FCC PART 15 SUBPART B and C
TEST REPORT

for

ANCHOR FOB 1

Model: RMS-FOB1

Prepared for

RHODAN MARINE SERVICES, INC.
8274 BLAIKIE COURT
SARASOTA, FLORIDA 34240

Prepared by:_____

KYLE FUJIMOTO

Approved by:_____

MICHAEL CHRISTENSEN

COMPATIBLE ELECTRONICS INC.
114 OLINDA DRIVE
BREA, CALIFORNIA 92823
(714) 579-0500

DATE: MAY 7, 2009

	REPORT BODY	APPENDICES					TOTAL
		A	*B*	*C*	*D*	*E*	
PAGES	17	2	2	2	10	11	**44**

This report shall not be reproduced except in full, without the written approval of Compatible Electronics.

TABLE OF CONTENTS

Section / Title	PAGE
GENERAL REPORT SUMMARY	***4***
SUMMARY OF TEST RESULTS	***4***
1. PURPOSE	**5**
2. ADMINISTRATIVE DATA	**6**
2.1 Location of Testing	6
2.2 Traceability Statement	6
2.3 Cognizant Personnel	6
2.4 Date Test Sample was Received	6
2.5 Disposition of the Test Sample	6
2.6 Abbreviations and Acronyms	6
3. APPLICABLE DOCUMENTS	**7**
4. DESCRIPTION OF TEST CONFIGURATION	**8**
4.1 Description of Test Configuration – EMI	8
4.1.1 Cable Construction and Termination	9
5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT	**10**
5.1 EUT and Accessory List	10
5.2 EMI Test Equipment	11
6. TEST SITE DESCRIPTION	**12**
6.1 Test Facility Description	12
6.2 EUT Mounting, Bonding and Grounding	12
6.3 Facility Environmental Characteristics	12
7. TEST PROCEDURES	**13**
7.1 RF Emissions	13
7.1.1 Conducted Emissions Test	13
7.1.2 Radiated Emissions (Spurious and Harmonics) Test	14
7.2 Bandwidth of the Fundamental	16
8. CONCLUSIONS	**17**

LIST OF APPENDICES

APPENDIX	TITLE
A	Laboratory Recognitions
B	Modifications to the EUT
C	Additional Models Covered Under This Report
D	Diagram, Charts, and Photos • Test Setup Diagram • Antenna and Amplifier Factors • Radiated Emissions Photos
E	Data Sheets

LIST OF FIGURES

FIGURE	TITLE
1	Plot Map And Layout of Radiated Test Site

GENERAL REPORT SUMMARY

Compatible Electronics Inc. generates this electromagnetic emission test report, which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced without the written permission of Compatible Electronics, unless done so in full.

This report must not be used to claim product endorsement by NVLAP, NIST or any other agency of the U.S. Government.

Device Tested:	Rhodan Marine Services, Inc. Model: RMS-FOB1 S/N: N/A
Product Description:	See Expository Statement
Modifications:	The EUT was not modified in order to meet the specifications.
Customer:	Rhodan Marine Services, Inc. 8274 Blaikie Court Sarasota, Florida 34240
Test Date(s):	April 15, 2009
Test Specifications:	EMI requirements CFR Title 47, Part 15, Subpart B
Test Procedure:	ANSI C63.4
Test Deviations:	The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions 150 kHz to 30 MHz	The EUT does not directly or indirectly connect to the AC mains, thus this test was not performed.
2	Radiated RF Emissions 10 kHz – 4200 MHz (Transmitter Portion)	Complies with the limits of CFR Title 47, Part 15, Subpart C, sections 15.205, 15.209, and 15.231.
3	Radiated RF Emissions 10 kHz – 4200 MHz (Digital Portion)	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B.

*U_c = combined standard uncertainty

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the Anchor Fob 1, Model: RMS-FOB1. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B for the digital portion; and the limits defined in Subpart C, sections 15.205, 15.209, and 15.231 for the transmitter portion.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

The EMI tests described herein were performed at the test facility of Compatible Electronics, 114 Olinda Drive, Brea, California.

2.2 Traceability Statement

The calibration certificates of all test equipment used during the test are on file at the location of the test. The calibration is traceable to the National Institute of Standards and Technology (NIST).

2.3 Cognizant Personnel

Rhodan Marine Services, Inc.

Glen Robertson	President
John Miller III	Engineer

Compatible Electronics Inc.

Kyle Fujimoto	Test Engineer
Michael Christensen	Lab Manager, Brea Division

2.4 Date Test Sample was Received

The test sample was received prior to the date of testing.

2.5 Disposition of the Test Sample

The test sample was returned prior to the date of this report.

2.6 Abbreviations and Acronyms

The following abbreviations and acronyms may be used in this document.

FCC	Federal Communications Commission
RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
ITE	Information Technology Equipment
LISN	Line Impedance Stabilization Network
NVLAP	National Voluntary Laboratory Accreditation Program
CFR	Code of Federal Regulations
N/A	Not Applicable
Ltd.	Limited
Inc.	Incorporated
IR	Infrared

3. APPLICABLE DOCUMENTS

The following documents are referenced or used in the preparation of this EMI Test Report.

SPEC	TITLE
CFR Title 47, Part 15	FCC Rules – Radio frequency devices (including digital devices)
ANSI C63.4: 2003	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration – EMI

The Anchor Fob 1, Model: RMS-FOB1 (EUT) was tested as a stand-alone unit in three different orthogonal axis. The EUT was continuously transmitting.

The EUT stops transmitting immediately after the button is released. The antenna is soldered directly to the PCB of the EUT.

It was determined that the emissions were at their highest level when the EUT was operating in the above configuration. The final emissions data was taken in this mode of operation and any cables were maximized. All initial investigations were performed with the measurement receiver in manual mode scanning the frequency range continuously. Photographs of the test setup are in Appendix D of this report.

4.1.1 Cable Construction and Termination

There were no external cables connected to the EUT

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
ANCHOR FOB 1 (EUT)	RHODAN MARINE SERVICES, INC.	RMS-FOB1	N/A	**XA7-RMS-FOB1**

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. CYCLE
GENERAL TEST EQUIPMENT USED FOR ALL RF EMISSIONS TESTS					
Spectrum Analyzer – Main Section	Hewlett Packard	8566B	3638A08784	June 2, 2008	1 Year
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	2648A14530	June 2, 2008	1 Year
Quasi-Peak Adapter	Hewlett Packard	85650A	2430A00424	June 2, 2008	1 Year
EMI Receiver	Rohde & Schwarz	ESIB40	100194	September 17, 2008	2 Year
Computer	Hewlett Packard	4530	US91912319	N/A	N/A
RF RADIATED EMISSIONS TEST EQUIPMENT					
Radiated Emissions Data Capture Program	Compatible Electronics	2.0	N/A	N/A	N/A
Biconical Antenna	Com Power	AB-900	15250	February 23, 2009	1 Year
Log Periodic Antenna	Com Power	AL-100	16060	June 27, 2008	1 Year
Preamplifier	Com-Power	PA-102	1017	January 12, 2009	1 Year
Loop Antenna	Com Power	AL-130	17089	September 29, 2008	1 Year
Horn Antenna	Com Power	AH-118	071175	June 27, 2008	2 Year
Microwave Preamplifier	Com Power	PA-122	181921	March 12, 2009	1 Year
Mast Antenna	Com Power	AM-100	N/A	N/A	N/A

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 7.1.2 of this report for EMI test location.

6.2 EUT Mounting, Bonding and Grounding

The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

The EUT was not grounded.

6.3 Facility Environmental Characteristics

When applicable refer to the data sheets in Appendix E for the relative humidity, air temperature, and barometric pressure.

7. TEST PROCEDURES

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

7.1 RF Emissions

7.1.1 Conducted Emissions Test

The measurement receiver was used as a measuring meter. The data was collected with the measurement receiver in the peak detect mode with the "Max Hold" feature activated. The quasi-peak was used only where indicated in the data sheets. A transient limiter was used for the protection of the measurement receiver's input stage, and the offset was adjusted accordingly to read the actual data measured. The LISN output was measured using the measurement receiver. The output of the second LISN was terminated by a 50-ohm termination. The effective measurement bandwidth used for this test was 9 kHz.

Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The EUT was powered through the LISN, which was bonded to the ground plane. The LISN power was filtered and the filter was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI C63.4. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

The conducted emissions from the EUT were maximized for operating mode as well as cable placement. The final data was collected under program control by the Compatible Electronics conducted emissions software in several overlapping sweeps by running the spectrum analyzer at a minimum scan rate of 10 seconds per octave. The final qualification data is located in Appendix E.

Test Results:

The EUT does not directly or indirectly connect to the AC mains, thus this test was not performed.

7.1.2 Radiated Emissions (Spurious and Harmonics) Test

The measurement receiver was used as a measuring meter. A preamplifier was used to increase the sensitivity of the instrument. The measurement receiver was used in the peak detect mode with the "Max Hold" feature activated. In this mode, the measurement receiver records the highest measured reading over all the sweeps.

The readings were averaged by a "duty cycle correction factor", derived from 20 log (dwell time / one pulse train with blanking interval). The measurement bandwidths and transducers used for the radiated emissions test were:

FREQUENCY RANGE	TRANSDUCER	EFFECTIVE MEASUREMENT BANDWIDTH
9 kHz to 150 kHz	Active Loop Antenna	200 Hz
150 kHz to 30 MHz	Active Loop Antenna	9 kHz
30 MHz to 300 MHz	Biconical Antenna	120 kHz
300 MHz to 1000 MHz	Log Periodic Antenna	120 kHz
1000 MHz to 4200 MHz	Horn Antenna	1 MHz

The final data was taken with a frequency span of 1 MHz for frequencies below 1000 MHz. For frequencies above 1000 MHz, the final data was taken with a frequency span of 10 MHz. The frequency span was reduced during the preliminary investigations as deemed necessary to distinguish between emissions from the EUT and any ambient signals.

The open field test site of Compatible Electronics, Inc. was used for radiated emission testing. This test site is set up according to ANSI C63.4. Please see section 6.2 of this report for mounting, bonding, and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters (for E field radiated field strength). The gunsight method was used when measuring with the horn antenna to ensure accurate results. The loop antenna was also rotated in the horizontal and vertical axis in order to ensure accurate results.

Radiated Emissions (Spurious and Harmonics) Test (Continued)

The presence of ambient signals was verified by turning the EUT off. In case an ambient signal was detected, the measurement bandwidth was reduced temporarily and verification was made that an additional adjacent peak did not exist. This ensures that the ambient signal does not hide any emissions from the EUT. The EUT was tested at a 3-meter distance to obtain final test data. The final qualification data is located in Appendix E.

Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and CFR Title 47, Part 15, Subpart C, sections 15.205, 15.209, and 15.231.

7.2 Bandwidth of the Fundamental

The -20 dB bandwidth was checked to see that it was within 0.25% of the fundamental frequency for the EUT. Plots of the -20 dB bandwidth are located in Appendix E.

Test Results:

The EUT complies with the limits of CFR Title 47, Part 15, Subpart C, section 15.231(c).

8. CONCLUSIONS

The Anchor Fob 1, Model: RMS-FOB1, as tested, meets all of the **Class B** specification limits defined in CFR Title 47, Part 15, Subpart B for the digital portion; and the limits defined in Subpart C, sections 15.205, 15.209, and 15.231 for the transmitter portion.

APPENDIX A

LABORATORY RECOGNITIONS

LABORATORY RECOGNITIONS

Compatible Electronics has the following agency accreditations:

National Voluntary Laboratory Accreditation Program - Lab Code: 200528-0

Voluntary Control Council for Interference - Registration Numbers: R-983, C-1026, R-984 and C-1027

Bureau of Standards and Metrology Inspection - Reference Number: SL2-IN-E-1031

Conformity Assessment Body for the EMC Directive Under the US/EU MRA Appointed by NIST

Compatible Electronics is recognized or on file with the following agencies:

Federal Communications Commission

Industry Canada

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC 15.231 and/or FCC **Class B** specifications.

All the rework described below was implemented during the test in a method that could be reproduced in all the units by the manufacturer.

There were no modifications made to the EUT.

APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

Anchor Fob 1
Model: RMS-FOB1
S/N: N/A

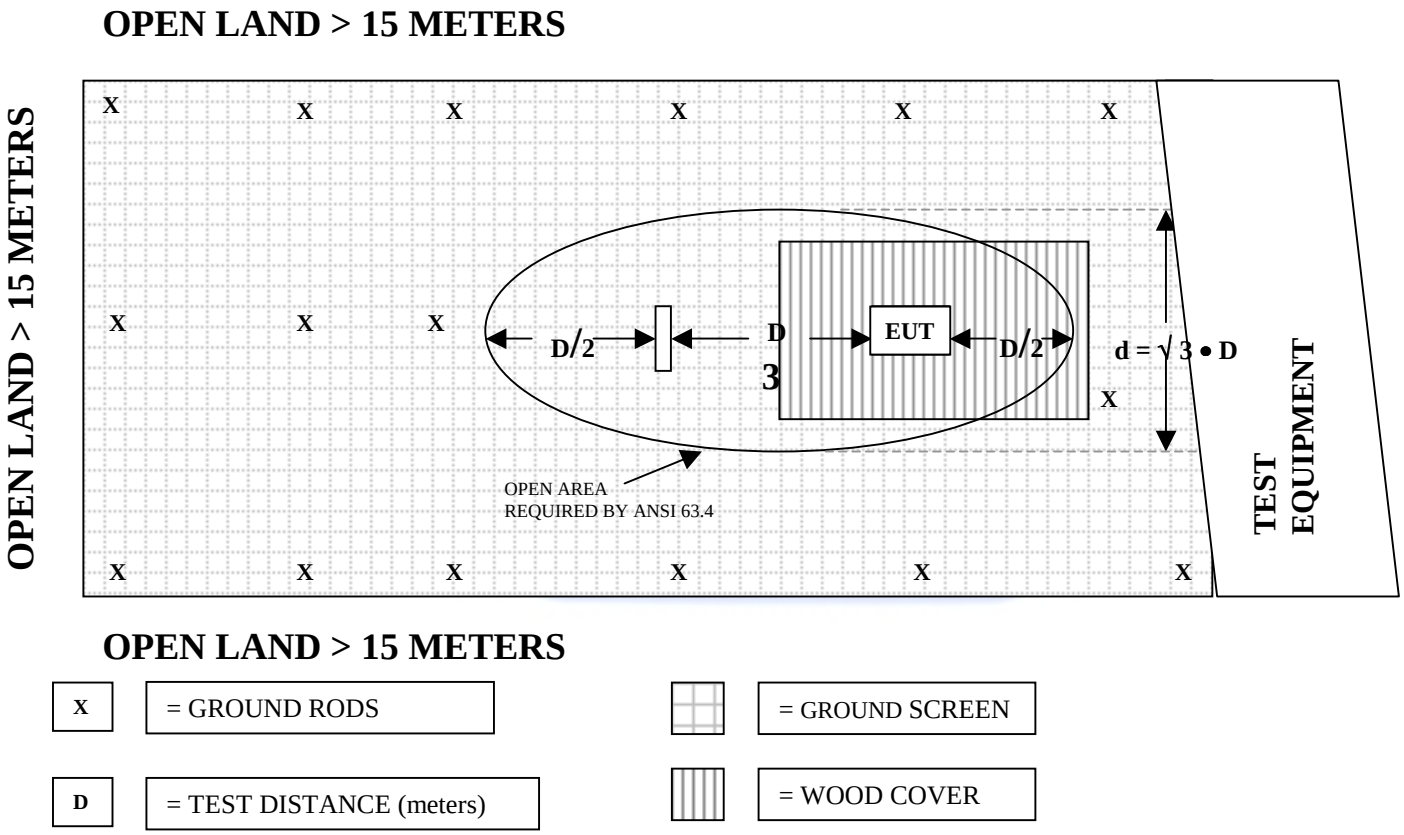
ALSO APPROVED UNDER THIS REPORT:

There were no additional models covered under this report.

APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

FIGURE 1: PLOT MAP AND LAYOUT OF 3 METER RADIATED TEST SITE



COM-POWER AB-900

BICONICAL ANTENNA

S/N: 15250

CALIBRATION DATE: FEBRUARY 23, 2009

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	13.0	100	11.1
35	11.1	120	13.6
40	10.2	140	12.4
45	11.2	160	12.9
50	11.6	180	16.5
60	9.1	200	17.0
70	8.4	250	16.3
80	6.2	275	18.2
90	8.5	300	17.9

COM-POWER AL-100

LOG PERIODIC ANTENNA

S/N: 16060

CALIBRATION DATE: JUNE 27, 2008

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	12.7	700	21.2
400	15.3	800	21.7
500	17.4	900	21.8
600	19.0	1000	22.8

COM POWER AH-118

HORN ANTENNA

S/N: 071175

CALIBRATION DATE: JUNE 27, 2008

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	24.5	10.0	39.4
1.5	25.4	10.5	39.7
2.0	28.3	11.0	39.0
2.5	28.9	11.5	40.0
3.0	29.7	12.0	39.7
3.5	30.8	12.5	41.7
4.0	31.4	13.0	42.7
4.5	32.6	13.5	41.2
5.0	33.7	14.0	41.6
5.5	34.4	14.5	43.2
6.0	34.7	15.0	42.3
6.5	35.4	15.5	39.3
7.0	37.0	16.0	41.7
7.5	37.4	16.5	39.6
8.0	37.6	17.0	43.0
8.5	37.6	17.5	47.1
9.0	38.5	18.0	46.2
9.5	38.6		

COM-POWER PA-102

PREAMPLIFIER

S/N: 1017

CALIBRATION DATE: JANUARY 12, 2009

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	39.0	300	38.8
40	39.0	350	38.8
50	38.8	400	38.7
60	38.7	450	38.6
70	38.8	500	38.3
80	38.8	550	38.9
90	39.1	600	38.4
100	39.1	650	38.8
125	38.9	700	38.4
150	38.9	750	38.5
175	38.9	800	38.3
200	38.8	850	38.4
225	39.0	900	38.1
250	38.9	950	37.4
275	38.8	1000	38.1

COM-POWER PA-122

PREAMPLIFIER

S/N: 181921

CALIBRATION DATE: MARCH 12, 2009

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	36.46	10.0	35.06
1.5	35.36	10.5	34.82
2.0	34.76	11.0	33.12
2.5	34.94	11.5	34.33
3.0	34.59	12.0	34.75
3.5	34.55	12.5	33.94
4.0	34.25	13.0	35.50
4.5	33.89	13.5	34.89
5.0	34.22	14.0	36.56
5.5	34.81	14.5	36.06
6.0	35.74	15.0	36.67
6.5	36.51	15.5	36.84
7.0	36.66	16.0	34.31
7.5	35.72	16.5	35.11
8.0	33.28	17.0	35.35
8.5	33.11	17.5	34.11
9.0	34.71	18.0	33.88
9.5	35.50	18.5	32.20

COM-POWER AL-130

LOOP ANTENNA

S/N: 17089

CALIBRATION DATE: SEPTEMBER 29, 2008

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-41.57	9.93
0.01	-42.06	9.44
0.02	-42.43	9.07
0.05	-42.50	9.00
0.07	-42.10	9.40
0.1	-42.03	9.47
0.2	-44.50	7.00
0.3	-41.93	9.57
0.5	-41.90	9.60
0.7	-41.73	9.77
1	-41.23	10.27
2	-40.90	10.60
3	-41.20	10.30
4	-41.30	10.20
5	-40.70	10.80
10	-41.10	10.40
15	-42.17	9.33
20	-42.00	9.50
25	-42.20	9.30
30	-43.10	8.40

FRONT VIEW

RHODAN MARINE SERVICES, INC.
ANCHOR FOB 1
MODEL: RMS-FOB1
FCC SUBPART B AND C – RADIATED EMISSIONS – 04/15/09

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

RHODAN MARINE SERVICES, INC.
ANCHOR FOB 1
MODEL: RMS-FOB1
FCC SUBPART B AND C – RADIATED EMISSIONS – 04/15/09

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS

DATA SHEETS

FCC 15.231

Rhodan Marine Systems, Inc.
Anchor Fob 1
Model: RMS-FOB1

Date: 04/15/09
Labs: B and D
Tested By: Kyle Fujimoto

X-Axis
Duty Cycle 42.24 %

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
418	72.39	V	100.28	-27.89	Peak	1	90	
418	64.91	V	80.28	-15.37	Avg	1	90	
836	37.68	V	80.28	-42.6	Peak	1.38	180	
836	30.2	V	60.28	-30.08	Avg	1.38	180	
1254	36.07	V	74	-37.93	Peak	1.29	150	
1254	28.59	V	54	-25.41	Avg	1.29	150	
1672	46.56	V	74	-27.44	Peak	1.15	45	
1672	39.08	V	54	-14.92	Avg	1.15	45	
2090	45.81	V	80.28	-34.47	Peak	1.65	285	
2090	38.33	V	60.28	-21.95	Avg	1.65	285	
2508	48.85	V	80.28	-31.43	Peak	1.75	135	
2508	41.37	V	60.28	-18.91	Avg	1.75	135	
2926	49.54	V	80.28	-30.74	Peak	1.05	45	
2926	42.06	V	60.28	-18.22	Avg	1.05	45	
3344	45.76	V	80.28	-34.52	Peak	2.05	135	
3344	38.28	V	60.28	-22	Avg	2.05	135	
3762	45.49	V	74	-28.51	Peak	2.25	175	
3762	38.01	V	54	-15.99	Avg	2.25	175	
4180	43.96	V	74	-30.04	Peak	1.35	165	
4180	36.48	V	54	-17.52	Avg	1.35	165	

FCC 15.231

Rhodan Marine Systems, Inc.
Anchor Fob 1
Model: RMS-FOB1

Date: 04/15/09
Labs: B and D
Tested By: Kyle Fujimoto

X-Axis
Duty Cycle 42.24 %

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
418	86.99	H	100.28	-13.29	Peak	1	90	
418	79.51	H	80.28	-0.77	Avg	1	90	
836	49.98	H	80.28	-30.3	Peak	1.25	90	
836	42.5	H	60.28	-17.78	Avg	1.25	90	
1254	39.46	H	74	-34.54	Peak	1.29	245	
1254	31.98	H	54	-22.02	Avg	1.29	245	
1672	53	H	74	-21	Peak	1.02	125	
1672	45.52	H	54	-8.48	Avg	1.02	125	
2090	47.93	H	80.28	-32.35	Peak	1.78	145	
2090	40.45	H	60.28	-19.83	Avg	1.78	145	
2508	55.31	H	80.28	-24.97	Peak	1.25	150	
2508	47.83	H	60.28	-12.45	Avg	1.25	150	
2926	52.53	H	80.28	-27.75	Peak	1.28	175	
2926	45.05	H	60.28	-15.23	Avg	1.28	175	
3344	48.67	H	80.28	-31.61	Peak	1.55	165	
3344	41.19	H	60.28	-19.09	Avg	1.55	165	
3762	46.31	H	74	-27.69	Peak	1.25	150	
3762	38.83	H	54	-15.17	Avg	1.25	150	
4180	41.01	H	74	-32.99	Peak	1.25	165	
4180	33.53	H	54	-20.47	Avg	1.25	165	

FCC 15.231

Rhodan Marine Systems, Inc.
Anchor Fob 1
Model: RMS-FOB1

Date: 04/15/09
Labs: B and D
Tested By: Kyle Fujimoto

Y-Axis
Duty Cycle 42.24 %

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
418	82.09	V	100.28	-18.19	Peak	1	180	
418	74.61	V	80.28	-5.67	Avg	1	180	
836	57.6	V	80.28	-22.68	Peak	1	135	
836	50.12	V	60.28	-10.16	Avg	1	135	
1254	41.58	V	74	-32.42	Peak	1.28	125	
1254	34.1	V	54	-19.9	Avg	1.28	125	
1672	49.71	V	74	-24.29	Peak	1.54	135	
1672	42.23	V	54	-11.77	Avg	1.54	135	
2090	49.11	V	80.28	-31.17	Peak	1.29	150	
2090	41.63	V	60.28	-18.65	Avg	1.29	150	
2508	50.67	V	80.28	-29.61	Peak	1.48	145	
2508	43.19	V	60.28	-17.09	Avg	1.48	145	
2926	46.96	V	80.28	-33.32	Peak	1.49	165	
2926	39.48	V	60.28	-20.8	Avg	1.49	165	
3344	50.48	V	80.28	-29.8	Peak	2.29	250	
3344	43	V	60.28	-17.28	Avg	2.29	250	
3762	49.97	V	74	-24.03	Peak	1.45	235	
3762	42.49	V	54	-11.51	Avg	1.45	235	
4180	43.97	V	74	-30.03	Peak	1.52	125	
4180	36.49	V	54	-17.51	Avg	1.52	125	

FCC 15.231

Rhodan Marine Systems, Inc.
Anchor Fob 1
Model: RMS-FOB1

Date: 04/15/09
Labs: B and D
Tested By: Kyle Fujimoto

Y-Axis
Duty Cycle 42.24 %

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
418	83.59	H	100.28	-16.69	Peak	1.25	150	
418	76.11	H	80.28	-4.17	Avg	1.25	150	
836	51	H	80.28	-29.28	Peak	1.35	180	
836	43.52	H	60.28	-16.76	Avg	1.35	180	
1254	37.68	H	80.8	-43.12	Peak	1.25	225	
1254	30.2	H	60.8	-30.6	Avg	1.25	225	
1672	40.73	H	74	-33.27	Peak	1.25	135	
1672	33.25	H	54	-20.75	Avg	1.25	135	
2090	43.65	H	80.28	-36.63	Peak	1.35	150	
2090	36.17	H	60.28	-24.11	Avg	1.35	150	
2508	54.31	H	80.28	-25.97	Peak	1.55	135	
2508	46.83	H	60.28	-13.45	Avg	1.55	135	
2926	52.42	H	80.28	-27.86	Peak	1.26	175	
2926	44.94	H	60.28	-15.34	Avg	1.26	175	
3344	50.45	H	80.28	-29.83	Peak	1.28	225	
3344	42.97	H	60.28	-17.31	Avg	1.28	225	
3762	48.17	H	74	-25.83	Peak	1.23	225	
3762	40.69	H	54	-13.31	Avg	1.23	225	
4180	44.58	H	74	-29.42	Peak	1.26	235	
4180	37.1	H	54	-16.9	Avg	1.26	235	

FCC 15.231

Rhodan Marine Systems, Inc.
Anchor Fob 1
Model: RMS-FOB1

Date: 04/15/09
Labs: B and D
Tested By: Kyle Fujimoto

Z-Axis
Duty Cycle 42.24 %

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
418	80.19	V	100.28	-20.09	Peak	1	135	
418	72.71	V	80.28	-7.57	Avg	1	135	
836	56.5	V	80.28	-23.78	Peak	1.25	90	
836	49.02	V	60.28	-11.26	Avg	1.25	90	
1254	38.39	V	74	-35.61	Peak	1.35	90	
1254	30.91	V	54	-23.09	Avg	1.35	90	
1672	47.97	V	74	-26.03	Peak	1.45	180	
1672	40.49	V	54	-13.51	Avg	1.45	180	
2090	48.42	V	80.28	-31.86	Peak	1.25	135	
2090	40.94	V	60.28	-19.34	Avg	1.25	135	
2508	53.77	V	80.28	-26.51	Peak	1.25	315	
2508	46.29	V	60.28	-13.99	Avg	1.25	315	
2926	55.03	V	80.28	-25.25	Peak	1.45	190	
2926	47.55	V	60.28	-12.73	Avg	1.45	190	
3344	50.29	V	80.28	-29.99	Peak	1.25	135	
3344	42.81	V	60.28	-17.47	Avg	1.25	135	
3762	43.71	V	74	-30.29	Peak	1.25	225	
3762	36.23	V	54	-17.77	Avg	1.25	225	
4180	41.24	V	74	-32.76	Peak	1.35	150	
4180	33.76	V	54	-20.24	Avg	1.35	150	

FCC 15.231

Rhodan Marine Systems, Inc.
Anchor Fob 1
Model: RMS-FOB1

Date: 04/15/09
Labs: B and D
Tested By: Kyle Fujimoto

Z-Axis
Duty Cycle 42.24 %

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
418	85.59	H	100.28	-14.69	Peak	1	270	
418	78.11	H	80.28	-2.17	Avg	1	270	
836	58.3	H	80.28	-21.98	Peak	1	135	
836	50.82	H	60.28	-9.46	Avg	1	135	
1254	37.78	H	74	-36.22	Peak	1.35	125	
1254	30.3	H	54	-23.7	Avg	1.35	125	
1672	47.23	H	74	-26.77	Peak	1.45	150	
1672	39.75	H	54	-14.25	Avg	1.45	150	
2090	46.57	H	80.28	-33.71	Peak	1.69	135	
2090	39.09	H	60.28	-21.19	Avg	1.69	135	
2508	51.68	H	80.28	-28.6	Peak	1.25	135	
2508	44.2	H	60.28	-16.08	Avg	1.25	135	
2926	48.16	H	80.28	-32.12	Peak	1.85	125	
2926	40.68	H	60.28	-19.6	Avg	1.85	125	
3344	47.75	H	80.28	-32.53	Peak	2.05	135	
3344	40.27	H	60.28	-20.01	Avg	2.05	135	
3762	49.18	H	74	-24.82	Peak	1.69	255	
3762	41.7	H	54	-12.3	Avg	1.69	255	
4180	45.04	H	74	-28.96	Peak	1.76	125	
4180	37.56	H	54	-16.44	Avg	1.76	125	

FCC 15.231 and FCC Class B

Rhodan Marine Systems, Inc.
Anchor Fob 1
Model: RMS-FOB1

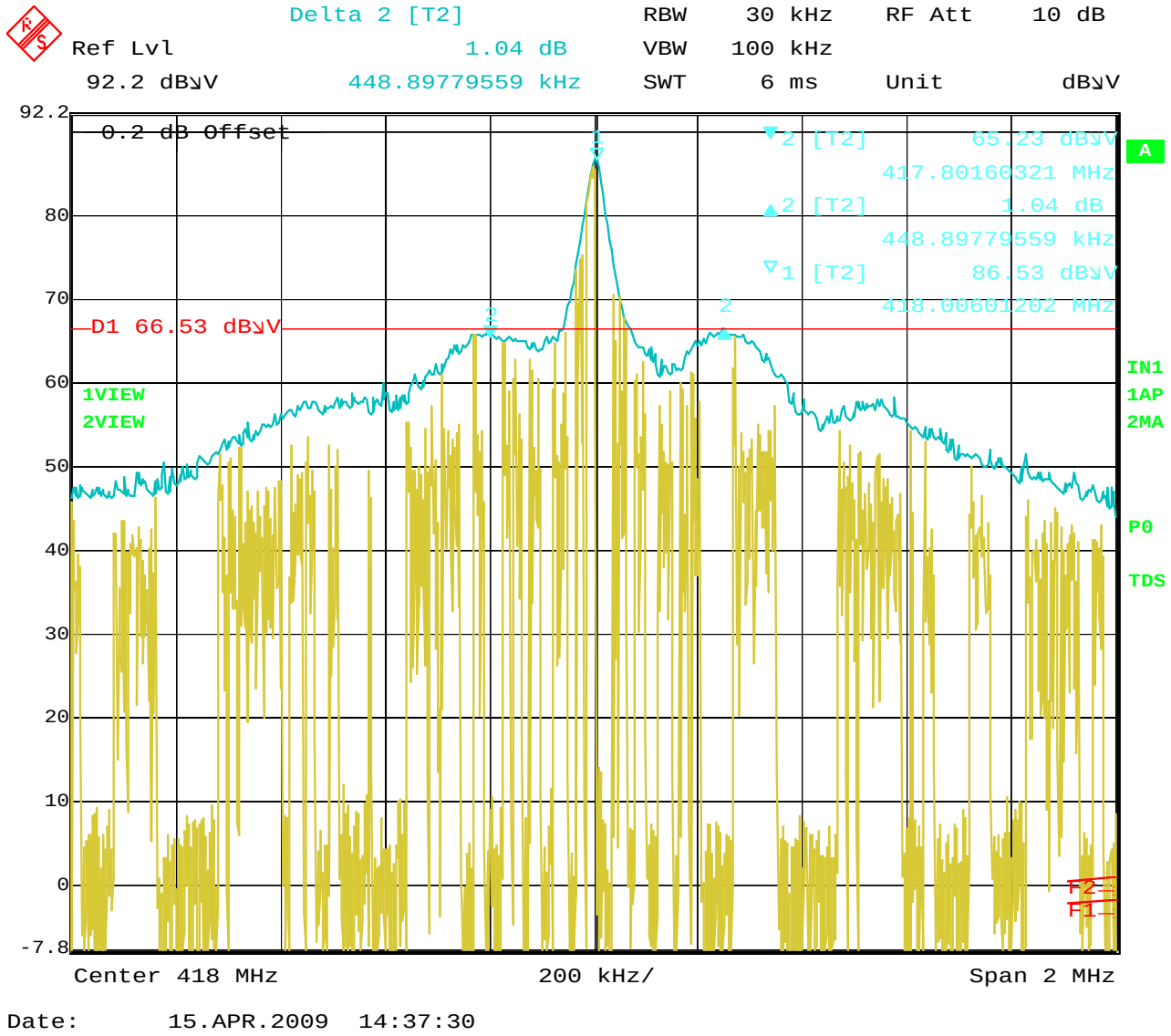
Date: 04/15/09
Labs: B and D
Tested By: Kyle Fujimoto

Digital Portion and Non-Harmonic Emissions From the Transmitter
Horizontal and Vertical Polarization

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
								The EUT had no emissions
								from 10 kHz to 4200 MHz
								for the Digital Portion
								The EUT had no emissions
								from 10 kHz to 4200 MHz
								for the Non-Harmonic
								Emissions

-20 dB BANDWIDTH

DATA SHEETS



Date: 15.APR.2009 14:37:30

-20 dB Bandwidth of the Fundamental