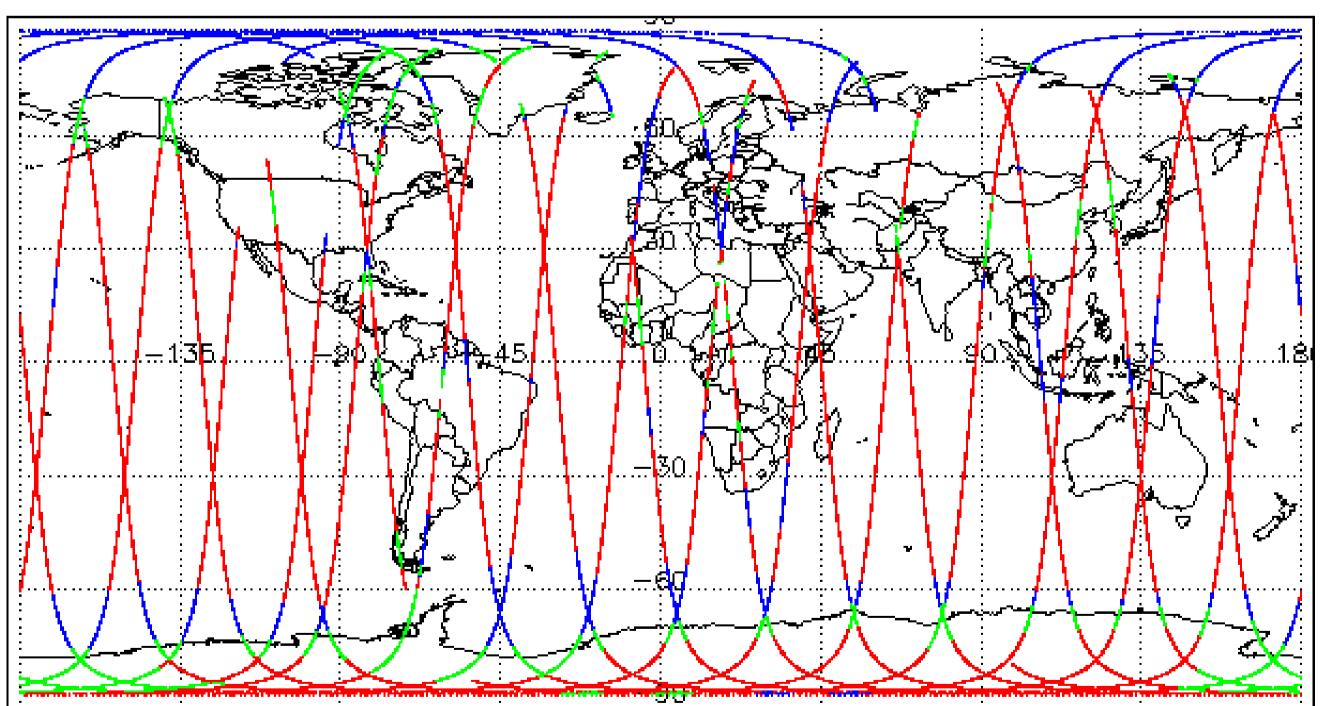
Check	L1 & L2
Server check: science-pds.cryosat.esa.int	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal
Product Software Check	Nominal
Product Format Check	Nominal
Product Header Analysis	Nominal
Auxiliary Data File Usage Check	Nominal
Auxiliary Correction Error Check	See Section 5.4
Measurement 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

Mission / Instrument News		
16-Nov-2020	None	
17-Nov-2020	None	
18-Nov-2020	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

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

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

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

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

Number of products with errors:

#### 0

#### 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:

#### **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 NOPR products due to a configuration issue. This is being investigated and will be updated in the next SW update.

Number of products with errors:

2

Product	Test Failed	Description
CS_OFFL_SIR_NOPM1B_20201117T023556_20201117T030307_C001	Power scaling error	There is an error in the scaling of the L1B waveform for one or more records
CS_OFFL_SIR_NOPN1B_20201117T162301_20201117T162310_C001	Cal1. corr. missing	The Cal1 correction has not been applied

#### 4.6 L1B Waveform Group Data Check

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

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

Number of products with errors:

14

Product	Test Failed	Description
CS_OFFL_SIR_NOPM1B_20201117T031005_20201117T031244_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPM1B_20201117T091351_20201117T092734_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPM1B_20201117T231536_20201117T231715_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20201116T235952_20201117T000455_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20201117T023241_20201117T023412_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20201117T032217_20201117T032537_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20201117T094619_20201117T094747_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20201117T094944_20201117T095159_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20201117T190007_20201117T190523_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20201117T220755_20201117T220837_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPR1B_20201117T035809_20201117T040228_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPR1B_20201117T043937_20201117T044323_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPR1B_20201117T055131_20201117T055545_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPR1B_20201117T210142_20201117T210344_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 binary product file (.DBL).

Number of products with errors:

0

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:

### 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:

## **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.

> Mean Dynamic Topography: The error value is currently set for products over land and sea ice, but this is to be expected.

> Altimetric Wind Speed Error: The error value is currently set for products over land and sea ice, but this is to be expected.

Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_NOPN_2_20201116T235952_20201117T000455_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
CS_OFFL_SIR_NOPN_2_20201117T004314_20201117T004433_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20201117T022439_20201117T022640_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period	There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1) and the tidal corrections for one or more records
CS_OFFL_SIR_NOPN_2_20201117T040228_20201117T040549_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_NOPN_2_20201117T041113_20201117T041232_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20201117T050117_20201117T050438_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20201117T054125_20201117T054446_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_NOPN_2_20201117T071755_20201117T071956_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20201117T072836_20201117T073007_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_NOPN_2_20201117T081142_20201117T081244_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_NOPN_2_20201117T090601_20201117T090807_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_NOPN_2_20201117T094619_20201117T094747_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
CS_OFFL_SIR_NOPN_2_20201117T094944_20201117T095159_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20201117T103615_20201117T103802_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_NOPN_2_20201117T105307_20201117T105543_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20201117T122539_20201117T122744_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 2: FES) and the Non-Equilibrium Long Period Ocean Tide for one or more records
CS_OFFL_SIR_NOPN_2_20201117T144154_20201117T144559_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20201117T154413_20201117T154526_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20201117T171426_20201117T171552_C001	Mean Sea Surface (1)	There is an error with the MSS height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20201117T172105_20201117T172407_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_NOPN_2_20201117T185441_20201117T185743_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20201117T190007_20201117T190523_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_NOPN_2_20201117T195106_20201117T195139_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_NOPN_2_20201117T203445_20201117T203719_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_NOPN_2_20201117T212956_20201117T213111_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_NOPN_2_20201117T213305_20201117T213542_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period	There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1) and the tidal corrections for one or more records
CS_OFFL_SIR_NOPN_2_20201117T220945_20201117T221549_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20201117T230922_20201117T231141_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_NOPN_2_20201117T231222_20201117T231404_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_NOPN_2_20201117T235204_20201117T235351_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_NOPR_2_20201117T013507_20201117T014013_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_NOPR_2_20201117T030307_20201117T030405_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPR_2_20201117T030857_20201117T031005_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPR_2_20201117T031244_20201117T032217_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_NOPR_2_20201117T043937_20201117T044323_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPR_2_20201117T045250_20201117T050117_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_NOPR_2_20201117T063342_20201117T064130_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_NOPR_2_20201117T081244_20201117T081828_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_NOPR_2_20201117T081839_20201117T081953_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPR_2_20201117T095159_20201117T095847_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_NOPR_2_20201117T112549_20201117T112613_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPR_2_20201117T113030_20201117T113550_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_NOPR_2_20201117T194348_20201117T194452_C001	Mean Dynamic Topography (1), Total Geocentric Ocean Tide (FES), Non- Equilibrium Long Period Ocean Tide	There is an error with the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 2: FES) and the Non-Equilibrium Long Period Ocean Tide for one or more records

## **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_20201117T023555_20201117T030307_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records

# 5.6 L2 Measurement Quality Flag Check

### L2 Quality Flags (20Hz)

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

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

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

> OCOG Altimeter Range and Backscatter Quality Flags: These flags are currently set for some records over continental ice.

#### Number of products with errors:

77

Product	Test Failed	Description
CS_OFFL_SIR_NOPM_2_20201117T001453_20201117T004039_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.
US OFFE SIR NOPM 2 202011171004716 202011171005218 COOT	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_20201117T005653_20201117T012044_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_20201117T015344_20201117T021843_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.

Hintern Barge and Society Landon         Joint on an any more trains.           Constrainting and Society Landon         Constrainting and Society Landon         And Society Society Landon         And Society Society Landon         And Society Society Landon         And Society Landon </th <th>CS_OFFL_SIR_NOPM_2_20201117T022640_20201117T023241_C001</th> <th>OCOG Altimeter Range Quality, OCOG Backscatter Quality</th> <th>The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.</th>	CS_OFFL_SIR_NOPM_2_20201117T022640_20201117T023241_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 U+L SRF RUM 2 7001117101325 2001117101326 0001       Missecate Outly Fight Sectors 2001       International Sectors 2001117101326 0001117101326 0001         CS D+L SRF RUM 2 7001117101325 2001117101325 0011       Control Missecate Sectors 2001117101326 001117101132 0011       International Sectors 2001117101132 00111       International Sectors 2001117101132 00111         CS D+L SRF RUM 2 7001117101132 0001117101132 0011       CODD Alteres Regu 20010, 0001       International Sectors 2001117101132 00111       International Sectors 2001117101132 001117101132 00111       International Sectors 2001117101132 001117101132 001117101132 001117101132 001117101132 00111       International Sectors 2001117101132 001117101132 00111       International Sectors 2001117101132 001117101132 00111       International Sectors 2001117101111 00111       International Sectors 2001117101111 00111       International Sectors 2001117101111 00111       International Sectors 2001117101111 001111       International Sectors 20011	CS_OFFL_SIR_NOPM_2_20201117T023555_20201117T030307_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS, OFR, JR, NOFM, 2, 2021111/100307, 20211117004501, 202111177004501, 20211117004501, 20211117004501, 202111	CS_OFFL_SIR_NOPM_2_20201117T031005_20201117T031244_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CSUPEL-SIG-SUPUL-SUPUL-SUPUL-SUPUL-TOUSINE_ACCOUNT (1993)         Beacodier Gality         Beacodier Gality         Beacodier Gality         Beacodier Gality           CS_OFT_SIR_NOPM_2_S02011*T701511_S022111*T701512_S02011*T7015125_S02011*T701512_S02011*T701512_S02011*T701512_S02	CS_OFFL_SIR_NOPM_2_20201117T032537_20201117T035809_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
S2_0FT_LSIR_NOFM_2_22221117T61151_02001117T011900_0001       and Bassacker Owalin, OCOD       The COOS Attractor Range and Baskacetter Qualty Flags hash beins relation of the COOS Attractor Range and Baskacetter Qualty Flags hash beins relation of the COOS Attractor Range and Baskacetter Qualty Flags hash beins relation of the COOS Attractor Range and Baskacetter Qualty Flags hash beins relation of the COOS Attractor Range and Baskacetter Qualty Flags hash beins relation of the COOS Attractor Range and Baskacetter Qualty Flags hash beins relation of the COOS Attractor Range and Baskacetter Qualty Flags hash beins relation of the COOS Attractor Range and Baskacetter Qualty Flags hash beins relation of the COOS Attractor Range and Baskacetter Qualty Flags hash beins relation of the COOS Attractor Range and Baskacetter Qualty Flags hash beins relation of the COOS Attractor Range and Baskacetter Qualty Flags hash beins relation of the COOS Attractor Range and Baskacetter Qualty Flags hash beins relation of the COOS Attractor Range, SSHA, SWH and Raskacetter Qualty Flags hash beins relation of the COOS Attractor Range, SSHA, SWH and Raskacetter Qualty Flags hash been relation of the COOS Attractor Range, SSHA, SWH and Raskacetter Qualty Flags hash been relation of the COOS Attractor Range, SSHA, SWH and Raskacetter Qualty Flags hash been relation of the COOS Attractor Range, SSHA, SWH and Raskacetter Qualty Flags hash been relation of the COOS Attractor Range and Baskacetter Qualty Flags hash been relation of the COOS Attractor Range and Baskacetter Qualty Flags hash been relation of the COOS Attractor Range and Baskacetter Qualty Flags hash been relation of the COOS Attractor Range and Baskacetter Qualty Flags hash been relation of the COOS Attractor Range and Baskacetter Qualty Flags hash been relation of the COOS Attractor Range and Baskacetter Qualty Flags hash been relation of the COOS Attractor Range and Baskacetter Qualty Flags hash been relation of the COOS At	CS_OFFL_SIR_NOPM_2_20201117T040549_20201117T041113_C001	<b>C I</b>	
Start, Sint, Nork, 2, 2021117104235, 2021117104235, 2021         Badiosster Camity         The Origin Allinear Resp. SNA, SWH         The Origin Allinear Resp. SNA, SWH and Statistater Origin Firab Isset Set All in the Statistat	CS_OFFL_SIR_NOPM_2_20201117T041541_20201117T041908_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS, DFEL_SIR, NDFM_2, 20201117704576, 2001117704576, 20011         and Radsatter Dusing, DCOG Author Code Alternet Range, SSHA, SVM Alteret Range and Backacatter Cusing, DCOG Alternet Range, SSHA, SVM Alteret Range and Backacatter Cusing Plags have been Altered To Code Alternet Range, SSHA, SVM and Backacatter Cusing, DCOG Alternet Range, SSHA, SVM and Backacatter Cusing, Plags have been set for one or note records.           C5, DFEL_SIR, NDFM_2, 20201117705406, 2001117705406, 2001117705406, 2001117705406, 2001117705407, Conr C5, DFEL_SIR, NDFM_2, 20201117705406, 2001117705407, Conr C6, DFEL_SIR, NDFM_2, 20201117705406, 2001117705146, Conr C6, DFEL_SIR, NDFM_2, 20201117705406, 2001117705406, Conr C6, DFEL_SIR, ND	CS_OFFL_SIR_NOPM_2_20201117T042157_20201117T042528_C001	<b>C P C</b>	
SS_OFFL_SIR_NOPM_2_20201117T05146_20201117T051351_0001       and Backsatter Quality, Elogs have been adformer Range and Backsatter Quality Flags have been adformer Range Quality. COOG Attender Range and Backsatter Quality Flags have been adformer Range Quality. COOG Attender Range and Backsatter Quality Flags have been adformer Range Quality. COOG Attender Range and Backsatter Quality Flags have been adformer Range Quality. COOG Attender Range and Backsatter Quality Flags have been adformer Range Quality. COOG Attender Range and Backsatter Quality Flags have been adformer Range Quality. COOG Attender Range and Backsatter Quality Flags have been adformer Range Quality. COOG Attender Range and Backsatter Quality Flags have been adformer Range Quality. COOG Attender Range and Backsatter Quality Flags have been adformer Range Quality. COOG Attender Range and Backsatter Quality Flags have been adformer Range Quality. COOG Attender Range Quality. COOG Attender Range Quality. COOG Attender Range Quality Flags have been adformer Range Quality. COOG Attender Range Quality Flags have been adformer Range Quality. COOG Attender Range Quality Flags have been adformer Range Quality. COOG Attender Range Quality Flags have been adformer Range Quality. COOG Attender Range Quality Flags have been adformer Range Quality. COOG Attender Range Quality Flags have been adformer Range Quality. COOG Attender Range Quality Flags have been adformer Range Quality. COOG Attender Range and Backscatter Quality Flags have been adformer Range Quality. COOG Attender Range QUALity Flags have been adformer Range QUALity Flags have been adformer Range QUALity. COOG Attender Range QUALity Flags have been adformer Range QUALity Flags hav	CS_OFFL_SIR_NOPM_2_20201117T044918_20201117T045250_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS       OFFL_SIR_NOPM_2_202011171051835_202011171053409_C001       and Backscatter Quality_C0CG       and Backscatter Quality_C0CG       and Backscatter Quality_C0CG       and Backscatter Quality_Flags have been set         CS_OFFL_SIR_NOPM_2_202011171054458_202011       COCGA Alimeter Range Quality_C0CG       The OCCGA Alimeter Range and Backscatter Quality_Flags have been set         CS_OFFL_SIR_NOPM_2_202011171054458_202011171056007_C001       COCGA Alimeter Range Quality_C0CG       The OCCGA Alimeter Range and Backscatter Quality_Flags have been set         CS_OFFL_SIR_NOPM_2_202011171054559_202011171056007_C001       COCGA Alimeter Range Quality_C0CG       The OCCGA Alimeter Range and Backscatter Quality_Flags have been set         CS_OFFL_SIR_NOPM_2_202011171056007_C001       COCGA Alimeter Range SIM_SIM_MITH       The OCGGA Alimeter Range and Backscatter Quality_Flags have been set         CS_OFFL_SIR_NOPM_2_202011171056052_202011171056053_C001       COCGA Alimeter Range SIM_SIM_MITH       The OCGGA Alimeter Range, SIM_SIM_MITH         CS_OFFL_SIR_NOPM_2_20201117105605_20201117105164_202011171051653_C001       COCGA Alimeter Range SIM_SIM_MITH       The OCGGA Alimeter Range and Backscatter Quality_Flags have been set         CS_OFFL_SIR_NOPM_2_20201117105169_20201117105169_20201117105169_2020       COCGA Alimeter Range SIM_SIM_MITH       The OCGGA Alimeter Range and Backscatter Quality Flags have been set         CS_OFFL_SIR_NOPM_2_20201117105169_20201117105169_2020_001       DCCGA Alimeter Range SIM_SIM_MITH       The OCGGA Alimeter Range SIM_SIM_MITH         <	CS_OFFL_SIR_NOPM_2_20201117T050446_20201117T051351_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
Count Inclusion, Inclusion, Count Inclusion, Count Internation, Count Internat, Count Internation, Count Internation, Count Internation, Count	CS_OFFL_SIR_NOPM_2_20201117T051635_20201117T053809_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
US_DFPL_SR_NOPM_2_2020111/T069689_2020111/T06968_2020111/T06968_2020111/T069689_2020111/T068489	CS_OFFL_SIR_NOPM_2_20201117T054446_20201117T054554_C001		
CS_OFFL_SIR_NOPM_2_20201117T085545_20201117T080659_20201117T080659_20201117T081141_C001       and Backscatter Quality, CCCO Altimeter Range, SSHA, SWH and backscatter Quality, CCCO Coean Altimeter Range, SSHA, SWH and backscatter Quality, CCCO Altimeter Range, SSHA, SWH and Backscatter Quality, Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20201117T064301_20201117T071650_C001       Cean Altimeter Range, SSHA, SWH and Backscatter Quality, CCCO Altimeter Range and Backscatter Quality, Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20201117T072613_20201117T072635_C001       CCCO Altimeter Range, SSHA, SWH and Backscatter Quality, CCCO Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the CCCG Altimeter Range, SSHA, SWH and Backscatter Quality, CCCO Altimeter Range and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20201117T084022_20201117T084032_C001       Cocean Altimeter Range, SSHA, SWH and Backscatter Quality, CCCO Altimeter Range and Backscatter Quality Flags have been set for one or more	CS_OFFL_SIR_NOPM_2_20201117T054559_20201117T055007_C001		
CS_OFFL_SIR_NOPM_2_20201117T080659_20201117T081141_C001       and Backscatter Quality, CCGG       and the CCGG Altimeter Range and Backscatter Quality Flags have been Altimeter Range Quality, CCGG         CS_OFFL_SIR_NOPM_2_20201117T081506_20201117T08183_C001       OCCGG Altimeter Range, SNH, SWH and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20201117T084301_20201117T071650_C001       Occean Altimeter Range, SNH, SWH and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20201117T072513_20201117T072635_C001       Occean Altimeter Range, SNH, SWH and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20201117T073553_20201117T072635_C001       OCCGG Altimeter Range, SNH, SWH and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20201117T073553_20201117T080729_C001       Occean Altimeter Range, SNH, SWH and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20201117T082155_20201117T083432_C001       Occean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20201117T084022_20201117T083432_C001       Occean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20201117T084022_20201117T084033_C001       Occean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20201117T084022_20201117T084033_C001       Occean Altimeter Range, SSHA, SWH and B	CS_OFFL_SIR_NOPM_2_20201117T055545_20201117T060512_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_NOPM_2_20201117T08108_02_0001117T081683_C001       Backscatter Quality       for one or more records.         CS_OFFL_SIR_NOPM_2_20201117T0746301_20201117T071650_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20201117T072513_20201117T072835_C001       OCean Altimeter Range Quality, OCOG Backscatter Quality       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20201117T072513_20201117T072835_C001       Ocean Altimeter Range Quality, OCOG Backscatter Quality       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality         CS_OFFL_SIR_NOPM_2_20201117T073553_20201117T080729_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, COCG Altimeter Range, SSHA, SWH and Backscatter Quality, Flags have been altimeter Range, SSHA, SWH and Backscatter Quality, COCG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20201117T080523_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, COCG Altimeter Range and Backscatter Quality Flags have been set for one or more records.       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20201117T0805	CS_OFFL_SIR_NOPM_2_20201117T060659_20201117T061141_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_NOPM_2_20201117T064301_20201117T071650_C001       and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       and the OCOG Altimeter Range and Backscatter Quality       and the OCOG Altimeter Range and Backscatter Quality Flags have been Altimeter Range and Backscatter Quality         CS_OFFL_SIR_NOPM_2_20201117T072513_20201117T072835_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_20201117T073553_20201117T080729_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality       The OCean Altimeter Range, and Backscatter Quality Flags have been and the OCOG Altimeter Range and Backscatter Quality Flags have been Altimeter Range and Backscatter Quality       The OCean Altimeter Range, and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality         CS_OFFL_SIR_NOPM_2_20201117T082155_20201117T083432_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       The Ocean Altimeter Range and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20201117T084022_20201117T085633_C001       Ocean Altimeter Range Quality, OCOG Altimeter Range and Backscatter Quality Flags and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20201117T085639_20201117T090352_C001       OCOG Altimeter Range Quality, OCOG Altimeter Range Quality, OCOG Altimeter Range Quality, OCOG       The OCOG Altimeter	CS_OFFL_SIR_NOPM_2_20201117T061506_20201117T061853_C001		
CS_OFFL_SIR_NOPM_2_202011171072513_202011171072635_C001       Backscatter Quality       for one or more records.         CS_OFFL_SIR_NOPM_2_20201117T073553_20201117T080729_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       The Ocean Altimeter Range, SSHA, SWH and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20201117T082155_20201117T083432_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality         CS_OFFL_SIR_NOPM_2_20201117T082155_20201117T083432_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality         CS_OFFL_SIR_NOPM_2_20201117T084022_20201117T085633_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20201117T084022_20201117T085633_C001       Ocean Altimeter Range Quality, OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20201117T085639_20201117T090352_C001       OCOG Altimeter Range Quality, OCOG Backscatter Quality       The OCEGA Altimeter Range and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20201117T090428_20201117T090601_C001       OCOG Altimeter Range Quality, OCOG Backscatter Quality       The OCCGA Altimeter Range an	CS_OFFL_SIR_NOPM_2_20201117T064301_20201117T071650_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_NOPM_2_20201117T073553_20201117T080729_C001and Backscatter Quality, OCOG Altimeter Range and Backscatter Qualityand the OCOG Altimeter Range and Backscatter QualityCS_OFFL_SIR_NOPM_2_20201117T082155_20201117T083432_C001Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter QualityThe Ocean Altimeter Range, SSHA, SWH and Backscatter QualityCS_OFFL_SIR_NOPM_2_20201117T082155_20201117T083432_C001Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter QualityThe Ocean Altimeter Range, SSHA, SWH and Backscatter QualityCS_OFFL_SIR_NOPM_2_20201117T084022_20201117T085633_C001Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter QualityThe Ocean Altimeter Range, SSHA, SWH and Backscatter QualityCS_OFFL_SIR_NOPM_2_20201117T085639_20201117T090352_C001OCOG Altimeter Range Quality, OCOG Backscatter QualityThe OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.CS_OFFL_SIR_NOPM_2_20201117T090428_20201117T090601_C001OCOG Altimeter Range Quality, OCOG Backscatter QualityThe OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.CS_OFFL_SIR_NOPM_2_20201117T091351_20201117T092734_C001Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and Backscatter Quality, OCOGThe OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags for one or more records.	CS_OFFL_SIR_NOPM_2_20201117T072513_20201117T072835_C001		
CS_OFFL_SIR_NOPM_2_20201117T082155_20201117T083432_C001and Backscatter Quality, OCOG Altimeter Range and Backscatter Qualityand Backscatter Quality, OCOG Altimeter Range and Backscatter Qualityand the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.CS_OFFL_SIR_NOPM_2_20201117T084022_20201117T085633_C001Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality, OCOG Backscatter Quality, OCOG Backscatter Quality, OCOG Altimeter Range Quality, OCOG Altimeter Range Quality, OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.CS_OFFL_SIR_NOPM_2_20201117T090428_20201117T090601_C001OCOG Altimeter Range Quality, OCOG Backscatter Quality, OCOGThe OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.CS_OFFL_SIR_NOPM_2_20201117T090428_20201117T090601_C001OCOG Altimeter Range Quality, OCOG Backscatter Quality, OCOGThe OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.CS_OFFL_SIR_NOPM_2_20201117T091351_20201117T092734_C001Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOGThe Ocean Altimeter Range, SSHA, SWH and the OCOG Altimeter Range and Backscatter Quality Flags have been	CS_OFFL_SIR_NOPM_2_20201117T073553_20201117T080729_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_NOPM_2_20201117T084022_20201117T085633_C001and Backscatter Quality, OCOG Altimeter Range and Backscatter Qualityand the OCOG Altimeter Range and Backscatter QualityCS_OFFL_SIR_NOPM_2_20201117T085839_20201117T090352_C001OCOG Altimeter Range Quality, OCOG Backscatter QualityThe OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.CS_OFFL_SIR_NOPM_2_20201117T090428_20201117T090601_C001OCOG Altimeter Range Quality, OCOG Backscatter QualityThe OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.CS_OFFL_SIR_NOPM_2_20201117T090428_20201117T090601_C001OCOG Altimeter Range Quality, OCOG Backscatter QualityThe OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.CS_OFFL_SIR_NOPM_2_20201117T091351_20201117T092734_C001Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOGThe OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.	CS_OFFL_SIR_NOPM_2_20201117T082155_20201117T083432_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_NOPM_2_20201117T090428_20201117T090352_C001Backscatter Qualityfor one or more records.CS_OFFL_SIR_NOPM_2_20201117T090428_20201117T090601_C001OCOG Altimeter Range Quality, OCOG Backscatter QualityThe OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.CS_OFFL_SIR_NOPM_2_20201117T091351_20201117T092734_C001Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOGThe Ocean Altimeter Range, SSHA, SWH and the OCOG Altimeter Range and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set	CS_OFFL_SIR_NOPM_2_20201117T084022_20201117T085633_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_NOPM_2_20201117T090428_20201117T090601_C001       Backscatter Quality       for one or more records.         Backscatter Quality       Ocean Altimeter Range, SSHA, SWH       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and Backscatter Quality, OCOG	CS_OFFL_SIR_NOPM_2_20201117T085839_20201117T090352_C001	C P	
CS_OFFL_SIR_NOPM_2_20201117T091351_20201117T092734_C001 and Backscatter Quality, OCOG and the OCOG Altimeter Range and Backscatter Quality Flags have been	CS_OFFL_SIR_NOPM_2_20201117T090428_20201117T090601_C001		
Altimeter Range and Backscatter Quality set for one or more records.	CS_OFFL_SIR_NOPM_2_20201117T091351_20201117T092734_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_NOPM_2_20201117T093031_20201117T094603_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags have been at the other Range and Backscatter Quality flags been been been been been been been bee	CS_OFFL_SIR_NOPM_2_20201117T093031_20201117T094603_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_NOPM_2_20201117T100914_20201117T101934_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags have been and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.	CS_OFFL_SIR_NOPM_2_20201117T100914_20201117T101934_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
Ocean Altimeter Range, SSHA, SWH The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags	CS_OFFL_SIR_NOPM_2_20201117T102114_20201117T103508_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	and the OCOG Altimeter Range and Backscatter Quality Flags have been

CS_OFFL_SIR_NOPM_2_20201117T103802_20201117T104304_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_20201117T105543_20201117T110515_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_20201117T110828_20201117T111326_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_20201117T111609_20201117T112355_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_20201117T112435_20201117T112448_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_20201117T115213_20201117T121335_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_20201117T121838_20201117T122221_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_20201117T122935_20201117T125527_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_20201117T132855_20201117T135259_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_20201117T135621_20201117T140136_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_20201117T140143_20201117T140510_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_20201117T140917_20201117T144154_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_20201117T150425_20201117T152327_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_20201117T152811_20201117T153208_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_20201117T153622_20201117T154211_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_20201117T154950_20201117T162140_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_20201117T163446_20201117T163550_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_20201117T165708_20201117T165858_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_20201117T170030_20201117T171016_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_20201117T171552_20201117T172104_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_20201117T172802_20201117T174918_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_20201117T175203_20201117T180337_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_20201117T181307_20201117T181525_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_20201117T183156_20201117T185017_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_20201117T185743_20201117T190007_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_20201117T190734_20201117T194059_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_20201117T195547_20201117T201503_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_20201117T201519_20201117T202806_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_20201117T203719_20201117T203916_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_20201117T204100_20201117T204420_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_20201117T204641_20201117T210141_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_20201117T210344_20201117T211330_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_20201117T211831_20201117T211834_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_20201117T213542_20201117T215221_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_20201117T220503_20201117T220506_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_20201117T221850_20201117T222321_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_20201117T222606_20201117T224010_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_20201117T231536_20201117T231715_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_20201117T232711_20201117T235017_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_20201117T235351_20201118T000225_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_NOPN_2_20201117T122237_20201117T122243_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_NOPN_2_20201117T132806_20201117T132855_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_NOPN_2_20201117T154413_20201117T154526_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_20201117T013332_20201117T013448_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_20201117T045250_20201117T050117_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_20201117T122744_20201117T122935_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_20201117T194348_20201117T194452_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_NOPN_2_20201116T235952_20201117T000455_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_20201117T004314_20201117T004433_C001	Altimeter Rande and Backscatter (Juality	The Ocean Altimeter Range, SSHA, SWH 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_20201117T023242_20201117T023412_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_20201117T040228_20201117T040549_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_20201117T041113_20201117T041232_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_20201117T044825_20201117T044918_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_20201117T050117_20201117T050438_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_20201117T063055_20201117T063125_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_20201117T081142_20201117T081244_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_20201117T094619_20201117T094747_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_20201117T100738_20201117T100914_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_20201117T103615_20201117T103802_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_20201117T105307_20201117T105543_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_20201117T110515_20201117T110828_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_20201117T113550_20201117T113613_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_20201117T121521_20201117T121838_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_20201117T122539_20201117T122744_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_20201117T125722_20201117T125950_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_20201117T131904_20201117T132027_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_20201117T140510_20201117T140635_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_20201117T163734_20201117T163810_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_20201117T165130_20201117T165315_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_20201117T171426_20201117T171552_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_20201117T183113_20201117T183156_C001		The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20201117T185441_20201117T185743_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_20201117T190007_20201117T190523_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_20201117T203916_20201117T204100_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_20201117T204420_20201117T204548_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_20201117T211330_20201117T211649_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_20201117T213305_20201117T213542_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_20201117T215339_20201117T215455_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_20201117T215638_20201117T215702_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_20201117T220945_20201117T221549_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_20201117T222322_20201117T222505_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_20201117T225017_20201117T225105_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_20201117T230922_20201117T231141_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_20201117T231222_20201117T231404_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_20201117T231715_20201117T231837_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_20201117T235204_20201117T235351_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_20201117T000456_20201117T000706_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_20201117T001330_20201117T001453_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_20201117T004039_20201117T004314_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_20201117T005452_20201117T005653_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_20201117T013507_20201117T014013_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_20201117T021843_20201117T022238_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_20201117T023412_20201117T023555_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_20201117T031244_20201117T032217_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_20201117T035809_20201117T040228_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_20201117T041232_20201117T041541_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_20201117T043937_20201117T044323_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_20201117T045250_20201117T050117_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_20201117T053809_20201117T054125_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_20201117T055131_20201117T055545_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_20201117T063342_20201117T064130_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_20201117T090807_20201117T091351_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_20201117T092735_20201117T093031_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_20201117T094747_20201117T094944_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_20201117T095159_20201117T095847_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_20201117T101934_20201117T102114_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_20201117T113030_20201117T113550_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_20201117T113613_20201117T113710_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_20201117T122744_20201117T122935_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_20201117T140635_20201117T140917_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_20201117T145410_20201117T145826_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_20201117T153208_20201117T153456_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_20201117T154527_20201117T154950_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_20201117T163655_20201117T163734_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_20201117T165858_20201117T170030_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_20201117T171016_20201117T171426_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_20201117T172407_20201117T172802_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_20201117T181525_20201117T182249_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_20201117T185017_20201117T185440_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_20201117T190523_20201117T190734_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_20201117T202807_20201117T203445_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_20201117T210142_20201117T210344_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
	1	

CS_OFFL_SIR_NOPR_2_20201117T215222_20201117T215339_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_20201117T220506_20201117T220755_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_20201117T224458_20201117T224859_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_20201117T225649_20201117T225706_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_20201117T235018_20201117T235204_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:

# 5.7 L2 Ocean Retracking Quality Check

L2 Retracking Flags (20Hz)	
CryoSat L2 data includes an ocean retracking q	uality 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 cu	urrently set for products falling at ocean/ land boundaries, but this is expected.
Number of products with errors:	52
L2 Retracking Flags (20Hz, PLRM)	
CryoSat L2 data includes an ocean retracking q	uality 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:	132

# 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	174	174	5	169	0
SIR_NOPR1B	96	96	0	96	0
SIR_NOPN1B	101	101	4	97	0
SIR_NOPM_2	174	174	124	50	0
SIR_NOPR_2	96	96	26	68	2
SIR_NOPN_2	101	101	41	60	0

# 7.1 QCC Errors

Product Type	RLOBOPNCDF	RL	RLOBOPNCDF	RL	-	-	-	-	-	-	-
SIR_NOPR_2	2	2	2	2							

Test Description Key:							
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					

# 7.2 QCC Warnings

Number of QCC reports with warnings

#### Total number of occurrences of each warning MVIONCDF BCSHNCDF IOHHMOOR MVIOEPFDNCDF MVIOEPNCDF RBSZOPOEPFDNCDF Product Type RBSZOPOEPFDPLRMNCD SIR\_NOPM1B SIR\_NOPM\_2 SIR\_NOPN1B SIR\_NOPN\_2 SIR\_NOPR1B SIR\_NOPR\_2

Product Type	RBSZOPOEPNCDF	RNELPOTONCDF	RPEPOPFDLRMNCDF	RPEPOPFDPLRMSAF			RPEPOPFDSINNCDF
SIR_NOPM1B	0	0	0	0	0	0	0
SIR_NOPM_2	38	0	27	0	0	0	0
SIR_NOPN1B	0	0	0	0	0	0	0
SIR_NOPN_2	18	2	0	0	27	0	34
SIR_NOPR1B	0	0	0	0	0	0	0
SIR_NOPR_2	11	4	0	52	0	55	0

Product Type	RPEPOPLRMNCDF	RPEPOPSARNCDF	RPEPOPSINNCDF	RSSBCONCDF	RSSHAOFDNCDF	RSSHAOFDPLRMNCDF	RSSHAONCDF
SIR_NOPM1B	0	0	0	0	0	0	0
SIR_NOPM_2	23	0	0	4	27	0	5
SIR_NOPN1B	0	0	0	0	0	0	0
SIR_NOPN_2	0	0	29	9	41	49	25
SIR_NOPR1B	0	0	0	0	0	0	0
SIR_NOPR_2	0	51	0	2	56	37	7

Product Type	RSWHOEPFDNCDF	RSWHOEPFDPLRMNCDF	RSWHOEPNCDF	SPHRTASCNSNCDF	SOOHHIFHD	SCSTODHRNCDF	SCSTODNCDF
SIR_NOPM1B	0	0	0	1	0	0	5

SIR_NOPM_2	35	0	2	1	0	0	0
SIR_NOPN1B	0	0	0	0	0	41	1
SIR_NOPN_2	28	31	11	0	1	0	0
SIR_NOPR1B	0	0	0	0	0	96	5
SIR_NOPR_2	40	52	1	0	4	0	0

Test Description Key:	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	RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2PLRMNetCDF	The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees				
	RangeBackscatterSigmaZeroOPOceanExcludingPolarNetCDF	The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees				

	surface type = ocean
	The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
	The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
	The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
	The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
•	The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
	The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
	The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
	The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
ngeSeaStateBiasCorrectionOceanNetCDF	The sea state bias correction should be between -500mm and 0mm (or missing) for surface type = ocean
	The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean
	The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean
	The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean
	The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
	The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
	The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
	Rel_Time_ASC_Node_Start mismatch (DBL ASC, rounded up to 0.1)
meOrOneHigher1HzIndexFor20HzData	The 1 Hz index of a 20 Hz sample should be the same or 1 higher than its previous sample
quenceCounterStepTODHRNetCDF	The sequence counter should be modulo 4 higher with regard to the previous sequence counter
quenceCounterStepTODNetCDF	The sequence counter should be one higher (modulo 16384) with regard to the previous sequence counter
	gePeakinessExcludingPolarOPFD2PLRMSARNetCDF gePeakinessExcludingPolarOPFD2PLRMSINNetCDF gePeakinessExcludingPolarOPFD2SARNetCDF gePeakinessExcludingPolarOPFD2SINNetCDF gePeakinessExcludingPolarOPLRMNetCDF gePeakinessExcludingPolarOPSARNetCDF gePeakinessExcludingPolarOPSARNetCDF geSeaStateBiasCorrectionOceanNetCDF geSeaSurfaceHeightAnomalyOceanFD3NetCDF geSeaSurfaceHeightAnomalyOceanFD3PLRMNetCDF geSignificantWaveHeightOceanExcludingPolarFD2PLRMNetCDF geSignificantWaveHeightOceanExcludingPolarPO2PLRMNetCDF geSignificantWaveHeightOceanExcludingPolarFD2PLRMNetCDF geSignificantWaveHeightOceanExcludingPolarNetCDF geSignifi

# 7.3 Missing QCC Reports

Number of products with missing QCC reports: