



1250 Peterson Dr., Wheeling, IL 60090

Company: RF Technologies, Inc.
Model Tested: 0800-0388
Report Number: 15409

FCC Rules and Regulations / Intentional Radiators

Operational in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz, Bands

Part 15, Subpart C, Section 15.247

THE FOLLOWING MEETS THE ABOVE TEST SPECIFICATION

Formal Name: Extended Range Universal Transceiver
Kind of Equipment: Nurse Call and Security Device
Frequency Range: 2405 - 2480 MHz
Test Configuration: Wireless Connection (tested at 3.3 vdc)
Model Number(s): 0800-0388
Model(s) Tested: 0800-0388
Serial Number(s): N/A
Date of Tests: May 27 & 28, 2009
Test Conducted For: RF Technologies, Inc.
3125 North 126th Street
Brookfield, Wisconsin 53066

NOTICE: "This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government". Please see the "Additional Description of Equipment Under Test" page listed inside of this report.

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SIGNATURE PAGE

Report By:

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Test Engineer
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Reviewed By:

William Stumpf
OATS Manager

Approved By:

Brian Mattson
General Manager



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United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 100276-0

D.L.S. Electronic Systems, Inc.
Wheeling, IL

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:*

ELECTROMAGNETIC COMPATIBILITY AND TELECOMMUNICATIONS

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communiqué dated 18 June 2005).*

2008-10-01 through 2009-09-30

Effective dates



Sally S. Bruce
For the National Institute of Standards and Technology

NVLAP-01C (REV. 2006-09-13)



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1.0 SUMMARY OF TEST REPORT

It was found that the Extended Range Universal Transceiver, Model Number(s) 0800-0388 **meets** the radio interference radiated emission requirements of the FCC "Rules and Regulations", Part 15, Subpart C, Section 15.247 for operational in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz, Bands. The AC Power Line conducted emissions test was not required because the Extended Range Universal Transceiver is powered from a D.C. power source. It does not have a line cord to plug into the A.C. power line.

2.0 INTRODUCTION

On May 27 & 28, 2009, a series of radio frequency interference measurements was performed on Extended Range Universal Transceiver, Model Number(s) 0800-0388, Serial Number: N/A. The tests were performed according to the procedures of the FCC as stated in the "Methods of Measurement of Radio-Noise Emissions for Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz" found in the American National Standards Institute, ANSI C63.4-2003 & the FCC guidance document "Measurement of Digital Transmission Systems Operating under Section 15.247 - March 23, 2005". Tests were performed by personnel of D.L.S. Electronic Systems, Inc. who are responsible to Donald L. Sweeney, Senior EMC Engineer.

D.L.S. Electronic Systems, Inc. is a full service EMC/Safety Testing Laboratory accredited to ISO 17025. NVLAP Certificate and Scope can be viewed at <http://www.dlsemc.com/certificate>. Our facilities are registered with the FCC, Industry Canada, and VCCI.

Main Test Facility:

D.L.S. Electronic Systems, Inc.
1250 Peterson Drive
Wheeling, Illinois 60090

O.A.T.S. Test Facility:

D.L.S. Electronic Systems, Inc.
166 S. Carter Street
Genoa City, Wisconsin 53128
FCC Registration Number: 334127

3.0 OBJECT

The purpose of this series of tests was to determine if the test sample could meet the radio frequency interference emission requirements of the FCC "Rules and Regulations", Part 15, Subpart C, Sections 15.205, 15.209 & 15.247 for Intentional Radiators operating in the Bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz.



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4.0 TEST SET-UP

All emission tests were performed at D.L.S. Electronic Systems, Inc. and set up according to the ANSI C63.4-2003, Annex H or following the guidelines in the FCC's "Measurement of Digital Transmission Systems Operating under Section 15.247 - March 23, 2005". The conducted tests were performed with the test item placed on a non-conductive table (table top equipment), located in the test room. Equipment normally operated on the floor was tested by placing it on the metal ground plane. The ground plane has an electrical isolation layer over its surface approximately 7mm thick. The power line supplied was connected to a dual line impedance stabilization network electrically bonded to the ground plane, located on the floor. The networks were constructed per the requirements of the ANSI C63.4-2003, Annex H.

All radiated emissions tests were performed with the test item placed on a 80 cm high rotating non-conductive table, located in the test room. Equipment normally operated on the floor was placed on a metal covered turntable which is flush with the surrounding conducting ground plane. The ground plane has an electrical isolation layer over its surface approximately 7 mm thick. The EUT is separated from the turntable ground plane by a non-conductive layer. The equipment under test was set up according to ANSI C63.4-2003, Sections 6 and 8 or following the guidelines in the FCC's "Measurement of Digital Transmission Systems Operating under Section 15.247 - March 23, 2005", as indicated in the test data section of this test report..



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5.0 TEST EQUIPMENT (Bandwidths and Detector Function)

All preliminary data below 1000 MHz was automatically plotted using the ESI 40 Fixed Tuned Receiver. The data was taken using Peak, Quasi-Peak or the Average Detector Functions as required. This information was then used to determine the frequencies of maximum emissions. Above 1000 MHz, final data was taken using the Average Detector.

Below 1000 MHz, final data was taken using the ESI 40 Fixed Tuned Receiver. These plots were made using the Peak or Quasi-Peak Detector functions, with manual measurements performed on the questionable frequencies using the Quasi-Peak or the Average Detector Function of the ESI 26/40 Fixed Tuned Receiver as required. Above 1000 MHz, final data was taken using the Average Detector on the Spectrum Analyzer.

The bandwidths shown below are specified by ANSI C63.4-2003, Section 4.2.

Frequency Range	Bandwidth (-6 dB)
10 to 150 kHz	200 Hz
150 kHz to 30 MHz	9 kHz
30 MHz to 1 GHz	120 kHz
Above 1 GHz	1 MHz

A list of the equipment used can be found in Table 1. All primary equipment was calibrated against known reference standards with a verified traceable path to NIST.



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6.0 AMBIENT MEASUREMENTS

For emissions measurements, broadband antennas and an EMI Test Receiver with a panoramic spectrum display are used. First the frequency range is scanned and displayed on the test receiver display. Next the scanned frequency range is divided into smaller ranges, and then it is manually tuned through to determine the emissions from the EUT. A headset or loudspeaker is connected to the test receiver's AM/FM demodulated output as an aid in detecting ambient signals and finding frequencies of significant emission from the EUT. If there is any doubt as to the source of the emission, it is further investigated by rotating the EUT, or by disconnecting the power from the EUT.

The EUT is set up in its typical configuration and operated in its various modes. For tabletop systems, cables are manipulated within the range of likely configurations. For floor-standing equipment, the cables are located in the same manner as the user would install them and no further manipulation is made. If the manner of cable installation is not known, or if it changes with each installation, cables or wires for floor-standing equipment shall be manipulated to the extent possible to produce the maximum level of emissions. For each mode of operation, the frequency spectrum is monitored. Variations in antenna height, antenna polarization, EUT azimuth, and cable or wire placement (each variable within bounds specified elsewhere) are explored to produce the emissions that have the highest amplitude relative to the limit. These methods are performed to the specifications in ANSI C63.4-2003.



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7.0 DESCRIPTION OF TEST SAMPLE: (See also Paragraph 8.0)

7.1 Description:

This test sample is a transceiver that can be placed on items where movement of the test sample away from a fixed location will alarm a caregiver or security personnel that someone has moved the test sample. The test sample will stay in the alarm state until the test sample is reset. The device can be wired to another device with a relay that, when its state is changed, the test sample will recognize this and send a signal wirelessly to a receiver. In addition, the test sample within a mesh network of receivers can give relative position, presence at a location and low battery indication.

The device can have wires attached for attaching to a switch. The wires can be 3" long or 48" long. The test will review each permutation of no wires, 3" wires and 48" wires to verify that the wire has no detrimental impact on test results. The test will be run in the Continuous Transmit and Receive Mode on Channels 11, 18 and 26.

7.2 PHYSICAL DIMENSIONS OF EQUIPMENT UNDER TEST

Length: 42 mm x Width: 35 mm x Height: 17 mm

7.3 LINE FILTER USED:

N/A

7.4 INTERNAL CLOCK FREQUENCIES:

Switching Power Supply Frequencies:

N/A

Clock Frequencies:

7.5 DESCRIPTION OF ALL CIRCUIT BOARDS:

1. PCB Assembly, ICM Universal Transmitter

PN: 0830-0033 Rev. D

9.0 PHOTO INFORMATION AND TEST SET-UP

Item 0 Extended Range Universal Transceiver

Model Number: 0800-0388 Serial Number: N/A



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10.0 RADIATED PHOTOS TAKEN DURING TESTING



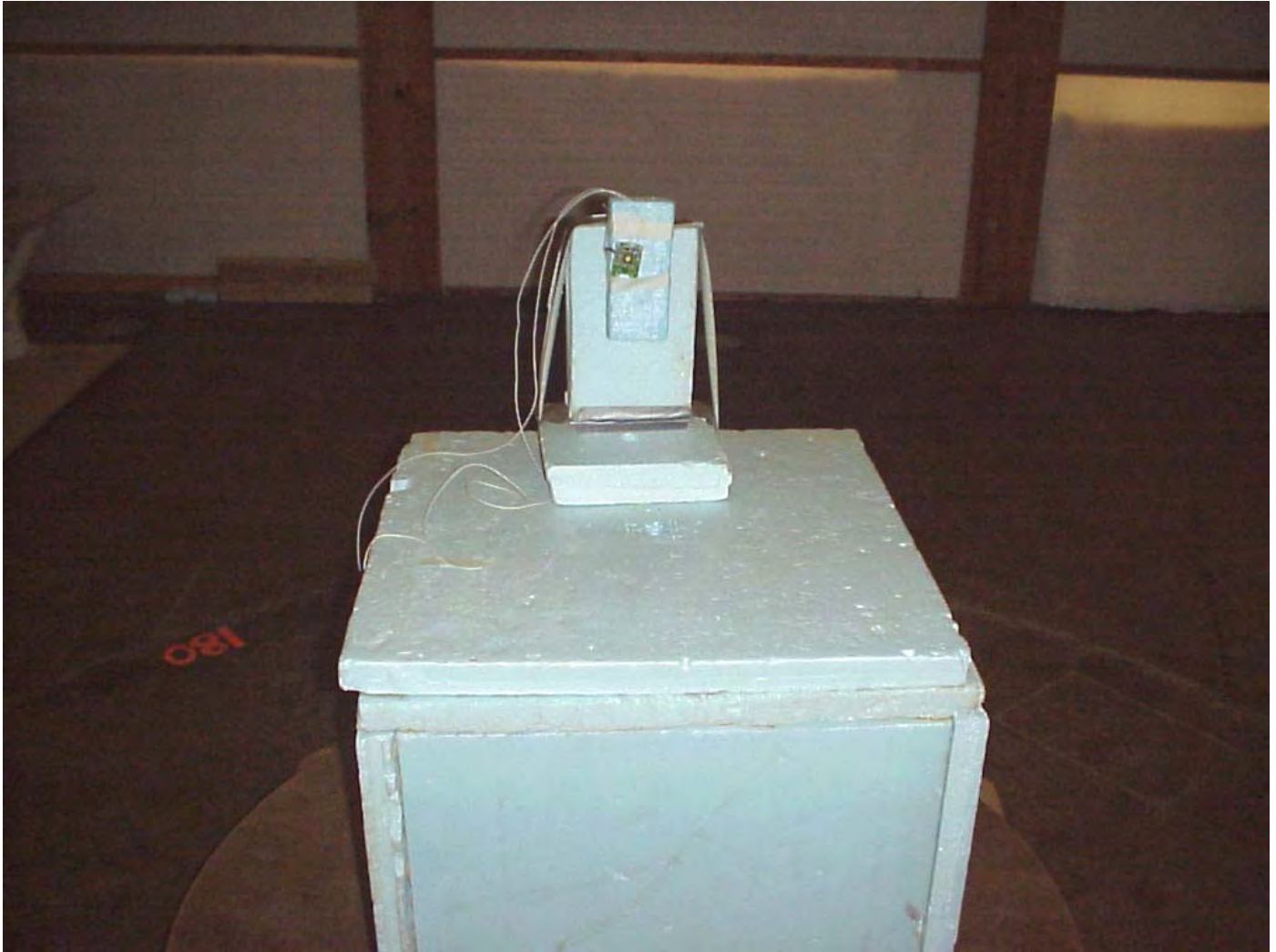
RADIATED FRONT X



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10.0 RADIATED PHOTOS TAKEN DURING TESTING (CON'T)



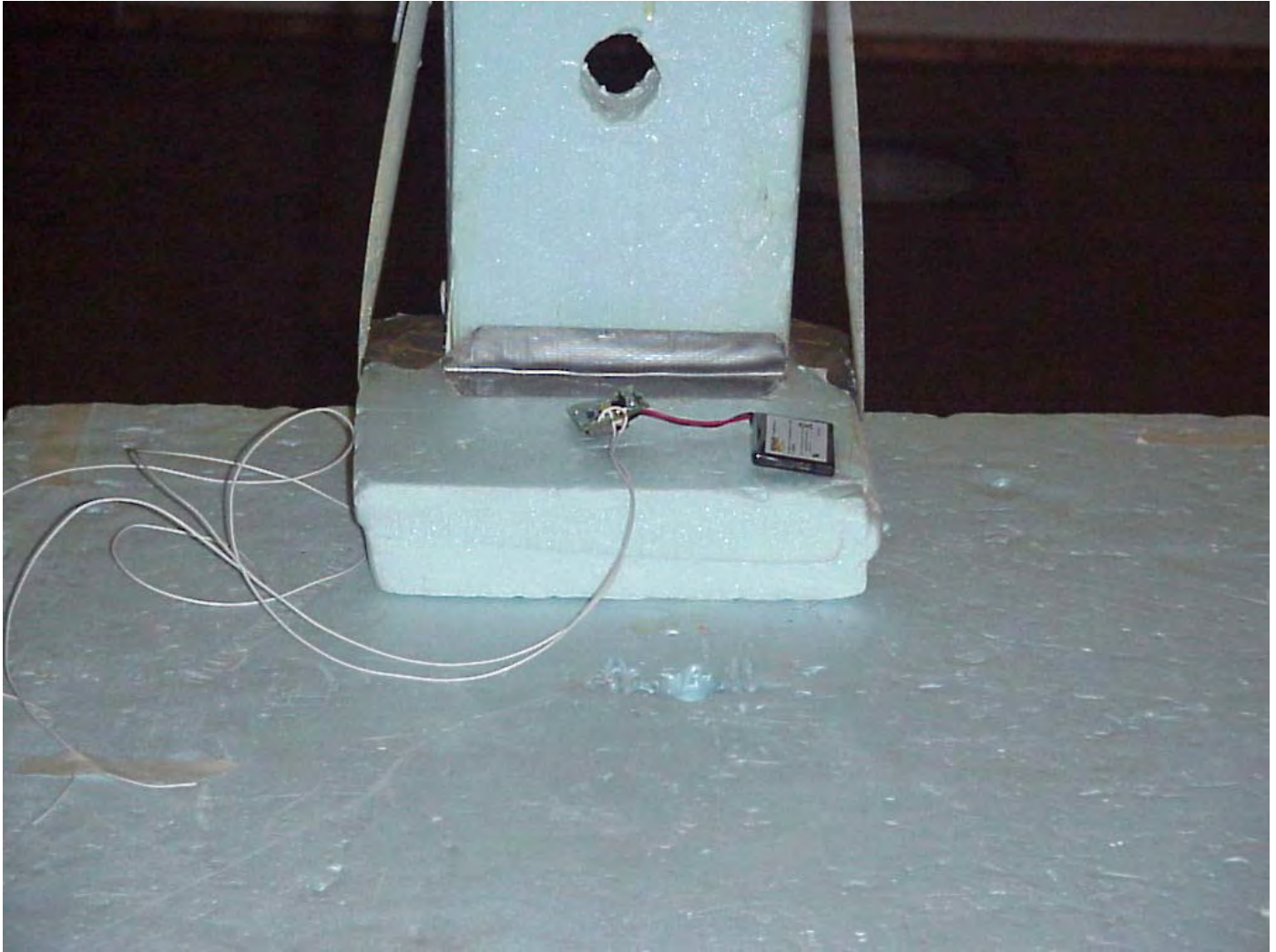
RADIATED FRONT Y



Company: RF Technologies, Inc.
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10.0 RADIATED PHOTOS TAKEN DURING TESTING (CON'T)



RADIATED FRONT Z



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10.0 RADIATED PHOTOS TAKEN DURING TESTING (CON'T)



RADIATED BACK



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10.0 CONDUCTED PHOTOS TAKEN DURING TESTING

NOTE:

The conducted emissions test was not required because the Extended Range Universal Transceiver is powered from a D.C. power source. It does not have a line cord to plug into the A.C. power line.



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11.0 RESULTS OF TESTS

The radio interference emission charts can be seen on the pages at the end of this report. Data sheets indicating the test measurements taken during testing can also be found at the end of this report.

12.0 CONCLUSION

It was found that the Extended Range Universal Transceiver, Model Number(s) 0800-0388 **meets** the radio interference radiated emission requirements of the FCC "Rules and Regulations", Part 15, Subpart C, Section 15.247 for operational in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz Bands. The conducted emissions test was not required because the Extended Range Universal Transceiver is powered from a D.C. power source. It does not have a line cord to plug into the A.C. power line.



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TABLE 1 – EQUIPMENT LIST

Description	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Due Dates
Receiver	Rohde & Schwarz	ESI 40	837808/005	20 Hz – 40 GHz	7/09
Preamplifier	Rohde & Schwarz	TS-PR10	032001/005	9 kHz – 1 GHz	3/10
Antenna	EMCO	3104C	97014785	20 MHz – 200 MHz	5/10
Antenna	EMCO	3146	97024895	200 MHz – 1 GHz	5/10
Preamp	Miteq	AMF-6D-100200-50	313936	1 GHz-10 GHz	5/10
Preamp	Miteq	AMF-6D-010100-50	213976	10 GHz-18 GHz	5/10
Horn Antenna	EMCO	3115	9903-5731	1-18 GHz	6/09
Horn Antenna	EMCO	3115	9502-4451	1-18 GHz	4/11
Signal Generator	Rhode & Schwarz	SMR40	100092	1-40 GHz	12/09
High Pass Filter	Planar	HP8G-7G8-CD-SFF	PF1226/0728	7-26 GHz	7/09
Preamp	Miteq	AMF-8B-180265-40-10P-H/S	438727	18 GHz-26 GHz	9/09
Horn Antenna	EMCO	3116	2549	18 – 40GHz	8/10
Horn Antenna	ETS Lindgren	3116	00062917	18 – 40GHz	11/09
High Pass Filter	Planar	CL22500-9000-CD-SS	PF1229/0728	15-40 GHz	7/09

All primary equipment is calibrated against known reference standards with a verified traceable path to NIST.



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APPENDIX A

TEST PROCEDURE

Part 15, Subpart C, Section 15.207



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APPENDIX A

1.0 AC POWER LINE CONDUCTED EMISSION MEASUREMENTS

If applicable, the conducted emissions were measured over the frequency range from 150 kHz to 30 MHz in accordance with the power line measurements as specified in the American National Standards Institute, ANSI C63.4-2003, Section 12. Since the device is operated from the public utility lines, the 115 Vac 60 Hz power leads, high and low sides, were to be measured by connecting the measuring equipment to the appropriate meter terminal of the LISN. All signals were then recorded. The allowed levels for Intentional Radiators cannot exceed the following:

Frequency of Emissions (MHz)	Conducted Limits (dBuV)	
	Quasi Peak	Average
.15 to .5	66 to 56	56 to 46
.5 to 5	56	46
5 to 30	60	50

All conducted emissions measurements were made at a test room temperature of °F at % relative humidity.

NOTE: This test was not run because the device is battery operated.



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APPENDIX B

TEST PROCEDURE

Part 15, Subpart C, Section 15.247 (a-h)

ANSI C63.4-2003 & KDB Publication No. 558074 (DTS)

or FCC Public Notice DA 00-705, March 30, 2000 (DSS)

OPERATION WITHIN THE BAND 902-928 MHz,

2400-2483.5 MHz AND 5725-5857 MHz

NOTE:

Per the FCC's guidance document "Measurement of Digital Transmission Systems Operating under Section 15.247 - March 23, 2005", as indicated in the test data section of this test report.



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APPENDIX A

1.0 SPURIOUS EMISSIONS AT ANTENNA TERMINALS – PART 15.247(d), 15.203 & FCC Guidance Document "Measurement of Digital Transmission Systems Operating under Section 15.247 - March 23, 2005".

Spurious conducted emissions were measured at the antenna terminals. Plots were made showing the amplitude of each harmonic emission with the equipment operated. As shown by the radiated charts there was no reason to believe that there were any spurious emissions other than the harmonics that were than individually investigated when doing the conducted test at the antenna terminals. Measurements were made up to the 10th harmonic of the fundamental.

As stated in 15.203 the Extended Range Universal Transceiver was designed to ensure that no antenna other than that furnished by RF Technologies, Inc. will be used with the EUT. The use of a permanently attached antenna or antenna that uses an unique coupling to the intentional radiator was considered to comply with section 15.203.

The allowed emissions for transmitters operating in the 2400 MHz - 2483.5 MHz bands for Extended Range Universal Transceiver equipment are found under Part 15, Section 15.247(d). This paragraph states that in any 100 kHz bandwidth outside the frequency band which the spread spectrum intentional radiator is operating, the radio frequency power produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

NOTE: See the following pages for the data and graphs of the actual measurements made:



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APPENDIX A

RF CONDUCTED EMISSION DATA AND GRAPH(S)

TAKEN FOR

SPURIOUS EMISSION MEASUREMENTS MADE

AT THE ANTENNA TERMINALS

PART 15.247(d)



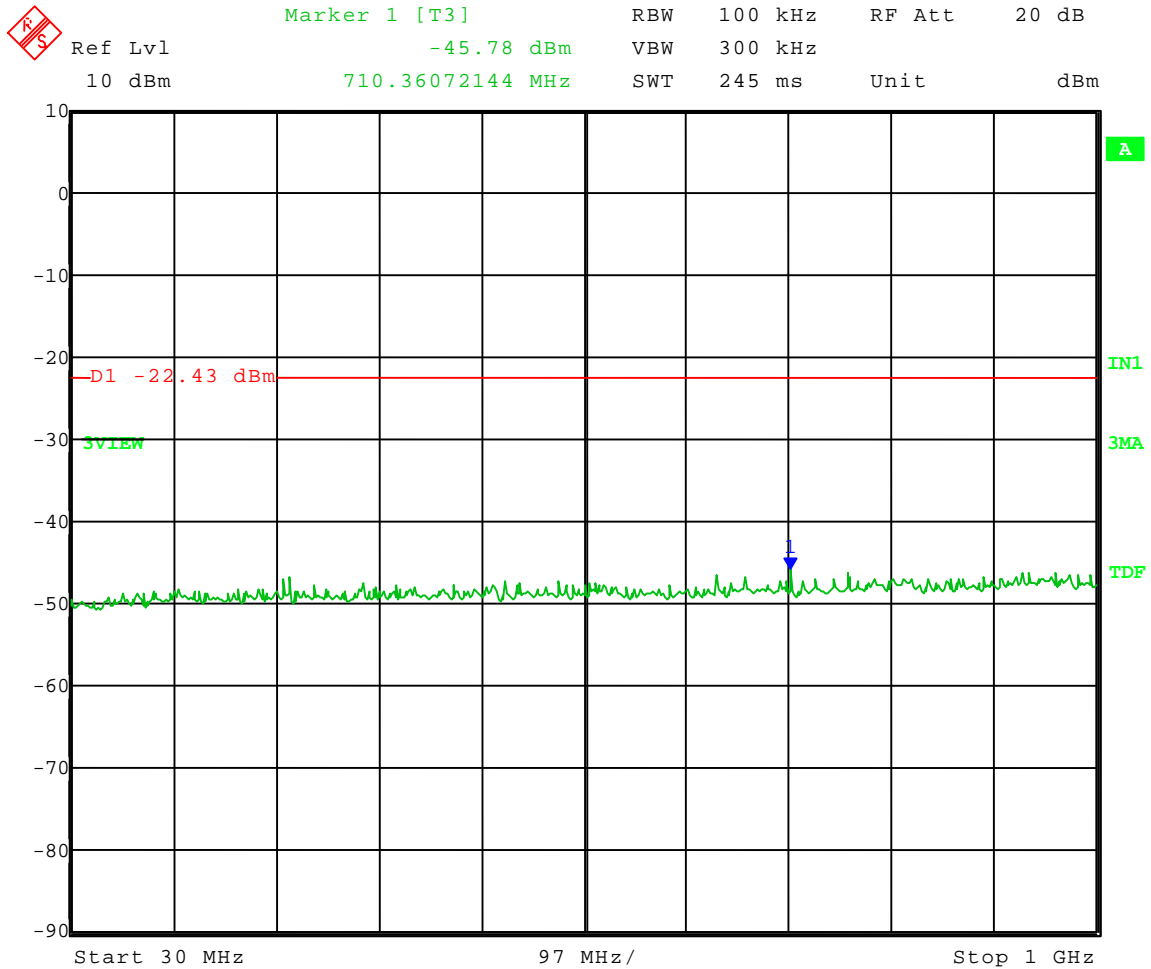
Company: RF Technologies, Inc.
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APPENDIX A

Test Date: 05-28-2009
Company: RF Technologies
EUT: Extended Range Universal Transceiver Model: 0800-0388
Test: Spurious Emissions - Conducted
Operator: Craig B
Rule Part: FCC Part 15.247(d)
Comment: **Low Channel** Transmit = 2.405 GHz
Frequency Range: 30 to 1000 MHz
Limit = -22.43 dBm

All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency



Date: 28.MAY.2009 13:13:53



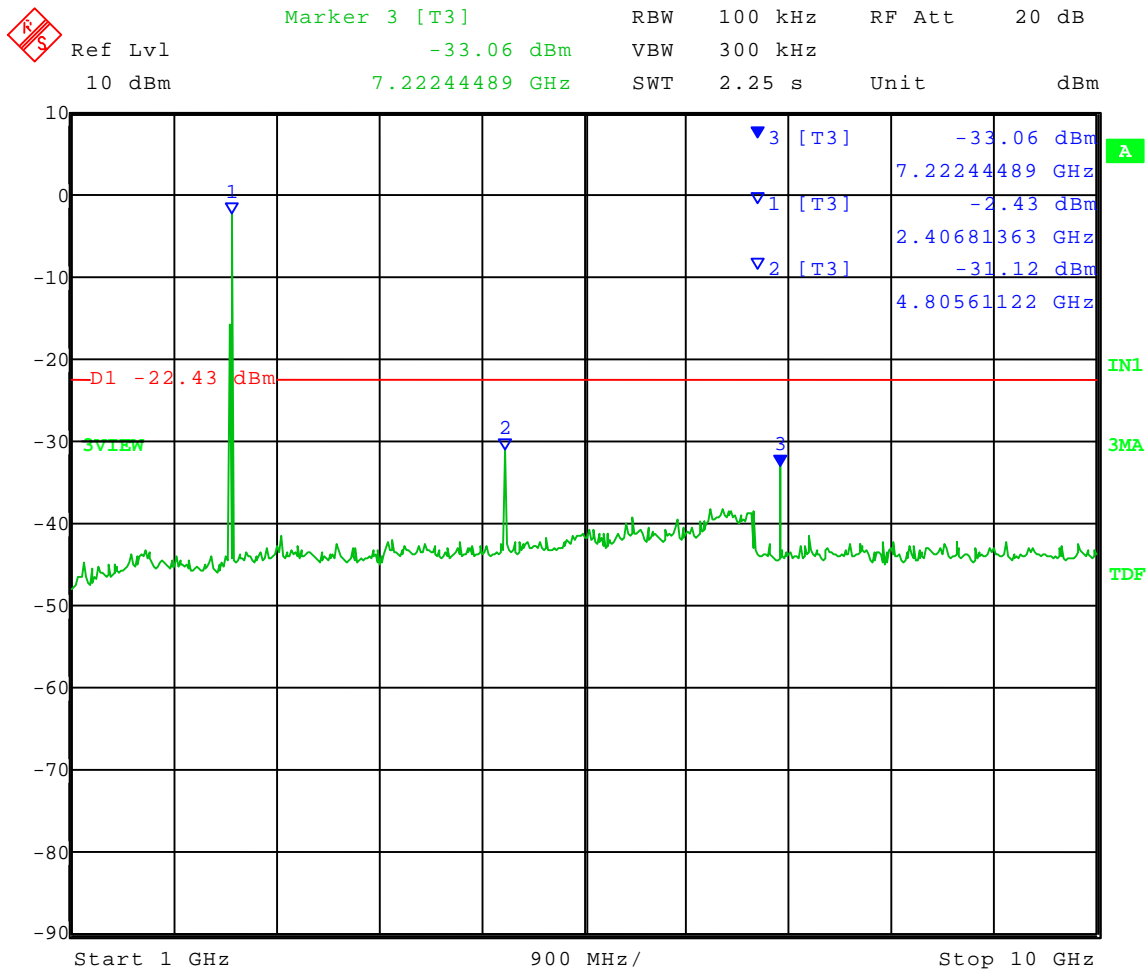
Company: RF Technologies, Inc.
 Model Tested: 0800-0388
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Test Date: 05-28-2009
 Company: RF Technologies
 EUT: Extended Range Universal Transceiver Model: 0800-0388
 Test: Spurious Emissions - Conducted
 Operator: Craig B
 Rule Part: FCC Part 15.247(d)
 Comment: **Low Channel** Transmit = 2.405 GHz
 Frequency Range: 1 to 10 GHz
 Limit = -22.43 dBm

All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency



Date: 28.MAY.2009 13:09:53



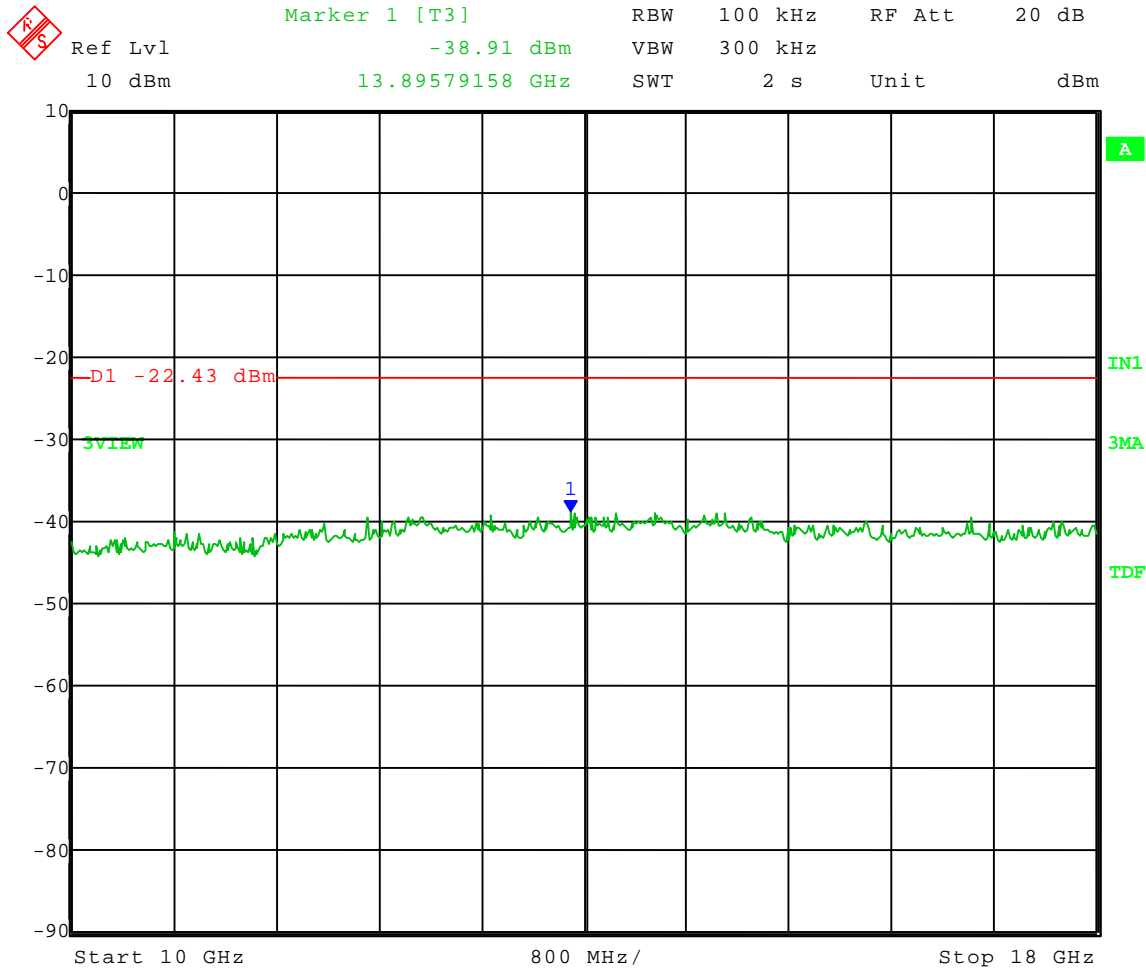
Company: RF Technologies, Inc.
Model Tested: 0800-0388
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APPENDIX A

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Company: RF Technologies
EUT: Extended Range Universal Transceiver Model: 0800-0388
Test: Spurious Emissions - Conducted
Operator: Craig B
Rule Part: FCC Part 15.247(d)
Comment: **Low Channel** Transmit = 2.405 GHz
Frequency Range: 10 to 18 GHz
Limit = -22.43 dBm

All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency



Date: 28.MAY.2009 13:11:19



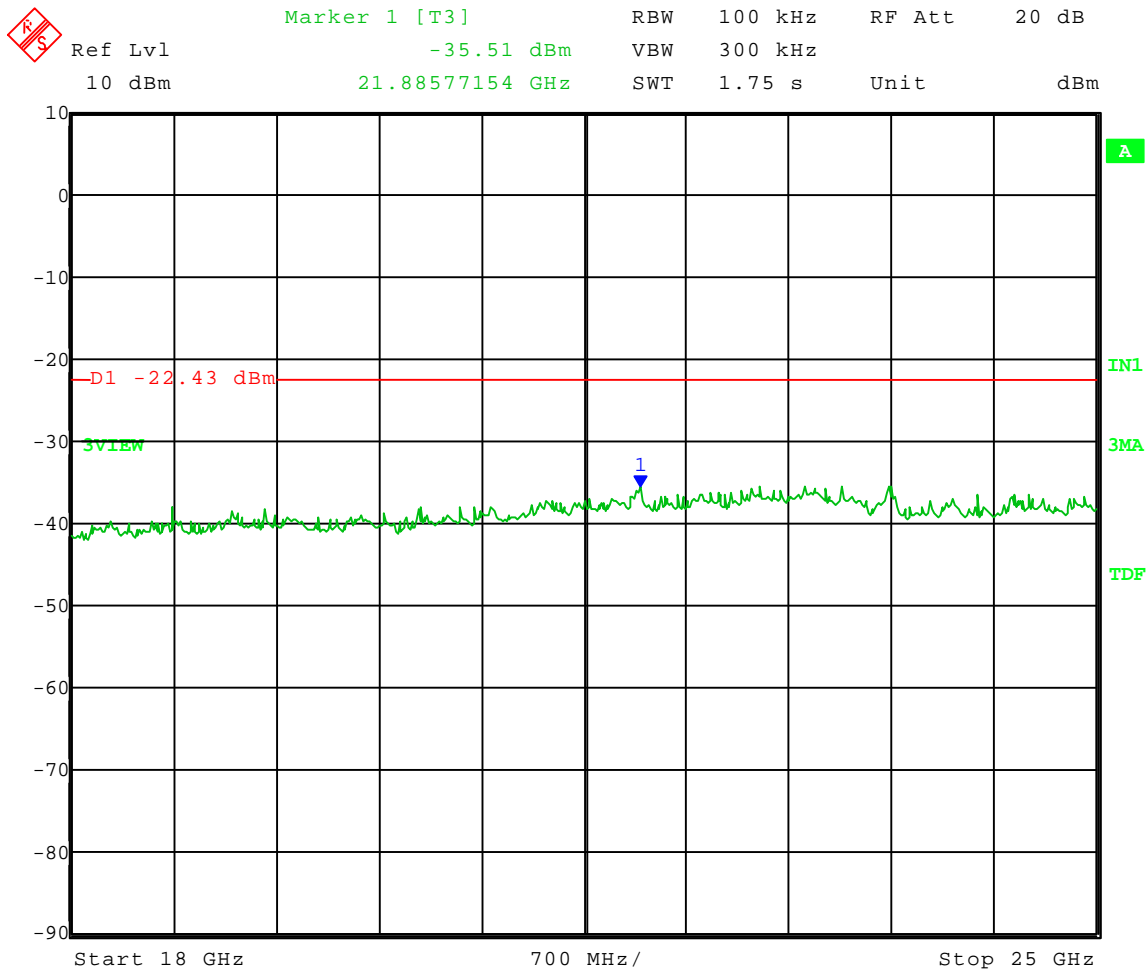
Company: RF Technologies, Inc.
Model Tested: 0800-0388
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APPENDIX A

Test Date: 05-28-2009
Company: RF Technologies
EUT: Extended Range Universal Transceiver Model: 0800-0388
Test: Spurious Emissions - Conducted
Operator: Craig B
Rule Part: FCC Part 15.247(d)
Comment: **Low Channel** Transmit = 2.405 GHz
Frequency Range: 18 to 26 GHz
Limit = -22.43 dBm

All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency



Date: 28.MAY.2009 13:12:38



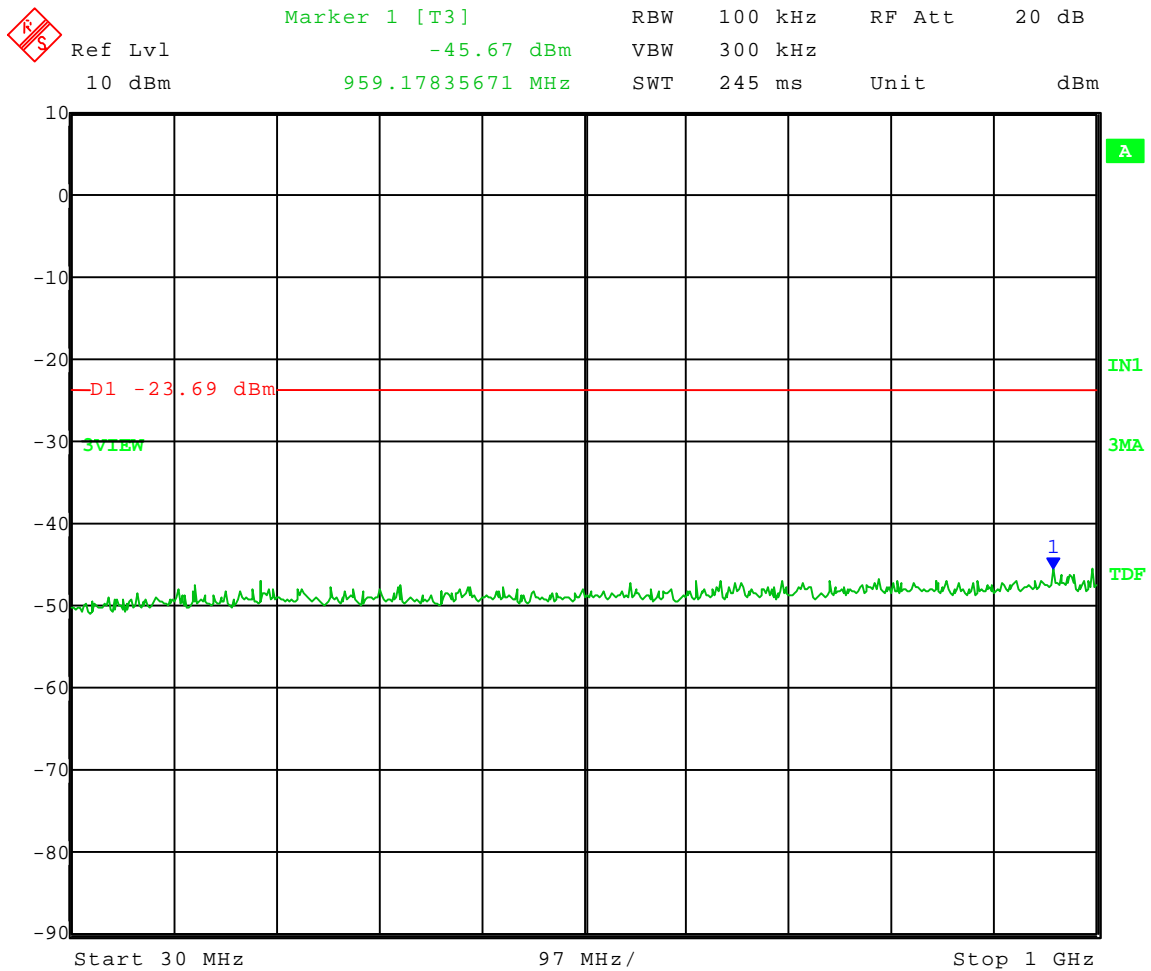
Company: RF Technologies, Inc.
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APPENDIX A

Test Date: 05-27-2009
Company: RF Technologies
EUT: Extended Range Universal Transceiver Model: 0800-0388
Test: Spurious Emissions - Conducted
Operator: Craig B
Rule Part: FCC Part 15.247(d)
Comment: **Middle Channel** Transmit = 2.440 GHz
Frequency Range: 30 to 1000 MHz
Limit = -23.69 dBm

All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency



Date: 27.MAY.2009 15:52:24



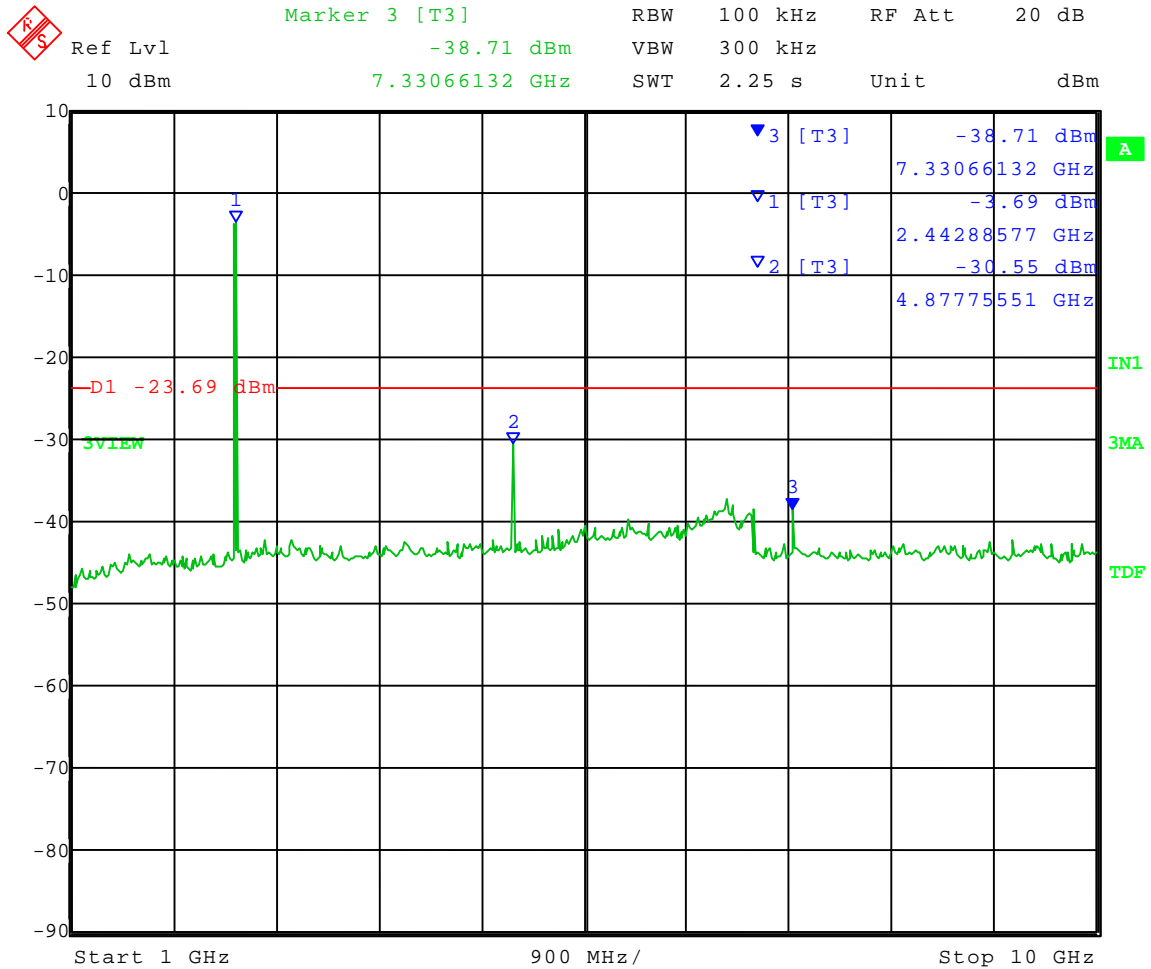
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Test Date: 05-27-2009
 Company: RF Technologies
 EUT: Extended Range Universal Transceiver Model: 0800-0388
 Test: Spurious Emissions - Conducted
 Operator: Craig B
 Rule Part: FCC Part 15.247(d)
 Comment: Middle Channel Transmit = 2.440 GHz
 Frequency Range: 1 to 10 GHz
 Limit = -23.69 dBm

All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency



Date: 27.MAY.2009 15:48:31



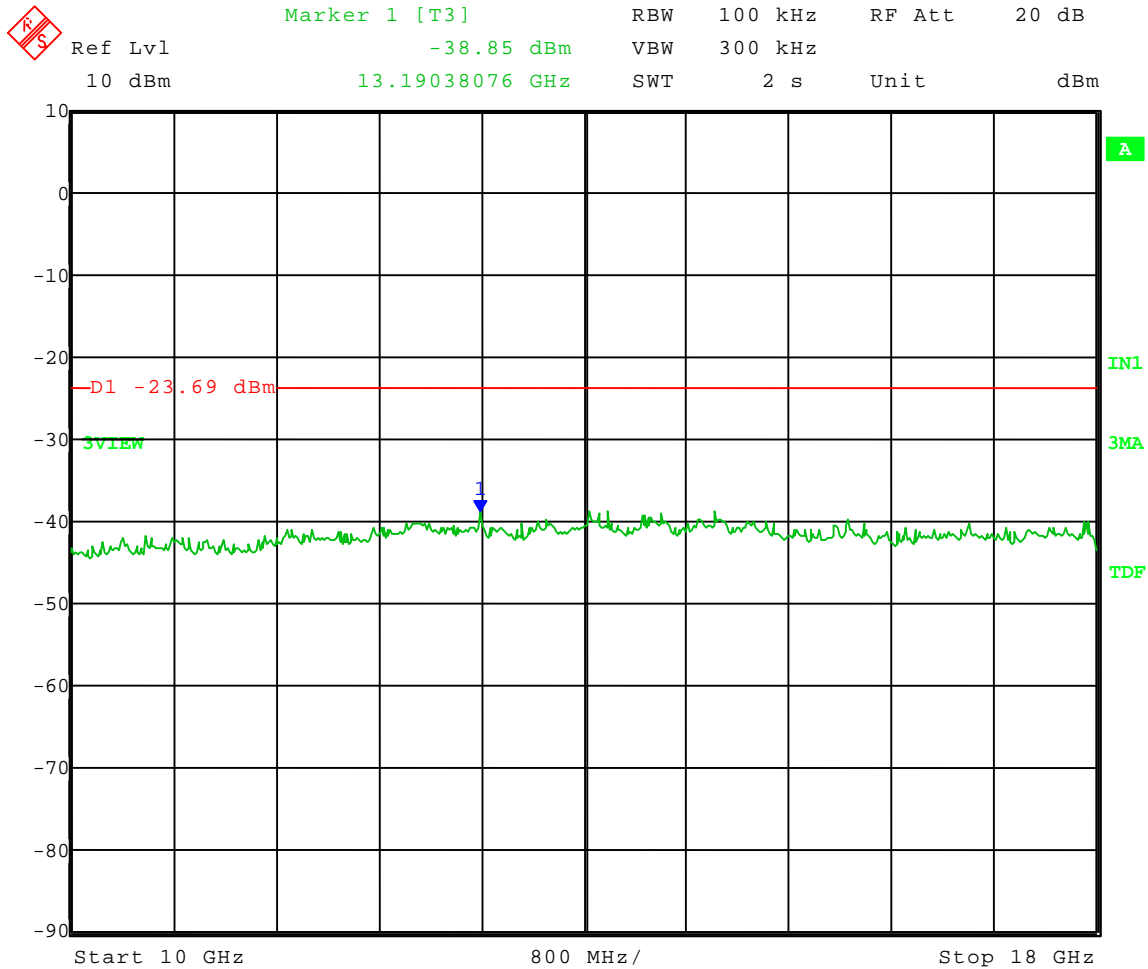
Company: RF Technologies, Inc.
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APPENDIX A

Test Date: 05-27-2009
 Company: RF Technologies
 EUT: Extended Range Universal Transceiver Model: 0800-0388
 Test: Spurious Emissions - Conducted
 Operator: Craig B
 Rule Part: FCC Part 15.247(d)
 Comment: Middle Channel Transmit = 2.440 GHz
 Frequency Range: 10 to 18 GHz
 Limit = -23.69 dBm

All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency



Date: 27.MAY.2009 15:49:44



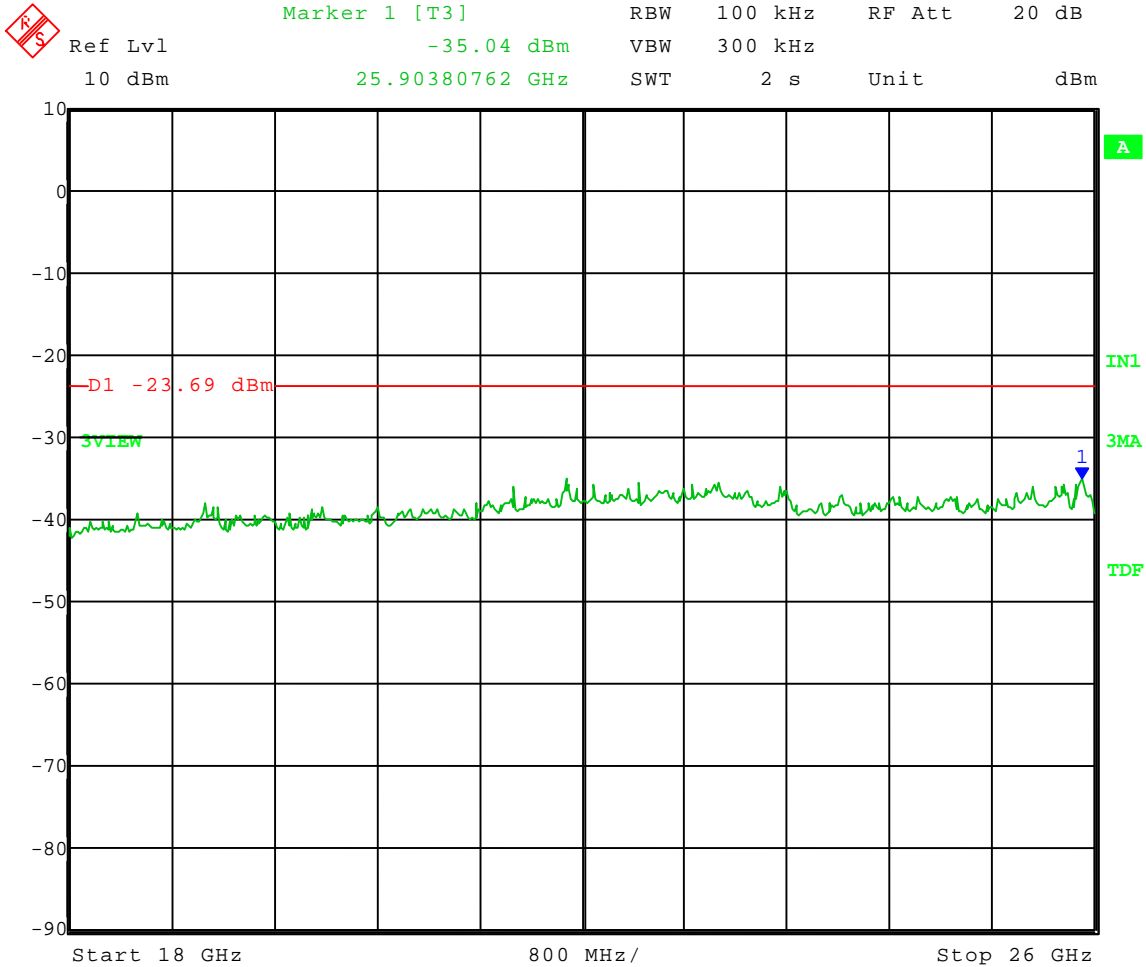
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APPENDIX A

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 Company: RF Technologies
 EUT: Extended Range Universal Transceiver Model: 0800-0388
 Test: Spurious Emissions - Conducted
 Operator: Craig B
 Rule Part: FCC Part 15.247(d)
 Comment: Middle Channel Transmit = 2.440 GHz
 Frequency Range: 18 to 26 GHz
 Limit = -23.69 dBm

All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency



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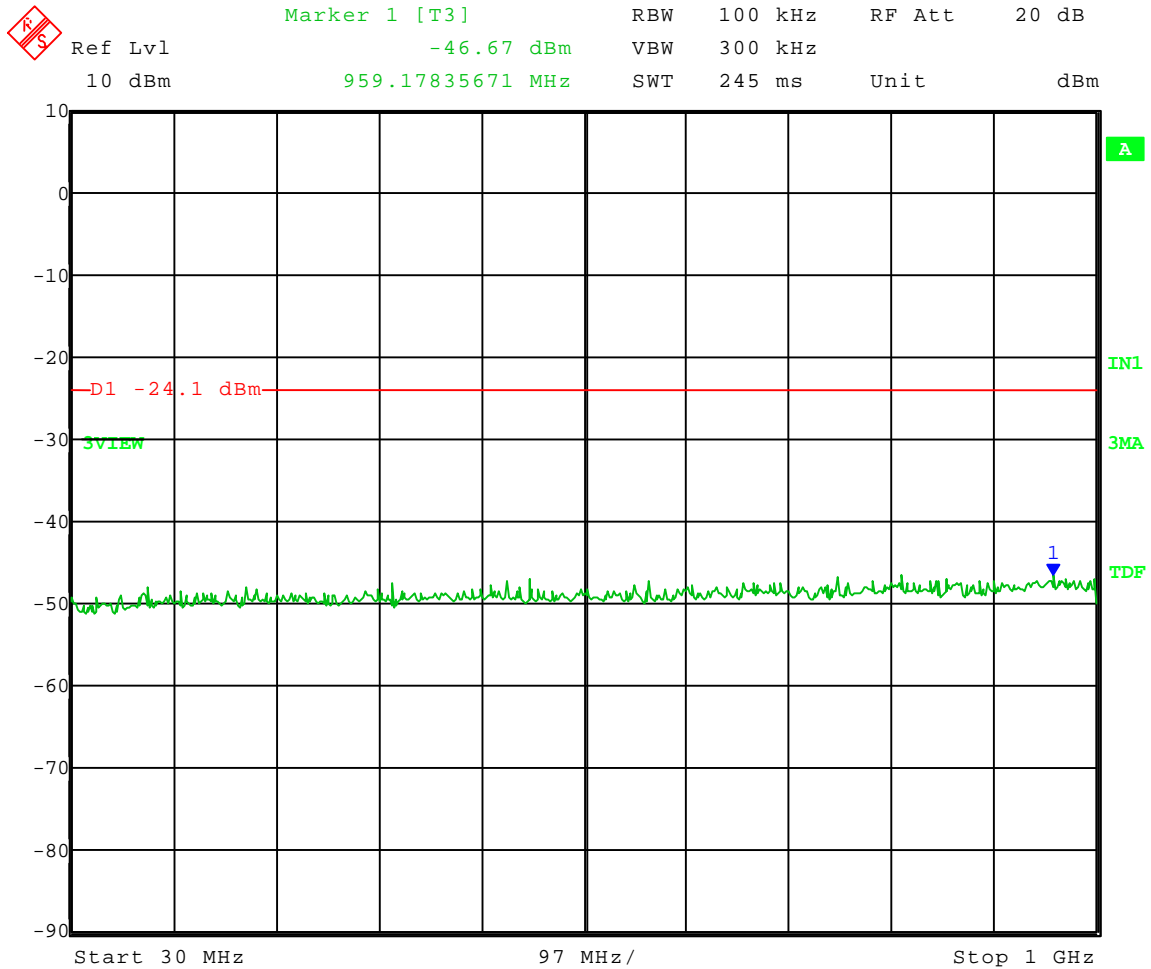
Company: RF Technologies, Inc.
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APPENDIX A

Test Date: 05-27-2009
Company: RF Technologies
EUT: Extended Range Universal Transceiver Model: 0800-0388
Test: Spurious Emissions - Conducted
Operator: Craig B
Rule Part: FCC Part 15.247(d)
Comment: **High Channel** Transmit = 2.480 GHz
Frequency Range: 30 to 1000 MHz
Limit = -24.10 dBm

All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency



Date: 27.MAY.2009 15:46:18



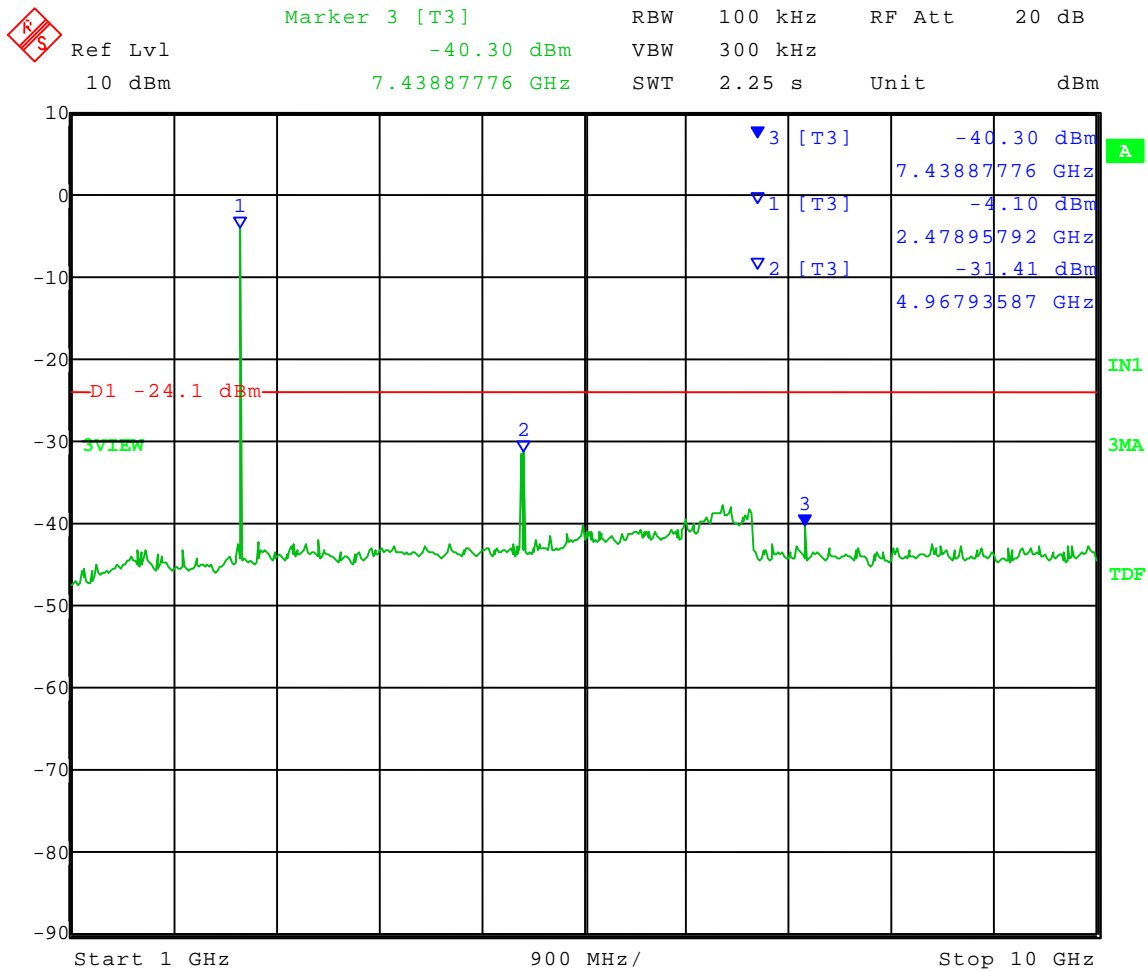
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Test Date: 05-27-2009
 Company: RF Technologies
 EUT: Extended Range Universal Transceiver Model: 0800-0388
 Test: Spurious Emissions - Conducted
 Operator: Craig B
 Rule Part: FCC Part 15.247(d)
 Comment: **High Channel** Transmit = 2.480 GHz
 Frequency Range: 1 to 10 GHz
 Limit = -24.10 dBm

All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency



Date: 27.MAY.2009 15:42:27



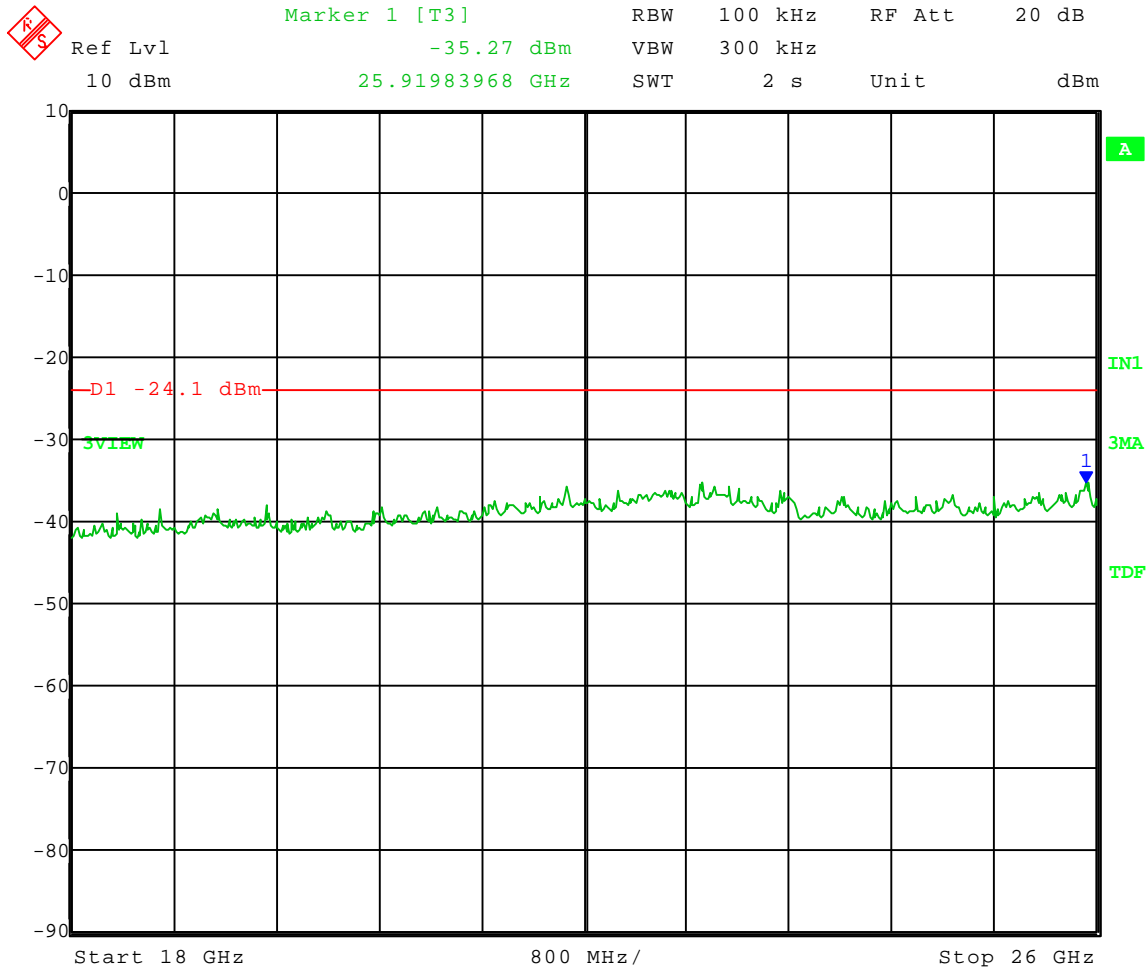
Company: RF Technologies, Inc.
Model Tested: 0800-0388
Report Number: 15409

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 05-27-2009
Company: RF Technologies
EUT: Extended Range Universal Transceiver Model: 0800-0388
Test: Spurious Emissions - Conducted
Operator: Craig B
Rule Part: FCC Part 15.247(d)
Comment: **High Channel** Transmit = 2.480 GHz
Frequency Range: 18 to 26 GHz
Limit = -24.10 dBm

All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency



Date: 27.MAY.2009 15:45:11

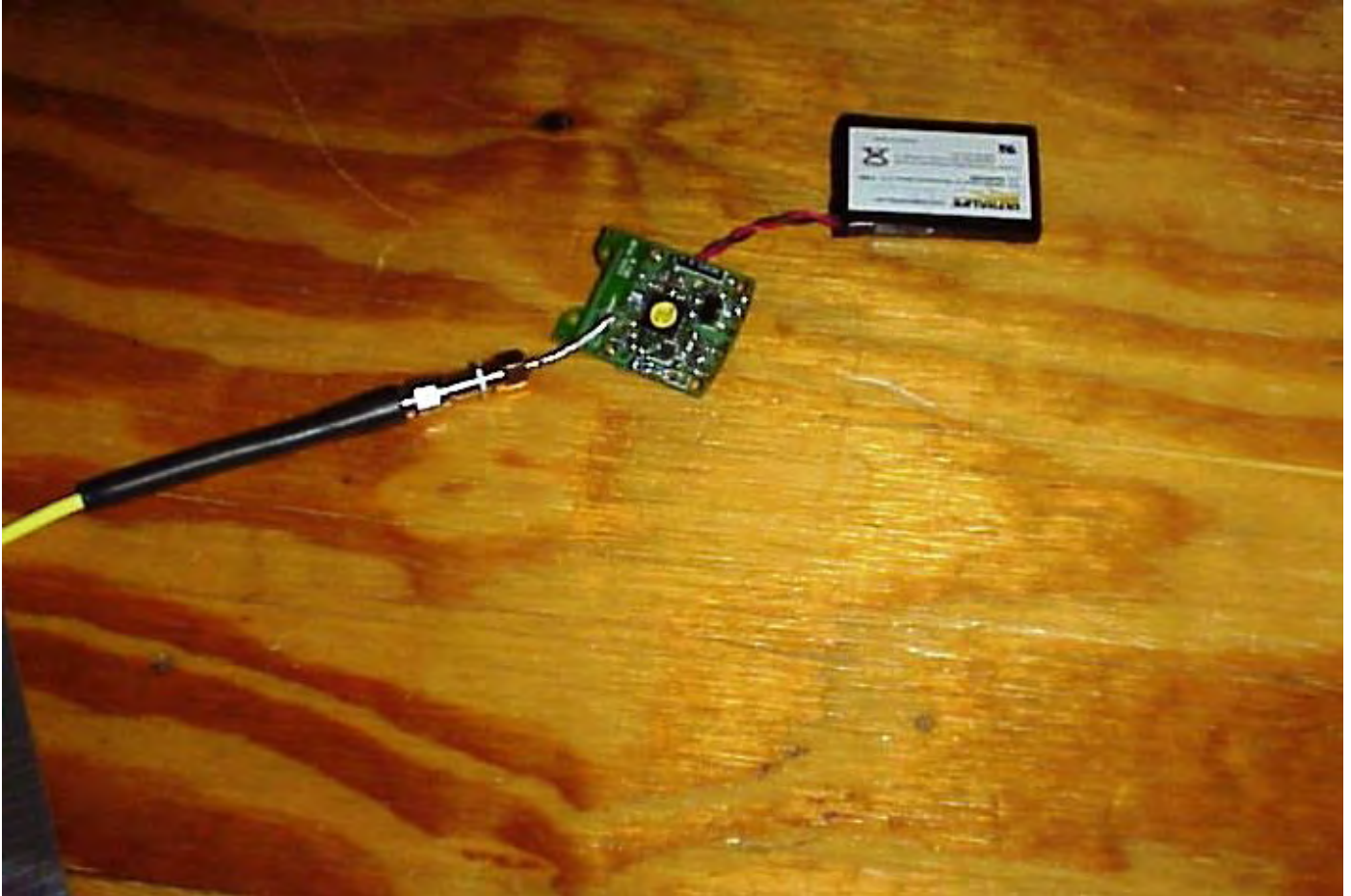


Company: RF Technologies, Inc.
Model Tested: 0800-0388
Report Number: 15409

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

2.0 RF CONDUCTED EMISSIONS (ANTENNA TERMINAL) PHOTOS TAKEN DURING TESTING



RF CONDUCTED



Company: RF Technologies, Inc.
 Model Tested: 0800-0388
 Report Number: 15409

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

3.0 RESTRICTED BANDS

As stated in Section 15.205a, the fundamental emission from the Extended Range Universal Transceiver shall not fall within any of the bands listed below:

Frequency in MHz	Frequency in MHz	Frequency in MHz	Frequency in GHz
.0900 to .1100	162.0125 to 167.17	2310.0 to 2390	9.30 to 9.50
.4900 to .5100	167.7200 to 173.20	2483.5 to 2500	10.60 to 12.70
2.1735 to 2.1905	240.000 to 285.00	2655.0 to 2900	13.25 to 13.40
8.362 to 8.3660	322.200 to 335.40	3260.0 to 3267	14.47 to 14.50
13.36 to 13.410	399.900 to 410.00	3332.0 to 3339	15.35 to 16.20
25.50 to 25.670	608.000 to 614.00	3345.8 to 3358	17.70 to 21.40
37.50 to 38.250	960.000 to 1240.00	3600.0 to 4400	22.01 to 23.13
73.00 to 75.500	1300.000 to 1427.00	4500.0 to 5250	23.60 to 24.00
108.00 to 121.94	1435.000 to 1626.50	5350.0 to 5450	31.20 to 31.80
123.00 to 138.00	1660.000 to 1710.00	7250.0 to 7750	36.43 to 36.50
149.90 to 150.00	1718.800 to 1722.20	8025.0 to 8500	ABOVE 38.60
156.70 to 156.90	2200.000 to 2300.00	9000.0 to 9200	

NOTE:

The noise floor within the Restricted Bands for the EMC Receiver will typically lay 20 dB below the limit.

4.0 RESTRICTED BAND AND BAND EDGE COMPLIANCE

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the attenuation below the general limits specified in 15.209 is not required.

The field strength of any **radiated emissions** which fall within the restricted bands shall not exceed the general radiated emissions limits as stated Section 15.209.

NOTE: See the following page(s) for the graph(s) made showing compliance for Restricted Band and Band Edge Compliance:



1250 Peterson Dr., Wheeling, IL 60090

Company: RF Technologies, Inc.
Model Tested: 0800-0388
Report Number: 15409

APPENDIX A

DATA AND GRAPH(S) TAKEN SHOWING

THE RESTRICTED BAND COMPLIANCE

PART 15.247(d) & 15.205



Company: RF Technologies, Inc.
 Model Tested: 0800-0388
 Report Number: 15409

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APPENDIX A

Radiated Spurious Emissions in Restricted Bands 1 to 26 GHz
1 GHz to 18 GHz Tested at a 3 Meter Distance
18 GHz to 26 GHz Tested at a 1 Meter Distance

EUT: Extended Range Universal Transceiver Model: 0800-0388
Manufacturer: RF Technologies
Operating Condition: 68 deg F; 54% R.H.
Test Site: Site 3
Operator: Craig B
Test Specification: FCC Part 15.247(d) and FCC Part 15.205
Comment: Continuous Transmit
Date: 05/27/2009

Notes: (1) Average measurements taken with RBW = 1 MHz, VBW = 10 Hz.
 (2) All other restricted band emissions at least 20 dB under the limit.

Channel 11:

Frequency (GHz)	Measurement Type	Ant. Pol.	Level (dBuV)	Antenna Factor (dB/m)	System Loss (dB)	Total Level (dBuV/m)	Duty Cycle Correction (dB)	Final Corrected (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Comment
4.81	Average	Vert	68.09	32.81	-33.5	67.4	-65.5	1.9	54	52.1	Res. Band
4.81	Max Peak	Vert	68.94	32.81	-33.5	68.3	-	68.3	74	5.8	Res. Band
4.81	Average	Horz	65.50	32.81	-33.5	64.8	-65.5	-0.7	54	54.7	Res. Band
4.81	Max Peak	Horz	66.52	32.81	-33.5	65.8	-	65.8	74	8.2	Res. Band



Company: RF Technologies, Inc.
 Model Tested: 0800-0388
 Report Number: 15409

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Radiated Spurious Emissions in Restricted Bands 1 to 26 GHz
1 GHz to 18 GHz Tested at a 3 Meter Distance
18 GHz to 26 GHz Tested at a 1 Meter Distance

EUT: Extended Range Universal Transceiver Model: 0800-0388
Manufacturer: RF Technologies
Operating Condition: 68 deg F; 54% R.H.
Test Site: Site 3
Operator: Craig B
Test Specification: FCC Part 15.247(d) and FCC Part 15.205
Comment: Continuous Transmit
Date: 05/27/2009

Notes: (1) Average measurements taken with RBW = 1 MHz, VBW = 10 Hz.
 (2) All other restricted band emissions at least 20 dB under the limit.

Channel 18:

Frequency (GHz)	Measurement Type	Ant. Pol.	Level (dBuV)	Antenna Factor (dB/m)	System Loss (dB)	Total Level (dBuV/m)	Duty Cycle Correction (dB)	Final Corrected (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Comment
4.88	Average	Vert	61.82	32.95	-33.5	61.3	-65.5	-4.2	54	58.2	Res. Band
4.88	Max Peak	Vert	69.81	32.95	-33.5	69.3	-	69.3	74	4.7	Res. Band
4.88	Average	Horz	60.14	32.95	-33.5	59.6	-65.5	-5.9	54	59.9	Res. Band
4.88	Max Peak	Horz	68.11	32.95	-33.5	67.6	-	67.6	74	6.4	Res. Band
7.32	Average	Vert	54.48	35.98	-32.9	57.6	-65.5	-7.9	54	61.9	Res. Band
7.32	Max Peak	Vert	65.06	35.98	-32.9	68.1	-	68.1	74	5.9	Res. Band
7.32	Average	Horz	49.57	35.98	-32.9	52.7	-65.5	-12.9	54	66.9	Res. Band
7.32	Max Peak	Horz	60.00	35.98	-32.9	63.1	-	63.1	74	10.9	Res. Band



Company: RF Technologies, Inc.
 Model Tested: 0800-0388
 Report Number: 15409

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Radiated Spurious Emissions in Restricted Bands 1 to 26 GHz
1 GHz to 18 GHz Tested at a 3 Meter Distance
18 GHz to 26 GHz Tested at a 1 Meter Distance

EUT: Extended Range Universal Transceiver Model: 0800-0388
Manufacturer: RF Technologies
Operating Condition: 68 deg F; 54% R.H.
Test Site: Site 3
Operator: Craig B
Test Specification: FCC Part 15.247(d) and FCC Part 15.205
Comment: Continuous Transmit
Date: 05/27/2009

Notes: (1) Average measurements taken with RBW = 1 MHz, VBW = 10 Hz.
 (2) All other restricted band emissions at least 20 dB under the limit.

Channel 26:

Frequency (GHz)	Measurement Type	Ant. Pol.	Level (dBuV)	Antenna Factor (dB/m)	System Loss (dB)	Total Level (dBuV/m)	Duty Cycle Correction (dB)	Final Corrected (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Comment
4.96	Average	Vert	61.53	33.13	-33.2	61.5	-65.5	-4.0	54	58.0	Res. Band
4.96	Max Peak	Vert	69.28	33.13	-33.2	69.2	-	69.2	74	4.8	Res. Band
4.96	Average	Horz	61.67	33.13	-33.2	61.6	-65.5	-3.9	54	57.9	Res. Band
4.96	Max Peak	Horz	69.65	33.13	-33.2	69.6	-	69.6	74	4.4	Res. Band
7.44	Average	Vert	50.95	36.27	-32.3	54.9	-65.5	-10.6	54	64.6	Res. Band
7.44	Max Peak	Vert	60.89	36.27	-32.3	64.9	-	64.9	74	9.1	Res. Band
7.44	Average	Horz	52.31	36.27	-32.3	56.3	-65.5	-9.2	54	63.2	Res. Band
7.44	Max Peak	Horz	62.36	36.27	-32.3	66.3	-	66.3	74	7.7	Res. Band



Company: RF Technologies, Inc.
Model Tested: 0800-0388
Report Number: 15409

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APPENDIX A

DATA AND GRAPH(S) TAKEN SHOWING THE BAND EDGE CONDUCTED COMPLIANCE PART 15.247

NOTE:

Using FCC Guidance Document "**Measurement of Digital Transmission Systems Operating under Section 15.247** - March 23, 2005".



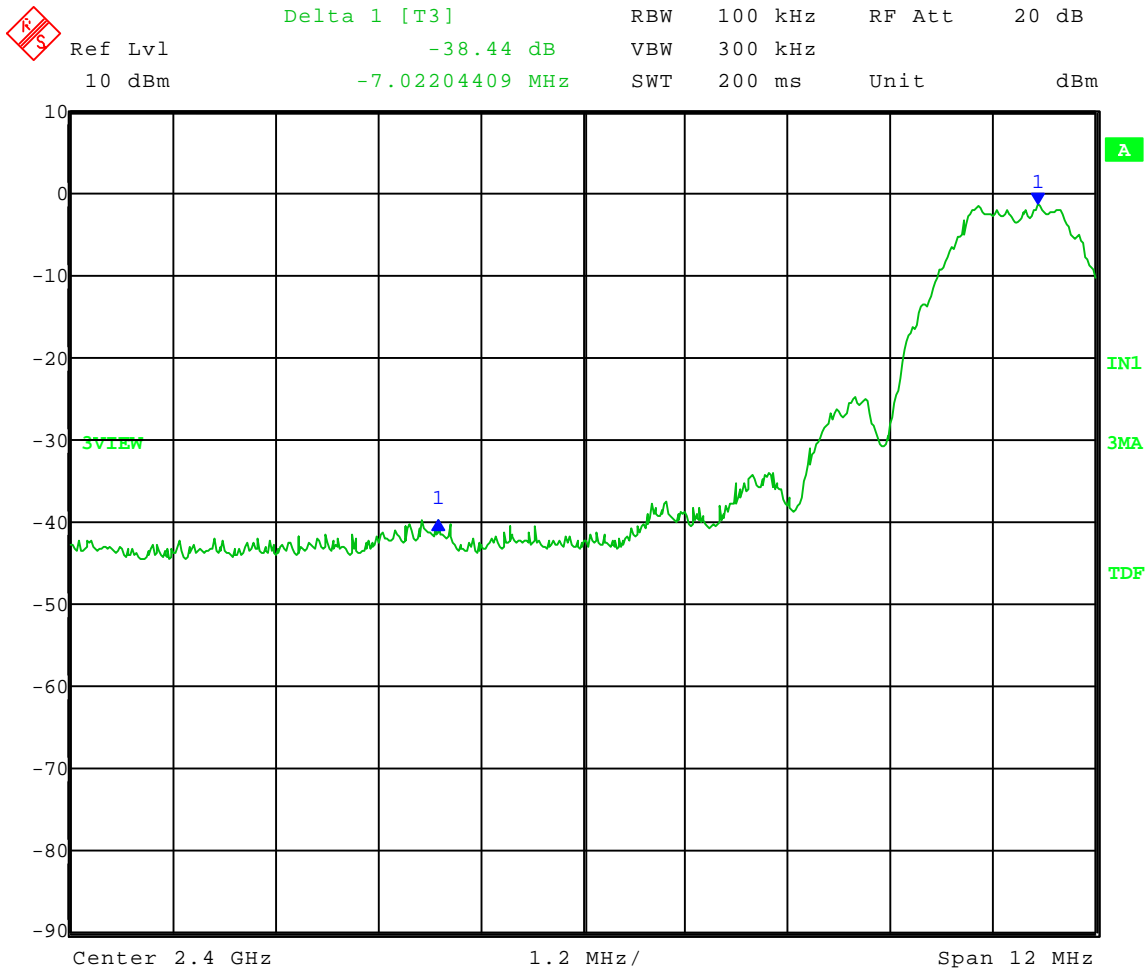
Company: RF Technologies, Inc.
 Model Tested: 0800-0388
 Report Number: 15409

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APPENDIX A

Test Date: 05-28-2009
 Company: RF Technologies
 EUT: Extended Range Universal Transceiver Model: 0800-0388
 Test: Low Band-Edge Compliance - Conducted
 Operator: Craig B
 Rule Part: FCC Part 15.247(d)
 Comment: Low Channel: Frequency - 2.405 GHz

Band-Edge Frequency = 2.4 GHz
 Band-Edge > 20 dB Below Peak In-Band Emission



Date: 28.MAY.2009 13:07:04



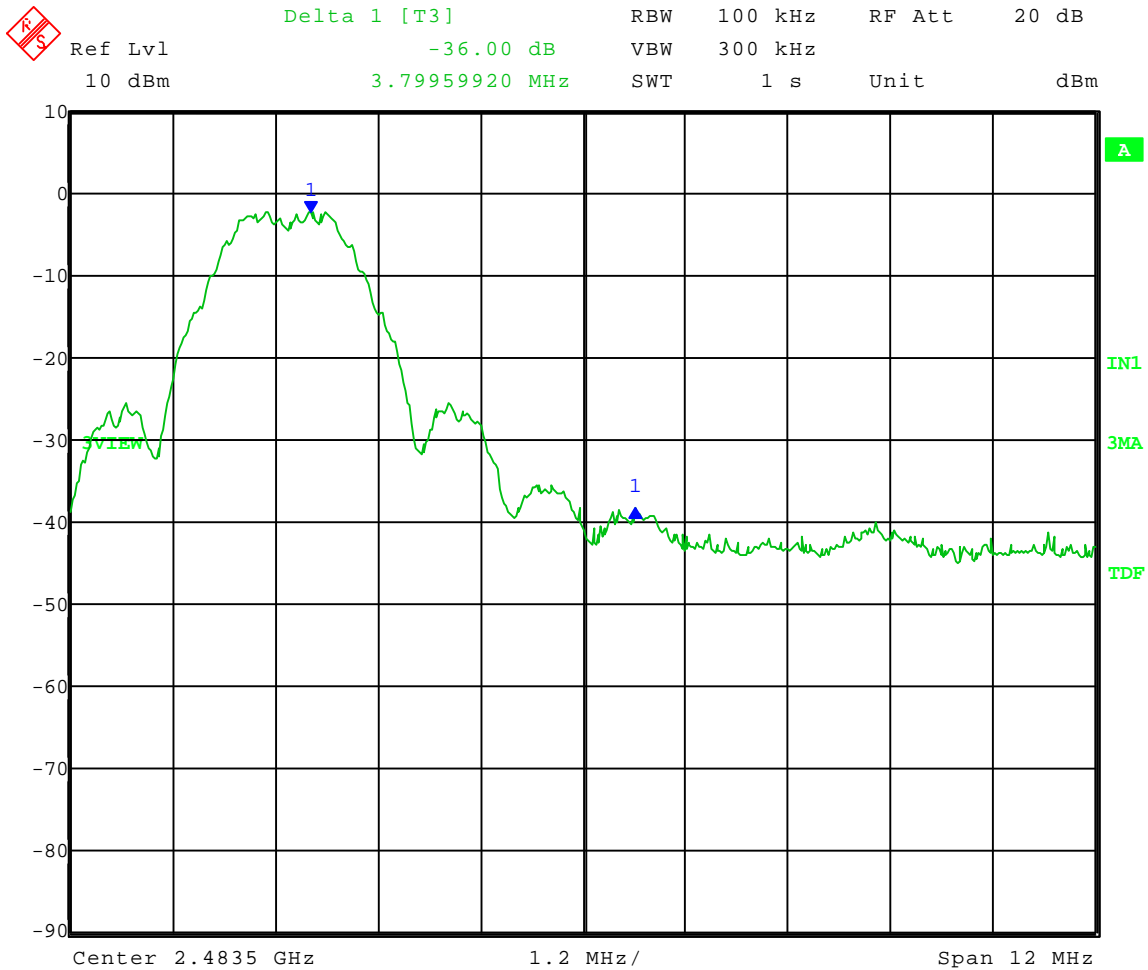
Company: RF Technologies, Inc.
Model Tested: 0800-0388
Report Number: 15409

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APPENDIX A

Test Date: 05-27-2009
Company: RF Technologies
EUT: Extended Range Universal Transceiver Model: 0800-0388
Test: Upper Band-Edge Compliance - Conducted
Operator: Craig B
Rule Part: FCC Part 15.247(d)
Comment: High Channel: Frequency - 2.480 GHz

Band-Edge Frequency = 2.4835 GHz
Band-Edge > 20 dB Below Peak In-Band Emission



Date: 27.MAY.2009 15:40:12



1250 Peterson Dr., Wheeling, IL 60090

Company: RF Technologies, Inc.
Model Tested: 0800-0388
Report Number: 15409

APPENDIX A

DATA AND GRAPH(S) TAKEN SHOWING

UPPER BAND EDGE

COMPLIANCE WITH RESTRICTED BAND

PART 15.247

NOTE:

Using Compliance With Restricted Band FCC Guidance Document "Measurement of Digital Transmission Systems Operating under Section 15.247 - March 23, 2005".



Company: RF Technologies, Inc.
Model Tested: 0800-0388
Report Number: 15409

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Radiated Upper Band-Edge measurement

Test Procedure: "Measurement of Digital Transmission Systems Operating under Section 15.247 (March 23, 2005)

The EUT was investigated at the low and high channels of operation to determine band-edge compliance. Because the upper band-edge coincides with a restricted band, band-edge compliance for the upper band-edge was determined using the radiated mark-delta method. The radiated field strength of the fundamental emission was first determined and then the mark-delta method was used to determine the field strength of the band-edge emissions. The lower band-edge compliance was determined using the marker-delta method in which the radio frequency power that is produced by the EUT is at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of desired power.

Upper Band-Edge Marker Delta Method

Frequency (MHz)	Antenna Polarity (H/V)	Fundamental Field Strength (dB μ V/m)	Duty Cycle Correction (dB)	Delta-Marker (dB)	Band-Edge Field Strength (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
2480 (Peak)	V	98.61	N/A	-36.47	62.14	74	11.86
2480 (Avg)	V	96.30	-65.5	-36.47	-5.67	54	59.67

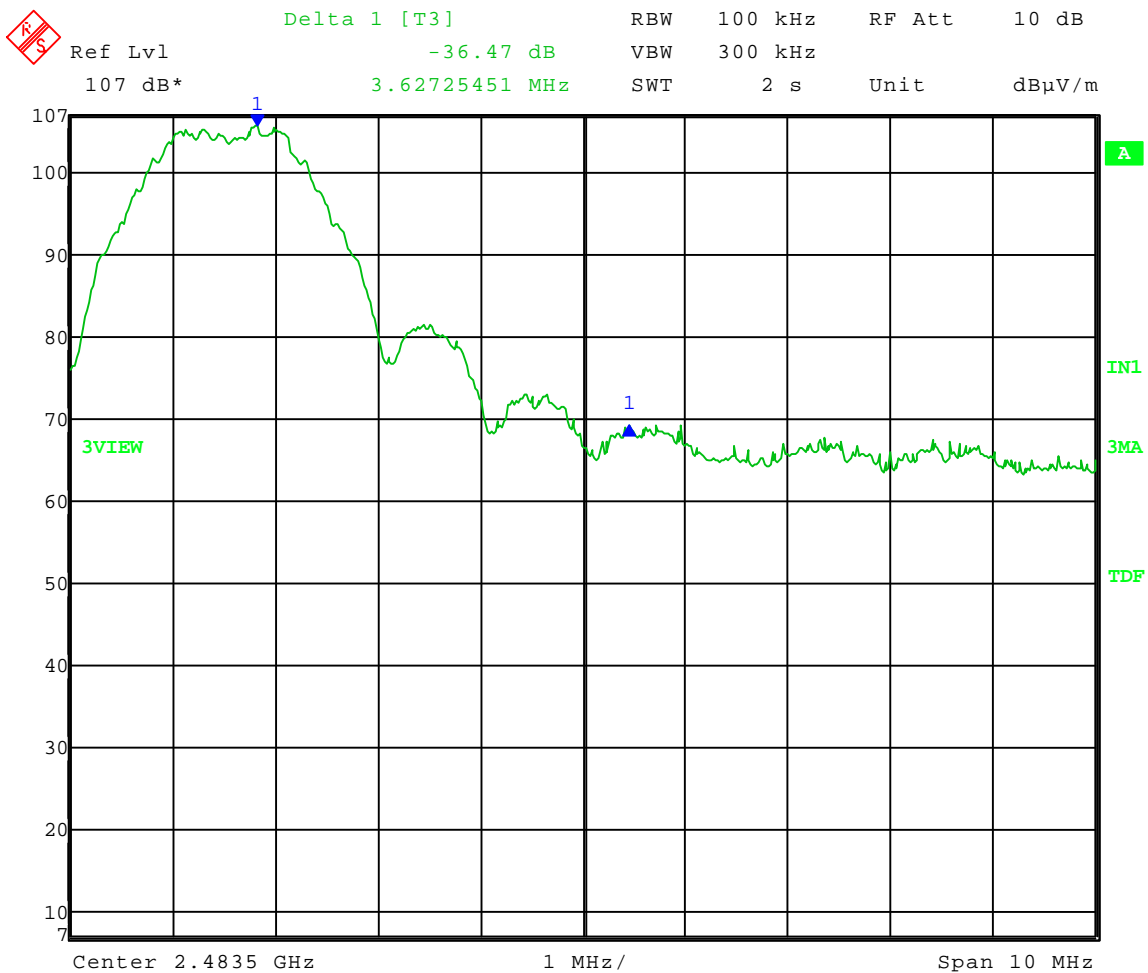


Company: RF Technologies, Inc.
 Model Tested: 0800-0388
 Report Number: 15409

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 05-27-2009
 Company: RF Technologies
 EUT: Extended Range Universal Transceiver Model: 0800-0388
 Test: Upper Band-Edge Radiated – Marker Delta Method
 Operator: Craig B
 Rule Part: FCC Part 15.247(d); FCC Part 15.205
 Comment: High Channel: Frequency – 2.480 GHz



Date: 27.MAY.2009 11:35:46



Company: RF Technologies, Inc.
Model Tested: 0800-0388
Report Number: 15409

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APPENDIX A

5.0 FIELD STRENGTH OF FUNDAMENTAL AND SPURIOUS EMISSION MEASUREMENTS

The radiated measurements made at D.L.S. Electronic Systems, Inc., for the Extended Range Universal Transceiver, Model Number: 0800-0388, are shown in tabulated and graph form. Preliminary radiation measurements were performed at a 3 meter test distance with the limits adjusted linearly when required. The frequency range from 30 MHz to over 960 MHz, depending upon the fundamental frequency as stated in Part 15.33a, was automatically scanned and plotted at various angles.

Measurements for the Extended Range Universal Transceiver were made up to 26000 MHz, in accordance with Section 15.33a for Intentional Radiators with a fundamental frequency of 2405 - 2480 MHz. For intentional radiators, the frequency range to be investigated is determined by the lowest radio frequency generated by the device without going below 30 MHz, up to at least the tenth harmonic of the highest fundamental frequency or 10 GHz, whichever is lower. At those frequencies where significant signals were detected, measurements were made over the entire frequency range specified in FCC Part 15, Subpart C, Section 15.247 at the open field test site, located at Genoa City, Wisconsin, FCC file number **31040/SIT**. When required, limits were extrapolated using a linear extrapolation.

All signals in the frequency range of 30 MHz to 2000 MHz were measured with a Biconical Antenna or tuned dipoles and from 200 MHz to 1000 MHz, a Log Periodic or Tuned Dipoles were used. From 1000 MHz to 25 GHz Horn Antennas were used. During the test the equipment was rotated and the antenna was raised and lowered from 1 meter to 4 meters to find the maximum level of emissions. In order to find maximum emissions, the cables were moved through all the positions the equipment would be expected to experience in the field. The EUT, peripheral equipment and cables were configured to meet the conditions in ANSI C63.4-2003, Clauses 6 & 8, Test procedures for the radiated field strength of spurious emissions is per FCC Guidance Document "Measurement of Digital Transmission Systems Operating under Section 15.247 - March 23, 2005". Tests were made with the receive antenna(s) in both the horizontal and vertical planes of polarization. In each case, the table was rotated to find the maximum emissions.



Company: RF Technologies, Inc.
Model Tested: 0800-0388
Report Number: 15409

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

5.0 FIELD STRENGTH OF FUNDAMENTAL AND SPURIOUS EMISSION MEASUREMENTS (CON'T)

As stated in Section 15.247(b) the allowed maximum peak output power of the transmitter shall not exceed 1 Watt. In any 100 kHz bandwidth outside these frequency bands (the power that is produced by the modulation products of the spreading sequence), the information sequence and the carrier frequency shall be either at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power. Attenuation below the general limits specified in 15.209 is not required.

Field strength limits are at a distance of 3 meters. The emission limits shown are based on measurement instrumentation employing an average detector.

Emissions radiated outside of the specified frequency bands, except for harmonics are attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

Preliminary radiated emission measurements were performed at a 3 meter test distance. The frequency range from 30 MHz to 1000 MHz was automatically scanned and plotted at various angles.

NOTE:

All radiated emissions measurements were made at a test room temperature of 68°F at 54% relative humidity.



Company: RF Technologies, Inc.
Model Tested: 0800-0388
Report Number: 15409

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

RADIATED DATA AND GRAPH(S) TAKEN FOR
FIELD STRENGTH OF SPURIOUS
EMISSION MEASUREMENTS

PART 15.247

30 MHz – 1000 MHz

NOTE:

Per FCC Guidance Document "Measurement of Digital Transmission Systems Operating under Section 15.247 - March 23, 2005".

FCC Part 15 Class B

Electric Field Strength

EUT: Extended Range Universal Transceiver
Manufacturer: RF Technologies
Operating Condition: 66 deg. F; 54% R.H.
Test Site: DLS O.F. Site 3
Operator: Adam A
Test Specification: 3 V DC
Comment: Transmit & Receive
Date: 05-28-2009

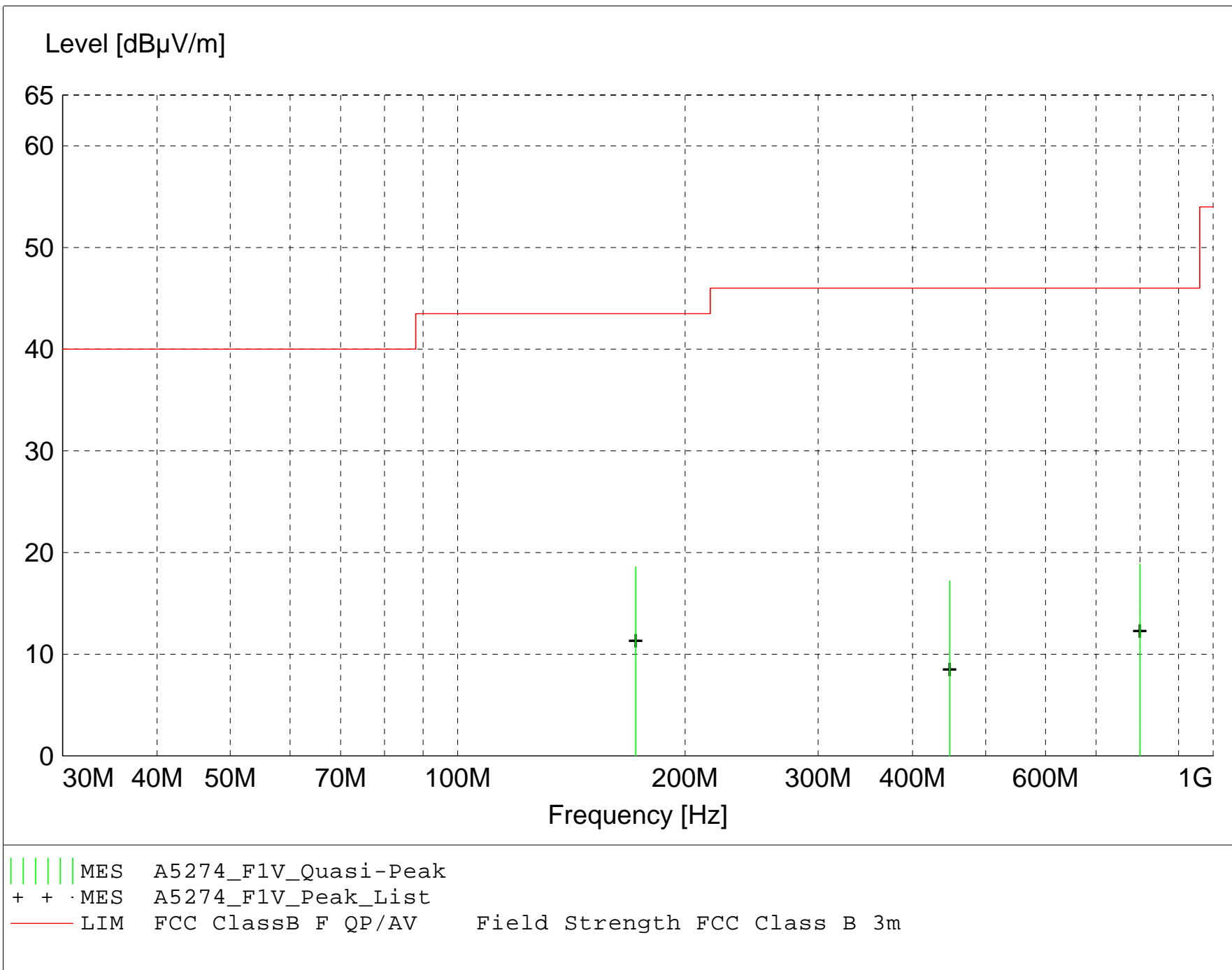
TEXT: "Site 3 MidV 3M"

Short Description: Test Set-up Vert30-1000MHz
TEST EQUIPMENT: Receiver --- Rohde&Schwarz ESI 40 SN: 837808/005

Antennas ---
Biconical -- EMCO 3104C SN: 9701-4785
Log Periodic -- EMCO 3146 SN: 9702-4895

Pre-Amp --- Rohde&Schwarz TS-PR10 SN: 032001/005

TEST SET-UP: EUT Measured at 3 Meters with VERTICAL Antenna Polarization



MEASUREMENT RESULT: "A5274_F1V_Final"

5/28/2009 9:08AM

Frequency	Level	Antenna	System	Total	Limit	Margin	Height	EuT	Final	Comment
MHz	dB μ V	Factor	Loss	Level	dB μ V/m	dB	Ant.	Angle	Detector	
		dB μ V/m	dB	dB μ V/m	dB μ V/m		m	deg		
172.080000	26.32	14.85	-22.6	18.6	43.5	24.9	1.00	90	QUASI-PEAK	Noise Floor
800.000000	16.50	21.49	-19.1	18.9	46.0	27.1	1.00	0	QUASI-PEAK	Noise Floor
448.060000	21.53	16.62	-21.0	17.2	46.0	28.8	1.00	180	QUASI-PEAK	Noise Floor

FCC Part 15 Class B

Electric Field Strength

EUT: Extended Range Universal Transceiver
Manufacturer: RF Technologies
Operating Condition: 66 deg. F; 54% R.H.
Test Site: DLS O.F. Site 3
Operator: Adam A
Test Specification: 3 V DC
Comment: Transmit & Receive
Date: 05-28-2009

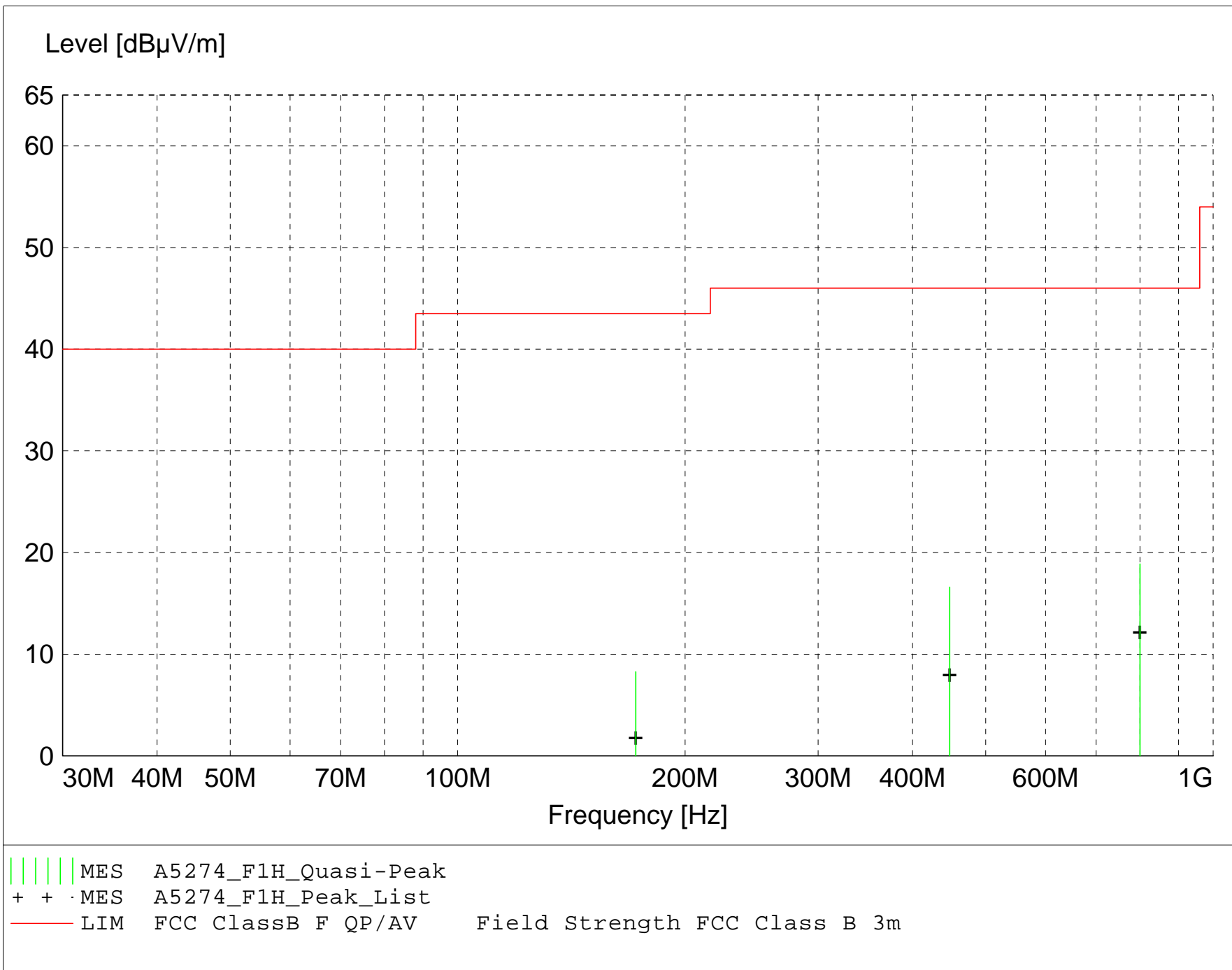
TEXT: "Site 3 MidH 3M"

Short Description: Test Set-up Horz30-1000MHz
TEST EQUIPMENT: Receiver --- Rohde&Schwarz ESI 40 SN: 837808/005

Antennas ---
Biconical -- EMCO 3104C SN: 9701-4785
Log Periodic -- EMCO 3146 SN: 9702-4895

Pre-Amp --- Rohde&Schwarz TS-PR10 SN: 032001/005

TEST SET-UP: EUT Measured at 3 Meters with HORIZONTAL Antenna Polarization



MEASUREMENT RESULT: "A5274_F1H_Final"

5/28/2009 9:03AM

Frequency	Level	Antenna	System	Total	Limit	Margin	Height	EuT	Final	Comment
MHz	dB μ V	Factor	Loss	Level	dB μ V/m	dB	Ant.	Angle	Detector	
		dB μ V/m	dB	dB μ V/m	dB μ V/m		m	deg		
800.000000	16.50	21.49	-19.1	18.9	46.0	27.1	1.20	90	QUASI-PEAK	Noise Floor
448.000000	20.94	16.62	-21.0	16.6	46.0	29.4	1.50	270	QUASI-PEAK	Noise Floor
172.100000	15.98	14.85	-22.6	8.3	43.5	35.2	2.00	180	QUASI-PEAK	Noise Floor



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Company: RF Technologies, Inc.
Model Tested: 0800-0388
Report Number: 15409

APPENDIX A

**RADIATED DATA AND GRAPH(S) TAKEN FOR
E.I.R.P. OF FUNDAMENTAL EMISSIONS
MEASUREMENTS**

PART 15.247 & PART 1.1310



Company: RF Technologies, Inc.
 Model Tested: 0800-0388
 Report Number: 15409

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

DLS Electronic Systems, Inc.

Company: RF Technologies
 Operator: Craig B
 Date of test: 05-27-2009
 Temperature: 72 deg. F
 Humidity: 50% R.H.
 Test Specifications: FCC Pt. 1.1310

EIRP - Substitution Method

Model: Extended Range Universal Transceiver Model: 0800-0388								
Channel: 11								
Frequency and Polarization (MHz)	Max. Field Strength of EUT @ 3 meters (dBuV/m)	Output of Signal Generator when field strength equals that of EUT (dBm)	Correction factor for cable between Signal Gen. and subst. antenna (dB)	Gain of subst. antenna (dBi)	Strength of emission [EIRP] (dBm)	Limit (dBm)	Margin (dB)	Strength of emission [EIRP] (mW)
2405 vertical	101.72	-0.40	4.17	9.46	4.89	30.00	25.11	3.08
2405 horizontal	100.81	-2.80	4.17	9.46	2.49	30.00	27.51	1.77

EIRP = Signal generator output - cable loss + antenna gain

ERP_(ref. to 1/2λ dipole) = Signal generator output - cable loss + antenna gain - 2.15



Company: RF Technologies, Inc.
 Model Tested: 0800-0388
 Report Number: 15409

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

DLS Electronic Systems, Inc.

Company: RF Technologies
 Operator: Craig B
 Date of test: 05-27-2009
 Temperature: 72 deg. F
 Humidity: 50% R.H.
 Test Specifications: FCC Pt. 1.1310

EIRP - Substitution Method

Model: Extended Range Universal Transceiver Model: 0800-0388								
Channel: 18								
Frequency and Polarization (MHz)	Max. Field Strength of EUT @ 3 meters (dBuV/m)	Output of Signal Generator when field strength equals that of EUT (dBm)	Correction factor for cable between Signal Gen. and subst. antenna (dB)	Gain of subst. antenna (dBi)	Strength of emission [EIRP] (dBm)	Limit (dBm)	Margin (dB)	Strength of emission [EIRP] (mW)
2440 vertical	100.50	-1.20	4.20	9.49	4.09	30.00	25.91	2.56
2440 horizontal	100.10	-3.30	4.20	9.49	1.99	30.00	28.01	1.58

EIRP = Signal generator output - cable loss + antenna gain

ERP_(ref. to 1/2λ dipole) = Signal generator output - cable loss + antenna gain - 2.15



Company: RF Technologies, Inc.
 Model Tested: 0800-0388
 Report Number: 15409

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

DLS Electronic Systems, Inc.

Company: RF Technologies
 Operator: Craig B
 Date of test: 05-27-2009
 Temperature: 70 deg. F
 Humidity: 50% R.H.
 Test Specifications: FCC Pt. 1.1310

EIRP - Substitution Method

Model: Extended Range Universal Transceiver Model: 0800-0388								
Channel: 26								
Frequency and Polarization (MHz)	Max. Field Strength of EUT @ 3 meters (dBuV/m)	Output of Signal Generator when field strength equals that of EUT (dBm)	Correction factor for cable between Signal Gen. and subst. antenna (dB)	Gain of subst. antenna (dBi)	Strength of emission [EIRP] (dBm)	Limit (dBm)	Margin (dB)	Strength of emission [EIRP] (mW)
2480 vertical	99.21	-2.50	4.29	9.52	2.73	30.00	27.27	1.87
2480 horizontal	98.00	-5.80	4.29	9.52	-0.57	30.00	30.57	0.88

EIRP = Signal generator output - cable loss + antenna gain

ERP_(ref. to 1/2λ dipole) = Signal generator output - cable loss + antenna gain - 2.15



Company: RF Technologies, Inc.
Model Tested: 0800-0388
Report Number: 15409

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

TRANSMITTER DUTY CYCLE GRAPHS

PART 15.35(c)



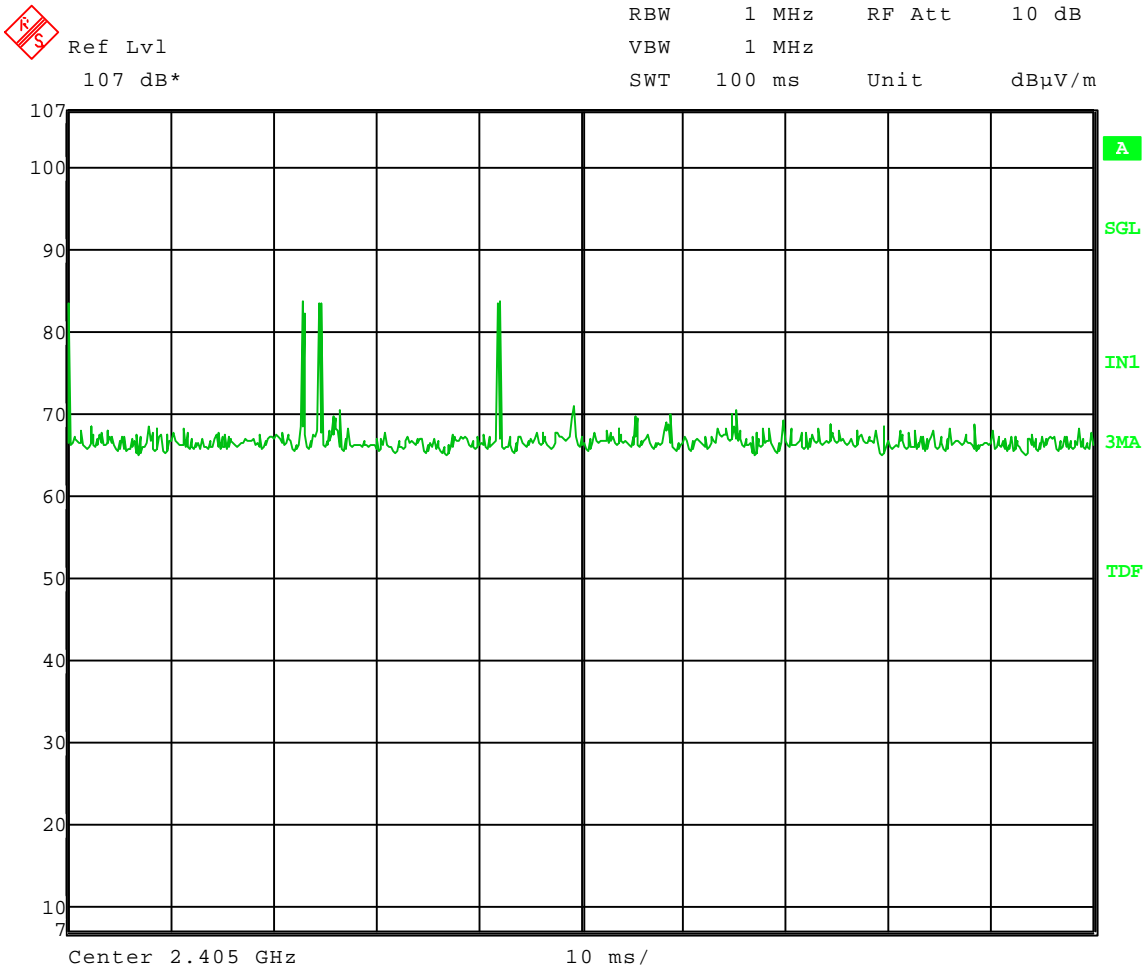
Company: RF Technologies, Inc.
 Model Tested: 0800-0388
 Report Number: 15409

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 05-28-2009
 Company: RF Technologies
 EUT: Extended Range Universal Transceiver Model: 0800-0388
 Test: Duty Cycle
 Operator: Craig B
 Rule Part: FCC Part 15.35(c)
 Comment:

$3 \times 176.353 \mu\text{s} = 0.529 \text{ ms}$
 Total on Time = 0.529 ms during 100 ms Sweep
 $20 \log (0.529/100) = -65.5$
Duty Cycle Correction Factor = 65.5 dB



Date: 28.MAY.2009 12:43:09



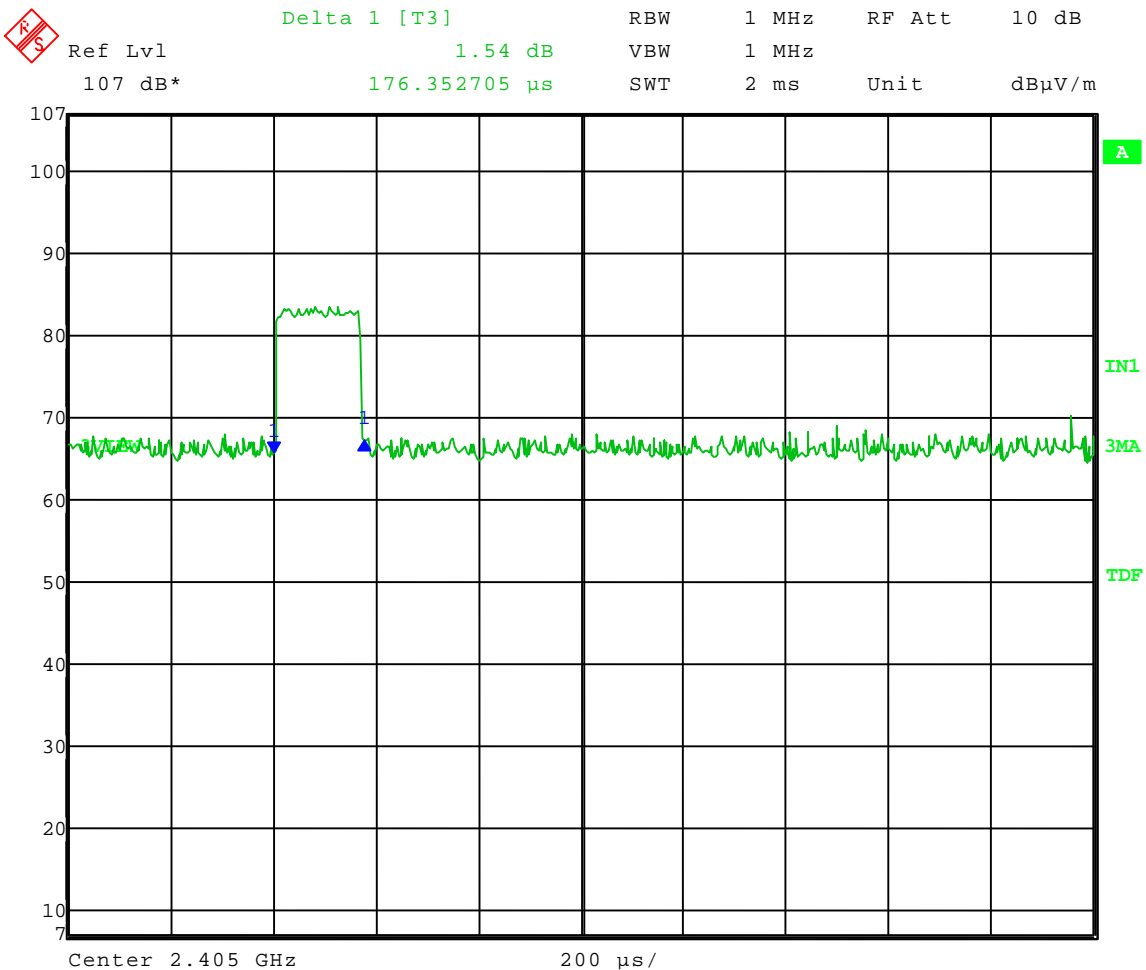
Company: RF Technologies, Inc.
Model Tested: 0800-0388
Report Number: 15409

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 05-28-2009
Company: RF Technologies
EUT: Extended Range Universal Transceiver Model: 0800-0388
Test: Duty Cycle
Operator: Craig B
Rule Part: FCC Part 15.35(c)

Comment: **On Time for one pulse**



Date: 28.MAY.2009 12:45:36



Company: RF Technologies, Inc.
Model Tested: 0800-0388
Report Number: 15409

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

6 dB BANDWIDTH GRAPHS

PART 15.247



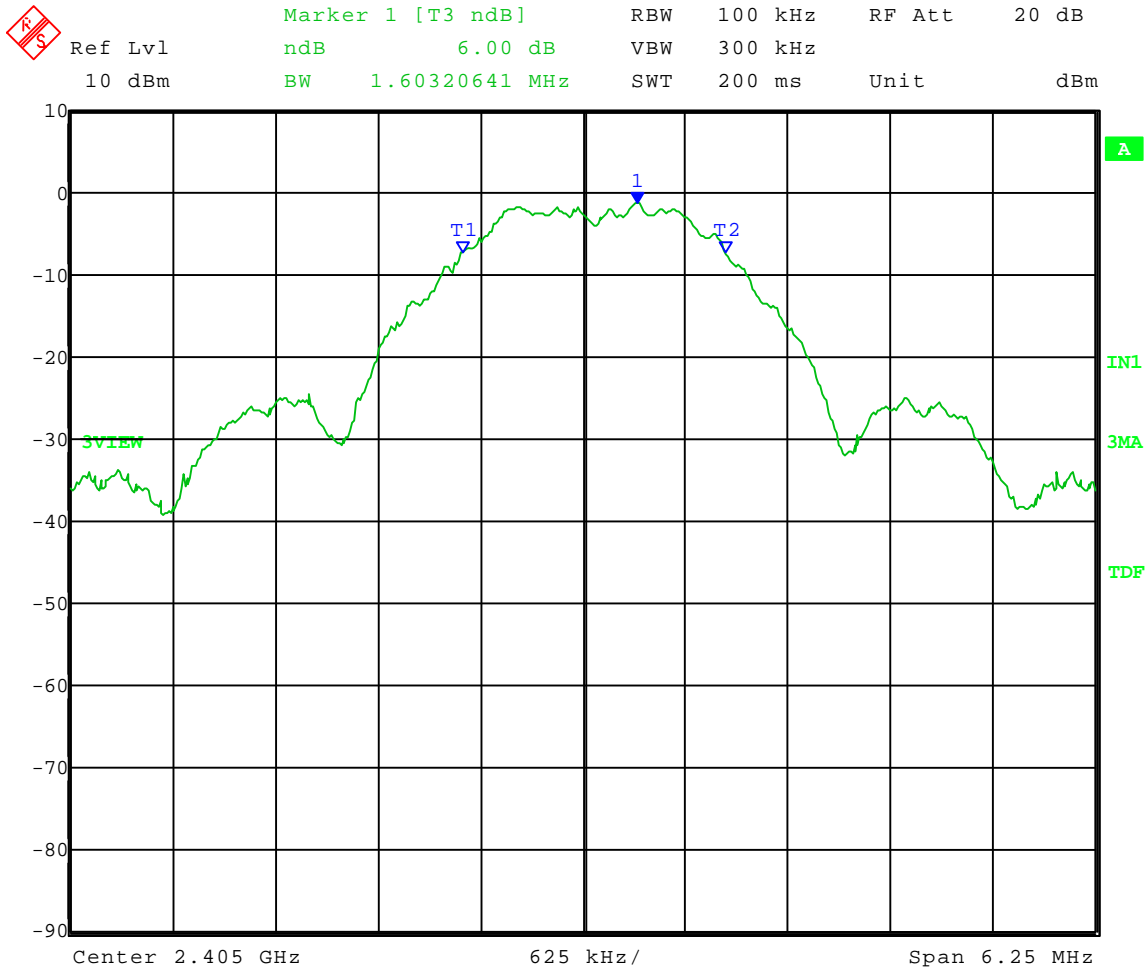
Company: RF Technologies, Inc.
 Model Tested: 0800-0388
 Report Number: 15409

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 05-28-2009
 Company: RF Technologies
 EUT: Extended Range Universal Transceiver Model: 0800-0388
 Test: 6 dB Bandwidth - Conducted
 Operator: Craig B
 Rule Part: FCC Part 15.247(a)(2)
 Comment: **Low Channel**: Frequency – 2.405 GHz

6 dB Bandwidth = 1.60 MHz



Date: 28.MAY.2009 13:04:00



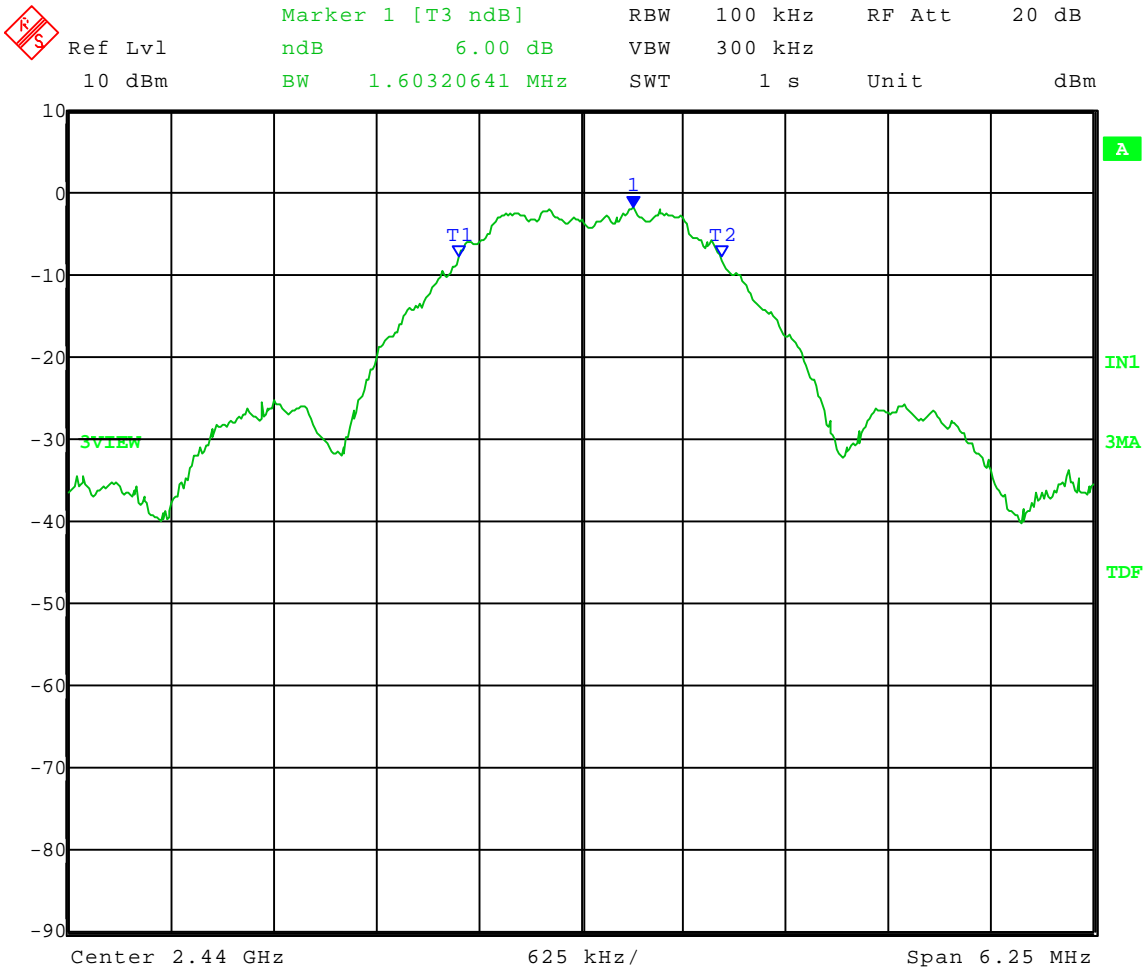
Company: RF Technologies, Inc.
 Model Tested: 0800-0388
 Report Number: 15409

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 05-27-2009
 Company: RF Technologies
 EUT: Extended Range Universal Transceiver Model: 0800-0388
 Test: 6 dB Bandwidth - Conducted
 Operator: Craig B
 Rule Part: FCC Part 15.247(a)(2)
 Comment: **Middle Channel:** Frequency – 2.440 GHz

6 dB Bandwidth = 1.60 MHz



Date: 27.MAY.2009 15:24:11



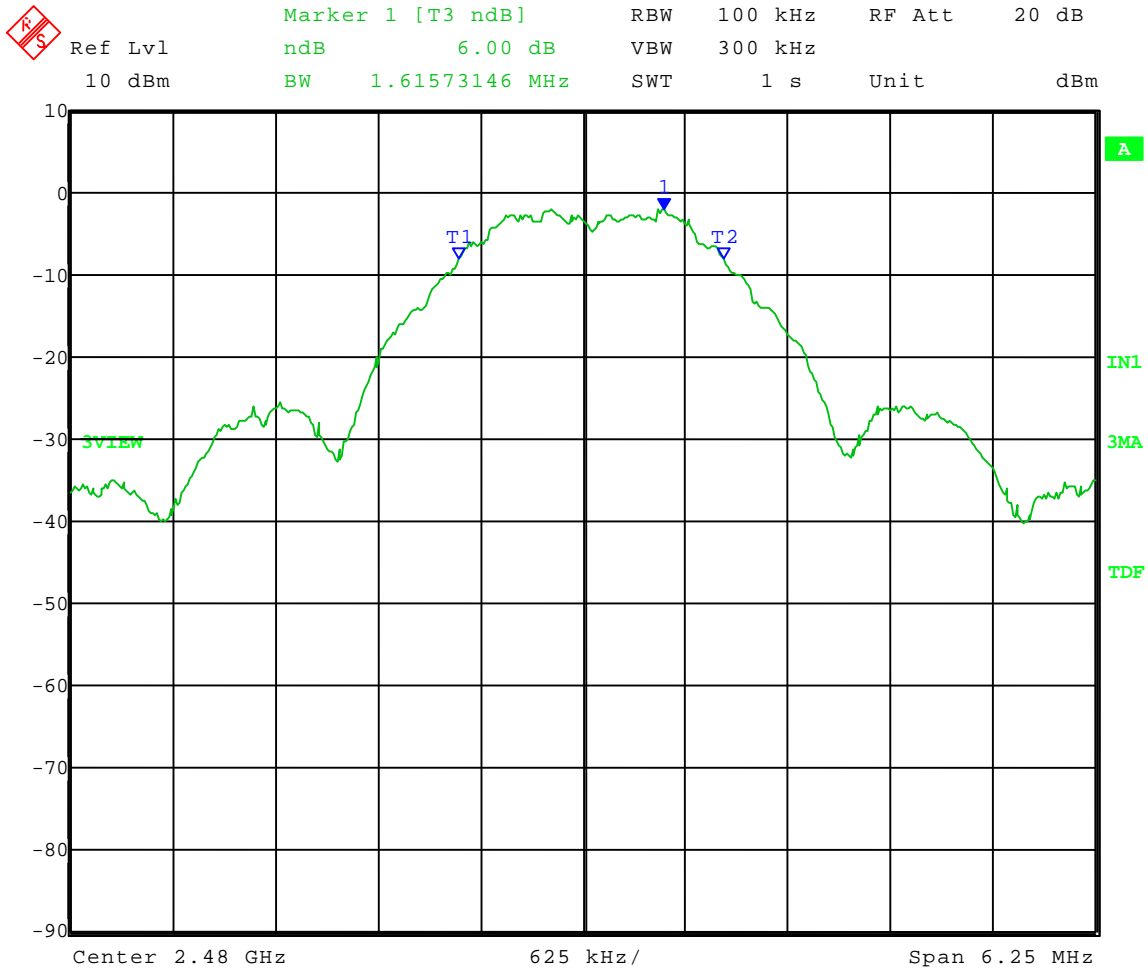
Company: RF Technologies, Inc.
 Model Tested: 0800-0388
 Report Number: 15409

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 05-27-2009
 Company: RF Technologies
 EUT: Extended Range Universal Transceiver Model: 0800-0388
 Test: 6 dB Bandwidth - Conducted
 Operator: Craig B
 Rule Part: FCC Part 15.247(a)(2)
 Comment: **High Channel**: Frequency - 2.480 GHz

6 dB Bandwidth = 1.62 MHz



Date: 27.MAY.2009 15:20:57



Company: RF Technologies, Inc.
Model Tested: 0800-0388
Report Number: 15409

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

NUMBER OF HOPPING FREQUENCIES GRAPH(S)

PART 15.247



Company: RF Technologies, Inc.
Model Tested: 0800-0388
Report Number: 15409

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

RFTECHNOLOGIES™

3125 N. 126th St. Brookfield, WI 53005
1-800-669-9946 Ph: 262-790-1771
Fx: 262-790-1784
info@rft.com
www.rft.com

Product Name: Extended Range Universal Transceiver
Owner: RF Technologies, Inc.
Owner Model Numbers: 0800-0388
FCC ID Number: KXU-UNV2FSZ24
IC ID Number: 2719A- UNV2FSZ24

List of 16 frequencies (channels) used by the RF Technologies Extended Range Universal Transceiver.

All Zigbee radios use IEEE 802.15.4, which specifies the channels to use. They start at 2405 MHz and are separated by 5 MHz. Therefore the channels are as follows:

2405
2410
2415
2420
2425
2430
2435
2440
2445
2450
2455
2460
2465
2470
2475
2480



Company: RF Technologies, Inc.
Model Tested: 0800-0388
Report Number: 15409

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

CONDUCTED PEAK OUTPUT POWER GRAPHS

PART 15.247



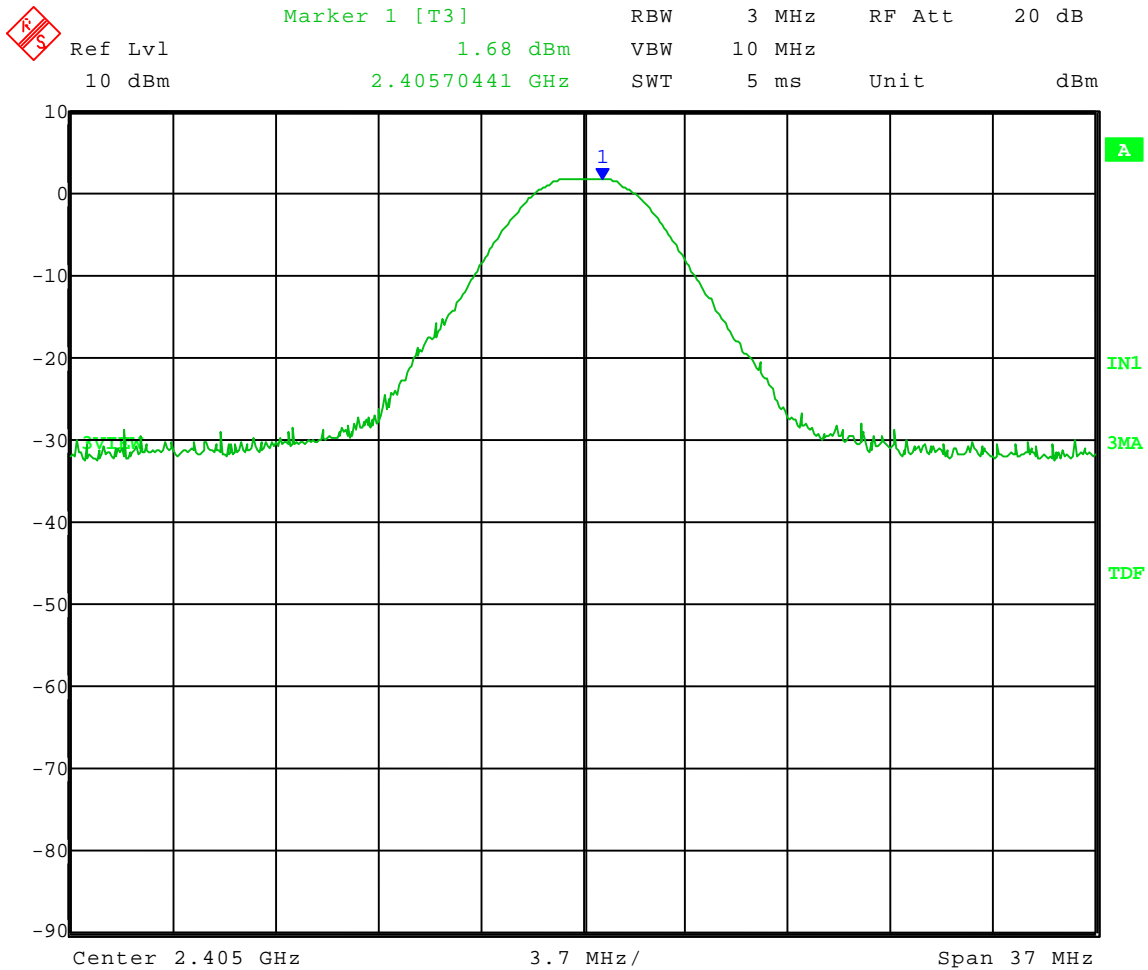
Company: RF Technologies, Inc.
Model Tested: 0800-0388
Report Number: 15409

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 05-28-2009
Company: RF Technologies
EUT: Extended Range Universal Transceiver Model: 0800-0388
Test: Peak Power Output - Conducted
Operator: Craig B
Rule Part: FCC Part 15.247(b)(3)
Comment: **Low Channel**: Frequency – 2.405 GHz

Peak Output Power = 1.68 dBm = 1.47 mW



Date: 28.MAY.2009 13:16:04



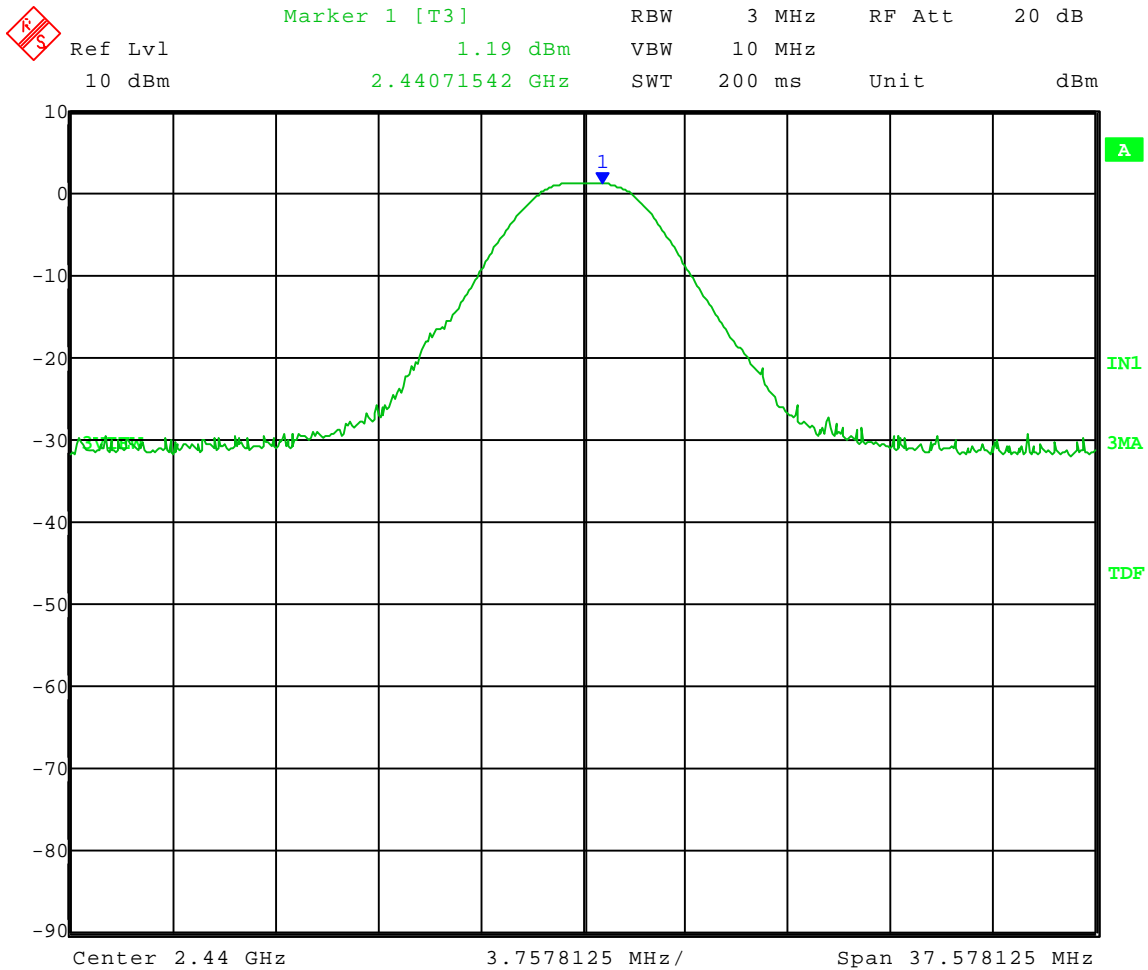
Company: RF Technologies, Inc.
Model Tested: 0800-0388
Report Number: 15409

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 05-27-2009
Company: RF Technologies
EUT: Extended Range Universal Transceiver Model: 0800-0388
Test: Peak Power Output - Conducted
Operator: Craig B
Rule Part: FCC Part 15.247(b)(3)
Comment: **Mid Channel**: Frequency – 2.440 GHz

Peak Output Power = 1.19 dBm = 1.32 mW



Date: 27.MAY.2009 15:17:04



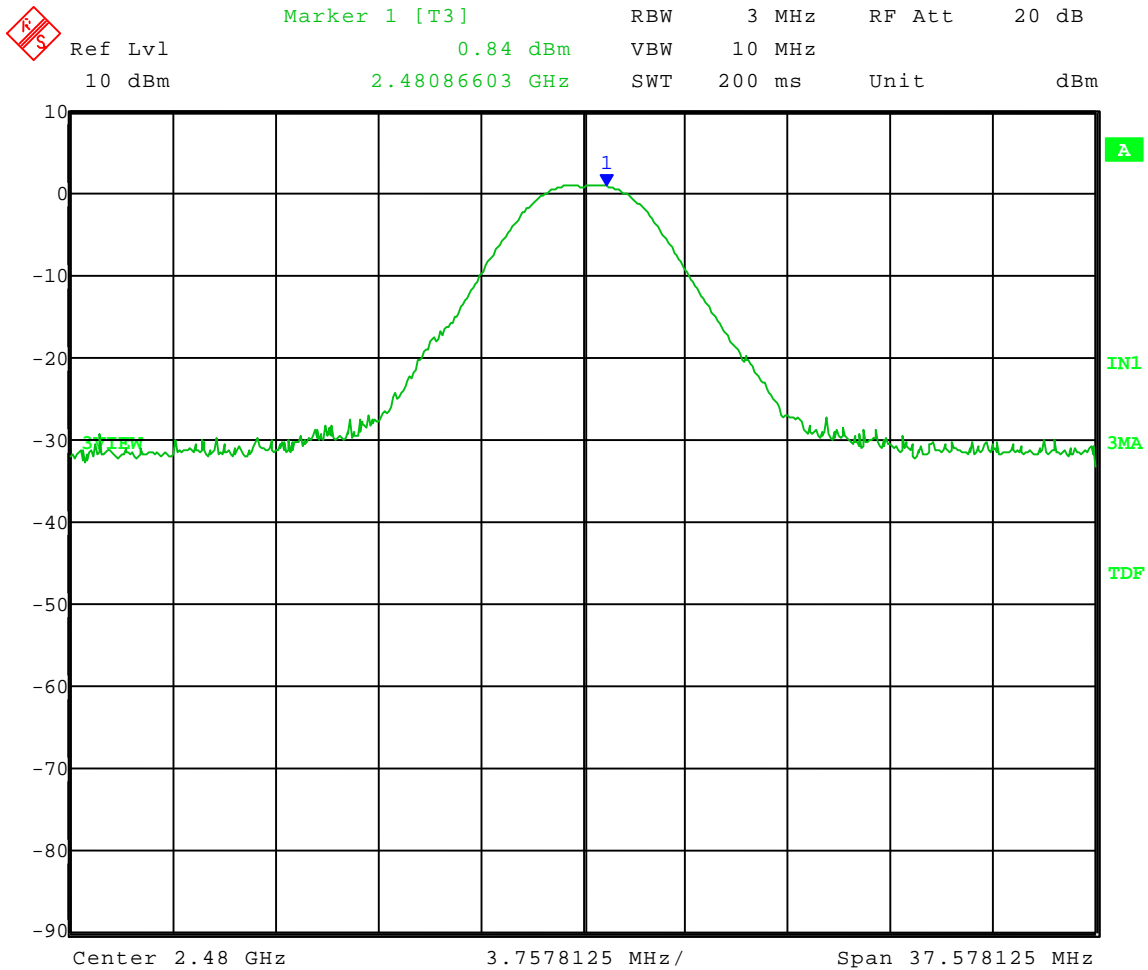
Company: RF Technologies, Inc.
Model Tested: 0800-0388
Report Number: 15409

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 05-27-2009
Company: RF Technologies
EUT: Extended Range Universal Transceiver Model: 0800-0388
Test: Peak Power Output - Conducted
Operator: Craig B
Rule Part: FCC Part 15.247(b)(3)
Comment: **High Channel**: Frequency – 2.480 GHz

Peak Output Power = 0.84 dBm = 1.21 mW



Date: 27.MAY.2009 15:18:22



Company: RF Technologies, Inc.
Model Tested: 0800-0388
Report Number: 15409

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

PEAK POWER SPECTRAL DENSITY GRAPHS

PART 15.247



Company: RF Technologies, Inc.
Model Tested: 0800-0388
Report Number: 15409

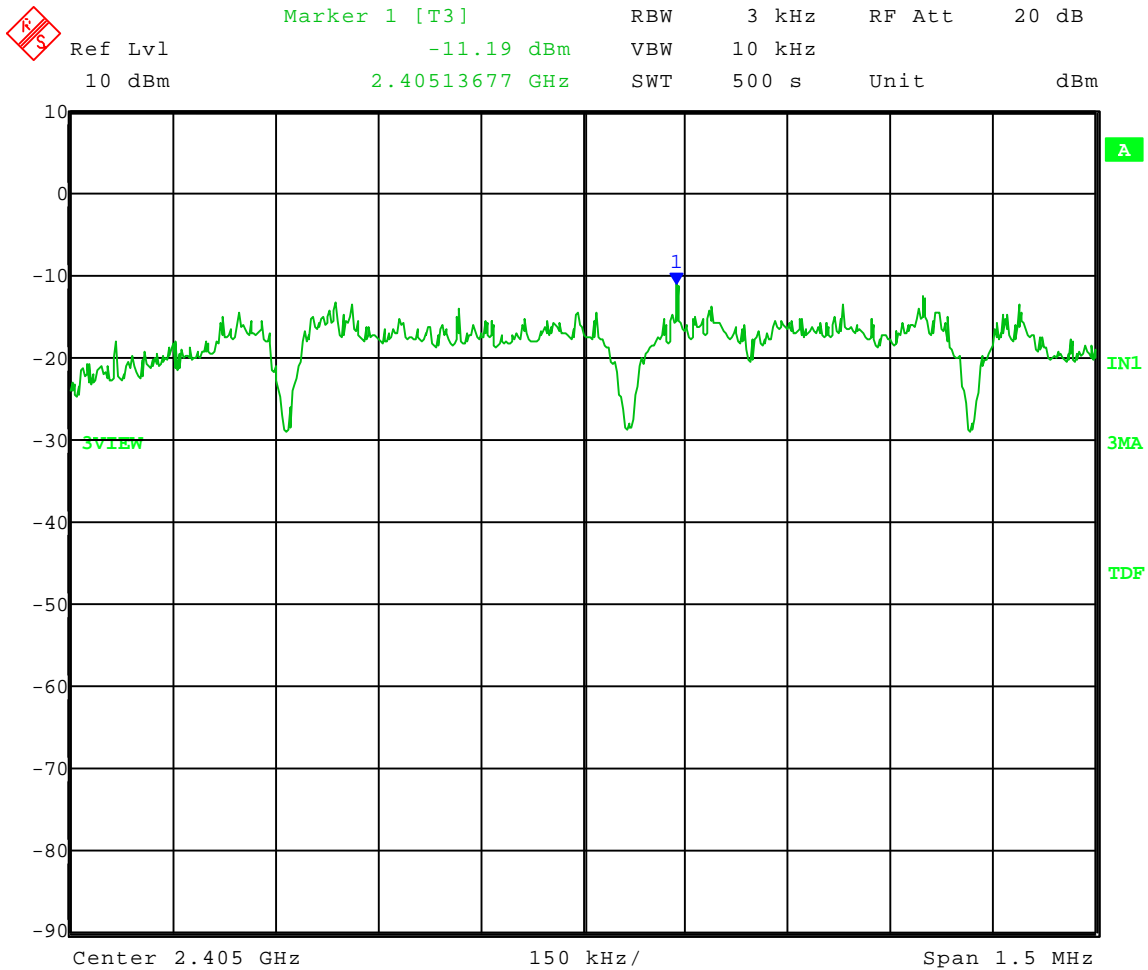
1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 05-28-2009
Company: RF Technologies
EUT: Extended Range Universal Transceiver Model: 0800-0388
Test: Peak Power Spectral Density - Conducted
Operator: Craig B
Rule Part: FCC Part 15.247(e)
Comment: **Low Channel**: Frequency – 2.405 GHz

Limit: +8 dBm

Peak Power in 3 kHz Bandwidth = -11.19 dBm



Date: 28.MAY.2009 13:26:47



Company: RF Technologies, Inc.
Model Tested: 0800-0388
Report Number: 15409

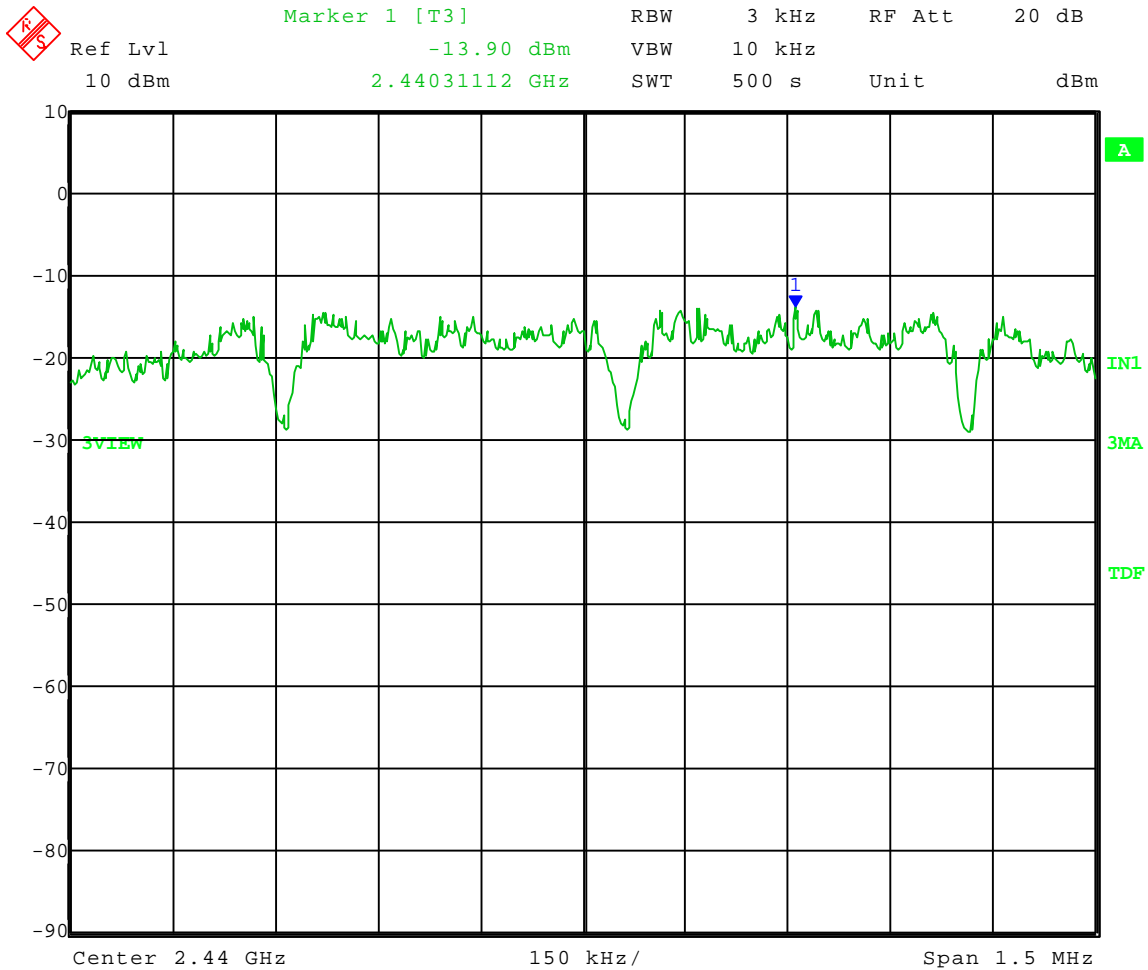
1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 05-27-2009
Company: RF Technologies
EUT: Extended Range Universal Transceiver Model: 0800-0388
Test: Peak Power Spectral Density - Conducted
Operator: Craig B
Rule Part: FCC Part 15.247(e)
Comment: **Mid Channel**: Frequency – 2.440 GHz

Limit: +8 dBm

Peak Power in 3 kHz Bandwidth = -13.90 dBm



Date: 27.MAY.2009 17:01:11



Company: RF Technologies, Inc.
Model Tested: 0800-0388
Report Number: 15409

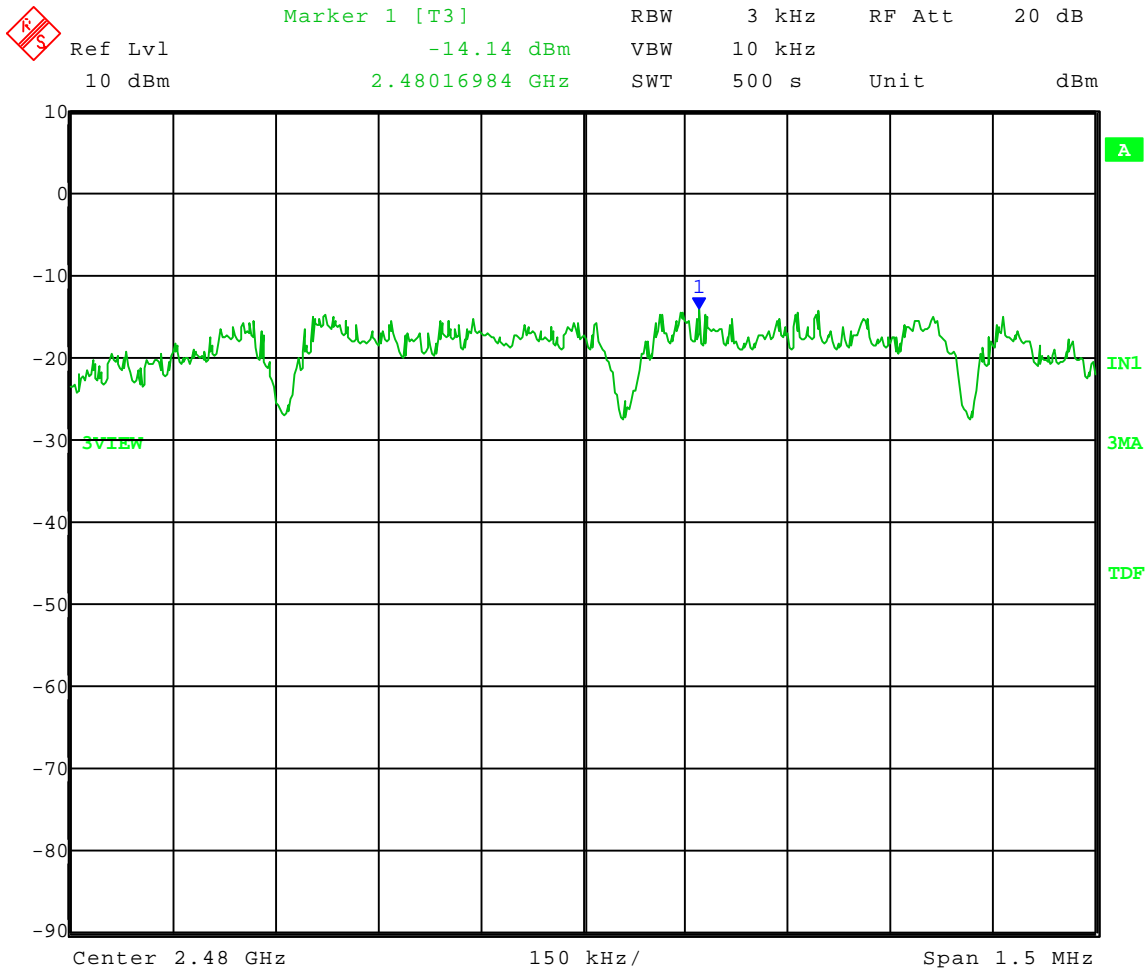
1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 05-27-2009
Company: RF Technologies
EUT: Extended Range Universal Transceiver Model: 0800-0388
Test: Peak Power Spectral Density - Conducted
Operator: Craig B
Rule Part: FCC Part 15.247(e)
Comment: **High Channel**: Frequency - 2.480 GHz

Limit: +8 dBm

Peak Power in 3 kHz Bandwidth = -14.14 dBm



Date: 27.MAY.2009 17:10:08