

1. Overview

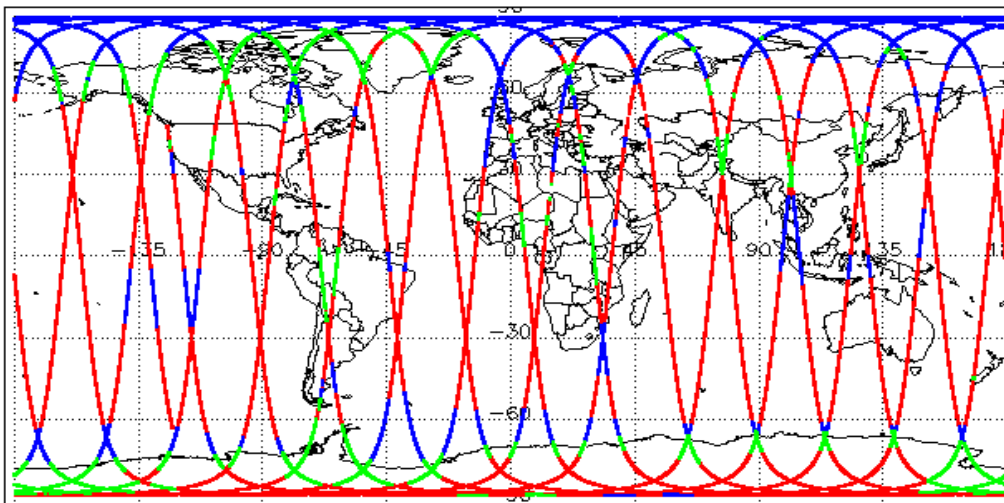
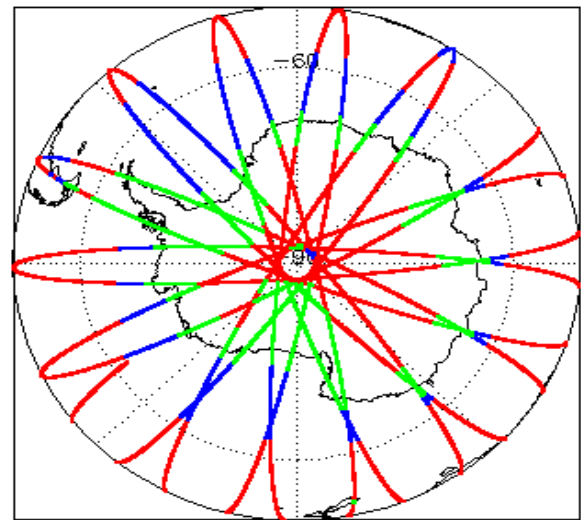
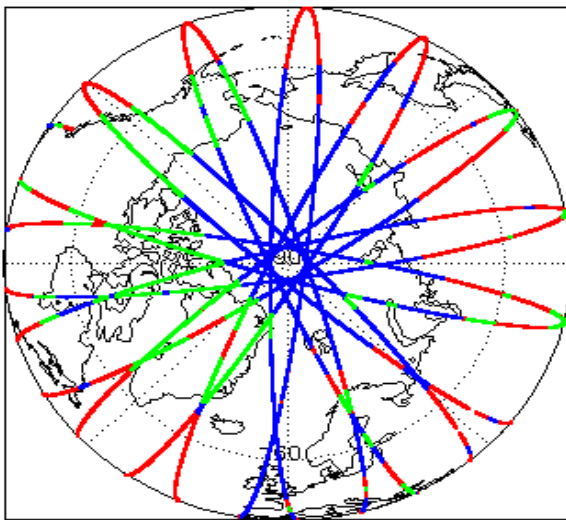
Report Production:	07-Jan-2019
Processor Used:	CryoSat Ocean Processor
Data Used:	Intermediate Ocean Products (IOP) L1B, L2 & P2P Science Data

Check	L1 & L2	P2P
Server check: science-pds.cryosat.esa.int	Nominal	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal	Nominal
Product Software Check	Nominal	Nominal
Product Format Check	Nominal	Nominal
Product Header Analysis	Nominal	Nominal
Auxiliary Data File Usage Check	Nominal	Nominal
Auxiliary Correction Error Check	Nominal	Nominal
Measurement Confidence Data Check	See Section 4.5, 4.6 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

01-Jan-2019	None
02-Jan-2019	None
03-Jan-2019	Nothing planned

2. Global Coverage



3. Instrument Configuration

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

SIRAL instrument(s) in use:	SIRAL - A
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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: 2

Product	Test Failed	Description
CS_OFFL_SIR_IOPM1B_20190102T110830_20190102T111947_C001	Power scaling error	There is an error in the scaling of the L1B waveform for one or more records
CS_OFFL_SIR_IOPM1B_20190102T210638_20190102T210742_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: 17

Product	Test Failed	Description
CS_OFFL_SIR_IOPN1B_20190102T010031_20190102T010059_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190102T055751_20190102T060209_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190102T065103_20190102T065236_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190102T073936_20190102T074205_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190102T104946_20190102T105004_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190102T190238_20190102T190626_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190102T190635_20190102T190809_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190102T200053_20190102T200706_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20190102T204256_20190102T204509_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20190102T025020_20190102T025340_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20190102T041743_20190102T042042_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20190102T042213_20190102T042940_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20190102T063517_20190102T064128_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20190102T073011_20190102T073504_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20190102T104701_20190102T104946_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20190102T203924_20190102T204146_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20190102T204221_20190102T204254_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: 2

Product	Test Failed	Description
CS_OFFL_SIR_IOPM_2_20190102T110830_20190102T111947_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records
CS_OFFL_SIR_IOPM_2_20190102T210638_20190102T210742_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.

Number of products with errors: 73

Product	Test Failed	Description
CS_OFFL_SIR_IOPM_2_20190102T001609_20190102T002627_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T003205_20190102T004904_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T011201_20190102T011827_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T013504_20190102T013933_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T014313_20190102T014856_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T015530_20190102T022816_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T025900_20190102T031752_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T032239_20190102T032750_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T033414_20190102T040819_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T043749_20190102T045659_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T050437_20190102T050652_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T051356_20190102T054631_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T060248_20190102T062131_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T062207_20190102T063516_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T064403_20190102T064600_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T064730_20190102T065102_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T065304_20190102T070823_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T071025_20190102T071948_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T073758_20190102T073936_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T074205_20190102T074501_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T074540_20190102T075908_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T082225_20190102T082525_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T082531_20190102T083003_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T083240_20190102T084652_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T092531_20190102T093236_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T093359_20190102T095733_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T100036_20190102T100901_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T101201_20190102T103718_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T110830_20190102T111947_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T112521_20190102T113550_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T114247_20190102T114702_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T115059_20190102T121802_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T122707_20190102T122844_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T124314_20190102T125901_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T130422_20190102T131446_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T132158_20190102T132741_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T133039_20190102T133522_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T140643_20190102T140752_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T142102_20190102T145431_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T150102_20190102T150614_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T151051_20190102T152742_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T155928_20190102T162819_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T162829_20190102T163322_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T163858_20190102T164101_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T164108_20190102T164522_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.

CS_OFFL_SIR_IOPM_2_20190102T165001_20190102T172325_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T174039_20190102T175040_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T175519_20190102T175741_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T175745_20190102T181239_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T181440_20190102T182000_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T182019_20190102T182228_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T183111_20190102T184334_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T184521_20190102T190237_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T192509_20190102T193438_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T193641_20190102T195134_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T195405_20190102T195900_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T200706_20190102T201030_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T202502_20190102T203801_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T211510_20190102T213056_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T213346_20190102T213827_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T214500_20190102T221150_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T224436_20190102T231006_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T231328_20190102T231727_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T231747_20190102T232112_C001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T232437_20190102T233542_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T234116_20190102T235110_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T235420_20190102T235550_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T083004_20190102T083148_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190102T091853_20190102T092037_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPN_2_20190102T232112_20190102T232227_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190102T051212_20190102T051356_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190102T150738_20190102T151051_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPR_2_20190102T222520_20190102T223046_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: 72

Product	Test Failed	Description
CS_OFFL_SIR_IOPM_2_20190102T001609_20190102T002627_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_20190102T003205_20190102T004904_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_20190102T011201_20190102T011827_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_20190102T013504_20190102T013933_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_20190102T014313_20190102T014856_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T015530_20190102T022816_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_20190102T025900_20190102T031752_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_20190102T032239_20190102T032750_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T033414_20190102T040819_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_20190102T042155_20190102T042213_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_20190102T043749_20190102T045659_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_20190102T050437_20190102T050652_C001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOPM_2_20190102T051356_20190102T054631_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_20190102T060248_20190102T062131_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_20190102T062207_20190102T063516_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_20190102T083004_20190102T083148_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_20190102T091853_20190102T092037_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_20190102T232112_20190102T232227_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_20190102T051212_20190102T051356_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_20190102T150738_20190102T151051_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_20190102T222520_20190102T223046_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: 62

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: 2

Product	Test Failed	Description
CS_OFFL_SIR_IOP_2_20190102T105340_20190102T114315_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records
CS_OFFL_SIR_IOP_2_20190102T204901_20190102T213836_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_20190102T000840_20190102T005818_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2_20190102T005818_20190102T014753_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_20190102T014753_20190102T023732_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2_20190102T023732_20190102T032707_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_20190102T032707_20190102T041645_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2_20190102T041645_20190102T050620_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_20190102T050620_20190102T055559_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_20190102T055559_20190102T064534_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_20190102T064534_20190102T073513_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2_20190102T073513_20190102T082447_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_20190102T082447_20190102T091426_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_20190102T091426_20190102T100401_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2_20190102T100401_20190102T105340_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_20190102T105340_20190102T114315_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2_20190102T114315_20190102T123253_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_20190102T123253_20190102T132228_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.

CS_OFFL_SIR_IOP_2_20190102T132228_20190102T141207_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_20190102T141207_20190102T150142_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2_20190102T150142_20190102T155121_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_20190102T155121_20190102T164055_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2_20190102T164055_20190102T173034_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_20190102T173034_20190102T182009_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_20190102T182009_20190102T190948_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_20190102T190948_20190102T195922_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_20190102T195922_20190102T204901_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2_20190102T204901_20190102T213836_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_20190102T213836_20190102T222815_C001	Ocean Range Averaging Status	The Ocean Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2_20190102T222815_20190102T231750_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_20190102T231750_20190103T000728_C002	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_20190102T000840_20190102T005818_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_20190102T005818_20190102T014753_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_20190102T014753_20190102T023732_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_20190102T023732_20190102T032707_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_20190102T032707_20190102T041645_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_20190102T041645_20190102T050620_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_20190102T050620_20190102T055559_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_20190102T055559_20190102T064534_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_20190102T064534_20190102T073513_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_20190102T073513_20190102T082447_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_20190102T082447_20190102T091426_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_20190102T091426_20190102T100401_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_20190102T100401_20190102T105340_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_20190102T105340_20190102T114315_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_20190102T114315_20190102T123253_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_20190102T123253_20190102T132228_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_20190102T132228_20190102T141207_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_20190102T141207_20190102T150142_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_20190102T150142_20190102T155121_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_20190102T155121_20190102T164055_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_20190102T164055_20190102T173034_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__20190102T173034_20190102T182009_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__20190102T182009_20190102T190948_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__20190102T190948_20190102T195922_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__20190102T195922_20190102T204901_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__20190102T204901_20190102T213836_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__20190102T213836_20190102T222815_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__20190102T222815_20190102T231750_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__20190102T231750_20190103T000728_C002	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: 28

Product	Test Failed	Description
CS_OFFL_SIR_IOP_2__20190102T000840_20190102T005818_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20190102T005818_20190102T014753_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20190102T014753_20190102T023732_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20190102T023732_20190102T032707_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20190102T032707_20190102T041645_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20190102T041645_20190102T050620_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20190102T050620_20190102T055559_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20190102T055559_20190102T064534_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20190102T064534_20190102T073513_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20190102T073513_20190102T082447_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20190102T082447_20190102T091426_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20190102T091426_20190102T100401_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20190102T100401_20190102T105340_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20190102T105340_20190102T114315_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20190102T114315_20190102T123253_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20190102T123253_20190102T132228_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20190102T132228_20190102T141207_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20190102T150142_20190102T155121_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20190102T155121_20190102T164055_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20190102T164055_20190102T173034_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20190102T173034_20190102T182009_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20190102T182009_20190102T190948_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20190102T190948_20190102T195922_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20190102T195922_20190102T204901_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20190102T204901_20190102T213836_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20190102T213836_20190102T222815_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20190102T222815_20190102T231750_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20190102T231750_20190103T000728_C002	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.