1. Overview

| Report Production Date:	23-May-2014
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	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

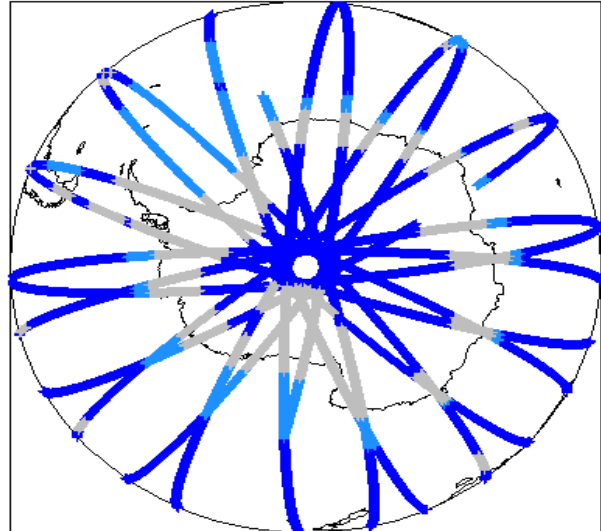| Mission / Instrument News	
07-Apr-2012	None
08-Apr-2012	None
09-Apr-2012	Nothing planned

2. Global Coverage

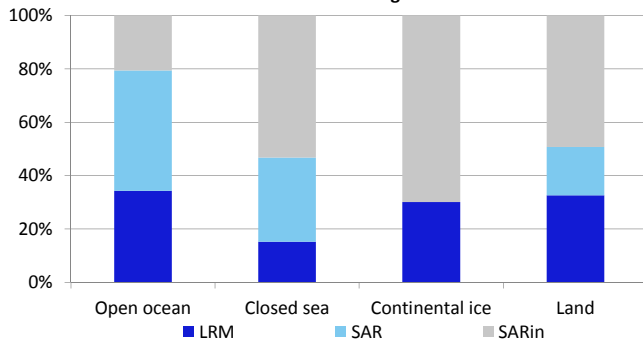Global Coverage (north pole view)
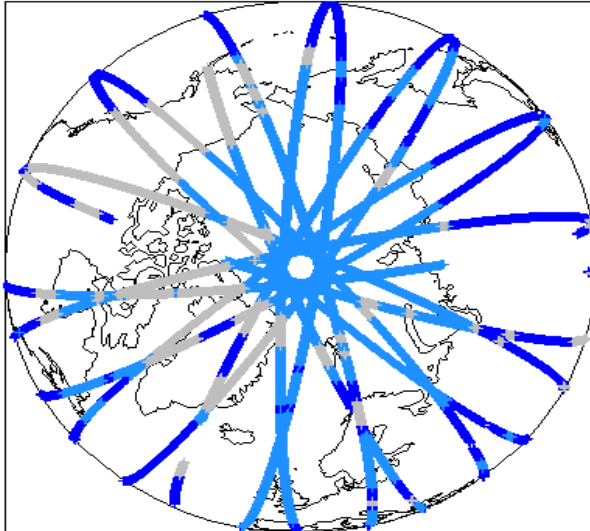
Global Coverage (south pole view)

Global Coverage
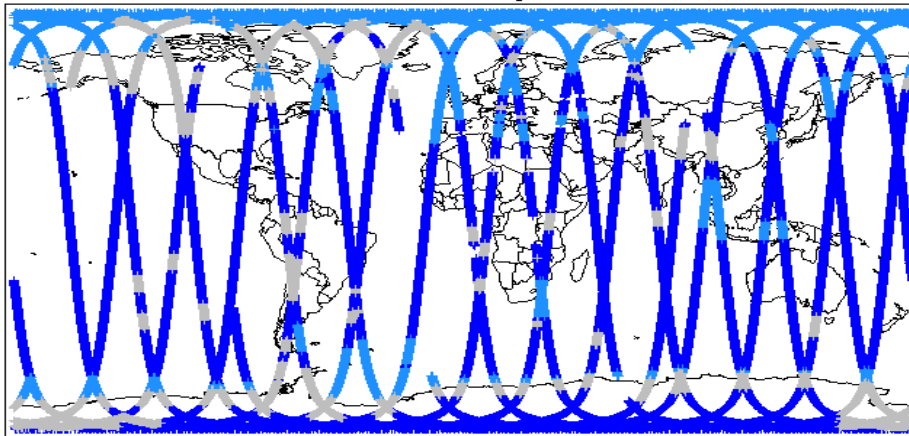
Mode Coverage (%)		
	LRM	66.50
	SAR	19.45
	SIN	13.84

Mode Coverage

■ LRM ■ SAR ■ SARin

Surface Type

■ Land ■ Continental ice ■ Closed sea ■ Open ocean
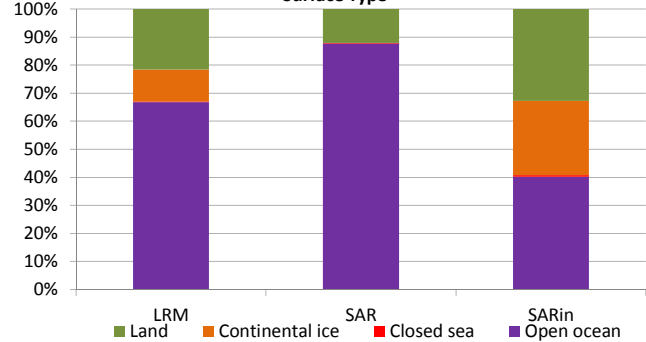
3. Instrument Configuration

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 1

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 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	Description
CS_OFFL_SIR_LRM_1B_20120408T053954_20120408T061411_B001	Dynamic atmosphere correction error	Due to a configuration issue with the handling of Auxiliary Files, products crossing a 6h time boundary are missing the Dynamic Atmospheric correction (CRYO-IDE-161).
CS_OFFL_SIR_LRM_1B_20120408T113131_20120408T120421_B001	Dynamic atmosphere correction error	Due to a configuration issue with the handling of Auxiliary Files, products crossing a 6h time boundary are missing the Dynamic Atmospheric correction (CRYO-IDE-161).
CS_OFFL_SIR_SAR_1B_20120408T175542_20120408T180539_B001	Dynamic atmosphere correction error	Due to a configuration issue with the handling of Auxiliary Files, products crossing a 6h time boundary are missing the Dynamic Atmospheric correction (CRYO-IDE-161).

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: 4

Product	Test Failed	Description
CS_OFFL_SIR_LRM_1B_20120408T154911_20120408T155041_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_SAR_1B_20120408T112644_20120408T112730_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_SIN_1B_20120408T112639_20120408T112644_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_SIN_1B_20120408T155041_20120408T155358_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 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_20120407T232110_20120408T010024_B001	CS_OPER_AUX_ORBDOR_20120406T215526_2012040 8T002326_0001	Coverage missing for intervals [2012-04-08T00:23:26, 2012-04-08T01:00:24]

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: 4

Product	Test Failed	Description
CS_OFFL_SIR_LRM_2__20120408T053954_20120408T061411_B001	Dynamic atmosphere correction error	Due to a configuration issue with the handling of Auxiliary Files, products crossing a 6h time boundary are missing the Dynamic Atmospheric correction (CRYO-IDE-161).
CS_OFFL_SIR_LRM_2__20120408T113131_20120408T120421_B001	Dynamic atmosphere correction error	Due to a configuration issue with the handling of Auxiliary Files, products crossing a 6h time boundary are missing the Dynamic Atmospheric correction (CRYO-IDE-161).
CS_OFFL_SIR_SAR_2A_20120408T175542_20120408T180539_B001	Dynamic atmosphere correction error	Due to a configuration issue with the handling of Auxiliary Files, products crossing a 6h time boundary are missing the Dynamic Atmospheric correction (CRYO-IDE-161).
CS_OFFL_SIR_SIN_2__20120407T235953_20120408T000333_B001	Dynamic atmosphere correction error	Due to a configuration issue with the handling of Auxiliary Files, products crossing a 6h time boundary are missing the Dynamic Atmospheric correction (CRYO-IDE-161).

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	21	19	0	19	0
SIR_LRM_1B	144	142	135	7	0
SIR_LRM_2	139	139	2	137	0
SIR_SAR_1B	102	102	0	102	0
SIR_SAR_2A	100	100	3	97	0
SIR_SIN_1B	116	105	0	105	0
SIR_SIN_2	111	110	0	110	0

6.1 QCC Errors

Number of products with QCC errors: 0

6.2 Missing QCC Reports

Number of products with missing QCC reports: 15

Product name
CS_OFFL_SIR_GDR_2A_20120407T232110_20120408T010024_B001
CS_OFFL_SIR_LRM_1B_20120408T230735_20120408T231007_B001
CS_OFFL_SIR_LRM_1B_20120408T231243_20120408T231511_B001
CS_OFFL_SIR_SIN_1B_20120407T235953_20120408T000333_B001
CS_OFFL_SIR_SIN_1B_20120408T132823_20120408T133007_B001
CS_OFFL_SIR_SIN_1B_20120408T134430_20120408T134609_B001
CS_OFFL_SIR_SIN_1B_20120408T134726_20120408T134856_B001
CS_OFFL_SIR_SIN_1B_20120408T154906_20120408T154910_B001
CS_OFFL_SIR_SIN_1B_20120408T170352_20120408T170710_B001
CS_OFFL_SIR_SIN_1B_20120408T185127_20120408T185235_B001
CS_OFFL_SIR_SIN_1B_20120408T192605_20120408T192710_B001
CS_OFFL_SIR_SIN_1B_20120408T222856_20120408T223109_B001
CS_OFFL_SIR_SIN_1B_20120408T233737_20120408T234002_B001
CS_OFFL_SIR_SIN_1B_20120408T234712_20120408T234943_B001
CS_OFFL_SIR_SIN_2__20120407T235953_20120408T000333_B001