

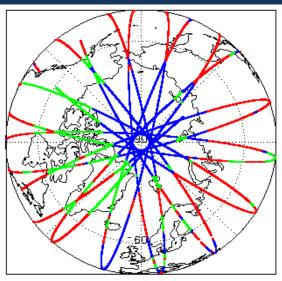
1. Overview

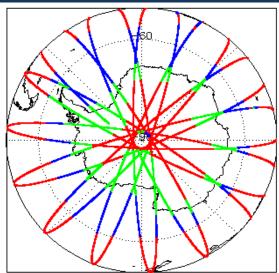
Report Production Date: 22-Oct-2020		
Processor Used:	CryoSat Ice Processor	
Data Used:	L1B and L2 OFFLINE Data	

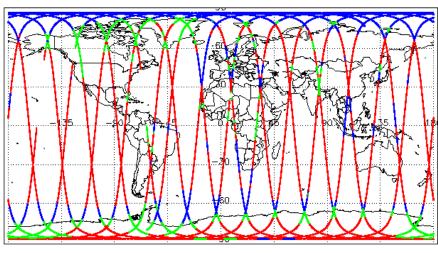
Check	Status
Server check: science-pds.cryosat.esa.int	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal
Product Software Check	Nominal
Product Format Check	Nominal
Product Header Analysis	Nominal
Star Tracker Usage Check	Nominal
L1B Tracking Flag Check	See Section 4.4
L1B Calibration Usage Check	See Section 4.5
L1B & L2 Auxiliary Data File Usage Check	Nominal
L1B & L2 Auxiliary Correction Error Check	Nominal
L1B & L2 Measurement Confidence Data Check	See Section 4.8 and 5.5
QCC Errors/ Warnings	See Section 6.1, 6.2 and 6.3

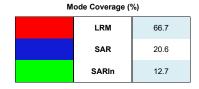
Mission / Instrument News		
20-Sep-2020	None	
21-Sep-2020	SIRAL unavailability on 21/09/2020 from 06:50:26 to 07:05:00 due to MMFU Recovery; STR/DORIS data gap on 21/09/2020 from 06:28:58 to 06:52:36	
22-Sep-2020	Nothing planned	

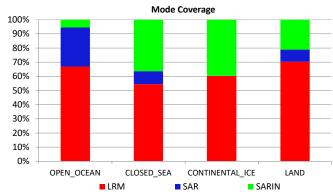
2. Global Coverage

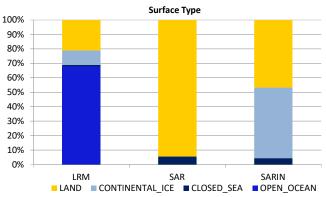












3. Instrument Configuration

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

SIRAL instrument(s) in use:

SIRAL - A

4. 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 product file (.DBL).

Number of products with errors:

4.2 L1B Product Header Analysis

For all products, a series of pre-defined checks are carried out 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 Star Tracker Usage Check

Each product is checked in order to ensure a valid star tracker file has been used in processing.

Number of products with errors:

0

4.4 L1B Tracking Flags Check

CryoSat L1B data includes a tracking 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 some products over land, but this is to be expected.

umber of products with errors:

gg

Product	Test Failed	Description	
CS_OFFL_SIR_LRM_1B_20200921T001103_20200921T002649_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T002912_20200921T002955_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T002957_20200921T003202_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T003308_20200921T003520_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T003534_20200921T004402_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T005027_20200921T005258_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T010044_20200921T011432_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T011612_20200921T012023_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T012321_20200921T012631_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T012633_20200921T012634_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T012636_20200921T013054_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T013058_20200921T013104_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T013106_20200921T013122_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T013152_20200921T013720_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T014935_20200921T015143_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T015305_20200921T020016_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T020139_20200921T022418_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T024032_20200921T030313_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T030320_20200921T030337_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T030643_20200921T030738_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T030916_20200921T030930_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T030932_20200921T031253_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T032757_20200921T032853_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T033015_20200921T033820_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T033822_20200921T040352_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T042000_20200921T044347_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T044350_20200921T044615_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T044619_20200921T045734_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T055856_20200921T061455_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T061457_20200921T062330_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T062511_20200921T062619_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T062757_20200921T062921_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T062954_20200921T063116_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T063327_20200921T063410_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T075244_20200921T075506_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T075515_20200921T075956_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T080139_20200921T080423_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T080708_20200921T080821_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T082535_20200921T083658_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T083944_20200921T090046_D001	Loss of echo	The tracking echo is missing for one or more records	
CS_OFFL_SIR_LRM_1B_20200921T100445_20200921T100728_D001	Loss of echo	The tracking echo is missing for one or more records	

CS_OFFL_SIR_LRM_1B_20200921T100732_20200921T101227_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T101406_20200921T103026_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T103028_20200921T103940_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T104811_20200921T105042_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T105854_20200921T111123_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T114321_20200921T114637_D001	Loss of echo	The tracking echo is missing for one or more records
CS OFFL SIR LRM 1B 20200921T114640 20200921T114920 D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T115237_20200921T120220_D001	Loss of echo	The tracking echo is missing for one or more records
CS OFFL SIR LRM 1B 20200921T120423 20200921T121856 D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T123613_20200921T124717_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T124719_20200921T124720_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T124722_20200921T124741_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T124744_20200921T124749_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T124751_20200921T124810_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T124830_20200921T124923_D001	Loss of echo	The tracking echo is missing for one or more records
	Loss of echo	
CS_OFFL_SIR_LRM_1B_20200921T130408_20200921T130911_D001		The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T132156_20200921T133215_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T133219_20200921T133532_D001	Loss of echo	The tracking cohe is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T141358_20200921T143936_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T143939_20200921T144720_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T150045_20200921T150716_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T150747_20200921T150750_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T150752_20200921T150753_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T150755_20200921T150800_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T150802_20200921T150814_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T151411_20200921T153451_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T155244_20200921T161859_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T161904_20200921T161905_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T161907_20200921T161912_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T161914_20200921T161947_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T161949_20200921T162020_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T162025_20200921T162048_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T163907_20200921T164711_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T164817_20200921T164953_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T164955_20200921T165005_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T165007_20200921T165158_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T165202_20200921T171602_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T181735_20200921T182456_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T182529_20200921T182606_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T182802_20200921T182912_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T183052_20200921T183229_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T183335_20200921T183636_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T183814_20200921T183831_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T184205_20200921T184832_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T185936_20200921T190506_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T191235_20200921T194717_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T200053_20200921T200114_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T200419_20200921T200507_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T200517_20200921T200527_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T200824_20200921T201117_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T203856_20200921T204404_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T205101_20200921T212639_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T214859_20200921T215326_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T222114_20200921T222309_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T223047_20200921T224334_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T224456_20200921T224729_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T225210_20200921T230629_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200921T233828_20200921T235242_D001	Loss of echo	The tracking echo is missing for one or more records

4.5 L1B Calibration Usage Check

Each product is checked in order to ensure that the necessary calibration files have been used in processing.

Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_SIN_1B_20200921T151404_20200921T151411_D001	Cal1 corr. missing	Cal1 Corr has not been applied

4.6 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:

4.7 L1B Auxiliary Correction Error Check

CryoSat L1B data includes a correction error flag (field 54) for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors:

4.8 L1B Measurement Confidence Data Check

CryoSat L1B data includes a measurement confidence flag (field 18) for each measurement record. The bit value of this flag indicates any problems when set

Currently, there are several common error flags raised in the Level 1B products which are expected due to operational mode or surface type. All common flags are summarised in the list below, followed by a table of any additional issues arising from this test.

Block Degraded Flag: This flag is currently set for a number of individual records generally at the start or end of products (all modes), but this is to be expected.

Phase Perturbation Flag: This flag is currently set for all L1B SARIn products, indicating that the ADC correction application is deactivated, but this is in line with the current configuration.

Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_LRM_1B_20200921T012636_20200921T013054_D001		The tracking echo has returned an error and the Rx1 Echo Error flag is set, indicating a degraded echo
CS_OFFL_SIR_LRM_1B_20200921T114321_20200921T114637_D001	Echo error, TRK echo error	The tracking echo has returned an error and the Rx1 Echo Error flag is set, indicating a degraded echo
CS_OFFL_SIR_LRM_1B_20200921T132156_20200921T133215_D001		The tracking echo has returned an error and the Rx1 Echo Error flag is set, indicating a degraded echo
CS_OFFL_SIR_SIN_1B_20200921T151404_20200921T151411_D001	Cal1 Correction missing,	The Cal1 Correction has not been applied

5. 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 product file (.DBL).

Number of products with errors:

5.2 L2 Product Header Analysis

For all products, a series of pre-defined checks are carried out 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

CryoSat L2 data includes a correction error flag (field 30) for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors:

5.5 L2 Measurement Quality Flag Check

CryoSat L2 data includes a quality flag (field 50) for each 20-Hz measurement record. The bit value of this flag indicates any problems when set.

Currently, there are several common error flags raised in the Level 2 products which are expected due to operational mode or surface type. All common flags are summarised in the list below, followed by a table of any additional issues arising from this test.

Freeboard error: This flag is correctly set in all L2 SAR products that are not discriminated as sea-ice, and for which freeboard cannot be calculated.

Height and Backscatter errors: These flags are currently set for products over land, but this is to be expected. Retracker 1 Height and Backscatter error flags are also set for products over sea-ice, but this is to be expected.

Peakiness error: This flag is currently set for products over sea-ice, but this is to be expected.

SARIn X-Track Angle Error: This flag is set when the difference between the computed surface elevation and the DEM is >50 m. The DEM is only available over Greenland and Antarctica and as a result this flag is set for L2 SARIn products in all other locations as expected.

SSHA interpolation error: This flag is currently set for a number of SAR products occurring at surface type boundaries, but this is to be expected.

Number of products with errors: 65

Product	Test Failed	Description
CS_OFFL_SIR_LRM_220200921T001103_20200921T002649_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T003534_20200921T004402_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T010044_20200921T011432_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220200921T011612_20200921T012023_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T012636_20200921T013054_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records

CS_OFFL_SIR_LRM_220200921T014619_20200921T014705_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T014935_20200921T015143_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2), Surface model unavailable	There is a height and backscatter error for Retracker 2 and no DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220200921T015305_20200921T020016_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220200921T020139_20200921T022418_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220200921T024032_20200921T030313_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T031428_20200921T031712_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T031734_20200921T031757_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T033822_20200921T040352_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T042000_20200921T044347_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T044619_20200921T045734_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2), Surface model unavailable	There is a height and backscatter error for Retracker 2 , a height error for Retracker 3 and no DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220200921T051203_20200921T051452_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T051506_20200921T054149_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T055856_20200921T061455_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T061457_20200921T062330_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T063441_20200921T063618_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T064813_20200921T065026_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T070501_20200921T072125_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T075048_20200921T075231_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T082420_20200921T082507_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T082535_20200921T083658_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2), Surface model unavailable	There is a height and backscatter error for Retracker 2 , a height error for Retracker 3 and no DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220200921T083944_20200921T090046_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220200921T091821_20200921T092815_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T093002_20200921T093720_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220200921T093816_20200921T094222_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T100445_20200921T100728_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220200921T100732_20200921T101227_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220200921T101406_20200921T103026_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220200921T103028_20200921T103940_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records

CS_OFFL_SIR_LRM_220200921T105854_20200921T111123_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T111153_20200921T112913_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T114321_20200921T114637_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220200921T114640_20200921T114920_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220200921T115237_20200921T120220_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220200921T120423_20200921T121856_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220200921T123613_20200921T124717_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T130408_20200921T130911_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2), Surface model unavailable	There is a height and backscatter error for Retracker 2 , a height error for Retracker 3 and no DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220200921T131209_20200921T131245_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T132156_20200921T133215_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220200921T134348_20200921T135734_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T141358_20200921T143936_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220200921T150802_20200921T150814_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220200921T151411_20200921T153451_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T155244_20200921T161859_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220200921T163907_20200921T164711_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T165202_20200921T171602_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220200921T173234_20200921T180613_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220200921T181735_20200921T182456_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220200921T183052_20200921T183229_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T191235_20200921T194717_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2), Surface model unavailable	There is a height and backscatter error for Retracker 2 , a height error for Retracker 3 and no DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220200921T201730_20200921T203326_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T205101_20200921T212639_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220200921T213701_20200921T213828_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2), Surface model unavailable	There is a height and backscatter error for Retracker 2 and no DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220200921T214859_20200921T215326_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220200921T215402_20200921T221140_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220200921T223047_20200921T224334_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T224456_20200921T224729_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records

CS_OFFL_SIR_LRM_220200921T225210_20200921T230629_D001		There is a height and backscatter error for Retracker 2 , a height error for Retracker 3 and no DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220200921T231906_20200921T233644_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200921T233828_20200921T235242_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_SIN_220200921T151404_20200921T151411_D001		The Calibration correction is missing or has been taken from the IPFDB instead of the Calibration products for one or more records

6. QCC Report Analysis

The Quality Control for CryoSat (QCC) facility performs a primary survey of data products immediately after production by the PDS and LTA processing facilities. A list of the tests which raised errors or warnings is provided below.

Product type	No. Products	No. QCC Reports	No. Valid	No. Warnings	No. Errors
SIR_LRM_1B	159	159	159	0	0
SIR_SAR_1B	97	97	97	0	0
SIR_SIN_1B	105	105	105	0	0
SIR_LRM_2	159	159	151	8	0
SIR_SAR_2	105	97	97	0	0
SIR_SIN_2	97	105	101	4	0
SIR GDR 2	14	14	0	0	14

6.1 QCC Errors

Number of products with QCC errors:

14

Product Type	MPHDUTNCDF	MPHXPFNCDF	MPHXVFNCDF	MPHYPFNCDF	MPHYVFNCDF	MPHZPFNCDF	MPHZVFNCDF	STRUCTURESIZ EANDREAD	-	-	-
SIR_GDR_2_	14	14	14	14	14	14	14	14			

rest Description Key:					
Abbreviation	Test name	Details			
MPHDUTNCDF	MPH_Delta_UT1_NetCDF	Delta_UT1 mismatch			
MPHXPFNCDF	MPH_X_Position_Float_v2_NetCDF	X_Position mismatch (DBL float (GDR), rounded to 100)			
MPHXVFNCDF	MPH_X_Velocity_Float_v2_NetCDF	X_Velocity mismatch (DBL float (GDR), rounded to 1)			
MPHYPFNCDF	MPH_Y_Position_Float_v2_NetCDF	Y_Position mismatch (DBL float (GDR), rounded to 100)			
MPHYVFNCDF	MPH_Y_Velocity_Float_v2_NetCDF	Y_Velocity mismatch (DBL float (GDR), rounded to 1)			
MPHZPFNCDF	MPH_Z_Position_Float_v2_NetCDF	Z_Position mismatch (DBL float (GDR), rounded to 100)			
MPHZVFNCDF	MPH_Z_Velocity_Float_v2_NetCDF	Z_Velocity mismatch (DBL float (GDR), rounded to 1)			
STRUCTURESIZEANDF	STRUCTURE_SIZE_AND_READ	Under investigation.			

6.2 QCC Warnings

Number of QCC reports with warnings

12

Total number of occurrences of each warning

Product Type	AXDME	AXSMMEOCI	•	-	•	•	•
SIR_LRM_2_	0	8					
SIR_SIN_2_	4	0					
					•		

Test Description Key:					
Abbreviation	Test name	Details			
AXDME	AttributeXrefDemMustExist	The xref_dem attribute is mandatory in SIN products over continental ice			
AXSMMEOCI	AttributeXrefSlopeModelMustExistOverContinentalIce	The xref_slope_model is mandatory in LRM products over continental ice			

6.2 Missing QCC Reports

Number of products with missing QCC reports:

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