



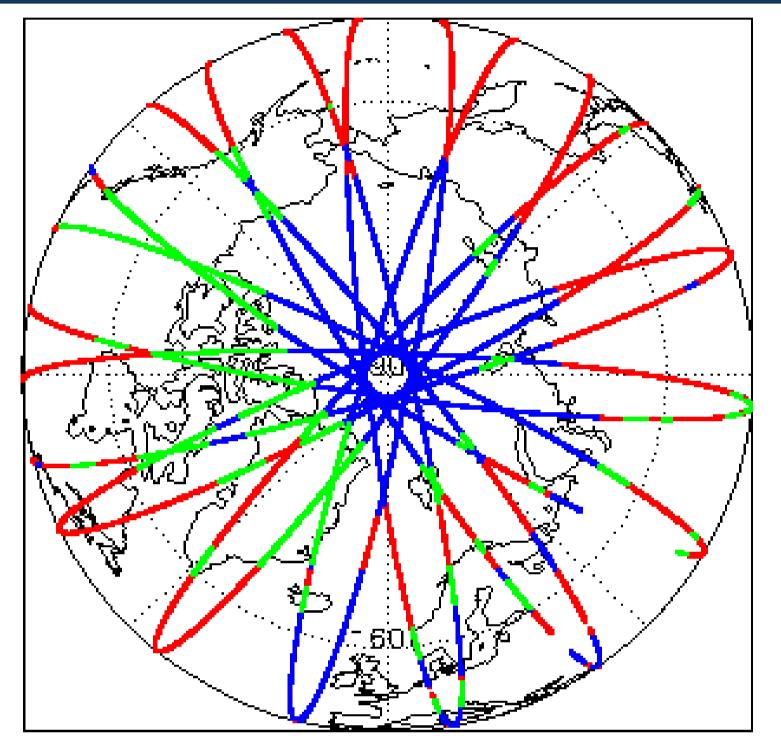
### 1. Overview

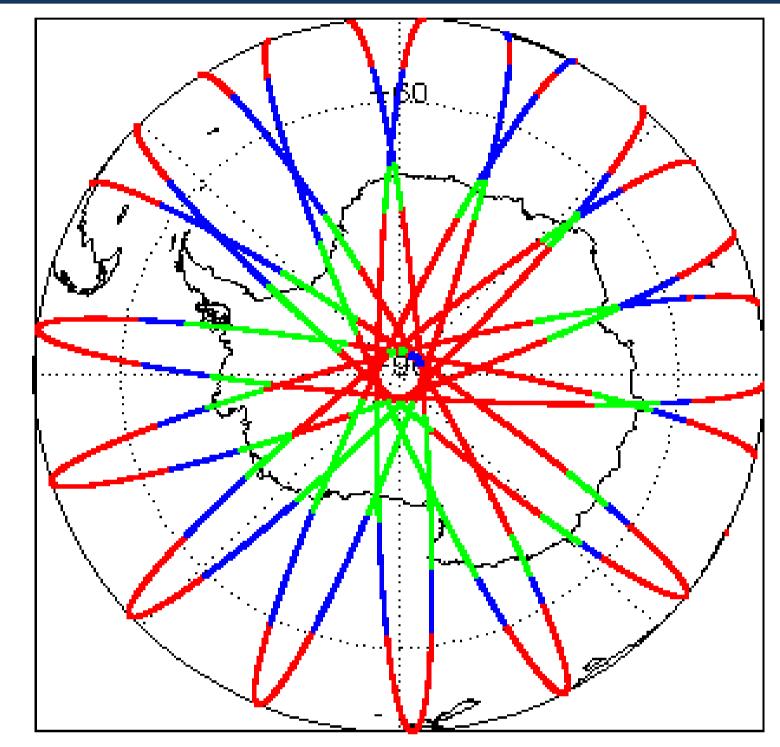
<b>Report Production Date:</b>	11-Nov-2020	
Processor Used:	CryoSat Ice Processor	
Data Used:	L1B and L2 OFFLINE Data	

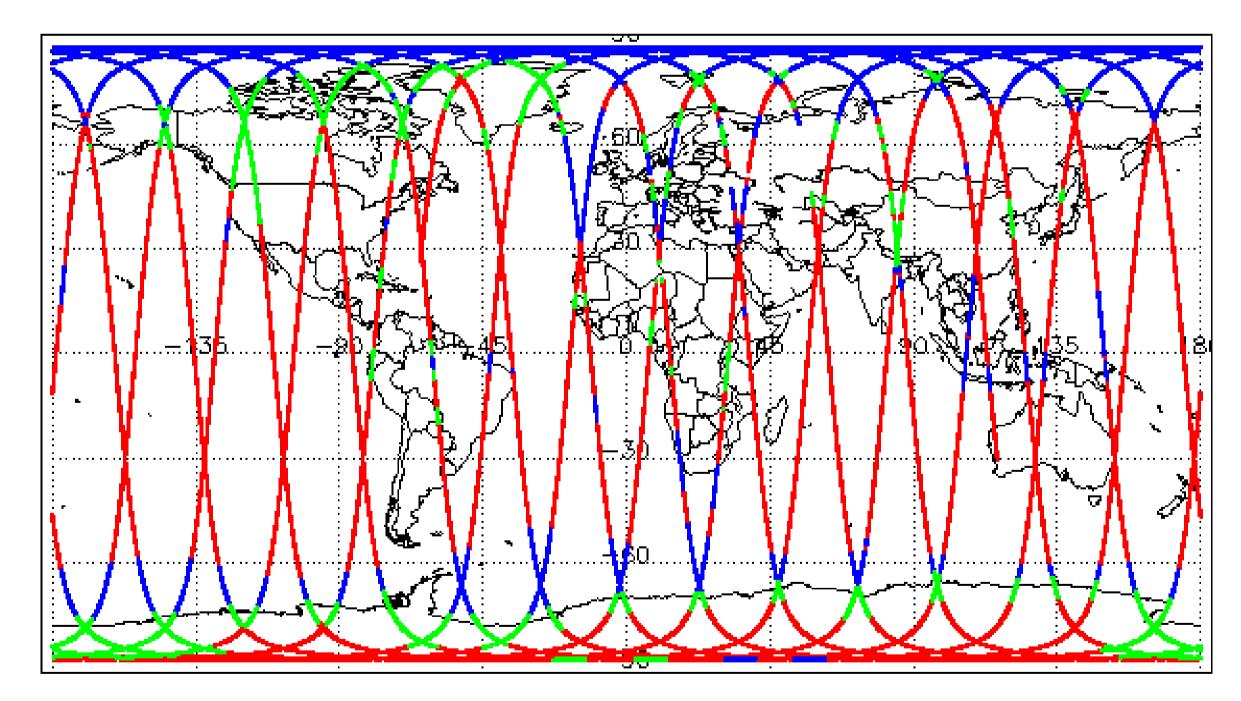
Check	Status
Server check: science-pds.cryosat.esa.int	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal
Product Software Check	Nominal
Product Format Check	Nominal
Product Header Analysis	Nominal
Star Tracker Usage Check	Nominal
L1B Tracking Flag Check	See Section 4.4
L1B Calibration Usage Check	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
11-Oct-2020	None
12-Oct-2020	None
13-Oct-2020	Nothing planned

# 2. Global Coverage



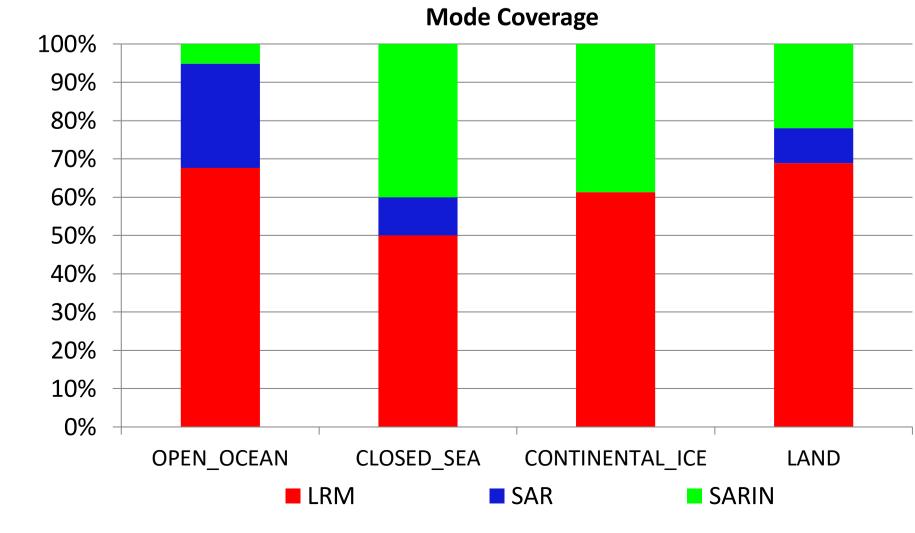


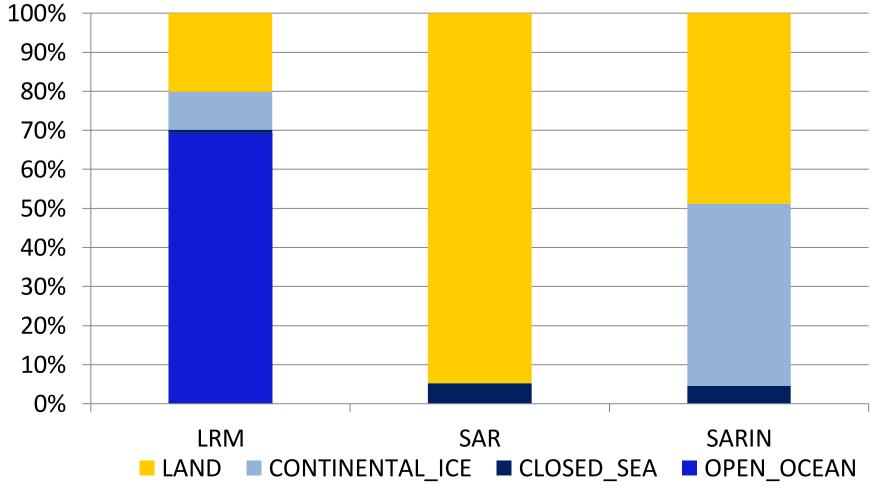




LRM	67.0
SAR	20.7
SARIn	12.3

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. Level 1B Data Quality Check			
4.1 L1B Product Format Che	ck		
Each product, retrieved and unpacked from	n 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		
4.2 L1B Product Header Ana	lysis		
For all products, a series of pre-defined ch	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 Chec	;k		
Each product is checked in order to ensure	e a valid star tracker file has beer	used in processing.	
Number of products with errors:	0		
4.4 L1B Tracking Flags Chec	:k		
CryoSat L1B data includes a tracking flag	for each measurement record. Th	e 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:

106

Product	Test Failed	Description
CS_OFFL_SIR_LRM_1B_20201011T235111_20201012T000458_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201012T000638_20201012T002155_D001	Loss of echo	The tracking echo is missing for one or more records

CS\_OFFL\_SIR\_LRM\_1B\_20201012T002232\_20201012T002813\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201012T004008\_20201012T004208\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201012T004331\_20201012T004644\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201012T005203\_20201012T005658\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201012T015249\_20201012T015329\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201012T015715\_20201012T015810\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201012T015940\_20201012T015958\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201012T020001\_20201012T020305\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201012T022042\_20201012T022919\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201012T022925\_20201012T025414\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201012T031021\_20201012T033401\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201012T033403\_20201012T033511\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201012T033514\_20201012T033803\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201012T033856\_20201012T034210\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201012T034210\_20201012T034423\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201012T040247\_20201012T040516\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201012T044932\_20201012T050702\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201012T050704\_20201012T050833\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201012T050858\_20201012T051312\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201012T051316\_20201012T051318\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201012T051321\_20201012T051416\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201012T051538\_20201012T051541\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201012T051543\_20201012T051553\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201012T051556\_20201012T051627\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201012T051630\_20201012T051638\_D001 CS\_OFFL\_SIR\_LRM\_1B\_20201012T051640\_20201012T051642\_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_20201012T051832_20201012T051928_D001Loss of echoThe tracking echo is missing for one or more recordsCS_OFFL_SIR_LRM_1B_20201012T052032_0201012T052151_D001Loss of echoThe tracking echo is missing for one or more recordsCS_OFFL_SIR_LRM_1B_20201012T052032_0201012T05243_D001Loss of echoThe tracking echo is missing for one or more recordsCS_OFFL_SIR_LRM_1B_20201012T053354_20201012T05243_D001Loss of echoThe tracking echo is missing for one or more recordsCS_OFFL_SIR_LRM_1B_20201012T063832_20201012T064311_D001Loss of echoThe tracking echo is missing for one or more recordsCS_OFFL_SIR_LRM_1B_20201012T064337_20201012T065023_D001Loss of echoThe tracking echo is missing for one or more recordsCS_OFFL_SIR_LRM_1B_20201012T065207_20201012T065402_D001Loss of echoThe tracking echo is missing for one or more recordsCS_OFFL_SIR_LRM_1B_20201012T065401_020201012T065455_D001Loss of echoThe tracking echo is missing for one or more recordsCS_OFFL_SIR_LRM_1B_20201012T06574_20201012T06574_D001Loss of echoThe tracking echo is missing for one or more recordsCS_OFFL_SIR_LRM_1B_20201012T06577_20201012T065821_D001Loss of echoThe tracking echo is missing for one or more recordsCS_OFFL_SIR_LRM_1B_20201012T07677_20201012T075712_D001Loss of echoThe tracking echo is missing for one or more recordsCS_OFFL_SIR_LRM_1B_20201012T07607_20201012T075712_D001Loss of echoThe tracking echo is missing for one or more recordsCS_OFFL_SIR_LRM_1B_20201012T07607_20201012T075712_D001Loss of echoThe tracking echo is missing for one or more recordsCS_OFFL_SIR_LRM_1B_20201	CS_OFFL_SIR_LRM_1B_20201012T051644_20201012T051650_D001	Loss of echo	The tracking echo is missing for one or more records
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CS_OFFL_SIR_LRM_1B_20201012T065757_20201012T065821_D001Loss of echoThe tracking echo is missing for one or more recordsCS_OFFL_SIR_LRM_1B_20201012T071607_20201012T072721_D001Loss of echoThe tracking echo is missing for one or more records	CS_OFFL_SIR_LRM_1B_20201012T065410_20201012T065455_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201012T071607_20201012T072721_D001 Loss of echo The tracking echo is missing for one or more records	CS_OFFL_SIR_LRM_1B_20201012T065744_20201012T065746_D001	Loss of echo	The tracking echo is missing for one or more records
	CS_OFFL_SIR_LRM_1B_20201012T065757_20201012T065821_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201012T073007_20201012T075121_D001 Loss of echo The tracking echo is missing for one or more records	CS_OFFL_SIR_LRM_1B_20201012T071607_20201012T072721_D001	Loss of echo	The tracking echo is missing for one or more records
	CS_OFFL_SIR_LRM_1B_20201012T073007_20201012T075121_D001	Loss of echo	The tracking echo is missing for one or more records

CS_OFFL_SIR_LRM_1B_20201012T082028_20201012T082746_D001
CS_OFFL_SIR_LRM_1B_20201012T085457_20201012T093016_D001
CS_OFFL_SIR_LRM_1B_20201012T094918_20201012T100150_D001
CS_OFFL_SIR_LRM_1B_20201012T103325_20201012T103351_D001
CS_OFFL_SIR_LRM_1B_20201012T103353_20201012T103440_D001
CS_OFFL_SIR_LRM_1B_20201012T103443_20201012T103527_D001
CS_OFFL_SIR_LRM_1B_20201012T103530_20201012T103536_D001
CS_OFFL_SIR_LRM_1B_20201012T103539_20201012T103954_D001
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CS_OFFL_SIR_LRM_1B_20201012T113921_20201012T114022_D001
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CS_OFFL_SIR_LRM_1B_20201012T121211_20201012T121853_D001
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CS_OFFL_SIR_LRM_1B_20201012T171902_20201012T171908_D001
CS_OFFL_SIR_LRM_1B_20201012T171910_20201012T171935_D001
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CS_OFFL_SIR_LRM_1B_20201012T201718_20201012T201719_D001
CS_OFFL_SIR_LRM_1B_20201012T203909_20201012T204329_D001

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CS_OFFL_SIR_LRM_1B_20201012T203909_20201012T204329_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201012T212113_20201012T213553_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201012T214236_20201012T215520_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201012T215522_20201012T215526_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201012T215531_20201012T215536_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201012T215538_20201012T215552_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201012T215555_20201012T215613_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201012T215615_20201012T215715_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201012T222851_20201012T224247_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201012T225043_20201012T225244_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201012T230018_20201012T231504_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201012T231706_20201012T232630_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20201012T232917_20201012T233701_D001	Loss of echo	The tracking echo is missing for one or more records

Loss of echo

4.5 L1B Calibration Usage Check		
Each product is checked in order to ensure that the necessary calibration files h	nave 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	e validity of Auxiliary Data Files is correct.
Number of products with errors: 0		
4.7 L1B Auxiliary Correction Error Check		
CryoSat L1B data includes a correction error flag (field 54) for each measureme	ent record. The bit value of this flag indicate	es any problems when set.
Number of products with errors: 0		
4.8 L1B Measurement Confidence Data Check		
CryoSat L1B data includes a measurement confidence flag (field 18) for each m	neasurement record. The bit value of this fla	ag indicates any problems when set.
Currently, there are several common error flags raised in the Level 1B problem below, followed by a table of any additional issues arising from this test.	oducts which are expected due to opera	tional mode or surface type. All common flags are summarised in the list
Block Degraded Flag: This flag is currently set for a number of individual reco	rds generally at the start or end of products	a (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 applicat	tion is deactivated, but this is in line with the current configuration.
Number of products with errors: 2		
Product	Test Failed	Description
CS_OFFL_SIR_LRM_1B_20201012T004331_20201012T004644_D001	Echo error, TRK echo error	The tracking echo has returned an error and the Rx1 Echo Error flag is set, indicating a degraded echo

CS\_OFFL\_SIR\_LRM\_1B\_20201012T114317\_20201012T115927\_D001

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

Echo error, TRK echo error

5.1 L2 Produ	<b>Ict Format</b>	Check
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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).

0

Number of products with errors:

5.2 L2 Product Header Analysis
For all products, a series of pre-defined checks are carried out on the MPH and SPH in order to identify any inconsistencies and/or errors raised by the ground-segment processing chain.
Number of products with errors: 0
5.3 L2 Auxiliary Data File Usage Check
Each product is checked for missing Data Set Descriptors with respect to a pre-determined baseline and also to check the validity of Auxiliary Data Files is correct.
Number of products with errors: 0
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:

64

Product	Test Failed	Description
(S OFFE STR FRM 2 202010111235111 202010121000458 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_220201012T000638_20201012T002155_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_220201012T004008_20201012T004208_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
	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_220201012T004720_20201012T005040_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_220201012T005203_20201012T005658_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_220201012T005913_20201012T011443_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_220201012T013057_20201012T015208_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_220201012T020453_20201012T020552_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_220201012T022925_20201012T025414_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_220201012T031021_20201012T033401_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_220201012T034522_20201012T034547_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_220201012T040247_20201012T040516_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_220201012T040642_20201012T043200_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_220201012T044932_20201012T050702_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_220201012T050858_20201012T051312_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_220201012T052507_20201012T052649_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_220201012T053832_20201012T061136_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_220201012T065410_20201012T065455_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_220201012T070157_20201012T070607_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_220201012T071607_20201012T072721_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_220201012T073007_20201012T075121_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_220201012T080909_20201012T081840_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_220201012T082028_20201012T082746_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_220201012T082830_20201012T083303_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_220201012T084213_20201012T084255_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_220201012T085457_20201012T093016_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_220201012T094918_20201012T100150_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_220201012T100158_20201012T101932_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_220201012T103539_20201012T103954_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_220201012T104040_20201012T105241_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_220201012T105445_20201012T110926_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_220201012T112631_20201012T113657_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_220201012T114317_20201012T115927_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_220201012T123022_20201012T123050_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_220201012T123444_20201012T124802_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_220201012T130428_20201012T133956_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_220201012T135058_20201012T135842_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220201012T140445_20201012T142557_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_220201012T144300_20201012T150842_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_220201012T150845_20201012T151019_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_220201012T153322_20201012T153802_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220201012T154224_20201012T160627_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_220201012T162315_20201012T165626_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_220201012T170814_20201012T171052_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_220201012T171910_20201012T171935_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_220201012T172147_20201012T172854_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_220201012T180311_20201012T183546_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_220201012T183553_20201012T183737_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_220201012T184744_20201012T184945_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_220201012T190805_20201012T192356_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_220201012T194127_20201012T201637_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_220201012T202706_20201012T202854_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_220201012T203909_20201012T204329_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_220201012T204425_20201012T210201_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_220201012T212113_20201012T213553_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_220201012T213713_20201012T213755_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_220201012T214236_20201012T215520_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_220201012T215555_20201012T215613_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220201012T220912_20201012T222726_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_220201012T222851_20201012T224247_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_220201012T230018_20201012T231504_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_220201012T231706_20201012T232630_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_220201012T234720_20201013T000532_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records

# 6. QCC Report Analysis

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

Product type	No. Products	No. QCC Reports	No. Valid	No. Warnings	No. Errors
SIR_LRM_1B	168	168	168	0	0
SIR_SAR_1B	109	109	109	0	0
SIR_SIN_1B	106	106	106	0	0
SIR_LRM_2	164	164	158	6	0
SIR_SAR_2	104	109	109	0	0
SIR_SIN_2	109	104	102	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

8

Total number of occurrences of each warning							
Product Type	AXDME	AXSMMEOCI	-	-	-	-	-
SIR_LRM_2_	0	6					
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				

### 6.2 Missing QCC Reports

Number of products with missing QCC reports:

0