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Report On

FCC and Industry Canada Testing of the SRT Marine Technology Ltd CS100 Coast Station
In accordance with FCC CFR 47 Part 80 and
Industry Canada RSS-182

COMMERCIAL-IN-CONFIDENCE

FCC ID: UYW-4230002
IC: 7075A-4230002

Document 75928171 Report 04 Issue 1 November 2014

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REPORT ON

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SRT Marine Technology Ltd
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Document 75928171 Report 04 Issue 1

November 2014

PREPARED FOR

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PREPARED BY

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Senior Administrator, Project Support

APPROVED BY

Ryan Henley
Authorised Signatory

DATED 11 November 2014

ENGINEERING STATEMENT

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported testing was carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Part 80 and Industry Canada RSS-182. The sample tested was found to comply with the requirements defined in the applied rules.

Test Engineer(s);

G Lawler

UKAS TESTING 0141

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CONTENTS

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SECTION 1

REPORT SUMMARY

FCC and Industry Canada Testing of the
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CS100 Coast Station
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1.1 INTRODUCTION

The information contained in this report is intended to show the verification of FCC and Industry Canada Testing of the SRT Marine Technology Ltd CS100 Coast Station to the requirements of FCC CFR 47 Part 80 and Industry Canada RSS-182.

Objective	To perform FCC and Industry Canada Testing to determine the Equipment Under Test's (EUT's) compliance with the Test Specification, for the series of tests carried out.
Manufacturer	SRT Marine Technology Ltd
Model Number(s)	CS100 Coast Station
Serial Number(s)	4230001033940002
Number of Samples Tested	1
Test Specification/Issue/Date	FCC CFR 47 Part 80 (2013) Industry Canada RSS-182 (Issue 5, 2012)
Incoming Release Date	Declaration of Build Status 09 October 2014
Disposal Reference Number Date	Held Pending Disposal Not Applicable Not Applicable
Order Number Date	POR004895 03 October 2014
Start of Test	14 October 2014
Finish of Test	14 October 2014
Name of Engineer(s)	G Lawler

Product Service

1.2 BRIEF SUMMARY OF RESULTS

A brief summary of the tests carried out in accordance with FCC CFR 47 Part 80 and Industry Canada RSS-182 is shown below.

Section	Spec Clause		Test Description	Result	Comments/Base Standard
	FCC	IC			
Transmit					
2.1	80.211	7.9	Emission Limitations	Pass	

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1.3 DECLARATION OF BUILD STATUS

Manufacturer	SRT Marine System Solutions
Country of origin	UK
Technical Description	Coast Station
Model No	CS100
Part No	423-0002 (423-0001 Packaged product)
Serial No	Sample 1:4230002033940002 Sample 2:4230002033940012 Sample 3:4230002033940013 Sample 4:4230002033940008
Drawing Number	423-0002 (423-0001 Packaged product)
Build Status	Pre-Production
Software Issue	Application Software: 080201.01.00.01 Bootloader Software: 080100.01.04.02
Hardware Issue	Rev 3
FCC ID	UYW-4230002
IC ID	7075A-4230002
Highest Operating Frequency	162.5 MHz
Signature	
Date	08.10.14
D of B S Serial No	001

Note: This document has been prepared to enable manufacturers with no mechanism for producing their own Declaration of Build Status, to declare the build state of the equipment submitted for test.

Product Service

1.4 PRODUCT INFORMATION

1.4.1 Technical Description

The Equipment Under Test (EUT) was a SRT Marine Technology Ltd CS100 Coast Station. A full technical description can be found in the manufacturer's documentation.

1.5 TEST CONDITIONS

For all tests the EUT was set up in accordance with the relevant test standard and to represent typical operating conditions. Tests were applied with the EUT situated in a shielded enclosure.

The EUT was powered from a 110 V AC supply.

FCC Measurement Facility Registration Number
90987 Octagon House, Fareham Test Laboratory

Industry Canada Company Address Code
IC2932B-1 Octagon House, Fareham Test Laboratory

1.6 DEVIATIONS FROM THE STANDARD

No deviations from the applicable test standard were made during testing.

1.7 MODIFICATION RECORD

Modification 0 - No modifications were made to the test sample during testing.

Product Service

SECTION 2

TEST DETAILS

FCC and Industry Canada Testing of the
SRT Marine Technology Ltd
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In accordance with FCC CFR 47 Part 80 and Industry Canada RSS-182

2.1 EMISSION LIMITATIONS

2.1.1 Specification Reference

FCC CFR 47 Part 80, Clause 80.211
Industry Canada RSS-182, Clause 7.9

2.1.2 Equipment Under Test and Modification State

CS100 Coast Station S/N: 4230001033940002 - Modification State 0

2.1.3 Date of Test

14 October 2014

2.1.4 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.1.5 Test Procedure

A preliminary profile of the Spurious Radiated Emissions was obtained up to the 10th harmonic by operating the EUT on a remotely controlled turntable within a semi-anechoic chamber. Measurements of emissions from the EUT were obtained with the Measurement Antenna in both Horizontal and Vertical Polarisations. The profiling produced a list of the worst-case emissions together with the EUT azimuth and antenna polarisation.

Using the information from the preliminary profiling of the EUT, the list of emissions was then confirmed or updated under Alternative Open Site conditions. Emission levels were maximised by adjusting the antenna height, antenna polarisation and turntable azimuth.

The EUT was set to transmit on maximum power and each channel was tested independently.

For any emissions found the EUT was then removed from the chamber and replaced with a substitution antenna. Using a signal generator the level was adjusted to achieve the same value on the measuring instrument as previously recorded with the EUT. The final result was determined by a calculation using the signal generator level, antenna gain and cable loss.

The measurements were performed at a 3m distance unless otherwise stated.

2.1.6 Environmental Conditions

Ambient Temperature	19.1°C
Relative Humidity	46.0%

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2.1.7 Test Results

110 V AC Supply

Radiated

161.975 MHz

30 MHz to 1 GHz

Date: 14.OCT.2014 20:11:54

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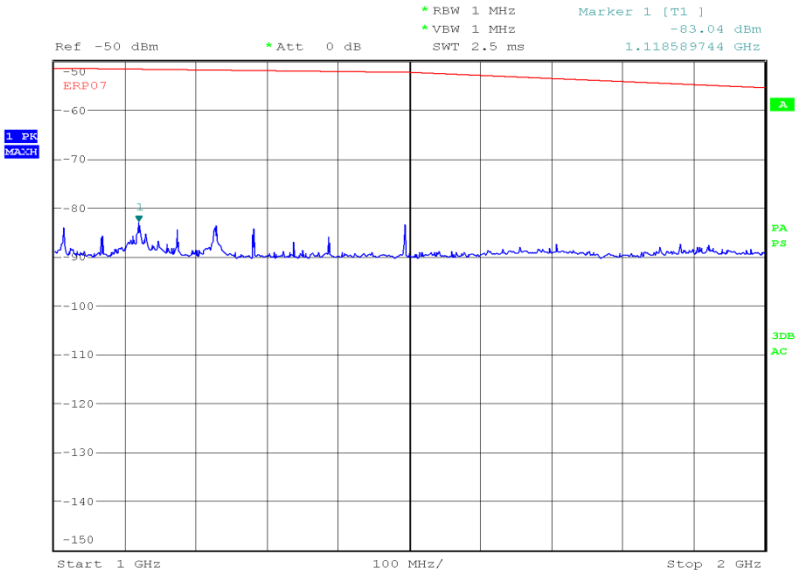
1 GHz to 2 GHz



Date: 14.OCT.2014 19:22:47

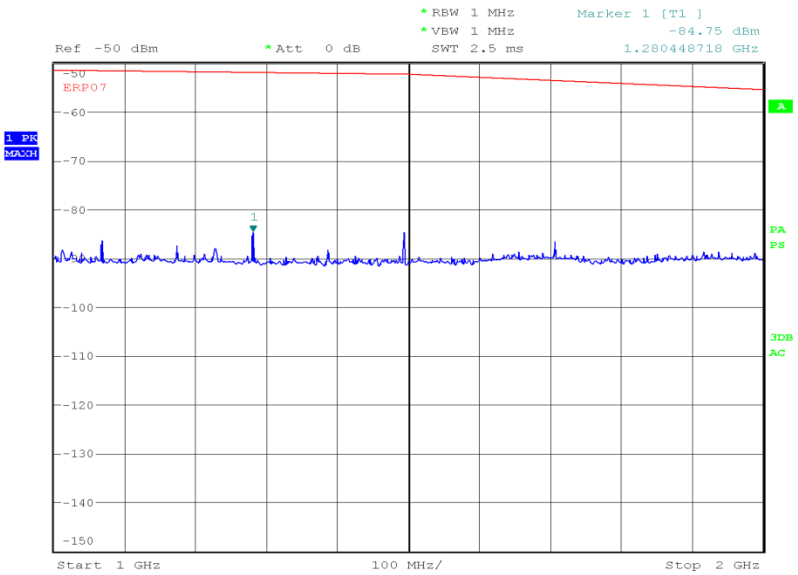
Product Service

162.025 MHz

30 MHz to 1 GHz

Date: 14.OCT.2014 20:20:18

1 GHz to 2 GHz



Date: 14.OCT.2014 20:22:04

Limit Clause 80.211

>250 % of authorised bandwidth 43+10 Log P **OR** -13 dBm

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SECTION 3

TEST EQUIPMENT USED

Product Service

3.1 TEST EQUIPMENT USED

List of absolute measuring and other principal items of test equipment.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Due
Section 2.1 - Emission Limitations					
Antenna (Double Ridge Guide, 1GHz-18GHz)	EMCO	3115	234	12	2-May-2015
Screened Room (5)	Rainford	Rainford	1545	24	10-Jan-2015
Turntable Controller	Inn-Co GmbH	CO 1000	1606	-	TU
Antenna (Bilog)	Chase	CBL6143	2904	24	10-Jun-2015
EMI Test Receiver	Rohde & Schwarz	ESU40	3506	12	22-Oct-2014
9m RF Cable (N Type)	Rhophase	NPS-2303-9000-NPS	3791	-	TU
Tilt Antenna Mast	maturo Gmbh	TAM 4.0-P	3916	-	TU
Mast Controller	maturo Gmbh	NCD	3917	-	TU

TU – Traceability Unscheduled

3.2 MEASUREMENT UNCERTAINTY

For a 95% confidence level, the measurement uncertainties for defined systems are:-

Test Discipline	MU
Emission Limitations	Radiated: ± 3.08 dB

SECTION 4

ACCREDITATION, DISCLAIMERS AND COPYRIGHT

4.1 ACCREDITATION, DISCLAIMERS AND COPYRIGHT

This report relates only to the actual item/items tested.

Our UKAS Accreditation does not cover opinions and interpretations and any expressed are outside the scope of our UKAS Accreditation.

Results of tests not covered by our UKAS Accreditation Schedule are marked NUA (Not UKAS Accredited).