1. Overview

| 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
Auxiliary Data File Usage	See Section 5.3
Auxiliary Correction Check	See Section 4.4 and 5.4
Measurement Data Set Check	See Section 4.5

Report Production Date:	13-May-2013
Data Used:	OFFLINE L1B and L2 Science Data

Mission / Instrument News	
16-Aug-2012	None
17-Aug-2012	None
18-Aug-2012	Nothing planned

2. Global Coverage

Global Coverage (north pole view)

Global Coverage (south pole view)

Global Coverage
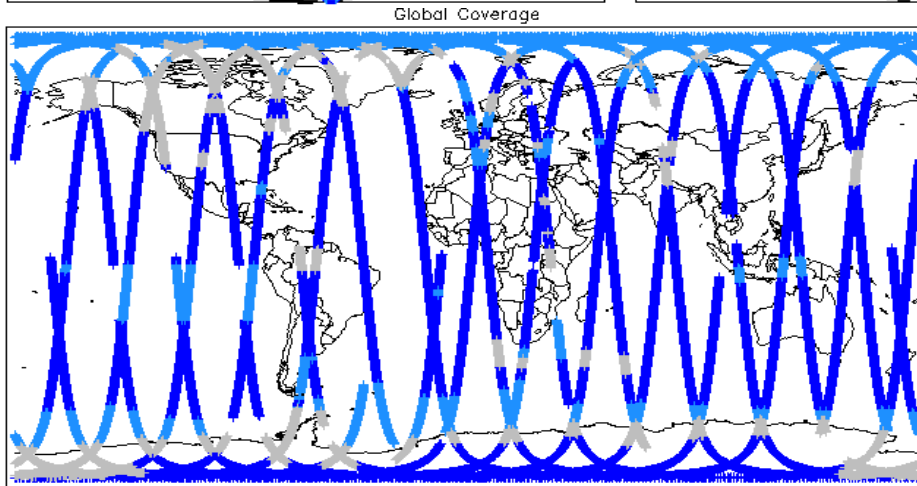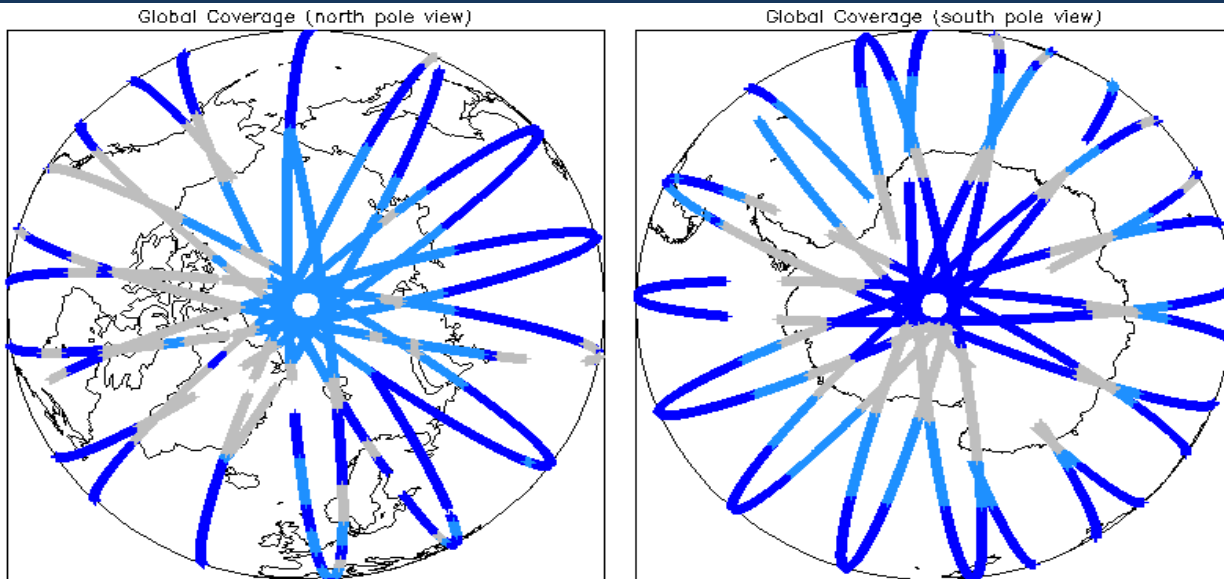
Mode Coverage(%)		
	LRM	67.77
	SAR	19.11
	SIN	12.96

Mode Coverage

Surface Type
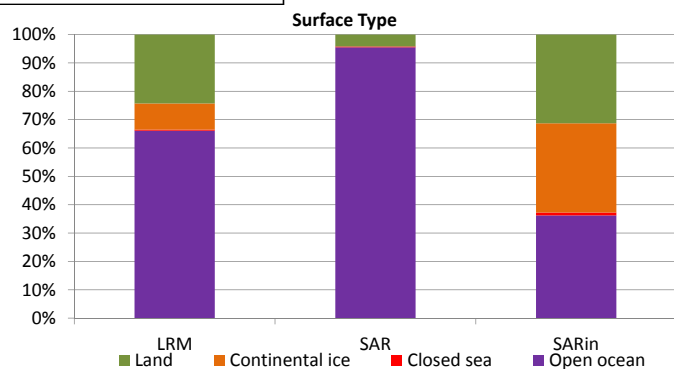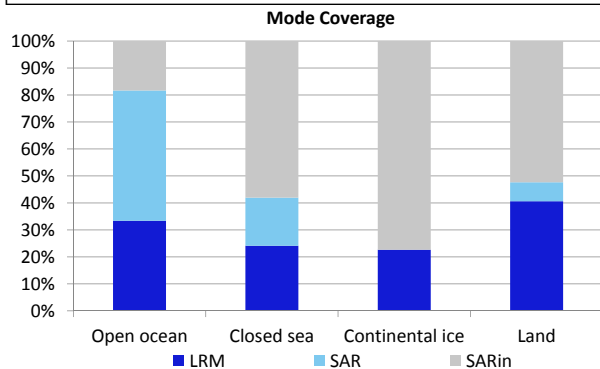
3. Instrument Configuration

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

SIRAL instrument(s) in use:	**SIRAL - A**
Star Tracker(s) in use:	**Star Tracker 2**

4. Level 1B Data Quality Check

4.1 L1 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 L1B Auxiliary Data File Usage Check

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

Number of products with errors: 0

4.4 L1B Flagged Auxiliary Correction Error Check

Each product is checked to spot auxiliary corrections flagged by the ground-station processing chain as missing or containing errors

Number of products with errors: 3

Product	Test Failed
CS_OFFL_SIR_LRM_1B_20120817T055907_20120817T060332_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_LRM_1B_20120817T115728_20120817T120331_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_SIN_1B_20120817T175828_20120817T180008_B001	Dynamic atmosphere correction error

4.5 L1B Measurement Confidence Data Check

CryoSat L1B data includes a measurement confidence flag word (field 14) for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors: 9

Product	Test Failed	Description
CS_OFFL_SIR_LRM_1B_20120817T021138_20120817T022634_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_LRM_1B_20120817T062041_20120817T062516_B001	TRK echo error	The tracking echo has returned an error
CS_OFFL_SIR_LRM_1B_20120817T130536_20120817T133020_B001	TRK echo error	The tracking echo has returned an error
CS_OFFL_SIR_LRM_1B_20120817T172045_20120817T173728_B001	TRK echo error	The tracking echo has returned an error
CS_OFFL_SIR_LRM_1B_20120817T175109_20120817T175828_B001	TRK echo error	The tracking echo has returned an error
CS_OFFL_SIR_LRM_1B_20120817T210751_20120817T211517_B001	TRK echo error	The tracking echo has returned an error
CS_OFFL_SIR_SAR_1B_20120817T022634_20120817T022837_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_SAR_1B_20120817T174507_20120817T174840_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_SIN_1B_20120817T174840_20120817T174919_B001	Attitude correction missing	The attitude has not been corrected

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 binary product file (.DBL)

Number of products with errors: 0

5.2 L2 Product Header Analysis

For all products, a series of pre-defined checks are carried out on the MPH and SPH in order to identify any inconsistencies and/or errors raised by the ground-segment processing chain

Number of products with errors: 0

5.3 L2 Auxiliary Data File Usage Check

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

Number of products with errors: 1

Product	AUX File	Comment
CS_OFFL_SIR_GDR_2A_20120816T231004_20120817T004918_B001	CS_OPER_AUX_ORBDOR_20120815T215525_20120817T002325_0001	Coverage missing for intervals [2012-08-17T00:23:25, 2012-08-17T00:49:18]

5.4 L2 Flagged Auxiliary Correction Error Check

Each product is checked to spot auxiliary corrections flagged by the ground-station processing chain as missing or containing errors

Number of products with errors: 2

Product	Test Failed
CS_OFFL_SIR_LRM_2__20120817T115728_20120817T120331_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_SIN_2__20120817T175828_20120817T180008_B001	Dynamic atmosphere correction error

5.5 L2 Measurement Quality Flag Check

CryoSat L2 data includes a quality flag word (field 43) for each 20-Hz measurement record. The bit value of this flag is an assessment of the measurement quality by the ground-segment processing chains

Presently, there are several common data Quality Flag errors raised by the Level 2 products which are either expected due to changes made to the IPF processor in Baseline B or else are due to known issues with the data processors. The investigation of the known issues are on-going and are due to be resolved with the next update of the Level 2 processors. All common known issues are summarised in the list below, followed by a table highlighting any additional issues which may arise from this test.

Freeboard Error: This Quality Flag is correctly set in all products as this parameter is currently not provided in the L2 products and the Freeboard value is presently set to the default value of -9999.

SARin x-track angle error: Currently there is an on-going investigation into the high number of errors from the 'SARin x-track Error' Quality Flag over Antarctica.

Height error and Backscatter error: It has been noted that the number of errors arising from the 'Backscatter Error' and 'Height Error' Quality Flag is much higher than expected over land areas and this is currently part of an on-going investigation by expert teams.

Number of products with errors: 0

6. QCC Check

The QCC is a CryoSat facility that 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.

Nb. There is currently a discrepancy between the number of QCC reports and the number of products reported. This is a known issue and investigation is on-going.

Product type	Nb. Products	Nb. QCC Reports	Nb. Valid	Nb. Warnings	Nb. Errors
SIR_GDR_2A	41	38	0	38	0
SIR_LRM_1B	104	94	82	12	0
SIR_LRM_2	96	106	1	105	0
SIR_SAR_1B	84	81	0	81	0
SIR_SAR_2A	76	81	2	79	0
SIR_SIN_1B	95	88	0	88	0
SIR_SIN_2	88	97	0	97	0

6.1 QCC Errors

Number of products with QCC errors: 0

6.2 Missing QCC Reports

Number of products with missing QCC reports: 52

Product name
CS_OFFL_SIR_GDR_2A_20120816T231004_20120817T004918_B001
CS_OFFL_SIR_GDR_2A_20120817T235828_20120818T013741_B001
CS_OFFL_SIR_LRM_1B_20120816T235018_20120817T000310_B001
CS_OFFL_SIR_LRM_1B_20120817T002157_20120817T002502_B001
CS_OFFL_SIR_LRM_1B_20120817T020149_20120817T020409_B001
CS_OFFL_SIR_LRM_1B_20120817T043952_20120817T044211_B001
CS_OFFL_SIR_LRM_1B_20120817T045030_20120817T045810_B001
CS_OFFL_SIR_LRM_1B_20120817T084008_20120817T084554_B001
CS_OFFL_SIR_LRM_1B_20120817T091153_20120817T091625_B001
CS_OFFL_SIR_LRM_1B_20120817T120828_20120817T124228_B001
CS_OFFL_SIR_LRM_1B_20120817T155731_20120817T155948_B001
CS_OFFL_SIR_LRM_1B_20120817T170408_20120817T171442_B001
CS_OFFL_SIR_LRM_1B_20120817T173851_20120817T173942_B001
CS_OFFL_SIR_LRM_1B_20120817T180008_20120817T180103_B001
CS_OFFL_SIR_LRM_1B_20120817T194137_20120817T200030_B001
CS_OFFL_SIR_LRM_1B_20120817T200220_20120817T200631_B001
CS_OFFL_SIR_LRM_1B_20120817T234123_20120818T000607_B001
CS_OFFL_SIR_LRM_2__20120816T235018_20120817T000310_B001
CS_OFFL_SIR_LRM_2__20120817T134917_20120817T141946_B001
CS_OFFL_SIR_LRM_2__20120817T184254_20120817T185356_B001
CS_OFFL_SIR_SAR_1B_20120817T010843_20120817T010958_B001
CS_OFFL_SIR_SAR_1B_20120817T012002_20120817T012022_B001
CS_OFFL_SIR_SAR_1B_20120817T044924_20120817T045030_B001
CS_OFFL_SIR_SAR_1B_20120817T070758_20120817T071006_B001
CS_OFFL_SIR_SAR_1B_20120817T092736_20120817T093131_B001
CS_OFFL_SIR_SAR_1B_20120817T120443_20120817T120828_B001
CS_OFFL_SIR_SAR_1B_20120817T142616_20120817T143139_B001
CS_OFFL_SIR_SAR_1B_20120817T205946_20120817T210751_B001
CS_OFFL_SIR_SAR_2A_20120817T024811_20120817T025452_B001
CS_OFFL_SIR_SAR_2A_20120817T043636_20120817T043723_B001
CS_OFFL_SIR_SAR_2A_20120817T073838_20120817T073914_B001
CS_OFFL_SIR_SAR_2A_20120817T143210_20120817T143337_B001
CS_OFFL_SIR_SAR_2A_20120817T174507_20120817T174839_B001
CS_OFFL_SIR_SAR_2A_20120817T211640_20120817T211826_B001
CS_OFFL_SIR_SIN_1B_20120817T033439_20120817T034027_B001
CS_OFFL_SIR_SIN_1B_20120817T034813_20120817T034955_B001
CS_OFFL_SIR_SIN_1B_20120817T060803_20120817T060817_B001
CS_OFFL_SIR_SIN_1B_20120817T061918_20120817T062041_B001
CS_OFFL_SIR_SIN_1B_20120817T065939_20120817T070055_B001
CS_OFFL_SIR_SIN_1B_20120817T091727_20120817T091756_B001
CS_OFFL_SIR_SIN_1B_20120817T092159_20120817T092322_B001
CS_OFFL_SIR_SIN_1B_20120817T092649_20120817T092736_B001
CS_OFFL_SIR_SIN_1B_20120817T093524_20120817T093852_B001
CS_OFFL_SIR_SIN_1B_20120817T134105_20120817T134232_B001
CS_OFFL_SIR_SIN_1B_20120817T155948_20120817T160037_B001
CS_OFFL_SIR_SIN_1B_20120817T180104_20120817T180315_B001
CS_OFFL_SIR_SIN_1B_20120817T213935_20120817T213942_B001
CS_OFFL_SIR_SIN_2__20120817T033439_20120817T034027_B001
CS_OFFL_SIR_SIN_2__20120817T120331_20120817T120443_B001
CS_OFFL_SIR_SIN_2__20120817T165858_20120817T170145_B001
CS_OFFL_SIR_SIN_2__20120817T174340_20120817T174506_B001
CS_OFFL_SIR_SIN_2__20120817T225054_20120817T225249_B001