1. Overview

Report Production Date:	14-May-2013
Data Used:	OFFLINE L1B and L2 Science 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	See Section 4.2
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

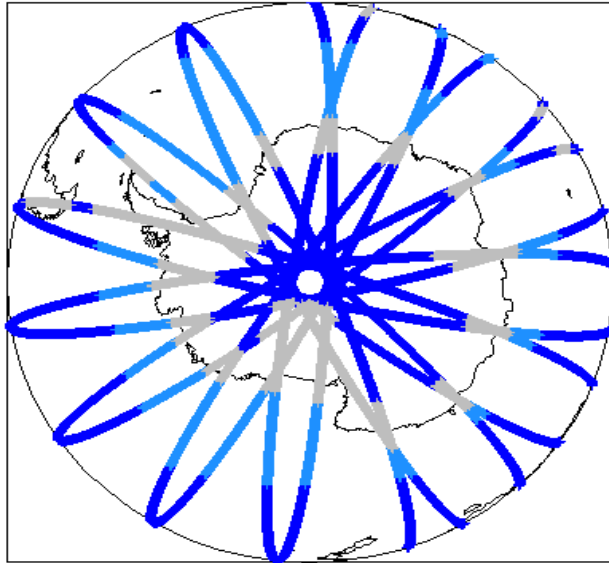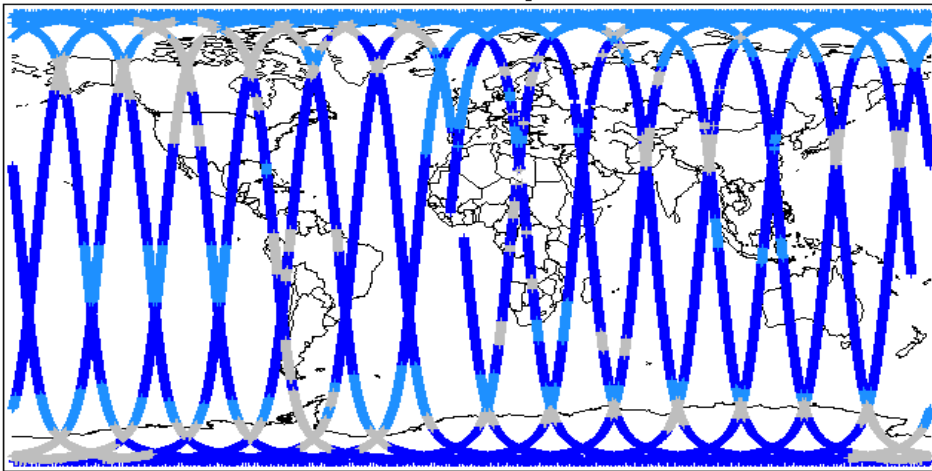| Mission / Instrument News	
13-Aug-2012	SIRAL unavailability from 13-Aug-2012 06:16:33 to 08:07:02 due to a planned orbit maintenance manoeuvre.
14-Aug-2012	None
15-Aug-2012	Nothing planned

2. Global Coverage

Global Coverage (north pole view)
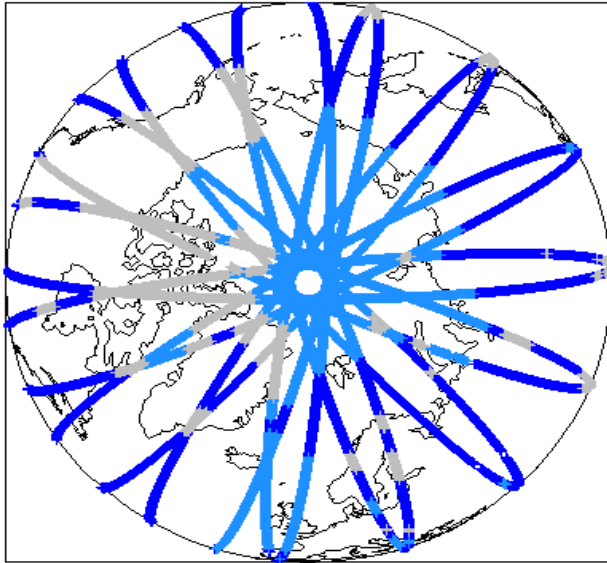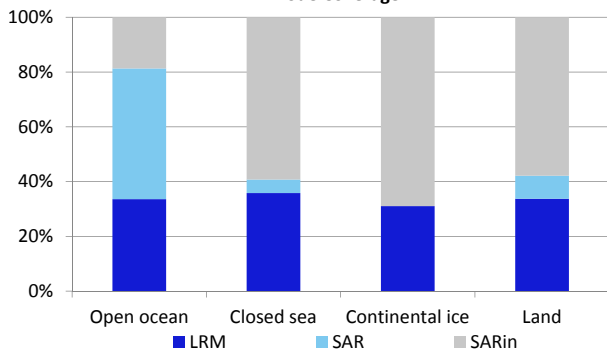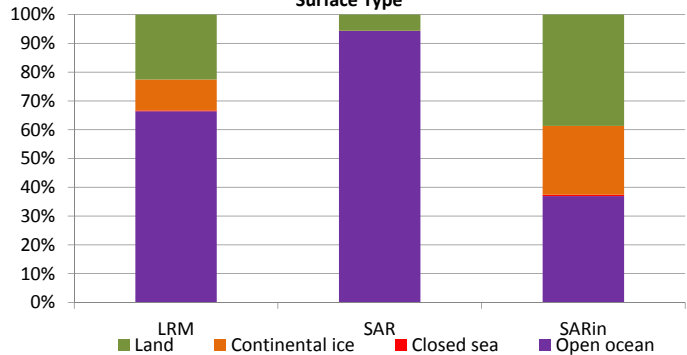
Global Coverage (south pole view)

Global Coverage

Mode Coverage(%)	
LRM	65.83
SAR	20.20
SIN	13.82

Mode Coverage

LRM · SAR · SARin

Surface Type

Land · Continental ice · Closed sea · Open ocean

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: 1

Product	Test Failed
CS_OFFL_SIR_SIN_1B_20120814T070835_20120814T071935_B001	L0 gaps significance flag should not be set

4.3 L1B Auxilary 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_20120814T055729_20120814T060836_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_LRM_1B_20120814T175716_20120814T180758_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_SIN_1B_20120814T115838_20120814T120114_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: 6

Product	Test Failed	Description
CS_OFFL_SIR_LRM_1B_20120814T035406_20120814T041034_B001	TRK echo error	The tracking echo has returned an error
CS_OFFL_SIR_LRM_1B_20120814T053313_20120814T055127_B001	TRK echo error	The tracking echo has returned an error
CS_OFFL_SIR_LRM_1B_20120814T145714_20120814T151418_B001	TRK echo error	The tracking echo has returned an error
CS_OFFL_SIR_LRM_1B_20120814T162433_20120814T163139_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_LRM_1B_20120814T220623_20120814T221019_B001	TRK echo error	The tracking echo has returned an error
CS_OFFL_SIR_SIN_1B_20120814T163140_20120814T163602_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_20120814T231230_20120815T005144_B001	CS_OPER_AUX_ORBDOR_20120813T215525_20120815T002325_0001	Coverage missing for intervals [2012-08-15T00:23:25, 2012-08-15T00:51:44]

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: 3

Product	Test Failed
CS_OFFL_SIR_LRM_2__20120814T055729_20120814T060836_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_LRM_2__20120814T175716_20120814T180758_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_SIN_2__20120814T115838_20120814T120114_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	18	16	0	16	0
SIR_LRM_1B	155	154	146	8	0
SIR_LRM_2	143	142	0	142	0
SIR_SAR_1B	75	77	0	77	0
SIR_SAR_2A	77	77	3	74	0
SIR_SIN_1B	98	98	0	98	0
SIR_SIN_2	97	98	0	98	0

6.1 QCC Errors

Number of products with QCC errors: 0

6.2 Missing QCC Reports

Number of products with missing QCC reports: 47

Product name
CS_OFFL_SIR_GDR_2A_20120813T222407_20120814T000320_B001
CS_OFFL_SIR_LRM_1B_20120813T234614_20120814T001121_B001
CS_OFFL_SIR_LRM_1B_20120814T061448_20120814T061959_B001
CS_OFFL_SIR_LRM_1B_20120814T062452_20120814T064757_B001
CS_OFFL_SIR_LRM_1B_20120814T065019_20120814T065044_B001
CS_OFFL_SIR_LRM_1B_20120814T065108_20120814T065710_B001
CS_OFFL_SIR_LRM_1B_20120814T065710_20120814T065849_B001
CS_OFFL_SIR_LRM_1B_20120814T070113_20120814T070122_B001
CS_OFFL_SIR_LRM_1B_20120814T070125_20120814T070138_B001
CS_OFFL_SIR_LRM_1B_20120814T071935_20120814T071948_B001
CS_OFFL_SIR_LRM_1B_20120814T071957_20120814T073040_B001
CS_OFFL_SIR_LRM_1B_20120814T073642_20120814T074707_B001
CS_OFFL_SIR_LRM_1B_20120814T075129_20120814T075218_B001
CS_OFFL_SIR_LRM_1B_20120814T075414_20120814T075435_B001
CS_OFFL_SIR_LRM_1B_20120814T075437_20120814T080015_B001
CS_OFFL_SIR_LRM_1B_20120814T080329_20120814T080725_B001
CS_OFFL_SIR_LRM_1B_20120814T080918_20120814T083052_B001
CS_OFFL_SIR_LRM_1B_20120814T083120_20120814T083355_B001
CS_OFFL_SIR_LRM_1B_20120814T083428_20120814T084126_B001
CS_OFFL_SIR_LRM_1B_20120814T085325_20120814T090954_B001
CS_OFFL_SIR_LRM_1B_20120814T091556_20120814T092527_B001
CS_OFFL_SIR_LRM_1B_20120814T093321_20120814T093846_B001
CS_OFFL_SIR_LRM_1B_20120814T094234_20120814T094736_B001
CS_OFFL_SIR_LRM_1B_20120814T094945_20120814T095311_B001
CS_OFFL_SIR_LRM_1B_20120814T095419_20120814T095904_B001
CS_OFFL_SIR_LRM_1B_20120814T095924_20120814T100425_B001
CS_OFFL_SIR_LRM_1B_20120814T100609_20120814T100854_B001
CS_OFFL_SIR_LRM_1B_20120814T101204_20120814T101330_B001
CS_OFFL_SIR_LRM_1B_20120814T133612_20120814T133912_B001
CS_OFFL_SIR_LRM_2__20120813T234614_20120814T001121_B001
CS_OFFL_SIR_LRM_2__20120814T061448_20120814T061959_B001
CS_OFFL_SIR_LRM_2__20120814T062452_20120814T064757_B001
CS_OFFL_SIR_LRM_2__20120814T065019_20120814T065044_B001
CS_OFFL_SIR_LRM_2__20120814T080329_20120814T080725_B001
CS_OFFL_SIR_LRM_2__20120814T080918_20120814T083052_B001
CS_OFFL_SIR_LRM_2__20120814T083120_20120814T083355_B001
CS_OFFL_SIR_LRM_2__20120814T083428_20120814T084126_B001
CS_OFFL_SIR_LRM_2__20120814T085325_20120814T090954_B001
CS_OFFL_SIR_LRM_2__20120814T091556_20120814T092527_B001
CS_OFFL_SIR_LRM_2__20120814T093321_20120814T093846_B001
CS_OFFL_SIR_LRM_2__20120814T094234_20120814T094736_B001
CS_OFFL_SIR_LRM_2__20120814T094945_20120814T095311_B001
CS_OFFL_SIR_LRM_2__20120814T095419_20120814T095904_B001
CS_OFFL_SIR_LRM_2__20120814T095924_20120814T100425_B001
CS_OFFL_SIR_LRM_2__20120814T100609_20120814T100854_B001
CS_OFFL_SIR_LRM_2__20120814T101204_20120814T101330_B001
CS_OFFL_SIR_LRM_2__20120814T133612_20120814T133912_B001