

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

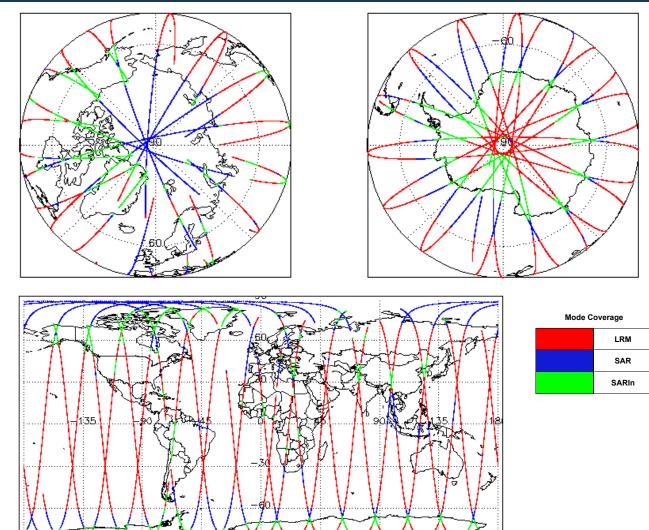
<u>29/06/2020</u>

Demant Draduations	30-Jun-2020	Check	L1 & L2
Report Production:	30-Jun-2020	Server check: science-pds.cryosat.esa.int	Nominal
Processor Used:	CryoSat Ocean Processor	Server check: calval-pds.cryosat.esa.int	Nominal
Processor useu.	CryoSat Ocean Processor	Product Software Check	Nominal
Data Used:	Near Real Time Ocean Products (NOP)	Product Format Check	Nominal
Data Used:	L1B & L2 Science Data	Product Header Analysis	Nominal
		Auxiliary Data File Usage Check	Nominal
		Auxiliary Correction Error Check	See Section 5.4
		Measurement Confidence Data Check	See Section 4.5, 4.6 and 5.5
		Measurement Quality Flag Check	See Section 5.6
		Ocean Retracking Quality Check	See Section 5.7
		QCC Error/ Warning Check	See Section 7.2

1. Overview

Mission / Instr	Mission / Instrument News		
28-Jun-2020	None		
29-Jun-2020	None		
30-Jun-2020	Nothing planned		

# 2. Global Coverage



# 3. Instrument Configuration

The SIRAL instrument configuration for the day of acquisition is provided below.		
SIRAL instrument(s) in use:	SIRAL - A	

Star Tracker(s) in use: Star Tracker 1

## 4. NOP Level 1B Data Quality Check

#### 4.1 L1B Product Format Check

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

or all products, a series of pre-defined checks are performed on the MPH a <b>1B Processing Quality HR:</b> The I1b_proc_flag_hr flag is currently set all L SARIn chains. A modification is required in the next release.		
	1B IOPR and IOPN products because	e the I1b_processing_quality_hr field is not correctly configured in the OSAR and
umber of products with errors: 0		
.3 L1B Auxilary Data File Usage Check		
ach product is checked for missing Data Set Descriptors with respect to a p	re-determined baseline and also to c	heck the validity of Auxiliary Data Files is correct.
ynamic Atmospheric Correction: The DAC is missing in all products beca	ause the auxiliary files required are no	ot available in time for processing. This known and expected behaviour.
umber of products with errors: 0		
.4 L1B Auxiliary Correction Error Check		
ryoSat L1B data includes a correction error flag for each measurement reco	ord. The bit value of this flag indicates	s any problems when set.
umber of products with errors: 0		
.5 L1B Measurement Confidence Data Check		
ryoSat L1B data includes a measurement confidence flag for each measure	ement record. The bit value of this fla	g indicates any problems when set.
Attitude Correction Missing: This flag is currently set in error for NOPR p	products due to a configuration issue.	This is being investigated and will be updated in the next SW update.
umber of products with errors: 1		
roduct	Test Failed	Description
S_OFFL_SIR_NOPM1B_20200629T180648_20200629T181338_C001	Power scaling error	There is an error in the scaling of the L1B waveform for one or more records
umber of products with errors: 21		
roduct S. OFFL_SIR_NOPM1B_20200629T045836_20200629T051143_C001	Test Failed	Description The tracking echo is missing for one or more records
S_OFFL_SIR_NOPM1B_20200629T045836_20200629T051143_C001	Loss of Echo	The tracking echo is missing for one or more records
S_OFFL_SIR_NOPM1B_20200629T045836_20200629T051143_C001 S_OFFL_SIR_NOPM1B_20200629T140236_20200629T142844_C001		The tracking echo is missing for one or more records The tracking echo is missing for one or more records
S_OFFL_SIR_NOPM1B_20200629T045836_20200629T051143_C001	Loss of Echo Loss of Echo	The tracking echo is missing for one or more records
S_OFFL_SIR_NOPM1B_20200629T045836_20200629T051143_C001 S_OFFL_SIR_NOPM1B_20200629T140236_20200629T142844_C001 S_OFFL_SIR_NOPM1B_20200629T163746_20200629T164716_C001	Loss of Echo Loss of Echo Loss of Echo	The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records
S_OFFL_SIR_NOPM1B_20200629T045836_20200629T051143_C001 S_OFFL_SIR_NOPM1B_20200629T140236_20200629T142844_C001 S_OFFL_SIR_NOPM1B_20200629T163746_20200629T164716_C001 S_OFFL_SIR_NOPM1B_20200629T221714_20200629T225033_C001	Loss of Echo Loss of Echo Loss of Echo Loss of Echo	The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records
S_OFFL_SIR_NOPM1B_20200629T045836_20200629T051143_C001 S_OFFL_SIR_NOPM1B_20200629T140236_20200629T142844_C001 S_OFFL_SIR_NOPM1B_20200629T163746_20200629T164716_C001 S_OFFL_SIR_NOPM1B_20200629T221714_20200629T225033_C001 S_OFFL_SIR_NOPN1B_20200629T021926_20200629T022452_C001	Loss of Echo Loss of Echo Loss of Echo Loss of Echo Loss of Echo	The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records
S_OFFL_SIR_NOPM1B_20200629T045836_20200629T051143_C001 S_OFFL_SIR_NOPM1B_20200629T140236_20200629T142844_C001 S_OFFL_SIR_NOPM1B_20200629T163746_20200629T164716_C001 S_OFFL_SIR_NOPM1B_20200629T221714_20200629T225033_C001 S_OFFL_SIR_NOPM1B_20200629T021926_20200629T022452_C001 S_OFFL_SIR_NOPN1B_20200629T071123_20200629T071313_C001	Loss of Echo Loss of Echo Loss of Echo Loss of Echo Loss of Echo Loss of Echo	The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records
S_OFFL_SIR_NOPM1B_20200629T045836_20200629T051143_C001 S_OFFL_SIR_NOPM1B_20200629T140236_20200629T142844_C001 S_OFFL_SIR_NOPM1B_20200629T163746_20200629T164716_C001 S_OFFL_SIR_NOPM1B_20200629T221714_20200629T225033_C001 S_OFFL_SIR_NOPN1B_20200629T021926_20200629T022452_C001 S_OFFL_SIR_NOPN1B_20200629T071123_20200629T071313_C001 S_OFFL_SIR_NOPN1B_20200629T111008_20200629T111113_C001	Loss of Echo Loss of Echo Loss of Echo Loss of Echo Loss of Echo Loss of Echo Loss of Echo	The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records
S_OFFL_SIR_NOPM1B_20200629T045836_20200629T051143_C001 S_OFFL_SIR_NOPM1B_20200629T140236_20200629T142844_C001 S_OFFL_SIR_NOPM1B_20200629T163746_20200629T164716_C001 S_OFFL_SIR_NOPM1B_20200629T221714_20200629T225033_C001 S_OFFL_SIR_NOPM1B_20200629T021926_20200629T022452_C001 S_OFFL_SIR_NOPN1B_20200629T071123_20200629T071313_C001 S_OFFL_SIR_NOPN1B_20200629T11108_20200629T111113_C001 S_OFFL_SIR_NOPN1B_20200629T113207_20200629T113357_C001	Loss of Echo Loss of Echo	The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records
S_OFFL_SIR_NOPM1B_20200629T045836_20200629T051143_C001 S_OFFL_SIR_NOPM1B_20200629T140236_20200629T142844_C001 S_OFFL_SIR_NOPM1B_20200629T163746_20200629T142844_C001 S_OFFL_SIR_NOPM1B_20200629T21714_20200629T225033_C001 S_OFFL_SIR_NOPM1B_20200629T021926_20200629T022452_C001 S_OFFL_SIR_NOPN1B_20200629T071123_20200629T071313_C001 S_OFFL_SIR_NOPN1B_20200629T01123_20200629T01313_C001 S_OFFL_SIR_NOPN1B_20200629T111008_20200629T113357_C001 S_OFFL_SIR_NOPN1B_20200629T162000_20200629T162006_C001	Loss of Echo Loss of Echo	The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records
S_OFFL_SIR_NOPM1B_20200629T045836_20200629T051143_C001 S_OFFL_SIR_NOPM1B_20200629T140236_20200629T142844_C001 S_OFFL_SIR_NOPM1B_20200629T163746_20200629T142844_C001 S_OFFL_SIR_NOPM1B_20200629T21714_20200629T225033_C001 S_OFFL_SIR_NOPN1B_20200629T021926_20200629T022452_C001 S_OFFL_SIR_NOPN1B_20200629T071123_20200629T071313_C001 S_OFFL_SIR_NOPN1B_20200629T071123_20200629T071313_C001 S_OFFL_SIR_NOPN1B_20200629T111008_20200629T111113_C001 S_OFFL_SIR_NOPN1B_20200629T112307_20200629T11357_C001 S_OFFL_SIR_NOPN1B_20200629T162000_20200629T162006_C001 S_OFFL_SIR_NOPN1B_20200629T162000_20200629T162046_C001 S_OFFL_SIR_NOPN1B_20200629T162009_20200629T162046_C001	Loss of Echo Loss of Echo	The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records The tracking echo is missing for one or more records
S_OFFL_SIR_NOPM1B_20200629T045836_20200629T051143_C001 S_OFFL_SIR_NOPM1B_20200629T140236_20200629T142844_C001 S_OFFL_SIR_NOPM1B_20200629T163746_20200629T142844_C001 S_OFFL_SIR_NOPM1B_20200629T21714_20200629T225033_C001 S_OFFL_SIR_NOPN1B_20200629T021926_20200629T022452_C001 S_OFFL_SIR_NOPN1B_20200629T071123_20200629T071313_C001 S_OFFL_SIR_NOPN1B_20200629T071123_20200629T071313_C001 S_OFFL_SIR_NOPN1B_20200629T111008_20200629T111113_C001 S_OFFL_SIR_NOPN1B_20200629T11237_20200629T1111357_C001 S_OFFL_SIR_NOPN1B_20200629T162000_20200629T162006_C001 S_OFFL_SIR_NOPN1B_20200629T162009_20200629T162046_C001 S_OFFL_SIR_NOPN1B_20200629T162009_20200629T162046_C001 S_OFFL_SIR_NOPN1B_20200629T171325_20200629T171333_C001	Loss of Echo Loss of Echo	The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records         The tracking echo is missing for one or more records
S_OFFL_SIR_NOPM1B_20200629T045836_20200629T051143_C001 S_OFFL_SIR_NOPM1B_20200629T140236_20200629T142844_C001 S_OFFL_SIR_NOPM1B_20200629T163746_20200629T142844_C001 S_OFFL_SIR_NOPM1B_20200629T21714_20200629T225033_C001 S_OFFL_SIR_NOPN1B_20200629T021926_20200629T022452_C001 S_OFFL_SIR_NOPN1B_20200629T071123_20200629T071313_C001 S_OFFL_SIR_NOPN1B_20200629T071123_20200629T071313_C001 S_OFFL_SIR_NOPN1B_20200629T111008_20200629T111113_C001 S_OFFL_SIR_NOPN1B_20200629T111008_20200629T1111357_C001 S_OFFL_SIR_NOPN1B_20200629T162000_20200629T162006_C001 S_OFFL_SIR_NOPN1B_20200629T162009_20200629T162006_C001 S_OFFL_SIR_NOPN1B_20200629T171325_20200629T171933_C001 S_OFFL_SIR_NOPN1B_20200629T171325_20200629T175831_C001 S_OFFL_SIR_NOPN1B_20200629T175511_20200629T175831_C001	Loss of Echo Loss of Echo	The tracking echo is missing for one or more records         The tracking echo is missing for one or more records
S_OFFL_SIR_NOPN1B_20200629T045836_20200629T051143_C001 S_OFFL_SIR_NOPM1B_20200629T140236_20200629T142844_C001 S_OFFL_SIR_NOPM1B_20200629T163746_20200629T142844_C001 S_OFFL_SIR_NOPM1B_20200629T21714_20200629T225033_C001 S_OFFL_SIR_NOPN1B_20200629T021926_20200629T022452_C001 S_OFFL_SIR_NOPN1B_20200629T071123_20200629T071313_C001 S_OFFL_SIR_NOPN1B_20200629T071123_20200629T071313_C001 S_OFFL_SIR_NOPN1B_20200629T111008_20200629T111113_C001 S_OFFL_SIR_NOPN1B_20200629T162000_20200629T162006_C001 S_OFFL_SIR_NOPN1B_20200629T162000_20200629T162006_C001 S_OFFL_SIR_NOPN1B_20200629T162009_20200629T162046_C001 S_OFFL_SIR_NOPN1B_20200629T17355_20200629T17933_C001 S_OFFL_SIR_NOPN1B_20200629T175511_20200629T175831_C001 S_OFFL_SIR_NOPN1B_20200629T00225_20200629T00558_C001	Loss of Echo Loss of Echo	The tracking echo is missing for one or more records         The tracking echo is missing for one or more records
S_OFFL_SIR_NOPM1B_20200629T045836_20200629T051143_C001 S_OFFL_SIR_NOPM1B_20200629T140236_20200629T142844_C001 S_OFFL_SIR_NOPM1B_20200629T163746_20200629T142844_C001 S_OFFL_SIR_NOPM1B_20200629T21714_20200629T225033_C001 S_OFFL_SIR_NOPN1B_20200629T021926_20200629T022452_C001 S_OFFL_SIR_NOPN1B_20200629T021926_20200629T071313_C001 S_OFFL_SIR_NOPN1B_20200629T01123_20200629T071313_C001 S_OFFL_SIR_NOPN1B_20200629T111008_20200629T111113_C001 S_OFFL_SIR_NOPN1B_20200629T11207_20200629T162006_C001 S_OFFL_SIR_NOPN1B_20200629T162000_20200629T162006_C001 S_OFFL_SIR_NOPN1B_20200629T162009_20200629T162046_C001 S_OFFL_SIR_NOPN1B_20200629T17352_20200629T162046_C001 S_OFFL_SIR_NOPN1B_20200629T173551_20200629T17933_C001 S_OFFL_SIR_NOPN1B_20200629T175511_20200629T175831_C001 S_OFFL_SIR_NOPN1B_20200629T100225_20200629T10923_C001 S_OFFL_SIR_NOPR1B_20200629T10838_20200629T10923_C001	Loss of Echo Loss of Echo	The tracking echo is missing for one or more records         The tracking e
S_OFFL_SIR_NOPN1B_20200629T045836_20200629T051143_C001 S_OFFL_SIR_NOPM1B_20200629T140236_20200629T142844_C001 S_OFFL_SIR_NOPM1B_20200629T163746_20200629T142844_C001 S_OFFL_SIR_NOPM1B_20200629T163746_20200629T025033_C001 S_OFFL_SIR_NOPN1B_20200629T021926_20200629T022452_C001 S_OFFL_SIR_NOPN1B_20200629T071123_20200629T071313_C001 S_OFFL_SIR_NOPN1B_20200629T071123_20200629T071313_C001 S_OFFL_SIR_NOPN1B_20200629T111008_20200629T111113_C001 S_OFFL_SIR_NOPN1B_20200629T11230_20200629T1111357_C001 S_OFFL_SIR_NOPN1B_20200629T162000_20200629T162006_C001 S_OFFL_SIR_NOPN1B_20200629T162000_20200629T162046_C001 S_OFFL_SIR_NOPN1B_20200629T171325_20200629T17933_C001 S_OFFL_SIR_NOPN1B_20200629T175511_20200629T17933_C001 S_OFFL_SIR_NOPN1B_20200629T0225_20200629T100558_C001 S_OFFL_SIR_NOPR1B_20200629T110838_20200629T110923_C001 S_OFFL_SIR_NOPR1B_20200629T110946_20200629T11008_C001	Loss of Echo	The tracking echo is missing for one or more records         The tracking e
S_OFFL_SIR_NOPM1B_20200629T045836_20200629T051143_C001 S_OFFL_SIR_NOPM1B_20200629T140236_20200629T142844_C001 S_OFFL_SIR_NOPM1B_20200629T140236_20200629T142844_C001 S_OFFL_SIR_NOPM1B_20200629T163746_20200629T0225033_C001 S_OFFL_SIR_NOPN1B_20200629T021926_20200629T022452_C001 S_OFFL_SIR_NOPN1B_20200629T071123_20200629T071313_C001 S_OFFL_SIR_NOPN1B_20200629T071123_20200629T071313_C001 S_OFFL_SIR_NOPN1B_20200629T111008_20200629T111113_C001 S_OFFL_SIR_NOPN1B_20200629T111008_20200629T111357_C001 S_OFFL_SIR_NOPN1B_20200629T162000_20200629T162006_C001 S_OFFL_SIR_NOPN1B_20200629T162000_20200629T162046_C001 S_OFFL_SIR_NOPN1B_20200629T171325_20200629T171933_C001 S_OFFL_SIR_NOPN1B_20200629T175511_20200629T175831_C001 S_OFFL_SIR_NOPN1B_20200629T1025_20200629T175831_C001 S_OFFL_SIR_NOPN1B_20200629T110838_20200629T110923_C001 S_OFFL_SIR_NOPR1B_20200629T110946_20200629T111008_C001 S_OFFL_SIR_NOPR1B_20200629T10946_20200629T111008_C001 S_OFFL_SIR_NOPR1B_20200629T130216_20200629T13122_C001	Loss of Echo         Loss of Echo	The tracking echo is missing for one or more records         The tracking e
S_OFFL_SIR_NOPM1B_20200629T045836_20200629T051143_C001 S_OFFL_SIR_NOPM1B_20200629T140236_20200629T142844_C001 S_OFFL_SIR_NOPM1B_20200629T163746_20200629T142844_C001 S_OFFL_SIR_NOPM1B_20200629T21714_20200629T225033_C001 S_OFFL_SIR_NOPM1B_20200629T021926_20200629T022452_C001 S_OFFL_SIR_NOPN1B_20200629T071123_20200629T071313_C001 S_OFFL_SIR_NOPN1B_20200629T071123_20200629T071313_C001 S_OFFL_SIR_NOPN1B_20200629T111008_20200629T111113_C001 S_OFFL_SIR_NOPN1B_20200629T162000_20200629T162006_C001 S_OFFL_SIR_NOPN1B_20200629T162000_20200629T162006_C001 S_OFFL_SIR_NOPN1B_20200629T162009_20200629T162046_C001 S_OFFL_SIR_NOPN1B_20200629T173551_20200629T175831_C001 S_OFFL_SIR_NOPN1B_20200629T175511_20200629T175831_C001 S_OFFL_SIR_NOPN1B_20200629T10225_20200629T10923_C001 S_OFFL_SIR_NOPR1B_20200629T110838_20200629T110923_C001 S_OFFL_SIR_NOPR1B_20200629T130216_20200629T131129_C001 S_OFFL_SIR_NOPR1B_20200629T130216_20200629T13122_C001 S_OFFL_SIR_NOPR1B_20200629T130216_20200629T13122_C001 S_OFFL_SIR_NOPR1B_20200629T130216_20200629T13125_C001	Loss of Echo Loss of Echo	The tracking echo is missing for one or more records         The tracking e

## 5. NOP Level 2 Data Quality Check

#### 5.1 L2 Product Format Check

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

Number of products with errors:

#### 5.2 L2 Product Header Analysis

For all products, a series of pre-defined checks are performed on the MPH and SPH in order to identify any inconsistencies and/or errors raised by the ground-segment processing chain. 0

## Number of products with errors:

## 5.3 L2 Auxiliary Data File Usage Check

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

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

#### 5.4 L2 Auxiliary Correction Error Check

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

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

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

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

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

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

Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_NOPN_2_20200629T003349_20200629T003514_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynami Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20200629T004024_20200629T004331_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1) and the tidal corrections for one or more records
CS_OFFL_SIR_NOPN_2_20200629T021432_20200629T021721_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynami Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20200629T021926_20200629T022452_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynami Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20200629T031023_20200629T031357_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynami Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20200629T035401_20200629T035636_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynami Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20200629T044922_20200629T045001_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynami Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20200629T052559_20200629T052742_C001	Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non- Equilibrium Long Period Ocean Tide	There is an error with the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT and solution 2: FES) and the Non-Equilibrium Long Period Ocean Tide for one or more records
CS_OFFL_SIR_NOPN_2_20200629T053115_20200629T053449_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynami Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20200629T062841_20200629T063106_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynami Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20200629T063113_20200629T063324_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20200629T071123_20200629T071313_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynami Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20200629T072130_20200629T072351_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20200629T080838_20200629T081304_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20200629T095044_20200629T095525_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20200629T103055_20200629T103433_C001	Total Geocentric Ocean Tide (GOT)	There is an error with the Total Geocentric Ocean Tide height (solution ' GOT) for one or more records
CS_OFFL_SIR_NOPN_2_20200629T113207_20200629T113357_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynami Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20200629T121018_20200629T121336_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20200629T121849_20200629T122014_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynami Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20200629T130108_20200629T130216_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynami Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20200629T135753_20200629T135901_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20200629T144019_20200629T144132_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20200629T153457_20200629T153629_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20200629T161753_20200629T161956_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20200629T162000_20200629T162006_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20200629T162009_20200629T162046_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20200629T171325_20200629T171933_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20200629T175511_20200629T175831_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20200629T175834_20200629T175929_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20200629T184401_20200629T184633_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20200629T185258_20200629T185610_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20200629T193403_20200629T193635_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynam Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20200629T203347_20200629T203503_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20200629T234256_20200629T234421_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPR_2_20200629T000225_20200629T000558_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPR_2_20200629T013448_20200629T014501_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPR_2_20200629T044240_20200629T044548_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records

CS_OFFL_SIR_NOPR_2_20200629T045704_20200629T045835_C001	Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 1: GOT and solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_NOPR_2_20200629T060200_20200629T060819_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPR_2_20200629T080405_20200629T080837_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPR_2_20200629T094045_20200629T095043_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPR_2_20200629T112157_20200629T112944_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPR_2_20200629T130216_20200629T131129_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPR_2_20200629T144132_20200629T144844_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPR_2_20200629T162046_20200629T162814_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPR_2_20200629T164716_20200629T164952_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPR_2_20200629T175929_20200629T180625_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records

#### 5.5 L2 Measurement Confidence Data Check

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

Number of products with errors: 1		
Product	Test Failed	Description
CS_OFFL_SIR_NOPM_2_20200629T180648_20200629T181338_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records

## 5.6 L2 Measurement Quality Flag Check

#### L2 Quality Flags (20Hz)

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

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

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

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

80

Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_NOPM_2_20200629T001401_20200629T003110_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T003514_20200629T004024_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T004654_20200629T012302_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T014501_20200629T014926_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T015018_20200629T020752_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T021721_20200629T021926_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T022657_20200629T030301_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T031528_20200629T033340_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T033615_20200629T034818_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T035636_20200629T035835_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T035952_20200629T040337_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T040547_20200629T042058_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T042300_20200629T043223_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.

Description         Restoration (Cardy)			
CB, OFTL, JER, JODNY, 2008080716314, 2008080716314, 2001     antitute Code (COD)     antitute Cod	CS_OFFL_SIR_NOPM_2_20200629T045033_20200629T045154_C001		The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CPL_PHL_SR_NOPM_2_2000097154165, 22000097105416, CDD1       cmd Security Cud, Security C	CS_OFFL_SIR_NOPM_2_20200629T045419_20200629T045704_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
Call Description         Description <thdescription< th=""></thdescription<>	CS_OFFL_SIR_NOPM_2_20200629T045836_20200629T051143_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
Column Columnation         Description         Encount on encounts           Column Columnation         Description         Description         Description           Column Columnation         Description         Description         Description           Column Columnation         Description         Description         Description           Columnation         Description         Description         Description           Columnation         Description         Description         Description           Columnation         Description         Description         Description           Columnation         Description         Description         Description         Description           Columnation         Description         Description         Description         Description         Description           Columnation         Description	CS_OFFL_SIR_NOPM_2_20200629T052421_20200629T052426_C001		The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
B3_0FHSR_NOPM_2_NOTIFICATIONS       and the COOL Alteractor Prage of Bascattor Quality Fags have been allowed for Gas and the COOL Alteractor Prage of Bascattor Quality Fags have been allowed for Gas and the COOL Alteractor Prage of Bascattor Quality Fags have been allowed for Gas and the COOL Alteractor Prage of Bascattor Quality Fags have been allowed for Gas and the COOL Alteractor Prage of Bascattor Quality Fags have been allowed for Gas and the COOL Alteractor Prage of Bascattor Quality Fags have been allowed for Gas and the COOL Alteractor Prage of Bascattor Quality Fags have been allowed for Gas and the COOL Alteractor Prage of Bascattor Quality Fags have been allowed for Gas and the COOL Alteractor Prage of Bascattor Quality Fags have been allowed for Gas and the COOL Alteractor Prage of Bascattor Quality Fags have been allowed for Gas and the COOL Alteractor Prage of Bascattor Quality Fags have been allowed for Gas and the COOL Alteractor Prage of Bascattor Quality Fags have been allowed for Gas and the COOL Alteractor Prage of Bascattor Quality Fags have been allowed for Gas and the COOL Alteractor Prage of Bascattor Quality Fags have been allowed for Gas and the COOL Alteractor Prage of Bascattor Quality Fags have been allowed for Gas and the COOL Alteractor Prage of Bascattor Quality Fags have been allowed for Gas and the Cool Prage of Bascattor Quality Fags have been allowed for Gas and the Cool Prage of Bascattor Quality Fags have been allowed for Gas and the Cool Prage of Bascattor Quality Fags have been allowed for Gas and the Cool Prage of Bascattor Quality Fags have been allowed for Gas and the Cool Prage of Bascattor Quality Fags have been allowed for Gas and the Cool Prage of Bascattor Quality Fags have been allowed for Gas and the Cool Prage of Bascattor Quality Fags have been allowed for Gas and the Cool Prage of Bascattor Quality Fags have been allowed for Gas and the Cool Prage of Bascattor Quality Fags have been allowed for Gas and the Cool Prag	CS_OFFL_SIR_NOPM_2_20200629T053449_20200629T054239_C001		The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
C2: OFTL SIR, NOPM 2. 202008297070380. 20200829707131_202000297107130_20200297100130_20200297109130_202002097109130_202002927109130_20200297109130_202002927109130_2020029	CS_OFFL_SIR_NOPM_2_20200629T054524_20200629T060002_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_DFL_SR_NOPL_2_0200020T01512_02000         Basissation Quality         The COD_Alteristic Range SHA_SVML           CS_DFFL_SR_NOPL_2_0200020T01512_020000T0174445_CODI         CoDA Alteristic Range SHA_SVML         The CODA Alteristic Range SHA_SVML           CS_DFFL_SR_NOPL_2_0200020T07214_200000T0174445_CODI         Coda Alteristic Range SHA_SVML         The Coda Alteristic Range SHA_SVML           CS_DFFL_SR_NOPL_2_0200020T07214_200000T074445_CODI         Codan Alteristic Range SHA_SVML         The Coda Alteristic Range SHA_SVML           CS_DFFL_SR_NOPL_2_0200020T02248_020052T08248_02001         Codan Alteristic Range SHA_SVML         The Codan Alteristic Range SHA_SVML           CS_DFFL_SR_NOPL_2_0200020T08248_020052T08463_CODI         Codan Alteristic Range SHA_SVML         The Codan Alteristic Range SHA_SVML           CS_DFFL_SR_NOPL_2_0200020T08250_020020T08500_CODI         Codan Alteristic Range SHA_SVML         The Code Alteristic Range SHA_SVML           RS_DFFL_SR_NOPL_2_0200020T08502_0200202T08500_CODI         Codan Alteristic Range SHA_SVML         The Code Alteristic Range SHA_SVML           RS_DFFL_SR_NOPL_2_0200020T08502_0200202T08500_0000         Codan Alteristic Range SHA_SVML         The Code Alteristic Range SHA_SVML           RS_DFFL_SR_NOPL_2_0200020T08502_0200202T108200_CODI         Codan Alteristic Range SHA_SVML         The Code Alteristic Range SHA_SVML           RS_DFFL_SR_NOPL_2_0200020T108204_0000         Codan Alteristic Range SHA_SVML         The Code Alteristic Range SHA_SVML	CS_OFFL_SIR_NOPM_2_20200629T063803_20200629T070958_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
Display         Sector         Description         Description           CS, OFFL, SIR, NOPM 2, 202005211072514, 20200521107443, COD         Costan Allineter Range, SIHA, SVH and Backscatter Quality Flags and the COCG Allineter Range and Backscatter Quality Flags. The Costan Allineter Range and Backscatter Quality Flags. The Costan Allineter Range and Backscatter Quality Flags. The Costan Allineter Range and Backscatter Quality Flags.           CS, OFFL, SIR, NOPM 2, 202005211092548, 202005211092549, 20200521109353, 20200521109359, 20200521109359, 20200521109359, 20200521109359, 20200521109359, 20200521109359, 20200521109359, 20200521109359, 20200521109359, 20200521109359, 20200521109359, 20200521109359, 20200521109359, 20200521109359, 20200521109359, 20200521109359, 20200521109359, 20200521109359, 20200521109359, 2020	CS_OFFL_SIR_NOPM_2_20200629T071313_20200629T071525_C001		The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
C3, OFFL_SIR_NOPM_2_202006201702514_202006201702443_C001     Altimeter Range and Backscatter Quality Flags have been attractive Range and Backscatter Quality Flags have been attractive Coult and Cook Altimeter Range and Backscatter Quality Flags have been attractive Coult and Cook Altimeter Range and Backscatter Quality Flags have been attractive Coult and Cook Altimeter Range and Backscatter Quality Flags have been attractive Coult and Cook Altimeter Range and Backscatter Quality Flags have been attractive Coult and Cook Altimeter Range and Backscatter Quality Flags have been attractive Coult and Cook Altimeter Range and Backscatter Quality Flags have been attractive Coult and Cook Altimeter Range and Backscatter Quality Flags have been attractive Coult and Cook Altimeter Range and Backscatter Quality Flags have been attractive Coult and Cook Altimeter Range and Backscatter Quality Flags have been attractive Coult and Cook Altimeter Range and Backscatter Quality Flags have been attractive Coult and Cook Altimeter Range and Backscatter Quality Flags have been attractive Coult and Cook Altimeter Range and Backscatter Quality Flags have been attractive Coult and Cook Altimeter Range and Backscatter Quality Flags have been attractive Coult and Cook Altimeter Range and Backscatter Quality Flags have been attractive Coult and Cook Altimeter Range and Backscatter Quality Flags have been attractive Coult and Cook Altimeter Range and Backscatter Quality Flags have been attractive Coult and Cook Altimeter Range and Backscatter Quality Flags have been attractive Coult and Cook Altimeter Range and Backscatter Quality Flags have been attractive Coult and Cook Altimeter Range and Backscatter Quality Flags have been attractive Coult and Cook Altimeter Range and Backscatter Quality Flags have been attractive Coult and Cook Altimeter Range and Backscatter Quality Flags have been attractive Coult and Cook Altimeter Range and Backscatter Quality Flags have been attractive Coult and Cook Altimeter Range and Backscatter Quali	CS_OFFL_SIR_NOPM_2_20200629T071542_20200629T072130_C001		The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CB_OFFL_SIR_NOPM_2_20200629T18248_20200629T085043_C001       and Backscatter Quality, COCG       and the COCG Altimeter Range and Backscatter Quality Flags have been set for one rime records.         CB_OFFL_SIR_NOPM_2_20200629T085023_20200629T085047_C001       OCCG Altimeter Range Quality, COCG       The OCCG Altimeter Range and Backscatter Quality Flags have been set for one rime records.         CB_OFFL_SIR_NOPM_2_20200629T085043_20200629T093120_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one rime records.         CB_OFFL_SIR_NOPM_2_20200629T095214_20200629T093228_C001       OCCG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one rime records.         CB_OFFL_SIR_NOPM_2_20200629T095214_20200629T09228_C001       OCCG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one rime records.         CB_OFFL_SIR_NOPM_2_20200629T1095214_20200629T1092710_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one rime records.         CB_OFFL_SIR_NOPM_2_20200629T1095225_20200629T1102710_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one rime records.         CB_OFFL_SIR_NOPM_2_20200629T1104300_20200629T1102455_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one rime records.         CB_OFFL_SIR_NOPM_2_20200629T111011_20200629T112045_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one rime records.         CB_OFFL_SIR_NOPM_2_20200629T111011_20200629T112045_C001       Ocean Altimeter Range,	CS_OFFL_SIR_NOPM_2_20200629T072514_20200629T074943_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CB_DFFL_SIR_NOPM_2_20200629T09405_20200629T093120_0001       Backscatter Quality       for one or more records.         CB_OFFL_SIR_NOPM_2_20200629T09405_20200629T093120_0001       Ocean Altimeter Range Altimeter Range and Backscatter Quality Flags have been set for one or more records.         CB_OFFL_SIR_NOPM_2_20200629T093224_0200629T093228_0001       OCOG Altimeter Range Cuality, CCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.         CB_OFFL_SIR_NOPM_2_20200629T093228_0001       OCOG Altimeter Range Quality, CCOG Altimeter Range Altimeter Range and Backscatter Quality Flags have been set for one or more records.         CB_OFFL_SIR_NOPM_2_20200629T109433_0200029T10410_0001       Ocean Altimeter Range Quality, CCOG Altimeter Range Altimeter Range and Backscatter Quality Flags have been set for one or more records.         CB_OFFL_SIR_NOPM_2_20200629T10433_0200029T104106_0001       Ocean Altimeter Range SHA, SWH and Backscatter Quality Flags have been set for one or more records.         CB_OFFL_SIR_NOPM_2_20200629T104306_02000629T104756_0001       Ocean Altimeter Range SHA, SWH and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20200629T1104306_02000629T104756_0001       Ocean Altimeter Range SHA, SWH and Backscatter Quality Flags have been Altimeter Range SHA, SWH and Backscatter Quality Flags have been Altimeter Range SHA, SWH and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20200629T1104306_02000629T104756_0001       Ocean Altimeter Range SHA, SWH and Backscatter Quality Flags have been set for one or more records.         C	CS_OFFL_SIR_NOPM_2_20200629T082348_20200629T084843_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_NOPM_2_20200629T09406_20200629T093120_C001       and Backscatter Quality COCG       Attimuter Range and Backscatter Quality Flags have been attimuter Range.         CS_OFFL_SIR_NOPM_2_20200629T093214_20200629T102719_C001       OCCGA Attimuter Range, SSHA, SWH       The OCCGA Attimuter Range SSHA, SWH         CS_OFFL_SIR_NOPM_2_20200629T103233_20200629T102719_C001       OCCGA Attimuter Range, SSHA, SWH       The OCCGA Attimuter Range SSHA, SWH         CS_OFFL_SIR_NOPM_2_20200629T103233_20200629T102719_C001       OCCGA Attimuter Range, SSHA, SWH       The OCCGA Attimuter Range SSHA, SWH         CS_OFFL_SIR_NOPM_2_20200629T103433_20200629T104705_C001       OCCGA Attimuter Range, SSHA, SWH       The OCCGA Attimuter Range and Backscatter Quality Flags have been attimuter Range SSHA, SWH         CS_OFFL_SIR_NOPM_2_20200629T104306_20200629T104755_C001       Occan Attimuter Range, SSHA, SWH and Backscatter Quality Flags have been Attimuter Range and Backscatter Quality Flags have been Attimuter Range and Backscatter Quality Flags have been Attimuter Range SSHA, SWH and Backscatter Quality Flags have been Attimuter Range SSHA, SWH and Backscatter Quality Flags have been Attimuter Range SSHA, SWH and Backscatter Quality Flags have been Attimuter Range SSHA, SWH and Backscatter Quality Flags have been attimuter Range SSHA, SWH and Backscatter Quality Flags have been attimater Range SSHA, SWH and Backscatter Quality Flags have	CS_OFFL_SIR_NOPM_2_20200629T085523_20200629T085947_C001		The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T103432_0200629T102719_C001       Backscatter Quality       for one or more records.         CS_OFFL_SIR_NOPM_2_20200629T103433_0200629T102719_C001       Ocean Altimeter Range SHA, SWH       The OCean Altimeter Range and Backscatter Quality         CS_OFFL_SIR_NOPM_2_20200629T103433_0200629T104100_C001       OCOG Altimeter Range Quality. OCOG       The OCean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set.         CS_OFFL_SIR_NOPM_2_20200629T104436_00200628T104755_C001       OCEAn Altimeter Range, SSHA, SWH and Backscatter Quality       The OCEA Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set.         CS_OFFL_SIR_NOPM_2_20200629T1104306_00200628T1104755_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality       The OCEA Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set.         CS_OFFL_SIR_NOPM_2_20200629T1104306_00200628T1104755_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set.       The OCEAN Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set.         CS_OFFL_SIR_NOPM_2_20200629T113356_02000628T1120702_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set.       The OCEAN Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set.         CS_OFFL_SIR_NOPM_2_20200629T1123356_02000628T126162_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set.       The OCEAN Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set.         CS_OFFL_SIR_NOPM_2_20200629T122343_0200028T12615_C001	CS_OFFL_SIR_NOPM_2_20200629T090405_20200629T093120_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_NOPM_2_20200629T103433_20200629T104100_C001       and Backscatter Quality. COCG       and the OCCGA Minneter Range and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20200629T104306_20200629T104010_C001       OCCGA Minneter Range Quality. OCCG       The OCCGA Minneter Range and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20200629T104306_20200629T104755_C001       Occean Altimeter Range ASHA, SWH and Backscatter Quality Flags have been set for one or more records.       The OCCGA Minneter Range and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20200629T11911_20200629T112045_C001       Occean Altimeter Range and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20200629T113358_20200629T112045_C001       Occean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20200629T113358_20200629T120702_C001       Occean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20200629T121336_20200629T121648_C001       OCCGA Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20200629T121238_20200629T121648_C001       OCCGA Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20200629T121238_20200629T126403_C001       OCCGA Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records. <td>CS_OFFL_SIR_NOPM_2_20200629T093214_20200629T093238_C001</td> <td>8</td> <td>The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.</td>	CS_OFFL_SIR_NOPM_2_20200629T093214_20200629T093238_C001	8	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T104306_20200629T104705_C001         Backscatter Quality         for one or more records.           CS_OFFL_SIR_NOPM_2_20200629T104306_20200629T104755_C001         Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, COCG Altimeter Range, SSHA, SWH and Backscatter Quality, COCG Backscatter Quality, COCG Cocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one more records.           CS_OFFL_SIR_NOPM_2_20200629T122583_20200629T125851_C001         Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, COCG Altimeter Range, SSHA, SWH and Backscatter Quality, Flags have been Altimeter Range, SSHA, SWH and Backscatter Quality, COCG Altimeter Range, SSHA, SWH and Backscatter Quality, Flags have been Altimeter Range, SSHA, SWH and Backscatter Quality, COCG Altimeter Range, SSHA, SWH and Backscatter Quality, Flags have been Altimeter Range, SSHA, SWH and Backscatter Quality, COCG Backscatter Quality, COCG Backscatter Qua	CS_OFFL_SIR_NOPM_2_20200629T095525_20200629T102719_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_NOPM_2_20200629T104306_20200629T104755_0001       and Backscatter Quality COGG Altimeter Range and Backscatter Quality CogG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been Altimeter Range, SSHA, SWH and Backscatter Quality CS_OFFL_SIR_NOPM_2_20200629T12243_20200629T124035_C001       Cocan Altimeter Range, SSHA, SWH and Backscatter Quality Cocan Altimeter Range, SSHA, SWH and Backscatter Quality Altimeter Range and Backscatter Quality CS_OFFL_SIR_NOPM_2_20200629T125830_20200629T125851_C001       The Occan Altimeter Range, SSHA, SWH and Backscatter Quality Cocan Altimeter Range, SSHA, SWH and Backscatter Quality CS_OFFL_SIR_NOPM_2_20200629T131129_20200629T133451_C001       Cocan Altimeter Range, SSHA, SWH and Backscatter Quality Cocan Altimeter Range and Backscatter Quality Altimeter Range and Backscatter Quality Cocan Altimeter Range and Backscatter Quality Altimeter Range and Backscatter Quality Cocan Altimeter Range and Backscatter Quality Cocan Altimeter Range and Backscatter Quality Altimeter Range and Backscatter Quality Cocan Altimeter Range and Backscatte	CS_OFFL_SIR_NOPM_2_20200629T103433_20200629T104010_C001		The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T11911_20200629T112045_C001       and Backscatter Quality OCOG Allimeter Range and Backscatter Quality Flags have been Allimeter Range and Backscatter Quality       and the OCOG Allimeter Range and Backscatter Quality Flags have been and the OCOG Allimeter Range, SSHA, SWH and Backscatter Quality       The Ocean Allimeter Range, SSHA, SWH and Backscatter Quality Flags have been altimeter Range and Backscatter Quality         CS_OFFL_SIR_NOPM_2_20200629T121336_20200629T121848_C001       OCGA Allimeter Range Quality, OCOG Backscatter Quality       The OCOG Allimeter Range and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20200629T122243_20200629T12243_C000       Ocean Allimeter Range, SSHA, SWH and Backscatter Quality, OCOG Allimeter Range and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20200629T122243_20200629T125851_C001       Ocean Allimeter Range, SSHA, SWH and Backscatter Quality, OCOG Allimeter Range and Backscatter Quality Flags have been Allimeter Range and Backscatter Quality, OCOG Allimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Allimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Allimeter Range and Backscatter Quality Flags have been Allimeter Range and Backscatter Quality, OCOG Allimeter Range, SSHA, SWH and Backscatter Quality Flags have been Allimeter Range, SSHA, SWH and Backscatter Quality Flags have been Allimeter Range and Backscatter Quality, OCOG Allimeter Range, SSHA, SWH and Backscatter Quality Flags have been Allimeter Range and Backscatter Qual	CS_OFFL_SIR_NOPM_2_20200629T104306_20200629T104755_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_NOPM_2_20200629T113358_20200629T120702_C001       and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20200629T121336_20200629T121848_C001       OCOG Altimeter Range Quality, OCOG Backscatter Quality, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality, Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20200629T1325851_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality and Backscatter Quality, OCOG Altimeter Range Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality, COG Altimeter Range and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality, OCOG Altim	CS_OFFL_SIR_NOPM_2_20200629T111911_20200629T112045_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_NOPM_2_202006291121336_202006291121448_C001       Backscatter Quality       for one or more records.         CS_OFFL_SIR_NOPM_2_202006291122243_2020062911224035_C001       Ocean Altimeter Range, SSHA, SWH       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been attimeter Range and Backscatter Quality, OCOG         CS_OFFL_SIR_NOPM_2_202006291125830_202006291125851_C001       Ocean Altimeter Range, SSHA, SWH       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been Altimeter Range and Backscatter Quality, OCOG         CS_OFFL_SIR_NOPM_2_202006291131129_202006291133451_C001       Ocean Altimeter Range, SSHA, SWH       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been Altimeter Range and Backscatter Quality, OCOG         CS_OFFL_SIR_NOPM_2_202006291131129_202006291133451_C001       Ocean Altimeter Range, SSHA, SWH       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been Altimeter Range and Backscatter Quality, OCOG         CS_OFFL_SIR_NOPM_2_202006291133504_202006291134533_C001       Ocean Altimeter Range, SSHA, SWH       The Ocean Altimeter Range and Backscatter Quality Flags have been Altimeter Range and Backscatter Quality         CS_OFFL_SIR_NOPM_2_202006291135342_202006291135753_C001       OCCGG Altimeter Range Quality, OCOG       The Ocean Altimeter Range and Backscatter Quality Flags have been Altimeter Range and Backscatter Quality Flags have been Set for one or more records.         CS_OFFL_SIR_NOPM_2_202006291135342_202006291135753_C001       OCCGG Altimeter Range Quality, OCOG <t< td=""><td>CS_OFFL_SIR_NOPM_2_20200629T113358_20200629T120702_C001</td><td>and Backscatter Quality, OCOG</td><td>and the OCOG Altimeter Range and Backscatter Quality Flags have been</td></t<>	CS_OFFL_SIR_NOPM_2_20200629T113358_20200629T120702_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_NOPM_2_20200629T122243_20200629T124035_C001       and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       and the OCOG Altimeter Range and Backscatter Quality Flags set for one or more records.         CS_OFFL_SIR_NOPM_2_20200629T125830_20200629T125851_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been Altimeter Range and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been and the OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20200629T133504_20200629T134533_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality, OCOG Backscatter Quality, OCOG       The Ocean Altimeter Range and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20200629T135342_20200629T135753_C001       Ocean Altimeter Range Quality, OCOG Backscatter Quality       The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.	CS_OFFL_SIR_NOPM_2_20200629T121336_20200629T121848_C001		The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T125830_20200629T125851_C001       and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       and the OCOG Altimeter Range and Backscatter Quality Flags have been and the OCOG Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality         CS_OFFL_SIR_NOPM_2_20200629T133504_20200629T134533_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags set for one or more records.         CS_OFFL_SIR_NOPM_2_20200629T133504_20200629T134533_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20200629T135342_20200629T135753_C001       Ocean Altimeter Range Quality, OCOG Backscatter Quality       The OCCG Altimeter Range and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20200629T135342_20200629T135753_C001       OCCG Altimeter Range Quality, OCCG Backscatter Quality       The OCCG Altimeter Range and Backscatter Quality Flags have been set for one or more records.	CS_OFFL_SIR_NOPM_2_20200629T122243_20200629T124035_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_NOPM_2_20200629T131129_20200629T133451_C001       and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20200629T133504_20200629T134533_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags have been Altimeter Range and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20200629T133504_20200629T134533_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20200629T135342_20200629T135753_C001       OCOG Altimeter Range Quality, OCOG Backscatter Quality       The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.         OCOG Altimeter Range, SSHA, SWH       OCOG Altimeter Range, SSHA, SWH       The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.         Ocean Altimeter Range, SSHA, SWH       The OCOG Altimeter Range, SSHA, SWH       The OCOG Altimeter Range and Backscatter Quality Flags for one or more records.	CS_OFFL_SIR_NOPM_2_20200629T125830_20200629T125851_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_NOPM_2_20200629T133504_20200629T134533_C001       and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality       and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20200629T135342_20200629T135753_C001       OCOG Altimeter Range Quality, OCOG Backscatter Quality       The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.         OCOG Altimeter Range, SSHA, SWH       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags	CS_OFFL_SIR_NOPM_2_20200629T131129_20200629T133451_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIK_NOPM_2_202006291135342_202006291135753_C001 Backscatter Quality for one or more records. Ocean Altimeter Range, SSHA, SWH The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags	CS_OFFL_SIR_NOPM_2_20200629T133504_20200629T134533_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
	CS_OFFL_SIR_NOPM_2_20200629T135342_20200629T135753_C001	8 .	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
Altimeter Range and Backscatter Quality, OCOG and the OCOG Altimeter Range and Backscatter Quality rags have been and the OCOG Altimeter Range and Backscatter Quality set for one or more records.	CS_OFFL_SIR_NOPM_2_20200629T140236_20200629T142844_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been

CS_OFFL_SIR_NOPM_2_20200629T143816_20200629T144019_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T144844_20200629T150314_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T150754_20200629T150929_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T150939_20200629T152042_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T152139_20200629T152503_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T152715_20200629T153234_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T154338_20200629T155611_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T155826_20200629T161552_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T163746_20200629T164716_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T164952_20200629T170355_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T170640_20200629T171145_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T171152_20200629T171203_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T173945_20200629T174203_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T174326_20200629T174552_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T174600_20200629T174716_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T182657_20200629T184240_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T184633_20200629T185101_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T185802_20200629T192106_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T195721_20200629T202213_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T202455_20200629T203015_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T203022_20200629T203346_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T203718_20200629T210423_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T210549_20200629T210859_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T213240_20200629T220136_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T220441_20200629T221252_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T221714_20200629T225033_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
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CS_OFFL_SIR_NOPM_2_20200629T233424_20200629T234033_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T234421_20200629T234942_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200629T235633_20200630T001753_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T035835_20200629T035952_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T052559_20200629T052742_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T052904_20200629T053018_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T095044_20200629T095525_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T175834_20200629T175929_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T193159_20200629T193321_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T203347_20200629T203503_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T042058_20200629T042259_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T063425_20200629T063639_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T152503_20200629T152536_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T174552_20200629T174600_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T233222_20200629T233424_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.

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

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

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

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

Number o	f products with	errors:

Product	Test Failed	Description
CS_OFFL_SIR_NOPN_2_20200629T003349_20200629T003514_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T021926_20200629T022452_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T030358_20200629T030452_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T031023_20200629T031357_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T035401_20200629T035636_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T035835_20200629T035952_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T040338_20200629T040518_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T043223_20200629T043530_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.

CS_OFFL_SIR_NOPN_2_20200629T051143_20200629T051745_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T052559_20200629T052742_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T053115_20200629T053449_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T054239_20200629T054426_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T060921_20200629T061305_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T062841_20200629T063106_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T063113_20200629T063324_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T071123_20200629T071313_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T074943_20200629T075322_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T080838_20200629T081304_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T085056_20200629T085235_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T085947_20200629T090235_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T095044_20200629T095525_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T103055_20200629T103433_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T111008_20200629T111113_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T111157_20200629T111215_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T113207_20200629T113357_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T124035_20200629T124348_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T153457_20200629T153629_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T163357_20200629T163746_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T171325_20200629T171933_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T175039_20200629T175201_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T175418_20200629T175431_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T175511_20200629T175831_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T185258_20200629T185610_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T193159_20200629T193321_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.

CS_OFFL_SIR_NOPN_2_20200629T193403_20200629T193635_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T194744_20200629T194914_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T203347_20200629T203503_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T210859_20200629T211443_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T221252_20200629T221408_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T225241_20200629T225416_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T230611_20200629T230733_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200629T234942_20200629T235031_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T003110_20200629T003349_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T004332_20200629T004654_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T013448_20200629T014501_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T020752_20200629T021432_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T022452_20200629T022657_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T030301_20200629T030358_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T034818_20200629T035401_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T044240_20200629T044548_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T045401_20200629T045418_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T060200_20200629T060819_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T063324_20200629T063357_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T070958_20200629T071122_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T075955_20200629T080217_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T093239_20200629T093315_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T094045_20200629T095043_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T102719_20200629T103055_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T110838_20200629T110923_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T111503_20200629T111815_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.

CS_OFFL_SIR_NOPR_2_20200629T120702_20200629T121018_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T125851_20200629T130108_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T130216_20200629T131129_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T134533_20200629T134730_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T135901_20200629T140236_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T144132_20200629T144844_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T152503_20200629T152536_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T153644_20200629T154156_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T155618_20200629T155825_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T170355_20200629T170455_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T175929_20200629T180625_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T182018_20200629T182205_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T195232_20200629T195257_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T202213_20200629T202340_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T213150_20200629T213239_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T221408_20200629T221714_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T225206_20200629T225241_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T233222_20200629T233424_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T234033_20200629T234256_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200629T235250_20200629T235633_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.

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

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

180

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

Number of products with errors:

#### 5.7 L2 Ocean Retracking Quality Check

#### L2 Retracking Flags (20Hz)

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

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

#### Number of products with errors:

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

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

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

# 7. NOP QCC Report Analysis

The Quality Control for CryoSat (QCC) facility performs a primary survey of data products immediately after production by the PDS and LTA processing facilities. A list of the tests which raised errors or warnings is provided below.

Product type	No. Products	No. QCC Reports	No. Valid	No. Warnings	No. Errors
SIR_NOPM1B	140	140	1	139	0
SIR_NOPR1B	95	95	0	95	0
SIR_NOPN1B	109	109	4	105	0
SIR_NOPM_2	140	140	95	45	0
SIR_NOPR_2	95	95	25	70	0
SIR_NOPN_2	109	109	43	66	0

0

1736

## 7.1 QCC Errors

Number of QCC reports with errors:

# 7.2 QCC Warnings

Number of QCC reports with warnings

	Total number of occurrences of each warning						
Product Type	BCSHNCDF	MVIOEPFDNCDF	MVIOEPNCDF	MVIONCDF	RBSZOPOEPFDNCDF	RBSZOPOEPFDPLRMNCI	RBSZOPOEPNCDF
SIR_NOPM1B	139	0	0	0	0	0	0
SIR_NOPM_2	0	36	36	0	38	0	34
SIR_NOPN1B	104	0	0	0	0	0	0
SIR_NOPN_2	0	11	38	3	25	29	21
SIR_NOPR1B	91	0	0	0	0	0	0
SIR_NOPR_2	0	35	49	1	37	35	17
						·	
Product Type	RPEPOPFDLRMNCDF	RPEPOPFDPLRMSARNC	RPEPOPFDPLRMSINNCD	RPEPOPFDSARNCDF	RPEPOPFDSINNCDF	RPEPOPLRMNCDF	RPEPOPSARNCDF
SIR_NOPM1B	0	0	0	0	0	0	0
SIR_NOPM_2	28	0	0	0	0	20	0
SIR_NOPN1B	0	0	0	0	0	0	0

SIR_NOPN_2	0	0	28	0	38	0	0
SIR_NOPR1B	0	0	0	0	0	0	0
SIR NOPR 2	0	50	0	56	0	0	48
					1	l.	L.
Product Type	RPEPOPSINNCDF	RSSBCONCDF	RSSHAOFDNCDF	RSSHAOFDPLRMNCDF	RSSHAONCDF	RSWHOEPFDNCDF	RSWHOEPFDPLRMNCDF
	RPEPOPSINNCDF	RSSBCONCDF	RSSHAOFDNCDF 0	RSSHAOFDPLRMNCDF	RSSHAONCDF	RSWHOEPFDNCDF	RSWHOEPFDPLRMNCDF

	•	•	•	•	•	•	•	
SIR_NOPM_2	0	3	25	0	4	28	0	
SIR_NOPN1B	0	0	0	0	0	0	0	
SIR_NOPN_2	32	18	49	56	27	33	36	
SIR_NOPR1B	0	0	0	0	0	0	0	
SIR_NOPR_2	0	1	58	38	7	44	51	

Product Type	RSWHOEPNCDF	SPHRTASCNSNCDF	SPHRTASCNSNCDF	SOOHHIFHD	SCSTODHRNCDF	SCSTODNCDF	-
SIR_NOPM1B	0	0	1	0	0	0	
SIR_NOPM_2	1	0	1	0	0	0	
SIR_NOPN1B	0	0	0	0	49	0	
SIR_NOPN_2	21	0	0	2	0	0	
SIR_NOPR1B	0	0	0	0	95	3	
SIR NOPR 2	2	1	0	3	0	0	

Fest Description Key:					
Abbreviation	Test name	Details			
BCSHNCDF	BurstCounterStep20HzNetCDF	The burst counter should be one higher with regard to the previous burst counter			
MVIOEPNCDF	MissingValueIntOceanExcludingPolarNetCDF	The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees			
MVIONCDF	MissingValueIntOceanNetCDF	The value should not be a 'missing value' for surface type 0 only			
RBSZOPOEPFDNCDF	RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2NetCDF	The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees			
RBSZOPOEPFDPLRM	RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2PLRMNetCDF	The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees			
RBSZOPOEPNCDF	RangeBackscatterSigmaZeroOPOceanExcludingPolarNetCDF	The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees			
RPEPOPFDLRMNCDF	RangePeakinessExcludingPolarOPFD2LRMNetCDF	The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees			
RPEPOPFDPLRMSAR NCDF	RangePeakinessExcludingPolarOPFD2PLRMSARNetCDF	The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees			
	RangePeakinessExcludingPolarOPFD2PLRMSINNetCDF	The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees			
	RangePeakinessExcludingPolarOPFD2SARNetCDF	The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees			
RPEPOPFDSINNCDF	RangePeakinessExcludingPolarOPFD2SINNetCDF	The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees			
RPEPOPLRMNCDF	RangePeakinessExcludingPolarOPLRMNetCDF	The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees			
RPEPOPSARNCDF	RangePeakinessExcludingPolarOPSARNetCDF	The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees			
RPEPOPSINNCDF	RangePeakinessExcludingPolarOPSINNetCDF	The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees			
RSSBCONCDF	RangeSeaStateBiasCorrectionOceanNetCDF	The sea state bias correction should be between -500mm and 0mm (or missing) for surface type = ocean			
RSSHAOFDNCDF	RangeSeaSurfaceHeightAnomalyOceanFD3NetCDF	The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean			
RSSHAOFDPLRMNCD	RangeSeaSurfaceHeightAnomalyOceanFD3PLRMNetCDF	The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean			
RSSHAONCDF	RangeSeaSurfaceHeightAnomalyOceanNetCDF	The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean			
RSWHOEPFDNCDF	RangeSignificantWaveHeightOceanExcludingPolarFD2NetCDF	The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees			
RSWHOEPFDPLRMNC	RangeSignificantWaveHeightOceanExcludingPolarFD2PLRMNetCDF	The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees			
RSWHOEPNCDF	RangeSignificantWaveHeightOceanExcludingPolarNetCDF	The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees			
SPHRTASCNSNCDF	SPH_Rel_Time_ASC_Node_Start_v2_NetCDF	Rel_Time_ASC_Node_Start mismatch (DBL ASC, rounded up to 0.1)			
SPHRTASCNSNCDF	SPH_Rel_Time_ASC_Node_Stop_v2_NetCDF	Rel_Time_ASC_Node_Stop mismatch			
SOOHHIFHD	SameOrOneHigher1HzIndexFor20HzData	The 1 Hz index of a 20 Hz sample should be the same or 1 higher than its previous sample			
SCSTODHRNCDF	SequenceCounterStepTODHRNetCDF	The sequence counter should be modulo 4 higher with regard to the previous sequence counter			
SCSTODNCDF	SequenceCounterStepTODNetCDF	The sequence counter should be one higher (modulo 16384) with regard to the previous sequence counter			

# 7.3 Missing QCC Reports

Number of products with missing QCC reports: