

## 09/06/2021



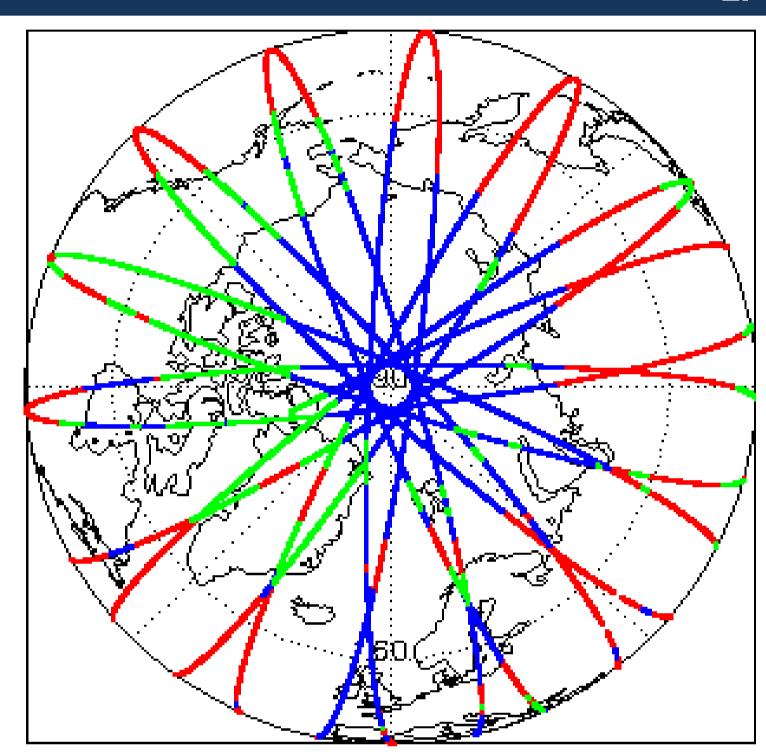
# 1. Overview

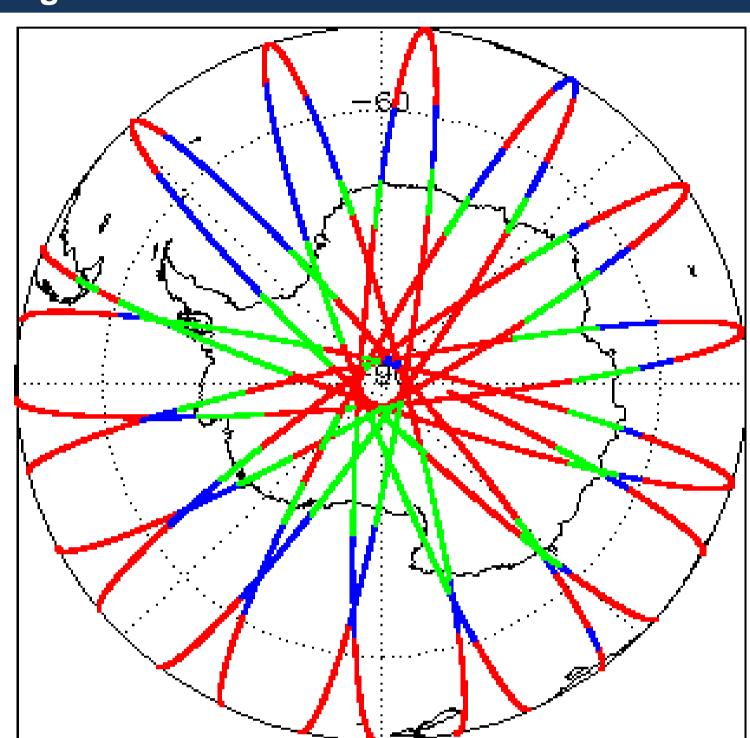
Report Production Date:	08-Jul-2021			
Processor Used:	CryoSat Ice Processor			
Data Used:	L1B and L2 OFFLINE Data			

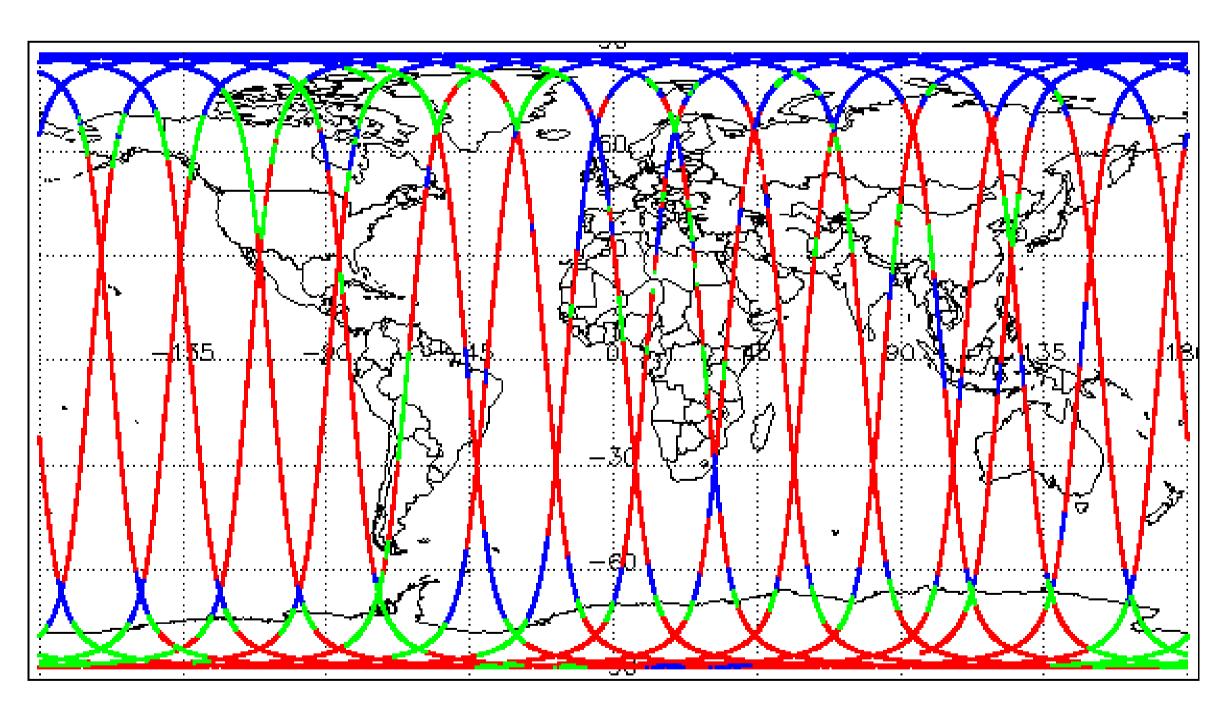
Check	Status
Server check: science-pds.cryosat.esa.int	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal
Product Software Check	Nominal
Product Format Check	Nominal
Product Header Analysis	Nominal
Star Tracker Usage Check	Nominal
L1B Tracking Flag Check	See Section 4.4
L1B Calibration Usage Check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

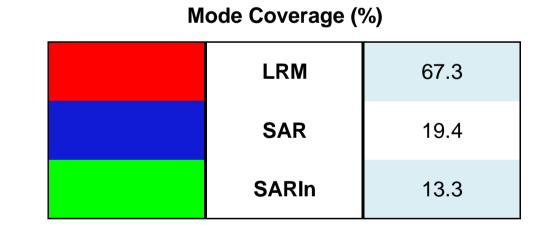
Mission / I	ission / Instrument News				
08-Jun-20	None None				
09-Jun-20	None None				
10-Jun-20	Nothing planned				

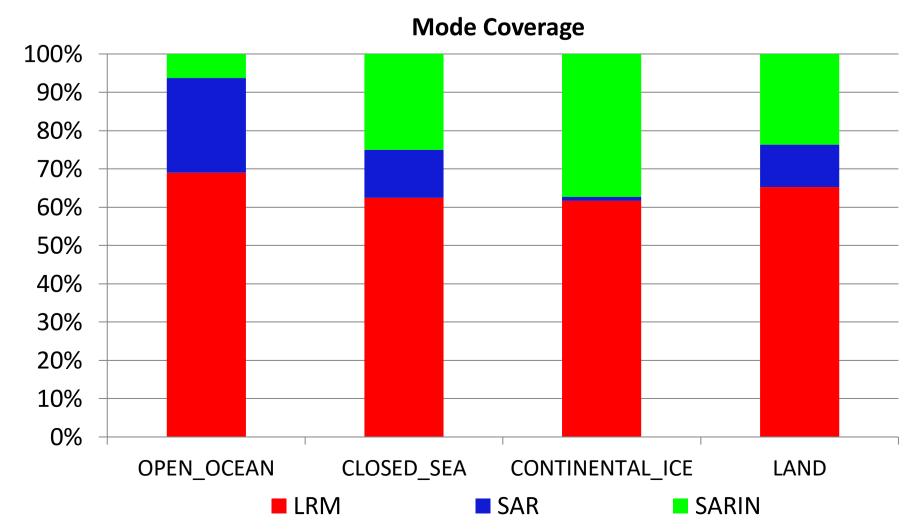
# 2. Global Coverage

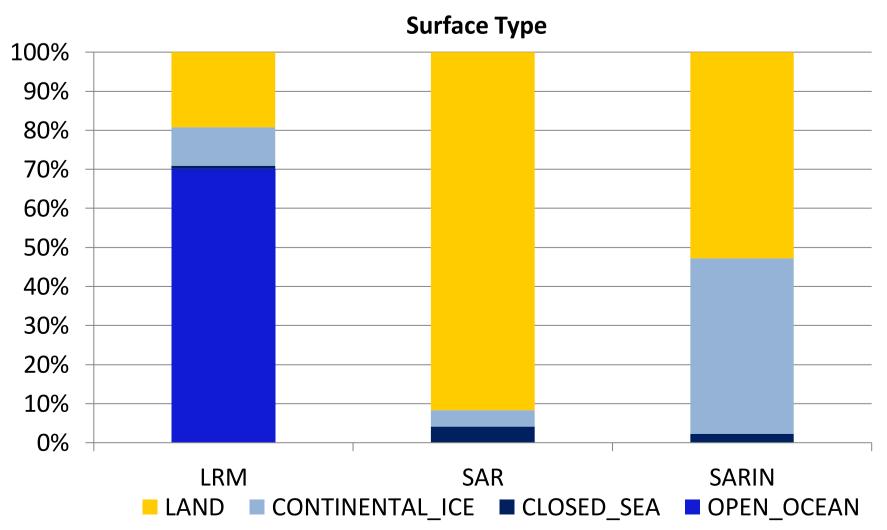












## 3. Instrument Configuration

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

SIRAL instrument(s) in use:

SIRAL - A

0

# 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: 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.

Number of products with errors:

94

Product	Test Failed	Description
CS_OFFL_SIR_LRM_1B_20210609T000721_20210609T002804_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T005212_20210609T005316_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T005930_20210609T012156_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T012318_20210609T013141_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T013430_20210609T013455_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T014542_20210609T015158_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T015201_20210609T015209_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T015212_20210609T015230_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T015233_20210609T015347_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T015445_20210609T015516_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T015520_20210609T015522_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T015942_20210609T015956_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T023743_20210609T030412_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T030416_20210609T030417_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T030421_20210609T030456_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T030502_20210609T030503_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T030505_20210609T030524_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T030526_20210609T030557_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T032701_20210609T032825_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T032839_20210609T033525_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T033527_20210609T033528_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T033531_20210609T033539_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T033650_20210609T040229_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T041010_20210609T041337_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T050558_20210609T051018_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T051051_20210609T051221_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T051223_20210609T051234_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T051334_20210609T052241_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T052243_20210609T052437_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T052548_20210609T052717_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T052720_20210609T053205_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T054456_20210609T055036_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T055721_20210609T063031_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T064908_20210609T065035_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T065055_20210609T065145_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T065507_20210609T065635_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T065818_20210609T070237_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T070307_20210609T072013_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T072421_20210609T072932_D001	Loss of echo	The tracking echo is missing for one or more records
S_OFFL_SIR_LRM_1B_20210609T073603_20210609T081209_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T083406_20210609T083839_D001	Loss of echo	The tracking echo is missing for one or more records

CS_OFFL_SIR_LRM_1B_20210609T083923_20210609T085658_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T090626_20210609T090835_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T091604_20210609T095208_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T102349_20210609T103718_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T105458_20210609T111009_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T111210_20210609T112133_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T112447_20210609T113147_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T114735_20210609T120032_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T120034_20210609T120051_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T120915_20210609T120922_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T120925_20210609T120929_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T120932_20210609T120933_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T120935_20210609T120958_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T121006_20210609T121111_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T121119_20210609T121542_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T122404_20210609T123150_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T125729_20210609T125829_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T130154_20210609T131140_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T132710_20210609T135908_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T140223_20210609T140438_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T140447_20210609T141044_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T141425_20210609T143905_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_20210609T144234_20210609T144709_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_20210609T144753_20210609T144832_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T144832_20210609T144857_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T150416_20210609T150748_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T151013_20210609T151030_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T151033_20210609T151040_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T151044_20210609T151048_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T151050_20210609T151051_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T151053_20210609T151059_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T151102_20210609T151110_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T151115_20210609T153756_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T155317_20210609T161945_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T161949_20210609T162153_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T162235_20210609T162414_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T162451_20210609T162957_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T174125_20210609T174450_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T174454_20210609T174624_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T174959_20210609T175447_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T180027_20210609T180105_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T180128_20210609T180255_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T180255_20210609T180422_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T180728_20210609T180732_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T193301_20210609T193812_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T193856_20210609T194008_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T204258_20210609T204711_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T213801_20210609T215228_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T215708_20210609T220905_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T223304_20210609T224529_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T231727_20210609T232304_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T232700_20210609T233629_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210609T233833_20210609T235312_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_20210609T174450_20210609T174454_D001	Cal1 corr. missing	The Cal1 correction 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.

### **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.

0

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_20210609T065055_20210609T065145_D001	TECHO ELLOL TRK ECHO ELLOL	The tracking echo has returned an error and the Rx1 Echo Error flag is set, indicating a degraded echo
CS_OFFL_SIR_SIN_1B_20210609T174450_20210609T174454_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: 0

#### 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: 0

## 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: 52

Product	Test Failed	Description
CS_OFFL_SIR_LRM_220210609T000721_20210609T002804_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_220210609T002943_20210609T004355_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_220210609T005930_20210609T012156_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_220210609T012318_20210609T013141_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_220210609T014542_20210609T015158_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220210609T015233_20210609T015347_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220210609T020057_20210609T022224_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_220210609T023743_20210609T030412_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_220210609T033650_20210609T040229_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_220210609T041727_20210609T045100_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_220210609T050558_20210609T051018_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_220210609T051223_20210609T051234_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_220210609T051334_20210609T052241_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_220210609T054456_20210609T055036_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220210609T055721_20210609T063031_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_220210609T064318_20210609T064429_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_220210609T065055_20210609T065145_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_220210609T070307_20210609T072013_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_220210609T073603_20210609T081209_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_220210609T082207_20210609T082353_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_220210609T083406_20210609T083839_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_220210609T083923_20210609T085658_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_220210609T091604_20210609T095208_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_220210609T100430_20210609T102255_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_220210609T102349_20210609T103718_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_220210609T105458_20210609T111009_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_220210609T111210_20210609T112133_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_220210609T114735_20210609T120032_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_220210609T123435_20210609T124913_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_220210609T132710_20210609T135908_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_220210609T141425_20210609T143905_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_220210609T151115_20210609T153756_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_220210609T155317_20210609T161945_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_220210609T162451_20210609T162957_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_220210609T164443_20210609T171634_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_220210609T175630_20210609T175749_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_220210609T182303_20210609T185614_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_220210609T191157_20210609T192948_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_220210609T193301_20210609T193812_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_220210609T194127_20210609T194140_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_220210609T194743_20210609T194810_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_220210609T200044_20210609T203449_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_220210609T205154_20210609T211742_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_220210609T211806_20210609T212536_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_220210609T213801_20210609T215228_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_220210609T215708_20210609T220905_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_220210609T223304_20210609T224529_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_220210609T224736_20210609T230502_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_220210609T231727_20210609T232304_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220210609T232700_20210609T233629_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_220210609T233833_20210609T235312_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_SIN_220210609T174450_20210609T174454_D001	Calibration Warning	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	142	142	142	0	0
SIR_SAR_1B	103	103	103	0	0
SIR_SIN_1B	101	101	101	0	0
SIR_LRM_2	142	142	140	2	0
SIR_SAR_2	101	103	103	0	0
SIR_SIN_2	103	101	99	2	0
SIR_GDR_2	14	14	0	0	14

# 6.1 QCC Errors

Number of products with QCC errors:

14

<b>Product Type</b>	MPHDUTNCDF	MPHXPFNCDF	MPHXVFNCDF	MPHYPFNCDF	MPHYVFNCDF	MPHZPFNCDF	MPHZVFNCDF	-	-	-	-
SIR_GDR_2_	14	14	14	14	14	14	14	-			

Test 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

4

Total numb	er of occurrences	of ea	ich warnii	ng

		rotal number of occurrences of each warning					
Product Type	AXDME	AXSMMEOCI	-	-	-	-	-
SIR_LRM_2_	0	2					
SIR_SIN_2_	2	0					

Test Description Key:			
Abbreviation	Test name	<b>Details</b>	
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:

0