

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

<u>17/07/2021</u>

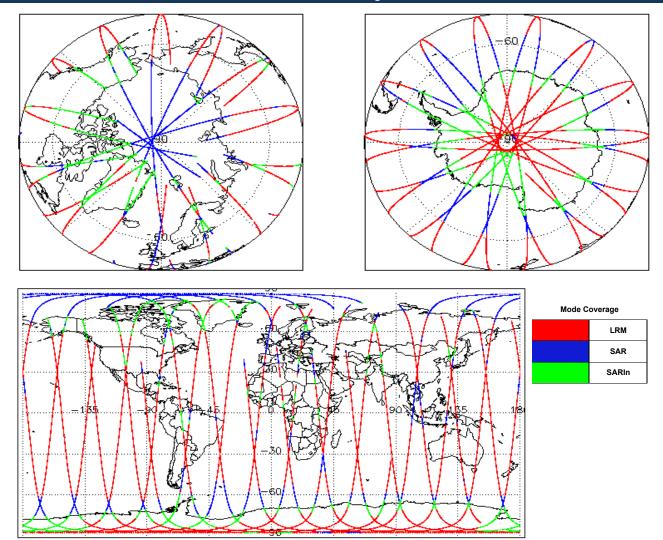
|                    |  | Check                                     | L1 & L2                 |
|--------------------|--|---|-------------------------|
| Report Production: | 28-Jul-2021  | Server check: science-pds.cryosat.esa.int | Nominal                 |
| Processor Used:    |  | Server check: calval-pds.cryosat.esa.int  | Nominal                 |
| Processor Used:    | CryoSat Ocean Processor                                      | Product Software Check                    | Nominal                 |
| Data Used:         | Near Real Time Ocean Products (NOP)<br>L1B & L2 Science Data | Product Format Check                      | Nominal                 |
| Data Used:         |  | 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 16-Jul-2021 None 17-Jul-2021 None

18-Jul-2021 Nothing planned

# 2. Global Coverage



# 3. Instrument Configuration

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

| SIRAL instrument(s) in use: | SIRAL - A      |
|-----------------------------|----------------|
| 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_20210717T084253_20210717T085421_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPM1B_20210717T212240_20210717T213716_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPM1B_20210717T221106_20210717T222400_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPN1B_20210717T015750_20210717T015913_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPN1B_20210717T023410_20210717T023832_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPN1B_20210717T065248_20210717T065800_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPN1B_20210717T074350_20210717T074515_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPN1B_20210717T074519_20210717T074738_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPN1B_20210717T092604_20210717T092850_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPN1B_20210717T100226_20210717T100836_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPN1B_20210717T110205_20210717T110245_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPN1B_20210717T160509_20210717T160635_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPN1B_20210717T191038_20210717T191245_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPN1B_20210717T204734_20210717T205147_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPN1B_20210717T205303_20210717T205407_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPN1B_20210717T222736_20210717T223306_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPR1B_20210717T123716_20210717T124128_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPR1B_20210717T222644_20210717T222736_C001 | Loss of Echo | The tracking echo is missing for one or more records |

# 5. NOP Level 2 Data Quality Check

#### 5.1 L2 Product Format Check

Each product, retrieved and unpacked from the science server, is checked to ensure it consists of both an XML header file (.HDR) and a binary product file (.DBL). Number of products with errors: 0

#### 5.2 L2 Product Header Analysis

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

Number of products with errors:

### 5.3 L2 Auxiliary Data File Usage Check

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

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

Number of products with errors:

#### 5.4 L2 Auxiliary Correction Error Check

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

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

> ECMWF Meteo Corrections: Currently the following corrections are not computed over CONTINENTAL ICE: Dry Tropospheric Corection, Wet Tropospheric Correction, Inverse Barometric Correction and the U-Wind and V-Wind components of the ECMWF model wind vector. This is a known anomaly (CRYO-COP-3) and will be resolved in a future IPF update.

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

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

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

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| Product   | Test Failed   |
|---|---|
| CS_OFFL_SIR_NOPM_2_20210717T085500_20210717T085553_C001 | Mean Dynamic  |
| CS_OFFL_SIR_NOPM_2_20210717T221106_20210717T222400_C001 | Mean Sea Surf<br>Topography (1)<br>Tide (GOT)                                     |
| CS_OFFL_SIR_NOPN_2_20210717T001804_20210717T002021_C001 | Mean Dynamic  |
| CS_OFFL_SIR_NOPN_2_20210717T005559_20210717T010138_C001 | Mean Dynamic  |
| CS_OFFL_SIR_NOPN_2_20210717T023410_20210717T023832_C001 | Total Geocentr  |
| CS_OFFL_SIR_NOPN_2_20210717T032735_20210717T032859_C001 | Mean Dynamic  |
| CS_OFFL_SIR_NOPN_2_20210717T041607_20210717T041751_C001 | Mean Dynamic  |
| CS_OFFL_SIR_NOPN_2_20210717T050707_20210717T050832_C001 | Mean Dynamic  |
| CS_OFFL_SIR_NOPN_2_20210717T051346_20210717T051648_C001 | Mean Sea Surf<br>Topography (1)   |
| CS_OFFL_SIR_NOPN_2_20210717T064707_20210717T065013_C001 | Mean Sea Surf<br>Topography (1)   |
| CS_OFFL_SIR_NOPN_2_20210717T065248_20210717T065800_C001 | Mean Sea Surf<br>Topography (1)   |
| CS_OFFL_SIR_NOPN_2_20210717T074350_20210717T074515_C001 | Mean Sea Surf   |
| CS_OFFL_SIR_NOPN_2_20210717T074519_20210717T074738_C001 | Mean Dynamic<br>Geocentric Oce  |
| CS_OFFL_SIR_NOPN_2_20210717T082727_20210717T083001_C001 | Mean Sea Surf<br>Topography (1)   |
| CS_OFFL_SIR_NOPN_2_20210717T092236_20210717T092352_C001 | Mean Sea Surf<br>Topography (1)   |
| CS_OFFL_SIR_NOPN_2_20210717T092604_20210717T092850_C001 | Mean Dynamic<br>Geocentric Oce  |
| CS_OFFL_SIR_NOPN_2_20210717T100226_20210717T100836_C001 | Mean Sea Surf<br>Topography (1)   |
| CS_OFFL_SIR_NOPN_2_20210717T110205_20210717T110245_C001 | Mean Sea Surf<br>Topography (1)   |
| CS_OFFL_SIR_NOPN_2_20210717T110306_20210717T110420_C001 | Mean Dynamic  |
| CS_OFFL_SIR_NOPN_2_20210717T110511_20210717T110738_C001 | Mean Dynamic  |
| CS_OFFL_SIR_NOPN_2_20210717T114448_20210717T114629_C001 | Mean Dynamic  |
| CS_OFFL_SIR_NOPN_2_20210717T124129_20210717T124613_C001 | Mean Sea Surf<br>Topography (1)   |
| CS_OFFL_SIR_NOPN_2_20210717T133306_20210717T133545_C001 | Mean Sea Surf<br>Topography (1)   |
| CS_OFFL_SIR_NOPN_2_20210717T150409_20210717T150759_C001 | Mean Sea Surf<br>Topography (1)<br>Tide (GOT), To<br>Tide (FES), No<br>Ocean Tide |
| CS_OFFL_SIR_NOPN_2_20210717T154529_20210717T154554_C001 | Mean Dynamic  |
| CS_OFFL_SIR_NOPN_2_20210717T160509_20210717T160635_C001 | Total Geocentr  |
| CS_OFFL_SIR_NOPN_2_20210717T164351_20210717T164705_C001 | Mean Sea Surf<br>Topography (1)   |
| CS_OFFL_SIR_NOPN_2_20210717T165218_20210717T165335_C001 | Mean Dynamic  |
| CS_OFFL_SIR_NOPN_2_20210717T183125_20210717T183239_C001 | Mean Sea Surf<br>Topography (1)   |
| CS_OFFL_SIR_NOPN_2_20210717T191038_20210717T191245_C001 | Mean Sea Surf<br>Topography (1)<br>Tide (GOT), To<br>Tide (FES), No<br>Ocean Tide |
| CS_OFFL_SIR_NOPN_2_20210717T191334_20210717T191458_C001 | Mean Sea Surf<br>Topography (1)   |
| CS_OFFL_SIR_NOPN_2_20210717T204734_20210717T205147_C001 | Total Geocentr  |
| CS_OFFL_SIR_NOPN_2_20210717T205303_20210717T205407_C001 | Mean Sea Surf<br>Topography (1)   |
| CS_OFFL_SIR_NOPN_2_20210717T214702_20210717T214933_C001 | Mean Sea Surf<br>Topography (1)   |
| CS_OFFL_SIR_NOPN_2_20210717T222736_20210717T223306_C001 | Mean Sea Surf<br>Topography (1)   |

| Test Falleu   | Description  |
|---|--|
| Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records   |
| 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 |
| Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records   |
| Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records   |
| Total Geocentric Ocean Tide (GOT)   | There is an error with the Total Geocentric Ocean Tide height (solution 1:<br>GOT) for one or more records   |
| Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records   |
| Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records   |
| Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records   |
| 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  |
| 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  |
| 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  |
| Mean Sea Surface (1)  | There is an error with the MSS height (solution 1) for one or more records   |
| 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  |
| 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  |
| 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  |
| Mean Dynamic Topography (1), Total<br>Geocentric Ocean Tide (GOT)   | There is an error with the Mean Dynamic Topography (solution 1) and the<br>Total Geocentric Ocean Tide (solution 1: GOT) for one or more records   |
| 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  |
| 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  |
| Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records   |
| Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records   |
| Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records   |
| 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  |
| 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  |
| 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  |
| Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records   |
| Total Geocentric Ocean Tide (GOT)   | There is an error with the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records  |
| 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  |
| Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records   |
| 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  |
| 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  |
| 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  |
| Total Geocentric Ocean Tide (GOT)   | There is an error with the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records  |
| 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  |
| 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  |
| 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  |
|   |  |

Description

| CS_OFFL_SIR_NOPN_2_20210717T232612_20210717T232945_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_20210717T010912_20210717T011054_C001 | Mean Dynamic Topography (1)                          | There is an error with the Mean Dynamic Topography height for one or more records   |
| CS_OFFL_SIR_NOPR_2_20210717T123716_20210717T124128_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_20210717T141510_20210717T142207_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_20210717T154421_20210717T154528_C001 | Mean Dynamic Topography (1)                          | There is an error with the Mean Dynamic Topography height for one or<br>more records  |
| CS_OFFL_SIR_NOPR_2_20210717T155526_20210717T160314_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_20210717T173512_20210717T174349_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_20210717T191459_20210717T191617_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_20210717T191617_20210717T192244_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_20210717T205407_20210717T205930_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_20210717T214934_20210717T215156_C001 | Mean Sea Surface (1)                                 | There is an error with the MSS height (solution 1) for one or more records  |
| CS_OFFL_SIR_NOPR_2_20210717T223307_20210717T223404_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_20210717T223404_20210717T224013_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_20210717T225345_20210717T230034_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_20210716T234518_20210717T000615_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_20210717T001114_20210717T001503_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_20210717T001524_20210717T001804_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_20210717T002216_20210717T004526_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_20210717T012156_20210717T014554_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_20210717T014858_20210717T015418_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_20210717T015424_20210717T015750_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_20210717T020141_20210717T023410_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_20210717T024914_20210717T025432_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_20210717T030359_20210717T031712_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_20210717T032049_20210717T032521_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_20210717T032859_20210717T033655_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.   |
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| CS_OFFL_SIR_NOPM_2_20210717T034158_20210717T041408_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_20210717T043247_20210717T043544_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_20210717T045506_20210717T050314_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_20210717T050832_20210717T051346_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_20210717T052043_20210717T054157_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_20210717T054442_20210717T055627_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_20210717T060542_20210717T060908_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_20210717T062446_20210717T063053_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_20210717T063240_20210717T064307_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_20210717T065013_20210717T065248_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_20210717T070011_20210717T072948_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_20210717T073028_20210717T073623_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_20210717T074813_20210717T082024_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_20210717T083357_20210717T083701_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_20210717T084253_20210717T085421_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_20210717T085500_20210717T085553_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_20210717T085559_20210717T090712_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_20210717T092352_20210717T092603_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_20210717T092850_20210717T094502_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_20210717T100128_20210717T100215_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_20210717T100836_20210717T101117_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_NOPM_2_20210717T101134_20210717T101602_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_20210717T101856_20210717T103248_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_20210717T103427_20210717T103710_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_20210717T104733_20210717T105600_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_20210717T111952_20210717T112234_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. |
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| CS_OFFL_SIR_NOPM_2_20210717T112241_20210717T114257_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. |
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| CS_OFFL_SIR_NOPM_2_20210717T114629_20210717T115511_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_20210717T115828_20210717T122225_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_20210717T125750_20210717T132205_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_20210717T132558_20210717T132732_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_20210717T132845_20210717T133306_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_20210717T133749_20210717T140454_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_20210717T142951_20210717T150021_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_20210717T150759_20210717T151346_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_20210717T151641_20210717T152130_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_20210717T152459_20210717T153212_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_20210717T155140_20210717T155212_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_20210717T155251_20210717T155421_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_20210717T160635_20210717T163956_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_20210717T164705_20210717T165218_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_20210717T165643_20210717T165705_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_20210717T165809_20210717T171323_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_20210717T172935_20210717T173053_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_20210717T173149_20210717T173333_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_20210717T174349_20210717T175513_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_20210717T175759_20210717T181904_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_20210717T182529_20210717T182706_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_20210717T182713_20210717T183124_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_20210717T183620_20210717T185535_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_20210717T185616_20210717T190048_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_20210717T191316_20210717T191334_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_20210717T192608_20210717T193040_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_20210717T193118_20210717T195818_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. |
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| CS_OFFL_SIR_NOPM_2_20210717T200042_20210717T200606_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_20210717T200625_20210717T200846_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_20210717T201711_20210717T202938_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_20210717T203037_20210717T204734_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_20210717T205148_20210717T205303_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_20210717T211115_20210717T212036_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_20210717T212240_20210717T213716_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_20210717T214009_20210717T214504_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_20210717T214543_20210717T214702_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_20210717T215404_20210717T220442_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_20210717T221106_20210717T222400_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_20210717T230201_20210717T231608_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_20210717T231939_20210717T232419_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_20210717T232457_20210717T232611_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_20210717T233205_20210717T235738_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_20210717T015750_20210717T015913_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_20210717T065248_20210717T065800_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_20210717T122225_20210717T122458_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_20210717T205303_20210717T205407_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_20210717T014554_20210717T014731_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_20210717T015913_20210717T020141_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_20210717T154323_20210717T154324_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_20210717T172546_20210717T172552_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_20210717T215322_20210717T215404_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_20210717T222644_20210717T222736_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. |
|   | Animeter Mange and Dackscatter Quality   |  |

## L2 Quality Flags (20Hz PLRM)

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

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

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

Number of products with errors: 78

| Product   | Test Failed   | Description  |
|---|---|--|
| CS_OFFL_SIR_NOPN_2_20210717T001804_20210717T002021_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_20210717T005559_20210717T010138_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_20210717T023410_20210717T023832_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_20210717T041607_20210717T041751_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_20210717T043014_20210717T043137_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_20210717T051346_20210717T051648_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_20210717T062248_20210717T062446_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_20210717T064707_20210717T065013_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_20210717T074350_20210717T074515_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_20210717T074519_20210717T074738_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_20210717T090712_20210717T090945_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_20210717T092604_20210717T092850_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_20210717T100226_20210717T100836_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_20210717T110306_20210717T110420_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_20210717T110511_20210717T110738_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_20210717T115511_20210717T115702_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_20210717T122225_20210717T122458_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_20210717T123119_20210717T123241_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_20210717T124129_20210717T124613_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_20210717T124705_20210717T124826_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_20210717T150409_20210717T150759_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_20210717T153212_20210717T153407_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_20210717T154948_20210717T155111_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_20210717T155212_20210717T155251_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_20210717T160314_20210717T160426_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_20210717T164351_20210717T164705_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_20210717T182109_20210717T182528_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_20210717T183125_20210717T183239_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_20210717T191038_20210717T191245_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_20210717T191334_20210717T191458_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_20210717T200846_20210717T201032_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_20210717T204734_20210717T205147_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_20210717T205930_20210717T210003_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_20210717T210721_20210717T210915_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_20210717T213827_20210717T214009_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_20210717T215156_20210717T215321_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_20210717T220625_20210717T221105_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_20210717T222736_20210717T223306_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_20210717T231724_20210717T231939_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_20210717T232612_20210717T232945_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_20210717T014554_20210717T014731_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_20210717T015913_20210717T020141_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_20210717T032521_20210717T032734_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_20210717T033808_20210717T034158_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_20210717T045215_20210717T045506_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_20210717T050314_20210717T050706_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_20210717T051649_20210717T052043_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_20210717T060909_20210717T061532_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_20210717T064308_20210717T064707_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_20210717T074739_20210717T074812_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_20210717T082024_20210717T082727_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_20210717T094503_20210717T094715_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_20210717T103710_20210717T104108_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_20210717T104108_20210717T104137_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_20210717T110739_20210717T110955_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_20210717T114257_20210717T114448_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_20210717T123716_20210717T124128_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_20210717T141510_20210717T142207_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_20210717T150022_20210717T150409_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_20210717T154040_20210717T154319_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_20210717T154914_20210717T154948_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_20210717T155421_20210717T155445_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_20210717T160426_20210717T160508_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_20210717T163956_20210717T164351_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_20210717T165335_20210717T165642_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_20210717T173333_20210717T173450_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_20210717T173512_20210717T174349_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_20210717T181905_20210717T182109_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_20210717T183239_20210717T183620_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_20210717T190049_20210717T190239_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_20210717T191617_20210717T192244_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_20210717T201033_20210717T201711_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_20210717T202939_20210717T203037_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_20210717T225345_20210717T230034_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_20210717T231609_20210717T231724_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_20210717T232945_20210717T233205_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_20210717T235738_20210717T235902_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_20210717T235947_20210717T235952_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.   |

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

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

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

### 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.

1761

60

138

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   | 141          | 141             | 1         | 140          | 0          |
| SIR_NOPR1B   | 102          | 102             | 0         | 102          | 0          |
| SIR_NOPN1B   | 101          | 101             | 2         | 99           | 0          |
| SIR_NOPM_2   | 141          | 141             | 92        | 49           | 0          |
| SIR_NOPR_2   | 102          | 102             | 31        | 70           | 1          |
| SIR_NOPN_2   | 101          | 101             | 39        | 62           | 0          |

### 7.1 QCC Errors

| Number of QCC    | reports with e                            | rrors:  | 4          |  |         |   |   |   |   |   |   |  |
|------------------|---|---|------------|--|---------|---|---|---|---|---|---|--|
|                  | Total number of occurrences of each error |   |            |  |         |   |   |   |   |   |   |  |
| Product Type R   | LOBOPNCDF                                 | RL  | RLOBOPNCDF | RL   | -       | - | - | - | - | - | - |  |
| SIR_NOPR_2       | 1   | 1   | 1          | 1  |         |   |   |   |   |   |   |  |
|                  |   |   |            |  |         |   |   |   |   |   |   |  |
| Test Description | Test Description Key:                     |   |            |  |         |   |   |   |   |   |   |  |
| Abbreviation     | Test na                                   | Test name   |            |  | Details |   |   |   |   |   |   |  |
| RLOBOPNCDF       | RangeLa                                   | RangeLatitudeOrBlankOP_7NetCDF Latitude should be between -90E7 and 90E7 - NetCDF     |            |  |         |   |   |   |   |   |   |  |
| RL               | RangeLa                                   | RangeLatitude_7 Latitude should be between -90E7 and 90E7                             |            |  |         |   |   |   |   |   |   |  |
| RLOBOPNCDF       | RangeLo                                   | RangeLongitudeOrBlankOP_7NetCDF Longitude should be between -180E7 and 180E7 - NetCDF |            |  |         |   |   |   |   |   |   |  |
| RL               | RangeLo                                   | ongitude_7  |            | Longitude should be between -180E7 and 180E7 |         |   |   |   |   |   |   |  |

# 7.2 QCC Warnings

|   |   |  | i otai nun   | ber of occurrences of e                                     | ach warning                   |   |   |
|---|---|--|--|---|-------------------------------|---|---|
| Product Type  | BCSHNCDF  | IOHHMOOR   | MVIOEPFDNCDF   | MVIOEPNCDF  | MVIONCDF                      | RBSZOPOEPFDNCDF   | RBSZOPOEPFDPLRMNC   |
| SIR_NOPM1B  | 140   | 0  | 0  | 0   | 0                             | 0   | 0   |
| SIR_NOPM_2  | 0   | 0  | 37   | 38  | 1                             | 39  | 0   |
| SIR_NOPN1B  | 95  | 0  | 0  | 0   | 0                             | 0   | 0   |
| SIR_NOPN_2  | 0   | 0  | 8  | 34  | 7                             | 25  | 27  |
| SIR_NOPR1B  | 99  | 0  | 0  | 0   | 0                             | 0   | 0   |
| SIR_NOPR_2  | 0   | 1  | 39   | 46  | 0                             | 40  | 40  |
| -   |   |  |  |   |                               |   |   |
| Product Type  | RBSZOPOEPNCDF   | RNELPOTONCDF   | RPEPOPFDLRMNCDF  | RPEPOPFDPLRMSARNC   |                               | RPEPOPFDSARNCDF   | RPEPOPFDSINNCDF   |
| SIR_NOPM1B  | 0   | 0  | 0  | 0   | 0                             | 0   | 0   |
| SIR_NOPM_2  | 33  | 1  | 33   | 0   | 0                             | 0   | 0   |
| SIR_NOPN1B  | 0   | 0  | 0  | 0   | 0                             | 0   | 0   |
| SIR_NOPN_2  | 19  | 0  | 0  | 0   | 32                            | 0   | 37  |
| SIR_NOPR1B  | 0   | 0  | 0  | 0   | 0                             | 0   | 0   |
| SIR_NOPR_2  | 20  | 1  | 0  | 52  | 0                             | 56  | 0   |
|   |   |  |  |   |                               |   |   |
|   |   |  |  |   |                               |   |   |
| Product Type  | RPEPOPLRMNCDF   | RPEPOPSARNCDF  | RPEPOPSINNCDF  | RSSBCONCDF  | RSSHAOFDNCDF                  | RSSHAOFDPLRMNCDF  | RSSHAONCDF  |
| SIR_NOPM1B  | 0   | RPEPOPSARNCDF<br>0   | RPEPOPSINNCDF<br>0   | RSSBCONCDF<br>0   | RSSHAOFDNCDF<br>0             | RSSHAOFDPLRMNCDF  | RSSHAONCDF<br>0   |
| SIR_NOPM1B<br>SIR_NOPM_2  | 0 26  | RPEPOPSARNCDF<br>0<br>0  | RPEPOPSINNCDF<br>0<br>0  | RSSBCONCDF<br>0<br>6  | RSSHAOFDNCDF<br>0<br>25       | RSSHAOFDPLRMNCDF<br>0<br>0  | RSSHAONCDF<br>0<br>5  |
| SIR_NOPM1B<br>SIR_NOPM_2<br>SIR_NOPN1B  | 0<br>26<br>0  | RPEPOPSARNCDF       0       0       0       0  | 0<br>0<br>0  | 0<br>6<br>0   | 0<br>25<br>0                  | 0<br>0<br>0   | 0<br>5<br>0   |
| SIR_NOPM1B<br>SIR_NOPM_2<br>SIR_NOPN1B<br>SIR_NOPN_2  | 0<br>26<br>0<br>0   | RPEPOPSARNCDF           0           0           0           0           0           0           0              | RPEPOPSINNCDF           0           0           0           33 | RSSBCONCDF           0           6           0           15 | 0                             | RSSHAOFDPLRMNCDF<br>0<br>0<br>0<br>54                               | RSSHAONCDF           0           5           0           31 |
| SIR_NOPM1B<br>SIR_NOPM_2<br>SIR_NOPN1B<br>SIR_NOPN_2<br>SIR_NOPR1B  | 0<br>26<br>0  | 0<br>0<br>0<br>0<br>0<br>0   | 0<br>0<br>0  | 0<br>6<br>0   | 0<br>25<br>0<br>47<br>0       | 0<br>0<br>0<br>54<br>0  | 0<br>5<br>0   |
| SIR_NOPM1B<br>SIR_NOPM_2<br>SIR_NOPN1B<br>SIR_NOPN_2  | 0<br>26<br>0<br>0   | RPEPOPSARNCDF           0           0           0           0           0           0           0           49 | 0<br>0<br>0  | 0<br>6<br>0   | 0<br>25<br>0                  | 0<br>0<br>0<br>54   | 0<br>5<br>0   |
| SIR_NOPM1B<br>SIR_NOPM_2<br>SIR_NOPN1B<br>SIR_NOPN_2<br>SIR_NOPR1B<br>SIR_NOPR_2  | 0<br>26<br>0<br>0<br>0<br>0<br>0  | 0<br>0<br>0<br>0<br>0<br>0<br>49   | 0<br>0<br>33<br>0<br>0   | 0<br>6<br>0<br>15<br>0<br>0                                 | 0<br>25<br>0<br>47<br>0<br>59 | 0<br>0<br>54<br>0<br>40   | 0<br>5<br>0<br>31<br>0<br>5                                 |
| SIR_NOPM1B<br>SIR_NOPM_2<br>SIR_NOPN1B<br>SIR_NOPR1B<br>SIR_NOPR1B<br>SIR_NOPR_2<br>Product Type  | 0<br>26<br>0<br>0<br>0<br>0<br>8<br>8<br>8<br>8<br>9<br>8<br>9<br>9<br>8<br>9<br>9<br>9<br>9<br>9<br>9<br>9 | 0<br>0<br>0<br>0<br>0<br>0   | 0<br>0<br>33<br>0<br>0   | 0<br>6<br>0   | 0<br>25<br>0<br>47<br>0       | 0<br>0<br>0<br>54<br>0  | 0<br>5<br>0<br>31<br>0                                      |
| SIR_NOPM1B<br>SIR_NOPM_2<br>SIR_NOPN1B<br>SIR_NOPN2<br>SIR_NOPR1B<br>SIR_NOPR_2<br>Product Type<br>SIR_NOPM1B                             | 0<br>26<br>0<br>0<br>0<br>0<br>0<br><b>RSWHOEPFDNCDF</b><br>0   | 0<br>0<br>0<br>0<br>0<br>0<br>49   | 0<br>0<br>33<br>0<br>0   | 0<br>6<br>0<br>15<br>0<br>0                                 | 0<br>25<br>0<br>47<br>0<br>59 | 0<br>0<br>54<br>0<br>40   | 0<br>5<br>0<br>31<br>0<br>5                                 |
| SIR_NOPM1B<br>SIR_NOPM_2<br>SIR_NOPN1B<br>SIR_NOPN12<br>SIR_NOPR1B<br>SIR_NOPR_2<br>Product Type<br>SIR_NOPM1B<br>SIR_NOPM_2              | 0<br>26<br>0<br>0<br>0<br>0<br>0<br><b>RSWHOEPFDNCDF</b><br>0<br>38   | 0<br>0<br>0<br>0<br>0<br>0<br>49   | 0<br>0<br>33<br>0<br>0   | 0<br>6<br>0<br>15<br>0<br>0                                 | 0<br>25<br>0<br>47<br>0<br>59 | 0<br>0<br>54<br>0<br>40<br>SCSTODHRNCDF<br>0<br>0                   | 0<br>5<br>0<br>31<br>0<br>5                                 |
| SIR_NOPM1B<br>SIR_NOPM_2<br>SIR_NOPN1B<br>SIR_NOPN2<br>SIR_NOPR1B<br>SIR_NOPR_2<br>Product Type<br>SIR_NOPM1B<br>SIR_NOPM_2<br>SIR_NOPM1B | 0<br>26<br>0<br>0<br>0<br>0<br><b>RSWHOEPFDNCDF</b><br>0<br>38<br>0   | 0<br>0<br>0<br>0<br>49<br><b>RSWHOEPFDPLRMNCDF</b><br>0<br>0<br>0  | 0<br>0<br>33<br>0<br>0   | 0<br>6<br>0<br>15<br>0<br>0                                 | 0<br>25<br>0<br>47<br>0<br>59 | 0<br>0<br>54<br>0<br>40   | 0<br>5<br>0<br>31<br>0<br>5                                 |
| SIR_NOPM1B<br>SIR_NOPM_2<br>SIR_NOPM_2<br>SIR_NOPN2<br>SIR_NOPR1B<br>SIR_NOPM2<br>SIR_NOPM1B<br>SIR_NOPM_2<br>SIR_NOPM12<br>SIR_NOPN_2    | 0<br>26<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br><b>RSWHOEPFDNCDF</b><br>0<br>38<br>0<br>28                    | 0<br>0<br>0<br>0<br>0<br>0<br>49   | 0<br>0<br>33<br>0<br>0   | 0<br>6<br>0<br>15<br>0<br>0                                 | 0<br>25<br>0<br>47<br>0<br>59 | 0<br>0<br>54<br>0<br>40<br><b>SCSTODHRNCDF</b><br>0<br>0<br>48<br>0 | 0<br>5<br>0<br>31<br>0<br>5                                 |
| SIR_NOPM1B<br>SIR_NOPM_2<br>SIR_NOPN1B<br>SIR_NOPN2<br>SIR_NOPR1B<br>SIR_NOPR_2<br>Product Type<br>SIR_NOPM1B<br>SIR_NOPM_2<br>SIR_NOPM1B | 0<br>26<br>0<br>0<br>0<br>0<br><b>RSWHOEPFDNCDF</b><br>0<br>38<br>0   | 0<br>0<br>0<br>0<br>49<br><b>RSWHOEPFDPLRMNCDF</b><br>0<br>0<br>0  | 0<br>0<br>33<br>0<br>0   | 0<br>6<br>0<br>15<br>0<br>0                                 | 0<br>25<br>0<br>47<br>0<br>59 | 0<br>0<br>54<br>0<br>40<br>SCSTODHRNCDF<br>0<br>0                   | 0<br>5<br>0<br>31<br>0<br>5                                 |

| Test Description Key: |   |   |
|-----------------------|---|---|
| Abbreviation          | Test name   | Details   |
| BCSHNCDF              | BurstCounterStep20HzNetCDF                                  | The burst counter should be one higher with regard to the previous burst counter  |
| IOHHMOOR              | IndexOf1Hzin20HzMappingOutOfRange                           | The mapping of 20 Hz to 1 Hz measurements should be in the range 0 to (number of 1 Hz samples - 1)  |
| MVIOEPFDNCDF          | MissingValueIntOceanExcludingPolarFD2NetCDF                 | The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees                                  |
| MVIOEPNCDF            | MissingValueIntOceanExcludingPolarNetCDF                    | The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees                                  |
| MVIONCDF              | MissingValueIntOceanNetCDF                                  | The value should not be a 'missing value' for surface type 0 only   |
| RBSZOPOEPFDNCDF       | RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2NetCDF     | The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes<br>between -70 and 70 degrees |
| RBSZOPOEPFDPLRM       | RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2PLRMNetCDF | The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees    |
| RBSZOPOEPNCDF         | RangeBackscatterSigmaZeroOPOceanExcludingPolarNetCDF        | The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes<br>between -70 and 70 degrees |
| RNELPOTONCDF          | RangeNELPOceanTideOceanNetCDF                               | The Non-equilibrium long period ocean loading tide height should be between -40mm and 40mm (or missing) fo<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                   |
| NCDE                  | RangePeakinessExcludingPolarOPFD2PLRMSARNetCDF              | The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees                  |
| RPEPOPFDPLRMSINN      | RangePeakinessExcludingPolarOPFD2PLRMSINNetCDF              | The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees                  |
|                       | RangePeakinessExcludingPolarOPFD2SARNetCDF                  | The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees                  |
| RPEPOPFDSINNCDF       | RangePeakinessExcludingPolarOPFD2SINNetCDF                  | The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees                  |

| RPEPOPSARNCDF         RangePeakinessExcludingPolarOPSARNetCDF         The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes betw<br>and 70 degrees           RPEPOPSINNCDF         RangePeakinessExcludingPolarOPSINNetCDF         The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes betw<br>and 70 degrees           RSSBCONCDF         RangeSeaStateBiasCorrectionOceanNetCDF         The sea surface height anomaly should be between -500mm and 0mm (or missing) for surface type = ocean<br>RSSHAOFDPLRMNCD           RSSHAOFDPLRMNCDF         RangeSeaSurfaceHeightAnomalyOceanFD3PLRMNetCDF         The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type<br>ocean           RSSHAONCDF         RangeSeaSurfaceHeightAnomalyOceanFD3PLRMNetCDF         The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type<br>ocean           RSSHAONCDF         RangeSeaSurfaceHeightAnomalyOceanFD3PLRMNetCDF         The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type<br>ocean           RSWHOEPFDNCDF         RangeSignificantWaveHeightOceanExcludingPolarFD2PLRCDF         The significant wave height should be between 0mm and 15000mm (or missing) for surface type = oceal<br>latitudes between -70 and 70 degrees           RSWHOEPFDPLRWIN<br>CF         RangeSignificantWaveHeightOceanExcludingPolarFD2PLRMNetCDF         The significant wave height should be between 0mm and 15000mm (or missing) for surface type = oceal<br>latitudes between -70 and 70 degrees           RSWHOEPFDNCDF         RangeSignif  | RPEPOPLRMNCDF   | RangePeakinessExcludingPolarOPLRMNetCDF                    | The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees                       |
|--|-----------------|--|---|
| RPEPOPSINNCDF         RangePeakinessExcludingPolarOPSINNetCDF         The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between and 70 degrees           RSSBCONCDF         RangeSeaSutateBiasCorrectionOceanNetCDF         The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean           RSSHAOFDPLRMNCD F         RangeSeaSurfaceHeightAnomalyOceanFD3PLRMNetCDF         The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type ocean           RSSHAONCDF         RangeSeaSurfaceHeightAnomalyOceanNetCDF         The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type ocean           RSSHAONCDF         RangeSeaSurfaceHeightAnomalyOceanNetCDF         The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type ocean           RSWHOEPFDNCDF         RangeSignificantWaveHeightOceanExcludingPolarFD2NetCDF         The sea surface height should be between 0 mm and 15000mm (or missing) for surface type = oceal latitudes between -70 and 70 degrees           RSWHOEPFDPLRMN         RangeSignificantWaveHeightOceanExcludingPolarFD2PLRMNetCDF         The significant wave height should be between 0 mm and 15000mm (or missing) for surface type = oceal latitudes between -70 and 70 degrees           RSWHOEPFDPLRMN         RangeSignificantWaveHeightOceanExcludingPolarFD2PLRMNetCDF         The significant wave height should be between 0 mm and 15000mm (or missing) for surface type = oceal latitudes between -70 and 70 degrees           RSWHOEPFDPLRMN  | RPEPOPSARNCDF   | RangePeakinessExcludingPolarOPSARNetCDF                    | The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70                                     |
| RSSBCONCDF         RangeSeaStateBiasCorrectionOceanNetCDF         The sea state bias correction should be between -500mm and 0mm (or missing) for surface type = ocean           RSSHAOFDNCDF         RangeSeaSurfaceHeightAnomalyOceanFD3NetCDF         The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean           RSSHAOFDPLRMNCD         RangeSeaSurfaceHeightAnomalyOceanFD3PLRMNetCDF         The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean           RSSHAONCDF         RangeSeaSurfaceHeightAnomalyOceanNetCDF         The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean           RSWHOEPFDNCDF         RangeSignificantWaveHeightOceanExcludingPolarFD2NetCDF         The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean           RSWHOEPFDPLRMN         RangeSignificantWaveHeightOceanExcludingPolarFD2PLRMNetCDF         The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean           RSWHOEPFDNCDF         RangeSignificantWaveHeightOceanExcludingPolarFD2PLRMNetCDF         The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean           RSWHOEPFNCDF         RangeSignificantWaveHeightOceanExcludingPolarNetCDF         The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean           RSWHOEPFNCDF         RangeSignificantWaveHeightOceanExcludingPolarNetCDF         The significant wave height should be betwee  | RPEPOPSINNCDF   | RangePeakinessExcludingPolarOPSINNetCDF                    | The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70                                     |
| Ocean         Ocean           RSSHAOFDPLRMNCD<br>F         RangeSeaSurfaceHeightAnomalyOceanFD3PLRMNetCDF         The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type ocean           RSSHAONCDF         RangeSeaSurfaceHeightAnomalyOceanNetCDF         The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type ocean           RSWHOEPFDNCDF         RangeSignificantWaveHeightOceanExcludingPolarFD2NetCDF         The significant wave height should be between 0mm and 15000mm (or missing) for surface type = oceal latitudes between -70 and 70 degrees           RSWHOEPFDPLRMN<br>CDF         RangeSignificantWaveHeightOceanExcludingPolarFD2PLRMNetCDF         The significant wave height should be between 0mm and 15000mm (or missing) for surface type = oceal latitudes between -70 and 70 degrees           RSWHOEPFDPLRMN<br>CDF         RangeSignificantWaveHeightOceanExcludingPolarFD2PLRMNetCDF         The significant wave height should be between 0mm and 15000mm (or missing) for surface type = oceal latitudes between -70 and 70 degrees           RSWHOEPFNCDF         RangeSignificantWaveHeightOceanExcludingPolarFD2PLRMNetCDF         The significant wave height should be between 0mm and 15000mm (or missing) for surface type = oceal latitudes between -70 and 70 degrees           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 tween or 1 higher than its previous sample           SCSTODHRNCDF         SequenceCounterS  | RSSBCONCDF      | RangeSeaStateBiasCorrectionOceanNetCDF                     | The sea state bias correction should be between -500mm and 0mm (or missing) for surface type = ocean  |
| F         ocean           RSSHAONCDF         RangeSeaSurfaceHeightAnomalyOceanNetCDF         The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type - ocean           RSWHOEPFDNCDF         RangeSignificantWaveHeightOceanExcludingPolarFD2NetCDF         The significant wave height should be between 0mm and 15000mm (or missing) for surface type - ocean           RSWHOEPFDPLRMN         RangeSignificantWaveHeightOceanExcludingPolarFD2PLRMNetCDF         The significant wave height should be between 0mm and 15000mm (or missing) for surface type - ocean           RSWHOEPFDPLRMN         RangeSignificantWaveHeightOceanExcludingPolarFD2PLRMNetCDF         The significant wave height should be between 0mm and 15000mm (or missing) for surface type - ocean           RSWHOEPNCDF         RangeSignificantWaveHeightOceanExcludingPolarNetCDF         The significant wave height should be between 0mm and 15000mm (or missing) for surface type - ocean           RSWHOEPNCDF         RangeSignificantWaveHeightOceanExcludingPolarNetCDF         The significant wave height should be between 0mm and 15000mm (or missing) for surface type - ocean           SPH_REI_Time_ASC_Node_Stop_v2_VetCDF         Rel_Time_ASC_Node_Stop mismatch         The significant wave height should be between 0mm and 15000mm (or missing) for surface type - ocean           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 counte   | RSSHAOFDNCDF    | RangeSeaSurfaceHeightAnomalyOceanFD3NetCDF                 | The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type =<br>ocean                                    |
| Access         Ocean           RSWHOEPFDNCDF         RangeSignificantWaveHeightOceanExcludingPolarFD2NetCDF         The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean           RSWHOEPFDPLRMN         RangeSignificantWaveHeightOceanExcludingPolarFD2PLRMNetCDF         The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean           RSWHOEPFDPLRMN         RangeSignificantWaveHeightOceanExcludingPolarFD2PLRMNetCDF         The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean           RSWHOEPNCDF         RangeSignificantWaveHeightOceanExcludingPolarNetCDF         The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean           SPH_REI_Time_ASC_Node_Stop_v2_NetCDF         Rel_Time_ASC_Node_Stop mismatch         The 1 Hz index of a 20 Hz sample should be the same or 1 higher than its previous sample           SOOHHIFHD         SequenceCounterStepTODHRNetCDF         The sequence counter should be modulo 4 higher with regard to the previous sequence counter   | RSSHAOFDPLRMNCD | RangeSeaSurfaceHeightAnomalyOceanFD3PLRMNetCDF             | The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type =<br>ocean                                    |
| RSWHOEPFDPLRMN<br>CDF       RangeSignificantWaveHeightOceanExcludingPolarFD2PLRMNetCDF       The significant wave height should be between 0 and 70 degrees         RSWHOEPFDPLCPF       RangeSignificantWaveHeightOceanExcludingPolarFD2PLRMNetCDF       The significant wave height should be between 0 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 modulo 4 higher with regard to the previous sample  | RSSHAONCDF      | RangeSeaSurfaceHeightAnomalyOceanNetCDF                    | The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type =<br>ocean                                    |
| CDF       Ialtitudes between -70 and 70 degrees         RSWHOEPNCDF       RangeSignificantWaveHeightOceanExcludingPolarNetCDF       Ialtitudes 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  | 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 |
| RSWHOEPNCDF       RangeSignificantWaveHeightOceanExcludingPolarNetCDF       The significant wave height should be between 0mm and 15000mm (or missing) for surface type = oceal latitudes between -70 and 70 degrees         SPH_RTASCNSNCDF       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  |                 | 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 |
| 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  |                 | 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 |
| SCSTODHRNCDF       SequenceCounterStepTODHRNetCDF       The sequence counter should be modulo 4 higher with regard to the previous sequence counter  | SPHRTASCNSNCDF  | SPH_Rel_Time_ASC_Node_Stop_v2_NetCDF                       |   |
|  | SOOHHIFHD       | SameOrOneHigher1HzIndexFor20HzData                         | The 1 Hz index of a 20 Hz sample should be the same or 1 higher than its previous sample  |
|  | SCSTODHRNCDF    | SequenceCounterStepTODHRNetCDF                             | The sequence counter should be modulo 4 higher with regard to the previous sequence counter   |
| SCSTODNCDF Sequence counterstep i ODivetCDF Ine sequence counter should be one nigher (modulo 16384) with regard to the previous sequence counters should be one nigher (modulo 16384) with regard to the previous sequence counters should be one nigher (modulo 16384) with regard to the previous sequence counters should be one nigher (modulo 16384) with regard to the previous sequence counters should be one nigher (modulo 16384) with regard to the previous sequence counters should be one nigher (modulo 16384) with regard to the previous sequence counters should be one nigher (modulo 16384) with regard to the previous sequence counters should be one nigher (modulo 16384) with regard to the previous sequence counters should be one nigher (modulo 16384) with regard to the previous sequence counters should be one nigher (modulo 16384) with regard to the previous sequence counters should be one nigher (modulo 16384) with regard to the previous sequence counters should be one nigher (modulo 16384) with regard to the previous sequence counters should be one night be | SCSTODNCDF      | SequenceCounterStepTODNetCDF                               | The sequence counter should be one higher (modulo 16384) with regard to the previous sequence counter   |

Number of products with missing QCC reports:

0