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# Report On

FCC and Industry Canada Testing of the  
SRT Marine Technology Ltd

Cobalt: Class B AIS Unit in accordance with FCC CFR 47 Part 15B and  
ICES-003

COMMERCIAL-IN-CONFIDENCE

Document 75912008 Report 06 Issue 1

March 2011



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**DATED**

09 March 2011

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**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 15B and ICES-003. The sample tested was found to comply with the requirements defined in the applied rules.

Test Engineer(s);

J Holcombe



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## **SECTION 1**

### **REPORT SUMMARY**

FCC and Industry Canada Testing of the  
SRT Marine Technology Ltd  
Cobalt: Class B AIS Unit



## 1.1 INTRODUCTION

The information contained in this report is intended to show verification of the SRT Marine Technology Ltd, Cobalt: Class B AIS Unit to the requirements of FCC CFR 47 Part 15B and ICES-003.

Objective	To perform FCC and Industry Canada Approval 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)	011-0014
Serial Number(s)	10
Software Version	1271_17DEC2010 1285_06JAN2011
Hardware Version	Unknown
Number of Samples Tested	1
Test Specification/Issue/Date	FCC CFR 47 Part 15B: 2009 ICES-003: 2004
Incoming Release Date	Declaration of Build Status 15 February 2011
Disposal Reference Number Date	Held Pending Disposal Not Applicable Not Applicable
Order Number Date	R001715 02 December 2010
Start of Test	14 December 2010
Finish of Test	14 December 2010
Name of Engineer(s)	J Holcombe
Related Document(s)	ANSI C63.4 : 2003 CISPR 22:02 : 2006



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## 1.2 BRIEF SUMMARY OF RESULTS

A brief summary of results in accordance with FCC CFR 47 Part 15B and ICES-003 is shown below.

Configuration 1 - As supplied							
Section	Clause		Test Description	Mode	Mod State	Result	Base Standard
	FCC	ICES					
2.1	15.109	7.1	Radiated Emissions (Enclosure Port)	Rx	0	Pass	ANSI C63.4

## 1.3 DECLARATION OF BUILD STATUS

<b>Manufacturer</b>	<u>SRT Marine Technology Ltd</u>
<b>Country of origin</b>	<u>England</u>
<b>UK Agent</b>	<u>SRT Marine Technology Ltd</u>
<b>Technical Description</b>	<u>Class B CSTDMA</u> <u>AIS Transponder OEM Module</u>
<b>Model No</b>	<u>COBALT</u>
<b>Part No</b>	<u>011-0014</u>
<b>Serial No</b>	<u>10</u>
<b>Drawing Number</b>	<u>LD3566 – P200 Schematic</u>
<b>Build Status</b>	<u>Mod 0</u> <u>Mod 1 – RX1 Tuning Range Extended (C261 Fitted)</u>
<b>Software Issue</b>	<u>1271_17DEC2010</u> <u>1285_06JAN2011</u>
<b>Hardware Issue</b>	<u></u>

**Signature****Date**15 February 2011**D of B S Serial No**75912008/01

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.

No responsibility will be accepted by TÜV SÜD Product Service Ltd as to the accuracy of the information declared in this document by the manufacturer.

## 1.4 PRODUCT INFORMATION

### 1.4.1 Technical Description

The Equipment Under Test (EUT) was a SRT Marine Technology Ltd, Cobalt: Class B AIS Unit. A full technical description can be found in the manufacturer's documentation.

### 1.4.2 Test Configuration

#### Configuration 1: As supplied

The EUT was configured in accordance with FCC CFR 47 Part 15B and ICES-003.

### 1.4.3 EUT Cable / Port Identification

Port	Max Cable Length specified	Usage	Type	Screened
DC Power	<1.5m	DC Lead	Single core	No
R232	0.5m	Communications	Multicore	No

### 1.4.4 Modes of Operation

Modes of operation of each EUT during testing were as follows:

Mode 1 - Rx

Information on the specific test modes utilised are detailed in the test procedure for each individual test.



## **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, test laboratories or an open test area as appropriate.

The EUT was powered from a 12V supply.

FCC Accreditation  
90987 Octagon House, Fareham Test Laboratory

Industry Canada Accreditation  
IC2932B-1 Octagon House, Fareham Test Laboratory

## **1.6 DEVIATIONS FROM THE STANDARD**

No deviations from the applicable test standards or test plan were made during testing.

## **1.7 MODIFICATION RECORD**

No modifications were made to the EUT during testing.

## **SECTION 2**

### **TEST DETAILS**

FCC and Industry Canada Testing of the  
SRT Marine Technology Ltd  
Cobalt: Class B AIS Unit

## **2.1 RADIATED EMISSIONS (ENCLOSURE PORT)**

### **2.1.1 Specification Reference**

FCC CFR 47 Part 15B., Clause 15.109  
ICES-003, Clause 7.1

### **2.1.2 Equipment Under Test**

Cobalt: Class B AIS Unit, S/N: 10

### **2.1.3 Date of Test and Modification State**

14 December 2010 - Modification State 0

### **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 Method and Operating Modes**

The test was applied in accordance with the test method requirements of ANSI C63.4.

The test was performed with the EUT in the following configurations and modes of operation:

Configuration 1 - Mode 1

### **2.1.6 Environmental Conditions**

14 December 2010

Ambient Temperature 21°C

Relative Humidity 32%

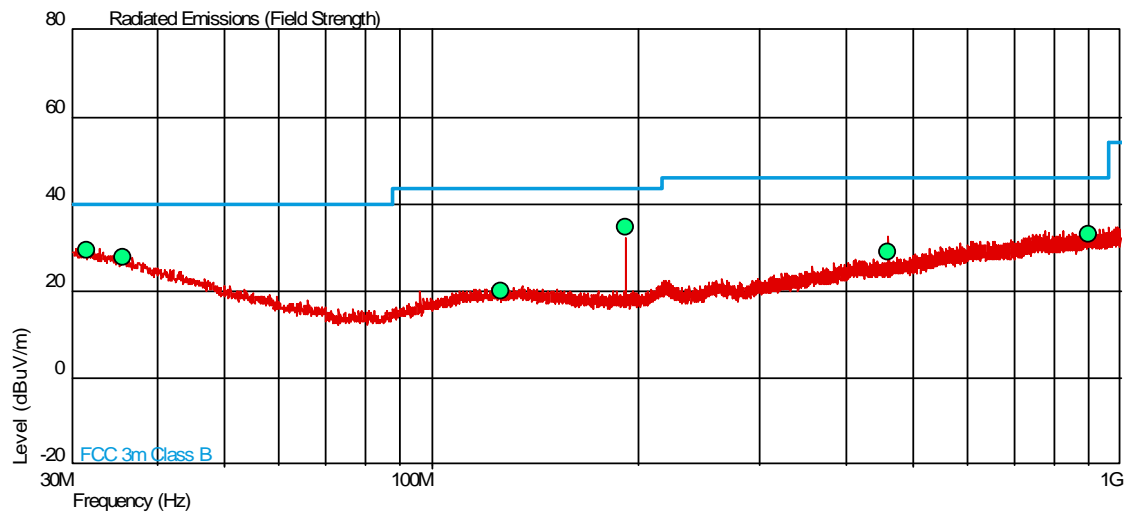
Atmospheric Pressure 1002mbar

### 2.1.7 Test Results

For the period of test the EUT met the requirements of FCC CFR 47 Part 15B and ICES-003 for Radiated Emissions (Enclosure Port).

The test results are shown below.

#### Configuration 1 - Mode 2



Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
31.602	29.2	28.8	40.0	100	-10.8	71.2	360	3.14	Vertical
35.627	27.6	24.0	40.0	100	-12.4	76.0	0	1.00	Vertical
126.443	20.2	10.2	43.5	150	-23.3	139.8	360	1.00	Vertical
191.281	34.5	53.1	43.5	150	-9.0	96.9	112	1.88	Horizontal
460.627	29.2	28.8	46.0	200	-16.8	171.2	220	1.54	Vertical
902.224	33.1	45.2	46.0	200	-12.9	154.8	0	1.00	Horizontal

### **SECTION 3**

#### **TEST EQUIPMENT USED**

### 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
<b>Section 2.1 - Radiated Emissions (Enclosure Port</b>					
Screened Room (5)	Rainford	Rainford	1545	24	11-Feb-2011
Mast Controller	Inn-Co GmbH	CO 1000	1606	-	TU
Turntable/Mast Controller	EMCO	2090	1607	-	TU
Antenna (Bilog)	Chase	CBL6143	2904	24	4-Dec-2011
EMI Test Receiver	Rohde & Schwarz	ESU40	3506	12	9-Sep-2011

TU – Traceability Unscheduled

### 3.2 MEASUREMENT UNCERTAINTY

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

Test Discipline	Frequency / Parameter	MU
Radiated Emissions, Bilog Antenna, AOATS	30MHz to 1GHz Amplitude	5.2dB
Radiated Emissions, Horn Antenna, AOATS	1GHz to 40GHz Amplitude	6.3dB

## **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).

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