

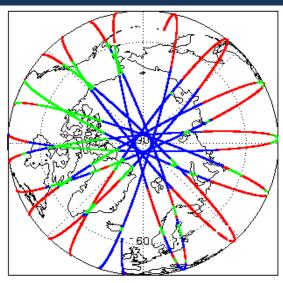
# 1. Overview

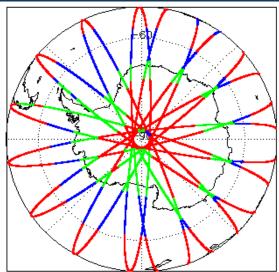
Report Production Date:	13-Aug-2020
Processor Used:	CryoSat Ice Processor
Data Used:	L1B and L2 OFFLINE Data

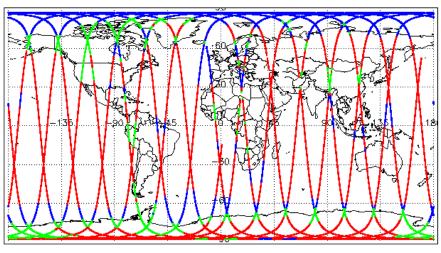
Check	Status	
Server check: science-pds.cryosat.esa.int	Nominal	
Server check: calval-pds.cryosat.esa.int	Nominal	
Product Software Check	Nominal	
Product Format Check	Nominal	
Product Header Analysis	Nominal	
Star Tracker Usage Check	Nominal	
L1B Tracking Flag Check	See Section 4.4	
L1B Calibration Usage Check	See Section 4.5	
L1B & L2 Auxiliary Data File Usage Check	Nominal	
L1B & L2 Auxiliary Correction Error Check	Nominal	
L1B & L2 Measurement Confidence Data Check	See Section 4.8 and 5.5	
QCC Errors/ Warnings	See Section 6.1, 6.2 and 6.3	

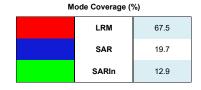
Mission / Instru	Mission / Instrument News				
14-Jul-2020	None				
15-Jul-2020	None				
16-Jul-2020	CRYO2ICE Orbit raising activities. SIRAL unavailability from 21:48:52 to 23:25:09.				

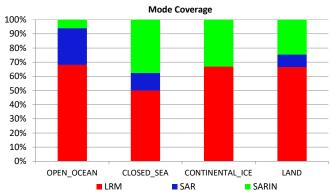
# 2. Global Coverage

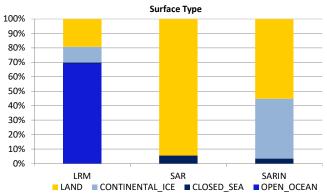












#### 3. Instrument Configuration

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:

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

#### 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

umber of products with errors:

CS OFFL SIR LRM 1B 20200715T142907 20200715T143628 D001

CS\_OFFL\_SIR\_LRM\_1B\_20200715T143630\_20200715T144344\_D001

Product Test Failed Description

CS\_OFFL\_SIR\_LRM\_1B\_20200715T001552\_20200715T002052\_D001 Loss of echo The tracking echo is missing for one or more records

CS\_OFFL\_SIR\_LRM\_1B\_20200715T002800\_20200715T010350\_D001 Loss of echo The tracking echo is missing for one or more records

CS\_OFFL\_SIR\_LRM\_1B\_20200715T015804\_20200715T015957\_D001 Loss of echo The tracking echo is missing for one or more records

CS\_OFFL\_SIR\_LRM\_1B\_20200715T020741\_20200715T022420\_D001 Loss of echo The tracking echo is missing for one or more records

The tracking echo is missing for one or more records CS\_OFFL\_SIR\_LRM\_1B\_20200715T022902\_20200715T024319\_D001 Loss of echo The tracking echo is missing for one or more records CS\_OFFL\_SIR\_LRM\_1B\_20200715T031514\_20200715T032950\_D001 Loss of echo The tracking echo is missing for one or more records CS\_OFFL\_SIR\_LRM\_1B\_20200715T034628\_20200715T035822\_D001 Loss of echo The tracking echo is missing for one or more records CS OFFL SIR LRM 1B 20200715T035838 20200715T040124 D001 Loss of echo The tracking echo is missing for one or more records CS\_OFFL\_SIR\_LRM\_1B\_20200715T040324\_20200715T041246\_D001 Loss of echo The tracking echo is missing for one or more records CS OFFL SIR LRM 1B 20200715T041426 20200715T042305 D001 Loss of echo The tracking echo is missing for one or more records Loss of echo CS\_OFFL\_SIR\_LRM\_1B\_20200715T043700\_20200715T045045\_D001 The tracking echo is missing for one or more records CS OFFL SIR LRM 1B 20200715T045048 20200715T045214 D001 Loss of echo The tracking echo is missing for one or more records CS\_OFFL\_SIR\_LRM\_1B\_20200715T045723\_20200715T051026\_D001 The tracking echo is missing for one or more records CS OFFL SIR LRM 1B 20200715T054910 20200715T054956 D001 Loss of echo The tracking echo is missing for one or more records CS OFFL SIR LRM 1B 20200715T055344 20200715T055421 D001 Loss of echo The tracking echo is missing for one or more records CS OFFL SIR LRM 1B 20200715T055512 20200715T060210 D001 l oss of echo The tracking echo is missing for one or more records CS\_OFFL\_SIR\_LRM\_1B\_20200715T061717\_20200715T062257\_D001 Loss of echo The tracking echo is missing for one or more records CS OFFL SIR LRM 1B 20200715T062411 20200715T062747 D001 Loss of echo The tracking echo is missing for one or more records CS\_OFFL\_SIR\_LRM\_1B\_20200715T062750\_20200715T065016\_D001 Loss of echo The tracking echo is missing for one or more records CS OFFL SIR LRM 1B 20200715T065632 20200715T070136 D001 Loss of echo The tracking echo is missing for one or more records Loss of echo CS\_OFFL\_SIR\_LRM\_1B\_20200715T070623\_20200715T072957\_D001 The tracking echo is missing for one or more records CS\_OFFL\_SIR\_LRM\_1B\_20200715T073226\_20200715T074113\_D001 Loss of echo The tracking echo is missing for one or more records CS\_OFFL\_SIR\_LRM\_1B\_20200715T080152\_20200715T082837\_D001 Loss of echo The tracking echo is missing for one or more records CS\_OFFL\_SIR\_LRM\_1B\_20200715T084448\_20200715T091223\_D001 Loss of echo The tracking echo is missing for one or more records CS OFFL SIR LRM 1B 20200715T091317 20200715T091539 D001 Loss of echo The tracking echo is missing for one or more records CS\_OFFL\_SIR\_LRM\_1B\_20200715T091612\_20200715T092214\_D001 Loss of echo The tracking echo is missing for one or more records CS\_OFFL\_SIR\_LRM\_1B\_20200715T103111\_20200715T103442\_D001 Loss of echo The tracking echo is missing for one or more records CS OFFL SIR LRM 1B 20200715T103604 20200715T104051 D001 Loss of echo The tracking echo is missing for one or more records

CS\_OFFL\_SIR\_LRM\_1B\_20200715T104110\_20200715T104549\_D001 Loss of echo The tracking echo is missing for one or more records CS OFFL SIR LRM 1B 20200715T104553 20200715T104555 D001 Loss of echo The tracking echo is missing for one or more records CS\_OFFL\_SIR\_LRM\_1B\_20200715T104601\_20200715T104610\_D001 Loss of echo The tracking echo is missing for one or more records CS OFFL SIR LRM 1B 20200715T105234 20200715T105243 D001 The tracking echo is missing for one or more records CS OFFL SIR LRM 1B 20200715T105245 20200715T105247 D001 Loss of echo The tracking echo is missing for one or more records CS OFFL SIR LRM 1B 20200715T105249 20200715T105324 D001 Loss of echo The tracking echo is missing for one or more records CS\_OFFL\_SIR\_LRM\_1B\_20200715T105351\_20200715T105409\_D001 Loss of echo The tracking echo is missing for one or more records CS\_OFFL\_SIR\_LRM\_1B\_20200715T105420\_20200715T105512\_D001 Loss of echo The tracking echo is missing for one or more records CS\_OFFL\_SIR\_LRM\_1B\_20200715T105732\_20200715T105747\_D001 Loss of echo The tracking echo is missing for one or more records CS\_OFFL\_SIR\_LRM\_1B\_20200715T122421\_20200715T122848\_D001 Loss of echo The tracking echo is missing for one or more records CS\_OFFL\_SIR\_LRM\_1B\_20200715T123018\_20200715T123036\_D001 Loss of echo The tracking echo is missing for one or more records

Loss of echo

Loss of echo

The tracking echo is missing for one or more records

The tracking echo is missing for one or more records

CS_OFF_SR_LPM_18_20200715715305_20200715715305_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFF_SR_LPM_18_20200715716132_20200715716132_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFF_SR_LPM_18_202007157161314_20200715716132_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFF_SR_LPM_18_202007157161314_20200715716132_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFF_SR_LPM_18_2020071571032_20200715716134_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFF_SR_LPM_18_2020071571032_202007157161346_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFF_SR_LPM_18_2020071571032_20200715710340_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFF_SR_LPM_18_2020071571032_20200715710404_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFF_SR_LPM_18_20200715717405_20200715717408_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFF_SR_LPM_18_20200715717405_20200715717408_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFF_SR_LPM_18_20200715717405_20200715717408_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFF_SR_LPM_18_20200715717407_20200715717408_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFF_SR_LPM_18_20200715717407_20200715717408_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFF_SR_LPM_18_20200715717407_20200715717408_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFF_SR_LPM_18_20200715717408_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFF_SR_LPM_18_20200715717408_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFF_SR_LPM_18_20200715717408_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFF_SR_LPM_18_20200715717408_D00	CS_OFFL_SIR_LRM_1B_20200715T144825_20200715T150533_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFF_SIR_LRM_18_20200715T10803_20200715T10312_D001  CS_OFF_SIR_LRM_18_20200715T10313_20200715T10312_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T10312_20200715T10312_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T10312_20200715T10312_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T10312_20200715T10312_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T10312_20200715T10323_D001  CS_OFF_SIR_LRM_18_20200715T10312_20200715T10324_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T10312_20200715T17232_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T17312_20200715T173107_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T17312_20200715T173107_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T1731173107_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T1731173107_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T173175723_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T175325_20200715T17532_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T175325_20200715T17532_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T175352_20200715T17532_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T175352_20200715T17532_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T175352_20200715T17534_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR	CS_OFFL_SIR_LRM_1B_20200715T152305_20200715T153645_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200715T16134_2000715T16132B_0001  CS_OFFL_SIR_LRM_1B_20200715T161332_2000715T161345_0001  CS_OFFL_SIR_LRM_1B_20200715T16132_2000715T161345_0001  CS_OFFL_SIR_LRM_1B_20200715T16152_2000715T161345_0001  CS_OFFL_SIR_LRM_1B_20200715T16152_2000715T161345_0001  CS_OFFL_SIR_LRM_1B_20200715T16152_2000715T161345_0001  CS_OFFL_SIR_LRM_1B_20200715T171346_0001  CS_OFFL_SIR_LRM_1B_20200715T17346_0001  CS_OFFL_SIR_LRM_1B_20	CS_OFFL_SIR_LRM_1B_20200715T154002_20200715T155526_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_18_20200715T161302_20200715T161340_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T161342_20200715T161245_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T1612625_20200715T162721_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T170516252_20200715T162721_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T170516_20200715T17230_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T17051_20200715T17230_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T17050_20200715T17230_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T17051_20200715T17230_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T17050_20200715T17230_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T17052_20200715T17051_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T17050_20200715T17050_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T17050_20200715T17050_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T17050_20200715T17050_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T19050_20200715T19050_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T19050_20200715T19050_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T19050_20200715T19050_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T19050_20200715T19050_D001  Loss of echo The tracking	CS_OFFL_SIR_LRM_1B_20200715T160803_20200715T161312_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SR_LRM_1B_20200715T161342_20200715T161452_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SR_LRM_1B_20200715T161502_20200715T161242_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SR_LRM_1B_20200715T1761502_20200715T162244_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SR_LRM_1B_20200715T170516_20200715T1740B_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SR_LRM_1B_20200715T17405_20200715T1740D_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SR_LRM_1B_20200715T1740D_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SR_LRM_1B_20200715T1740D_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SR_LRM_1B_20200715T1740T_20200715T17510D_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SR_LRM_1B_20200715T1740T_202000715T17523D_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SR_LRM_1B_20200715T1740T_202000715T17543D_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SR_LRM_1B_20200715T17540B_20200715T17543D_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SR_LRM_1B_20200715T17540B_20200715T17543D_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SR_LRM_1B_20200715T17540B_20200715T17540T_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SR_LRM_1B_20200715T1904AB_20200715T1904D_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SR_LRM_1B_20200715T1904AB_20200715T1904D_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SR_LRM_1B_20200715T1904AB_20200715T1904D_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SR_LRM_1B_20200715T1904AB_20200715T19041D_D001  Loss of echo The tracking echo is missing for one or more reco	CS_OFFL_SIR_LRM_1B_20200715T161314_20200715T161328_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFF_SIR_LRM_18_20200715T161500_20200715T161545_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T161625_20200715T162721_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T174502_20200715T17408_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T174749_20200715T17233T_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T174747_20200715T175150_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T174517_20200715T175150_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T174512_20200715T17433_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T174512_20200715T17433_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T174505_20200715T17430_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T174505_20200715T17450_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T174505_20200715T17450_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T19443_20200715T19601_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T190443_20200715T19043_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T190443_20200715T19043_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T190443_20200715T19043_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T19043_20200715T19043_D001  Loss of exho  The tracking exho is missing for one or more records  CS_OFF_SIR_LRM_18_20200715T19043_20200715T19043_D001  Loss of exho  The tra	CS_OFFL_SIR_LRM_1B_20200715T161330_20200715T161340_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_IB_20200715T161825_20200715T162241_D001  Loss of exho The tracking exho is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T17616_20200715T17405_D001  Loss of exho The tracking exho is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T177405_20200715T177405_D001  Loss of exho The tracking exho is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T177452_20200715T177405_D001  Loss of exho The tracking exho is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T1774657_20200715T1774510_D001  Loss of exho The tracking exho is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T1774657_20200715T1774510_D001  Loss of exho The tracking exho is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T1774557_20200715T1774510_D001  Loss of exho The tracking exho is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T1774557_20200715T1774510_D001  Loss of exho The tracking exho is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T1774557_20200715T1774510_D001  Loss of exho The tracking exho is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T1774545_20200715T1774547_D001  Loss of exho The tracking exho is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T17946_20200715T190401_D001  Loss of exho The tracking exho is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T190402_20200715T190401_D001  Loss of exho The tracking exho is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T190403_20200715T190401_D001  Loss of exho The tracking exho is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T190403_202000715T190410_D001  Loss of exho The tracking exho is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T190403_20200715T190413_D001  Loss of exho The tracking exho is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T190403_20200715T190410_D001  Loss of exho The tracking exho is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T210402_20200715T210402_D	CS_OFFL_SIR_LRM_1B_20200715T161342_20200715T161457_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_18_20200715T176272_20200715T171406_D001  CS_OFFL_SIR_LRM_18_20200715T1770516_20200715T171406_D001  CS_OFFL_SIR_LRM_18_20200715T177474_D00200715T177507_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T174749_D000715T175107_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T17467_20200715T175107_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T175122_20200715T175510_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T175235_20200715T175401_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T175405_20200715T175440_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T175405_20200715T175440_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T175405_20200715T190010  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T175405_20200715T190010  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T190403_20200715T190010  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T19043_20200715T190401_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T19043_20200715T191440_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T19043_20200715T19143_20001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T190402_20200715T19043_20001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T190402_20200715T201402_20200715T201402_20200715T201402_20200715T201402_20200715T201402_20200715T201402_20200715T201402_20200715T201402_20200715T201402_20200715T201402_20200	CS_OFFL_SIR_LRM_1B_20200715T161500_20200715T161545_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_18_20200715T177618_20200715T171406_0001  CS_OFFL_SIR_LRM_18_20200715T177432_020200715T7723107_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T175252_020200715T773107_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T175552_02020715T175233_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T175552_0200715T175233_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T175352_0200715T175439_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T175405_20200715T175439_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T175405_20200715T175439_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T175405_20200715T180017_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T175405_20200715T190401_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T190403_20200715T190401_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T190403_20200715T190401_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T19043_20200715T190401_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T19043_20200715T190401_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T19043_20200715T190401_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T20105_20200715T20105_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T20105_20200715T21030_0001  Loss of echo  The tracking echo is missing for one or more reco	CS_OFFL_SIR_LRM_1B_20200715T161825_20200715T162721_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_18_20200715T172520_20200715T73023_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T172520_20200715T73515_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T77552_20200715T75523_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T775523_20200715T775630_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T775405_20200715T775430_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T775405_20200715T775430_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T775405_20200715T75430_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T175405_20200715T180017_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T1934342_20200715T190410_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T19043_20200715T190440_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T19043_20200715T190440_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T19048_20200715T19041_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T19088_20200715T193437_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T19048_20200715T190437_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T1201652_D0200715T201052_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T201052_D0200715T201052_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T201402_02000715T21058_D001  Loss of echo Th	CS_OFFL_SIR_LRM_1B_20200715T162723_20200715T162844_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_18_20200715T172520_20200715T7510_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T175152_20200715T75150_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T175452_20200715T75490_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T175452_20200715T75490_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T175465_20200715T75490_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T175489_20200715T19547_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T175489_20200715T190401_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T190403_20200715T190401_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T190403_20200715T190401_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T190403_20200715T190401_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T190403_20200715T190401_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T190403_20200715T190410_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T190403_20200715T190410_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T190403_20200715T190401_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T190402_20200715T20401_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T201060_20200715T210650_0001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_18_20200715T210402_20200715T210650_000	CS_OFFL_SIR_LRM_1B_20200715T170516_20200715T171406_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_IB_20200715T175152_20200715T175150_0001  CS_OFFL_SIR_LRM_IB_20200715T175152_20200715T175233_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T175152_20200715T175401_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T175458_20200715T17540_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T175458_20200715T175547_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T175468_20200715T180017_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T19046_20200715T190440_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T190443_20200715T190440_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T190443_20200715T190443_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T19043_20200715T19043_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T19043_20200715T19043_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T190437_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T190437_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T20052_D0011  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T20052_D00175T200416_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T21050_D00200715T201416_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T211050_D0020715T210300  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T211050_D00715T210300  L	CS_OFFL_SIR_LRM_1B_20200715T171749_20200715T172237_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200715T175152_20200715T175433_D001  Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T175405_20200715T175439_D001 Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T175456_20200715T17547_D001 Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T175468_20200715T17547_D001 Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T193442_20200715T190401_D001 Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T190403_20200715T190401_D001 Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T19043_202000715T19043_D0001 Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T19043_20200715T19043_D0001 Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T192932_20200715T192931_D001 Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T192932_20200715T192931_D001 Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T192937_20200715T190431_D001 Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T201050_20200715T201416_D001 Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T211131_20200715T201416_D001 Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T21131_20200715T21133_D001 Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T21131_20200715T21133_D001 Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T21132_20200715T2133_D001 Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T2115242_20200715T21533_D001 Loss of echo The tracking echo	CS_OFFL_SIR_LRM_1B_20200715T172520_20200715T173107_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200715T175255_20200715T175401_D001	CS_OFFL_SIR_LRM_1B_20200715T174617_20200715T175150_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_18_20200715T175495_20200715T175439_D001	CS_OFFL_SIR_LRM_1B_20200715T175152_20200715T175233_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200715T175458_20200715T190401_D001	CS_OFFL_SIR_LRM_1B_20200715T175235_20200715T175401_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200715T190403_20200715T190401_D001	CS_OFFL_SIR_LRM_1B_20200715T175405_20200715T175439_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_IB_20200715T193432_20200715T19040_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T190443_20200715T191149_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T190443_20200715T191149_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T192732_20200715T192813_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T1928303_20200715T192813_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T193809_20200715T200221_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T201502_0200715T201416_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T201402_02000715T201416_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T201402_02000715T211305_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T211313_02000715T211305_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T211313_02000715T211305_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T211312_02000715T211301_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T214504_20200715T215117_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T215282_02000715T215117_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T215282_02000715T225158_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T2125282_02000715T225158_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_IB_20200715T225255_0200715T225	CS_OFFL_SIR_LRM_1B_20200715T175458_20200715T175547_D001	Loss of echo	The tracking echo is missing for one or more records
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CS_OFFL_SIR_LRM_1B_20200715T211335_20200715T21304_D001  Loss of echo  The tracking echo is missing for one or more records	CS_OFFL_SIR_LRM_1B_20200715T210420_20200715T211058_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200715T211504_20200715T213249_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T214527_20200715T215117_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T215122_20200715T215319_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T215828_20200715T222022_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T222031_20200715T223046_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T224929_20200715T225158_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T225213_20200715T225255_D001  Loss of echo  The tracking echo is missing for one or more records  The tracking echo is missing for one or more records  The tracking echo is missing for one or more records  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T225855_20200715T230037_D001  Loss of echo  The tracking echo is missing for one or more records  The tracking echo is missing for one or more records  The tracking echo is missing for one or more records  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T230221_20200715T230037_D001  Loss of echo  The tracking echo is missing for one or more records	CS_OFFL_SIR_LRM_1B_20200715T211131_20200715T211330_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200715T214527_20200715T215117_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T215122_20200715T215319_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T215828_20200715T222022_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T222031_20200715T223046_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T224929_20200715T225158_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T225213_20200715T225255_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T225855_20200715T230037_D001  Loss of echo  The tracking echo is missing for one or more records  The tracking echo is missing for one or more records  The tracking echo is missing for one or more records  The tracking echo is missing for one or more records  The tracking echo is missing for one or more records  The tracking echo is missing for one or more records  The tracking echo is missing for one or more records  The tracking echo is missing for one or more records	CS_OFFL_SIR_LRM_1B_20200715T211335_20200715T211501_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200715T215122_20200715T215319_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T215828_20200715T222022_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T222031_20200715T223046_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T224929_20200715T225158_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T225213_20200715T225255_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T225855_20200715T230037_D001  Loss of echo  The tracking echo is missing for one or more records  The tracking echo is missing for one or more records  The tracking echo is missing for one or more records  The tracking echo is missing for one or more records  The tracking echo is missing for one or more records  The tracking echo is missing for one or more records  The tracking echo is missing for one or more records  The tracking echo is missing for one or more records	CS_OFFL_SIR_LRM_1B_20200715T211504_20200715T213249_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200715T215828_20200715T222022_D001  Loss of echo  The tracking echo is missing for one or more records  The tracking echo is missing for one or more records  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T224929_20200715T225158_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T225213_20200715T225255_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T225855_20200715T230037_D001  Loss of echo  The tracking echo is missing for one or more records  The tracking echo is missing for one or more records  The tracking echo is missing for one or more records  The tracking echo is missing for one or more records  The tracking echo is missing for one or more records	CS_OFFL_SIR_LRM_1B_20200715T214527_20200715T215117_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200715T222031_20200715T223046_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T224929_20200715T225158_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T225213_20200715T225255_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T225855_20200715T230037_D001  Loss of echo  The tracking echo is missing for one or more records  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T230221_20200715T230542_D001  Loss of echo  The tracking echo is missing for one or more records	CS_OFFL_SIR_LRM_1B_20200715T215122_20200715T215319_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200715T224929_20200715T225158_D001 Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T225213_20200715T225255_D001 Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T225855_20200715T230037_D001 Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T230221_20200715T230542_D001 Loss of echo The tracking echo is missing for one or more records  The tracking echo is missing for one or more records	CS_OFFL_SIR_LRM_1B_20200715T215828_20200715T222022_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200715T225213_20200715T225255_D001 Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T225855_20200715T230037_D001 Loss of echo The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T230221_20200715T230542_D001 Loss of echo The tracking echo is missing for one or more records	CS_OFFL_SIR_LRM_1B_20200715T222031_20200715T223046_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200715T225855_20200715T230037_D001  Loss of echo  The tracking echo is missing for one or more records  CS_OFFL_SIR_LRM_1B_20200715T230221_20200715T230542_D001  Loss of echo  The tracking echo is missing for one or more records	CS_OFFL_SIR_LRM_1B_20200715T224929_20200715T225158_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200715T230221_20200715T230542_D001 Loss of echo The tracking echo is missing for one or more records	CS_OFFL_SIR_LRM_1B_20200715T225213_20200715T225255_D001	Loss of echo	The tracking echo is missing for one or more records
	CS_OFFL_SIR_LRM_1B_20200715T225855_20200715T230037_D001	Loss of echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_LRM_1B_20200715T230609_20200715T230802_D001 Loss of echo The tracking echo is missing for one or more records	CS_OFFL_SIR_LRM_1B_20200715T230221_20200715T230542_D001	Loss of echo	The tracking echo is missing for one or more records
	CS_OFFL_SIR_LRM_1B_20200715T230609_20200715T230802_D001	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:

#### 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: 0

### 4.7 L1B Auxiliary Correction Error Check

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

Number of products with errors:

# 4.8 L1B Measurement Confidence Data Check

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

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

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

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

umber of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_LRM_1B_20200715T142907_20200715T143628_D001	IECHO EFFOR LEK ECHO EFFOR	The tracking echo has returned an error and the Rx1 Echo Error flag is set, indicating a degraded echo
CS_OFFL_SIR_LRM_1B_20200715T160803_20200715T161312_D001	Echo error, TRK echo error	The tracking echo has returned an error and the Rx1 Echo Error flag is set, indicating a degraded echo

### 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:

#### 5.3 L2 Auxiliary Data File Usage Check

Each product is checked for missing Data Set Descriptors with respect to a pre-determined baseline and also to check the validity of Auxiliary Data Files is correct.

Number of products with errors:

#### 5.4 L2 Auxiliary Correction Error Check

CryoSat L2 data includes a correction error flag (field 30) for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors:

. .

54

### 5.5 L2 Measurement Quality Flag Check

CryoSat L2 data includes a quality flag (field 50) for each 20-Hz measurement record. The bit value of this flag indicates any problems when set.

Currently, there are several common error flags raised in the Level 2 products which are expected due to operational mode or surface type. All common flags are summarised in the list below, followed by a table of any additional issues arising from this test.

Freeboard error: This flag is correctly set in all L2 SAR products that are not discriminated as sea-ice, and for which freeboard cannot be calculated.

Height and Backscatter errors: These flags are currently set for products over land, but this is to be expected. Retracker 1 Height and Backscatter error flags are also set for products over sea-ice, but this is to be expected.

Peakiness error: This flag is currently set for products over sea-ice, but this is to be expected.

SARIn X-Track Angle Error: This flag is set when the difference between the computed surface elevation and the DEM is >50 m. The DEM is only available over Greenland and Antarctica and as a result this flag is set for L2 SARIn products in all other locations as expected.

SSHA interpolation error: This flag is currently set for a number of SAR products occurring at surface type boundaries, but this is to be expected.

Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_LRM_220200715T002800_20200715T010350_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220200715T012535_20200715T014828_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200715T020741_20200715T022420_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200715T022902_20200715T024319_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220200715T025624_20200715T031300_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200715T031514_20200715T032950_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2), Surface model unavailable	There is a height and backscatter error for Retracker 2 , a height error for Retracker 3 and no DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220200715T034628_20200715T035822_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200715T035838_20200715T040124_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200715T040324_20200715T041246_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220200715T043700_20200715T045045_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2), Surface model unavailable	There is a height and backscatter error for Retracker 2 , a height error for Retracker 3 and no DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220200715T045048_20200715T045214_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220200715T045723_20200715T051026_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200715T054443_20200715T054654_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200715T055512_20200715T060210_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220200715T062411_20200715T062747_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200715T062750_20200715T065016_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200715T070623_20200715T072957_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records

	Height Error (Retracker 2), Height Error	There is a height and backscatter error for Retracker 2 and a height error
CS_OFFL_SIR_LRM_220200715T073226_20200715T074113_D001	(Retracker 3), Backscatter Error (Retracker 2) Height Error (Retracker 2), Height Error	for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220200715T080152_20200715T082837_D001	(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_20200715T084448_20200715T091223_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200715T091612_20200715T092214_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_2_20200715T093457_20200715T100725_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200715T105838_20200715T110205_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200715T111356_20200715T112305_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_2_20200715T112550_20200715T114706_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_2_20200715T120424_20200715T121442_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_2_20200715T121612_20200715T122055_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200715T125442_20200715T132557_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_2_20200715T134505_20200715T141631_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220200715T142907_20200715T143628_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_2_20200715T143630_20200715T144344_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_2_20200715T144825_20200715T150533_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_2_20200715T152305_20200715T153645_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200715T154002_20200715T155526_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220200715T161500_20200715T161545_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_2_20200715T161825_20200715T162721_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_2_20200715T162723_20200715T162844_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_2_20200715T163024_20200715T164413_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_2_20200715T170048_20200715T170211_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200715T170516_20200715T171406_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_2_20200715T171749_20200715T172237_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200715T175235_20200715T175401_D001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_220200715T180123_20200715T182235_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200715T183842_20200715T190401_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200715T192732_20200715T192813_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200715T193809_20200715T200221_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200715T201812_20200715T205058_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200715T210420_20200715T211058_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220200715T211504_20200715T213249_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_220200715T215828_20200715T222022_D001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_220200715T222031_20200715T223046_D001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2), Surface model unavailable	There is a height and backscatter error for Retracker 2 , a height error for Retracker 3 and no DEM or Slope Model was used for the location of one or more records

Height Error (Retracker 2), Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 3), Backscatter Error (Retracker 3), Backscatter Error (Retracker 3), Backscatter Error (Retracker 3) for one or more records

CS\_OFFL\_SIR\_LRM\_2\_20200715T233705\_20200715T235825\_D001

Height Error (Retracker 2), Backscatter 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\_SIN\_2\_20200715T151334\_20200715T151337\_D001

Calibration Warning

The Calibration correction is missing or has been taken from the IPFDB instead of the Calibration products for one or more records

# 6. QCC Report Analysis

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

Product type	No. Products	No. QCC Reports	No. Valid	No. Warnings	No. Errors
SIR_LRM_1B	137	137	137	0	0
SIR_SAR_1B	95	95	95	0	0
SIR_SIN_1B	100	100	100	0	0
SIR_LRM_2	137	137	133	4	0
SIR_SAR_2	100	95	95	0	0
SIR_SIN_2	95	100	98	2	0
SIR GDR 2	15	15	0	0	15

### 6.1 QCC Errors

Number of products with QCC errors:

15

Product Type	MPHDUTNCDF	MPHXPFNCDF	MPHXVFNCDF	MPHYPFNCDF	MPHYVFNCDF	MPHZPFNCDF	MPHZVFNCDF	STRUCTURESIZ	•	-	-
SIR_GDR_2_	15	15	15	15	15	15	15	15			

Test Description Key:	est Description Key:					
Abbreviation	Test name	Details				
MPHDUTNCDF	MPH_Delta_UT1_NetCDF	Delta_UT1 mismatch				
MPHXPFNCDF	MPH_X_Position_Float_v2_NetCDF	X_Position mismatch (DBL float (GDR), rounded to 100)				
MPHXVFNCDF	MPH_X_Velocity_Float_v2_NetCDF	X_Velocity mismatch (DBL float (GDR), rounded to 1)				
MPHYPFNCDF	MPH_Y_Position_Float_v2_NetCDF	Y_Position mismatch (DBL float (GDR), rounded to 100)				
MPHYVFNCDF	MPH_Y_Velocity_Float_v2_NetCDF	Y_Velocity mismatch (DBL float (GDR), rounded to 1)				
MPHZPFNCDF	MPH_Z_Position_Float_v2_NetCDF	Z_Position mismatch (DBL float (GDR), rounded to 100)				
MPHZVFNCDF	MPH_Z_Velocity_Float_v2_NetCDF	Z_Velocity mismatch (DBL float (GDR), rounded to 1)				
STRUCTURESIZEAND	STRUCTURE_SIZE_AND_READ	Under investigation.				

### 6.2 QCC Warnings

Number of QCC reports with warnings

6

Total number of occurrences of each warning

Product Type	AXDME	AXSMMEOCI	•	-	•	-	-
SIR_LRM_2_	0	4					
SIR_SIN_2_	2	0					

Test Description Key:							
Abbreviation	Test name	Details					
AXDME	AttributeXrefDemMustExist	The xref_dem attribute is mandatory in SIN products over continental ice					
AXSMMEOCI	AttributeXrefSlopeModelMustExistOverContinentalIce	The xref_slope_model is mandatory in LRM products over continental ice					

### 6.2 Missing QCC Reports

Number of products with missing QCC reports:

0