| Report Production: | 12-Apr-2018 |
| :---: | :---: |
| Processor Used: | CryoSat Ocean Processor |
| Data Used: | Intermediate Ocean Products (IOP) <br> 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 | Nominal |
| Range, SWH \& Backscatter Measurement Check | See Section 5.6,5.7 | See Section 6.6,6.7 |
| Ocean Retracking Quality Check | See Section 5.8 | See Section 6.8 |

## Mission / Instrument News <br> 08-Apr-2018 None <br> 09-Apr-2018 None <br> 10-Apr-2018 Nothing planned

## 2. Global Coverage



Mode Coverage


## 3. Instrument Configuration

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

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:

### 4.3 L1B Auxilary Data File Usage Check

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

### 4.4 L1B Auxiliary Correction Error Check

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

### 4.5 L1B Measurement Confidence Data Check

CryoSat L1B data includes a measurement confidence flag for each measurement record. The bit value of this flag indicates any problems when set.
Attitude Correction Missing: This flag is currently set in error for IOPR products due to a configuration issue. This is being investigated and will be updated in the next SW update Number of products with errors:

### 4.6 L1B Waveform Group Data Check

CryoSat L1B data includes a waveform data flag for each measurement record. The bit value of this flag indicates any problems when set.
Loss of Echo Flag: This flag is currently set for products over land, but this is to be expected.
Number of products with errors:

$$
21
$$

| Product | Test Failed | Description |
| :---: | :---: | :---: |
| CS_OFFL_SIR_IOPM1B_20180409T091930_20180409T093124_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPM1B_20180409T131828_20180409T134433_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20180409T030258_20180409T030355_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20180409T061911_20180409T062324_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20180409T093550_20180409T093852_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20180409T093921_20180409T094132_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20180409T135445_20180409T135624_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20180409T162252_20180409T162334_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20180409T194415_20180409T194535_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20180409T215552_20180409T215638_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20180409T221256_20180409T221443_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20180409T012025_20180409T013026_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20180409T030212_20180409T030258_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20180409T093124_20180409T093224_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20180409T093446_20180409T093550_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20180409T125730_20180409T130521_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20180409T144349_20180409T144606_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20180409T192717_20180409T193035_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20180409T212240_20180409T212421_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20180409T212430_20180409T212720_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20180409T230439_20180409T230701_C001 | Loss of Echo | The tracking echo is missing for one or more records |

## 5. IOP Level 2 Data Quality Check

### 5.1 L2 Product Format Check

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

### 5.2 L2 Product Header Analysis

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

### 5.3 L2 Auxiliary Data File Usage Check

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

### 5.4 L2 Auxiliary Correction Error Check

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

### 5.5 L2 Measurement Confidence Data Check

CryoSat L2 data includes a measurement confidence flag for each $20-\mathrm{Hz}$ measurement record. The bit value of this flag indicates any problems when set.
Number of products with errors:

### 5.6 L2 Range Measurement Check

CryoSat L2 data includes an Ocean and Ice Range Averaging Status flag for each measurement record. The bit value of this flag indicates any problems when set.
Currently, there are two common status flags raised in the Level 2 products which are expected due to surface type. All common flags are summarised in the list below, followed by a table highlighting any additional issues which may arise from this test.

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

## Product

CS_OFFL_SIR_IOPM_2_20180408T235656_20180409T003115_C001 CS_OFFL_SIR_IOPM_2_20180409T003426_20180409T003604_C001 CS_OFFL_SIR_IOPM_2_20180409T003713_20180409T004137_C001 CS_OFFL_SIR_IOPM_2_20180409T004505_20180409T010943_C001 CS_OFFL_SIR_IOPM_2_20180409T013837_20180409T015326_C001 CS_OFFL_SIR_IOPM_2_20180409T015902_20180409T021029_C001 CS_OFFL_SIR_IOPM_2_20180409T021627_20180409T022216_C001 CS_OFFL_SIR_IOPM_2_20180409T022349_20180409T024827_C001 CS_OFFL_SIR_IOPM_2_20180409T030122_20180409T030212_C001 CS_OFFL_SIR_IOPM_2_20180409T031453_20180409T034926_C001 CS_OFFL_SIR_IOPM_2_20180409T035532_20180409T040047_C001 CS_OFFL_SIR_IOPM_2_20180409T040237_20180409T040532_C001 CS_OFFL_SIR_IOPM_2_20180409T040732_20180409T041130_C001 CS_OFFL_SIR_IOPM_2_20180409T041159_20180409T042149_C001 CS_OFFL_SIR_IOPM_2_20180409T043801_20180409T044059_C001 CS_OFFL_SIR_IOPM_2_20180409T045448_20180409T050336_C001 CS_OFFL_SIR_IOPM_2_20180409T050621_20180409T052823_C001 CS_OFFL_SIR_IOPM_2_20180409T053403_20180409T053533_C001 CS_OFFL_SIR_IOPM_2_20180409T053540_20180409T053950_C001 CS_OFFL_SIR_IOPM_2_20180409T054157_20180409T055457_C001 CS_OFFL_SIR_IOPM_2_20180409T055540_20180409T060401_C001 CS_OFFL_SIR_IOPM_2_20180409T060457_20180409T060902_C001 CS_OFFL_SIR_IOPM_2_20180409T061451_20180409T061655_C001 CS_OFFL_SIR_IOPM_2_20180409T061655_20180409T061742_C001 CS_OFFL_SIR_IOPM_2_20180409T063515_20180409T070716_C001 CS_OFFL_SIR_IOPM_2_20180409T070904_20180409T071431_C001 CS_OFFL_SIR_IOPM_2_20180409T071437_20180409T071444_C001 CS_OFFL_SIR_IOPM_2_20180409T071451_20180409T071720_C001 CS_OFFL_SIR_IOPM_2_20180409T072535_20180409T073804_C001 CS_OFFL_SIR_IOPM_2_20180409T073839_20180409T075543_C001 CS_OFFL_SIR_IOPM_2_20180409T075945_20180409T080127_C001 CS_OFFL_SIR_IOPM_2_20180409T081721_20180409T082855_C001 CS_OFFL_SIR_IOPM_2_20180409T083059_20180409T084634_C001 CS_OFFL_SIR_IOPM_2_20180409T084831_20180409T085328_C001 CS_OFFL_SIR_IOPM_2_20180409T085407_20180409T085528_C001 CS_OFFL_SIR_IOPM_2_20180409T090232_20180409T091450_C001 CS_OFFL_SIR_IOPM_2_20180409T091930_20180409T093124_C001 CS_OFFL_SIR_IOPM_2_20180409T101022_20180409T102525_C001 CS_OFFL_SIR_IOPM_2_20180409T102754_20180409T103241_C001 CS_OFFL_SIR_IOPM_2_20180409T103246_20180409T103259_C001 CS_OFFL_SIR_IOPM_2_20180409T103321_20180409T103432_C001 CS_OFFL_SIR_IOPM_2_20180409T103853_20180409T110609_C001 CS_OFFL_SIR_IOPM_2_20180409T114040_20180409T120159_C001 CS_OFFL_SIR_IOPM_2_20180409T120204_20180409T120456_C001 CS_OFFL_SIR_IOPM_2_20180409T120821_20180409T121156_C001 CS_OFFL_SIR_IOPM_2_20180409T121218_20180409T121545_C001 CS_OFFL_SIR_IOPM_2_20180409T121813_20180409T123420_C001 CS_OFFL_SIR_IOPM_2_20180409T123545_20180409T124630_C001 CS_OFFL_SIR_IOPM_2_20180409T131828_20180409T134433_C001

Test Failed

| Ocean Range Averaging Status | The Ocean Range Averaging Status Flag has been set for one or more records. |
| :---: | :---: |
| Ice Range Averaging Status | The Ice Range Averaging Status Flag has been set for one or more records. |
| Ice Range Averaging Status | The Ice Range Averaging Status Flag has been set for one or more records. |
| Ocean Range Averaging Status | The Ocean Range Averaging Status Flag has been set for one or more records. |
| Ocean Range Averaging Status | The Ocean Range Averaging Status Flag has been set for one or more records. |
| Ocean Range Averaging Status | The Ocean Range Averaging Status Flag has been set for one or more records. |
| Ice Range Averaging Status | The Ice Range Averaging Status Flag has been set for one or more records. |
| Ocean Range Averaging Status | The Ocean Range Averaging Status Flag has been set for one or more records. |
| Ocean Range Averaging Status | The Ocean Range Averaging Status Flag has been set for one or more records. |
| Ocean Range Averaging Status | The Ocean Range Averaging Status Flag has been set for one or more records. |
| Ice Range Averaging Status | The Ice Range Averaging Status Flag has been set for one or more records. |
| Ocean Range Averaging Status | The Ocean Range Averaging Status Flag has been set for one or more records. |
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Description
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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 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_20180409T134612_20180409T135109_C001 CS_OFFL_SIR_IOPM_2_20180409T135809_20180409T140924_C001 CS_OFFL_SIR_IOPM_2_20180409T141458_20180409T143251_C001 CS_OFFL_SIR_IOPM_2_20180409T151758_20180409T151920_C001 CS_OFFL_SIR_IOPM_2_20180409T152120_20180409T152415_C001 CS_OFFL_SIR_IOPM_2_20180409T152610_20180409T153141_C001 CS_OFFL_SIR_IOPM_2_20180409T153729_20180409T161107_C001 CS_OFFL_SIR_IOPM_2_20180409T162437_20180409T162601_C00 CS_OFFL_SIR_IOPM_2_20180409T164356_20180409T170323_C001 CS_OFFL_SIR_IOPM_2_20180409T170529_20180409T171037_C001 CS_OFFL_SIR_IOPM_2_20180409T171633_20180409T175019_C001 CS_OFFL_SIR_IOPM_2_20180409T180439_20180409T180457_C001 CS_OFFL_SIR_IOPM_2_20180409T181528_20180409T183810_C00 CS_OFFL_SIR_IOPM_2_20180409T184746_20180409T184941_C001 CS_OFFL_SIR_IOPM_2_20180409T185649_20180409T191402_C001 CS_OFFL_SIR_IOPM_2_20180409T191842_20180409T192617_C001 CS_OFFL_SIR_IOPM_2_20180409T194251_20180409T194415_C001 CS_OFFL_SIR_IOPM_2_20180409T194555_20180409T200307_C001 CS_OFFL_SIR_IOPM_2_20180409T200456_20180409T201913_C001 CS_OFFL_SIR_IOPM_2_20180409T202646_20180409T202851_C001 CS_OFFL_SIR_IOPM_2_20180409T203542_20180409T205108_C001 CS_OFFL_SIR_IOPM_2_20180409T205309_20180409T210231_C001 CS_OFFL_SIR_IOPM_2_20180409T213012_20180409T214155_C00 CS_OFFL_SIR_IOPM_2_20180409T214731_20180409T215552_C001 CS_OFFL_SIR_IOPM_2_20180409T215638_20180409T220145_C001 CS_OFFL_SIR_IOPM_2_20180409T220445_20180409T221256_C001 CS_OFFL_SIR_IOPM_2_20180409T221514_20180409T223052_C001 CS_OFFL_SIR_IOPM_2_20180409T231342_20180409T234055_C00 CS_OFFL_SIR_IOPM_2_20180409T234330_20180409T234535_C001 CS_OFFL_SIR_IOPM_2_20180409T234610_20180409T235133_C001 CS_OFFL_SIR_IOPM_2_20180409T235418_20180410T001804_C001 CS OFFL SIR IOPN 220180409 T021235 20180409T021627 C001 CS_OFFL_SIR_IOPN_2_20180409T081552_20180409T081721_C001 CS_OFFL_SIR_IOPN_2_20180409T093921_20180409T094132_C001 CS_OFFL_SIR_IOPN_2_20180409T143446_20180409T143557_C001 CS_OFFL_SIR_IOPN_2_20180409T194027_20180409T194251_C001 CS_OFFL_SIR_IOPR_2_20180409T034926_20180409T035219_C001 CS_OFFL_SIR_IOPR_2_20180409T044059_20180409T044117_C001 CS_OFFL_SIR_IOPR_2_20180409T134433_20180409T134444_C001 CS_OFFL_SIR_IOPR_2_20180409T143557_20180409T144327_C001 CS_OFFL_SIR_IOPR_2_20180409T234158_20180409T234213_C001

| Ice Range Averaging Status | The Ice Range Averaging Status Flag has been set for one or more records. |
| :---: | :---: |
| Ocean Range Averaging Status | The Ocean Range Averaging Status Flag has been set for one or more records. |
| Ocean Range Averaging Status | The Ocean Range Averaging Status Flag has been set for one or more records. |
| Ocean Range Averaging Status | The Ocean Range Averaging Status Flag has been set for one or more records. |
| Ocean Range Averaging Status | The Ocean Range Averaging Status Flag has been set for one or more records. |
| Ice Range Averaging Status | The Ice Range Averaging Status Flag has been set for one or more records. |
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| Ocean Range Averaging Status | The Ocean Range Averaging Status Flag has been set for one or more records. |
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| Ice Range Averaging Status | The Ice Range Averaging Status Flag has been set for one or more records. |
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| Ocean Range Averaging Status | The Ocean Range Averaging Status Flag has been set for one or more records. |
| Ice Range Averaging Status | The Ice Range Averaging Status Flag has been set for one or more records. |
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| Ice Range Averaging Status | The Ice Range Averaging Status Flag has been set for one or more records. |
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| Ocean Range Averaging Status | The Ocean Range Averaging Status Flag has been set for one or more records. |
| Ice Range Averaging Status | The Ice Range Averaging Status Flag has been set for one or more records. |
| Ocean Range Averaging Status | The Ocean Range Averaging Status Flag has been set for one or more records. |
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| Ocean Range Averaging Status | The Ocean Range Averaging Status Flag has been set for one or more records. |
| Ice Range Averaging Status | The Ice Range Averaging Status Flag has been set for one or more records. |
| Ocean Range Averaging Status | The Ocean Range Averaging Status Flag has been set for one or more records. |
| Ocean Range Averaging Status | The Ocean Range Averaging Status Flag has been set for one or more records. |
| Ice Range Averaging Status | The Ice Range Averaging Status Flag has been set for one or more records. |
| Ice Range Averaging Status | The Ice Range Averaging Status Flag has been set for one or more records. |
| Ocean Range Averaging Status | The Ocean Range Averaging Status Flag has been set for one or more records. |
| Ice Range Averaging Status | The Ice Range Averaging Status Flag has been set for one or more records. |
| Ocean Range Averaging Status | The Ocean Range Averaging Status Flag has been set for one or more records. |
| Ocean Range Averaging Status | The Ocean Range Averaging Status Flag has been set for one or more records. |
| Ocean Range Averaging Status | The Ocean Range Averaging Status Flag has been set for one or more records. |
| Ice Range Averaging Status | The Ice Range Averaging Status Flag has been set for one or more records. |
| Ocean Range Averaging Status | The Ocean Range Averaging Status Flag has been set for one or more records. |
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| Ocean Range Averaging Status | The Ocean Range Averaging Status Flag has been set for one or more records. |
| Ocean Range Averaging Status | The Ocean Range Averaging Status Flag has been set for one or more records. |
| 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:

## Product

CS_OFFL_SIR_IOPM_2_20180408T235656_20180409T003115_C001 CS_OFFL_SIR_IOPM_2_20180409T003426_20180409T003604_C001

Test Failed
SWH Averaging Status, Ocean Backscatter Averaging Status
ce Backscatter Averaging Status

Description
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.

CS_OFFL_SIR_IOPM_2_20180409T003713_20180409T004137_C001 CS_OFFL_SIR_IOPM_2_20180409T004505_20180409T010943_C001 CS_OFFL_SIR_IOPM_2_20180409T013837_20180409T015326_C001 CS_OFFL_SIR_IOPM_2_20180409T015902_20180409T021029_C001 CS_OFFL_SIR_IOPM_2_20180409T021627_20180409T022216_C001 CS_OFFL_SIR_IOPM_2_20180409T022349_20180409T024827_C001 CS_OFFL_SIR_IOPM_2_20180409T024837_20180409T025012_C001 CS_OFFL_SIR_IOPM_2_20180409T030122_20180409T030212_C001 CS_OFFL_SIR_IOPM_2_20180409T031453_20180409T034926_C001 CS_OFFL_SIR_IOPM_2_20180409T035532_20180409T040047_C001 CS_OFFL_SIR_IOPM_2_20180409T040237_20180409T040532_C001 CS_OFFL_SIR_IOPM_2_20180409T040732_20180409T041130_C001 CS_OFFL_SIR_IOPM_2_20180409T041159_20180409T042149_C001 CS_OFFL_SIR_IOPM_2_20180409T043801_20180409T044059_C001 CS_OFFL_SIR_IOPM_2_20180409T045448_20180409T050336_C001 CS_OFFL_SIR_IOPM_2_20180409T050621_20180409T052823_C001 CS_OFFL_SIR_IOPM_2_20180409T053403_20180409T053533_C001 CS_OFFL_SIR_IOPM_2_20180409T053540_20180409T053950_C001 CS_OFFL_SIR_IOPM_2_20180409T054157_20180409T055457_C001 CS_OFFL_SIR_IOPM_2_20180409T055540_20180409T060401_C001 CS_OFFL_SIR_IOPM_2_20180409T060457_20180409T060902_C001 CS_OFFL_SIR_IOPM_2_20180409T063515_20180409T070716_C001 CS_OFFL_SIR_IOPM_2_20180409T070904_20180409T071431_C001 CS_OFFL_SIR_IOPM_2_20180409T071437_20180409T071444_C001 CS_OFFL_SIR_IOPM_2_20180409T071451_20180409T071720_C001 CS_OFFL_SIR_IOPM_2_20180409T072535_20180409T073804_C001 CS_OFFL_SIR_IOPM_2_20180409T073839_20180409T075543_C001 CS_OFFL_SIR_IOPM_2_20180409T075945_20180409T080127_C001 CS_OFFL_SIR_IOPM_2_20180409T081721_20180409T082855_C001 CS_OFFL_SIR_IOPM_2_20180409T083059_20180409T084634_C001 CS_OFFL_SIR_IOPM_2_20180409T084831_20180409T085328_C001 CS_OFFL_SIR_IOPM_2_20180409T085407_20180409T085528_C001 CS_OFFL_SIR_IOPM_2_20180409T090232_20180409T091450_C001 CS_OFFL_SIR_IOPM_2_20180409T091930_20180409T093124_C001 CS_OFFL_SIR_IOPM_2_20180409T101022_20180409T102525_C001 CS_OFFL_SIR_IOPM_2_20180409T102754_20180409T103241_C001 CS_OFFL_SIR_IOPM_2_20180409T103246_20180409T103259_C001 CS_OFFL_SIR_IOPM_2_20180409T103321_20180409T103432_C001 CS_OFFL_SIR_IOPM_2_20180409T103853_20180409T110609_C001 CS_OFFL_SIR_IOPM_2_20180409T114040_20180409T120159_C001 CS_OFFL_SIR_IOPM_2_20180409T120204_20180409T120456_C001 CS_OFFL_SIR_IOPM_2_20180409T120821_20180409T121156_C001 CS_OFFL_SIR_IOPM_2_20180409T121218_20180409T121545_C001 CS_OFFL_SIR_IOPM_2_20180409T121813_20180409T123420_C001 CS_OFFL_SIR_IOPM_2_20180409T123545_20180409T124630_C001 CS_OFFL_SIR_IOPM_2_20180409T131828_20180409T134433_C001 CS_OFFL_SIR_IOPM_2_20180409T134612_20180409T135109_C001 CS_OFFL_SIR_IOPM_2_20180409T135809_20180409T140924_C001 CS_OFFL_SIR_IOPM_2_20180409T141458_20180409T143251_C001 CS_OFFL_SIR_IOPM_2_20180409T151758_20180409T151920_C001 CS_OFFL_SIR_IOPM_2_20180409T152120_20180409T152415_C001

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

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

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The Ice Backscatter Averaging Status Flag has been set for one or more records.
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CS_OFFL_SIR_IOPM_2_20180409T152610_20180409T153141_C001 CS_OFFL_SIR_IOPM_2_20180409T153729_20180409T161107_C001 CS_OFFL_SIR_IOPM_2_20180409T162437_20180409T162601_C001 CS_OFFL_SIR_IOPM_2_20180409T164356_20180409T170323_C001 CS_OFFL_SIR_IOPM_2_20180409T170529_20180409T171037_C001 CS_OFFL_SIR_IOPM_2_20180409T171633_20180409T175019_C001 CS_OFFL_SIR_IOPM_2_20180409T180439_20180409T180457_C001 CS_OFFL_SIR_IOPM_2_20180409T181528_20180409T183810_C001 CS_OFFL_SIR_IOPM_2_20180409T184746_20180409T184941_C001 CS_OFFL_SIR_IOPM_2_20180409T185649_20180409T191402_C001 CS_OFFL_SIR_IOPM_2_20180409T191842_20180409T192617_C001 CS_OFFL_SIR_IOPM_2_20180409T194251_20180409T194415_C001 CS_OFFL_SIR_IOPM_2_20180409T194555_20180409T200307_C00 CS_OFFL_SIR_IOPM_2_20180409T200456_20180409T201913_C001 CS_OFFL_SIR_IOPM_2_20180409T203542_20180409T205108_C001 CS_OFFL_SIR_IOPM_2_20180409T205309_20180409T210231_C001 CS_OFFL_SIR_IOPM_2_20180409T213012_20180409T214155_C001 CS_OFFL_SIR_IOPM_2_20180409T214731_20180409T215552_C001 CS_OFFL_SIR_IOPM_2_20180409T215638_20180409T220145_C001 CS_OFFL_SIR_IOPM_2_20180409T220445_20180409T221256_C001 CS_OFFL_SIR_IOPM_2_20180409T221514_20180409T223052_C001 CS_OFFL_SIR_IOPM_2_20180409T231342_20180409T234055_C001 CS_OFFL_SIR_IOPM_2_20180409T234330_20180409T234535_C00 CS_OFFL_SIR_IOPM_2_20180409T234610_20180409T235133_C001 CS_OFFL_SIR_IOPM_2_20180409T235418_20180410T001804_C001 CS_OFFL_SIR_IOPN_2_20180409T021235_20180409T021627_C001 CS OFFL SIR IOPN $220180409 T 081552$ 20180409T081721 C001 CS_OFFL_SIR_IOPN_2_20180409T093921_20180409T094132_C001 CS_OFFL_SIR_IOPN_2_20180409T143446_20180409T143557_C001 CS_OFFL_SIR_IOPN_2_20180409T194027_20180409T194251_C001 CS_OFFL_SIR_IOPR_2_20180409T034926_20180409T035219_C001 CS_OFFL_SIR_IOPR_2_20180409T044059_20180409T044117_C001 CS_OFFL_SIR_IOPR_2_20180409T134433_20180409T134444_C001 CS_OFFL_SIR_IOPR_2_20180409T143557_20180409T144327_C001 CS_OFFL_SIR_IOPR_2_20180409T234158_20180409T234213_C001
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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
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### 5.8 L2 Ocean Retracking Quality Check

CryoSat L2 data includes an ocean retracking quality flag for each $20-\mathrm{Hz}$ 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:
52

## 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:

### 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:

### 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:

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

### 6.5 P2P Measurement Confidence Data Check

CryoSat P2P data includes a measurement confidence flag for each $20-\mathrm{Hz}$ measurement record. The bit value of this flag indicates any problems when set
Number of products with errors:

### 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:

## 30

| Product | Test Failed |  |
| :--- | :--- | :--- |
| CS_OFFL_SIR_IOP_2_20180408T234807_20180409T003745_C001 | Ocean Range Averaging Status <br> Ocean Range Averaging Status, Ice <br> Range Averaging Status | The Ocean Range Averaging Status Flag has been set for one or more <br> records. |
| CS_OFFL_SIR_IOP_2__20180409T003745_20180409T012721_C001 |  |  |
| 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:

## Product

CS_OFFL_SIR_IOP_2_20180408T234807_20180409T003745_C001

CS_OFFL_SIR_IOP_2_20180409T003745_20180409T012721_C001 CS_OFFL_SIR_IOP_2_20180409T012721_20180409T021659_C001 CS_OFFL_SIR_IOP_2_20180409T021659_20180409T030634_C001 CS_OFFL_SIR_IOP_2__20180409T030634_20180409T035612_C001 CS_OFFL_SIR_IOP_2_20180409T035612_20180409T044548_C001 CS_OFFL_SIR_IOP_2__20180409T044548_20180409T053526_C001 CS_OFFL_SIR_IOP_2_20180409T053526_20180409T062501_C001 CS_OFFL_SIR_IOP_2__20180409T062501_20180409T071439_C001 CS_OFFL_SIR_IOP_2_20180409T071439_20180409T080415_C001 CS_OFFL_SIR_IOP_2__20180409T080415_20180409T085353_C001 CS_OFFL_SIR_IOP_2_20180409T085353_20180409T094328_C001 CS_OFFL_SIR_IOP_2__20180409T094328_20180409T103307_C001 CS_OFFL_SIR_IOP_2_20180409T103307_20180409T112242_C001 CS_OFFL_SIR_IOP_2_20180409T112242_20180409T121220_C001 CS_OFFL_SIR_IOP_2__20180409T121220_20180409T130155_C001 CS_OFFL_SIR_IOP_2_20180409T130155_20180409T135134_C001 CS_OFFL_SIR_IOP_2_20180409T135134_20180409T144109_C001 CS_OFFL_SIR_IOP_2_20180409T144109_20180409T153047_C001 CS_OFFL_SIR_IOP_2__20180409T153047_20180409T162023_C001 CS_OFFL_SIR_IOP_2_20180409T162023_20180409T171001_C001 CS_OFFL_SIR_IOP_2__20180409T171001_20180409T175936_C001 CS_OFFL_SIR_IOP_2_20180409T175936_20180409T184914_C001 CS_OFFL_SIR_IOP_2_20180409T184914_20180409T193850_C001 CS_OFFL_SIR_IOP_2_20180409T193850_20180409T202828_C001 CS_OFFL_SIR_IOP_2_20180409T202828_20180409T211803_C001

CS_OFFL_SIR_IOP_2_20180409T211803_20180409T220742_C001 CS_OFFL_SIR_IOP_2_20180409T220742_20180409T225717_C001

CS_OFFL_SIR_IOP_2_20180409T225717_20180409T234655_C002

CS_OFFL_SIR_IOP_2_20180409T234655_20180410T003630_C002

Test Failed
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SWH Averaging Status, Ocean Backscatter Averaging Status
SWH Averaging Status, Ocean Backscatter Averaging Status, Ice Backscatter Averaging Status SWH Averaging Status, Ocean Backscatter Averaging Status
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## Description

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

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

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### 6.8 P2P Ocean Retracking Quality Check

Cryosat P2P data includes an ocean retracking quality flag (field 19) for each $20-\mathrm{Hz}$ 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_2_20180408T234807_20180409T003745_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag has been set for one or more records. |
| CS_OFFL_SIR_IOP_2_20180409T003745_20180409T012721_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag has been set for one or more records. |
| CS_OFFL_SIR_IOP_2_20180409T012721_20180409T021659_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag has been set for one or more records. |


| CS_OFFL_SIR_IOP_2_20180409T021659_20180409T030634_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag has been set for one or more records. |
| :---: | :---: | :---: |
| CS_OFFL_SIR_IOP_2_20180409T035612_20180409T044548_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag has been set for one or more records. |
| CS_OFFL_SIR_IOP_2_20180409T044548_20180409T053526_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag has been set for one or more records. |
| CS_OFFL_SIR_IOP_2_20180409T053526_20180409T062501_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag has been set for one or more records. |
| CS_OFFL_SIR_IOP_2_20180409T062501_20180409T071439_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag has been set for one or more records. |
| CS_OFFL_SIR_IOP_2_20180409T071439_20180409T080415_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag has been set for one or more records. |
| CS_OFFL_SIR_IOP_2_20180409T080415_20180409T085353_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag has been set for one or more records. |
| CS_OFFL_SIR_IOP_2_20180409T085353_20180409T094328_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag has been set for one or more records. |
| CS_OFFL_SIR_IOP_2_20180409T103307_20180409T112242_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag has been set for one or more records. |
| CS_OFFL_SIR_IOP_2_20180409T112242_20180409T121220_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag has been set for one or more records. |
| CS_OFFL_SIR_IOP_2_20180409T121220_20180409T130155_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag has been set for one or more records. |
| CS_OFFL_SIR_IOP_2_20180409T130155_20180409T135134_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag has been set for one or more records. |
| CS_OFFL_SIR_IOP_2_20180409T135134_20180409T144109_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag has been set for one or more records. |
| CS_OFFL_SIR_IOP_2_20180409T144109_20180409T153047_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag has been set for one or more records. |
| CS_OFFL_SIR_IOP_2_20180409T153047_20180409T162023_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag has been set for one or more records. |
| CS_OFFL_SIR_IOP_2_20180409T162023_20180409T171001_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag has been set for one or more records. |
| CS_OFFL_SIR_IOP_2_20180409T171001_20180409T175936_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag has been set for one or more records. |
| CS_OFFL_SIR_IOP_2_20180409T175936_20180409T184914_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag has been set for one or more records. |
| CS_OFFL_SIR_IOP_2_20180409T184914_20180409T193850_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag has been set for one or more records. |
| CS_OFFL_SIR_IOP_2_20180409T193850_20180409T202828_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag has been set for one or more records. |
| CS_OFFL_SIR_IOP_2_20180409T202828_20180409T211803_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag has been set for one or more records. |
| CS_OFFL_SIR_IOP_2_20180409T211803_20180409T220742_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag has been set for one or more records. |
| CS_OFFL_SIR_IOP_2_20180409T220742_20180409T225717_C001 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag has been set for one or more records. |
| CS_OFFL_SIR_IOP_2_20180409T225717_20180409T234655_C002 | Ocean Retracking Quality Flag | The Ocean Retracking Quality Flag has been set for one or more records. |

