

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

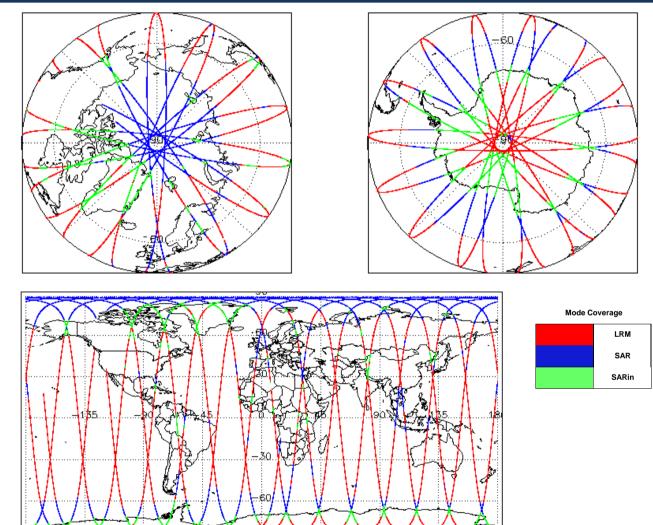
<u>23/10/2021</u>

| Report Production: | 26-Oct-2021                       | Check                                      | L1 & L2                      | P2P                     |
|--------------------|-----------------------------------|--|------------------------------|-------------------------|
| report Froduction. | 20-001-2021                       | Server check: science-pds.cryosat.esa.int  | Nominal                      | Nominal                 |
| Processor Used:    | CryoSat Ocean Processor           | Server check: calval-pds.cryosat.esa.int   | Nominal                      | Nominal                 |
| Processor Used:    | CryoSal Ocean Processor           | Product Software Check                     | Nominal                      | Nominal                 |
| Data Used:         | Intermediate Ocean Products (IOP) | Product Format Check                       | Nominal                      | Nominal                 |
| Data Useu.         | L1B, L2 & P2P Science Data        | Product Header Analysis                    | See Section 5.2              | See Section 6.2         |
|                    |                                   | Auxiliary Data File Usage Check            | See Section 4.3 and 5.3      | See Section 6.3         |
|                    |                                   | Auxiliary Correction Error Check           | See Section 5.4              | See Section 6.4         |
|                    |                                   | Measurement Confidence Data Check          | See Section 4.5, 4.6 and 5.5 | See Section 6.5         |
|                    |                                   | Range, SWH & Backscatter Measurement Check | See Section 5.6              | See Section 6.6         |
|                    |                                   | Ocean Retracking Quality Check             | See Section 5.7              | See Section 6.7         |
|                    |                                   | QCC Error/ Warning Check                   | See Section 7.1 and 7.2      | See Section 7.1 and 7.2 |

1. Overview

|             | Mission / Instrument News |                 |  |
|-------------|---------------------------|-----------------|--|
| 22-Oct-2021 |                           | None            |  |
| 23-Oct-2021 |                           | None            |  |
|             | 24-Oct-2021               | Nothing planned |  |





# 3. Instrument Configuration

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

SIRAL instrument(s) in use:

SIRAL - A

# 4. IOP 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: 0   |                                       |   |  |  |
| 4.3 L1B Auxilary Data File Usage Check  |                                       |   |  |  |
| Each product is checked for missing Data Set Descriptors with respect to a pre-c  | letermined baseline and also to cl    | neck the validity of Auxiliary Data Files is correct.                           |  |  |
| Number of products with errors: 0   |                                       |   |  |  |
|   |                                       |   |  |  |
| 4.4 L1B Auxiliary Correction Error Check  |                                       |   |  |  |
| CryoSat L1B data includes a correction error flag for each measurement record.  | The bit value of this flag indicates  | any problems when set.  |  |  |
| Number of products with errors: 0   |                                       |   |  |  |
| 4.5 L1B Measurement Confidence Data Check   |                                       |   |  |  |
| CryoSat L1B data includes a measurement confidence flag for each measurement  | nt record. The bit value of this flag | g indicates any problems when set.  |  |  |
| Attitude Correction Missing: This flag is currently set in error for IOPR products  | s due to a configuration issue. Thi   | s is being investigated and will be updated in the next SW update.              |  |  |
| Number of products with errors: 1   |                                       |   |  |  |
| Product   | Test Failed                           | Description   |  |  |
| CS_OFFL_SIR_IOPM1B_20211023T105345_20211023T105456_C001   | Power scaling error                   | There is an error in the scaling of the L1B waveform for one or more<br>records |  |  |
| 4.6 L1B Waveform Group Data Check   |                                       |   |  |  |
|   |                                       | any problems when set   |  |  |
| CryoSat L1B data includes a waveform data flag for each measurement record.<br>Loss of Echo Flag: This flag is currently set for products over land, but this is to   | -                                     | any problems when set.  |  |  |
| Number of products with errors: 17  | be expected.                          |   |  |  |
| Des dust  | Test Failed                           | Description   |  |  |
| Product<br>CS_OFFL_SIR_IOPM1B_20211023T110039_20211023T110233_C001  | Loss of Echo                          | Description The tracking echo is missing for one or more records                |  |  |
| CS_OFFL_SIR_IOPM1B_20211023T111421_20211023T114723_C001   | Loss of Echo                          | The tracking echo is missing for one or more records                            |  |  |
| CS_OFFL_SIR_IOPN1B_20211023T020036_20211023T020546_C001   | Loss of Echo                          | The tracking echo is missing for one or more records                            |  |  |
| CS_OFFL_SIR_IOPN1B_20211023T025137_20211023T025524_C001   | Loss of Echo                          | The tracking echo is missing for one or more records                            |  |  |
| CS_OFFL_SIR_IOPN1B_20211023T051013_20211023T051623_C001   | Loss of Echo                          | The tracking echo is missing for one or more records                            |  |  |
| CS_OFFL_SIR_IOPN1B_20211023T132857_20211023T133316_C001   | Loss of Echo                          | The tracking echo is missing for one or more records                            |  |  |
| CS_OFFL_SIR_IOPN1B_20211023T141826_20211023T142104_C001   | Loss of Echo                          | The tracking echo is missing for one or more records                            |  |  |
| CS_OFFL_SIR_IOPN1B_20211023T160050_20211023T160154_C001   | Loss of Echo                          | The tracking echo is missing for one or more records                            |  |  |
| CS_OFFL_SIR_IOPN1B_20211023T173522_20211023T173839_C001   | Loss of Echo                          | The tracking echo is missing for one or more records                            |  |  |
| CS_OFFL_SIR_IOPN1B_20211023T173843_20211023T174054_C001   | Loss of Echo                          | The tracking echo is missing for one or more records                            |  |  |
| CS_OFFL_SIR_IOPR1B_20211023T002436_20211023T002849_C001   | Loss of Echo                          | The tracking echo is missing for one or more records                            |  |  |
| CS_OFFL_SIR_IOPR1B_20211023T020546_20211023T020759_C001   | Loss of Echo                          | The tracking echo is missing for one or more records                            |  |  |
| CS_OFFL_SIR_IOPR1B_20211023T074500_20211023T074915_C001   | Loss of Echo                          | The tracking echo is missing for one or more records                            |  |  |
| CS_OFFL_SIR_IOPR1B_20211023T110313_20211023T111101_C001   | Loss of Echo                          | The tracking echo is missing for one or more records                            |  |  |
| CS_OFFL_SIR_IOPR1B_20211023T114724_20211023T115138_C001   | Loss of Echo                          | The tracking echo is missing for one or more records                            |  |  |
| CS_OFFL_SIR_IOPR1B_20211023T123021_20211023T123211_C001   | Loss of Echo                          | The tracking echo is missing for one or more records                            |  |  |
| CS_OFFL_SIR_IOPR1B_20211023T231438_20211023T231727_C001   | Loss of Echo                          | The tracking echo is missing for one or more records                            |  |  |
|   |                                       |   |  |  |
| 5. 10   | P Level 2 Data Qua                    | lity Check  |  |  |

### 5.1 L2 Product Format Check

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

Number of products with errors:

### 5.2 L2 Product Header Analysis

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

 Number of products with errors:
 0

### 5.3 L2 Auxiliary Data File Usage Check

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

Number of products with errors:

0

#### 5.4 L2 Auxiliary Correction Error Check

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

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

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

> Sea State Bias & Sea State Bias PLRM: The error value is currently set for products over sea ice, but this is to be expected.

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

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

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

Number of products with errors:

| Product   | Test Failed   | Description   |
|---|---|---|
| CS_OFFL_SIR_IOPM_2_20211023T171853_20211023T173148_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1), Total Geocentric Ocean<br>Tide (GOT)  | There is an error with the MSS height (solution 1), the Mean Dynamic<br>Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT)<br>for one or more records |
| CS_OFFL_SIR_IOPN_2_20211023T001453_20211023T001619_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records  |
| CS_OFFL_SIR_IOPN_2_20211023T002133_20211023T002436_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)  |
| CS_OFFL_SIR_IOPN_2_20211023T015453_20211023T015759_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)   |
| CS_OFFL_SIR_IOPN_2_20211023T020036_20211023T020546_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)   |
| CS_OFFL_SIR_IOPN_2_20211023T025137_20211023T025524_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1), Total Geocentric Ocean<br>Tide (GOT)  | There is an error with the MSS height (solution 1), the Mean Dynamic<br>Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT)<br>for one or more records |
| CS_OFFL_SIR_IOPN_2_20211023T033514_20211023T033748_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)  |
| CS_OFFL_SIR_IOPN_2_20211023T043022_20211023T043139_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1), Total Geocentric Ocean<br>Tide (GOT), Total Geocentric Ocean Tide<br>(FES). Non-Equilibrium Long Period | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records                                   |
| CS_OFFL_SIR_IOPN_2_20211023T043405_20211023T043640_C001 | Mean Dynamic Topography (1), Total<br>Geocentric Ocean Tide (GOT)   | There is an error with the Mean Dynamic Topography (solution 1) and the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records                                 |
| CS_OFFL_SIR_IOPN_2_20211023T051013_20211023T051623_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)  |
| CS_OFFL_SIR_IOPN_2_20211023T060953_20211023T061207_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)  |
| CS_OFFL_SIR_IOPN_2_20211023T065236_20211023T065416_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or more records   |
| CS_OFFL_SIR_IOPN_2_20211023T074915_20211023T075400_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)  |
| CS_OFFL_SIR_IOPN_2_20211023T084054_20211023T084332_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)  |
| CS_OFFL_SIR_IOPN_2_20211023T101157_20211023T101546_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1), Total Geocentric Ocean<br>Tide (GOT), Total Geocentric Ocean Tide<br>(FES) Non-Foulibrium Long Period   | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records                                   |
| CS_OFFL_SIR_IOPN_2_20211023T105318_20211023T105340_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records  |
| CS_OFFL_SIR_IOPN_2_20211023T111255_20211023T111421_C001 | Total Geocentric Ocean Tide (GOT)   | There is an error with the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records   |
| CS_OFFL_SIR_IOPN_2_20211023T115139_20211023T115453_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)   |
| CS_OFFL_SIR_IOPN_2_20211023T120006_20211023T120122_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or more records   |
| CS_OFFL_SIR_IOPN_2_20211023T133912_20211023T134027_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)  |
| CS_OFFL_SIR_IOPN_2_20211023T142121_20211023T142245_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)  |
| CS_OFFL_SIR_IOPN_2_20211023T155521_20211023T155933_C001 | Mean Dynamic Topography (1), Total<br>Geocentric Ocean Tide (GOT)   | There is an error with the Mean Dynamic Topography (solution 1) and the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records                                 |
| CS_OFFL_SIR_IOPN_2_20211023T165450_20211023T165721_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)   |
| CS_OFFL_SIR_IOPN_2_20211023T173843_20211023T174054_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)   |
| CS_OFFL_SIR_IOPN_2_20211023T183359_20211023T183734_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)   |
| CS_OFFL_SIR_IOPN_2_20211023T191525_20211023T191917_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)   |
| CS_OFFL_SIR_IOPN_2_20211023T201510_20211023T201652_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records  |
|   |   |   |

|   |  | There is an error with the Mean Dynamic Topography height for one or                                    |
|---|--|---|
| CS_OFFL_SIR_IOPN_2_20211023T232419_20211023T232540_C001 | Mean Dynamic Topography (1)                          | more records  |
| CS_OFFL_SIR_IOPN_2_20211023T233108_20211023T233422_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)  |
| CS_OFFL_SIR_IOPR_2_20211023T010413_20211023T011124_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)  |
| CS_OFFL_SIR_IOPR_2_20211023T011124_20211023T011318_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)  |
| CS_OFFL_SIR_IOPR_2_20211023T011709_20211023T012319_C001 | Total Geocentric Ocean Tide (GOT)                    | There is an error with the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records |
| CS_OFFL_SIR_IOPR_2_20211023T024545_20211023T025021_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)  |
| CS_OFFL_SIR_IOPR_2_20211023T025021_20211023T025137_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)  |
| CS_OFFL_SIR_IOPR_2_20211023T042351_20211023T042857_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)  |
| CS_OFFL_SIR_IOPR_2_20211023T042857_20211023T043022_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)  |
| CS_OFFL_SIR_IOPR_2_20211023T060533_20211023T060953_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)  |
| CS_OFFL_SIR_IOPR_2_20211023T074104_20211023T074123_C001 | Mean Dynamic Topography (1)                          | There is an error with the Mean Dynamic Topography height for one or more records                       |
| CS_OFFL_SIR_IOPR_2_20211023T074123_20211023T074452_C001 | Mean Dynamic Topography (1)                          | There is an error with the Mean Dynamic Topography height for one or more records                       |
| CS_OFFL_SIR_IOPR_2_20211023T074500_20211023T074915_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)  |
| CS_OFFL_SIR_IOPR_2_20211023T092322_20211023T092953_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)  |
| CS_OFFL_SIR_IOPR_2_20211023T105209_20211023T105318_C001 | Mean Dynamic Topography (1)                          | There is an error with the Mean Dynamic Topography height for one or more records                       |
| CS_OFFL_SIR_IOPR_2_20211023T110313_20211023T111101_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)  |
| CS_OFFL_SIR_IOPR_2_20211023T124259_20211023T125140_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)  |
| CS_OFFL_SIR_IOPR_2_20211023T142246_20211023T143017_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)  |
| CS_OFFL_SIR_IOPR_2_20211023T160154_20211023T160717_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)  |
| CS_OFFL_SIR_IOPR_2_20211023T165721_20211023T165945_C001 | Mean Sea Surface (1)                                 | There is an error with the MSS height (solution 1) for one or more records                              |
| CS_OFFL_SIR_IOPR_2_20211023T174054_20211023T174745_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)  |
| CS_OFFL_SIR_IOPR_2_20211023T180231_20211023T180948_C001 | Mean Dynamic Topography (1)                          | There is an error with the Mean Dynamic Topography height for one or more records                       |
| CS_OFFL_SIR_IOPR_2_20211023T191917_20211023T192424_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)  |
| CS_OFFL_SIR_IOPR_2_20211023T205634_20211023T210449_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)  |
| CS_OFFL_SIR_IOPR_2_20211023T223527_20211023T224300_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)  |
| CS_OFFL_SIR_IOPR_2_20211023T224637_20211023T224837_C001 | Mean Dynamic Topography (1)                          | There is an error with the Mean Dynamic Topography height for one or more records                       |
| CS_OFFL_SIR_IOPR_2_20211023T225215_20211023T225401_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.

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Number of products with errors:

| Product   | Test Failed         | Description   |  |
|---|---------------------|---|--|
| CS_OFFL_SIR_IOPM_2_20211023T105345_20211023T105456_C001 | Power scaling error | There is an error in the scaling of the L2 waveform for one or more records |  |

### 5.6 L2 Measurement Quality Flag Check

#### L2 Quality Flags (20Hz)

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

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

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

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

Number of products with errors:

| Product   | Test Failed  | Description  |
|---|--|--|
| CS_OFFL_SIR_IOPM_2_20211023T000304_20211023T001045_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T001619_20211023T002133_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_IOPM_2_20211023T002850_20211023T004945_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T005230_20211023T010413_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T011319_20211023T011709_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T013234_20211023T013839_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T014027_20211023T015020_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T020759_20211023T023724_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T023816_20211023T024219_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T025538_20211023T025620_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T025624_20211023T032811_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T033748_20211023T033944_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_IOPM_2_20211023T034147_20211023T034448_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_IOPM_2_20211023T034714_20211023T035021_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T035047_20211023T041505_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T043139_20211023T043405_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_IOPM_2_20211023T043640_20211023T045249_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T051624_20211023T051904_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_IOPM_2_20211023T051922_20211023T052350_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_IOPM_2_20211023T052655_20211023T054035_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T054215_20211023T054458_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T061905_20211023T062455_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T062739_20211023T065029_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T065416_20211023T070259_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.  |
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| CS_OFFL_SIR_IOPM_2_20211023T070643_20211023T073010_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T073455_20211023T073906_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_IOPM_2_20211023T075613_20211023T080154_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_IOPM_2_20211023T080216_20211023T082947_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T083632_20211023T084054_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_IOPM_2_20211023T084604_20211023T091054_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T091719_20211023T091947_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_IOPM_2_20211023T092053_20211023T092322_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T093740_20211023T100729_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T101547_20211023T102134_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_IOPM_2_20211023T102504_20211023T102918_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T103235_20211023T103959_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T104154_20211023T104650_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_IOPM_2_20211023T105135_20211023T105209_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_IOPM_2_20211023T110039_20211023T110233_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T111421_20211023T114723_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T115453_20211023T120006_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_IOPM_2_20211023T120608_20211023T122111_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T123236_20211023T123416_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_IOPM_2_20211023T123936_20211023T124125_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T125141_20211023T130259_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T130545_20211023T132651_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T133316_20211023T133454_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_IOPM_2_20211023T133501_20211023T133912_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_IOPM_2_20211023T134440_20211023T140322_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T140405_20211023T140836_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T141054_20211023T141631_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T141741_20211023T141814_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T143103_20211023T143827_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T143930_20211023T145036_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T145041_20211023T150604_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T150829_20211023T151354_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_IOPM_2_20211023T151413_20211023T151635_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_IOPM_2_20211023T152459_20211023T153725_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T153822_20211023T155521_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T161900_20211023T162823_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T163026_20211023T164451_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T164756_20211023T165252_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_IOPM_2_20211023T165259_20211023T165306_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_IOPM_2_20211023T170146_20211023T171236_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T171853_20211023T173148_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T180948_20211023T182337_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T182726_20211023T183207_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_IOPM_2_20211023T183229_20211023T183238_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_IOPM_2_20211023T183245_20211023T183359_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_IOPM_2_20211023T183959_20211023T190526_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T190644_20211023T191308_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_IOPM_2_20211023T193910_20211023T195952_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T200043_20211023T200243_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T200741_20211023T201121_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_IOPM_2_20211023T201144_20211023T201510_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_IOPM_2_20211023T201842_20211023T204613_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T211538_20211023T211731_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_IOPM_2_20211023T211733_20211023T214202_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T215919_20211023T223214_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T224347_20211023T224636_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T230728_20211023T231437_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_IOPM_2_20211023T231727_20211023T231850_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPM_2_20211023T232540_20211023T233108_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_IOPM_2_20211023T233838_20211024T000121_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPN_2_20211023T025137_20211023T025524_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPN_2_20211023T033514_20211023T033748_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_IOPN_2_20211023T041505_20211023T041733_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_IOPN_2_20211023T173212_20211023T173311_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_IOPN_2_20211023T201510_20211023T201652_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPR_2_20211023T050843_20211023T050915_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPR_2_20211023T182337_20211023T182510_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>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_IOPR_2_20211023T183734_20211023T183959_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG Altimeter<br>Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |

### L2 Quality Flags (20Hz PLRM)

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

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

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

|--|

| Product   | Test Failed   | Description  |
|---|---|--|
| CS_OFFL_SIR_IOPN_2_20211023T002133_20211023T002436_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_IOPN_2_20211023T020036_20211023T020546_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_IOPN_2_20211023T024530_20211023T024545_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_IOPN_2_20211023T033944_20211023T034147_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPN_2_20211023T043405_20211023T043640_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| CS_OFFL_SIR_IOPN_2_20211023T060953_20211023T061207_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_IOPN_2_20211023T070300_20211023T070454_C001  | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
|--|---|--|
| CS_OFFL_SIR_IOPN_2_20211023T073010_20211023T073243_C001  | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| CS_OFFL_SIR_IOPN_2_20211023T073333_20211023T073455_C001  | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| CS_OFFL_SIR_IOPN_2_20211023T080154_20211023T080216_C001  | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| CS_OFFL_SIR_IOPN_2_20211023T101157_20211023T101546_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_IOPN_2_20211023T104650_20211023T104756_C001  | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| CS_OFFL_SIR_IOPN_2_20211023T105318_20211023T105340_C001  | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| CS_OFFL_SIR_IOPN_2_20211023T105735_20211023T105858_C001  | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| C\$_OFFL_SIR_IOPN_2_20211023T115139_20211023T115453_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_IOPN_2_20211023T120006_20211023T120122_C001  | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| CS_OFFL_SIR_IOPN_2_20211023T122111_20211023T122233_C001  | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| C\$_OFFL_SIR_IOPN_2_20211023T124237_20211023T124259_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. |
| C\$_OFFL_SIR_IOPN_2_20211023T132857_20211023T133316_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| CS_OFFL_SIR_IOPN_2_20211023T133912_20211023T134027_C001  | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| CS_OFFL_SIR_IOPN_2_20211023T141826_20211023T142104_C001  | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| C\$_OFFL_SIR_IOPN_2_20211023T150706_20211023T150829_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_IOPN_2_20211023T164614_20211023T164756_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_IOPN_2_20211023T165945_20211023T170110_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_IOPN_2_20211023T171413_20211023T171853_C001  | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| CS_OFFL_SIR_IOPN_2_20211023T173843_20211023T174054_C001  | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| CS_OFFL_SIR_IOPN_2_20211023T182510_20211023T182726_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_IOPN_2_20211023T183359_20211023T183734_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_IOPN_2_20211023T191525_20211023T191917_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_IOPN_2_20211023T193410_20211023T193544_C001  | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| CS_OFFL_SIR_IOPN_2_20211023T201510_20211023T201652_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_IOPN_2_20211023T215412_20211023T215553_C001  | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
|  | ·   |  |

| CS_OFFL_SIR_IOPN_2_20211023T223412_20211023T223527_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
|---|---|--|
| CS_OFFL_SIR_IOPN_2_20211023T230431_20211023T230502_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| CS_OFFL_SIR_IOPN_2_20211023T233108_20211023T233422_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_IOPR_2_20211023T000012_20211023T000304_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPR_2_20211023T001045_20211023T001453_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_IOPR_2_20211023T002436_20211023T002849_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_IOPR_2_20211023T010413_20211023T011124_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_IOPR_2_20211023T012502_20211023T012528_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPR_2_20211023T015020_20211023T015453_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_IOPR_2_20211023T020546_20211023T020759_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_IOPR_2_20211023T024545_20211023T025021_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_IOPR_2_20211023T032811_20211023T033514_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_IOPR_2_20211023T042351_20211023T042857_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_IOPR_2_20211023T045249_20211023T045502_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPR_2_20211023T054458_20211023T054905_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPR_2_20211023T060533_20211023T060953_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_IOPR_2_20211023T062455_20211023T062616_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_IOPR_2_20211023T074123_20211023T074452_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| CS_OFFL_SIR_IOPR_2_20211023T074500_20211023T074915_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_IOPR_2_20211023T082947_20211023T083213_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_IOPR_2_20211023T091947_20211023T092053_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| CS_OFFL_SIR_IOPR_2_20211023T092322_20211023T092953_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_IOPR_2_20211023T100729_20211023T101156_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_IOPR_2_20211023T104846_20211023T105112_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| CS_OFFL_SIR_IOPR_2_20211023T110313_20211023T111101_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_IOPR_2_20211023T114724_20211023T115138_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_IOPR_2_20211023T120122_20211023T120608_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_IOPR_2_20211023T124126_20211023T124237_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_IOPR_2_20211023T124259_20211023T125140_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_IOPR_2_20211023T132652_20211023T132857_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_IOPR_2_20211023T134027_20211023T134440_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_IOPR_2_20211023T141814_20211023T141826_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_IOPR_2_20211023T142246_20211023T143017_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_IOPR_2_20211023T143827_20211023T143930_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_IOPR_2_20211023T151406_20211023T151413_C001  | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality   | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.  |
| CS_OFFL_SIR_IOPR_2_20211023T151821_20211023T152458_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_IOPR_2_20211023T160154_20211023T160717_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_IOPR_2_20211023T165721_20211023T165945_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_IOPR_2_20211023T174054_20211023T174745_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_IOPR_2_20211023T180231_20211023T180948_C001  | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality   | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.  |
| CS_OFFL_SIR_IOPR_2_20211023T183207_20211023T183211_C001  | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality   | The OCOG Range and Backscatter Quality Flags have been set for one or more records.   |
| CS_OFFL_SIR_IOPR_2_20211023T183734_20211023T183959_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_IOPR_2_20211023T190526_20211023T190644_C001  | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality   | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.  |
| CS_OFFL_SIR_IOPR_2_20211023T191917_20211023T192424_C001  | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG   | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags  |
|  | Altimeter Range and Backscatter Quality<br>PLRM  | and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records.  |
| CS_OFFL_SIR_IOPR_2_20211023T192501_20211023T192641_C001  |  |   |
| CS_OFFL_SIR_IOPR_2_20211023T192501_20211023T192641_C001<br>CS_OFFL_SIR_IOPR_2_20211023T201653_20211023T201841_C001   | PLRM<br>Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality  | set for one or more records.<br>The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been  |
|  | PLRM<br>Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM<br>Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality   | set for one or more records.<br>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.<br>The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been  |
| CS_OFFL_SIR_IOPR_2_20211023T201653_20211023T201841_C001  | PLRM         Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM         Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM         Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM   | set for one or more records.<br>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.<br>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.<br>The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been   |
| CS_OFFL_SIR_IOPR_2_20211023T201653_20211023T201841_C001<br>CS_OFFL_SIR_IOPR_2_20211023T205634_20211023T210449_C001   | PLRM         Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM         Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM         Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM         Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality   | set for one or more records.<br>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.<br>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.<br>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.<br>The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been  |
| CS_OFFL_SIR_IOPR_2_20211023T201653_20211023T201841_C001<br>CS_OFFL_SIR_IOPR_2_20211023T205634_20211023T210449_C001<br>CS_OFFL_SIR_IOPR_2_20211023T214202_20211023T214416_C001  | PLRM         Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM         Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM         Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM         Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range, and Backscatter Quality<br>PLRM         Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM         Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range, Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality   | set for one or more records.<br>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.<br>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.<br>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.<br>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.<br>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.<br>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_IOPR_2_20211023T201653_20211023T201841_C001<br>CS_OFFL_SIR_IOPR_2_20211023T205634_20211023T210449_C001<br>CS_OFFL_SIR_IOPR_2_20211023T214202_20211023T214416_C001<br>CS_OFFL_SIR_IOPR_2_20211023T215554_20211023T215919_C001 | PLRM         Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM         Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM         Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM         Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM         Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM         Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM         Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | set for one or more records.<br>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.<br>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.<br>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.<br>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.<br>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.<br>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.<br>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_IOPR_2_20211023T231850_20211023T232419_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_IOPR_2_20211023T233422_20211023T233837_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.    |
| L2 Quality Flags (1 Hz & 1Hz PLRM)   |   |   |
| Currently, there are several common flags raised in the Level 2 products, whi  | ich are summarised below.   |   |
| > 1Hz and 1Hz Ocean SSHA Quality Flags: These flags are currently set for prod   | ucts over sea ice, which is to be expected.   |   |
| Number of products with errors: 183  |   |   |
| 5.8 L2 Ocean Retracking Quality Check  |   |   |
| L2 Retracking Flags (20Hz)   |   |   |
| CryoSat L2 data includes an ocean retracking quality flag for each 20-Hz measured  | ment record. The bit value of this flag indicat   | es any problems when set.   |
| Ocean Retracking Quality Flag: This flag is currently set for products over land an  | nd sea ice, but this is to be expected. The nu  | umber of products with this error flag set is given below.  |
| Number of products with errors: 65   |   |   |
| L2 Retracking Flags (20Hz, PLRM)   |   |   |
| CryoSat L2 data includes an ocean retracking quality flag for each 20-Hz PLRM me   | easurement record. The bit value of this flag   | indicates any problems when set.  |
| Ocean Retracking Quality Flag (PLRM): This flag is currently set for products IOF  | PR and IOPN products over sea ice, but this   | is to be expected.  |
| Number of products with errors: 146  |   |   |
| 6. IOP L2 I  | Pole-to-Pole Data Quality   | Check   |
| 6.1 P2P Product Format Check   |   |   |
| Each product, retrieved and unpacked from the science server, is checked to ensu   | re it consists of both an XMI header file ( HI  | DR) and a NetCDF product file (.nc).  |
| Number of products with errors: 0  |   |   |
| 6.2 P2P Product Header Analysis  |   |   |
| For all products, a series of pre-defined checks are performed on the MPH and SP   | H in order to identify any inconsistencies and  | d/or errors raised by the ground-segment processing chain.  |
| Number of products with errors: 0  |   |   |
| 6.3 P2P Auxiliary Data File Usage Check  |   |   |
| Each product is checked for missing Data Set Descriptors with respect to a pre-det   | ermined baseline and also to check the valio  | dity of Auxiliary Data Files is correct.  |
| Number of products with errors: 0  |   |   |
| 6.4 P2P Auxiliary Correction Error Check   |   |   |
| For all products, the auxiliary corrections within the Geophysical Group are checked   | d for the default error value (32767).  |   |
| Currently, there are some common auxiliary correction errors raised in the Lt followed by a table highlighting any additional issues which may arise from the followed by a stable highlighting any additional issues which may arise from the followed by a stable highlighting any additional issues which may arise from the followed by a stable highlighting any additional issues which may arise from the followed by a stable highlighting any additional issues which may arise from the followed by a stable highlighting any additional issues which may arise from the followed by a stable highlighting any additional issues which may arise from the followed by a stable highlighting any additional issues which may arise from the followed by a stable highlighting any additional issues which may arise from the followed by a stable highlighting any additional issues which may arise from the followed by a stable highlighting any additional issues which may arise from the followed by a stable highlighting any additional issues which may arise from the followed by a stable highlighting any additional issues which may arise from the followed by a stable highlighting any additional issues which may arise from the followed by a stable highlighting any additional issues which may arise from the followed by a stable highlighting any additional issues which may are additional i |   | o surface type. All common flags are summarised in the list below,  |
| > ECMWF Meteo Corrections: Currently the following corrections are not compute<br>and the U-Wind and V-Wind components of the ECMWF model wind vector. This is<br>the table below.   |   |   |
| > Sea State Bias & Sea State Bias PLRM: The error value is currently set for pro-  | ducts over sea ice, but this is to be expected  | 1.  |
| > Mean Sea Surface: The error value is currently set for products over land and set  | ea ice, but this is to be expected.   |   |
| > Mean Dynamic Topography: The error value is currently set for products over la   | and and sea ice, but this is to be expected.  |   |
| > Altimetric Wind Speed Error: The error value is currently set for products over I  | and and sea ice, but this is to be expected.  |   |
| Number of products with errors: 30   |   |   |
| Product  | Test Failed   | Description   |
| CS_OFFL_SIR_IOP_2_20211022T233113_20211023T002052_C002   | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or more records   |
| CS_OFFL_SIR_IOP_220211023T002052_20211023T011028_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)   |
| CS_OFFL_SIR_IOP_220211023T011028_20211023T020007_C001  | Mean Sea Surface (1), Mean Dynamic<br>Topography (1), Total Geocentric Ocean<br>Tide (GOT)                                | There is an error with the MSS height (solution 1), the Mean Dynamic<br>Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT)<br>for one or more records |
| CS_OFFL_SIR_IOP_220211023T020007_20211023T024942_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)  |
| CS_OFFL_SIR_IOP_220211023T024942_20211023T033922_C001  | Mean Sea Surface (1), Mean Dynamic<br>Topography (1), Total Geocentric Ocean<br>Tide (GOT)                                | There is an error with the MSS height (solution 1), the Mean Dynamic<br>Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT)<br>for one or more records |
| CS OFFL SIR IOP 2 20211023T033922 20211023T042857 C001   | Mean Sea Surface (1), Mean Dynamic  | There is an error with the MSS height (solution 1) and the Mean Dynamic   |

Topography (1)

Topography (1)

Topography (1)

Mean Sea Surrace (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES). Non-Equilibrium Long Period

Mean Sea Surface (1), Mean Dynamic Topography (1)

Mean Sea Surface (1), Mean Dynamic

CS\_OFFL\_SIR\_IOP\_2\_20211023T042857\_20211023T051836\_C001

CS\_OFFL\_SIR\_IOP\_2\_\_20211023T051836\_20211023T060812\_C001

CS\_OFFL\_SIR\_IOP\_2\_\_20211023T060812\_20211023T065751\_C001

CS\_OFFL\_SIR\_IOP\_2\_20211023T065751\_20211023T074726\_C001

There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic

There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records

There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)

Topography height (solution 1)

| CS_OFFL_SIR_IOP_2_20211023T074726_20211023T083706_C001 Mean Sea Surface (1), Mean Dynamic Topography (1) There is an error with the MSS height (solution 1) and the I Topography (1) Mean Sea Surface (1), Mean Dynamic There is an error with the MSS height (solution 1) and the I Topography height (solution 1) and the I Topogr | Mean Dynamic |
|--|--------------|
| Mean Sea Surface (1) Mean Dynamic. There is an error with the MSS height (solution 1) and the  |              |
| Topography (1) Topography height (solution 1)  | Mean Dynamic |
| CS_OFFL_SIR_IOP_2_20211023T092641_20211023T101621_C001 Mean Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES). Non-Equilibrium Long Period   |              |
| CS_OFFL_SIR_IOP_2_20211023T101621_20211023T110556_C001 Mean Sea Surface (1), Mean Dynamic Topography (1) There is an error with the MSS height (solution 1) and the Topography height (solution 1)   | Mean Dynamic |
| CS_OFFL_SIR_IOP_2_20211023T110556_20211023T115535_C001 Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT) Total Geocentric Ocean Tide for one or more records  |              |
| CS_OFFL_SIR_IOP_2_20211023T115535_20211023T124510_C001 Mean Sea Surface (1), Mean Dynamic Topography (1) There is an error with the MSS height (solution 1) and the Topography height (solution 1)   | Mean Dynamic |
| CS_OFFL_SIR_IOP_2_20211023T124510_20211023T133450_C001 Mean Sea Surface (1), Mean Dynamic Topography (1) There is an error with the MSS height (solution 1) and the Topography (solution 1)  | Mean Dynamic |
| CS_OFFL_SIR_IOP_2_20211023T133450_20211023T142425_C001 Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES). Non-Fauilibrium Long Period   |              |
| CS_OFFL_SIR_IOP_2_20211023T142425_20211023T151404_C001 Mean Sea Surface (1), Mean Dynamic Topography (1) There is an error with the MSS height (solution 1) and the Topography height (solution 1)   | Mean Dynamic |
| CS_OFFL_SIR_IOP_2_20211023T151404_20211023T160340_C001 Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT) Total Geocentric Ocean Tide for one or more records  |              |
| CS_OFFL_SIR_IOP_2_20211023T160340_20211023T165319_C001 Mean Sea Surface (1), Mean Dynamic Topography (1) There is an error with the MSS height (solution 1) and the Topography (1) Topography height (solution 1)  | Mean Dynamic |
| CS_OFFL_SIR_IOP_2_20211023T165319_20211023T174254_C001 Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT) Total Geocentric Ocean Tide for one or more records  |              |
| CS_OFFL_SIR_IOP_2_20211023T174254_20211023T183234_C001 Mean Sea Surface (1), Mean Dynamic Topography (1) There is an error with the MSS height (solution 1) and the Topography height (solution 1)   | Mean Dynamic |
| CS_OFFL_SIR_IOP_2_20211023T183234_20211023T192209_C001 Mean Sea Surface (1), Mean Dynamic Topography (1) There is an error with the MSS height (solution 1) and the Topography height (solution 1)   | Mean Dynamic |
| CS_OFFL_SIR_IOP_2_20211023T192209_20211023T201149_C001 Mean Sea Surface (1), Mean Dynamic Topography (1) There is an error with the MSS height (solution 1) and the Topography height (solution 1)   | Mean Dynamic |
| CS_OFFL_SIR_IOP_2_20211023T201149_20211023T210124_C001 Mean Sea Surface (1), Mean Dynamic Topography (1) There is an error with the MSS height (solution 1) and the Topography height (solution 1)   | Mean Dynamic |
| CS_OFFL_SIR_IOP_2_20211023T210124_20211023T215103_C001 Mean Sea Surface (1), Mean Dynamic Topography (1) There is an error with the MSS height (solution 1) and the Topography height (solution 1)   | Mean Dynamic |
| CS_OFFL_SIR_IOP_2_20211023T215103_20211023T224039_C001 Mean Sea Surface (1), Mean Dynamic Topography (1) There is an error with the MSS height (solution 1) and the Topography height (solution 1)   | Mean Dynamic |
| CS_OFFL_SIR_IOP_2_20211023T224039_20211023T233018_C001 Mean Sea Surface (1), Mean Dynamic Topography (1) There is an error with the MSS height (solution 1) and the Topography height (solution 1)   | Mean Dynamic |
| CS_OFFL_SIR_IOP_2_20211023T233018_20211024T001953_C001 Mean Sea Surface (1), Mean Dynamic Topography (1) There is an error with the MSS height (solution 1) and the Topography height (solution 1) and the Topography height (solution 1)  | Mean Dynamic |

### 6.5 P2P Measurement Confidence Data Check

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

| Number of products with errors: 1                     |                     |   |
|---|---------------------|---|
| Product   | Test Failed         | Description   |
| CS_OFFL_SIR_IOP_220211023T101621_20211023T110556_C001 | Power scaling error | There is an error in the scaling of the L2 waveform for one or more records |

# 6.6 P2P Measurement Quality Flag Check

| P2P Quality Flags (20Hz)                         |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|
| CryoSat P2P data includes Quality Flags for each | CryoSat P2P data includes Quality Flags for each 20 Hz, 20 Hz PLRM and 1 Hz measurement record, copied from the corresponding L2 products. |  |  |  |  |  |  |
| Since the P2P Quality Flags are copied directly  | Since the P2P Quality Flags are copied directly from the L2 Quality Flags, please see Section 5.6 for the full list of products affected.  |  |  |  |  |  |  |
| Number of products with errors:                  | 30   |  |  |  |  |  |  |
| P2P Quality Flags (20Hz PLRM)                    |  |  |  |  |  |  |  |
| Since the P2P Quality Flags are copied directly  | r from the L2 Quality Flags, please see Section 5.6 for the full list of products affected.  |  |  |  |  |  |  |
| Number of products with errors:                  | 29   |  |  |  |  |  |  |
| P2P Quality Flags (1 Hz & 1Hz PLRM)              |  |  |  |  |  |  |  |
| Since the P2P Quality Flags are copied directly  | r from the L2 Quality Flags, please see Section 5.6 for the full list of products affected.  |  |  |  |  |  |  |

Number of products with errors:

### 6.8 P2P Ocean Retracking Quality Check

### P2P Retracking Flags (20Hz)

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

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

28

30

2231

Number of products with errors:

### P2P Retracking Flags PLRM

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

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

Number of products with errors:

# 7. IOP 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_IOPM1B   | 155          | 155             | 3         | 152          | 0          |
| SIR_IOPR1B   | 112          | 100             | 7         | 93           | 0          |
| SIR_IOPN1B   | 100          | 112             | 0         | 112          | 0          |
| SIR_IOPM_2   | 155          | 155             | 100       | 55           | 0          |
| SIR_IOPR_2   | 112          | 100             | 38        | 62           | 0          |
| SIR_IOPN_2   | 100          | 112             | 35        | 76           | 1          |
| SIR_IOP_P2P  | 29           | 29              | 0         | 28           | 1          |

#### 7.1 QCC Errors

#### Number of QCC reports with errors:

| Number of QCC                             | reports with er | rors: | 8          |    |   |   |   |   |   |   |   |
|---|-----------------|-------|------------|----|---|---|---|---|---|---|---|
| Total number of occurrences of each error |                 |       |            |    |   |   |   |   |   |   |   |
| Product Type R                            | LOBOPNCDF       | RL    | RLOBOPNCDF | RL | - | - | - | - | - | - | - |
| SIR_IOPR_2                                | 1               | 1     | 1          | 1  |   |   |   |   |   |   |   |
|   |                 |       |            |    |   |   |   |   |   |   |   |
| Product Type R                            | LOBOPNCDF       | RL    | RLOBOPNCDF | RL | - | - | - | - | - | - | - |
| SIR_IOP_2_                                | 1               | 1     | 1          | 1  |   |   |   |   |   |   |   |

| Test Description Key: |                                 |  |  |  |  |
|-----------------------|---------------------------------|--|--|--|--|
| Abbreviation          | Test name                       | Details                                      |  |  |  |
| RLOBOPNCDF            | RangeLatitudeOrBlankOP_7NetCDF  | Latitude should be between -90E7 and 90E7    |  |  |  |
| RL                    | RangeLatitude_7                 | Latitude should be between -90E7 and 90E7    |  |  |  |
| RLOBOPNCDF            | RangeLongitudeOrBlankOP_7NetCDF | Longitude should be between -180E7 and 180E7 |  |  |  |
| RL                    | RangeLongitude_7                | Longitude should be between -180E7 and 180E7 |  |  |  |

### 7.2 QCC Warnings

#### Number of QCC reports with warnings

|              |          | Total number of occurrences of each warning |              |            |          |                 |                    |  |  |  |
|--------------|----------|---|--------------|------------|----------|-----------------|--------------------|--|--|--|
| Product Type | BCSHNCDF | IOHHMOOR                                    | MVIOEPFDNCDF | MVIOEPNCDF | MVIONCDF | RBSZOPOEPFDNCDF | RBSZOPOEPFDPLRMNCD |  |  |  |
| SIR_IOPM1B   | 152      | 0   | 0            | 0          | 0        | 0               | 0                  |  |  |  |
| SIR_IOPM_2   | 0        | 0   | 42           | 43         | 1        | 49              | 0                  |  |  |  |
| SIR_IOPN1B   | 92       | 0   | 0            | 0          | 0        | 0               | 0                  |  |  |  |
| SIR_IOPN_2   | 0        | 0   | 8            | 30         | 7        | 22              | 27                 |  |  |  |
| SIR_IOPR1B   | 111      | 0   | 0            | 0          | 0        | 0               | 0                  |  |  |  |
| SIR_IOPR_2   | 0        | 1   | 36           | 46         | 1        | 42              | 38                 |  |  |  |
|              |          |   |              |            |          |                 |                    |  |  |  |

| Product Type | RBSZOPOEPNCDF | RPEPOPFDLRMNCDF | RPEPOPFDPLRMSARNCD | RPEPOPFDPLRMSINNCDF | RPEPOPFDSARNCDF | RPEPOPFDSINNCDF | RPEPOPLRMNCDF |
|--------------|---------------|-----------------|--------------------|---------------------|-----------------|-----------------|---------------|
| SIR_IOPM1B   | 0             | 0               | 0                  | 0                   | 0               | 0               | 0             |
| SIR_IOPM_2   | 44            | 36              | 0                  | 0                   | 0               | 0               | 31            |
| SIR_IOPN1B   | 0             | 0               | 0                  | 0                   | 0               | 0               | 0             |
| SIR_IOPN_2   | 16            | 0               | 0                  | 23                  | 0               | 31              | 0             |
| SIR_IOPR1B   | 0             | 0               | 0                  | 0                   | 0               | 0               | 0             |
| SIR_IOPR_2   | 23            | 0               | 49                 | 0                   | 57              | 0               | 0             |

| Product Type | RPEPOPSARNCDF | RPEPOPSINNCDF | RSSBCONCDF | RSSHAOFDNCDF | RSSHAOFDPLRMNCDF | RSSHAONCDF | RSWHOEPFDNCDF |
|--------------|---------------|---------------|------------|--------------|------------------|------------|---------------|
| SIR_IOPM1B   | 0             | 0             | 0          | 0            | 0                | 0          | 0             |
| SIR_IOPM_2   | 0             | 0             | 10         | 30           | 0                | 9          | 39            |
| SIR_IOPN1B   | 0             | 0             | 0          | 0            | 0                | 0          | 0             |
| SIR_IOPN_2   | 0             | 27            | 18         | 40           | 52               | 29         | 27            |
| SIR_IOPR1B   | 0             | 0             | 0          | 0            | 0                | 0          | 0             |
| SIR_IOPR_2   | 49            | 0             | 1          | 64           | 38               | 12         | 36            |

| Product Type | RSWHOEPFDPLRMNCDF | RSWHOEPNCDF | SPHRTASCNSNCDF | SOOHHIFHD | SCSTODHRNCDF | SCSTODNCDF | - |
|--------------|-------------------|-------------|----------------|-----------|--------------|------------|---|
| SIR_IOPM1B   | 0                 | 0           | 0              | 0         | 0            | 0          |   |
| SIR_IOPM_2   | 0                 | 7           | 0              | 0         | 0            | 0          |   |
| SIR_IOPN1B   | 0                 | 0           | 0              | 0         | 46           | 2          |   |
| SIR_IOPN_2   | 27                | 17          | 0              | 0         | 0            | 0          |   |
| SIR_IOPR1B   | 0                 | 0           | 0              | 0         | 112          | 10         |   |
| SIR_IOPR_2   | 47                | 1           | 1              | 4         | 0            | 0          |   |

| Product Type | IOHHMOOR           | MVIOEPFDNCDF      | MVIOEPNCDF    | MVIONCDF    | RBSZOPOEPFDNCDF | RBSZOPOEPFDPLRMNCD | RBSZOPOEPNCDF |
|--------------|--------------------|-------------------|---------------|-------------|-----------------|--------------------|---------------|
| SIR_IOP_2_   | 19                 | 29                | 29            | 8           | 29              | 17                 | 29            |
|              |                    |                   |               |             |                 |                    |               |
| Product Type | RPEPOPFDPLRMSINNCD | RPEPOPFDSINNCDF   | RPEPOPSINNCDF | RSSBCONCDF  | RSSHAOFDNCDF    | RSSHAOFDPLRMNCDF   | RSSHAONCDF    |
| SIR_IOP_2_   | 17                 | 29                | 26            | 19          | 29              | 18                 | 26            |
|              |                    |                   |               |             |                 |                    |               |
|              |                    |                   |               |             |                 |                    |               |
| Product Type | RSWHOEPFDNCDF      | RSWHOEPFDPLRMNCDF | RSWHOEPNCDF   | SPHLPQWNCDF | -               | •                  | -             |

| 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<br>NCDF | RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2PLRMNetCDF | The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes<br>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     |
| RPEPOPFDLRMNCDF         | RangePeakinessExcludingPolarOPFD2LRMNetCDF                  | The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70 and<br>70 degrees                    |
| RPEPOPFDPLRMSAR<br>NCDF | RangePeakinessExcludingPolarOPFD2PLRMSARNetCDF              | The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 an<br>70 degrees                    |
|                         | RangePeakinessExcludingPolarOPFD2PLRMSINNetCDF              | The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 an<br>70 degrees                    |
| RPEPOPFDSARNCDF         | RangePeakinessExcludingPolarOPFD2SARNetCDF                  | The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 an<br>70 degrees                    |
| RPEPOPFDSINNCDF         | RangePeakinessExcludingPolarOPFD2SINNetCDF                  | The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 an<br>70 degrees                    |
| RPEPOPLRMNCDF           | RangePeakinessExcludingPolarOPLRMNetCDF                     | The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70 and<br>70 degrees                    |
| RPEPOPSARNCDF           | RangePeakinessExcludingPolarOPSARNetCDF                     | The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 an<br>70 degrees                    |
| RPEPOPSINNCDF           | RangePeakinessExcludingPolarOPSINNetCDF                     | The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 an<br>70 degrees                    |
| RSSBCONCDF              | RangeSeaStateBiasCorrectionOceanNetCDF                      | The sea state bias correction should be between -500mm and 0mm (or missing) for surface type = ocean  |
| RSSHAOFDNCDF            | RangeSeaSurfaceHeightAnomalyOceanFD3NetCDF                  | The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean                                       |
| RSSHAOFDPLRMNCD         | RangeSeaSurfaceHeightAnomalyOceanFD3PLRMNetCDF              | The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean                                       |
| RSSHAONCDF              | RangeSeaSurfaceHeightAnomalyOceanNetCDF                     | The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean                                       |
| RSWHOEPFDNCDF           | RangeSignificantWaveHeightOceanExcludingPolarFD2NetCDF      | The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for<br>latitudes between -70 and 70 decrees |
| RSWHOEPFDPLRMNC<br>DF   | 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 |
| RSWHOEPNCDF             | RangeSignificantWaveHeightOceanExcludingPolarNetCDF         | The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for<br>latitudes between -70 and 70 degrees |
| SPHRTASCNSNCDF          | SPH_Rel_Time_ASC_Node_Start_v2_NetCDF                       | Rel_Time_ASC_Node_Start mismatch (DBL ASC, rounded up to 0.1)   |
| SOOHHIFHD               | SameOrOneHigher1HzIndexFor20HzData                          | The 1 Hz index of a 20 Hz sample should be the same or 1 higher than its previous sample  |
| SCSTODHRNCDF            | SequenceCounterStepTODHRNetCDF                              | The sequence counter should be modulo 4 higher with regard to the previous sequence counter   |
| SCSTODNCDF              | SequenceCounterStepTODNetCDF                                | The sequence counter should be one higher (modulo 16384) with regard to the previous sequence counter   |

7.3 Missing QCC Reports

Number of products with missing QCC reports: