

1. Overview

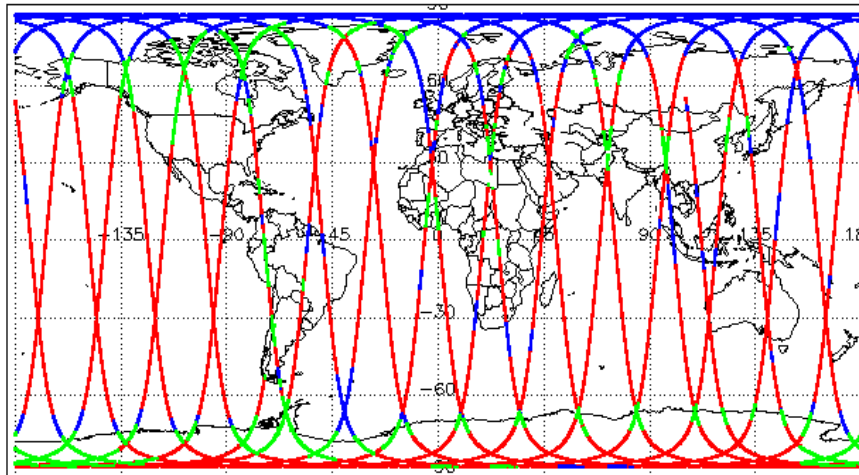
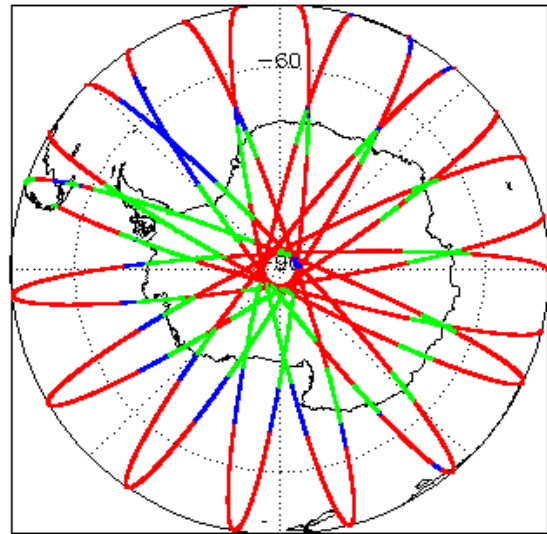
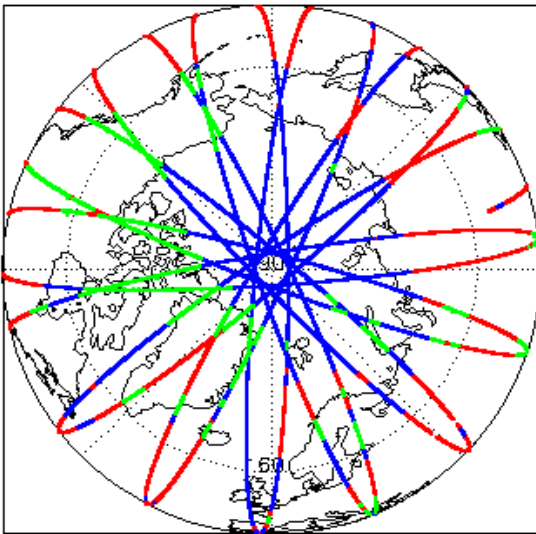
Report Production Date:	18-Mar-2022
Processor Used:	CryoSat Ice Processor
Data Used:	L1B and L2 OFFLINE Data

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

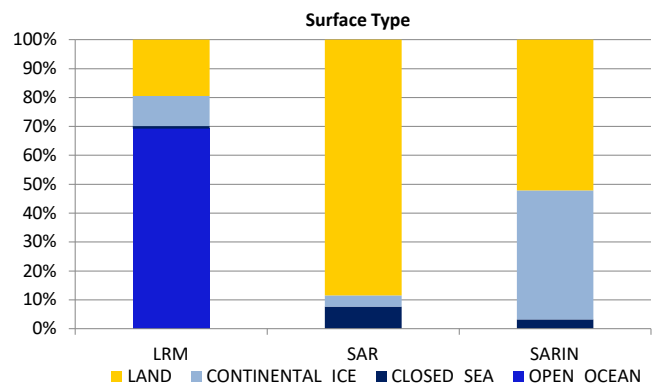
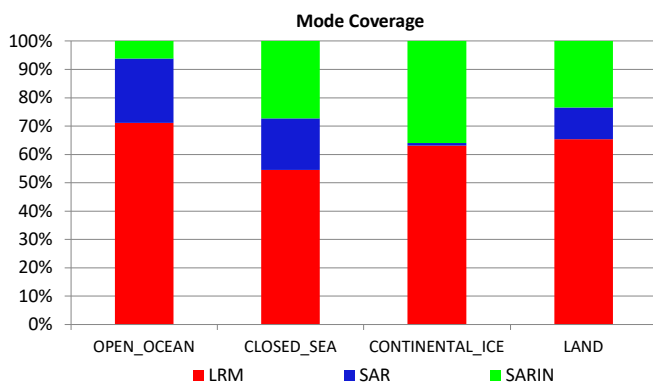
Mission / Instrument News

15-Feb-2022	None
16-Feb-2022	None
17-Feb-2022	Nothing planned

2. Global Coverage



Mode Coverage (%)		
	LRM	68.9
	SAR	17.7
	SARIn	13.3



3. Instrument Configuration

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

SIRAL instrument(s) in use:	SIRAL - A
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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 NetCDF product file (.nc).

Number of products with errors: 0

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: 0

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: 150

Product	Test Failed	Description
CS_OFFL_SIR_LRM_1B_20220216T000656_20220216T001456_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T004032_20220216T004151_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T004153_20220216T004201_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T004541_20220216T004627_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T004629_20220216T004631_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T004639_20220216T004657_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T004702_20220216T004709_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T004712_20220216T004722_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T004726_20220216T004741_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T004744_20220216T004747_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T004756_20220216T004837_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T004845_20220216T004852_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T004854_20220216T004902_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T004906_20220216T004915_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T004917_20220216T004920_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T004923_20220216T004942_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T004945_20220216T004955_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T004959_20220216T005426_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T010911_20220216T011902_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T011905_20220216T012014_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T012017_20220216T014305_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T014808_20220216T015343_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T015607_20220216T022127_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T022531_20220216T023035_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T024724_20220216T024741_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T025305_20220216T025353_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T025357_20220216T032143_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T033500_20220216T040344_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T040348_20220216T040352_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T040358_20220216T040407_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T040409_20220216T040443_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T040447_20220216T040449_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T040452_20220216T040453_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T040457_20220216T040721_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T040754_20220216T041010_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T052333_20220216T053053_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T053227_20220216T053752_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T054324_20220216T054428_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T054440_20220216T054557_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T054557_20220216T054701_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T055011_20220216T055016_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T055118_20220216T055307_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T071612_20220216T072104_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T072136_20220216T072317_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T074232_20220216T074241_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T074243_20220216T074254_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T080610_20220216T081835_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T092103_20220216T092210_E001	Loss of echo	The tracking echo is missing for one or more records

CS_OFFL_SIR_LRM_1B_20220216T215252_20220216T220350_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T220354_20220216T221419_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T221800_20220216T221804_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T221806_20220216T221821_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T221825_20220216T221848_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T221851_20220216T222047_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T222049_20220216T222232_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T222235_20220216T222252_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T222255_20220216T222259_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T222303_20220216T222307_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T222313_20220216T222317_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T222320_20220216T222321_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T222323_20220216T222324_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T222329_20220216T222332_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T222336_20220216T222421_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T223740_20220216T224002_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T225537_20220216T225837_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T225944_20220216T231132_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T231706_20220216T231935_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T232605_20220216T234108_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T234248_20220216T234853_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T234956_20220216T235732_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T235734_20220216T235801_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T235832_20220216T235849_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T235854_20220216T235902_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T235905_20220216T235910_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20220216T235913_20220216T235916_E001	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: 0

4.6 L1B 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

4.7 L1B Auxiliary Correction Error Check

CryoSat L1B data includes a correction error flag (field 54) for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors: 0

4.8 L1B Measurement Confidence Data Check

CryoSat L1B data includes a measurement confidence flag (field 18) for each measurement record. The bit value of this flag indicates any problems when set.

Currently, there are several common error flags raised in the Level 1B products which are expected due to operational mode or surface type. All common flags are summarised in the list below, followed by a table of any additional issues arising from this test.

Block Degraded Flag: This flag is currently set for a number of individual records generally at the start or end of products (all modes), but this is to be expected.

Phase Perturbation Flag: This flag is currently set for all L1B SARIn products, indicating that the ADC correction application is deactivated, but this is in line with the current configuration.

Number of products with errors: 0

5. Level 2 Data Quality Check

5.1 L2 Product Format Check

Each product, retrieved and unpacked from the science server, is checked to ensure it consists of both an XML header file (.HDR) and a NetCDF product file (.nc).

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: 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: 233

Product	Test Failed	Description
CS_OFFL_SIR_LRM_2_20220216T001645_20220216T003217_E001	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_2_20220216T010911_20220216T011902_E001	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_2_20220216T012017_20220216T014305_E001	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_2_20220216T014808_20220216T015343_E001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_2_20220216T015607_20220216T022127_E001	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_2_20220216T025357_20220216T032143_E001	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_2_20220216T033500_20220216T040344_E001	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_2_20220216T042721_20220216T050055_E001	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_2_20220216T051351_20220216T052011_E001	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_2_20220216T055118_20220216T055307_E001	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_2_20220216T060631_20220216T064042_E001	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_2_20220216T065246_20220216T071250_E001	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_2_20220216T072136_20220216T072317_E001	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_2_20220216T074434_20220216T080504_E001	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_2_20220216T080610_20220216T081835_E001	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_2_20220216T083206_20220216T090110_E001	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_2_20220216T092756_20220216T093535_E001	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_2_20220216T094017_20220216T094148_E001	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_2_20220216T094155_20220216T095759_E001	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_2_20220216T101538_20220216T102833_E001	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_2_20220216T103046_20220216T104232_E001	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_2_20220216T104542_20220216T104621_E001	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_2_20220216T110028_20220216T110043_E001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_2_20220216T111010_20220216T112037_E001	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_2_20220216T112217_20220216T113717_E001	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_2_20220216T120139_20220216T120433_E001	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_2_20220216T121204_20220216T121425_E001	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_2_20220216T121548_20220216T122250_E001	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_2_20220216T124413_20220216T124530_E001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_2_20220216T124642_20220216T124709_E001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records

CS_OFFL_SIR_SIN_2_20220216T223620_20220216T223739_E001	Backscatter Error (Retracker 2), Backscatter Error (Retracker 3), SARIn X-track Angle Error	There is a backscatter error for Retracker 2 and 3 and an ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20220216T231132_20220216T231706_E001	Backscatter Error (Retracker 2), Backscatter Error (Retracker 3), SARIn X-track Angle Error	There is a backscatter error for Retracker 2 and 3 and an ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20220216T231935_20220216T232000_E001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20220216T232425_20220216T232605_E001	Backscatter Error (Retracker 2), Backscatter Error (Retracker 3), SARIn X-track Angle Error	There is a backscatter error for Retracker 2 and 3 and an ambiguous angle was detected for SARIn mode for one or more records
