



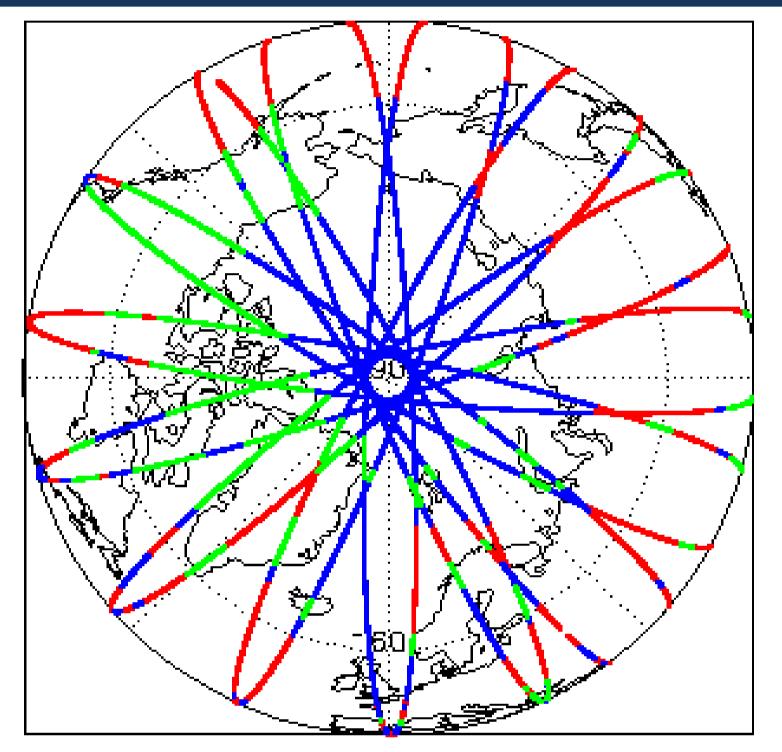
# 1. Overview

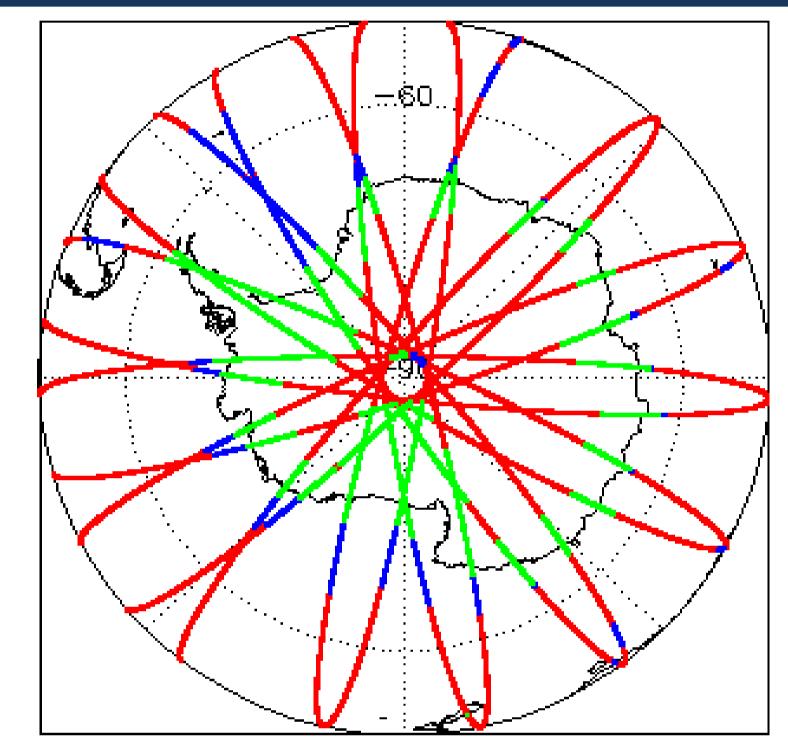
<b>Report Production Date:</b>	10-Mar-2021
Processor Used:	CryoSat Ice Processor
Data Used:	L1B and L2 OFFLINE Data

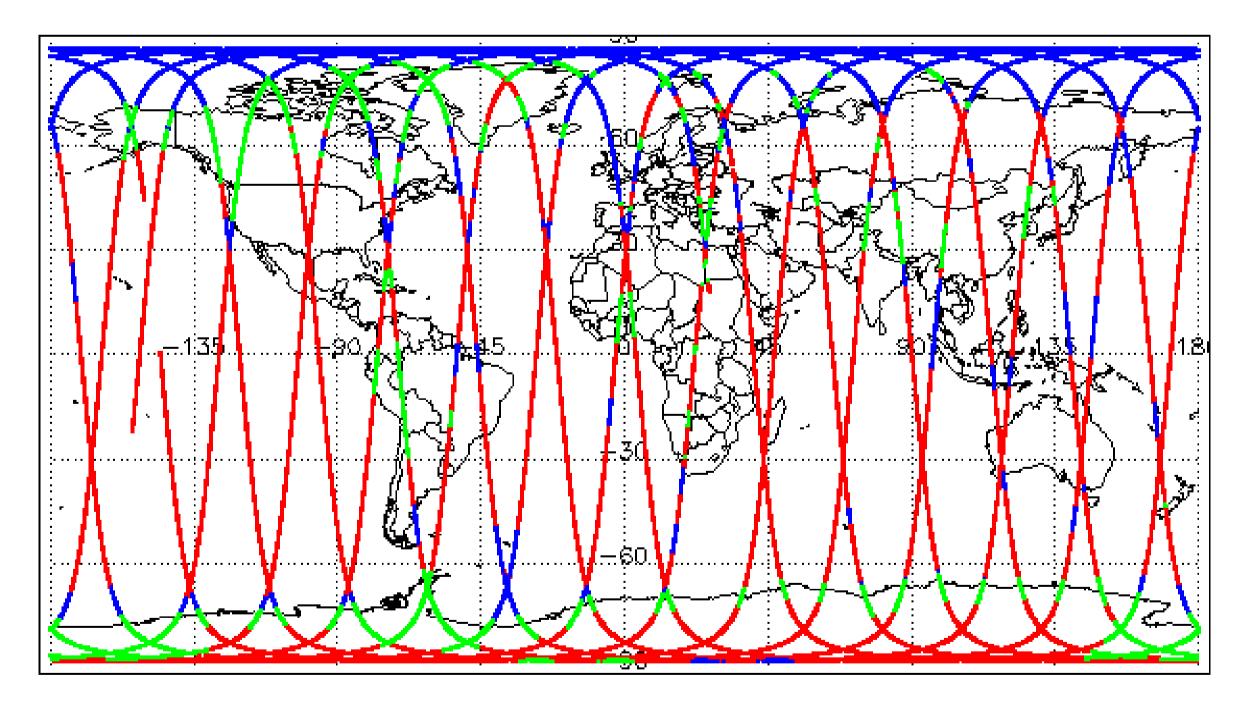
Check	Status
Server check: science-pds.cryosat.esa.int	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal
Product Software Check	Nominal
Product Format Check	Nominal
Product Header Analysis	Nominal
Star Tracker Usage Check	Nominal
L1B Tracking Flag Check	See Section 4.4
L1B Calibration Usage Check	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	Mission / Instrument News	
06-Feb-2021	None	
07-Feb-2021	None	
08-Feb-2021	Nothing planned	

# 2. Global Coverage



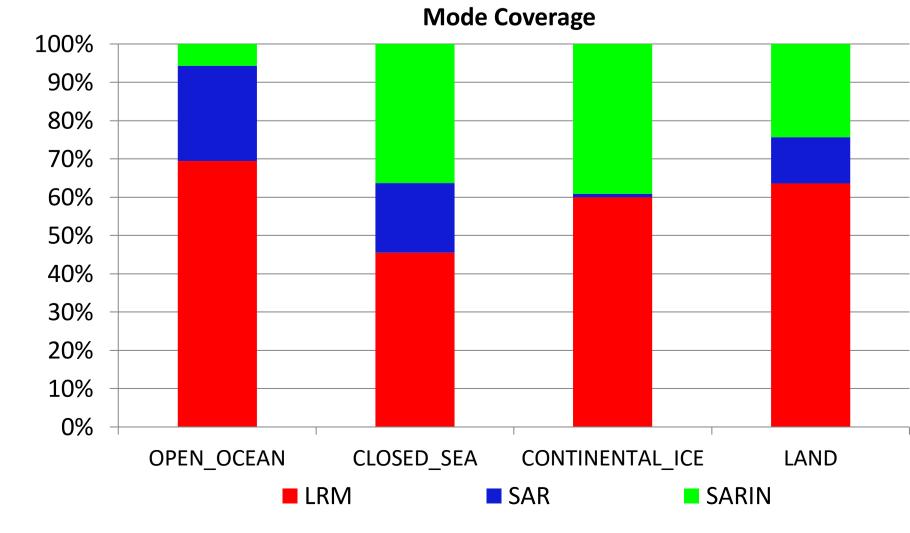


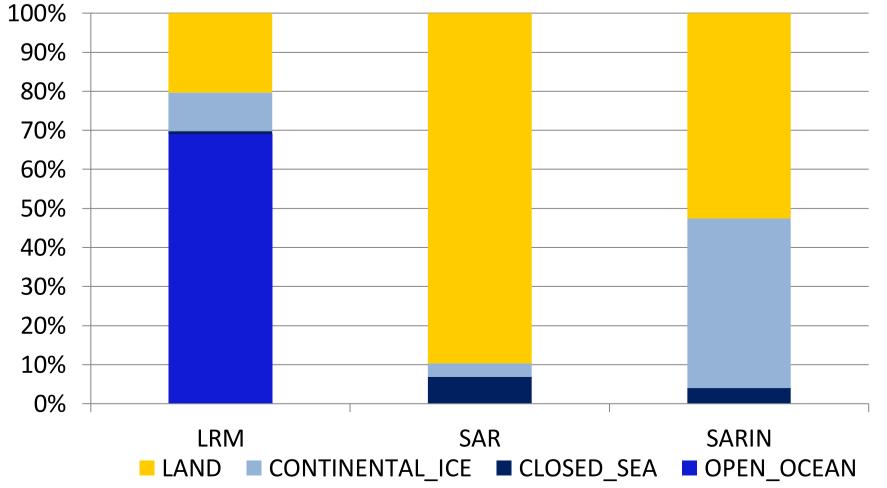




LRM	66.9
SAR	19.4
SARIn	13.7

Surface Type





## **3. Instrument Configuration**

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

SIRAL instrument(s) in use:	SIRAL - A	
	4	I. Level 1B Data Quality Check
4.1 L1B Product Format Cheo	ck	
Each product, retrieved and unpacked from	the science server, is checked t	to ensure it consists of both an XML header file (.HDR) and a product file (.DBL).
Number of products with errors:	0	
4.2 L1B Product Header Anal	ysis	
For all products, a series of pre-defined che	ecks are carried out on the MPH	and SPH in order to identify any inconsistencies and/or errors raised by the ground-segment processing chain.
Number of products with errors:	0	
4.3 Star Tracker Usage Check	K	
Each product is checked in order to ensure	a valid star tracker file has been	n used in processing.
Number of products with errors:	0	
4.4 L1B Tracking Flags Chec	k	
CryoSat L1B data includes a tracking flag for	or each measurement record. Th	ne bit value of this flag indicates any problems when set.
Loss of Echo Flag: This flag is currently se	et for some products over land, b	out this is to be expected.

Number of products with errors:

118

Product	Test Failed	Description
CS_OFFL_SIR_LRM_1B_20210207T000552_20210207T000630_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T000649_20210207T000657_D001	Loss of echo	The tracking echo is missing for one or more records

CS\_OFFL\_SIR\_LRM\_1B\_20210207T000659\_20210207T000819\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T013825\_20210207T014336\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T014421\_20210207T014533\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T024822\_20210207T025234\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T034328\_20210207T034419\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T034422\_20210207T034439\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T034443\_20210207T034448\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T034452\_20210207T034456\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T034459\_20210207T034521\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T040234\_20210207T040413\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T040415\_20210207T041429\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T043828\_20210207T045052\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T052246\_20210207T052256\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T052300\_20210207T052312\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T052314\_20210207T052318\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T052320\_20210207T052347\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T052353\_20210207T052355\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T052357\_20210207T052526\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T052531\_20210207T052544\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T052546\_20210207T052600\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T052604\_20210207T052608\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T052611\_20210207T052619\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T052624\_20210207T052830\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T053226\_20210207T054156\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T054358\_20210207T055927\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T061930\_20210207T062321\_D001

Loss 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_20210207T063221_20210207T063337_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T063339_20210207T063650_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T064205_20210207T064520_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T070128_20210207T070629_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T070631_20210207T070702_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T070704_20210207T070816_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T070820_20210207T070835_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T070838_20210207T071025_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T071029_20210207T071046_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T071110_20210207T071123_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T071357_20210207T071500_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T074109_20210207T074545_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T074606_20210207T074738_D001	Loss of echo	The tracking echo is missing for one or more records

CS\_OFFL\_SIR\_LRM\_1B\_20210207T075138\_20210207T081704\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T081708\_20210207T082642\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T082804\_20210207T082847\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T084804\_20210207T084819\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T085150\_20210207T091824\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T092506\_20210207T092831\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T102129\_20210207T102633\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T102709\_20210207T102922\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T102929\_20210207T105752\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T110404\_20210207T110737\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T115835\_20210207T120016\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T120234\_20210207T120626\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T121312\_20210207T121806\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T121827\_20210207T122310\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T122417\_20210207T122640\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T122645\_20210207T122739\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T123907\_20210207T124428\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T134450\_20210207T134617\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T134629\_20210207T134640\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T134805\_20210207T135318\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T141929\_20210207T142328\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T142917\_20210207T143536\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T150506\_20210207T150509\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T150511\_20210207T150517\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20210207T150520\_20210207T150525\_D001 CS OFEL SIR LRM 18 20210207T150527 20210207T150657 D001

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

CS_OFFL_SIR_LRM_1B_20210207T150527_20210207T150657_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T161625_20210207T162700_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T163140_20210207T163844_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T164006_20210207T164027_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T164029_20210207T164043_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T164221_20210207T164226_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T164231_20210207T164253_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T164258_20210207T164432_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T164434_20210207T164436_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T164439_20210207T164606_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T164610_20210207T164613_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T171755_20210207T171932_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T171934_20210207T172054_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T172200_20210207T173335_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T175647_20210207T180329_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T180508_20210207T180632_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T180634_20210207T181603_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T181605_20210207T181942_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T181946_20210207T181950_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T181957_20210207T182000_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T182003_20210207T182014_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T182016_20210207T182037_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T182128_20210207T182605_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T182627_20210207T182657_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T184202_20210207T184224_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T184307_20210207T184513_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T185033_20210207T185456_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T185503_20210207T185521_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T191719_20210207T192555_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T195807_20210207T195809_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T195814_20210207T195835_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T195908_20210207T195925_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T195927_20210207T200435_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T201916_20210207T202825_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T202828_20210207T205407_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T211222_20210207T213356_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T213359_20210207T213413_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T213418_20210207T213423_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T213425_20210207T213633_D001	Loss of echo	The tracking echo is missing for one or more records

CS_OFFL_SIR_LRM_1B_20210207T213739_20210207T214053_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T214053_20210207T214251_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T220325_20210207T220350_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T224559_20210207T230812_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T230814_20210207T230828_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T230830_20210207T231037_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T231039_20210207T231346_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T231409_20210207T231439_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T231443_20210207T231513_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T231713_20210207T231804_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T231854_20210207T232030_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20210207T232232_20210207T232314_D001	Loss of echo	The tracking echo is missing for one or more records
4511B Calibration Usago Chock		
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:

## 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

0

0

0

0

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_20210207T142917_20210207T143536_D001	LECNO error. LRK 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.

## 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_220210207T000155_20210207T000313_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_220210207T002829_20210207T010257_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_220210207T011511_20210207T013512_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_220210207T013825_20210207T014336_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_220210207T014652_20210207T014705_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_220210207T020659_20210207T024048_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_220210207T025430_20210207T032307_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_220210207T034856_20210207T035754_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_220210207T040234_20210207T040413_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_220210207T040415_20210207T041429_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_220210207T043828_20210207T045052_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_220210207T050737_20210207T050927_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_220210207T052320_20210207T052347_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220210207T052624_20210207T052830_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220210207T053226_20210207T054156_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_220210207T054358_20210207T055927_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_220210207T061420_20210207T061632_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_220210207T063339_20210207T063650_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_220210207T063807_20210207T064035_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_220210207T064205_20210207T064520_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_220210207T070631_20210207T070702_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220210207T071029_20210207T071046_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220210207T072154_20210207T073842_D001		There is a height and backscatter error for Retracker 2 for one or more records

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CS_OFFL_SIR_LRM_220210207T075138_20210207T081704_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_220210207T085150_20210207T091824_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_220210207T093049_20210207T095907_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_220210207T100033_20210207T100333_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_220210207T102929_20210207T105752_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_220210207T111009_20210207T112915_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_220210207T114123_20210207T114523_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_220210207T115835_20210207T120016_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_220210207T123907_20210207T124428_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220210207T125000_20210207T131239_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_220210207T131525_20210207T132435_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_220210207T133703_20210207T134050_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_220210207T134629_20210207T134640_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_220210207T135644_20210207T140131_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_220210207T140319_20210207T141633_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_220210207T142917_20210207T143536_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_220210207T143545_20210207T144118_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_220210207T144343_20210207T150144_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_220210207T152751_20210207T155108_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_220210207T155429_20210207T155444_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_220210207T161625_20210207T162700_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_220210207T163140_20210207T163844_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_220210207T170727_20210207T171541_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_220210207T172200_20210207T173335_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_220210207T174825_20210207T175533_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_220210207T175647_20210207T180329_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_220210207T180634_20210207T181603_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_220210207T183955_20210207T184039_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records

CS_OFFL_SIR_LRM_220210207T184307_20210207T184513_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_220210207T184643_20210207T184910_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_220210207T185033_20210207T185456_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_220210207T185833_20210207T191447_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_220210207T192813_20210207T195058_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_220210207T195807_20210207T195809_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220210207T201649_20210207T201749_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_220210207T202828_20210207T205407_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_220210207T210636_20210207T211124_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_220210207T211222_20210207T213356_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_220210207T220325_20210207T220350_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_220210207T220546_20210207T223325_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_220210207T224559_20210207T230812_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_220210207T230830_20210207T231037_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_220210207T232232_20210207T232314_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_220210207T233708_20210208T001159_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 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	199	199	199	0	0
SIR_SAR_1B	143	143	143	0	0
SIR_SIN_1B	110	110	110	0	0
SIR_LRM_2	199	199	194	5	0
SIR_SAR_2	110	143	143	0	0
SIR_SIN_2	143	110	108	2	0
SIR_GDR_2	14	14	0	0	14

## 6.1 QCC Errors

#### Number of products with QCC errors:

14

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

<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

7

#### Total number of occurrences of each warning

Product Type	AXDME	AXSMMEOCI	-	-	-	-	-
SIR_LRM_2_	0	5					
SIR_SIN_2_	2	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			

0

6.2 Missing QCC Reports

Number of products with missing QCC reports: