

1. Overview

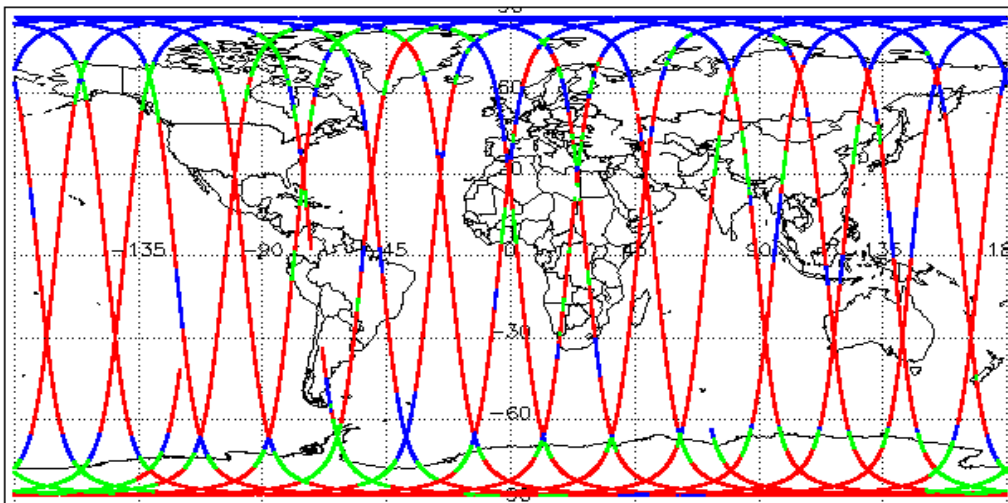
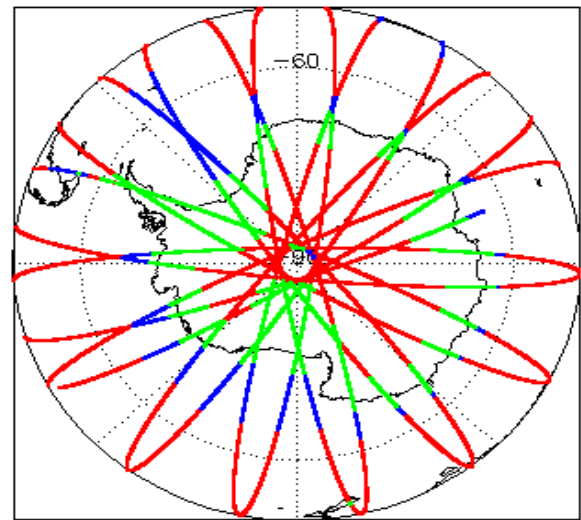
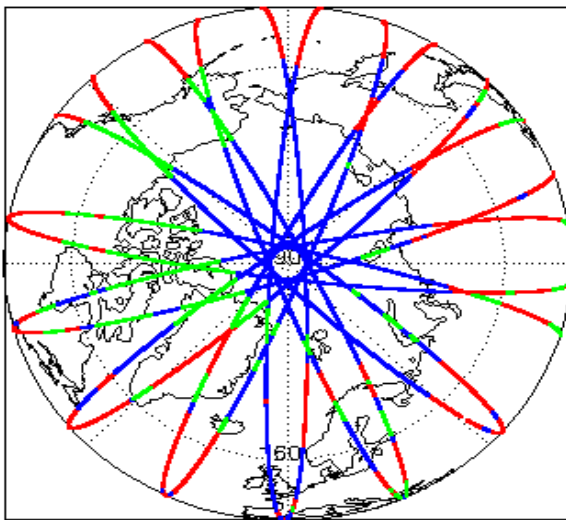
Report Production:	01-May-2018
Processor Used:	CryoSat Ocean Processor
Data Used:	Intermediate Ocean Products (IOP) L1B, L2 & P2P Science Data

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 4.6 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-Apr-2018	None
29-Apr-2018	None
30-Apr-2018	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
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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.

Number of products with errors: 0

4.3 L1B 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

4.4 L1B Auxiliary Correction Error Check

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

Number of products with errors: 0

4.5 L1B Measurement Confidence Data Check

CryoSat L1B data includes a measurement confidence flag for each measurement 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: 1

Product	Test Failed	Description
CS_OFFL_SIR_IOPM1B_20180429T224144_20180429T225230_C001	Power scaling error	There is an error in the scaling of the L1B waveform for one or more records

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: 18

Product	Test Failed	Description
CS_OFFL_SIR_IOPM1B_20180429T075509_20180429T080441_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPM1B_20180429T133332_20180429T140752_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPM1B_20180429T192248_20180429T193817_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20180429T010806_20180429T011244_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20180429T022638_20180429T022834_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20180429T023535_20180429T023631_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20180429T073521_20180429T073807_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20180429T083052_20180429T083657_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20180429T091230_20180429T091650_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20180429T155835_20180429T155906_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20180429T192129_20180429T192238_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20180429T223432_20180429T223920_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20180429T023918_20180429T024706_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20180429T040613_20180429T040651_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20180429T115231_20180429T115411_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20180429T123204_20180429T123944_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20180429T124250_20180429T124410_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20180429T141759_20180429T142107_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: 0

5.2 L2 Product Header Analysis

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

Number of products with errors: 0

5.3 L2 Auxiliary Data File Usage Check

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

Number of products with errors: 0

5.4 L2 Auxiliary Correction Error Check

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

Number of products with errors: 0

5.5 L2 Measurement Confidence Data Check

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

Number of products with errors: 1

Product	Test Failed	Description
CS_OFFL_SIR_IOPM_2_20180429T224143_20180429T225230_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.

CS_OFFL_SIR_IOPM_2_20180429T165211_20180429T165806_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20180429T165815_20180429T172505_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20180429T174225_20180429T174927_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20180429T174949_20180429T181346_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20180429T183208_20180429T184935_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20180429T185411_20180429T190110_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20180429T191711_20180429T192129_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20180429T192247_20180429T193817_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20180429T194437_20180429T195616_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20180429T200459_20180429T200922_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20180429T201113_20180429T202603_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20180429T202743_20180429T204308_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20180429T210433_20180429T211143_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20180429T211306_20180429T211755_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20180429T212040_20180429T213702_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20180429T213951_20180429T214832_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20180429T215050_20180429T221320_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20180429T225233_20180429T231606_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20180429T232156_20180429T232627_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPN_2_20180429T091139_20180429T091156_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPN_2_20180429T141002_20180429T141137_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPN_2_20180429T211755_20180429T212040_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPR_2_20180429T000637_20180429T000823_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPR_2_20180429T023801_20180429T023849_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPR_2_20180429T023918_20180429T024706_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPR_2_20180429T133134_20180429T133332_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPR_2_20180429T141137_20180429T141759_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPR_2_20180429T155658_20180429T155835_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPR_2_20180429T173106_20180429T173555_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPR_2_20180429T173555_20180429T173718_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPR_2_20180429T231607_20180429T231745_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 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.

Number of products with errors: 76

Product	Test Failed	Description
CS_OFFL_SIR_IOPM_2_20180428T235524_20180429T000636_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_20180429T001250_20180429T001716_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20180429T002030_20180429T004926_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_20180429T011244_20180429T014547_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_20180429T015200_20180429T015736_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20180429T015905_20180429T020520_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_20180429T023631_20180429T023801_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_20180429T025120_20180429T032505_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_20180429T033104_20180429T033615_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20180429T033829_20180429T035758_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_20180429T042945_20180429T050326_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_20180429T051109_20180429T051519_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.

CS_OFFL_SIR_IOPM_2_20180429T232156_20180429T232627_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPN_2_20180429T091139_20180429T091156_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_20180429T141002_20180429T141137_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_20180429T211755_20180429T212040_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_20180429T000637_20180429T000823_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_20180429T023801_20180429T023849_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_20180429T023918_20180429T024706_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_20180429T133134_20180429T133332_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_20180429T141137_20180429T141759_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_20180429T155658_20180429T155835_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_20180429T173106_20180429T173555_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_20180429T173555_20180429T173718_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_20180429T231607_20180429T231745_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: 65

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

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: 1

Product	Test Failed	Description
CS_OFFL_SIR_IOP_2_20180429T223251_20180429T232230_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records

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
CS_OFFL_SIR_IOP_2_20180428T232341_20180429T001320_C002	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2_20180429T001320_20180429T010254_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2_20180429T010254_20180429T015234_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2_20180429T015234_20180429T024208_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_20180429T024208_20180429T033147_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_20180429T033147_20180429T042121_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_20180429T042121_20180429T051101_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_20180429T051101_20180429T060035_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_20180429T060035_20180429T065014_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_20180429T065014_20180429T073948_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.

CS_OFFL_SIR_IOP_2__20180429T073948_20180429T082928_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__20180429T082928_20180429T091902_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__20180429T091902_20180429T100841_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__20180429T100841_20180429T105816_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T105816_20180429T114755_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__20180429T114755_20180429T123729_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__20180429T123729_20180429T132709_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__20180429T132709_20180429T141643_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T141643_20180429T150622_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__20180429T150622_20180429T155556_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T155556_20180429T164536_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__20180429T164536_20180429T173510_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__20180429T173510_20180429T182449_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__20180429T182449_20180429T191423_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T191423_20180429T200403_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__20180429T200403_20180429T205337_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__20180429T205337_20180429T214317_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__20180429T214317_20180429T223251_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__20180429T223251_20180429T232230_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.

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: 29

Product	Test Failed	Description
CS_OFFL_SIR_IOP_2__20180428T232341_20180429T001320_C002	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__20180429T001320_20180429T010254_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__20180429T010254_20180429T015234_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__20180429T015234_20180429T024208_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__20180429T024208_20180429T033147_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__20180429T033147_20180429T042121_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__20180429T042121_20180429T051101_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__20180429T051101_20180429T060035_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__20180429T060035_20180429T065014_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__20180429T065014_20180429T073948_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__20180429T073948_20180429T082928_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__20180429T082928_20180429T091902_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__20180429T091902_20180429T100841_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__20180429T100841_20180429T105816_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__20180429T105816_20180429T114755_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__20180429T114755_20180429T123729_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__20180429T123729_20180429T132709_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__20180429T132709_20180429T141643_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__20180429T141643_20180429T150622_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__20180429T150622_20180429T155556_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__20180429T155556_20180429T164536_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__20180429T164536_20180429T173510_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__20180429T173510_20180429T182449_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__20180429T182449_20180429T191423_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__20180429T191423_20180429T200403_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__20180429T200403_20180429T205337_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__20180429T205337_20180429T214317_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__20180429T214317_20180429T223251_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__20180429T223251_20180429T232230_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.

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: 29

Product	Test Failed	Description
CS_OFFL_SIR_IOP_2__20180428T232341_20180429T001320_C002	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T001320_20180429T010254_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T010254_20180429T015234_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T015234_20180429T024208_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T024208_20180429T033147_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T033147_20180429T042121_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T042121_20180429T051101_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T051101_20180429T060035_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T060035_20180429T065014_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T065014_20180429T073948_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T073948_20180429T082928_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T082928_20180429T091902_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T091902_20180429T100841_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T100841_20180429T105816_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T105816_20180429T114755_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T114755_20180429T123729_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T123729_20180429T132709_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T132709_20180429T141643_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T141643_20180429T150622_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T150622_20180429T155556_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T155556_20180429T164536_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T164536_20180429T173510_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T173510_20180429T182449_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T182449_20180429T191423_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T191423_20180429T200403_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T200403_20180429T205337_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T205337_20180429T214317_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T214317_20180429T223251_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20180429T223251_20180429T232230_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.