| CRYC | SAT |
|------|-----|

|  | 1. Overview   |   |
|--|---|---|
|  |   |   |
| Production Date: 13-Oct-2022   | Check<br>Server check: science-pds.cryosat.esa.int                                      | Status<br>Nominal                                       |
| cessor Used: CryoSat Ice Processor   | Server check: calval-pds.cryosat.esa.int  | Nominal   |
|  | Product Software Check<br>Product Format Check  | Nominal   |
| Data Used: L1B and L2 OFFLINE Data   | Product Pointal Check<br>Product Header Analysis  | See Section 5.2   |
|  | Star Tracker Usage Check  | Nominal   |
|  | L1B Tracking Flag Check<br>L1B Calibration Usage Check                                  | See Section 4.4<br>Nominal                              |
|  | L1B & L2 Auxiliary Data File Usage Check  | See Section 4.6, 5.3 and 6.3                            |
|  | L1B & L2 Auxiliary Correction Error Check<br>L1B & L2 Measurement Confidence Data Check | See Section 5.4<br>See Section 4.8 and 5.5              |
|  | QCC Errors/ Warnings  | See Section 4.6 and 5.5<br>See Section 6.1, 6.2 and 6.3 |
| Instrument News  |   |   |
| 2022 None 2022 N |   |   |
| 2022 Nothing planned   |   |   |
|  | 2. Global Coverage  |   |
|  |   |   |
| North A  |   |   |
|  |   |   |
| And Shart  | $\lambda$   $\wedge$  |   |
|  |   | VVVV  |
|  |   |   |
| CANK A   |   |   |
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| Contraction of the second  |   |   |
| VAD 1XX  | $\mathbf{Y} = \mathbf{V} \mathbf{A}$  |   |
|  |   |   |
|  |   |   |
|  |   |   |
|  |   | Mode Coverage (%)                                       |
| AAAAYXXX   | A A A   | LRM 67.7  |
| PAN V TANA ALA   | SAA A ASTOT   | <b>SAR</b> 18.4   |
|  |   |   |
|  |   | SARin 13.9  |
|  | THEP (VISTAL A A  |   |
| - 35 - ab 2 - 45 - 198 65-   | 10 1 10 1 15 15   |   |
| I I I KSKIP I IS   |   |   |
| -30 VF   |   |   |
| VIVIVIA A A  | A A A AMAID   |   |
|  | A A A A M M   |   |
| XXXXXXXXXXX  | Att Att A   |   |
|  |   |   |
| Mode Coverage  |   | Surface Type  |
|  | 90%   |   |
|  | 80%   |   |
|  | 70%   |   |
|  | 60%   |   |
|  | 50%   |   |
|  | 40% 30%   |   |
|  | 20%   |   |
|  | 10%   |   |
| OPEN_OCEAN CLOSED_SEA CONTINENTAL_ICE  | LAND 0%   |   |
| LRM SAR S  | ERIVI   | SAR SARIN<br>INENTAL_ICE CLOSED_SEA OPEN_O              |

## 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 Check

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

Number of products with errors:

#### 4.2 L1B Product Header Analysis

For all products, a series of pre-defined checks are carried out on the MPH and SPH in order to identify any inconsistencies and/or errors raised by the ground-segment processing chain. Not 0!

# Number of products with errors:

## 4.3 Star Tracker Usage Check

Each product is checked in order to ensure a valid star tracker file has been used in processing. 0

Number of products with errors:

## 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.

0

Loss of Echo Flag: This flag is currently set for some products over land, but this is to be expected.

88

Number of products with errors:

| Product   | Test Failed  | Description  |
|---|--------------|--|
| CS_OFFL_SIR_LRM_1B_20220914T001655_20220914T003045_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T003259_20220914T004909_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T010206_20220914T011022_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T011231_20220914T012249_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T021104_20220914T021638_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T021921_20220914T022931_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T024053_20220914T024657_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T024659_20220914T024718_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T024720_20220914T024751_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T024754_20220914T024807_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T024809_20220914T024838_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T024912_20220914T024956_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T032153_20220914T032533_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T033301_20220914T035944_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T035947_20220914T040034_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T040335_20220914T040352_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T042342_20220914T042435_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T042437_20220914T042903_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T042905_20220914T042932_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T042941_20220914T042944_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T042948_20220914T043008_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T043200_20220914T045603_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T055758_20220914T060502_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T060536_20220914T060738_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T060753_20220914T060801_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T060803_20220914T062012_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T062017_20220914T062113_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T062115_20220914T062608_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T074347_20220914T074527_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T074537_20220914T074650_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T075011_20220914T075119_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T075630_20220914T080018_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T085418_20220914T090642_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T092604_20220914T092738_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T092852_20220914T092923_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T092927_20220914T092927_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T092929_20220914T093334_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T093422_20220914T095313_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T101056_20220914T104641_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T111834_20220914T113133_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T114032_20220914T114229_E001 | Loss of echo | The tracking echo is missing for one or more records |

| CS_OFFL_SIR_LRM_1B_20220914T114406_20220914T114731_E001 | Loss of echo | The tracking echo is missing for one or more records |
|---|--------------|--|
| CS_OFFL_SIR_LRM_1B_20220914T115007_20220914T120452_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T121953_20220914T122630_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T123843_20220914T125536_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T125931_20220914T125946_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T130017_20220914T130211_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T130213_20220914T130258_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T130300_20220914T130843_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T135725_20220914T135803_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T135806_20220914T135824_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T135826_20220914T135959_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T140006_20220914T140052_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T140054_20220914T140208_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T140211_20220914T140613_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T142152_20220914T142742_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T143027_20220914T145316_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T145705_20220914T150535_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T150924_20220914T153336_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T153720_20220914T154152_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T154335_20220914T154616_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T155651_20220914T155737_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T155859_20220914T160256_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T160459_20220914T163233_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T164851_20220914T171405_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T171407_20220914T171431_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T171929_20220914T171946_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T171946_20220914T172622_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T183702_20220914T184106_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T184440_20220914T184456_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T184635_20220914T185221_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T185514_20220914T185534_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T185536_20220914T185544_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T185606_20220914T185737_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T185737_20220914T185925_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T191725_20220914T195009_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T202701_20220914T203306_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T203427_20220914T203440_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T203453_20220914T203500_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T203511_20220914T203633_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T205422_20220914T212445_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T212456_20220914T212927_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T213744_20220914T214158_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T223302_20220914T223850_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T225154_20220914T225422_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T225425_20220914T225425_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T225428_20220914T230121_E001 | Loss of echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_LRM_1B_20220914T232747_20220914T234011_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.

0

Number of products with errors:

## 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 for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors:

### 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:

| Product   | Test Failed                | Description  |
|---|----------------------------|--|
| CS_OFFL_SIR_LRM_1B_20220914T042437_20220914T042903_E001 | Lecho error LBK 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).

2

Not 0!

83

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 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:

| Product  | Test Failed      | Description   |
|--|------------------|---|
| CS_OFFL_SIR_SAR_220220913T235910_20220914T000015_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_220220914T000704_20220914T000710_E001  | Snow depth model | There is an error with the Snow Depth value, where one or more records<br>falls outside of the extent of the current snow depth model |
| CS_OFFL_SIR_SAR_220220914T000717_20220914T000723_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_20220914T001119_20220914T001655_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_20220914T003045_20220914T003259_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_20220914T005241_20220914T005256_E001 | Snow depth model | There is an error with the Snow Depth value, where one or more records<br>falls outside of the extent of the current snow depth model |
| CS_OFFL_SIR_SAR_2_20220914T012249_20220914T012428_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_20220914T013757_20220914T013812_E001 | Snow depth model | There is an error with the Snow Depth value, where one or more records<br>falls outside of the extent of the current snow depth model |
| CS_OFFL_SIR_SAR_2_20220914T013812_20220914T013928_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_20220914T014616_20220914T014623_E001 | Snow depth model | There is an error with the Snow Depth value, where one or more records<br>falls outside of the extent of the current snow depth model |
| CS_OFFL_SIR_SAR_2_20220914T021800_20220914T021921_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_20220914T025422_20220914T025528_E001 | Snow depth model | There is an error with the Snow Depth value, where one or more records<br>falls outside of the extent of the current snow depth model |
| CS_OFFL_SIR_SAR_2_20220914T031613_20220914T031854_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_20220914T033058_20220914T033301_E001 | Snow depth model | There is an error with the Snow Depth value, where one or more records<br>falls outside of the extent of the current snow depth model |
| CS_OFFL_SIR_SAR_2_20220914T045603_20220914T045759_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_220220914T050948_20220914T051218_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_20220914T060743_20220914T060753_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_20220914T062608_20220914T063127_E001 | Snow depth model | There is an error with the Snow Depth value, where one or more records<br>falls outside of the extent of the current snow depth model |
| CS_OFFL_SIR_SAR_2_20220914T063518_20220914T063811_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_20220914T064838_20220914T065315_E001 | Snow depth model | There is an error with the Snow Depth value, where one or more records<br>falls outside of the extent of the current snow depth model |
| CS_OFFL_SIR_SAR_2_20220914T074019_20220914T074347_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_20220914T074650_20220914T075011_E001 | Snow depth model | There is an error with the Snow Depth value, where one or more records<br>falls outside of the extent of the current snow depth model |
| CS_OFFL_SIR_SAR_2_20220914T080217_20220914T080241_E001 | Snow depth model | There is an error with the Snow Depth value, where one or more records fails outside of the extent of the current snow depth model    |
| CS_OFFL_SIR_SAR_2_20220914T081335_20220914T081740_E001 | Snow depth model | There is an error with the Snow Depth value, where one or more records<br>falls outside of the extent of the current snow depth model |
| CS_OFFL_SIR_SAR_2_20220914T082720_20220914T083129_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_20220914T085230_20220914T085417_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_20220914T091408_20220914T091609_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_20220914T091838_20220914T092604_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_20220914T092739_20220914T092852_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 20220914T095313 20220914T095801 E001 CS OFFL SIR SAR 2 20220914T100837 20220914T101056 E001 CS OFFL SIR SAR 2 20220914T111807 20220914T111834 E001 CS\_OFFL\_SIR\_SAR\_2\_\_20220914T113134\_20220914T113757\_E001 CS\_OFFL\_SIR\_SAR\_2\_\_20220914T114903\_20220914T115007\_E001 CS OFFL SIR SAR 2 20220914T120452 20220914T120654 E001 CS OFFL SIR SAR 2 20220914T130844 20220914T130930 E001 CS OFFL SIR SAR 2 20220914T130943 20220914T131101 E001 CS\_OFFL\_SIR\_SAR\_2\_\_20220914T132817\_20220914T132939\_E001 CS\_OFFL\_SIR\_SAR\_2\_\_20220914T134322\_20220914T134606\_E001 CS OFFL SIR SAR 2 20220914T135959 20220914T140006 E001 CS\_OFFL\_SIR\_SAR\_2\_\_20220914T142742\_20220914T142904\_E001 CS\_OFFL\_SIR\_SAR\_2\_\_20220914T145316\_20220914T145515\_E001 CS OFFL SIR SAR 2 20220914T150730 20220914T150923 E001 CS OFFL SIR SAR 2 20220914T163233 20220914T163455 E001 CS OFFL SIR SAR 2 20220914T164625 20220914T164851 E001 CS OFFL SIR SAR 2 20220914T171645 20220914T171734 E001 CS\_OFFL\_SIR\_SAR\_2\_\_20220914T181008\_20220914T181444\_E001 CS OFFL SIR SAR 2 20220914T182531 20220914T182753 E001 CS OFFL SIR SAR 2 20220914T183157 20220914T183701 E001 CS\_OFFL\_SIR\_SAR\_2\_\_20220914T185221\_20220914T185320\_E001 CS OFFL SIR SAR 2 20220914T185925 20220914T190021 E001 CS\_OFFL\_SIR\_SAR\_2\_\_20220914T190144\_20220914T190212\_E001 CS OFFL SIR SAR 2 20220914T191506 20220914T191545 E001 CS OFFL SIR SAR 2 20220914T195010 20220914T195421 E001 CS\_OFFL\_SIR\_SAR\_2\_\_20220914T200411\_20220914T200833\_E001 CS OFFL SIR SAR 2 20220914T203306 20220914T203427 E001 CS OFFL SIR SAR 2 20220914T203633 20220914T203736 E001 CS OFFL SIR SAR 2 20220914T203736 20220914T204224 E001 CS OFFL SIR SAR 2 20220914T204351 20220914T204514 E001 CS\_OFFL\_SIR\_SAR\_2\_\_20220914T212927\_20220914T213137\_E001 CS\_OFFL\_SIR\_SAR\_2\_\_20220914T213738\_20220914T213744\_E001 CS OFFL SIR SAR 2 20220914T214306 20220914T214710 E001 CS\_OFFL\_SIR\_SAR\_2\_\_20220914T221125\_20220914T221254\_E001 CS\_OFFL\_SIR\_SAR\_2\_\_20220914T223850\_20220914T223932\_E001 CS OFFL SIR SAR 2 20220914T224911 20220914T225154 E001 CS OFFL SIR SAR 2 20220914T230227 20220914T230233 E001 CS OFFL SIR SAR 2 20220914T230843 20220914T230945 E001 CS OFFL SIR SAR 2 20220914T231637 20220914T231639 E001 CS\_OFFL\_SIR\_SAR\_2\_\_20220914T231639\_20220914T231643\_E001 CS OFFL SIR SAR 2 20220914T231650 20220914T231656 E001 CS OFFL SIR SAR 2 20220914T232052 20220914T232746 E001 CS\_OFFL\_SIR\_SAR\_2\_\_20220914T234011\_20220914T234146\_E001 CS\_OFFL\_SIR\_SAR\_2\_20220914T235040\_20220914T235207\_E001 CS\_OFFL\_SIR\_SIN\_2\_\_20220914T000912\_20220914T001119\_E001 CS OFFL SIR SIN 2 20220914T014758 20220914T015451 E001 CS OFFL SIR SIN 2 20220914T082417 20220914T082720 E001 CS\_OFFL\_SIR\_SIN\_2\_20220914T095801\_20220914T100101\_E001 CS\_OFFL\_SIR\_SIN\_2\_\_20220914T100320\_20220914T100837\_E001 CS\_OFFL\_SIR\_SIN\_2\_\_20220914T113757\_20220914T114032\_E001

Snow depth model Mean Sea Surface 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 mode 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 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 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 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 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 There is an error with the Snow Depth value, where one or more records falls outside of the extent of the current snow depth mode There is an error with the Snow Depth value, where one or more records falls outside 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There is an error with the Mean Sea Surface for one or more records

| CS_OFFL_SIR_SIN_220220914T131259_20220914T131857_E001 | Mean Sea Surface model | There is an error with the Mean Sea Surface for one or more records |
|---|------------------------|---|
| CS_OFFL_SIR_SIN_220220914T181444_20220914T181831_E001 | Mean Sea Surface model | There is an error with the Mean Sea Surface for one or more records |
| CS_OFFL_SIR_SIN_220220914T195421_20220914T195737_E001 | Mean Sea Surface model | There is an error with the Mean Sea Surface for one or more records |
| CS_OFFL_SIR_SIN_220220914T231908_20220914T232052_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.

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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.

Number of products with errors:

| Product  | Test Failed  | Description   |
|--|--|---|
| CS_OFFL_SIR_LRM_220220914T001655_20220914T003045_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)   | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_220220914T003259_20220914T004909_E001  | Height Error (Retracker 2), Height Error<br>(Retracker 3), Backscatter Error<br>(Retracker 2), Surface model unavailable | There is a height and backscatter error for Retracker 2 , a height error for<br>Retracker 3 and no DEM or Slope Model was used for the location of one or<br>more records |
| CS_OFFL_SIR_LRM_220220914T005115_20220914T005241_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)   | There is a height and backscatter error for Retracker 2 for one or more<br>records  |
| CS_OFFL_SIR_LRM_220220914T011231_20220914T012249_E001  | Height Error (Retracker 2), Height Error<br>(Retracker 3), Backscatter Error<br>(Retracker 2)                            | There is a height and backscatter error for Retracker 2 and a height error<br>for Retracker 3 for one or more records   |
| CS_OFFL_SIR_LRM_220220914T015828_20220914T020904_E001  | Height Error (Retracker 2), Height Error<br>(Retracker 3), Backscatter Error<br>(Retracker 2)                            | There is a height and backscatter error for Retracker 2 and a height error<br>for Retracker 3 for one or more records   |
| CS_OFFL_SIR_LRM_220220914T021104_20220914T021638_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)   | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_220220914T021921_20220914T022931_E001  | Height Error (Retracker 2), Height Error<br>(Retracker 3), Backscatter Error<br>(Retracker 2)                            | There is a height and backscatter error for Retracker 2 and a height error<br>for Retracker 3 for one or more records   |
| CS_OFFL_SIR_LRM_220220914T025528_20220914T031613_E001  | Height Error (Retracker 2), Height Error<br>(Retracker 3), Backscatter Error<br>(Retracker 2)                            | There is a height and backscatter error for Retracker 2 and a height error<br>for Retracker 3 for one or more records   |
| CS_OFFL_SIR_LRM_220220914T033301_20220914T035944_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)   | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_220220914T041940_20220914T042218_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)   | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_220220914T043200_20220914T045603_E001  | Height Error (Retracker 2), Height Error<br>(Retracker 3), Backscatter Error<br>(Retracker 2)                            | There is a height and backscatter error for Retracker 2 and a height error<br>for Retracker 3 for one or more records   |
| CS_OFFL_SIR_LRM_220220914T051218_20220914T054517_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)   | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_220220914T055758_20220914T060502_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)   | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_220220914T060536_20220914T060738_E001  | Surface Model Unavailable  | No DEM or Slope Model was used for the location of one or more records  |
| CS_OFFL_SIR_LRM_220220914T060803_20220914T062012_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)   | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_220220914T062115_20220914T062608_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)   | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_220220914T065316_20220914T072459_E001  | Height Error (Retracker 2), Height Error<br>(Retracker 3), Backscatter Error<br>(Retracker 2), Surface model unavailable | There is a height and backscatter error for Retracker 2 , a height error for<br>Retracker 3 and no DEM or Slope Model was used for the location of one or<br>more records |
| CS_OFFL_SIR_LRM_220220914T073646_20220914T073906_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2), Surface model<br>unavailable                             | There is a height and backscatter error for Retracker 2 and no DEM or<br>Slope Model was used for the location of one or more records                                     |
| CS_OFFL_SIR_LRM_220220914T075630_20220914T080018_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)   | There is a height and backscatter error for Retracker 2 for one or more<br>records  |
| CS_OFFL_SIR_LRM_220220914T080022_20220914T080217_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)   | There is a height and backscatter error for Retracker 2 for one or more<br>records  |
| CS_OFFL_SIR_LRM_220220914T080241_20220914T081335_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)   | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_220220914T083129_20220914T085229_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)   | There is a height and backscatter error for Retracker 2 for one or more<br>records  |
| CS_OFFL_SIR_LRM_220220914T085418_20220914T090642_E001  | Height Error (Retracker 2), Height Error<br>(Retracker 3), Backscatter Error<br>(Retracker 2)                            | There is a height and backscatter error for Retracker 2 and a height error<br>for Retracker 3 for one or more records   |
| CS_OFFL_SIR_LRM_2_20220914T091609_20220914T091838_E001 | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)   | There is a height and backscatter error for Retracker 2 for one or more records   |

| CS_OFFL_SIR_LRM_2_20220914T093422_20220914T095313_E001 | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)                                | There is a height and backscatter error for Retracker 2 for one or more records   |
|--|---|---|
| CS_OFFL_SIR_LRM_2_20220914T101056_20220914T104641_E001 | Height Error (Retracker 2), Height Error<br>(Retracker 3), Backscatter Error<br>(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_20220914T105828_20220914T111807_E001 | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)                                | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_2_20220914T111834_20220914T113133_E001 | Height Error (Retracker 2), Height Error<br>(Retracker 3), Backscatter Error<br>(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_20220914T115007_20220914T120452_E001 | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)                                | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_2_20220914T120654_20220914T121615_E001 | Height Error (Retracker 2), Height Error<br>(Retracker 3), Backscatter Error<br>(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_220220914T123843_20220914T125536_E001  | Height Error (Retracker 2), Height Error<br>(Retracker 3), Backscatter Error<br>(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_20220914T140006_20220914T140052_E001 | Surface Model Unavailable   | No DEM or Slope Model was used for the location of one or more records  |
| CS_OFFL_SIR_LRM_2_20220914T141717_20220914T141731_E001 | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)                                | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_2_20220914T141806_20220914T142029_E001 | Height Error (Retracker 2), Height Error<br>(Retracker 3), Backscatter Error<br>(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_0FFL_SIR_LRM_2_20220914T142152_20220914T142742_E001 | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)                                | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_2_20220914T143027_20220914T145316_E001 | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)                                | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_2_20220914T150924_20220914T153336_E001 | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2), Surface model<br>unavailable  | There is a height and backscatter error for Retracker 2 and no DEM or<br>Slope Model was used for the location of one or more records |
| CS_OFFL_SIR_LRM_2_20220914T154315_20220914T154335_E001 | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)                                | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_2_20220914T154335_20220914T154616_E001 | Height Error (Retracker 2), Height Error<br>(Retracker 3), Backscatter Error<br>(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_220220914T160459_20220914T163233_E001  | Height Error (Retracker 2), Height Error<br>(Retracker 3), Backscatter Error<br>(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_220220914T164851_20220914T171405_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)                                | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_220220914T171946_20220914T172622_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)                                | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_2_20220914T173954_20220914T181008_E001 | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)                                | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_2_20220914T190318_20220914T190458_E001 | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)                                | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_220220914T191725_20220914T195009_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)                                | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_2_20220914T200833_20220914T202409_E001 | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)                                | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_220220914T204224_20220914T204351_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)                                | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_220220914T205422_20220914T212445_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)                                | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_220220914T212456_20220914T212927_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)                                | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_220220914T214710_20220914T221124_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)                                | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_220220914T221255_20220914T221950_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)                                | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_220220914T221950_20220914T222057_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)                                | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_220220914T223302_20220914T223850_E001  | Height Error (Retracker 2), Height Error<br>(Retracker 3), Backscatter Error<br>(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_220220914T223932_20220914T224910_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)                                | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_220220914T225154_20220914T225422_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)                                | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_220220914T225428_20220914T230121_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)                                | There is a height and backscatter error for Retracker 2 for one or more records   |
| CS_OFFL_SIR_LRM_2_20220914T230124_20220914T230227_E001 | Height Error (Retracker 2), Height Error<br>(Retracker 3), Backscatter Error<br>(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_220220914T232747_20220914T234011_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)                                | There is a height and backscatter error for Retracker 2 for one or more records   |

| CS_OFFL_SIR_LRM_2_20220914T234146_20220914T235040_E001 | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)      | There is a height and backscatter error for Retracker 2 for one or more records |
|--|---|---|
| CS_OFFL_SIR_LRM_220220914T235207_20220914T235852_E001  | Height Error (Retracker 2), Backscatter<br>Error (Retracker 2)      | There is a height and backscatter error for Retracker 2 for one or more records |
| CS_OFFL_SIR_SAR_2_20220913T235910_20220914T000015_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_2_20220914T001119_20220914T001655_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_220220914T005241_20220914T005256_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_2_20220914T005511_20220914T010205_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_2_20220914T012249_20220914T012428_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_220220914T013757_20220914T013812_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_2_20220914T013812_20220914T013928_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_2_20220914T021800_20220914T021921_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_220220914T023339_20220914T023901_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_2_20220914T023927_20220914T024053_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_220220914T025422_20220914T025528_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_220220914T031613_20220914T031854_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_220220914T033058_20220914T033301_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_220220914T041202_20220914T041939_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_220220914T045603_20220914T045759_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_220220914T050948_20220914T051218_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_220220914T054915_20220914T055649_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_220220914T055722_20220914T055758_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_220220914T062608_20220914T063127_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_220220914T063518_20220914T063811_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_220220914T064838_20220914T065315_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_220220914T072845_20220914T073508_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_220220914T073508_20220914T073646_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_220220914T074019_20220914T074347_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_220220914T074650_20220914T075011_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_220220914T080217_20220914T080241_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_220220914T081335_20220914T081740_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_220220914T082720_20220914T083129_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_220220914T085230_20220914T085417_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_220220914T090642_20220914T091408_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_220220914T091408_20220914T091609_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
| CS_OFFL_SIR_SAR_220220914T091838_20220914T092604_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records      |
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| CS_OFFL_SIR_SAR_220220914T092739_20220914T092852_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
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| CS_OFFL_SIR_SAR_220220914T095313_20220914T095801_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T100837_20220914T101056_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_2_20220914T104641_20220914T104744_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T104838_20220914T105303_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T105303_20220914T105418_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T111807_20220914T111834_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T113134_20220914T113757_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T114903_20220914T115007_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T120452_20220914T120654_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T122630_20220914T123133_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T123133_20220914T123310_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T130844_20220914T130930_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T130943_20220914T131101_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T132817_20220914T132939_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T134322_20220914T134606_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T140613_20220914T140818_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T140818_20220914T141234_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T142742_20220914T142904_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_2_20220914T145316_20220914T145515_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T150730_20220914T150923_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T154644_20220914T154732_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T154758_20220914T155211_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T163233_20220914T163455_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T164625_20220914T164851_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T172622_20220914T173255_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T181008_20220914T181444_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T182531_20220914T182753_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T183157_20220914T183701_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T185221_20220914T185320_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T185925_20220914T190021_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T190144_20220914T190212_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T190555_20220914T191343_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
| CS_OFFL_SIR_SAR_220220914T195010_20220914T195421_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3) | There is a backscatter error for Retracker 2 and 3 for one or more records |
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| CS_OFFL_SIR_SAR_2_20220914T200411_20220914T200833_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
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| CS_OFFL_SIR_SAR_2_20220914T203306_20220914T203427_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SAR_2_20220914T203633_20220914T203736_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SAR_2_20220914T203736_20220914T204224_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SAR_2_20220914T204351_20220914T204514_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SAR_2_20220914T204601_20220914T205422_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SAR_2_20220914T212927_20220914T213137_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SAR_2_20220914T214306_20220914T214710_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SAR_2_20220914T221125_20220914T221254_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SAR_2_20220914T222531_20220914T223302_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SAR_2_20220914T223850_20220914T223932_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SAR_220220914T224911_20220914T225154_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SAR_220220914T230227_20220914T230233_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SAR_220220914T230843_20220914T230945_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SAR_220220914T232052_20220914T232746_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SAR_220220914T234011_20220914T234146_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SAR_220220914T235040_20220914T235207_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SIN_2_20220914T000015_20220914T000154_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_2_20220914T000735_20220914T000740_E001 | SARIn X-track Angle Error  | An ambiguous angle was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_2_20220914T000912_20220914T001119_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_2_20220914T004909_20220914T005115_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_2_20220914T005256_20220914T005511_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error, Surface model<br>unavailable | There is a backscatter error for Retracker 2 and 3, an ambiguous angle was<br>detected for SARIn mode, and no DEM or Slope Model was used for the<br>location for one or more records |
| CS_OFFL_SIR_SIN_220220914T011022_20220914T011231_E001  | SARIn X-track Angle Error, Surface<br>model unavailable  | An ambiguous angle was detected for SARIn mode and no DEM or Slope<br>Model was used for one or more records  |
| CS_OFFL_SIR_SIN_220220914T013929_20220914T014115_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_220220914T014650_20220914T014655_E001  | SARIn X-track Angle Error  | An ambiguous angle was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_220220914T014758_20220914T015451_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_220220914T015629_20220914T015828_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error, Surface model<br>unavailable | There is a backscatter error for Retracker 2 and 3, an ambiguous angle was<br>detected for SARIn mode, and no DEM or Slope Model was used for the<br>location for one or more records |
| CS_OFFL_SIR_SIN_2_20220914T020904_20220914T021104_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SIN_220220914T021638_20220914T021800_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SIN_220220914T022931_20220914T023339_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error, Surface model<br>unavailable | There is a backscatter error for Retracker 2 and 3, an ambiguous angle was<br>detected for SARIn mode, and no DEM or Slope Model was used for the<br>location for one or more records |
| CS_OFFL_SIR_SIN_220220914T023901_20220914T023927_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error, Surface model<br>unavailable | There is a backscatter error for Retracker 2 and 3, an ambiguous angle was<br>detected for SARIn mode, and no DEM or Slope Model was used for the<br>location for one or more records |
| CS_OFFL_SIR_SIN_220220914T024956_20220914T025354_E001  | SARIn X-track Angle Error, Surface<br>model unavailable  | An ambiguous angle was detected for SARIn mode and no DEM or Slope<br>Model was used for one or more records  |
| CS_OFFL_SIR_SIN_220220914T031855_20220914T032153_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |

| CS_OFFL_SIR_SIN_220220914T032534_20220914T032540_E001  | SARIn X-track Angle Error<br>Backscatter Error (Retracker 2),  | An ambiguous angle was detected for SARIn mode for one or more records  |
|--|--|---|
| CS_OFFL_SIR_SIN_220220914T032855_20220914T033058_E001  | Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error<br>Backscatter Error (Retracker 2),                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_220220914T040353_20220914T041202_E001  | Backscatter Error, (Retracker 3), SARIn X-<br>track Angle Error, Surface model<br>unavailable                                    | There is a backscatter error for Retracker 2 and 3, an ambiguous angle was<br>detected for SARIn mode, and no DEM or Slope Model was used for the<br>location for one or more records |
| CS_OFFL_SIR_SIN_220220914T043014_20220914T043036_E001  | SARIn X-track Angle Error, Surface model unavailable   | An ambiguous angle was detected for SARIn mode and no DEM or Slope<br>Model was used for one or more records  |
| CS_OFFL_SIR_SIN_220220914T045800_20220914T045936_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_0FFL_SIR_SIN_220220914T050448_20220914T050455_E001  | SARIn X-track Angle Error  | An ambiguous angle was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_220220914T050822_20220914T050948_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_220220914T054517_20220914T054744_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error, Surface model<br>unavailable | There is a backscatter error for Retracker 2 and 3, an ambiguous angle was<br>detected for SARIn mode, and no DEM or Slope Model was used for the<br>location for one or more records |
| CS_OFFL_SIR_SIN_2_20220914T054744_20220914T054914_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SIN_220220914T055649_20220914T055722_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error, Surface model<br>unavailable | There is a backscatter error for Retracker 2 and 3, an ambiguous angle was<br>detected for SARIn mode, and no DEM or Slope Model was used for the<br>location for one or more records |
| CS_OFFL_SIR_SIN_220220914T063811_20220914T063937_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_220220914T064523_20220914T064540_E001  | SARIn X-track Angle Error  | An ambiguous angle was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_220220914T064725_20220914T064838_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_0FFL_SIR_SIN_220220914T072459_20220914T072817_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SIN_220220914T073906_20220914T073955_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error, Surface model<br>unavailable | There is a backscatter error for Retracker 2 and 3, an ambiguous angle was<br>detected for SARIn mode, and no DEM or Slope Model was used for the<br>location for one or more records |
| CS_OFFL_SIR_SIN_220220914T080018_20220914T080021_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SIN_220220914T081740_20220914T081905_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_220220914T082417_20220914T082720_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_220220914T095801_20220914T100101_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_220220914T100320_20220914T100837_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_220220914T104744_20220914T104838_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error, Surface model<br>unavailable | There is a backscatter error for Retracker 2 and 3, an ambiguous angle was<br>detected for SARIn mode, and no DEM or Slope Model was used for the<br>location for one or more records |
| CS_OFFL_SIR_SIN_220220914T105418_20220914T105828_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_220220914T113757_20220914T114032_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_220220914T114229_20220914T114406_E001  | SARIn X-track Angle Error  | An ambiguous angle was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_220220914T114732_20220914T114903_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_220220914T121616_20220914T121952_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SIN_220220914T123310_20220914T123424_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_220220914T123611_20220914T123843_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>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_220220914T131101_20220914T131201_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error, Surface model<br>unavailable | There is a backscatter error for Retracker 2 and 3, an ambiguous angle was<br>detected for SARIn mode, and no DEM or Slope Model was used for the<br>location for one or more records |
| CS_OFFL_SIR_SIN_220220914T131259_20220914T131857_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_220220914T132153_20220914T132202_E001  | SARIn X-track Angle Error  | An ambiguous angle was detected for SARIn mode for one or more records  |
| CS_0FFL_SIR_SIN_220220914T132634_20220914T132817_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |

|  | Backscatter Error (Retracker 2),   |   |
|--|--|---|
| CS_OFFL_SIR_SIN_2_20220914T141234_20220914T141455_E001 | Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error, Surface model<br>unavailable                                     | There is a backscatter error for Retracker 2 and 3, an ambiguous angle was<br>detected for SARIn mode, and no DEM or Slope Model was used for the<br>location for one or more records |
| CS_OFFL_SIR_SIN_220220914T141528_20220914T141716_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error, Surface model<br>unavailable | There is a backscatter error for Retracker 2 and 3, an ambiguous angle was<br>detected for SARIn mode, and no DEM or Slope Model was used for the<br>location for one or more records |
| CS_OFFL_SIR_SIN_2_20220914T141731_20220914T141806_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SIN_2_20220914T142029_20220914T142152_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SIN_2_20220914T142904_20220914T143026_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SIN_2_20220914T145515_20220914T145705_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_220220914T150535_20220914T150729_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_220220914T153336_20220914T153719_E001  | SARIn X-track Angle Error, Surface model unavailable   | An ambiguous angle was detected for SARIn mode and no DEM or Slope<br>Model was used for one or more records  |
| CS_OFFL_SIR_SIN_2_20220914T154617_20220914T154635_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error, Surface model<br>unavailable | There is a backscatter error for Retracker 2 and 3, an ambiguous angle was<br>detected for SARIn mode, and no DEM or Slope Model was used for the<br>location for one or more records |
| CS_OFFL_SIR_SIN_2_20220914T154733_20220914T154757_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error, Surface model<br>unavailable | There is a backscatter error for Retracker 2 and 3, an ambiguous angle was<br>detected for SARIn mode, and no DEM or Slope Model was used for the<br>location for one or more records |
| CS_OFFL_SIR_SIN_220220914T155212_20220914T155651_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error, Surface model<br>unavailable | There is a backscatter error for Retracker 2 and 3, an ambiguous angle was<br>detected for SARIn mode, and no DEM or Slope Model was used for the<br>location for one or more records |
| CS_OFFL_SIR_SIN_220220914T163455_20220914T163632_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_220220914T163757_20220914T163918_E001  | SARIn X-track Angle Error  | An ambiguous angle was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_2_20220914T164336_20220914T164625_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_220220914T173256_20220914T173954_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error, Surface model<br>unavailable | There is a backscatter error for Retracker 2 and 3, an ambiguous angle was<br>detected for SARIn mode, and no DEM or Slope Model was used for the<br>location for one or more records |
| CS_OFFL_SIR_SIN_2_20220914T181444_20220914T181831_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_2_20220914T182417_20220914T182531_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_2_20220914T185321_20220914T185514_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SIN_220220914T190021_20220914T190143_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SIN_220220914T190230_20220914T190317_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SIN_220220914T190458_20220914T190555_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error, Surface model<br>unavailable | There is a backscatter error for Retracker 2 and 3, an ambiguous angle was<br>detected for SARIn mode, and no DEM or Slope Model was used for the<br>location for one or more records |
| CS_OFFL_SIR_SIN_220220914T191343_20220914T191505_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SIN_220220914T191546_20220914T191725_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error, Surface model<br>unavailable | There is a backscatter error for Retracker 2 and 3, an ambiguous angle was<br>detected for SARIn mode, and no DEM or Slope Model was used for the<br>location for one or more records |
| CS_OFFL_SIR_SIN_220220914T195421_20220914T195737_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_220220914T200249_20220914T200411_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_220220914T202409_20220914T202701_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)  | There is a backscatter error for Retracker 2 and 3 for one or more records  |
| CS_OFFL_SIR_SIN_220220914T204515_20220914T204600_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_220220914T212445_20220914T212456_E001  | SARIn X-track Angle Error, Surface model unavailable   | An ambiguous angle was detected for SARIn mode and no DEM or Slope<br>Model was used for one or more records  |
| CS_OFFL_SIR_SIN_220220914T213137_20220914T213540_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_220220914T214159_20220914T214306_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |
| CS_OFFL_SIR_SIN_2_20220914T222057_20220914T222311_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error                               | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records  |

| CS_OFFL_SIR_SIN_220220914T222412_20220914T222530_E001  |  | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records |
|--|--|--|
| CS_OFFL_SIR_SIN_220220914T230946_20220914T231116_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records |
| CS_0FFL_SIR_SIN_220220914T231908_20220914T232052_E001  | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3), SARIn X-<br>track Angle Error | There is a backscatter error for Retracker 2 and 3 and an ambiguous angle<br>was detected for SARIn mode for one or more records |
| CS_OFFL_SIR_SIN_2_20220914T235852_20220915T000253_E001 | Backscatter Error (Retracker 2),<br>Backscatter Error (Retracker 3)                                | There is a backscatter error for Retracker 2 and 3 for one or more records   |