

# 30/06/2021



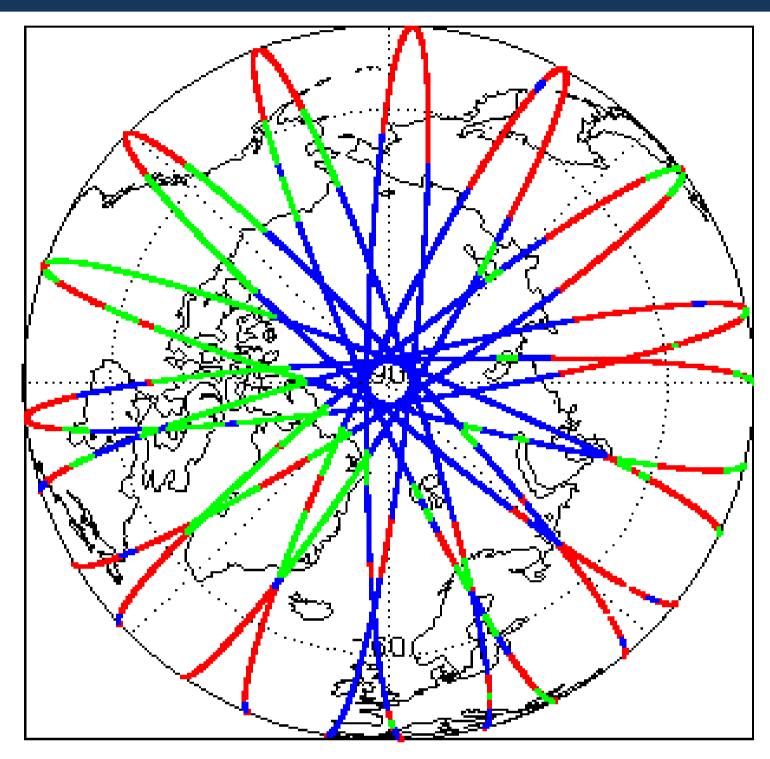
# 1. Overview

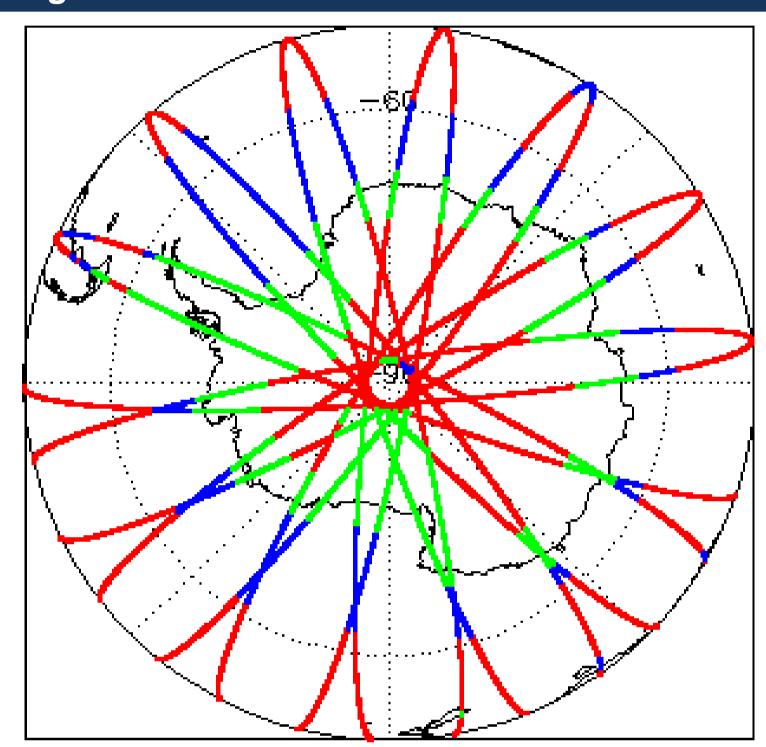
Report Production Date:	30-Jul-2021	
Processor Used:	CryoSat Ice Processor	
Data Used:	L1B and L2 OFFLINE Data	

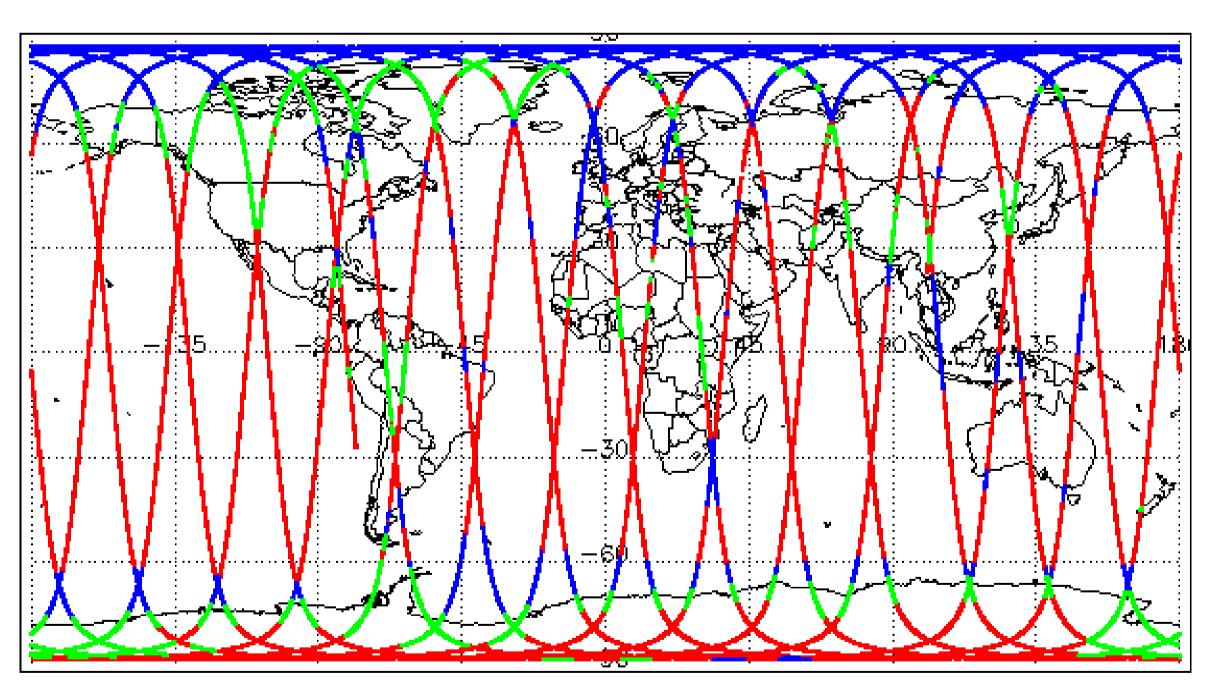
Check	Status
Server check: science-pds.cryosat.esa.int	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal
Product Software Check	Nominal
Product Format Check	Nominal
Product Header Analysis	Nominal
Star Tracker Usage Check	Nominal
L1B Tracking Flag Check	See Section 4.4
L1B Calibration Usage Check	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

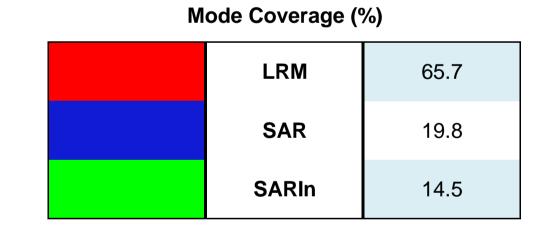
Mission / Instru	iment News
29-Jun-2021	None
30-Jun-2021	None
01-Jul-2021	Nothing planned

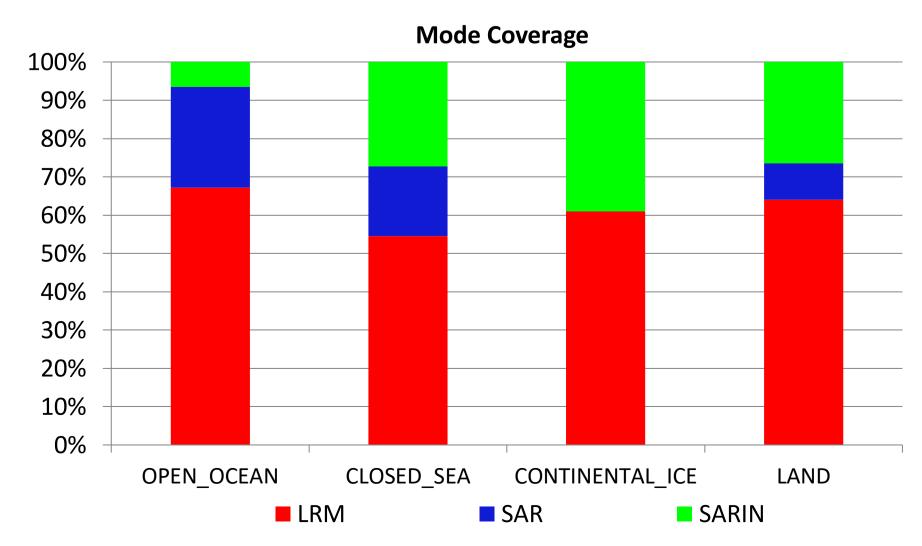
# 2. Global Coverage

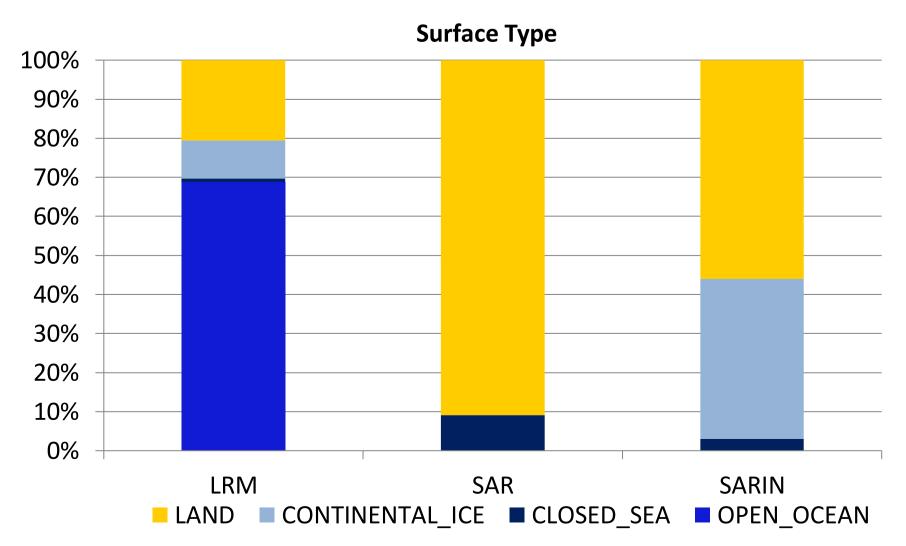












## 3. Instrument Configuration

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

SIRAL instrument(s) in use:

SIRAL - A

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110

# 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.

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:

Product	Test Failed	Description
CS_OFFL_SIR_LRM_1B_20210630T000533_20210630T001159_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T001442_20210630T002136_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T002439_20210630T002455_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T003542_20210630T004154_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T004156_20210630T004218_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T004221_20210630T004313_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T004316_20210630T004356_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T011715_20210630T012054_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T012116_20210630T012421_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T012749_20210630T015414_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T015419_20210630T015420_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T015423_20210630T015441_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T015444_20210630T015556_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T021703_20210630T021738_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T021806_20210630T021836_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T021853_20210630T022536_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T022712_20210630T022818_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T022820_20210630T025227_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T035633_20210630T040022_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T040056_20210630T040254_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T040339_20210630T041006_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T041008_20210630T041017_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T041023_20210630T041038_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T041041_20210630T041131_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T041142_20210630T041301_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T041304_20210630T041654_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T041656_20210630T042133_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T053909_20210630T054044_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T054056_20210630T054204_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T055110_20210630T061011_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T062612_20210630T070214_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T072126_20210630T072150_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T072215_20210630T072236_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T072411_20210630T072854_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T072935_20210630T074902_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T080606_20210630T084212_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T091354_20210630T092703_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T093553_20210630T093750_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T094505_20210630T100013_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T101506_20210630T102150_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T103723_20210630T105056_D001	Loss of echo	The tracking echo is missing for one or more records

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CS_OFFL_SIR_LRM_1B_20210630T105537_20210630T105754_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T105800_20210630T105801_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T105804_20210630T105810_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T105815_20210630T105816_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T105818_20210630T105846_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T105848_20210630T110420_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T110447_20210630T110517_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T114732_20210630T114841_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T115046_20210630T115127_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T115145_20210630T115728_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T115732_20210630T120147_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T121713_20210630T122302_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T122547_20210630T124912_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T125227_20210630T130054_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T130426_20210630T132907_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T133239_20210630T133712_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T135212_20210630T135257_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T135419_20210630T135804_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T140018_20210630T140101_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T140105_20210630T140134_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T140138_20210630T140141_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T140147_20210630T140151_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T140154_20210630T140156_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T140200_20210630T142803_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T144319_20210630T150826_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T150829_20210630T150908_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T150910_20210630T150952_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T150956_20210630T151203_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T151249_20210630T151415_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T151448_20210630T151503_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T151503_20210630T151801_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T163218_20210630T163628_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T164002_20210630T164018_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T164157_20210630T164745_D001	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_20210630T165033_20210630T165053_D001	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_20210630T165056_20210630T165105_D001	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_20210630T165123_20210630T165258_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T165258_20210630T165439_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T165732_20210630T165746_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T182247_20210630T182825_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T182944_20210630T183004_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T183015_20210630T183033_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T183040_20210630T183151_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T192023_20210630T192456_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T193305_20210630T193719_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T202814_20210630T203345_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T204713_20210630T204854_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T204858_20210630T204927_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T204929_20210630T205748_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T212309_20210630T213532_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T220727_20210630T221257_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T221703_20210630T222616_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T222618_20210630T222634_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T230518_20210630T230818_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T230824_20210630T230835_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T230841_20210630T230855_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T230857_20210630T230917_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T230921_20210630T230934_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T230937_20210630T230952_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T231027_20210630T231058_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T231700_20210630T232123_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T232127_20210630T232514_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T232644_20210630T232957_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T234608_20210630T235111_D001	Loss of echo	The tracking echo is missing for one or more records
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CS_OFFL_SIR_LRM_1B_20210630T235141_20210630T235203_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T235205_20210630T235209_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T235211_20210630T235535_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T235537_20210630T235644_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210630T235833_20210630T235938_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:

#### 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_20210630T021853_20210630T022536_D001	TECHO ERROL TRK ECHO ERROL	The tracking echo has returned an error and the Rx1 Echo Error flag is set, indicating a degraded echo
CS_OFFL_SIR_LRM_1B_20210630T080606_20210630T084212_D001	TECHO EMOL TRK ECHO EMOL	The tracking echo has returned an error and the Rx1 Echo Error flag is set, indicating a degraded echo
CS_OFFL_SIR_LRM_1B_20210630T165258_20210630T165439_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

### 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.

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**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:

Product	Test Failed	Description
CS_OFFL_SIR_LRM_220210629T235331_20210630T000458_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_220210630T000533_20210630T001159_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_220210630T001442_20210630T002136_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_220210630T002439_20210630T002455_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_220210630T004156_20210630T004218_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records	
CS_OFFL_SIR_LRM_220210630T005048_20210630T011227_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_220210630T012749_20210630T015414_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_220210630T021703_20210630T021738_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_220210630T021853_20210630T022536_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records	
CS_OFFL_SIR_LRM_220210630T022820_20210630T025227_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_220210630T030729_20210630T034046_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_220210630T035435_20210630T035454_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_220210630T040339_20210630T041006_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_220210630T041656_20210630T042133_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_220210630T042649_20210630T043135_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_220210630T044723_20210630T052024_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_220210630T055110_20210630T061011_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_220210630T062612_20210630T070214_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_220210630T072411_20210630T072854_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_220210630T072935_20210630T074902_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_220210630T080606_20210630T084212_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_220210630T085426_20210630T091319_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_220210630T091354_20210630T092703_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_220210630T094505_20210630T100013_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_220210630T100215_20210630T101136_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_220210630T103353_20210630T103638_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_220210630T103723_20210630T105056_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_220210630T112440_20210630T113843_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_220210630T115145_20210630T115728_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records	
CS_OFFL_SIR_LRM_220210630T121713_20210630T122302_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records	

SQUEST PROCESSORY AND CONTROL OF			
Page 17 - 2 August 19 Augu	CS_OFFL_SIR_LRM_220210630T122318_20210630T122424_D001	(Retracker 3), Backscatter Error	
Could set that you have been contributed and the set of	CS_OFFL_SIR_LRM_220210630T122547_20210630T124912_D001	, ,	
DECEMBER 1991 2 000 (SIGNITI-AND 2 000100000 140000 0001 0001 0001 0001	CS_OFFL_SIR_LRM_220210630T130426_20210630T132907_D001	· · · · · · · · · · · · · · · · · · ·	
Page   Non-Departure 20, Buddendown   Page	CS_OFFL_SIR_LRM_220210630T133850_20210630T133909_D001		
Legic Enter (Patrice 2), Because and Patrice Control of the Service	CS_OFFL_SIR_LRM_220210630T140105_20210630T140134_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
Part Services 2.  Co. OPPL SIR LINE 2. 2021/25071-0009_2001/25071-0009_DOI  Co. OPPL SIR LINE 3. 2021/25071-0009_2001/25071-0009_2001  Co. OPPL SIR LINE 3. 2021/25071-0009_2001/25071-0009_2001  Co. OPPL SIR LINE 3. 2021/25071-0009_2001/25071-0009_2	CS_OFFL_SIR_LRM_220210630T140200_20210630T142803_D001		
SC GEF. SIR LEW 2 2007/00001740005 ZEX IDENTITY FIGURE 2007 SERVICE DOTS  SC GEF. SIR LEW 2 2007/00001740005 ZEX IDENTITY FIGURE 2007 SERVICE DOTS  SC GEF. SIR LEW 2 2007/00001740005 ZEX IDENTITY FIGURE 2007 SERVICE DOTS  SC GEF. SIR LEW 2 2007/00001740005 ZEX IDENTITY FIGURE 2007 SERVICE DOTS  SC GEF. SIR LEW 2 2007/00001740005 ZEX IDENTITY FIGURE 2007 SERVICE DOTS  SC GEF. SIR LEW 2 2007/00001740005 ZEX IDENTITY FIGURE 2007 SERVICE DOTS  SC GEF. SIR LEW 2 2007/00001740005 ZEX IDENTITY FIGURE 2007 SERVICE DOTS  SC GEF. SIR LEW 2 2007/00001740005 ZEX IDENTITY FIGURE 2007 SERVICE DOTS  SC GEF. SIR LEW 2 2007/00001740005 ZEX IDENTITY FIGURE 2007 SERVICE DOTS  SC GEF. SIR LEW 2 2007/00001740005 ZEX IDENTITY FIGURE 2007 SERVICE DOTS  SC GEF. SIR LEW 2 2007/00001740005 ZEX IDENTITY FIGURE 2007 SERVICE DOTS  SC GEF. SIR LEW 2 2007/00001740005 ZEX IDENTITY FIGURE 2007 SERVICE DOTS  SC GEF. SIR LEW 2 2007/00001740005 ZEX IDENTITY FIGURE 2007 SERVICE DOTS  SC GEF. SIR LEW 2 2007/00001740005 ZEX IDENTITY FIGURE 2007 SERVICE DOTS  SC GEF. SIR LEW 2 2007/0000174005 ZEX IDENTITY FIGURE 2007 SERVICE DOTS  SC GEF. SIR LEW 2 2007/0000174005 ZEX IDENTITY FIGURE 2007 SERVICE DOTS  SC GEF. SIR LEW 2 2007/0000174005 ZEX IDENTITY FIGURE 2007 SERVICE DOTS  SC GEF. SIR LEW 2 2007/0000174005 ZEX IDENTITY FIGURE 2007 SERVICE DOTS  SC GEF. SIR LEW 2 2007/0000174005 ZEX IDENTITY FIGURE 2007 SERVICE DOTS  SC GEF. SIR LEW 2 2007/0000174005 ZEX IDENTITY FIGURE 2007 SERVICE DOTS  SC GEF. SIR LEW 2 2007/0000174005 ZEX IDENTITY FIGURE 2007 ZEX IDENTITY FIGURE 2007 SERVICE DOTS  SC GEF. SIR LEW 2 2007/0000174005 ZEX IDENTITY FIGURE 2007 SERVICE DOTS  SC GEF. SIR LEW 2 2007/0000174005 ZEX IDENTITY FIGURE 2007 SERVICE DOTS  SC GEF. SIR LEW 2 2007/0000174005 ZEX IDENTITY FIGURE 2007 SERVICE DOTS  SC GEF. SIR LEW 2 2007/0000174005 ZEX IDENTITY FIGURE 2007 SERVICE DOTS  SC GEF. SIR LEW 2 2007/0000174005 ZEX IDENTITY FIGURE 2007 SERVICE DOTS  SC GEF. SIR LEW 2 2007/0000174005 ZEX IDENTITY FIGURE 2007 ZEX IDENTITY FIGURE 2007 ZEX IDENTITY FIGURE 2007	CS_OFFL_SIR_LRM_220210630T144319_20210630T150826_D001	· · · · · · · · · · · · · · · · · · ·	
Enrol (Richarder 2)  Final (Ri	CS_OFFL_SIR_LRM_220210630T153505_20210630T160641_D001	(Retracker 3), Backscatter Error	
CS_OPT_SRLINY_2_20210931199052_20210931199052_2010  SS_OPT_SRLINY_2_20210931199052_2021093119290_2001  Hight Error (Reached 2), Backsociator for the is a height and bedacatiler error for Nationary 2 for one or more records  SS_OPT_SRLINY_2_20210931199052_2021093119290_2001  Hight Error (Reached 2), Backsociator for the is a height and bedacatiler error for Nationary 2 for one or more records  SS_OPT_SRLINY_2_20210931199053_2021093119290_2001  Hight Error (Reached 2), Backsociator for the is a height and bedacatiler error for Nationary 2 for one or more records  SS_OPT_SRLINY_2_20210931199153_2021093119352_001  Hight Error (Reached 2), Backsociator for the is a height and bedacatiler error for Nationary 2 for one or more records  SS_OPT_SRLINY_2_202109311930173_20210_201193119301001  Hight Error (Reached 2), Backsociator for the is a height and bedacatiler error for Nationary 2 for one or more records  SS_OPT_SRLINY_2_202109311930173_20210_201193119301001  Hight Error (Reached 2), Backsociator for the is a height and bedacatiler error for Reached 2 for one or more records  SS_OPT_SRLINY_2_202109311930479_20210931193497_3001  Hight Error (Reached 2), Backsociator for the is a height and bedacatiler error for Reached 2 for one or more records  SS_OPT_SRLINY_2_20210931193498_20210931193497_3001  Hight Error (Reached 2), Backsociator for the is a height and bedacatiler error for Reached 2 for one or more records  SS_OPT_SRLINY_2_20210931193498_20210931193497_3001  Hight Error (Reached 2), Backsociator for the is a height and bedacatiler error for Reached 2 for one or more records  SS_OPT_SRLINY_2_2021093119399_2021093119352_0001  Hight Error (Reached 2), Backsociator for the is a height and bedacatiler error for Reached 2 for one or more records  SS_OPT_SRLINY_2_2021093119399_2021093119352_0001  Hight Error (Reached 2), Backsociator for the is a height and bedacatiler error for Reached 2 for one or more records  SS_OPT_SRLINY_2_2021093119399_20210931123932_0001  Hight Error (Reached 2), Backsociator for the is a hei	CS_OFFL_SIR_LRM_220210630T171252_20210630T174614_D001		
Fire Retrocker 2  CS_OFF_SR_LRM_2_20010930T103023_2021003017302456_D001  Fire Retrocker 2. Boossacities Force Retrocker 2. Boo	CS_OFFL_SIR_LRM_220210630T180157_20210630T181937_D001	(Retracker 3), Backscatter Error	
Exprof. Psil. Card. 2, 20210630T144166, 20210630T20046, D001  Height Error (Retarcates 2), Backscanter Error (Retarcates 3), Backscanter Error (Retarcates 2), Backscanter Error (Retarcates 3), Backscanter Error (Retarcates 2), Backscanter Error	CS_OFFL_SIR_LRM_220210630T185024_20210630T192012_D001	, , , , , , , , , , , , , , , , , , , ,	
Error (Refraction 2)  CS OFFL SIR LRM 2 20210630T200816 20210630T201521 DD01  From (Refraction 2) Backscatter From (Refraction 2) Backscatter From (Refraction 2) Backscatter From (Refraction 2) There is a height and backscatter error for Refraction 2 and a height error for Retraction 3) Backscatter From (Refraction 2) Backscatter From (Refraction 2	CS_OFFL_SIR_LRM_220210630T192023_20210630T192456_D001		
Error (Retracker 2)  Ferror (Retracker 2)  F	CS_OFFL_SIR_LRM_220210630T194158_20210630T200645_D001		
CS_OFFL_SIR_LRM_2_20210830T20347_20210830T20433_D001  Referacker 3, Backscatter Error (Retracker 2), Backscatter Error (Retracker 3), Backscatter Error (Retracker 2), Backscatter Error (Retracker 3), Backscatter Error (Retracker 3)	CS_OFFL_SIR_LRM_220210630T200815_20210630T201521_D001		
Error (Retracker 2)  CS_OFFL_SIR_LRM_2_20210630T204713_20210630T204854_D001  Height Error (Retracker 2). Backscatter error for Retracker 2 for one or more records  There is a height and backscatter error for Retracker 2 for one or more records  There is a height and backscatter error for Retracker 2 for one or more records  CS_OFFL_SIR_LRM_2_20210630T204858_20210630T204927_D001  Height Error (Retracker 2). Height Error (Retracker 2). Height Error (Retracker 2). There is a height and backscatter error for Retracker 2 and a height error (Retracker 2). Height Error (Retracker 3). Backscatter Error (Retracker 3). Height Error (Retracker 3). Backscatter Error (Retracker 2). Height Error (Retracker 2). Height Error (Retracker 3). Backscatter Err	CS_OFFL_SIR_LRM_220210630T202814_20210630T203345_D001	(Retracker 3), Backscatter Error	
Error (Retracker 2) records  CS_OFFL_SIR_LRM_2_20210830T204858_20210630T204927_D001	CS_OFFL_SIR_LRM_220210630T203437_20210630T204233_D001		
Error (Retracker 2) records  CS_OFFL_SIR_LRM_2_20210630T204929_20210630T205748_D001 Reight Error (Retracker 2), Height Error (Retracker 2), Backscatter Error (Retracker 3), Backscatter Error (Retracker 3), Backscatter Error (Retracker 2), Backscatter Error (Retracker 3), Backscatter Error (Retrac	CS_OFFL_SIR_LRM_220210630T204713_20210630T204854_D001	· · · · · · · · · · · · · · · · · · ·	
CS_OFFL_SIR_LRM_2_20210630T204929_20210630T213532_D001  Retracker 2), Backscatter Error (Retracker 2), Backscatter Error (Retracker 2) There is a height and backscatter error for Retracker 2 and a height error (Retracker 2), Backscatter Error (Retracker 2), Backsc	CS_OFFL_SIR_LRM_220210630T204858_20210630T204927_D001	` '	
Error (Retracker 2) records  CS_OFFL_SIR_LRM_2_20210630T213717_20210630T214601_D001   Height Error (Retracker 2), Height Error (Retracker 3 for one or more records    CS_OFFL_SIR_LRM_2_20210630T214728_20210630T215429_D001   Height Error (Retracker 2), Backscatter Error (Retracker 3 for one or more records    CS_OFFL_SIR_LRM_2_20210630T221703_20210630T222616_D001   Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 3) for one or more records    CS_OFFL_SIR_LRM_2_20210630T222636_20210630T230233_D001   Height Error (Retracker 2), Backscatter Error (Retracker 3) for one or more records    CS_OFFL_SIR_LRM_2_20210630T230937_20210630T230933_D001   Height Error (Retracker 2), Backscatter Error (Retracker 3), Backscatter Err	CS_OFFL_SIR_LRM_220210630T204929_20210630T205748_D001	(Retracker 3), Backscatter Error	
CS_OFFL_SIR_LRM_2_20210630T213717_20210630T214601_D001  (Retracker 3), Backscatter Error (Retracker 2) for Retracker 3 for one or more records  There is a height and backscatter error for Retracker 2 for one or more records  There is a height and backscatter error for Retracker 2 for one or more records  There is a height and backscatter error for Retracker 2 for one or more records  There is a height and backscatter error for Retracker 2 and a height error (Retracker 3), Backscatter Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 3), Backscatte	CS_OFFL_SIR_LRM_220210630T212309_20210630T213532_D001		
Error (Retracker 2)  CS_OFFL_SIR_LRM_2_20210630T221703_20210630T222616_D001  Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 3 for one or more records  CS_OFFL_SIR_LRM_2_20210630T222618_20210630T222634_D001  Height Error (Retracker 2), Backscatter Error (Retracker 3), Backscatter Error (Retracker 3), Backscatter Error (Retracker 2), Backscatter Error (Retracker 3), Backscatter Error (Retracker 3), Backscatter Error (Retracker 3) for one or more records  CS_OFFL_SIR_LRM_2_20210630T222836_20210630T223550_D001  Height Error (Retracker 2), Backscatter Error (Retracker 3 for one or more records  CS_OFFL_SIR_LRM_2_20210630T225936_20210630T230233_D001  Height Error (Retracker 2), Backscatter Error (Retracker 3), Backsca	CS_OFFL_SIR_LRM_220210630T213717_20210630T214601_D001	(Retracker 3), Backscatter Error	
CS_OFFL_SIR_LRM_2_20210630T222618_20210630T222634_D001  Height Error (Retracker 2), Backscatter Error (Retracker 2), Height Error (Retracker 2), Height Error (Retracker 2), Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2), Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Ret	CS_OFFL_SIR_LRM_220210630T214728_20210630T215429_D001		
Error (Retracker 2)  CS_OFFL_SIR_LRM_2_20210630T222836_20210630T223550_D001  Height Error (Retracker 2), Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 3) for one or more records  CS_OFFL_SIR_LRM_2_20210630T225936_20210630T230233_D001  Height Error (Retracker 2), Backscatter Error (Retracker 2), Backscatter Error (Retracker 2) for one or more records  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_2_20210630T225936_20210630T230233_D001  CS_OFFL_SIR_LRM_2_20210630T230937_20210630T230952_D001  Surface Model Unavailable  No DEM or Slope Model was used for the location of one or more records	CS_OFFL_SIR_LRM_220210630T221703_20210630T222616_D001	(Retracker 3), Backscatter Error	
CS_OFFL_SIR_LRM_2_20210630T222836_20210630T223550_D001  (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_2_20210630T225936_20210630T230233_D001  Height Error (Retracker 2), Backscatter Error (Retracker 2), Backscatter Error (Retracker 2) and a height error for Retracker 2 for one or more records  CS_OFFL_SIR_LRM_2_20210630T230936_20210630T230233_D001  Surface Model Unavailable  No DEM or Slope Model was used for the location of one or more records	CS_OFFL_SIR_LRM_220210630T222618_20210630T222634_D001		
CS_OFFL_SIR_LRM_2_202106301225936_202106301230233_D001  Error (Retracker 2)  CS_OFFL_SIR_LRM_2_202106301230937_202106301230952_D001  Surface Model Unavailable  No DEM or Slope Model was used for the location of one or more records	CS_OFFL_SIR_LRM_220210630T222836_20210630T223550_D001	(Retracker 3), Backscatter Error	
	CS_OFFL_SIR_LRM_220210630T225936_20210630T230233_D001		
CS_OFFL_SIR_LRM_2_20210630T231027_20210630T231058_D001 Surface Model Unavailable No DEM or Slope Model was used for the location of one or more records	CS_OFFL_SIR_LRM_220210630T230937_20210630T230952_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
	CS_OFFL_SIR_LRM_220210630T231027_20210630T231058_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records

CS_OFFL_SIR_LRM_220210630T231700_20210630T232123_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_220210630T232127_20210630T232514_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_220210630T232644_20210630T232957_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_220210630T235141_20210630T235203_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records	
CS_OFFL_SIR_LRM_220210630T235211_20210630T235535_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of 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	174	174	174	0	0
SIR_SAR_1B	112	112	112	0	0
SIR_SIN_1B	107	107	107	0	0
SIR_LRM_2	174	174	166	8	0
SIR_SAR_2	107	112	112	0	0
SIR_SIN_2	112	107	105	2	0
SIR_GDR_2	15	15	0	0	15

### **6.1 QCC Errors**

Number of products with QCC errors:

15

Product Type	MPHDUTNCDF	MPHXPFNCDF	MPHXVFNCDF	MPHYPFNCDF	MPHYVFNCDF	MPHZPFNCDF	MPHZVFNCDF	-	-	-	-
SIR_GDR_2_	15	15	15	15	15	15	15	-			

<b>Test Description Key:</b>	est 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)				

# **6.2 QCC Warnings**

Number of QCC reports with warnings

12

Total number of occurrences of each warning

Product Type	AXDME	AXSMMEOCI	AXSMEOOO	AXWMMEOOO	-	-	-
SIR_LRM_2_	0	6	2	2			
SIR_SIN_2_	2	0	0	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				
AXSMEOOO	AttributeXrefSsbMustExistOverOpenOcean	The xref_ssb is mandatory in LRM products over open ocean				
AXWMMEOOO	AttributeXrefWindModelMustExistOverOpenOcean	The xref_wind_model attribute is mandatory in LRM products over open ocean				

# **6.2 Missing QCC Reports**

Number of products with missing QCC reports:

**Product name** 

CS\_OFFL\_SIR\_GDR\_2\_\_20210630T000645\_20210630T014600\_D002