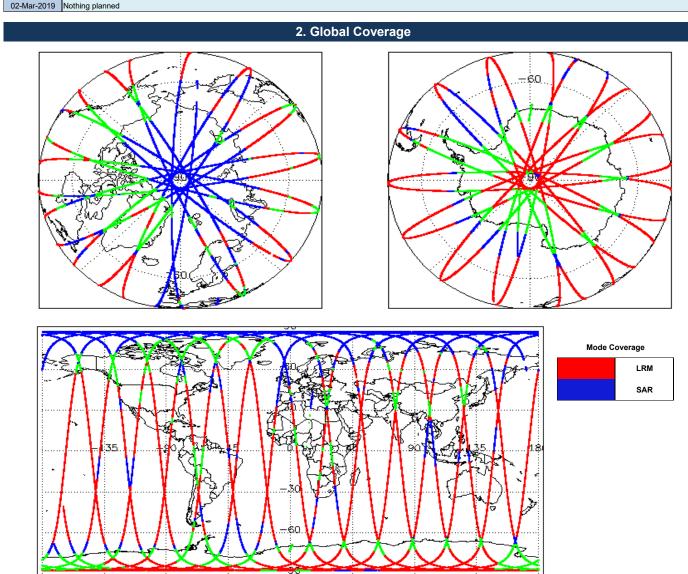


# IDEAS+ Daily Report for IOP data:

# <u>01/03/2019</u>

1. Overview				
			1	
Report Production:	05-Mar-2019	Check	L1 & L2	P2P
Report Production.	00-1011-2013	Server check: science-pds.cryosat.esa.int	Nominal	Nominal
Processor Used:	Crucest Ocean Brasser	Server check: calval-pds.cryosat.esa.int	Nominal	Nominal
Processor Used.	CryoSat Ocean Processor	Product Software Check	Nominal	Nominal
Data Used:	Intermediate Ocean Products (IOP)	Product Format Check	Nominal	Nominal
Data Used:	L1B, L2 & P2P Science Data	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 and 5.5	See Section 6.5
		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					
28-Feb-2019	None				
01-Mar-2019	None				



# 3. Instrument Configuration

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

SIRAL - A

0

SIRAL instrument(s) in use:

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:

## 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. Number of products with errors: 0

4.3 L1B Auxilary Data File Usage Check				
Each product is checked for missing Data Set Descriptors with respect to a pre-	e-determined baseline and also to	o check the validity of Auxiliary Data Files is correct.		
Number of products with errors: 0				
4.4 L1B Auxiliary Correction Error Check				
CryoSat L1B data includes a correction error flag for each measurement recor	d. The bit value of this flag indica	ites any problems when set.		
Number of products with errors: 0				
4.5 L1B Measurement Confidence Data Check				
CryoSat L1B data includes a measurement confidence flag for each measurer	ment record. The bit value of this	flag indicates any problems when set.		
Attitude Correction Missing: This flag is currently set in error for IOPR produ	ucts due to a configuration issue.	This is being investigated and will be updated in the next SW update.		
Number of products with errors: 0				
4.6 L1B Waveform Group Data Check				
•				
CryoSat L1B data includes a waveform data flag for each measurement record	d. The bit value of this flag indicat	tes any problems when set		
	-	tes any problems when set.		
CryoSat L1B data includes a waveform data flag for each measurement record Loss of Echo Flag: This flag is currently set for products over land, but this is Number of products with errors: 15	-	tes any problems when set.		
Loss of Echo Flag: This flag is currently set for products over land, but this is Number of products with errors: 15	to be expected.			
Loss of Echo Flag: This flag is currently set for products over land, but this is	-	tes any problems when set.           Description           The tracking echo is missing for one or more records		
Loss of Echo Flag: This flag is currently set for products over land, but this is         Number of products with errors:       15         Product	to be expected.	Description		
Loss of Echo Flag: This flag is currently set for products over land, but this is         Number of products with errors:       15         Product         CS_OFFL_SIR_IOPM1B_20190301T150518_20190301T150656_C001	to be expected. Test Failed Loss of Echo	Description The tracking echo is missing for one or more records		
Loss of Echo Flag: This flag is currently set for products over land, but this is Number of products with errors: 15 Product CS_OFFL_SIR_IOPM1B_20190301T150518_20190301T150656_C001 CS_OFFL_SIR_IOPN1B_20190301T030748_20190301T031208_C001	to be expected.  Test Failed Loss of Echo Loss of Echo	Description           The tracking echo is missing for one or more records           The tracking echo is missing for one or more records		
Loss of Echo Flag: This flag is currently set for products over land, but this is           Number of products with errors:         15           Product         15           CS_OFFL_SIR_IOPM1B_20190301T150518_20190301T150656_C001         15           CS_OFFL_SIR_IOPM1B_20190301T030748_20190301T031208_C001         15           CS_OFFL_SIR_IOPN1B_20190301T044930_20190301T045157_C001         15	to be expected.           Test Failed           Loss of Echo           Loss of Echo           Loss of Echo	Description           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		
Loss of Echo Flag: This flag is currently set for products over land, but this is           Number of products with errors:         15           Product         15           CS_OFFL_SIR_IOPM1B_20190301T150518_20190301T150656_C001         CS_OFFL_SIR_IOPM1B_20190301T030748_20190301T031208_C001           CS_OFFL_SIR_IOPN1B_20190301T044930_20190301T045157_C001         CS_OFFL_SIR_IOPN1B_20190301T042930_20190301T045262_C001	to be expected.           Test Failed           Loss of Echo	Description           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		
Loss of Echo Flag: This flag is currently set for products over land, but this is           Number of products with errors:         15           Product         15           CS_OFFL_SIR_IOPM1B_20190301T150518_20190301T150656_C001         000000000000000000000000000000000000	to be expected.           Test Failed           Loss of Echo	Description           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		
Loss of Echo Flag: This flag is currently set for products over land, but this is           Number of products with errors:         15           Product         15           CS_OFFL_SIR_IOPM1B_20190301T150518_20190301T150656_C001         CS_OFFL_SIR_IOPN1B_20190301T030748_20190301T031208_C001           CS_OFFL_SIR_IOPN1B_20190301T030748_20190301T045157_C001         CS_OFFL_SIR_IOPN1B_20190301T062604_20190301T062826_C001           CS_OFFL_SIR_IOPN1B_20190301T075943_20190301T080001_C001         CS_OFFL_SIR_IOPN1B_20190301T110636_20190301T1080001_C001	to be expected.           Test Failed           Loss of Echo	Description           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		
Loss of Echo Flag: This flag is currently set for products over land, but this is           Number of products with errors:         15           Product         15           CS_OFFL_SIR_IOPM1B_20190301T150518_20190301T150656_C001         CS_OFFL_SIR_IOPN1B_20190301T030748_20190301T031208_C001           CS_OFFL_SIR_IOPN1B_20190301T044930_20190301T045157_C001         CS_OFFL_SIR_IOPN1B_20190301T042604_20190301T045266_C001           CS_OFFL_SIR_IOPN1B_20190301T052604_20190301T062826_C001         CS_OFFL_SIR_IOPN1B_20190301T075943_20190301T1080001_C001           CS_OFFL_SIR_IOPN1B_20190301T110636_20190301T110840_C001         CS_OFFL_SIR_IOPN1B_20190301T111824_20190301T111921_C001           CS_OFFL_SIR_IOPN1B_20190301T161248_20190301T161808_C001         CS_OFFL_SIR_IOPN1B_20190301T161248_20190301T161808_C001	to be expected.           Test Failed           Loss of Echo           Loss of Echo	Description           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		
Loss of Echo Flag: This flag is currently set for products over land, but this is           Number of products with errors:         15           Product         15           CS_OFFL_SIR_IOPM1B_20190301T150518_20190301T150656_C001         CS_OFFL_SIR_IOPN1B_20190301T030748_20190301T031208_C001           CS_OFFL_SIR_IOPN1B_20190301T044930_20190301T045157_C001         CS_OFFL_SIR_IOPN1B_20190301T062604_20190301T062826_C001           CS_OFFL_SIR_IOPN1B_20190301T075943_20190301T080001_C001         CS_OFFL_SIR_IOPN1B_20190301T110636_20190301T110840_C001           CS_OFFL_SIR_IOPN1B_20190301T111824_20190301T111921_C001         CS_OFFL_SIR_IOPN1B_20190301T111824_20190301T111921_C001	to be expected.	Description           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		
Loss of Echo Flag: This flag is currently set for products over land, but this is           Number of products with errors:         15           Product         15           CS_OFFL_SIR_IOPM1B_20190301T150518_20190301T150656_C001         CS_OFFL_SIR_IOPM1B_20190301T030748_20190301T031208_C001           CS_OFFL_SIR_IOPN1B_20190301T044930_20190301T045157_C001         CS_OFFL_SIR_IOPN1B_20190301T042604_20190301T045262_C001           CS_OFFL_SIR_IOPN1B_20190301T052604_20190301T080001_C001         CS_OFFL_SIR_IOPN1B_20190301T05943_20190301T108400_C001           CS_OFFL_SIR_IOPN1B_20190301T110636_20190301T110840_C001         CS_OFFL_SIR_IOPN1B_20190301T111824_20190301T111921_C001           CS_OFFL_SIR_IOPN1B_20190301T161248_20190301T161808_C001         CS_OFFL_SIR_IOPN1B_20190301T161248_20190301T161808_C001	to be expected.	Description           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		
Loss of Echo Flag: This flag is currently set for products over land, but this is           Number of products with errors:         15           Product         15           CS_OFFL_SIR_IOPM1B_20190301T150518_20190301T150656_C001         CS_OFFL_SIR_IOPM1B_20190301T030748_20190301T031208_C001           CS_OFFL_SIR_IOPN1B_20190301T044930_20190301T045157_C001         CS_OFFL_SIR_IOPN1B_20190301T062604_20190301T045057_C001           CS_OFFL_SIR_IOPN1B_20190301T05943_20190301T080001_C001         CS_OFFL_SIR_IOPN1B_20190301T110636_20190301T108400_C001           CS_OFFL_SIR_IOPN1B_20190301T111824_20190301T111921_C001         CS_OFFL_SIR_IOPN1B_20190301T111824_20190301T161808_C001           CS_OFFL_SIR_IOPN1B_20190301T171054_20190301T171631_C001         CS_OFFL_SIR_IOPN1B_20190301T175655_C001	to be expected.	Description           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		
Loss of Echo Flag: This flag is currently set for products over land, but this is           Number of products with errors:         15           Product         15           CS_OFFL_SIR_IOPM1B_20190301T150518_20190301T150656_C001         CS_OFFL_SIR_IOPN1B_20190301T030748_20190301T031208_C001           CS_OFFL_SIR_IOPN1B_20190301T030748_20190301T045157_C001         CS_OFFL_SIR_IOPN1B_20190301T062604_20190301T062826_C001           CS_OFFL_SIR_IOPN1B_20190301T05943_20190301T062826_C001         CS_OFFL_SIR_IOPN1B_20190301T075943_20190301T1084001_C001           CS_OFFL_SIR_IOPN1B_20190301T110636_20190301T110840_C001         CS_OFFL_SIR_IOPN1B_20190301T111824_20190301T110840_C001           CS_OFFL_SIR_IOPN1B_20190301T111824_20190301T111921_C001         CS_OFFL_SIR_IOPN1B_20190301T11054_20190301T171631_C001           CS_OFFL_SIR_IOPN1B_20190301T171054_20190301T171631_C001         CS_OFFL_SIR_IOPN1B_20190301T175255_20190301T175655_C001           CS_OFFL_SIR_IOPN1B_20190301T013211_20190301T014224_C001         CS_OFFL_SIR_IOPN1B_20190301T013211_20190301T014224_C001	to be expected.	Description           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		

## 5. IOP Level 2 Data Quality Check

The tracking echo is missing for one or more records

### 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:

Loss of Echo

### 5.3 L2 Auxiliary Data File Usage Check

CS\_OFFL\_SIR\_IOPR1B\_20190301T174924\_20190301T175146\_C001

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:

## 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).

1

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:

Product	Test Failed	Description
CS_OFFL_SIR_IOPM_2_20190301T033206_20190301T034523_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records

### 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. 76

Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_IOPM_2_20190301T014224_20190301T014703_C001	Ocean Rande Averadind Status	The Ocean Range Averaging Status Flag has been set for one or more records.

CS\_OFFL\_SIR\_IOPM\_2\_20190301T014743\_20190301T020608\_C001 CS OFFL SIR IOPM 2 20190301T021441 20190301T021654 C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T022347\_20190301T025336\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T031245\_20190301T033124\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T033206\_20190301T034523\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T035730\_20190301T040105\_C001 CS OFFL SIR IOPM 2 20190301T040241 20190301T041825 C001 CS OFFL SIR IOPM 2 20190301T042027 20190301T042948 C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T045702\_20190301T045718\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T045745\_20190301T050906\_C001 CS OFFL SIR IOPM 2 20190301T052522 20190301T052630 C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T053224\_20190301T053527\_C001 CS OFFL SIR IOPM 2 20190301T053533 20190301T054006 C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T054200\_20190301T055655\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T064326\_20190301T070813\_C001 CS OFFL SIR IOPM 2 20190301T071038 20190301T071254 C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T071257\_20190301T071902\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T072114\_20190301T074725\_C001 CS OFFL SIR IOPM 2 20190301T081827 20190301T082946 C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T083521\_20190301T084659\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T085249\_20190301T085705\_C001 CS OFFL SIR IOPM 2 20190301T085959 20190301T092808 C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T095306\_20190301T100900\_C001 CS OFFL SIR IOPM 2 20190301T101301 20190301T102605 C001 CS OFFL SIR IOPM 2 20190301T103200 20190301T103742 C001 CS OFFL SIR IOPM 2 20190301T103902 20190301T104524 C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T111640\_20190301T111745\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T113104\_20190301T120543\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T121104\_20190301T121616\_C001 CS OFFL SIR IOPM 2 20190301T121759 20190301T123749 C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T130947\_20190301T134340\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T135110\_20190301T135523\_C001 CS OFFL SIR IOPM\_2\_20190301T135720\_20190301T143335\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T145117\_20190301T150037\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T150518\_20190301T150656\_C001 CS OFFL SIR IOPM 2 20190301T150733 20190301T152307 C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T153021\_20190301T153229\_C001 CS OFFL SIR IOPM 2 20190301T153733 20190301T153747 C001 CS OFFL SIR IOPM 2 20190301T154115 20190301T155337 C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T155530\_20190301T160735\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T160953\_20190301T161218\_C001 CS OFFL SIR IOPM 2 20190301T163507 20190301T164437 C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T164640\_20190301T170208\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T170407\_20190301T170902\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T171708\_20190301T172007\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T173915\_20190301T174801\_C001 CS OFFL SIR IOPM 2 20190301T182458 20190301T184125 C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T184349\_20190301T184829\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T185419\_20190301T191816\_C001 CS OFFL SIR IOPM 2 20190301T191819 20190301T192921 C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T195429\_20190301T202109\_C001

Ocean Range Averaging Status Ice Range Averaging Status Ocean Range Averaging Status Ocean Range Averaging Status Ocean Range Averaging Status Ice Range Averaging Status Ocean Range Averaging Status Ice Range Averaging Status Ice Range Averaging Status Ocean Range Averaging Status Ocean Range Averaging Status Ice Range Averaging Status Ice Range Averaging Status Ocean Range Averaging Status Ocean Range Averaging Status Ocean Range Averaging Status Ice Range Averaging Status Ocean Range Averaging Status Ocean Range Averaging Status Ocean Range Averaging Status Ice Range Averaging Status Ocean Range Averaging Status Ocean Range Averaging Status Ocean Range Averaging Status Ice Range Averaging Status Ocean Range Averaging Status Ocean Range Averaging Status Ice Range Averaging Status Ocean Range Averaging Status Ocean Range Averaging Status Ocean Range Averaging Status Ocean Range Averaging Status Ice Range Averaging Status Ocean Range Averaging Status Ice Range Averaging Status Ocean Range Averaging Status Ocean Range Averaging Status Ocean Range Averaging Status Ice Range Averaging Status Ocean Range Averaging Status Ocean Range Averaging Status Ocean Range Averaging Status The Ocean Range Averaging Status Flag has been set for one or more record The Ice Range Averaging Status Flag has been set for one or more ecords 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 records The Ocean Range Averaging Status Flag has been set for one or more records The Ice 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 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 records The Ocean Range Averaging Status Flag has been set for one or more The Ocean Range Averaging Status Flag has been set for one or more records The Ice Range Averaging Status Flag has been set for one or more records The Ice Range Averaging Status Flag has been set for one or more ecords 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 records The Ice Range Averaging Status Flag has been set for one or more ecords The Ice 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 records The Ocean Range Averaging Status Flag has been set for one or more ecords The Ocean Range Averaging Status Flag has been set for one or more records The Ice 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 ecords 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 records The Ice 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 records The Ocean Range Averaging Status Flag has been set for one or more ecords The Ocean Range Averaging Status Flag has been set for one or more records The Ice 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 records. The Ocean Range Averaging Status Flag has been set for one or more records The Ice 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 ecords 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 records The Ocean Range Averaging Status Flag has been set for one or more records The Ice 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 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 records The Ocean Range Averaging Status Flag has been set for one or more 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 records The Ice 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 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 ecords The Ice 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 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 records.

CS_OFFL_SIR_IOPM_2_20190301T202733_20190301T202743_C001       Ice Range Averaging Status       The Ice Range Averaging Status Flag has been set for one of records.         CS_OFFL_SIR_IOPM_2_20190301T202749_20190301T203114_C001       Ice Range Averaging Status       The Ice Range Averaging Status Flag has been set for one of records.         CS_OFFL_SIR_IOPM_2_20190301T203333_20190301T204544_C001       Ocean Range Averaging Status       The Ocean Range Averaging Status Flag has been set for one of records.         CS_OFFL_SIR_IOPM_2_20190301T203333_20190301T204544_C001       Ocean Range Averaging Status       The Ocean Range Averaging Status Flag has been set for one of records.         CS_OFFL_SIR_IOPM_2_20190301T205118_20190301T210111_C001       Ocean Range Averaging Status       The Ocean Range Averaging Status Flag has been set for one of records.	more e or more e or more
CS_OFFL_SIR_IOPM_2_20190301T2023333_20190301T204544_C001       Ice Range Averaging Status       records.         CS_OFFL_SIR_IOPM_2_20190301T203333_20190301T204544_C001       Ocean Range Averaging Status       The Ocean Range Averaging Status         CS_OFFL_SIR_IOPM_2_20190301T205118_20190301T204544_C001       Ocean Range Averaging Status       The Ocean Range Averaging Status	e or more e or more
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CS_OFFL_SIR_IOPM_2_20190301T220202_20190301T220643_C001 Ice Range Averaging Status The lce Range Averaging Status Flag has been set for one of records.	more
CS_OFFL_SIR_IOPM_2_20190301T221252_20190301T224805_C001 Ocean Range Averaging Status The Ocean Range Averaging Status Flag has been set for on records.	or more
CS_OFFL_SIR_IOPM_2_20190301T230115_20190301T230252_C001 Ocean Range Averaging Status The Ocean Range Averaging Status Flag has been set for on records.	or more
CS_OFFL_SIR_IOPM_2_20190301T233227_20190301T233455_C001 Ocean Range Averaging Status The Ocean Range Averaging Status Flag has been set for on records.	or more
CS_OFFL_SIR_IOPM_2_20190301T233655_20190301T234002_C001 Ocean Range Averaging Status The Ocean Range Averaging Status Flag has been set for on records.	or more
CS_OFFL_SIR_IOPM_2_20190301T234147_20190301T234710_C001 Ice Range Averaging Status The Ice Range Averaging Status Flag has been set for one of records.	more
CS_OFFL_SIR_IOPM_2_20190301T235243_20190302T001517_C001 Ocean Range Averaging Status The Ocean Range Averaging Status Flag has been set for on records.	or more
CS_OFFL_SIR_IOPN_2_20190301T054006_20190301T054151_C001 Ocean Range Averaging Status The Ocean Range Averaging Status Flag has been set for on records.	or more
CS_OFFL_SIR_IOPN_2_20190301T080101_20190301T080128_C001 Ocean Range Averaging Status The Ocean Range Averaging Status Flag has been set for on records.	or more
CS_OFFL_SIR_IOPN_2_20190301T094740_20190301T095306_C001 Ocean Range Averaging Status The Ocean Range Averaging Status Flag has been set for on records.	or more
CS_OFFL_SIR_IOPN_2_20190301T193128_20190301T193517_C001 Ocean Range Averaging Status The Ocean Range Averaging Status Flag has been set for on records.	or more
CS_OFFL_SIR_IOPR_2_20190301T045157_20190301T045259_C001 Ocean Range Averaging Status The Ocean Range Averaging Status Flag has been set for on records.	or more
CS_OFFL_SIR_IOPR_2_20190301T120544_20190301T120747_C001 Ocean Range Averaging Status The Ocean Range Averaging Status Flag has been set for on records.	or more
CS_OFFL_SIR_IOPR_2_20190301T144838_20190301T145117_C001 Ocean Range Averaging Status The Ocean Range Averaging Status Flag has been set for on records.	or more
CS_OFFL_SIR_IOPR_2_20190301T153412_20190301T153733_C001 Ocean Range Averaging Status The Ocean Range Averaging Status Flag has been set for on records.	or more
CS_OFFL_SIR_IOPR_2_20190301T161218_20190301T161248_C001 Ocean Range Averaging Status The Ocean Range Averaging Status Flag has been set for on records.	or more
CS_OFFL_SIR_IOPR_2_20190301T210112_20190301T210307_C001 Ocean Range Averaging Status The Ocean Range Averaging Status Flag has been set for on records.	or more
CS_OFFL_SIR_IOPR_2_20190301T221137_20190301T221252_C001 Ocean Range Averaging Status The Ocean Range Averaging Status Flag has been set for on records.	or more

### 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 set.

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. 77

### Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_IOPM_2_20190301T014224_20190301T014703_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_20190301T014743_20190301T020608_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_20190301T021441_20190301T021654_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190301T022347_20190301T025336_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_20190301T031245_20190301T033124_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_20190301T033206_20190301T034523_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_20190301T035730_20190301T040105_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190301T040241_20190301T041825_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_20190301T042027_20190301T042948_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_20190301T044755_20190301T044930_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190301T045702_20190301T045718_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_20190301T045745_20190301T050906_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_20190301T052522_20190301T052630_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_20190301T053224_20190301T053527_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190301T053533_20190301T054006_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190301T054200_20190301T055655_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_20190301T063523_20190301T064234_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_20190301T064326_20190301T070813_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_20190301T071038_20190301T071254_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.

CS\_OFFL\_SIR\_IOPM\_2\_20190301T071257\_20190301T071902\_C001 CS OFFL SIR IOPM 2 20190301T072114 20190301T074725 C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T081827\_20190301T082946\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T083521\_20190301T084659\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T085249\_20190301T085705\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T085959\_20190301T092808\_C001 CS OFFL SIR IOPM 2 20190301T095306 20190301T100900 C001 CS OFFL SIR IOPM 2 20190301T101301 20190301T102605 C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T103200\_20190301T103742\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T103902\_20190301T104524\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T111640\_20190301T111745\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T113104\_20190301T120543\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T121104\_20190301T121616\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T121759\_20190301T123749\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T130947\_20190301T134340\_C001 CS OFFL SIR IOPM 2 20190301T135110 20190301T135523 C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T135720\_20190301T143335\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T143615\_20190301T143739\_C001 CS OFFL SIR IOPM 2 20190301T145117 20190301T150037 C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T150733\_20190301T152307\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T153021\_20190301T153229\_C001 CS OFFL SIR IOPM 2 20190301T154115 20190301T155337 C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T155530\_20190301T160735\_C001 CS OFFL SIR IOPM 2 20190301T163507 20190301T164437 C001 CS OFFL SIR IOPM 2 20190301T164640 20190301T170208 C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T170407\_20190301T170902\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T171708\_20190301T172007\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T173915\_20190301T174801\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T182458\_20190301T184125\_C001 CS OFFL SIR IOPM 2 20190301T184349 20190301T184829 C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T185419\_20190301T191816\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T195429\_20190301T202109\_C001 CS OFFL SIR IOPM 2 20190301T202314 20190301T202729 C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T202733\_20190301T202743\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T202749\_20190301T203114\_C001 CS OFFL SIR IOPM 2 20190301T203333 20190301T204544 C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T205118\_20190301T210111\_C001 CS OFFL SIR IOPM 2 20190301T210307 20190301T210558 C001 CS OFFL SIR IOPM 2 20190301T213303 20190301T220032 C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T220202\_20190301T220643\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T220647\_20190301T221019\_C001 CS OFFL SIR IOPM 2 20190301T221252 20190301T224805 C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T230115\_20190301T230252\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T233227\_20190301T233455\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T233655\_20190301T234002\_C001 CS\_OFFL\_SIR\_IOPM\_2\_20190301T234147\_20190301T234710\_C001 CS OFFL SIR IOPM 2 20190301T235243 20190302T001517 C001 CS\_OFFL\_SIR\_IOPN\_2\_20190301T054006\_20190301T054151\_C001 CS\_OFFL\_SIR\_IOPN\_2\_20190301T080101\_20190301T080128\_C001 CS OFFL SIR IOPN 2 20190301T094740 20190301T095306 C001 CS\_OFFL\_SIR\_IOPN\_2\_20190301T193128\_20190301T193517\_C001

Ice Backscatter Averaging Status

SWH Averaging Status, Ocean Backscatter Averaging Status SWH Averaging Status, Ocean Backscatter Averaging Status, Ocean Backscatter Averaging Status

Ice Backscatter Averaging Status

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more records.

The Ice Backscatter Averaging Status Flag has been set for one or more records.

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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 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 Ice Backscatter Averaging Status Flag has been set for one or more records.

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 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 Ice Backscatter Averaging Status Flag has 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 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 Ice Backscatter Averaging Status Flag has 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 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 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 Ice Backscatter Averaging Status Flag has been set for one or more records.

The Ice Backscatter Averaging Status Flag has been set for one or more records.

The Ice Backscatter Averaging Status Flag has 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 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 Ice Backscatter Averaging Status Flag has been set for one or more records.

The Ice Backscatter Averaging Status Flag has 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 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 Ice Backscatter Averaging Status Flag has 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 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.

CS_OFFL_SIR_IOPR_2_20190301T045157_20190301T045259_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_IOPR_2_20190301T120544_20190301T120747_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_IOPR_2_20190301T144838_20190301T145117_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_IOPR_2_20190301T153412_20190301T153733_C001	SWH Averaging Status, Ocean	The SWH and Ocean Averaging Status Flags have been set for one or
CS_OFFL_SIR_IOPR_2_20190301T161218_20190301T161248_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_IOPR_2_20190301T210112_20190301T210307_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 SWH Averaging Status, Ocean	more records. The SWH and Ocean Averaging Status Flags have been set for one or
CS_OFFL_SIR_IOPR_2_20190301T221137_20190301T221252_C001	Backscatter Averaging Status	more records.
5.8 L2 Ocean Retracking Quality Check		
CryoSat L2 data includes an ocean retracking quality flag for each 20-Hz meas	urement record. The bit value of this flag indi	cates any problems when set.
Ocean Retracking Quality Flag: This flag is currently set for products over lan	nd and sea ice, but this is to be expected. The	e number of products with this error flag set is given below.
Number of products with errors: 56		
6. IOP L2	2 Pole-to-Pole Data Quality	y Check
6.1 P2P Product Format Check	-	
	neurs it consists of both on VMI, booder file (	
Each product, retrieved and unpacked from the science server, is checked to ex Number of products with errors: 0	nsure it consists of doth an XML header file (	HDR) and a NetCDF product file (.nc).
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 v	alidity 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 che	cked 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 mea	asurement record. The hit value of this flag in	dicates any problems when set
Number of products with errors: 1	astronicin record. The bit value of this hag in	
Product	Test Failed	Description
CS_OFFL_SIR_IOP_2_20190301T030556_20190301T035535_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more record
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 the	nis flag indicates any problems when set.
Currently, there are two common status flags raised in the P2P products whighlighting any additional issues which may arise from this test.	which are expected due to surface type. A	Il common flags are summarised in the list below, followed by a table
Ocean Range Averaging Status Flag: This flag is currently set for products on	ver land and sea ice, but this is to be expecte	.d.
Ice Range Averaging Status Flag: This flag is currently set for products over I	land, but this is to be expected.	
Number of products with errors: 28		
Product	Test Failed	Description The Opene Page Averaging Status Flag has been set for one or more
CS_OFFL_SIR_IOP_220190301T012642_20190301T021621_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T021621_20190301T030556_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_2_20190301T030556_20190301T035535_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T035535_20190301T044509_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_220190301T044509_20190301T053448_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
		The Ocean and Ice Range Averaging Status Flags have been set for one

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

or more records

or more records.

records.

records.

or more records.

or more records.

or more records.

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

Product	Test Failed	Description
CS_OFFL_SIR_IOP_220190301T030556_20190301T035535_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records
	'	

Ocean Range Averaging Status, Ice Range Averaging Status CS\_OFFL\_SIR\_IOP\_2\_\_20190301T053448\_20190301T062423\_C001 Ocean Range Averaging Status, Ice The Ocean and Ice Range Averaging Status Flags have been set for one CS\_OFFL\_SIR\_IOP\_2\_\_20190301T062423\_20190301T071402\_C001 Range Averaging Status Ocean Range Averaging Status, Ice The Ocean and Ice Range Averaging Status Flags have been set for one CS\_OFFL\_SIR\_IOP\_2\_\_20190301T071402\_20190301T080336\_C001 Range Averaging Status The Ocean Range Averaging Status Flag has been set for one or more CS\_OFFL\_SIR\_IOP\_2\_\_20190301T080336\_20190301T085316\_C001 Ocean Range Averaging Status The Ocean Range Averaging Status Flag has been set for one or more CS\_OFFL\_SIR\_IOP\_2\_\_20190301T085316\_20190301T094250\_C001 Ocean Range Averaging Status Ocean Range Averaging Status, Ice The Ocean and Ice Range Averaging Status Flags have been set for one CS\_OFFL\_SIR\_IOP\_2\_\_20190301T094250\_20190301T103229\_C001 Range Averaging Status Ocean Range Averaging Status, Ice The Ocean and Ice Range Averaging Status Flags have been set for one CS\_OFFL\_SIR\_IOP\_2\_\_20190301T103229\_20190301T112204\_C001 Range Averaging Status or more records Ocean Range Averaging Status, Ice The Ocean and Ice Range Averaging Status Flags have been set for one CS OFFL SIR IOP 2 20190301T112204 20190301T121143 C001 Range Averaging Status Ocean Range Averaging Status, Ice The Ocean and Ice Range Averaging Status Flags have been set for one CS\_OFFL\_SIR\_IOP\_2\_\_20190301T121143\_20190301T130117\_C001 Range Averaging Status The Ocean Range Averaging Status Flag has been set for one or more CS\_OFFL\_SIR\_IOP\_2\_\_20190301T130117\_20190301T135056\_C001 Ocean Range Averaging Status records. Ocean Range Averaging Status, Ice CS\_OFFL\_SIR\_IOP\_2\_\_20190301T135056\_20190301T144031\_C001

Range Averaging Status

CS_OFFL_SIR_IOP_220190301T144031_20190301T153010_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_220190301T153010_20190301T161944_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_220190301T161944_20190301T170923_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_220190301T170923_20190301T175858_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T175858_20190301T184837_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_220190301T184837_20190301T193811_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_220190301T193811_20190301T202751_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_220190301T202751_20190301T211725_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T211725_20190301T220704_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T220704_20190301T225639_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_220190301T225639_20190301T234618_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_220190301T234618_20190302T003552_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.

# 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. 28

Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_IOP_2_20190301T012642_20190301T021621_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_2_20190301T021621_20190301T030556_C001	SWH Averaging Status, Ocean Backscatter Averaging Status, Ice Backscatter Averaging Status	The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190301T030556_20190301T035535_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_2_20190301T035535_20190301T044509_C001	SWH Averaging Status, Ocean Backscatter Averaging Status, Ice Backscatter Averaging Status	The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190301T044509_20190301T053448_C001	SWH Averaging Status, Ocean Backscatter Averaging Status, Ice Backscatter Averaging Status	The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_2_20190301T053448_20190301T062423_C001	SWH Averaging Status, Ocean Backscatter Averaging Status, Ice Backscatter Averaging Status	The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190301T062423_20190301T071402_C001	SWH Averaging Status, Ocean Backscatter Averaging Status, Ice Backscatter Averaging Status	The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190301T071402_20190301T080336_C001	SWH Averaging Status, Ocean Backscatter Averaging Status, Ice Backscatter Averaging Status	The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_2_20190301T080336_20190301T085316_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_220190301T085316_20190301T094250_C001	SWH Averaging Status, Ocean Backscatter Averaging Status, Ice Backscatter Averaging Status	The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190301T094250_20190301T103229_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_220190301T103229_20190301T112204_C001	SWH Averaging Status, Ocean Backscatter Averaging Status, Ice Backscatter Averaging Status	The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190301T112204_20190301T121143_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_220190301T121143_20190301T130117_C001	SWH Averaging Status, Ocean Backscatter Averaging Status, Ice Backscatter Averaging Status	The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190301T130117_20190301T135056_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_2_20190301T135056_20190301T144031_C001	SWH Averaging Status, Ocean Backscatter Averaging Status, Ice Backscatter Averaging Status	The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190301T144031_20190301T153010_C001	SWH Averaging Status, Ocean Backscatter Averaging Status, Ice Backscatter Averaging Status	The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_2_20190301T153010_20190301T161944_C001	SWH Averaging Status, Ocean Backscatter Averaging Status, Ice Backscatter Averaging Status	The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190301T161944_20190301T170923_C001	SWH Averaging Status, Ocean Backscatter Averaging Status, Ice Backscatter Averaging Status	The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190301T170923_20190301T175858_C001	SWH Averaging Status, Ocean Backscatter Averaging Status, Ice Backscatter Averaging Status	The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190301T175858_20190301T184837_C001	SWH Averaging Status, Ocean Backscatter Averaging Status, Ice Backscatter Averaging Status	The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.

CS_OFFL_SIR_IOP_2_20190301T184837_20190301T193811_C001	SWH Averaging Status, Ocean Backscatter Averaging Status, Ice Backscatter Averaging Status	The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190301T193811_20190301T202751_C001	SWH Averaging Status, Ocean Backscatter Averaging Status, Ice Backscatter Averaging Status	The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190301T202751_20190301T211725_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_220190301T211725_20190301T220704_C001	SWH Averaging Status, Ocean Backscatter Averaging Status, Ice Backscatter Averaging Status	The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190301T220704_20190301T225639_C001	SWH Averaging Status, Ocean Backscatter Averaging Status, Ice Backscatter Averaging Status	The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190301T225639_20190301T234618_C001	SWH Averaging Status, Ocean Backscatter Averaging Status, Ice Backscatter Averaging Status	The SWH, Ocean and Ice Averaging Status Flags have been set for one or more records.
CS_OFFL_SIR_IOP_220190301T234618_20190302T003552_C001	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: 27

Product	Test Failed	Description
CS_OFFL_SIR_IOP_220190301T012642_20190301T021621_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T021621_20190301T030556_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T030556_20190301T035535_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T035535_20190301T044509_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T044509_20190301T053448_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T053448_20190301T062423_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T062423_20190301T071402_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T071402_20190301T080336_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T080336_20190301T085316_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T085316_20190301T094250_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T094250_20190301T103229_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T103229_20190301T112204_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T112204_20190301T121143_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T121143_20190301T130117_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T130117_20190301T135056_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T135056_20190301T144031_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T144031_20190301T153010_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T153010_20190301T161944_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T161944_20190301T170923_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T170923_20190301T175858_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T175858_20190301T184837_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T184837_20190301T193811_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T193811_20190301T202751_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T202751_20190301T211725_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T211725_20190301T220704_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T220704_20190301T225639_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_220190301T225639_20190301T234618_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.