

# **QA4EO Daily Report for NOP data:**

<u>23/11/2021</u>

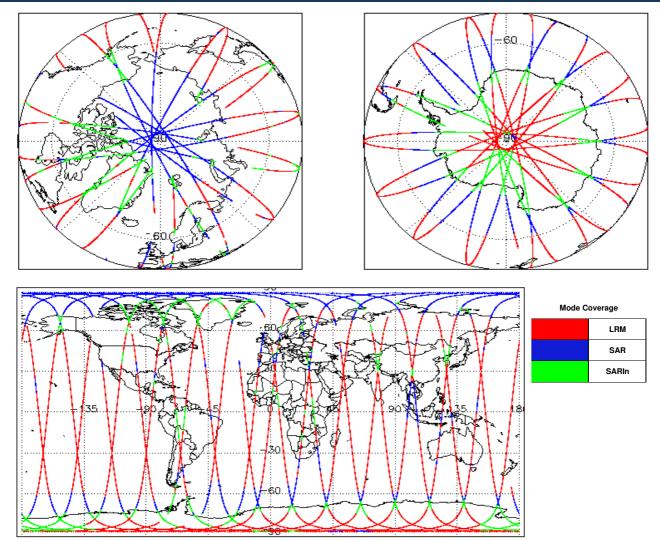
| Report Production: | 24-Nov-2021                         | Check                                     | L1 & L2                 |
|--------------------|-------------------------------------|---|-------------------------|
| Report Froduction. | 24-1100-2021                        | Server check: science-pds.cryosat.esa.int | Nominal                 |
| Processor Used:    | CryoSat Ocean Processor             | Server check: calval-pds.cryosat.esa.int  | Nominal                 |
| Processor Used:    | CryoSal Ocean Processor             | Product Software Check                    | Nominal                 |
| Data Used:         | Near Real Time Ocean Products (NOP) | Product Format Check                      | Nominal                 |
| Data Oseu:         | L1B & L2 Science Data               | 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    |
|                    |                                     | 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 |

1. Overview

# Mission / Instrument News 22-Nov-2021 None 23-Nov-2021 None

24-Nov-2021 Nothing planned





# 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 11b\_proc\_flag\_hr flag is currently set all L1B IOPR and IOPN products because the 11b\_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:

#### 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:

#### 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:

#### 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.

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#### Number of products with errors:

| Product   | Test Failed  | Description  |
|---|--------------|--|
| CS_OFFL_SIR_NOPM1B_20211123T031651_20211123T033343_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPM1B_20211123T064507_20211123T071029_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPM1B_20211123T072633_20211123T075218_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPM1B_20211123T095534_20211123T102836_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPM1B_20211123T145903_20211123T150920_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPN1B_20211123T013226_20211123T013636_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPN1B_20211123T053322_20211123T053511_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPN1B_20211123T112323_20211123T112408_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPN1B_20211123T144125_20211123T144251_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPN1B_20211123T161723_20211123T162143_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPR1B_20211122T235646_20211123T000412_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPR1B_20211123T080030_20211123T080144_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPR1B_20211123T094404_20211123T095151_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPR1B_20211123T161604_20211123T161627_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:

#### 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:

#### 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.

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> 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_NOPM_2_20211123T212525_20211123T212822_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_20211123T003607_20211123T003907_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_20211123T004126_20211123T004643_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records   |
| CS_OFFL_SIR_NOPN_2_20211123T013226_20211123T013636_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1), Total Geocentric Ocean<br>Tide (GOT), Total Geocentric Ocean<br>Tide (FES), Non-Equilibrium Long Period<br>Ocean Tide | There is an error with the MSS height (solution 1), the Mean Dynamic<br>Topography (solution 1) and the tidal corrections for one or more records   |
| CS_OFFL_SIR_NOPN_2_20211123T031119_20211123T031232_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1), Total Geocentric Ocean<br>Tide (GOT)  | There is an error with the MSS height (solution 1), the Mean Dynamic<br>Topography height (solution 1) and the Total Geocentric Ocean Tide<br>height (solution 1: GOT) for one or more records                      |
| CS_OFFL_SIR_NOPN_2_20211123T031419_20211123T031651_C001 | Mean Dynamic Topography (1), Total<br>Geocentric Ocean Tide (GOT), Total<br>Geocentric Ocean Tide (FES), Non-<br>Equilibrium Long Period Ocean Tide                         | There is an error with the Mean Dynamic Topography (solution 1), the<br>Total Geocentric Ocean Tide (solution 1: GOT and solution 2: FES) and<br>the Non-Equilibrium Long Period Ocean Tide for one or more records |
| CS_OFFL_SIR_NOPN_2_20211123T035106_20211123T035512_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records  |
| CS_OFFL_SIR_NOPN_2_20211123T045043_20211123T045224_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records   |
| CS_OFFL_SIR_NOPN_2_20211123T045337_20211123T045525_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_20211123T053322_20211123T053511_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records   |
| CS_OFFL_SIR_NOPN_2_20211123T063020_20211123T063459_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1), Total Geocentric Ocean<br>Tide (GOT)  | There is an error with the MSS height (solution 1), the Mean Dynamic<br>Topography height (solution 1) and the Total Geocentric Ocean Tide<br>height (solution 1: GOT) for one or more records                      |
| CS_OFFL_SIR_NOPN_2_20211123T071301_20211123T071438_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records  |
| CS_OFFL_SIR_NOPN_2_20211123T085250_20211123T085637_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20211123T093128_20211123T093321_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records  |
| CS_OFFL_SIR_NOPN_2_20211123T103227_20211123T103543_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20211123T104055_20211123T104217_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records  |
| CS_OFFL_SIR_NOPN_2_20211123T112323_20211123T112408_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20211123T122005_20211123T122112_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records  |
| CS_OFFL_SIR_NOPN_2_20211123T125905_20211123T130120_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1), Total Geocentric Ocean<br>Tide (GOT), Total Geocentric Ocean  | There is an error with the MSS height (solution 1), the Mean Dynamic<br>Topography (solution 1) and the tidal corrections for one or more records   |
| CS_OFFL_SIR_NOPN_2_20211123T130220_20211123T130339_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20211123T143700_20211123T144101_C001 | Mean Dynamic Topography (1), Total<br>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_20211123T144125_20211123T144251_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records   |
| CS_OFFL_SIR_NOPN_2_20211123T153537_20211123T153816_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20211123T153839_20211123T154152_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records   |
| CS_OFFL_SIR_NOPN_2_20211123T161723_20211123T162143_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20211123T171454_20211123T171816_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records  |
| CS_OFFL_SIR_NOPN_2_20211123T175616_20211123T180006_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records  |
| CS_OFFL_SIR_NOPN_2_20211123T185559_20211123T185713_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records  |
| CS_OFFL_SIR_NOPN_2_20211123T203503_20211123T203624_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records  |
| CS_OFFL_SIR_NOPN_2_20211123T211258_20211123T211421_C001 | Total Geocentric Ocean Tide (GOT)   | There is an error with the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records   |
| CS_OFFL_SIR_NOPN_2_20211123T213343_20211123T213359_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records  |
| CS_OFFL_SIR_NOPN_2_20211123T220507_20211123T220633_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records  |
| CS_OFFL_SIR_NOPN_2_20211123T221157_20211123T221507_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records   |
| CS_OFFL_SIR_NOPN_2_20211123T234447_20211123T234602_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records  |
| CS_OFFL_SIR_NOPN_2_20211123T235056_20211123T235420_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records   |
| CS_OFFL_SIR_NOPR_2_20211123T044435_20211123T045043_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records   |
| CS_OFFL_SIR_NOPR_2_20211123T062606_20211123T063020_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records   |
| CS_OFFL_SIR_NOPR_2_20211123T080336_20211123T081104_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records   |

| CS_OFFL_SIR_NOPR_2_20211123T094404_20211123T095151_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20211123T112409_20211123T113322_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20211123T130339_20211123T131104_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20211123T144251_20211123T144812_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20211123T162144_20211123T162844_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20211123T180006_20211123T180522_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20211123T193659_20211123T194556_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20211123T211842_20211123T212525_C001 | Mean Sea Surface (1), Mean Dynamic<br>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_20211123T213400_20211123T213514_C001 | Mean Dynamic Topography (1)                          | There is an error with the Mean Dynamic Topography height 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:
0

# 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.

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Number of products with errors:

| Product   | Test Failed  | Description  |
|---|--|--|
| CS_OFFL_SIR_NOPM_2_20211123T001229_20211123T003137_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T004855_20211123T012230_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T013714_20211123T015614_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T015642_20211123T020940_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T022801_20211123T024258_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T024501_20211123T025423_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T030016_20211123T030042_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPM_2_20211123T031233_20211123T031418_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPM_2_20211123T031651_20211123T033343_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T035704_20211123T035959_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPM_2_20211123T040008_20211123T040439_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPM_2_20211123T040730_20211123T042128_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T043404_20211123T043409_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPM_2_20211123T045707_20211123T045837_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T050835_20211123T053138_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |

| CS_OFFL_SIR_NOPM_2_20211123T053512_20211123T054340_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
|---|--|--|
| CS_OFFL_SIR_NOPM_2_20211123T054707_20211123T061144_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T064507_20211123T071029_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T072633_20211123T075218_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T075247_20211123T075452_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPM_2_20211123T080144_20211123T080335_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T081802_20211123T084825_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T085637_20211123T090223_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPM_2_20211123T090553_20211123T091002_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T095534_20211123T102836_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T103543_20211123T104055_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPM_2_20211123T104631_20211123T110216_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T112033_20211123T112132_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T113322_20211123T120252_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T120303_20211123T120741_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T121347_20211123T121543_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPM_2_20211123T121550_20211123T122004_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPM_2_20211123T122458_20211123T124932_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T131243_20211123T131657_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T131741_20211123T132716_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T133001_20211123T133235_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T133244_20211123T133928_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T134039_20211123T134701_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T134922_20211123T135443_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPM_2_20211123T140553_20211123T141817_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T141953_20211123T142847_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211123T143014_20211123T143700_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
|   |  |  |

| Des. 1999. Bits Norm 2. 201112111 2011 2011 2011 2011 2011 2   | CS_OFFL_SIR_NOPM_2_20211123T144102_20211123T144124_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records. |
|--|---|---|--|
| Cite JFL SPL NOPM 2. BR111211154882.2011122115249.2013       ped Basestate Guly, COO       ped Basestate Guly, COO         Cite JFL SPL NOPM 2. BR11122115549.2011122115249.2014       Coo SPL SPL NOPM 2. BR11122115549.2011122115249.2014       Coo SPL SPL NOPM 2. BR11122115249.2011122115249.2014         Cite JFL SPL NOPM 2. BR11122115249.2011122115249.2014       Coo SPL   | CS_OFFL_SIR_NOPM_2_20211123T145117_20211123T145118_C001 |   |  |
| City, Diff, John Norw, 2, 2011121115645, 2011121115647, 2011121115547, 2011121115554, 20111211155554, 20111211155554, 20111211155554, 2011121115554, 2011121115554,  | CS_OFFL_SIR_NOPM_2_20211123T145903_20211123T150920_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                             |
| Bastaster Coarry Sing Control Sing Coarry  | CS_OFFL_SIR_NOPM_2_20211123T151956_20211123T152611_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                             |
| Concernation         Exclamate Casity         Even and more more sectors.           City, CoPL_SIR_LOPM_2_020111021116400_02011122116400_0001         Cole and Atmose Texps_05000_0000         The Coole Atmose Texps_0500_0000           City, CoPL_SIR_LOPM_2_020111021116600_02011122116600_0001         Cole and Atmose Texps_0500_0000         The Coole Atmose Texps_0500_0000           City, CoPL_SIR_LOPM_2_020111021116604_02011102116600_0001         Cole and Atmose Texps_0500_0000         The Coole Atmose Texps_0500_0000           City, CoPL_SIR_LOPM_2_020111021116604_020111021170501_0001         Cole and Atmose Texps_0500_00000         The Coole Atmose Texps_0500_00000           City, CoPL_SIR_LOPM_2_020111021170601_020111021170501_0001         Cole and Atmose Texps_0500_00000         The Coole Atmose Texps_0500_00000           City, CoPL_SIR_LOPM_2_020111021170000_0001         Cole and Atmose Texps_0500_000000         The Coole Atmose Texps_0500_00000           City, CoPL_SIR_LOPM_2_020111021170000_0001         Cole and Atmose Texps_0500_000000         The Coole Atmose Texps_0500_000000           City, CoPL_SIR_LOPM_2_02011102111021110211021102110210_0000         Cole and Atmose Texps_0500_00000000000000000000000000000000   | CS_OFFL_SIR_NOPM_2_20211123T152849_20211123T153343_C001 |   |  |
| DS_DFH_SR_MOPM_2_2021112116400_2021112116400_001         and Backsatter Quality COOD         and Backsatter Quality Coop         and Backsatter Quality Fage have been set         and Backsatter Quali  | CS_OFFL_SIR_NOPM_2_20211123T153420_20211123T153537_C001 |   |  |
| C5       DFFL_SIR_NOPM_2_20211123T15938_20211123T15938_0001       and Backsteller Quality_COCO       bit to COCO Attreet Program Backsteller Quality Flags have been set from or more month.         C6_OFFL_SIR_NOPM_2_20211123T15938_20011       CCCO Attreet Program Backsteller Quality_COCO       The OCOC Attreet Program Backsteller Quality Flags have been set from or more month.         C6_OFFL_SIR_NOPM_2_20211123T15038_20211123T17045_2001       CCCO Attreet Program Backsteller Quality Flags have been set from or more month.         C6_OFFL_SIR_NOPM_2_20211123T17045_2001       CCCO Attreet Program Backsteller Quality Flags have been set from or more month.         C6_OFFL_SIR_NOPM_2_20211123T17045_20211123T17045_2001       CCCO Attreet Program Backsteller Quality Flags have been set from or more month.         C6_OFFL_SIR_NOPM_2_20211123T17045_20211123T17045_2001       CCCO Attreet Program Backsteller Quality, CCCO Attreet Program Backsteller Quality Flags have been set from or more month.         C6_OFFL_SIR_NOPM_2_20211123T170452_001       CCCO Attreet Program Backsteller Quality, CCCO Attreet Program Backsteller Quality, Flags have been set from or more month.         C6_OFFL_SIR_NOPM_2_20211123T16458_0001       CCCO Attreet Program Backsteller Quality, Flags have been set from or more months.         C6_OFFL_SIR_NOPM_2_20211123T16458_0001       CCCO Attreet Program Backsteller Quality, Flags have been set from or more months.         C6_OFFL_SIR_NOPM_2_20211123T16451_0001   | CS_OFFL_SIR_NOPM_2_20211123T154200_20211123T154559_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                             |
| Displand  | CS_OFFL_SIR_NOPM_2_20211123T155946_20211123T160920_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                             |
| 05         OFR. SIR. NOPM 2. 202111231170613. 0011         and the COGO Attreet Range and Backscatter Quality Flags have been Attracter Range Attracter Range and Backscatter Quality Flags have been attracter Range Attracter Range and Backscatter Quality Flags have been attracter Range Range Quality, COCO Range Range Attracter Range Range Quality, COCO Range Range Attracter Range Range Quality, COCO Range Range and Backscatter Quality Flags have been attracter Range Range Range, SSHA, SWH and Backscatter Quality Flags have been attracter Range Range Range, SSHA, SWH and Backscatter Quality Flags have been attracter Range Range Range, SSHA, SWH and Backscatter Quality Flags have been attracter Range   | CS_OFFL_SIR_NOPM_2_20211123T162844_20211123T163318_C001 |   |  |
| Column Column         Column         Description         Backscatter Quality         tor one or more records.           CS_OFFL_SIR_NOPM_2_202111231172015_202111231174652_C001         Coean Attimuter Range, SIA, SWH and Backscatter Quality Flags have been Attimuter Range and Backscatter Quality, COCG Attimuter Range and Backscatter Quality, COCG Attimuter Range and Backscatter Quality, Flags have been set for one or more records.           CS_OFFL_SIR_NOPM_2_202111231184518_202111231184518_202111231184518_20211123118551_C001         COCG Attimuter Range SIA, SWH and Backscatter Quality, Flags have been set for one or more records.           CS_OFFL_SIR_NOPM_2_202111231184518_202111231184518_20211123118551_C001         COCG Attimuter Range Cuality, COCG Attimuter Range and Backscatter Quality Flags have been set for one or more records.           CS_OFFL_SIR_NOPM_2_202111231184518_202_20211123118551_2001         COCG Attimuter Range, SIA, SWH and Backscatter Quality Flags have been set for one or more records.           CS_OFFL_SIR_NOPM_2_202111231184518_202_20211123118551_2001         COCG Attimuter Range, SIA, SWH and Backscatter Quality Flags have been set for one or more records.           CS_OFFL_SIR_NOPM_2_20211123118551_2001         Cocan Attimuter Range, SIA, SWH and Backscatter Quality Flags have been set for one or more records.           CS_OFFL_SIR_NOPM_2_20211123119540_2021112311232034_C001         Cocan Attimuter Range, SIA, SWH and Backscatter Quality Flags have been set for one or more records.           CS_OFFL_SIR_NOPM_2_20211123112312123204_20_201112312123204_20_2011123122123204_20_2011123122123204_20_2011123122123204_20_2011123122123204_20_2011123122123204_20_201112312   | CS_OFFL_SIR_NOPM_2_20211123T165011_20211123T170451_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                             |
| CS_OFFL_SIR_NOPM_2_20211123T12015_02211123T124622_0001       and Backcatter Oually, COGG<br>Allimeter Range and Backcatter Oually, Flags<br>and the COG Allimeter Range and Backcatter Oually, Flags have been<br>and the COG Allimeter Range and Backcatter Oually, Flags have been<br>and the COG Allimeter Range and Backcatter Oually, Flags have been<br>and the COG Allimeter Range and Backcatter Oually, Flags have been<br>and the COG Allimeter Range and Backcatter Oually Flags have been<br>and the COG Allimeter Range and Backcatter Oually Flags have been<br>and the COG Allimeter Range and Backcatter Oually Flags have been<br>and the COG Allimeter Range and Backcatter Oually Flags have been<br>and the COG Allimeter Range and Backcatter Oually Flags have been<br>and the COG Allimeter Range and Backcatter Oually Flags<br>and the COG Allimeter Range and Backcatter Oually Flags have been<br>and the COG Allimeter Range and Backcatter Oually Flags have been<br>and Backcatter Oually COG<br>Allimeter Range and Backcatter Oually Flags have been<br>and the COG Allimeter Range and Backcatter Oually Flags have been<br>and the COG Allimeter Range and Backcatter Oually Flags have been<br>and the COG Allimeter Range and Backcatter Oually Flags have been<br>and the COG Allimeter Range and Backcatter Oually Flags have been<br>and the COG Allimeter Range and Backcatter Oually Flags have been<br>and the COG Allimeter Range and Backcatter Oually Flags     | CS_OFFL_SIR_NOPM_2_20211123T170828_20211123T171313_C001 |   |  |
| CS_OFFL_SIR_NOPM_2_20211123T181930_20211123T184558_C001       and Backscatter Quality COCO<br>Attimeter Range and Backscatter Quality Flags have been<br>Attimeter Range Quality.CCCO<br>Backscatter Quality       The OCOCA Attimeter Range and Backscatter Quality Flags have been set<br>for one or more records.         CS_OFFL_SIR_NOPM_2_20211123T18523_20211123T18523_C001       CCCO Attimeter Range Quality.CCCO<br>Backscatter Quality       The OCOCA Attimeter Range and Backscatter Quality Flags have been set<br>for one or more records.         CS_OFFL_SIR_NOPM_2_20211123T18523_20211123T185258_C001       CCCCA Attimeter Range Quality.CCCO<br>Backscatter Quality       The OCOCA Attimeter Range and Backscatter Quality Flags have been set<br>for one or more records.         CS_OFFL_SIR_NOPM_2_20211123T185258_C001       CCCCA Attimeter Range, SSIA_SWH       The OCOCA Attimeter Range.SSIA_SWH and Backscatter Quality Flags<br>have been<br>Attimeter Range and Backscatter Quality Flags<br>and Backscatter Quality         CS_OFFL_SIR_NOPM_2_20211123T18569_001       CCCCA Attimeter Range SSIA_SWH and Backscatter Quality Flags<br>and Backscatter Quality.CCCO<br>Backscatter Quality.CCCCA<br>Attimeter Range and Backscatter Quality Flags have been<br>Attimeter Range and Backscatter Quality Flags have been<br>attimeter Range and Backscatter Quality Flags have been<br>Attimeter Range SSIA_SWH and Backscatter Quality Flags<br>and the OCOCA Attimeter Range, SSIA_SWH and Backscatter Quality Flags<br>and the OCOCA Attimeter Range, SSIA_SWH and Backscatter Quality Flags have been<br>Attimeter Range and Backsca  | CS_OFFL_SIR_NOPM_2_20211123T172015_20211123T174622_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                             |
| OS_OPPE_SIR_NOPM_2_20211123T185234_20211123T185536_C001         Backscatter Quality         for one or more records.           CS_OFFL_SIR_NOPM_2_20211123T185234_20211123T185556_C001         OCOG Altimeter Range Quality, OCOG         The OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.           CS_OFFL_SIR_NOPM_2_20211123T185591_20211123T192556_C001         Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.           CS_OFFL_SIR_NOPM_2_20211123T195591_20211123T202304_C001         Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.           CS_OFFL_SIR_NOPM_2_20211123T202643_20211123T203128_C001         Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.           CS_OFFL_SIR_NOPM_2_20211123T202643_20211123T20128_C001         Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.           CS_OFFL_SIR_NOPM_2_20211123T21282_C001         Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.           CS_OFFL_SIR_NOPM_2_20211123T212825_02011123T21282_C001         Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.           CS_OFFL_SIR_NOPM_2_20211123T215741_20211123T215842_C001         Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.           CS_OFFL_SIR_NOPM_2_20211123T21524249_20211123T215842_C001         Ocean Altimeter Range, SSHA, SWH and Backscatter Qual  | CS_OFFL_SIR_NOPM_2_20211123T181930_20211123T184356_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                             |
| Des_OPFL_SIR_NOPM_2_20211123119256_0001         Backscatter Quality         for one or more records.           CS_OFFL_SIR_NOPM_2_20211123119256_0001         Coean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been at lance the Range and Backscatter Quality Flags have been at lance the Range and Backscatter Quality Flags have been at lance the Range and Backscatter Quality Flags have been at lance the Range and Backscatter Quality Flags have been at lance the Range and Backscatter Quality Flags have been at lance the Range and Backscatter Quality Flags have been at lance the Range and Backscatter Quality Flags have been at lance the Range and Backscatter Quality Flags have been at lance the Range and Backscatter Quality Flags have been at lance the Range and Backscatter Quality Flags have been at lance the Range Altimeter Range SSHA, SWH and Backscatter Quality Flags have been at lance the Range Altimeter Range SSHA, SWH and Backscatter Quality Flags have been at lance the Range Altimeter Range SSHA, SWH and Backscatter Quality Flags have been at lance the Range Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been at lance the Range Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been at lance the Range Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been at lance the Range Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been at lance the Range and Backscatter Quality Flags have been at lance the Range and Backscatter Quality Flags have been at lance the Range and Backscatter Quality Flags have been at lance the Range and Backscatter Quality Flags have been at lance the Range and Backscatter Quality Flags have been at lance the Range and Backscatter Quality Flags have been at lance the Range and Backscatter Quality Flags have been at lance the Range and Backscatter Quality Flags have been at lance the Range and Backscatter Quality Flags have been at lance the Range  | CS_OFFL_SIR_NOPM_2_20211123T184818_20211123T185213_C001 |   |  |
| CS_OFFL_SIR_NOPM_2_20211123T192556_001       and Backscatter Quality, COCG<br>Altimeter Range and Backscatter Quality, GCG<br>Cean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, CCGG<br>Altimeter Range, SSHA, SWH<br>and Backscatter Quality, CCGG<br>Altimeter Range, SSHA, SWH<br>and Backscatter Quality, CCGG<br>Altimeter Range and Backscatter Quality, Flags have been<br>after Quality, CCGG<br>Altimeter Range and Backscatter Quality, Flags have been<br>after Quality, CCGG<br>Altimeter Range and Backscatter Quality, Flags have been<br>after Quality, CCGG<br>Backscatter Quality, CCGG<br>Backscatter Quality, CCGG<br>Backscatter Quality, CCGG<br>Altimeter Range and Backscatter Quality, Flags have been<br>after Quality, CCGG<br>Backscatter Quality, CCGG<br>Backscatter Quality, CCGG<br>Backscatter Quality, CCGG<br>Altimeter Range and Backscatter Quality, Flags have been<br>after Range Quality, CCGG<br>Backscatter Quality, CCGG<br>Backscatter Quality, CCGG<br>Altimeter Range and Backscatter Quality, Flags have been<br>after QCGG Altimeter Range and Backscatter Quality, Flags have been<br>after QCGG Altimeter Range and Backscatter Quality, Flags have been<br>after QCGG Altimeter Range and Backscatter Quality, Flags have been<br>after QCGG Altimeter Range and Backscatter Quality, Flags have been<br>Altimeter Range and Backscatter Quality, CCGG<br>Altimeter Range and Backscatter Quality, Flags have been<br>Altimeter Range Altimeter Range, SSHA, SWH<br>and Backscatter Quality, CCGG<br>Altimeter Range and Backscatter Quality Flags have been<br>Altimeter Range Altimeter Range, SSHA, SWH<br>and Backscatter Quality, CCGG<br>Altimeter Range and Backscatter Quality Flags have been<br>after CoG Altimeter Range, SSHA, SWH<br>and Backscatter Quality, CCGG<br>Altimeter Range and Backscatter Quality Flags have been<br>after Core on time records.         CS_OFFL_SIR_NOPM_2_20211123T2215741_20211123T22156_C001       OCGG Altimeter Range, SSHA, SWH<br>and Backscatter Quality, CCGG<br>Altimeter Range and Backscatter Quality, Flags have been<br>afthe CCCG Altimeter Range, SSHA, SWH and Back | CS_OFFL_SIR_NOPM_2_20211123T185234_20211123T185558_C001 |   |  |
| CS_OFFL_SIR_NOPM_2_20211123T195840_20211123T202304_0001       and Backscatter Quality COCG<br>Altimeter Range and Backscatter Quality Stap       and the COCG Altimeter Range and Backscatter Quality Stap         CS_OFFL_SIR_NOPM_2_20211123T202643_20211123T203128_0001       CoCG Altimeter Range Quality, COCG<br>Backscatter Quality       The OCG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.         CS_OFFL_SIR_NOPM_2_20211123T204026_20211123T211258_0001       Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, COCG<br>Altimeter Range and Backscatter Quality       The OCGA Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been<br>Altimeter Range and Backscatter Quality, COCG<br>Altimeter Range, SSHA, SWH and Backscatter Quality, Flags have been<br>Altimeter Range, SSHA, SWH and Backscatter Quality, Flags have been<br>Altimeter Range, SSHA, SWH and Backscatter Quality, Flags have been<br>Altimeter Range, SSHA, SWH and Backscatter Quality, Flags have been<br>Altimeter Range, SSHA, SWH and Backscatter Quality, Flags have been<br>Altimeter Range and Backscatter Quality, COCG<br>Altimeter Range, SSHA, SWH and Backscatter Quality, Flags have been<br>Altimeter Range and Backscatter Quality, SCOG<br>Altimeter Range and Backscatter Quality, Flags have been<br>Altimeter Range, SSHA, SWH and Backscatter Quality, Flags have been<br>Altimeter Range and Backscatter Quality, SCOG<br>Backscatter Quality, COCG         CS_OFFL_SIR_NOPM_2_20211123T215741_20211123T215942_0001       Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, SCOG       The OCGA Altimeter Range, SSHA, SWH and Backscatter Quality, Flags have been<br>Altimeter Range and Backscatter Quality, SCOG         CS_OFFL_SIR_NOPM_2_20211123T22157_20211123T224003_0001       Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, COCG <td< td=""><td>CS_OFFL_SIR_NOPM_2_20211123T185951_20211123T192556_C001</td><td>and Backscatter Quality, OCOG</td><td>and the OCOG Altimeter Range and Backscatter Quality Flags have been</td></td<>                                | CS_OFFL_SIR_NOPM_2_20211123T185951_20211123T192556_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                             |
| CS_OFFL_SIR_NOPM_2_20211123120264_20211123120128         Backscatter Quality         for one or more records.           CS_OFFL_SIR_NOPM_2_2021112312123221255_20211123121258_C001         Decean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range, adBackscatter Quality Flags have been<br>Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been<br>Altimeter Range, SSHA, SWH and Backscatter Quality Flags bave been<br>Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been<br>Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been<br>Altimeter Range and Backscatter Quality           CS_OFFL_SIR_NOPM_2_20211123T215741_20211123T215942_C001         Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality         The OCean Altimeter Range, SSHA, SWH<br>and Backscatter Quality           CS_OFFL_SIR_NOPM_2_20211123T221657_20211123T22156_C001         OCOG Altimeter Range Quality, OCOG<br>Altimeter Range and Backscatter Quality         The OCean Altimeter Range and Backscatter Quality Flags have been<br>and Backscatter Quality           CS_OFFL_SIR_NOPM_2_20211123T221657_20211123T224003_C001         Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality Flags have been<br>Altimeter Range and Backscatter Quality Flags have been<br>Altimeter Range and Backscatter Quality Flags have been<br>Altimeter Range and Backscatter Quality Flags have been<br>Altitimeter Range and Backscatter Quality Flags have bee   | CS_OFFL_SIR_NOPM_2_20211123T195840_20211123T202304_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                             |
| CS_OFFL_SIR_NOPM_2_20211123T214264_20211123T211258_C001       and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality       and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records.         CS_OFFL_SIR_NOPM_2_20211123T212525_20211123T212822_C001       Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality       The Ocean Altimeter Range, SSHA, SWH<br>and the OCOG Altimeter Range and Backscatter Quality         CS_OFFL_SIR_NOPM_2_20211123T215741_20211123T215942_C001       Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality       The Ocean Altimeter Range, SSHA, SWH<br>and the OCOG Altimeter Range and Backscatter Quality         CS_OFFL_SIR_NOPM_2_20211123T215741_20211123T22156_C001       Ocean Altimeter Range Quality, OCOG<br>Backscatter Quality       The Ocean Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.         CS_OFFL_SIR_NOPM_2_20211123T221657_20211123T221156_C001       OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.       The Ocean Altimeter Range, SSHA, SWH<br>and the COCOG Altimeter Range, SSHA, SWH<br>and the COCG Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags<br>and the OCOG Altimeter Range, SSHA, SWH<br>and the COCG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been<br>set for one or more records.         CS_OFFL_SIR_NOPM_2_20211123T22409_20211123T225331_C001       Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality Flags have been<br>altimeter Range and  | CS_OFFL_SIR_NOPM_2_20211123T202643_20211123T203128_C001 |   |  |
| CS_OFFL_SIR_NOPM_2_20211123T212525_20211123T212822_C001       and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality       and the OCOG Altimeter Range and Backscatter Quality       set for one or more records.         CS_OFFL_SIR_NOPM_2_20211123T215741_20211123T215942_C001       Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality, OCOG<br>Backscatter Quality, OCOG       The OCean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been<br>and the OCOG Altimeter Range and Backscatter Quality         CS_OFFL_SIR_NOPM_2_20211123T220633_20211123T221156_C001       OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality, OCOG       The OCean Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.         CS_OFFL_SIR_NOPM_2_20211123T221857_20211123T221063_20211123T224003_C001       Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality Flags have been altimeter Range and Backscatter Quality Flags have been<br>and the OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags<br>and the OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags<br>and the OCOG Altimet  | CS_OFFL_SIR_NOPM_2_20211123T204026_20211123T211258_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                             |
| CS_OFFL_SIR_NOPM_2_20211123T215741_20211123T215942_C001       and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality set for one or more records.         CS_OFFL_SIR_NOPM_2_20211123T220633_20211123T221156_C001       OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality       The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.         CS_OFFL_SIR_NOPM_2_20211123T221857_20211123T221857_20211123T224003_C001       Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality       The Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality         CS_OFFL_SIR_NOPM_2_20211123T224249_20211123T224003_C001       Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality       The Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality         CS_OFFL_SIR_NOPM_2_20211123T224249_20211123T225331_C001       Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality       The Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality Flags have been<br>Altimeter Range and Backscatter Quality         CS_OFFL_SIR_NOPM_2_20211123T230426_20211123T230757_C001       Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG       The Ocean Altimeter Range and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Qualit   | CS_OFFL_SIR_NOPM_2_20211123T212525_20211123T212822_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                             |
| CS_OFFL_SIR_NOPM_2_202111231220033_202111231221136_C001       Backscatter Quality       for one or more records.         CS_OFFL_SIR_NOPM_2_202111231221857_202111231224003_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been Altimeter Range and Backscatter Quality Flags and Backscatter Quality fla   | CS_OFFL_SIR_NOPM_2_20211123T215741_20211123T215942_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                             |
| CS_OFFL_SIR_NOPM_2_20211123T221857_20211123T224003_C001       and Backscatter Quality, OCOG       and the OCOG Altimeter Range and Backscatter Quality Flags have been         CS_OFFL_SIR_NOPM_2_20211123T224249_20211123T225331_C001       Ocean Altimeter Range, SSHA, SWH       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been         CS_OFFL_SIR_NOPM_2_20211123T224249_20211123T225331_C001       Ocean Altimeter Range, SSHA, SWH       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been         CS_OFFL_SIR_NOPM_2_20211123T230426_20211123T230757_C001       Ocean Altimeter Range, SSHA, SWH       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been         CS_OFFL_SIR_NOPM_2_20211123T230426_20211123T230757_C001       Ocean Altimeter Range, SSHA, SWH       The Ocean Altimeter Range and Backscatter Quality Flags have been         CS_OFFL_SIR_NOPM_2_20211123T232407_20211123T234050_C001       Ocean Altimeter Range, SSHA, SWH       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been         CS_OFFL_SIR_NOPM_2_20211123T234050_C001       Ocean Altimeter Range, SSHA, SWH       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been         CS_OFFL_SIR_NOPM_2_20211123T234050_C001       Ocean Altimeter Range, SSHA, SWH       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been         Altimeter Range       SSHA, SWH       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been  | CS_OFFL_SIR_NOPM_2_20211123T220633_20211123T221156_C001 |   |  |
| CS_OFFL_SIR_NOPM_2_20211123T224249_20211123T225331_C001       and Backscatter Quality, OCOG       and the OCOG Altimeter Range and Backscatter Quality Flags have been         Altimeter Range and Backscatter Quality       Cs_OFFL_SIR_NOPM_2_20211123T230426_20211123T230757_C001       Ocean Altimeter Range, SSHA, SWH       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been         CS_OFFL_SIR_NOPM_2_20211123T230426_20211123T230757_C001       Ocean Altimeter Range and Backscatter Quality, OCOG       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been         CS_OFFL_SIR_NOPM_2_20211123T232407_20211123T234050_C001       Ocean Altimeter Range, SSHA, SWH       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been         CS_OFFL_SIR_NOPM_2_20211123T23407_20211123T234050_C001       Ocean Altimeter Range, SSHA, SWH       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been   | CS_OFFL_SIR_NOPM_2_20211123T221857_20211123T224003_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                             |
| CS_OFFL_SIR_NOPM_2_20211123T230426_20211123T230757_C001       and Backscatter Quality, OCOG       and the OCOG Altimeter Range and Backscatter Quality Flags have been         Altimeter Range and Backscatter Quality       Ocean Altimeter Range, SSHA, SWH       and the OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags         CS_OFFL_SIR_NOPM_2_20211123T232407_20211123T234050_C001       Ocean Altimeter Range, SSHA, SWH       The Ocean Altimeter Range and Backscatter Quality Flags   | CS_OFFL_SIR_NOPM_2_20211123T224249_20211123T225331_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                             |
| CS_OFFL_SIR_NOPM_2_20211123T232407_20211123T234050_C001 and Backscatter Quality, OCOG and the OCOG Altimeter Range and Backscatter Quality Flags have been   | CS_OFFL_SIR_NOPM_2_20211123T230426_20211123T230757_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                             |
|  | CS_OFFL_SIR_NOPM_2_20211123T232407_20211123T234050_C001 | and Backscatter Quality, OCOG                             | and the OCOG Altimeter Range and Backscatter Quality Flags have been                             |
| CS_OFFL_SIR_NOPM_2_20211123T234602_20211123T235056_C001 OCOG Altimeter Range Quality, OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  | CS_OFFL_SIR_NOPM_2_20211123T234602_20211123T235056_C001 |   |  |

| CS_OFFL_SIR_NOPM_2_20211123T235756_20211124T003027_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
|---|--|--|
| CS_OFFL_SIR_NOPN_2_20211123T035106_20211123T035512_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T112323_20211123T112408_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211123T144812_20211123T144840_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T000547_20211123T000700_C001 |  | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T062606_20211123T063020_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T071029_20211123T071301_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T142848_20211123T143014_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T151302_20211123T151427_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPR_2_20211123T203624_20211123T204026_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T224003_20211123T224249_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>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.

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#### Number of products with errors:

| Product   | Test Failed   | Description  |
|---|---|--|
| CS_OFFL_SIR_NOPN_2_20211123T001142_20211123T001229_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T003607_20211123T003907_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211123T004126_20211123T004643_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211123T012553_20211123T012646_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211123T013226_20211123T013636_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T022035_20211123T022211_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T025423_20211123T025800_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T031119_20211123T031232_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211123T033344_20211123T033738_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T033754_20211123T033824_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T035106_20211123T035512_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T043132_20211123T043304_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T045337_20211123T045525_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |

| CS_OFFL_SIR_NOPN_2_20211123T054341_20211123T054535_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
|---|---|--|
| CS_OFFL_SIR_NOPN_2_20211123T061144_20211123T061527_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T062000_20211123T062123_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T063020_20211123T063459_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211123T063546_20211123T063707_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T071301_20211123T071438_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T085250_20211123T085637_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211123T091913_20211123T092247_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T092304_20211123T092442_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T093128_20211123T093321_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T093352_20211123T093413_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T093829_20211123T093951_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T094038_20211123T094125_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T095152_20211123T095314_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211123T103227_20211123T103543_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211123T104055_20211123T104217_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211123T110216_20211123T110508_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211123T120944_20211123T121347_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211123T125905_20211123T130120_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T134752_20211123T134922_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211123T143700_20211123T144101_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T144812_20211123T144840_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211123T145549_20211123T145903_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T153839_20211123T154152_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211123T155330_20211123T155946_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T161244_20211123T161407_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T161723_20211123T162143_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |

|   | OCOG Altimeter Range Quality PLRM,  | The OCOG Range and Backscatter Quality Flags have been set for one   |
|---|---|--|
| CS_OFFL_SIR_NOPN_2_20211123T164020_20211123T164117_C001 | OCOG Backscatter Quality<br>Ocean Altimeter Range, SSHA, SWH  | or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T171454_20211123T171816_C001 | and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM                                     | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211123T175616_20211123T180006_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211123T181519_20211123T181650_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T184556_20211123T184818_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T185559_20211123T185713_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T202519_20211123T202643_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T211459_20211123T211626_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T221157_20211123T221507_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211123T230320_20211123T230413_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211123T230758_20211123T230841_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211123T231106_20211123T231127_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T231253_20211123T231337_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T232052_20211123T232204_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211123T234447_20211123T234602_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPR_2_20211122T235646_20211123T000412_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPR_2_20211123T003137_20211123T003607_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T004643_20211123T004854_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T020940_20211123T021603_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T024259_20211123T024501_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T042128_20211123T042953_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPR_2_20211123T044435_20211123T045043_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T045304_20211123T045337_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T062606_20211123T063020_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T075453_20211123T075542_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPR_2_20211123T080030_20211123T080144_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPR_2_20211123T080336_20211123T081104_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
|   |   |  |

| CS_OFFL_SIR_NOPR_2_20211123T084825_20211123T085250_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
|---|---|--|
| CS_OFFL_SIR_NOPR_2_20211123T090337_20211123T090553_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T094404_20211123T095151_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T102836_20211123T103227_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T104217_20211123T104630_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T112409_20211123T113322_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T122112_20211123T122457_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T130339_20211123T131104_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T134702_20211123T134752_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T135858_20211123T140552_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T141818_20211123T141953_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T144251_20211123T144812_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T150921_20211123T151123_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T162144_20211123T162844_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T164226_20211123T165011_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T174622_20211123T174811_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPR_2_20211123T185713_20211123T185951_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T193659_20211123T194556_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T202305_20211123T202519_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T203624_20211123T204026_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T211421_20211123T211459_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPR_2_20211123T211626_20211123T211842_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T211842_20211123T212525_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T212823_20211123T212947_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPR_2_20211123T213608_20211123T213745_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T215943_20211123T220507_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211123T221508_20211123T221857_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |

| CS_OFFL_SIR_NOPR_2_20211123T234051_20211  |   |  | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>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   | > 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:   | 194   |  |  |  |  |

| Number o | f products | with errors: |  |
|----------|------------|--------------|--|
|          |            |              |  |

| 5.7 L2 Ocean Retracking Quality Check |  |
|---------------------------------------|--|
|                                       |  |
| L2 Retracking Flags (20Hz)            |  |

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

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

1895

65

147

Number of products with errors:

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

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

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

Number of products with errors:

# 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   | 197          | 197             | 5         | 192          | 0          |
| SIR_NOPR1B   | 104          | 104             | 0         | 104          | 0          |
| SIR_NOPN1B   | 110          | 110             | 1         | 109          | 0          |
| SIR_NOPM_2   | 197          | 197             | 145       | 52           | 0          |
| SIR_NOPR_2   | 104          | 104             | 24        | 80           | 0          |
| SIR_NOPN_2   | 110          | 110             | 39        | 70           | 1          |

#### 7.1 QCC Errors

| Number of QCC report                      | s with errors:          | 6        |   |                  |             |   |   |   |   |   |
|---|-------------------------|----------|---|------------------|-------------|---|---|---|---|---|
| Total number of occurrences of each error |                         |          |   |                  |             |   |   |   |   |   |
| Product Type RLOBO                        | PNCDF RL                | RL       | RLOBOPNCDF  | RL               | RL          | - | - | - | - | - |
| SIR_NOPN_2                                | 1 1                     | 1        | 1   | 1                | 1           |   |   |   |   |   |
|   |                         |          |   |                  |             |   |   |   |   |   |
| Test Description Key:                     | Test Description Key:   |          |   |                  |             |   |   |   |   |   |
| Abbreviation                              | Test name               |          | Details   |                  |             |   |   |   |   |   |
| RLOBOPNCDF                                | RangeLatitudeOrBlankOP_ | 7NetCDF  | Latitude should be between -90E7 and 90E7 - NetCDF    |                  |             |   |   |   |   |   |
| RL  | RangeLatitude_6         |          | Latitude should be between -90E6 and 90E6             |                  |             |   |   |   |   |   |
| RL  | RangeLatitude_7         |          | Latitude should be between -90E7 and 90E7             |                  |             |   |   |   |   |   |
| RLOBOPNCDF                                | RangeLongitudeOrBlankOP | _7NetCDF | Longitude should be between -180E7 and 180E7 - NetCDF |                  |             |   |   |   |   |   |
| RL  | RangeLongitude_6        |          | Longitude should be between -180E6 and 180E6          |                  |             |   |   |   |   |   |
| RL  | RangeLongitude_7        |          | Longitude should b                                    | e between -180E7 | 7 and 180E7 |   |   |   |   |   |

## 7.2 QCC Warnings

#### Number of QCC reports with warnings

|              | Total number of occurrences of each warning |           |              |                 |                    |                    |                    |
|--------------|---|-----------|--------------|-----------------|--------------------|--------------------|--------------------|
| Product Type | BCSHNCDF                                    | IOHHMOOR  | MVIOEPFDNCDF | MVIOEPNCDF      | MVIONCDF           | RBSZOPOEPFDNCDF    | RBSZOPOEPFDPLRMNCE |
| SIR_NOPM1B   | 192   | 0         | 0            | 0               | 0                  | 0                  | 0                  |
| SIR_NOPM_2   | 0   | 0         | 39           | 35              | 0                  | 44                 | 0                  |
| SIR_NOPN1B   | 108   | 0         | 0            | 0               | 0                  | 0                  | 0                  |
| SIR_NOPN_2   | 0   | 1         | 14           | 39              | 7                  | 28                 | 27                 |
| SIR_NOPR1B   | 102   | 0         | 0            | 0               | 0                  | 0                  | 0                  |
| SIR_NOPR_2   | 0   | 0         | 37           | 47              | 0                  | 31                 | 23                 |
|              |   |           |              |                 |                    |                    |                    |
| Product Type | RBSZOPOEPNCDF                               | RLPTONCDF | RNELPOTONCDF | RPEPOPFDLRMNCDF | RPEPOPFDPLRMSARNCI | RPEPOPFDPLRMSINNCD | RPEPOPFDSARNCDF    |
| SIR_NOPM1B   | 0   | 0         | 0            | 0               | 0                  | 0                  | 0                  |
| SIR_NOPM_2   | 34  | 0         | 0            | 34              | 0                  | 0                  | 0                  |
| SIR_NOPN1B   | 0   | 0         | 0            | 0               | 0                  | 0                  | 0                  |
| SIR_NOPN_2   | 19  | 22        | 1            | 0               | 0                  | 29                 | 0                  |
|              |   |           | 1.           |                 | -                  | -                  | -                  |
| SIR_NOPR1B   | 0   | 0         | 0            | 0               | 0                  | 0                  | 0                  |

|              | -               |               |                   | -             | -              | -            |                  |
|--------------|-----------------|---------------|-------------------|---------------|----------------|--------------|------------------|
|              |                 |               |                   |               |                |              |                  |
| Product Type | RPEPOPFDSINNCDF | RPEPOPLRMNCDF | RPEPOPSARNCDF     | RPEPOPSINNCDF | RSSBCONCDF     | RSSHAOFDNCDF | RSSHAOFDPLRMNCDF |
| SIR_NOPM1B   | 0               | 0             | 0                 | 0             | 0              | 0            | 0                |
| SIR_NOPM_2   | 0               | 27            | 0                 | 0             | 5              | 27           | 0                |
| SIR_NOPN1B   | 0               | 0             | 0                 | 0             | 0              | 0            | 0                |
| SIR_NOPN_2   | 39              | 0             | 0                 | 34            | 20             | 43           | 65               |
| SIR_NOPR1B   | 0               | 0             | 0                 | 0             | 0              | 0            | 0                |
| SIR_NOPR_2   | 0               | 0             | 47                | 0             | 1              | 67           | 33               |
|              |                 |               | ·                 | ÷             | ·              |              |                  |
| Product Type | RSSHAONCDF      | RSWHOEPFDNCDF | RSWHOEPFDPLRMNCDF | RSWHOEPNCDF   | SPHRTASCNSNCDF | SOOHHIFHD    | SCSTODHRNCDF     |
| SIR_NOPM1B   | 0               | 0             | 0                 | 0             | 0              | 0            | 0                |
| SIR_NOPM_2   | 7               | 35            | 0                 | 4             | 0              | 0            | 0                |
| SIR_NOPN1B   | 0               | 0             | 0                 | 0             | 0              | 0            | 50               |
| SIR_NOPN_2   | 38              | 34            | 36                | 21            | 0              | 2            | 0                |
| SIR_NOPR1B   | 0               | 0             | 0                 | 0             | 1              | 0            | 104              |
| SIR NOPR 2   | 15              | 43            | 49                | 4             | 0              | 4            | 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 latitude<br>between -70 and 70 degrees      |
|-----------------------|---|---|
|                       | RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2PLRMNetCDF | The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitude:<br>between -70 and 70 degrees     |
| NCDF<br>RBSZOPOEPNCDF | RangeBackscatterSigmaZeroOPOceanExcludingPolarNetCDF        | The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitude:<br>between -70 and 70 degrees     |
| RLPTONCDF             | RangeLongPeriodTideOceanNetCDF                              | The Long period tide height should be between -50mm and 50mm (or missing) for surface type = ocean -<br>NetCDF                                  |
| RNELPOTONCDF          | RangeNELPOceanTideOceanNetCDF                               | The Non-equilibrium long period ocean loading tide height should be between -40mm and 40mm (or missing) for<br>surface type = ocean             |
| RPEPOPFDLRMNCDF       | RangePeakinessExcludingPolarOPFD2LRMNetCDF                  | The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees                       |
|                       | RangePeakinessExcludingPolarOPFD2PLRMSARNetCDF              | The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70<br>and 70 degrees                   |
|                       | RangePeakinessExcludingPolarOPFD2PLRMSINNetCDF              | The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70<br>and 70 degrees                   |
| RPEPOPFDSARNCDF       | RangePeakinessExcludingPolarOPFD2SARNetCDF                  | The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70<br>and 70 degrees                   |
| RPEPOPFDSINNCDF       | RangePeakinessExcludingPolarOPFD2SINNetCDF                  | The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70<br>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<br>and 70 degrees                   |
| RPEPOPSINNCDF         | RangePeakinessExcludingPolarOPSINNetCDF                     | The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70<br>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 =<br>ocean                                    |
| RSSHAOFDPLRMNCD       | RangeSeaSurfaceHeightAnomalyOceanFD3PLRMNetCDF              | The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type =<br>locean                                   |
| F<br>RSSHAONCDF       | RangeSeaSurfaceHeightAnomalyOceanNetCDF                     | The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type =<br>ocean                                    |
| RSWHOEPFDNCDF         | RangeSignificantWaveHeightOceanExcludingPolarFD2NetCDF      | The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for<br>latitudes between -70 and 70 degrees |
| RSWHOEPFDPLRMN        | RangeSignificantWaveHeightOceanExcludingPolarFD2PLRMNetCDF  | The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for<br>latitudes between -70 and 70 degrees |
| CDF<br>RSWHOEPNCDF    | RangeSignificantWaveHeightOceanExcludingPolarNetCDF         | The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for<br>latitudes between -70 and 70 degrees |
| SPHRTASCNSNCDF        | SPH_Rel_Time_ASC_Node_Stop_v2_NetCDF                        | Rel_Time_ASC_Node_Stop mismatch   |
| SOOHHIFHD             | SameOrOneHigher1HzIndexFor20HzData                          | The 1 Hz index of a 20 Hz sample should be the same or 1 higher than its previous sample  |
| SCSTODHRNCDF          | SequenceCounterStepTODHRNetCDF                              | The sequence counter should be modulo 4 higher with regard to the previous sequence counter   |

# 7.3 Missing QCC Reports

Number of products with missing QCC reports:

0