

1. Overview

Report Production Date:	22-May-2023
Processor Used:	CryoSat Ice Processor
Data Used:	L1B and L2 OFFLINE Data

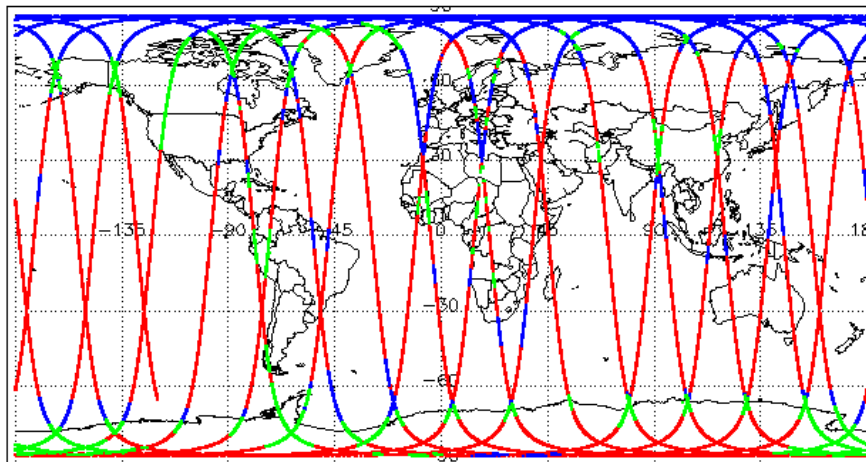
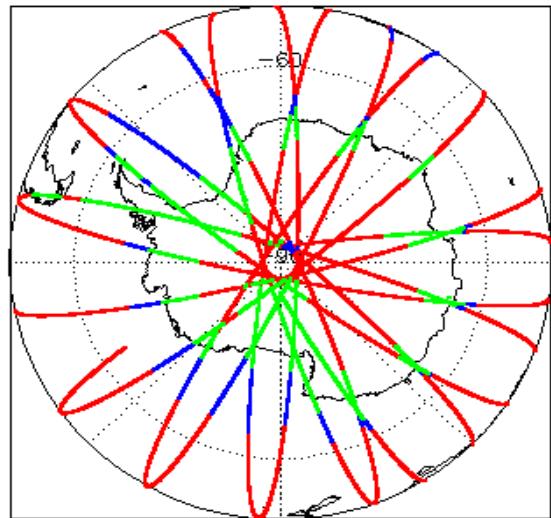
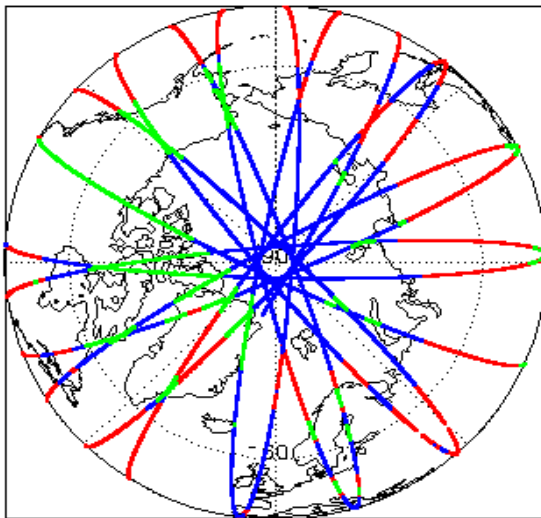
Check	Status
Server check: science-pds.cryosat.esa.int	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal
Product Software Check	Nominal
Product Format Check	Nominal
Product Header Analysis	Nominal
Star Tracker Usage Check	Nominal
L1B Tracking Flag Check	See Section 4.4
L1B Calibration Usage Check	Nominal
L1B & L2 Auxiliary Data File Usage Check	Nominal
L1B & L2 Auxiliary Correction Error Check	See Section 4.7 and 5.4
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

We would love to hear from you!
 Please let us know your feedback about these daily quality reports: What do you like/ dislike? What quality information do you need? Send your feedback to cs2_qc_team@telespazio.com

Mission / Instrument News

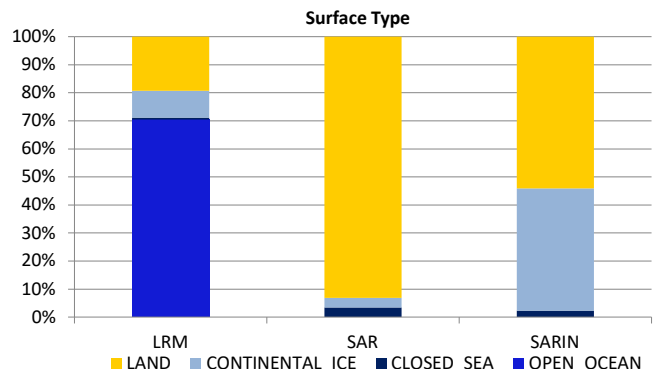
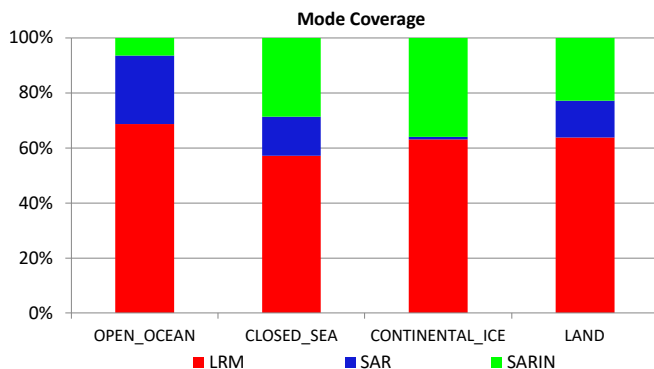
19-Apr-2023	None
20-Apr-2023	None
21-Apr-2023	Nothing planned

2. Global Coverage



Mode Coverage (%)

	LRM	67.1
	SAR	20.0
	SARIn	12.9



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 product file (.DBL).

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: 112

Product	Test Failed	Description
CS_OFFL_SIR_LRM_1B_20230420T000613_20230420T002133_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T002135_20230420T002143_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T002145_20230420T002332_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T002813_20230420T003643_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T003647_20230420T003654_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T003946_20230420T004020_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T004022_20230420T004046_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T004048_20230420T004053_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T004057_20230420T004126_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T004130_20230420T004136_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T004144_20230420T004159_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T004203_20230420T004233_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T011430_20230420T012908_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T013614_20230420T013824_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T014512_20230420T020037_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T020237_20230420T021158_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T021332_20230420T021740_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T021743_20230420T022225_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T023634_20230420T023822_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T023919_20230420T025131_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T034829_20230420T034909_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T035257_20230420T035334_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T035427_20230420T035453_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T035456_20230420T035513_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T035515_20230420T035521_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T035523_20230420T040122_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T041632_20230420T042209_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T042329_20230420T042642_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T042644_20230420T042645_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T042647_20230420T042652_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T042654_20230420T045029_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T050347_20230420T052904_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T052906_20230420T052908_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T052910_20230420T052915_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T053113_20230420T053800_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T053800_20230420T053859_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T053902_20230420T053933_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T060103_20230420T062907_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T064245_20230420T071054_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T071056_20230420T071129_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T071132_20230420T071139_E001	Loss of echo	The tracking echo is missing for one or more records

CS_OFFL_SIR_LRM_1B_20230420T234950_20230420T234953_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T234959_20230420T235036_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T235038_20230420T235049_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T235051_20230420T235054_E001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20230420T235056_20230420T235209_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 for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors: 3

4.8 L1B Measurement Confidence Data Check

CryoSat L1B data includes a measurement confidence flag 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 Applied 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: 1

Product	Test Failed	Description
CS_OFFL_SIR_LRM_1B_20230420T000613_20230420T002133_E001	Echo error, TRK echo error	The tracking echo has returned an error and the Rx1 Echo Error flag is set, indicating a degraded echo

5. Level 2 Data Quality Check

5.1 L2 Product Format Check

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

Number of products with errors: 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 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 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.

Sea State Bias error: This flag is currently set in all L2 LRM products over ocean, indicating a problem with the sea state bias. Due to a known anomaly, the sea state bias field is currently unfilled in all Baseline-E L2 LRM products. This anomaly will be resolved in the next IPF update.

Snow Depth Model error: This flag is currently set in all L2 SAR products over ocean, which fall outside of the extent of the current snow depth model. Currently the snow depth model is only available over the high-latitude Arctic. There is no model currently provided for the Antarctic or marginal Arctic regions. An updated model will be provided in the next IPF update.

Number of products with errors: 117

Product	Test Failed	Description
CS_OFFL_SIR_SAR_2_20230420T000538_20230420T000613_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2_20230420T002332_20230420T002813_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2_20230420T003654_20230420T003655_E001	Dry tropospheric corr, Wet tropospheric corr, Inverse barometric corr, Dynamic atm corr, Model Ionospheric corr, Solid Earth tide, Geocentr. polar tide, Snow depth model	SIRAL unavailability from 16:30:51 to 18:16:59 due to planned orbit manoeuvre

CS_OFFL_SIR_SAR_2__20230420T003658_20230420T003659_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T003701_20230420T003709_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T003712_20230420T003714_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T003718_20230420T003753_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T003754_20230420T003855_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T003857_20230420T003900_E001	Dry tropospheric corr, Wet tropospheric corr, Inverse barometric corr, Dynamic atm corr, Model Ionospheric corr, Solid Earth tide, Geocentr. polar tide, Snow depth model	SIRAL unavailability from 16:30:51 to 18:16:59 due to planned orbit manoeuvre
CS_OFFL_SIR_SAR_2__20230420T003902_20230420T003936_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T003938_20230420T003944_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T005521_20230420T005604_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T011217_20230420T011430_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T012909_20230420T012956_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T013135_20230420T013210_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T014501_20230420T014511_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T020037_20230420T020136_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T020138_20230420T020154_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T020201_20230420T020237_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T023149_20230420T023338_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model

CS_OFFL_SIR_SAR_2__20230420T072047_20230420T073051_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T080810_20230420T081102_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T082105_20230420T082124_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T082740_20230420T083029_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T084808_20230420T085026_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T085029_20230420T085154_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T085422_20230420T085645_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T090128_20230420T090950_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T091315_20230420T091347_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T092227_20230420T092511_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T094734_20230420T094959_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T095428_20230420T095432_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T100004_20230420T100039_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T101344_20230420T101531_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T102804_20230420T103431_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T103431_20230420T103653_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T103701_20230420T103930_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model

CS_OFFL_SIR_SAR_2__20230420T135018_20230420T135139_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T135226_20230420T135454_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T135620_20230420T135817_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T142810_20230420T142949_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T144418_20230420T144449_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T145137_20230420T145144_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T152321_20230420T152442_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T153136_20230420T153408_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T153425_20230420T153439_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T155943_20230420T160049_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T162345_20230420T162356_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T190245_20230420T190711_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T193207_20230420T193646_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T194311_20230420T194330_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T195400_20230420T195605_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T202957_20230420T203013_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T203107_20230420T203136_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model

CS_OFFL_SIR_SAR_2__20230420T234747_20230420T234919_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T234922_20230420T234940_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SAR_2__20230420T234942_20230420T234950_E001	Snow depth model	There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth model
CS_OFFL_SIR_SIN_2__20230419T235912_20230420T000537_E001	Mean Sea Surface model	There is an error with the Mean Sea Surface for one or more records
CS_OFFL_SIR_SIN_2__20230420T013211_20230420T013614_E001	Mean Sea Surface model	There is an error with the Mean Sea Surface for one or more records
CS_OFFL_SIR_SIN_2__20230420T081102_20230420T081423_E001	Mean Sea Surface model	There is an error with the Mean Sea Surface for one or more records
CS_OFFL_SIR_SIN_2__20230420T094959_20230420T095319_E001	Mean Sea Surface model	There is an error with the Mean Sea Surface for one or more records
CS_OFFL_SIR_SIN_2__20230420T131435_20230420T131639_E001	Mean Sea Surface model	There is an error with the Mean Sea Surface for one or more records
CS_OFFL_SIR_SIN_2__20230420T145318_20230420T150011_E001	Mean Sea Surface model	There is an error with the Mean Sea Surface for one or more records
CS_OFFL_SIR_SIN_2__20230420T212938_20230420T213240_E001	Mean Sea Surface model	There is an error with the Mean Sea Surface for one or more records
CS_OFFL_SIR_SIN_2__20230420T230314_20230420T230616_E001	Mean Sea Surface model	There is an error with the Mean Sea Surface for one or more records
CS_OFFL_SIR_SIN_2__20230420T230841_20230420T231356_E001	Mean Sea Surface model	There is an error with the Mean Sea Surface for one or more records

5.5 L2 Measurement Quality Flag Check

CryoSat L2 data includes a quality flag 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.

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.

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.

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.

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.

Number of products with errors: 234

Product	Test Failed	Description
CS_OFFL_SIR_LRM_2__20230420T000613_20230420T002133_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__20230420T002145_20230420T002332_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__20230420T002813_20230420T003643_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__20230420T004057_20230420T004126_E001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_2__20230420T005604_20230420T011216_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__20230420T011430_20230420T012908_E001	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_2__20230420T014512_20230420T020037_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__20230420T020237_20230420T021158_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__20230420T023634_20230420T023822_E001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_2__20230420T023919_20230420T025131_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__20230420T025638_20230420T031114_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__20230420T032449_20230420T034137_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__20230420T034357_20230420T034608_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__20230420T035523_20230420T040122_E001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_2__20230420T042329_20230420T042642_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__20230420T042654_20230420T045029_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_SIN_2_20230420T185026_20230420T185432_E001	Backscatter Error (Retracker 2), Backscatter Error (Retracker 3), SARIn X track Angle Error, Surface model unavailable	There is a backscatter error for Retracker 2 and 3, an ambiguous angle was detected for SARIn mode, and no DEM or Slope Model was used for the location for one or more records
CS_OFFL_SIR_SIN_2_20230420T190209_20230420T190244_E001	Backscatter Error (Retracker 2), Backscatter Error (Retracker 3), SARIn X track Angle Error, Surface model unavailable	There is a backscatter error for Retracker 2 and 3, an ambiguous angle was detected for SARIn mode, and no DEM or Slope Model was used for the location for one or more records
CS_OFFL_SIR_SIN_2_20230420T194331_20230420T194455_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_20230420T195247_20230420T195400_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_20230420T203013_20230420T203107_E001	Backscatter Error (Retracker 2), Backscatter Error (Retracker 3), SARIn X track Angle Error, Surface model unavailable	There is a backscatter error for Retracker 2 and 3, an ambiguous angle was detected for SARIn mode, and no DEM or Slope Model was used for the location for one or more records
CS_OFFL_SIR_SIN_2_20230420T203137_20230420T203344_E001	Backscatter Error (Retracker 2), Backscatter Error (Retracker 3)	There is a backscatter error for Retracker 2 and 3 for one or more records
CS_OFFL_SIR_SIN_2_20230420T204609_20230420T204658_E001	Backscatter Error (Retracker 2), Backscatter Error (Retracker 3)	There is a backscatter error for Retracker 2 and 3 for one or more records
CS_OFFL_SIR_SIN_2_20230420T212300_20230420T212426_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_20230420T212938_20230420T213240_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_20230420T230314_20230420T230616_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_20230420T230841_20230420T231356_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_20230420T235327_20230420T235356_E001	Backscatter Error (Retracker 2), Backscatter Error (Retracker 3), SARIn X track Angle Error, Surface model unavailable	There is a backscatter error for Retracker 2 and 3, an ambiguous angle was detected for SARIn mode, and no DEM or Slope Model was used for the location for one or more records