



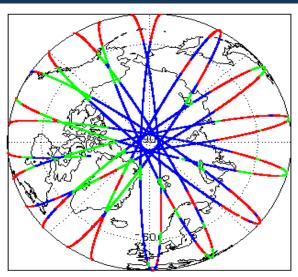
## 1. Overview

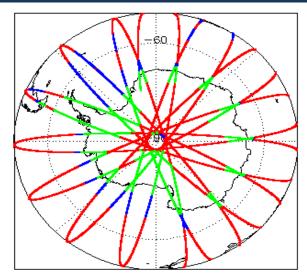
Report Production:	02-Apr-2019
Processor Used:	CryoSat Ocean Processor
Data Used:	Intermediate Ocean Products (IOP) L1B, L2 & P2P Science Data

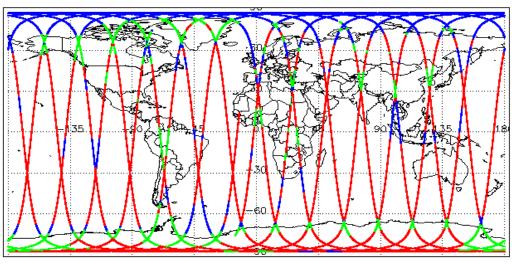
Check	L1 & L2	P2P
Server check: science-pds.cryosat.esa.int	Nominal	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal	Nominal
Product Software Check	Nominal	Nominal
Product Format Check	Nominal	Nominal
Product Header Analysis	Nominal	Nominal
Auxiliary Data File Usage Check	Nominal	Nominal
Auxiliary Correction Error Check	Nominal	Nominal
Measurement Confidence Data Check	See Section 4.5, 4.6	Nominal
Range, SWH & Backscatter Measurement Check	See Section 5.6, 5.7	See Section 6.6, 6.7
Ocean Retracking Quality Check	See Section 5.8	See Section 6.8

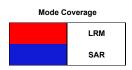
Mission / Instrument News		
29-Mar-2019 None		
30-Mar-2019	None	
31-Mar-2019	Nothing planned	

# 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

# 4. IOP Level 1B Data Quality Check

## 4.1 L1B Product Format Check

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

Number of products with errors:

0

### 4.2 L1B Product Header Analysis

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

#### 4.3 L1B Auxilary Data File Usage Check

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

Number of products with errors:

#### 4.4 L1B Auxiliary Correction Error Check

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

Number of products with errors:

### 4.5 L1B Measurement Confidence Data Check

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

Attitude Correction Missing: This flag is currently set in error for IOPR products due to a configuration issue. This is being investigated and will be updated in the next SW update.

Number of products with errors:

#### 4.6 L1B Waveform Group Data Check

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

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

Number of products with errors:

14

Product	Test Failed	Description
CS_OFFL_SIR_IOPM1B_20190330T200454_20190330T203540_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190330T014252_20190330T014713_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190330T032433_20190330T032659_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190330T040336_20190330T040727_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190330T094139_20190330T094342_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190330T100421_20190330T100612_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190330T144757_20190330T145312_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190330T154558_20190330T155210_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190330T162800_20190330T163159_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20190330T031514_20190330T032147_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20190330T043230_20190330T044046_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20190330T095425_20190330T100213_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20190330T112615_20190330T113056_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20190330T162427_20190330T162655_C001	Loss of Echo	The tracking echo is missing for one or more records

## 5. IOP Level 2 Data Quality Check

# 5.1 L2 Product Format Check

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

Number of products with errors:

#### 5.2 L2 Product Header Analysis

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

Number of products with errors:

### 5.3 L2 Auxiliary Data File Usage Check

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

Number of products with errors:

0

### 5.4 L2 Auxiliary Correction Error Check

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

Number of products with errors:

## 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:

## 5.6 L2 Range Measurement Check

CryoSat L2 data includes an Ocean and Ice Range Averaging Status flag for each measurement record. The bit value of this flag indicates any problems when set.

Currently, there are two common status flags 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.

Ocean Range Averaging Status Flag: This flag is currently set for products over land and sea ice, but this is to be expected.

Ice Range Averaging Status Flag: This flag is currently set for products over land, but this is to be expected.

Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_IOPM_2_20190330T002247_20190330T004045_C001		The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T004314_20190330T004520_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T005857_20190330T012828_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.

00 0551 010 1004 0 001000000000000000000	O Burn A Obtain	The Ocean Range Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOPM_2_20190330T014754_20190330T020627_C001	Ocean Range Averaging Status	records. The Ocean Range Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOPM_2_20190330T020712_20190330T022031_C001	Ocean Range Averaging Status	records. The Ice Range Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOPM_2_20190330T022909_20190330T023106_C001	Ice Range Averaging Status	records.  The Ice Range Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOPM_2_20190330T023232_20190330T023608_C001	Ice Range Averaging Status	records.
CS_OFFL_SIR_IOPM_2_20190330T023745_20190330T025327_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T025529_20190330T030450_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T033235_20190330T034412_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T040026_20190330T040135_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T041036_20190330T041509_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T041657_20190330T043230_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T051029_20190330T051740_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T051751_20190330T054319_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T054542_20190330T054758_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T054803_20190330T055404_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T055619_20190330T062231_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T065333_20190330T070452_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOPM_2_20190330T071027_20190330T072222_C001	Ocean Range Averaging Status	records. The Ocean Range Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOPM_2_20190330T072753_20190330T073208_C001	Ice Range Averaging Status	records. The Ice Range Averaging Status Flag has been set for one or more
CS OFFL SIR IOPM 2 20190330T073510 20190330T080511 C001	Ocean Range Averaging Status	records. The Ocean Range Averaging Status Flag has been set for one or more
		records. The Ocean Range Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOPM_2_20190330T082809_20190330T084406_C001	Ocean Range Averaging Status	records.  The Ocean Range Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOPM_2_20190330T084725_20190330T090127_C001	Ocean Range Averaging Status	records.  The Ice Range Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOPM_2_20190330T090704_20190330T091245_C001	Ice Range Averaging Status	records. The Ocean Range Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOPM_2_20190330T091403_20190330T092026_C001	Ocean Range Averaging Status	records. The Ocean Range Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOPM_2_20190330T100612_20190330T104048_C001	Ocean Range Averaging Status	records.
CS_OFFL_SIR_IOPM_2_20190330T104608_20190330T105119_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T105303_20190330T111253_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T114455_20190330T121837_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T122614_20190330T123026_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T123230_20190330T130838_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T132644_20190330T133543_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T134024_20190330T134202_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T134226_20190330T135811_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T141229_20190330T141249_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T141618_20190330T142839_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T143035_20190330T144258_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T151013_20190330T151944_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T152147_20190330T153723_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOPM_2_20190330T153912_20190330T154406_C001	Ice Range Averaging Status	records. The Ice Range Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOPM_2_20190330T154423_20190330T154434_C001	Ice Range Averaging Status	records. The Ice Range Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOPM_2_20190330T154441_20190330T154557_C001	Ice Range Averaging Status	records. The Ice Range Averaging Status Flag has been set for one or more
CS OFFL SIR IOPM 2 20190330T155210 20190330T155458 C001	Ocean Range Averaging Status	records. The Ocean Range Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOFM_2_20190330T163210_20190330T16304-0001  CS_OFFL_SIR_IOFM_2_20190330T161145_20190330T162304_C001	Ocean Range Averaging Status	records. The Ocean Range Averaging Status Flag has been set for one or more
		records. The Ocean Range Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOPM_2_20190330T165959_20190330T171630_C001	Ocean Range Averaging Status	records.  The Ice Range Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOPM_2_20190330T171854_20190330T172333_C001	Ice Range Averaging Status	records.  The Ocean Range Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOPM_2_20190330T172914_20190330T175312_C001	Ocean Range Averaging Status	records.  The Ocean Range Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOPM_2_20190330T182932_20190330T185605_C001	Ocean Range Averaging Status	records. The Ice Range Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOPM_2_20190330T185752_20190330T190233_C001	Ice Range Averaging Status	records.
CS_OFFL_SIR_IOPM_2_20190330T190253_20190330T190617_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T190837_20190330T192046_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T192620_20190330T193614_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T193810_20190330T194104_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.

CS_OFFL_SIR_IOPM_2_20190330T200454_20190330T203539_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T203707_20190330T204147_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T204151_20190330T204522_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T204755_20190330T212308_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T213606_20190330T213753_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T220727_20190330T221000_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T221200_20190330T221506_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T221652_20190330T222213_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T222722_20190330T225019_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T225305_20190330T230214_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T231445_20190330T231824_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T233426_20190330T233915_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T234103_20190330T235407_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190330T054351_20190330T054542_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190330T073208_20190330T073502_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190330T180631_20190330T181020_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190330T185614_20190330T185751_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190330T154407_20190330T154409_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190330T192046_20190330T192620_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.

# 5.7 L2 SWH and Backscatter Measurement Check

CryoSat L2 data includes a SWH Averaging Status flag and an Ocean and Ice Backscatter Averaging Status flag for each measurement record. The bit value of this flag indicates any problems when

Currently, there are three common status flags 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.

SWH Averaging Status Flag: This flag is currently set for products over land and sea ice, but this is to be expected.

Ocean Backscatter Averaging Status Flag: This flag is currently set for products over land and sea ice, but this is to be expected.

Ice Backscatter Averaging Status Flag: This flag is currently set for products over land, but this is to be expected.

Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_IOPM_2_20190330T002247_20190330T004045_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T004314_20190330T004520_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T005857_20190330T012828_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T014754_20190330T020627_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T020712_20190330T022031_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T022909_20190330T023106_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T023232_20190330T023608_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T023745_20190330T025327_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T025529_20190330T030450_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T033235_20190330T034412_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T041036_20190330T041509_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T041657_20190330T043230_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T051029_20190330T051740_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T051751_20190330T054319_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T054542_20190330T054758_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T054803_20190330T055404_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T055619_20190330T062231_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T065333_20190330T070452_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T071027_20190330T072222_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T072507_20190330T072625_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T072753_20190330T073208_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T073510_20190330T080511_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T082809_20190330T084406_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T084725_20190330T090127_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.

		The Ice Backscatter Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOPM_2_20190330T090704_20190330T091245_C001	Ice Backscatter Averaging Status	records.
CS_OFFL_SIR_IOPM_2_20190330T091403_20190330T092026_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T100612_20190330T104048_C001	SWH Averaging Status, Ocean	The SWH and Ocean Averaging Status Flags have been set for one or
CS OFFL SIR IOPM 2 20190330T104608 20190330T105119 C001	Backscatter Averaging Status  Ice Backscatter Averaging Status	more records. The Ice Backscatter Averaging Status Flag has been set for one or more
	SWH Averaging Status, Ocean	records.  The SWH and Ocean Averaging Status Flags have been set for one or
CS_OFFL_SIR_IOPM_2_20190330T105303_20190330T111253_C001	Backscatter Averaging Status	more records.
CS_OFFL_SIR_IOPM_2_20190330T114455_20190330T121837_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T122614_20190330T123026_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS OFFL SIR IOPM 2 20190330T123230 20190330T130838 C001	SWH Averaging Status, Ocean	The SWH and Ocean Averaging Status Flags have been set for one or
	Backscatter Averaging Status SWH Averaging Status, Ocean	more records.  The SWH and Ocean Averaging Status Flags have been set for one or
CS_OFFL_SIR_IOPM_2_20190330T132644_20190330T133543_C001	Backscatter Averaging Status SWH Averaging Status, Ocean	more records.  The SWH and Ocean Averaging Status Flags have been set for one or
CS_OFFL_SIR_IOPM_2_20190330T134024_20190330T134202_C001	Backscatter Averaging Status	more records.
CS_OFFL_SIR_IOPM_2_20190330T134226_20190330T135811_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T135946_20190330T140506_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T140525_20190330T140731_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T141618_20190330T142839_C001	SWH Averaging Status, Ocean	The SWH and Ocean Averaging Status Flags have been set for one or
	Backscatter Averaging Status SWH Averaging Status, Ocean	more records.  The SWH and Ocean Averaging Status Flags have been set for one or
CS_OFFL_SIR_IOPM_2_20190330T143035_20190330T144258_C001	Backscatter Averaging Status SWH Averaging Status, Ocean	more records. The SWH and Ocean Averaging Status Flags have been set for one or
CS_OFFL_SIR_IOPM_2_20190330T151013_20190330T151944_C001	Backscatter Averaging Status	more records.
CS_OFFL_SIR_IOPM_2_20190330T152147_20190330T153723_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T153912_20190330T154406_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T154423_20190330T154434_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T154441_20190330T154557_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more
	SWH Averaging Status, Ocean	records. The SWH and Ocean Averaging Status Flags have been set for one or
CS_OFFL_SIR_IOPM_2_20190330T155210_20190330T155458_C001	Backscatter Averaging Status SWH Averaging Status, Ocean	more records.  The SWH and Ocean Averaging Status Flags have been set for one or
CS_OFFL_SIR_IOPM_2_20190330T161145_20190330T162304_C001	Backscatter Averaging Status	more records.
CS_OFFL_SIR_IOPM_2_20190330T165959_20190330T171630_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T171854_20190330T172333_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T172355_20190330T172521_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS OFFL SIR IOPM 2 20190330T172914 20190330T175312 C001	SWH Averaging Status, Ocean	The SWH and Ocean Averaging Status Flags have been set for one or
	Backscatter Averaging Status SWH Averaging Status, Ocean	more records.  The SWH and Ocean Averaging Status Flags have been set for one or
CS_OFFL_SIR_IOPM_2_20190330T182932_20190330T185605_C001	Backscatter Averaging Status	more records.  The Ice Backscatter Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOPM_2_20190330T185752_20190330T190233_C001	Ice Backscatter Averaging Status	records.
CS_OFFL_SIR_IOPM_2_20190330T190253_20190330T190617_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T190837_20190330T192046_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T192620_20190330T193614_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS OFFL SIR IOPM 2 20190330T193810 20190330T194104 C001	SWH Averaging Status, Ocean	The SWH and Ocean Averaging Status Flags have been set for one or
	Backscatter Averaging Status SWH Averaging Status, Ocean	more records.  The SWH and Ocean Averaging Status Flags have been set for one or
CS_OFFL_SIR_IOPM_2_20190330T200454_20190330T203539_C001	Backscatter Averaging Status	more records.  The Ice Backscatter Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOPM_2_20190330T203707_20190330T204147_C001	Ice Backscatter Averaging Status	records.
CS_OFFL_SIR_IOPM_2_20190330T204151_20190330T204522_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T204755_20190330T212308_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T213606_20190330T213753_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T220727_20190330T221000_C001	SWH Averaging Status, Ocean	The SWH and Ocean Averaging Status Flags have been set for one or
CS_OFFL_SIR_IOPM_2_20190330T221200_20190330T221506_C001	Backscatter Averaging Status SWH Averaging Status, Ocean	more records. The SWH and Ocean Averaging Status Flags have been set for one or
	Backscatter Averaging Status	more records.  The Ice Backscatter Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOPM_2_20190330T221652_20190330T222213_C001	Ice Backscatter Averaging Status SWH Averaging Status, Ocean	records.  The SWH and Ocean Averaging Status Flags have been set for one or
CS_OFFL_SIR_IOPM_2_20190330T222722_20190330T225019_C001	Backscatter Averaging Status	more records.
CS_OFFL_SIR_IOPM_2_20190330T225305_20190330T230214_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T231445_20190330T231824_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T233426_20190330T233915_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190330T234103_20190330T235407_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190330T054351_20190330T054542_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOPN_2_20190330T073208_20190330T073502_C001	SWH Averaging Status, Ocean	records. The SWH and Ocean Averaging Status Flags have been set for one or
	Backscatter Averaging Status SWH Averaging Status, Ocean	more records. The SWH and Ocean Averaging Status Flags have been set for one or
CS_OFFL_SIR_IOPN_2_20190330T180631_20190330T181020_C001	Backscatter Averaging Status	more records.  The Ice Backscatter Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOPN_2_20190330T185614_20190330T185751_C001	Ice Backscatter Averaging Status	records.
CS_OFFL_SIR_IOPR_2_20190330T154407_20190330T154409_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190330T192046_20190330T192620_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.

### 5.8 L2 Ocean Retracking Quality Check

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 over land and sea ice, but this is to be expected. The number of products with this error flag set is given below.

Number of products with errors:

# 6. IOP L2 Pole-to-Pole Data Quality Check

### 6.1 P2P 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 NetCDF product file (.nc).

Number of products with errors:

0

51

#### 6.2 P2P Product Header Analysis

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

Number of products with errors:

0

# 6.3 P2P Auxiliary Data File Usage Check

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

Number of products with errors:

0

## 6.4 P2P Auxiliary Correction Error Check

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

Number of products with errors:

0

#### 6.5 P2P Measurement Confidence Data Check

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

Number of products with errors:

0

#### 6.6 P2P Range Measurement Check

CryoSat P2P data includes an Ocean and Ice Range Averaging Status flag for each measurement record. The bit value of this flag indicates any problems when set.

Currently, there are two common status flags raised in the P2P 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.

Ocean Range Averaging Status Flag: This flag is currently set for products over land and sea ice, but this is to be expected.

Ice Range Averaging Status Flag: This flag is currently set for products over land, but this is to be expected.

Number of products with errors:

29

Product	Test Failed	Description
FIUUUG	rest r dileu	The Ocean Range Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOP_220190330T000146_20190330T005124_C001	Ocean Range Averaging Status	records.
CS_OFFL_SIR_IOP_2_20190330T005124_20190330T014100_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190330T014100_20190330T023037_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190330T023037_20190330T032013_C001	Ocean Range Averaging Status, Ice Range Averaging Status	The Ocean and Ice Range Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190330T032013_20190330T040951_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190330T040951_20190330T045927_C001	Ocean Range Averaging Status, Ice Range Averaging Status	The Ocean and Ice Range Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190330T045927_20190330T054904_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190330T054904_20190330T063840_C001	Ocean Range Averaging Status, Ice Range Averaging Status	The Ocean and Ice Range Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190330T063840_20190330T072818_C001	Ocean Range Averaging Status, Ice Range Averaging Status	The Ocean and Ice Range Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190330T072818_20190330T081754_C001	Ocean Range Averaging Status, Ice Range Averaging Status	The Ocean and Ice Range Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190330T081754_20190330T090732_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190330T090732_20190330T095708_C001	Ocean Range Averaging Status, Ice Range Averaging Status	The Ocean and Ice Range Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190330T095708_20190330T104645_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2_20190330T104645_20190330T113621_C001	Ocean Range Averaging Status, Ice Range Averaging Status	The Ocean and Ice Range Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190330T113621_20190330T122559_C001	Ocean Range Averaging Status, Ice Range Averaging Status	The Ocean and Ice Range Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190330T122559_20190330T131535_C001	Ocean Range Averaging Status, Ice Range Averaging Status	The Ocean and Ice Range Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190330T131535_20190330T140512_C001	Ocean Range Averaging Status, Ice Range Averaging Status	The Ocean and Ice Range Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190330T140512_20190330T145448_C001	Ocean Range Averaging Status, Ice Range Averaging Status	The Ocean and Ice Range Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190330T145448_20190330T154426_C001	Ocean Range Averaging Status, Ice Range Averaging Status	The Ocean and Ice Range Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190330T154426_20190330T163402_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190330T163402_20190330T172339_C001	Ocean Range Averaging Status, Ice Range Averaging Status	The Ocean and Ice Range Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190330T172339_20190330T181315_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190330T181315_20190330T190253_C001	Ocean Range Averaging Status, Ice Range Averaging Status	The Ocean and Ice Range Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190330T190253_20190330T195229_C001	Ocean Range Averaging Status, Ice Range Averaging Status	The Ocean and Ice Range Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190330T195229_20190330T204207_C001	Ocean Range Averaging Status, Ice Range Averaging Status	The Ocean and Ice Range Averaging Status Flags have been set for one or more records.

Ocean Range Averaging Status, Ice Range Averaging Status	The Ocean and Ice Range Averaging Status Flags have been set for one or more records.
Ocean Range Averaging Status, Ice Range Averaging Status	The Ocean and Ice Range Averaging Status Flags have been set for one or more records.
Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
	Range Averaging Status Ocean Range Averaging Status, Ice Range Averaging Status Ocean Range Averaging Status

## 6.7 P2P SWH and Backscatter Measurement Check

CryoSat P2P data includes a SWH Averaging Status flag and an Ocean and Ice Backscatter Averaging Status flag for each measurement record. The bit value of this flag indicates any problems when set

Currently, there are three common status flags raised in the P2P 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.

SWH Averaging Status Flag: This flag is currently set for products over land and sea ice, but this is to be expected.

Ocean Backscatter Averaging Status Flag: This flag is currently set for products over land and sea ice, but this is to be expected.

Ice Backscatter Averaging Status Flag: This flag is currently set for products over land, but this is to be expected.

Number of products with errors:

The SWH and Down Averaging Status. Flags have been set for one or more recents.  Why Averaging Status. Count indicated the county of the count	Product	Test Failed	Description
Bodecation Averaging Status. Coars not be extended of the response of the coarse of th	CS_OFFL_SIR_IOP_220190330T000146_20190330T005124_C001	SWH Averaging Status, Ocean	The SWH and Ocean Averaging Status Flags have been set for one or
Bedoudster Averaging Status. Cere Synth Averaging Status. Cere Section Synthy Synthysis Synth Averaging Status. Cere Section Synthysis Synth	CS_OFFL_SIR_IOP_220190330T005124_20190330T014100_C001		
So OFFL SRI (IOP 2_2019330703007.2019.3017030015.0010  Sold-LSRI (IOP 2_20193307040061_20193307040061_C001  SWH Averaging Situs. Ocean Switch Averaging Situs. Cocan Switch S	CS_OFFL_SIR_IOP_220190330T014100_20190330T023037_C001		
Soff-Light_IDP_2_20190330T04952_20190330T04962_20190330T04962_20190330T04962_20190330T04962_20190330T04962_20190330T04962_20190330T04962_20190330T04962_20190330T04962_20190330T04962_20190330T04962_20190330T04962_20190330T04962_20190330T04964_2019	CS_OFFL_SIR_IOP_220190330T023037_20190330T032013_C001	Backscatter Averaging Status, Ice	
Backscaller Averaging Status. See Bedockscaller Averaging Status. See Bedockscaller Averaging Status State Bedockscaller Averaging Status Bedockscaller Averaging	CS_OFFL_SIR_IOP_220190330T032013_20190330T040951_C001		
Backscatter Averaging Status. Coran Backscatter Averaging Status.	CS_OFFL_SIR_IOP_220190330T040951_20190330T045927_C001	Backscatter Averaging Status, Ice	
Backscrafter Averaging Status. Coast on more records.  SVH Averaging	CS_OFFL_SIR_IOP_220190330T045927_20190330T054904_C001		
Backscatter Averaging Status, locan make control of the SWH (Costa and loc Averaging Status Flags have been set for one or more records.  SWH Averaging Status, Ocean Backscatter Averaging Status, Ocean Backscat	CS_OFFL_SIR_IOP_220190330T054904_20190330T063840_C001	Backscatter Averaging Status, Ice	
Sackstater Averaging Status  Sackstater Averaging Status  Sackstater Averaging Status  Six Physical Status Flags have been set for one or more records.  The SWH and Ocean Averaging Status Flags have been set for one or more records.  SWH Averaging Status  The SWH and Ocean Averaging Status Flags have been set for one or more records.  The SWH and Ocean Averaging Status Flags have been set for one or more records.  The SWH and Ocean Averaging Status Flags have been set for one or more records.  The SWH Averaging Status  The SWH Ocean and loc Averaging Status Flags have been set for one or more records.  The SWH Ocean and loc Averaging Status Flags have been set for one or more records.  The SWH Ocean and loc Averaging Status Flags have been set for one or more records.  The SWH Ocean and loc Averaging Status Flags have been set for one or more records.  The SWH Ocean and loc Averaging Status Flags have been set for one or more records.  The SWH Ocean and loc Averaging Status Flags have been set for one or more records.  The SWH Ocean and loc Averaging Status Flags have been set for one or more records.  The SWH Ocean and loc Averaging Status Flags have been set for one or more records.  The SWH Ocean and loc Averaging Status Flags have been set for one or more records.  The SWH Ocean and loc Averaging Status Flags have been set for one or more records.  The SWH Ocean and loc Averaging Status Flags have been set for one or more records.  The SWH Ocean and loc Averaging Stat	CS_OFFL_SIR_IOP_220190330T063840_20190330T072818_C001	Backscatter Averaging Status, Ice	
Backscatter Averaging Status. Coan Backscatter Aver	CS_OFFL_SIR_IOP_220190330T072818_20190330T081754_C001		
Sackscatter Averaging Status, loe Backscatter Averaging Status or more records.  SWH Averaging Status or Dear records.  With Averaging Status or Dear records.  SWH Averaging Status or Dear records.  SWH Averaging Status or Dear records.  The SWH Ocean and loe Averaging Status Flags have been set for one or more records.  The SWH Ocean and loe Averaging Status Flags have been set for one or more records.  The SWH Ocean and loe Averaging Status Flags have been set for one or more records.  The SWH Ocean and loe Averaging Status Flags have been set for one or more records.  The SWH Ocean and loe Averaging Status Flags have been set for one or more records.  The SWH Ocean and loe Averaging Status Flags have been set for one or more records.  The SWH Ocean and loe Averaging Status Flags have been set for one or more records.  The SWH Ocean and loe Averaging Status Flags have been set for one or more records.  The SWH Ocean and loe Averaging Status Flags have been set for one or more records.  The SWH Ocean and loe Averaging Status Flags have been set for one or more records.  The SWH Ocean and loe Averaging Status Flags have been set for one or more records.  The SWH Ocean and loe Averaging Status Flags have been set for one or more records.  The SWH Ocean and loe Averaging Status Flags have been set for one or more records.  The SWH Ocean and loe Averaging Status Flags have been set for one or more records.  The SWH Ocean and loe Averaging Status Flags have been set for one or more records.  The SWH Ocean and loe Averaging Status Flags have been set for one or more records.  The SWH Ocean and loe Averaging Status Flags have been set for one or more records.  The SWH Ocean and loe Averaging Status Flags have been set for one or more records.  The SWH Ocean and loe Averaging Status Flags have been set for one or more records.  The SWH Ocean and loe Averaging Status Flags have been set for one or more records.  The SWH Ocean and loe Averaging Status Flags have been set for one or more records.  The SWH Ocean and loe A	CS_OFFL_SIR_IOP_220190330T081754_20190330T090732_C001		
Backscatter Averaging Status, Cean Backscatter Aver	CS_OFFL_SIR_IOP_220190330T090732_20190330T095708_C001	Backscatter Averaging Status, Ice	
Backscatter Averaging Status, locan Backscatter Averaging Status, Cosan Backscatter Averaging Status,	CS_OFFL_SIR_IOP_220190330T095708_20190330T104645_C001		
Backscatter / Averaging Status, lee Backscatter / Averaging Status	CS_OFFL_SIR_IOP_220190330T104645_20190330T113621_C001	Backscatter Averaging Status, Ice	
Sackscatter Averaging Status, Ice Backscatter Averaging Status, Ice Backsc	CS_OFFL_SIR_IOP_220190330T113621_20190330T122559_C001	Backscatter Averaging Status, Ice	
Backscatter Averaging Status espaces. SWH Averaging Status espaces	CS_OFFL_SIR_IOP_220190330T122559_20190330T131535_C001	Backscatter Averaging Status, Ice	
CS_OFFL_SIR_IOP_2_20190330T145448_20190330T154426_C001  Backscatter Averaging Status, Ice Backscatter Averaging Status Ice Backscatter Averaging Status Ice Backscatter Averaging Status Ice Backscatter Averaging Status Ice Backscatter Averaging Status, Ice Backscatter Averaging Status, Ice Backscatter Averaging Status Ice Backscatter Averaging Status Ice Backscatter Averaging Status Ice Backscatter Averaging Status Ice Backscatter Averaging Status, Ice Backscatter Averaging Status Ice Backscatter Avera	CS_OFFL_SIR_IOP_220190330T131535_20190330T140512_C001	Backscatter Averaging Status, Ice Backscatter Averaging Status	
CS_OFFL_SIR_IOP_2_20190330T145448_20190330T163402_C001  Backscatter Averaging Status, loe Backscatter Averaging Status, Coean Backscatter Averaging Status, Coean Backscatter Averaging Status, Coean Backscatter Averaging Status, Coean Backscatter Averaging Status or more records.  CS_OFFL_SIR_IOP_2_20190330T163402_20190330T172339_C001  CS_OFFL_SIR_IOP_2_20190330T172339_20190330T181315_C001  CS_OFFL_SIR_IOP_2_20190330T181315_20190330T181315_C001  CS_OFFL_SIR_IOP_2_20190330T181315_20190330T190253_C001  CS_OFFL_SIR_IOP_2_20190330T190253_20190330T195229_C001  CS_OFFL_SIR_IOP_2_20190330T190253_20190330T195229_C001  CS_OFFL_SIR_IOP_2_20190330T195229_20190330T204207_C001  CS_OFFL_SIR_IOP_2_20190330T204207_20190330T213143_C001  CS_OFFL_SIR_IOP_2_20190330T204207_20190330T213143_C001  CS_OFFL_SIR_IOP_2_20190330T204207_20190330T213143_C001  CS_OFFL_SIR_IOP_2_20190330T213143_20190330T222120_C001  CS_OFFL_SIR_IOP_2_20190330T213143_20190330T221210_C001  CS_OFFL_SIR_IOP_2_20190330T213143_20190330T222120_C001  CS_OFFL_SIR_IOP_2_20190330T213143_20190330T222120_C001  CS_OFFL_SIR_IOP_2_20190330T213143_20190330T222120_C001  CS_OFFL_SIR_IOP_2_20190330T213143_20190330T222120_C001  CS_OFFL_SIR_IOP_2_20190330T213143_20190330T222120_C001  CS_OFFL_SIR_IOP_2_20190330T21	CS_OFFL_SIR_IOP_220190330T140512_20190330T145448_C001	Backscatter Averaging Status, Ice	
CS_OFFL_SIR_IOP_2_20190330T154426_20190330T163402_C001  Backscatter Averaging Status, Ice Backscatter Averaging Status, Ocean Backscatter Averaging Status, Ice Backscatter Aver	CS_OFFL_SIR_IOP_220190330T145448_20190330T154426_C001	Backscatter Averaging Status, Ice	
Backscatter Averaging Status, Ice Backscatter Averaging Status  CS_OFFL_SIR_IOP_2_20190330T190253_20190330T190253_C001  SWH Averaging Status, Ice Backscatter Averaging Status  SWH Averaging Status, Ice Backscatter Averaging Status, Ice Backscatte	CS_OFFL_SIR_IOP_220190330T154426_20190330T163402_C001	Backscatter Averaging Status, Ice Backscatter Averaging Status	
CS_OFFL_SIR_IOP_2_20190330T172339_20190330T181315_C001  Backscatter Averaging Status, Ice Backscatter Averaging Status  CS_OFFL_SIR_IOP_2_20190330T190253_20190330T195229_C001  CS_OFFL_SIR_IOP_2_20190330T195229_20190330T204207_C001  CS_OFFL_SIR_IOP_2_20190330T204207_20190330T213143_C001  CS_OFFL_SIR_IOP_2_20190330T204207_20190330T213143_C001  Backscatter Averaging Status, Ice Ba	CS_OFFL_SIR_IOP_220190330T163402_20190330T172339_C001	Backscatter Averaging Status, Ice Backscatter Averaging Status	
CS_OFFL_SIR_IOP_2_20190330T181315_20190330T190253_C001  Backscatter Averaging Status, Ice Backscatter Averaging Status, Ice Backscatter Averaging Status  CS_OFFL_SIR_IOP_2_20190330T190253_20190330T195229_C001  SWH Averaging Status, Ocean Backscatter Averaging Status  SWH Averaging Status, Ice Backscatter Averaging Status  SWH Averaging Status, Ice Backscatter Averaging Status  SWH Averaging Status  The SWH and Ocean Averaging Status Flags have been set for one or more records.  The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.  The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.  The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.  The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.  The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.  The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.  The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.  The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.  The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.	CS_OFFL_SIR_IOP_220190330T172339_20190330T181315_C001	Backscatter Averaging Status, Ice	
Backscatter Averaging Status  CS_OFFL_SIR_IOP_2_20190330T195229_20190330T204207_C001  Backscatter Averaging Status, Ocean Backscatter Averaging Status, Ice Backscatter Averagin	CS_OFFL_SIR_IOP_220190330T181315_20190330T190253_C001	Backscatter Averaging Status, Ice	
CS_OFFL_SIR_IOP_2_20190330T195229_20190330T204207_C001  Backscatter Averaging Status, Ice Backscatter Averaging Status  SWH Averaging Status, Ice Backscatter Averaging Status SWH Averaging Status Ice Backscatter Averaging Status, Ice Backscatter Averaging Status, Ice Backscatter Averaging Status  CS_OFFL_SIR_IOP_2_20190330T204207_20190330T213143_C001  SWH Averaging Status, Ice Backscatter Averaging Status  SWH Averaging Status  The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.  The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.  The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.	CS_OFFL_SIR_IOP_220190330T190253_20190330T195229_C001	Backscatter Averaging Status	
CS_OFFL_SIR_IOP_2_20190330T204207_20190330T213143_C001  Backscatter Averaging Status, Ice Backscatter Averaging Status, Ice Backscatter Averaging Status  SWH Averaging Status, Ocean Backscatter Averaging Status, Ice Backscatter Averaging Status	CS_OFFL_SIR_IOP_220190330T195229_20190330T204207_C001	Backscatter Averaging Status, Ice Backscatter Averaging Status	
CS_OFFL_SIR_IOP_2_20190330T213143_20190330T222120_C001  Backscatter Averaging Status, Ice	CS_OFFL_SIR_IOP_220190330T204207_20190330T213143_C001	Backscatter Averaging Status, Ice	
	CS_OFFL_SIR_IOP_2_20190330T213143_20190330T222120_C001	Backscatter Averaging Status, Ice	

CS_OFFL_SIR_IOP_220190330T222120_20190330T231056_C001	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190330T231056_20190331T000034_C002	SWH Averaging Status, Ocean Backscatter Averaging Status	The SWH and Ocean Averaging Status Flags have been set for one or more records.

#### 6.8 P2P Ocean Retracking Quality Check

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

Ocean Retracking Quality Flag: This flag is currently set for products over land and sea ice, but this is to be expected. The number of products with this error flag set is given below.

Number of products with errors:

CS\_OFFL\_SIR\_IOP\_2\_\_20190330T000146\_20190330T005124\_C001 Ocean Retracking Quality Flag The Ocean Retracking Quality Flag has been set for one or more records. CS\_OFFL\_SIR\_IOP\_2\_\_20190330T005124\_20190330T014100\_C001 Ocean Retracking Quality Flag The Ocean Retracking Quality Flag has been set for one or more records. The Ocean Retracking Quality Flag has been set for one or more records. CS OFFL SIR IOP 2 20190330T014100 20190330T023037 C001 Ocean Retracking Quality Flag CS OFFL SIR IOP 2 20190330T023037 20190330T032013 C001 Ocean Retracking Quality Flag The Ocean Retracking Quality Flag has been set for one or more records. CS\_OFFL\_SIR\_IOP\_2\_\_20190330T032013\_20190330T040951\_C001 Ocean Retracking Quality Flag The Ocean Retracking Quality Flag has been set for one or more records. CS\_OFFL\_SIR\_IOP\_2\_\_20190330T040951\_20190330T045927\_C001 Ocean Retracking Quality Flag The Ocean Retracking Quality Flag has been set for one or more records. CS\_OFFL\_SIR\_IOP\_2\_\_20190330T045927\_20190330T054904\_C001 Ocean Retracking Quality Flag The Ocean Retracking Quality Flag has been set for one or more records. CS\_OFFL\_SIR\_IOP\_2\_\_20190330T054904\_20190330T063840\_C001 Ocean Retracking Quality Flag The Ocean Retracking Quality Flag has been set for one or more records. CS\_OFFL\_SIR\_IOP\_2\_\_20190330T063840\_20190330T072818\_C001 The Ocean Retracking Quality Flag has been set for one or more records. Ocean Retracking Quality Flag CS\_OFFL\_SIR\_IOP\_2\_\_20190330T072818\_20190330T081754\_C001 Ocean Retracking Quality Flag The Ocean Retracking Quality Flag has been set for one or more records. CS\_OFFL\_SIR\_IOP\_2\_\_20190330T081754\_20190330T090732\_C001 Ocean Retracking Quality Flag The Ocean Retracking Quality Flag has been set for one or more records. CS\_OFFL\_SIR\_IOP\_2\_\_20190330T090732\_20190330T095708\_C001 Ocean Retracking Quality Flag The Ocean Retracking Quality Flag has been set for one or more records. CS\_OFFL\_SIR\_IOP\_2\_\_20190330T095708\_20190330T104645\_C001 Ocean Retracking Quality Flag The Ocean Retracking Quality Flag has been set for one or more records. CS OFFL SIR IOP 2 20190330T113621 20190330T122559 C001 Ocean Retracking Quality Flag The Ocean Retracking Quality Flag has been set for one or more records. CS\_OFFL\_SIR\_IOP\_2\_\_20190330T122559\_20190330T131535\_C001 Ocean Retracking Quality Flag The Ocean Retracking Quality Flag has been set for one or more records. CS\_OFFL\_SIR\_IOP\_2\_\_20190330T131535\_20190330T140512\_C001 Ocean Retracking Quality Flag The Ocean Retracking Quality Flag has been set for one or more records. CS OFFL SIR IOP 2 20190330T140512 20190330T145448 C001 Ocean Retracking Quality Flag The Ocean Retracking Quality Flag has been set for one or more records. CS\_OFFL\_SIR\_IOP\_2\_\_20190330T145448\_20190330T154426\_C001 Ocean Retracking Quality Flag The Ocean Retracking Quality Flag has been set for one or more records. CS\_OFFL\_SIR\_IOP\_2\_\_20190330T154426\_20190330T163402\_C001 Ocean Retracking Quality Flag The Ocean Retracking Quality Flag has been set for one or more records. CS OFFL SIR IOP 2 20190330T172339 20190330T181315 C001 Ocean Retracking Quality Flag The Ocean Retracking Quality Flag has been set for one or more records. CS\_OFFL\_SIR\_IOP\_2\_\_20190330T181315\_20190330T190253\_C001 Ocean Retracking Quality Flag The Ocean Retracking Quality Flag has been set for one or more records. CS OFFL SIR IOP 2 20190330T190253 20190330T195229 C001 Ocean Retracking Quality Flag The Ocean Retracking Quality Flag has been set for one or more records. CS OFFL SIR IOP 2 20190330T195229 20190330T204207 C001 Ocean Retracking Quality Flag The Ocean Retracking Quality Flag has been set for one or more records. CS\_OFFL\_SIR\_IOP\_2\_\_20190330T204207\_20190330T213143\_C001 Ocean Retracking Quality Flag The Ocean Retracking Quality Flag has been set for one or more records. CS OFFL SIR IOP 2 20190330T213143 20190330T222120 C001 Ocean Retracking Quality Flag The Ocean Retracking Quality Flag has been set for one or more records. CS\_OFFL\_SIR\_IOP\_2\_\_20190330T222120\_20190330T231056\_C001 The Ocean Retracking Quality Flag has been set for one or more records. Ocean Retracking Quality Flag CS\_OFFL\_SIR\_IOP\_2\_\_20190330T231056\_20190331T000034\_C002 Ocean Retracking Quality Flag The Ocean Retracking Quality Flag has been set for one or more records.