

# **QA4EO Daily Report for OFFLINE data:**

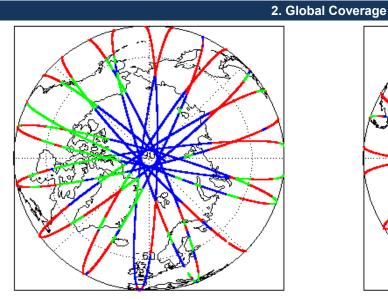
<u>04/12/2020</u>

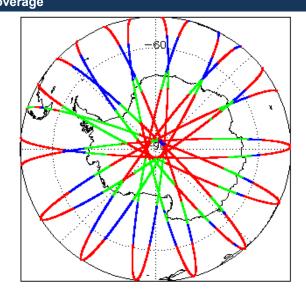
### 1. Overview

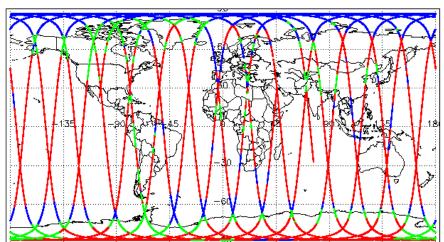
Demont Draduation Dates	06-Jan-2021	Check	Status	
Report Production Date:	06-Jan-2021	Server check: science-pds.cryosat.esa.int	Nominal	
Processor Used:	CryoSat Ice Processor	Server check: calval-pds.cryosat.esa.int	Nominal	
Processor Usea:	CryoSal ice Processor	Product Software Check	Nominal	
Data Used:		Product Format Check	Nominal	
Dala Useu.	L1B and L2 OFFLINE Data Product Header Analysis	Product Header Analysis	Nominal	
		Star Tracker Usage Check	Nominal	
		L1B Tracking Flag Check	See Section 4.4	
		L1B Calibration Usage Check	Nominal	
		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

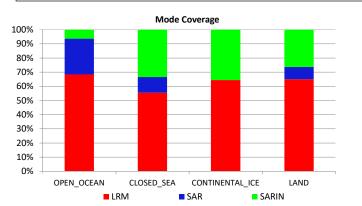
03-Dec-2020	Due to a Collision Avoidance Manoeuvre, SIRAL will be unavailable from the 03/12/2020 at 08:48:39 until 13:03:20
04-Dec-2020	None
05-Dec-2020	Nothing planned

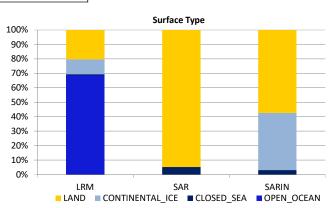






# Mode Coverage (%) LRM 67.1 SAR 19.0 SARIn 13.8





### 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:

#### 4.3 Star Tracker Usage Check

Each product is checked in order to ensure a valid star tracker file has been used in processing. 0

Number of products with errors:

### 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.

#### Number of products with errors: 166

Product	Test Failed	Description
CS_OFFL_SIR_LRM_1B_20201203T235104_20201204T001435_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T001702_20201204T001707_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T001831_20201204T002355_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T002503_20201204T002513_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T004604_20201204T004607_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T004610_20201204T004622_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T004624_20201204T004759_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T004801_20201204T011315_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T012546_20201204T012651_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T013009_20201204T015740_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T015743_20201204T015744_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T015748_20201204T020031_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T020104_20201204T020325_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T020432_20201204T020656_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T030001_20201204T030531_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T031626_20201204T032500_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T032604_20201204T033103_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T033657_20201204T033746_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T033835_20201204T033908_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T050924_20201204T051414_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T051443_20201204T051620_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T051622_20201204T051628_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T053530_20201204T061057_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T061924_20201204T062318_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T071410_20201204T071537_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T071539_20201204T071554_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T071556_20201204T071645_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T071647_20201204T072842_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T073324_20201204T073648_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T073803_20201204T075044_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T080834_20201204T082142_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T082356_20201204T084038_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T085319_20201204T085414_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T085417_20201204T085620_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T085623_20201204T085704_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T085707_20201204T085759_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T085801_20201204T085809_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T085812_20201204T085827_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T085830_20201204T085850_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T085853_20201204T090006_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T090319_20201204T091345_D001	Loss of echo	The tracking echo is missing for one or more records

CS OFFL SIR LRM 1B 20201204T091525 20201204T092914 D001 CS OFFL SIR LRM 1B 20201204T094835 20201204T095012 D001 CS OFFL SIR LRM 1B 20201204T095014 20201204T095022 D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T095307\_20201204T095759\_D001 CS OFFL SIR LRM 1B 20201204T100252 20201204T100301 D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T100311\_20201204T100314\_D001 CS OFFL SIR LRM 1B 20201204T100317 20201204T100341 D001 CS OFFL SIR LRM 1B 20201204T100344 20201204T100345 D001 CS OFFL SIR LRM 1B 20201204T100348 20201204T100355 D001 CS OFFL SIR LRM 1B 20201204T100357 20201204T100412 D001 CS OFFL SIR LRM 1B 20201204T100418 20201204T100735 D001 CS OFFL SIR LRM 1B 20201204T100858 20201204T101607 D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T103135\_20201204T103648\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T103651\_20201204T103819\_D001 CS OFFL SIR LRM 1B 20201204T103822 20201204T103910 D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T103914\_20201204T103919\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T103924\_20201204T104038\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T104429\_20201204T104432\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T104434\_20201204T104624\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T111656\_20201204T111907\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T112348\_20201204T114634\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T114639\_20201204T114650\_D001 CS OFFL SIR LRM 1B 20201204T114652 20201204T114930 D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T114933\_20201204T115127\_D001 CS OFFL SIR LRM 1B 20201204T115207 20201204T115729 D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T121436\_20201204T121915\_D001 CS OFFL SIR LRM 1B 20201204T122326 20201204T124714 D001 CS OFFL SIR LRM 1B 20201204T125556 20201204T125921 D001 CS OFFL SIR LRM 1B 20201204T140202 20201204T141938 D001 CS OFFL SIR LRM 1B 20201204T143026 20201204T143828 D001 CS OFFL SIR LRM 1B 20201204T144356 20201204T151541 D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T153024\_20201204T153108\_D001 CS OFFL SIR LRM 1B 20201204T153414 20201204T153611 D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T153613\_20201204T153718\_D001 CS OFFL SIR LRM 1B 20201204T153737 20201204T153754 D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T153756\_20201204T153822\_D001 CS OFFL SIR LRM 1B 20201204T154042 20201204T154216 D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T154726\_20201204T154930\_D001 CS\_OFEL\_SIR\_LRM\_1B\_20201204T155040\_20201204T155515\_D001 CS OFFL SIR LRM 1B 20201204T164614 20201204T165755 D001 CS OFFL SIR LRM 1B 20201204T171703 20201204T171836 D001 CS OFFL SIR LRM 1B 20201204T171838 20201204T171843 D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T171915\_20201204T172411\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T172623\_20201204T173222\_D001 CS OFFL SIR LRM 1B 20201204T180135 20201204T182734 D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T183111\_20201204T183511\_D001 CS OFFL SIR LRM 1B 20201204T183514 20201204T183532 D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T183536\_20201204T183751\_D001 CS OFFL SIR LRM 1B 20201204T194518 20201204T195641 D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T195644\_20201204T200716\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T201115\_20201204T201219\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T201221\_20201204T201322\_D001 CS OFFL SIR LRM 1B 20201204T201326 20201204T201331 D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T201333\_20201204T201355 D001 CS OFFL SIR LRM 1B 20201204T201358 20201204T201601 D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T201604\_20201204T201728\_D001 CS OFFL SIR LRM 1B 20201204T203043 20201204T204632 D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T204906\_20201204T205145\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T205251\_20201204T210355\_D001 CS OFFL SIR LRM 1B 20201204T211012 20201204T211246 D001 CS OFFL SIR LRM 1B 20201204T213558 20201204T213840 D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T214307\_20201204T215010\_D001 CS OFFL SIR LRM 1B 20201204T215012 20201204T215018 D001 CS\_OFFL\_SIR\_LRM\_1B\_20201204T215020\_20201204T215032\_D001

Loss of echo l oss of echo Loss of echo l oss of echo Loss of echo l oss of echo Loss of echo l oss of echo Loss of echo

The tracking echo is missing for one or more records The tracking echo is missing for one or more records

CS OFFL SIR LRM 1B 20201204T215036 20201204T215040 D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T215045_20201204T215047_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T215050_20201204T215102_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T215130_20201204T215148_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T215150_20201204T215153_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T215159_20201204T215207_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T215209_20201204T215731_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T220915_20201204T221125_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T221247_20201204T221949_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T222121_20201204T224425_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T224757_20201204T225648_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T225949_20201204T232258_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T232305_20201204T232331_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T232626_20201204T232721_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T232854_20201204T233242_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T234740_20201204T234835_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201204T234957_20201205T002319_D001	Loss of echo	The tracking echo is missing for one or more records
	1	1

#### 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: 0

#### 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: 0

#### 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: 0

### 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: 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:

#### 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.

Product	Test Failed	Description
CS_OFFL_SIR_LRM_220201203T235104_20201204T001435_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_220201204T004801_20201204T011315_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_220201204T013009_20201204T015740_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_220201204T020432_20201204T020656_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_220201204T022017_20201204T025159_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_220201204T035907_20201204T043208_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_220201204T044949_20201204T050557_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_220201204T050924_20201204T051414_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_220201204T053530_20201204T061057_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_220201204T062819_20201204T070146_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_220201204T071556_20201204T071645_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220201204T071647_20201204T072842_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_220201204T073324_20201204T073648_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_220201204T073803_20201204T075044_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_220201204T080834_20201204T082142_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_220201204T082356_20201204T084038_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_220201204T090319_20201204T091345_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_220201204T091525_20201204T092914_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_220201204T095307_20201204T095759_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_220201204T100418_20201204T100735_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_220201204T100858_20201204T101607_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_220201204T101729_20201204T101913_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_220201204T104746_20201204T110805_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_220201204T112348_20201204T114634_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_220201204T122326_20201204T124714_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_220201204T130326_20201204T133517_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_220201204T140202_20201204T141938_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_220201204T144356_20201204T151541_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_220201204T152851_20201204T153002_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_220201204T155843_20201204T160420_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_220201204T162213_20201204T164328_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_220201204T164614_20201204T165755_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_220201204T171838_20201204T171843_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_0FFL_SIR_LRM_220201204T172623_20201204T173222_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_220201204T173410_20201204T174425_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_220201204T180135_20201204T182734_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_220201204T183111_20201204T183511_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_220201204T184941_20201204T184946_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_220201204T185735_20201204T192156_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_220201204T194049_20201204T194427_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_220201204T194518_20201204T195641_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_220201204T195644_20201204T200716_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_220201204T203043_20201204T204632_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_220201204T205251_20201204T210355_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_220201204T212003_20201204T213418_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_0FFL_SIR_LRM_220201204T213558_20201204T213840_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_220201204T220915_20201204T221125_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_220201204T221247_20201204T221949_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_220201204T222121_20201204T224425_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_220201204T225949_20201204T232258_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

## 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	177	177	177	0	0
SIR_SAR_1B	106	106	106	0	0
SIR_SIN_1B	107	107	107	0	0
SIR_LRM_2	175	175	171	4	0
SIR_SAR_2	107	106	106	0	0
SIR_SIN_2	106	107	105	2	0
SIR_GDR_2	15	15	0	0	15

### Number of products with QCC errors:

15

7

1

Product Type	MPHDUTNCDF	MPHXPFNCDF	MPHXVFNCDF	MPHYPFNCDF	MPHYVFNCDF	MPHZPFNCDF	MPHZVFNCDF	STRUCTURESIZ EANDREAD	-	-	-
SIR_GDR_2_	15	15	15	15	15	15	15	15			
0											
Test Descriptio	n Kau										
Abbreviation	Test na	ime		Details							
MPHDUTNCDF	MPH_De	elta_UT1_NetCDF		Delta_UT1 mismat	ch						
MPHXPFNCDF	MPH_X_	Position_Float_v2	NetCDF	X_Position mismat	tch (DBL float (GDF	R), 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)							
STRUCTURESIZEANDESTRUCTURE SIZE AND READ		READ	Under investigation.								
	1			1							

### 6.2 QCC Warnings

Number of QCC reports with warnings

Total number of occurrences of each warning

Product Type	AXDME	AXSMMEOCI	-	-	-	-	-		
SIR_GDR_2_	0	1							
SIR_LRM_2_	0	4							
,		,	'		'		'		
Test Description Key:									
Abbreviation	Test name Details								
AXDME	AttributeXrefDemMustExist	er continental ice							
AXSMMEOCI	AttributeXrefSlopeModelMu	stExistOverContinentalIce		The xref_slope_model is mandatory in LRM products over continental ice					

## 6.2 Missing QCC Reports

Number of products with missing QCC reports:

Product name CS\_OFFL\_SIR\_GDR\_2\_\_20201204T231614\_20201205T005529\_D002