1250 Peterson Dr., Wheeling, IL 60090

Company: Stryker Instruments
Model Tested: 4251-001-010
Report Number: 14387

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:	SORN 802.15.4 Radio
Kind of Equipment:	Wireless Transceiver Module
Frequency Range:	2405 MHz - 2480 MHz
Test Configuration:	Header Connectors (Tested at 120 vac, 60 Hz)
Model Number(s):	4251-001-010
Model(s) Tested:	4251-001-010
Serial Number(s):	Approvals #1
Date of Tests:	July 24, 25, 28, & 30, 2008
Test Conducted For:	Stryker Instruments 4100 East Milham Ave Kalamazoo, Michigan 49001

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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Company: Stryker Instruments
Model Tested: 4251-001-010
Report Number: 14387

SIGNATURE PAGE

Report By:

Arnom C. Rowe
Test Engineer
EMC-001375-NE

Reviewed By:

William Stumpf
OATS Manager

Approved By:

Brian Mattson
General Manager

TABLE OF CONTENTS

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

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 Communique dated 18 June 2005).

2007-10-01 through 2008-09-30

Effective dates

For the National Institute of Standards and Technology

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

1.0 SUMMARY OF TEST REPORT

It was found that the SORN 802.15.4 Radio, Model Number(s) 4251-001-010, **meets** the radio interference conducted and 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.

2.0 INTRODUCTION

On July 24, 25, 28, & 30, 2008, a series of radio frequency interference measurements was performed on SORN 802.15.4 Radio, Model Number(s) 4251-001-010, Serial Number: Approvals #1. 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. 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

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.

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. 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.

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5.0 TEST EQUIPMENT (Bandwidths and Detector Function)

All preliminary data below 1000 MHz was automatically plotted using the ESI 26/40 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 26/40 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.

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:

The test sample is an IEEE 802.15.4 wireless radio module. It is a radio transceiver operating in the frequency band of 2.400 to 2.483 GHz. The radio can be operated using a Stryker Wireless Development Kit.

7.2 PHYSICAL DIMENSIONS OF EQUIPMENT UNDER TEST

Length: 43.0mm x Width: 21.1mm x Height: 5.7mm

7.3 LINE FILTER USED:

N/A

7.4 INTERNAL CLOCK FREQUENCIES:

Switching Power Supply Frequencies:

N/A

Clock Frequencies:

32MHz, 2405, 2410, 2415, 2420, 2425, 2430, 2435, 2440, 2445, 2450, 2455, 2460, 2465, 2470, 2475, 2480 MHz.

7.5 DESCRIPTION OF ALL CIRCUIT BOARDS:

1. SORN 802.15.4 Radio PN: 4251-001-010 REV NONE

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

1: There were no additional descriptions noted at the time of test.

NOTE:

Transmit Low, Mid, and High channels. Software set to transmit at highest power setting (0.6 dBm).
Receive Low, Mid and High channels.
Standby mode

9.0 PHOTO INFORMATION AND TEST SET-UP

Item 0 SORN 802.15.4 Radio
Model Number: 4251-001-010 Serial Number: Approvals #1

Item 1 Non-shielded Cable to evaluation board with Plastic Shells. 1.5m

Item 2 Chipcon Evaluation Board
Model Number: SmartRF04EB Rev 2.0, Serial Number: Id: 0x25F5

Item 3 Dell Latitude D600 Computer
Model Number: PP05L, Serial Number: CN-0X2034-48643-3CC-5134

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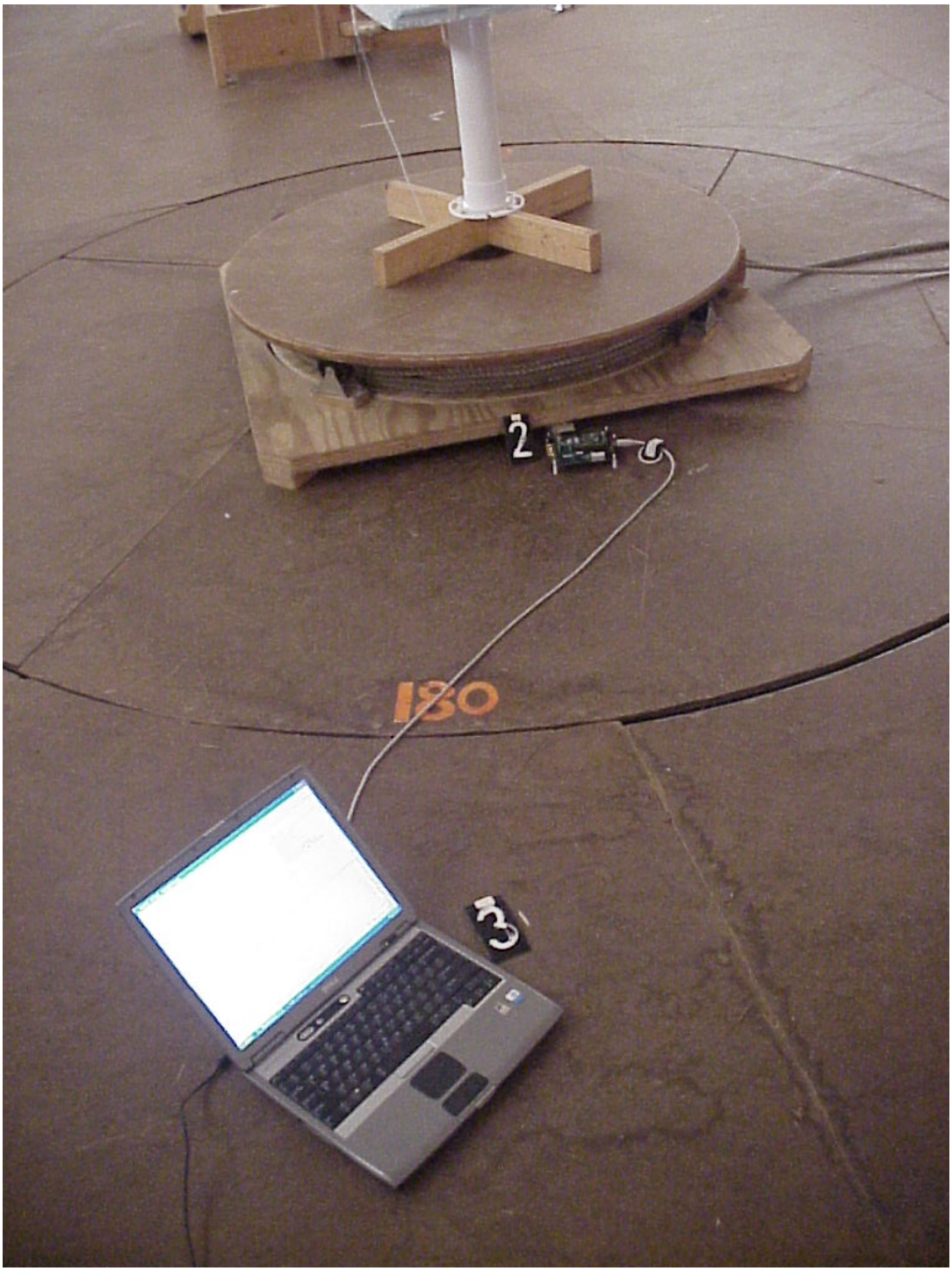
10.0 RADIATED PHOTOS TAKEN DURING TESTING

RADIATED 1

1250 Peterson Dr., Wheeling, IL 60090

10.0 RADIATED PHOTOS TAKEN DURING TESTING (CON'T)



RADIATED 2

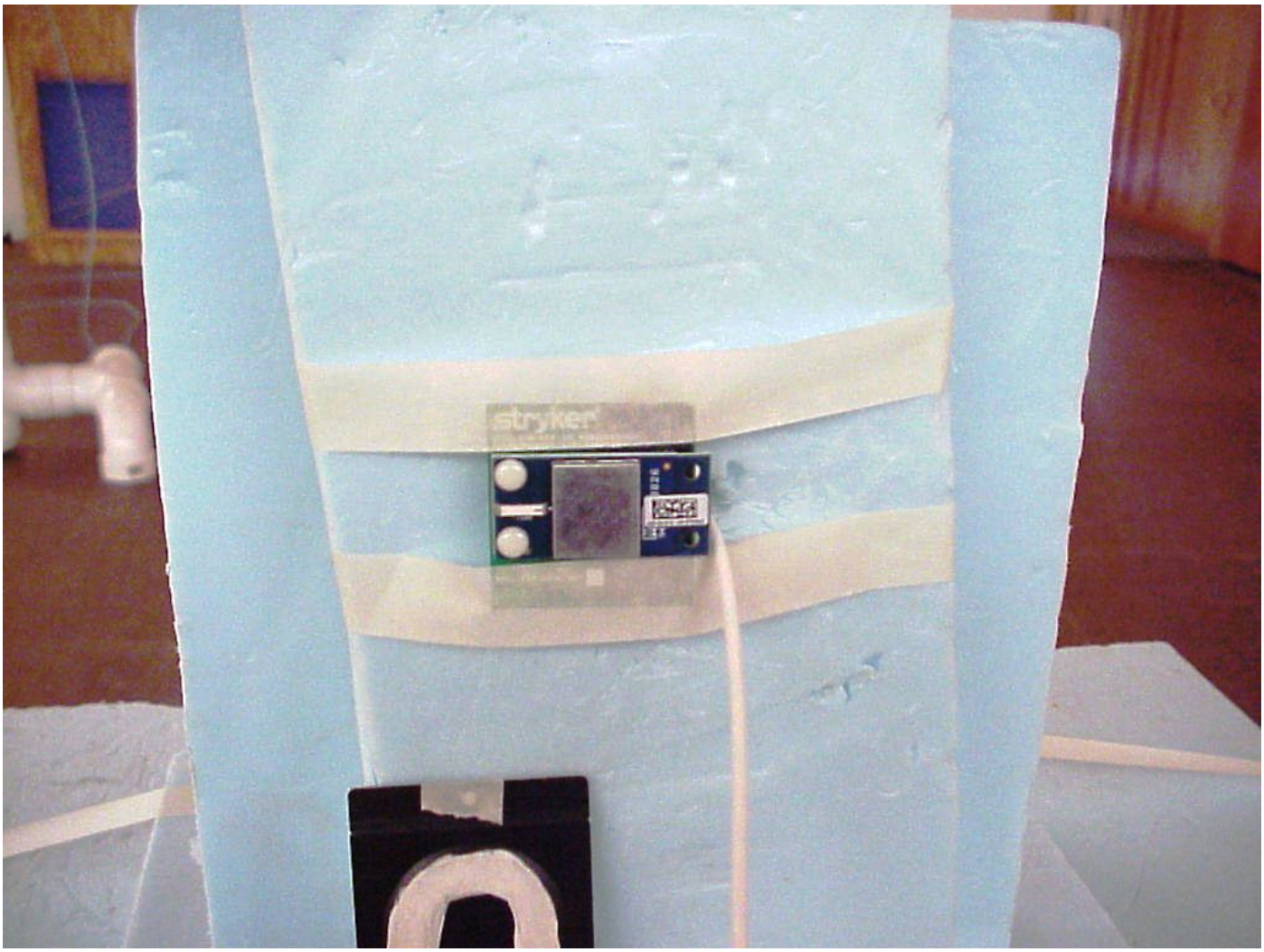
1250 Peterson Dr., Wheeling, IL 60090

10.0 RADIATED PHOTOS TAKEN DURING TESTING (CON'T)

RADIATED "X"

1250 Peterson Dr., Wheeling, IL 60090

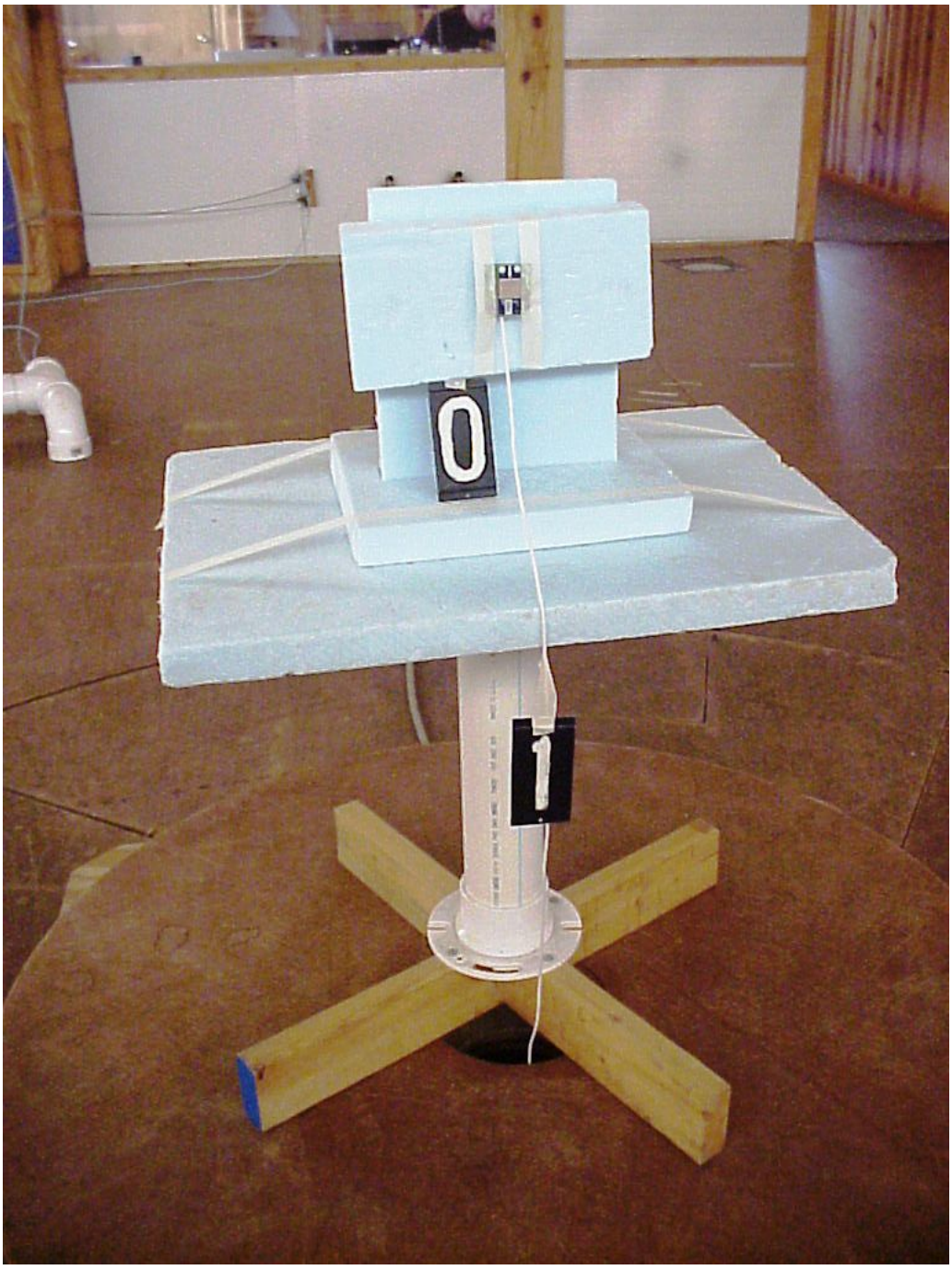
10.0 RADIATED PHOTOS TAKEN DURING TESTING (CON'T)



RADIATED CLOSE UP

1250 Peterson Dr., Wheeling, IL 60090

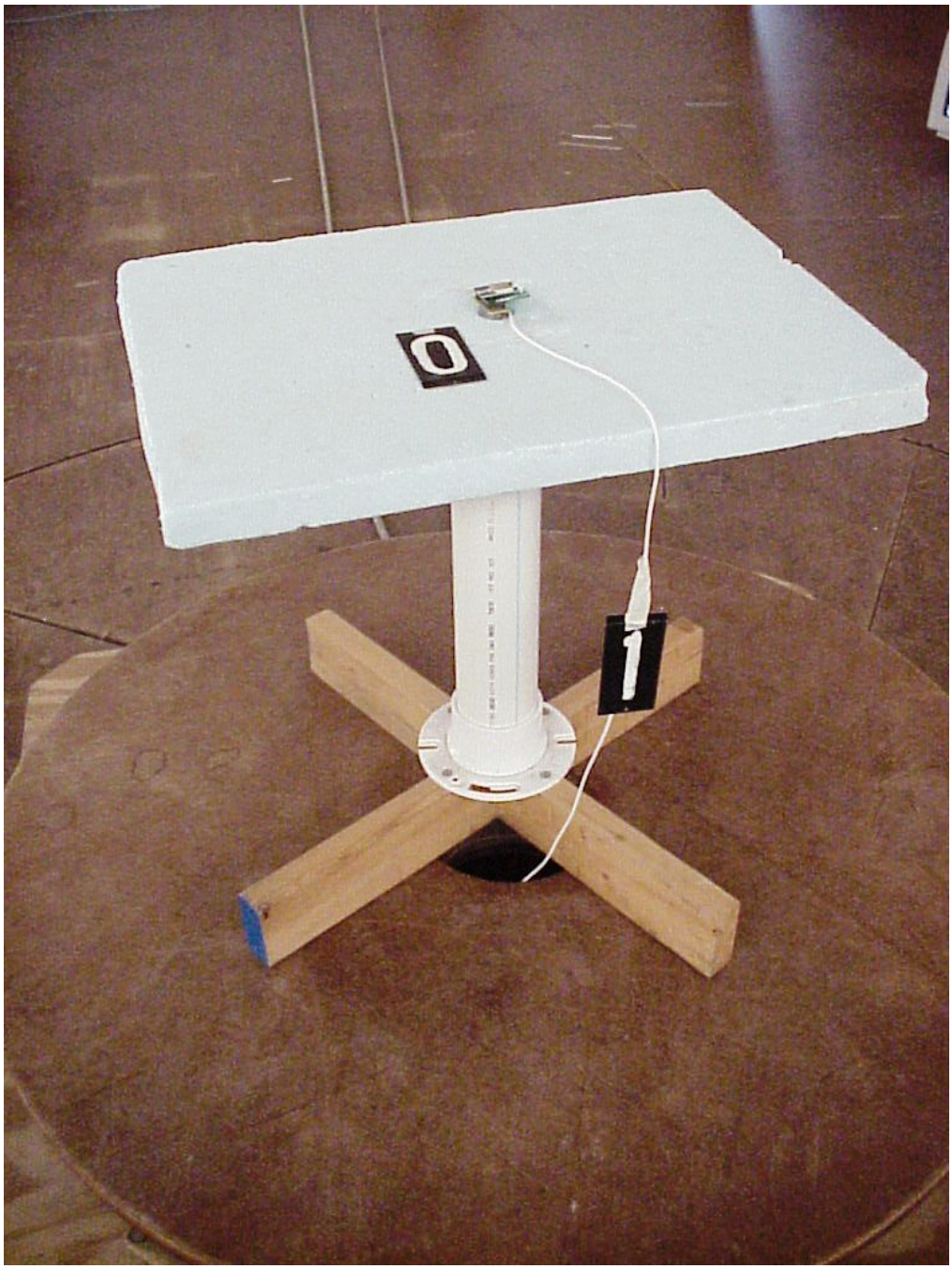
10.0 RADIATED PHOTOS TAKEN DURING TESTING (CON'T)



RADIATED "Y"

1250 Peterson Dr., Wheeling, IL 60090

10.0 RADIATED PHOTOS TAKEN DURING TESTING (CON'T)



RADIATED "Z"

1250 Peterson Dr., Wheeling, IL 60090

10.0 CONDUCTED PHOTOS TAKEN DURING TESTING

AC LINE CONDUCTED 1

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10.0 CONDUCTED PHOTOS TAKEN DURING TESTING (CON'T)

AC LINE CONDUCTED 2

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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 SORN 802.15.4 Radio, Model Number(s) 4251-001-010 **meets** the radio interference conducted and 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.

TABLE 1 – EQUIPMENT LIST

Test Equipment	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Due Dates
Receiver, RF, Tuned	Rohde & Schwarz	ESI 26	837491/010	20 Hz – 26 GHz	12/27/2008
Receiver, RF, Tuned	Rohde & Schwarz	ESI 40	837808/005	20 Hz – 40 GHz	7/10/2009
Preamp, RF	Miteq	AMF-6D-100200-50	313936	1-10 GHz	5/8/2009
Preamp, RF	Miteq	AMF-6D-010100-50	213976	10-18 GHz	5/8/2009
Preamp	Miteq	AMF-8B-180265-40-10P-H/S	NA	18-26 GHz	9/18/2008
Preamp, RF	Rohde & Schwarz	TS-PR10	032001/005		3/10/2009
RF 20dB Fixed Attenuator	Aeroflex/ Weinschel	75A-20-12	1071	DC – 40 GHz	7/18/2008
Signal Generator, RF	Rohde & Schwarz	SMR40	100092	1-40 GHz	9/27/2008
Biconical Antenna	EMCO	3104C	9701-4785	20-220 MHz	4/21/2009
Log Periodic Antenna	EMCO	3146	9702-4895	200 MHz-1 GHz	4/21/2009
Horn Antenna	EMCO	3115	9903-5731	1-18 GHz	6/12/2009
Horn Antenna	EMCO	3116	2549	18-40 GHz	6/12/2009

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

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TABLE 1 – EQUIPMENT LIST

Test Equipment	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Due Dates
High Pass Filter	Solar Electronics Co.	7930-10	921541	12 kHz	1/9/2009
High Pass Filter	Q Microwave, Inc.	100460	1	1.1 GHz	5/8/2009
LISN	Solar Electronics Co.	9252-50-R-24-BNC	961019		7/18/2008
Limiter, Transient, RF	Electro-Metrics	EM7600	706		1/9/2009

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

APPENDIX A

TEST PROCEDURE

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

OPERATION WITHIN THE BAND 902-928 MHz,

2400-2483.5 MHz AND 5725-5857 MHz

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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 **74°F** at **48%** relative humidity.

NOTE: Gets power from host unit. EUT internally voltage regulated.

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APPENDIX A

AC POWER LINE DATA AND GRAPH(S)

TAKEN DURING TESTING

PART 15.207

NOTE: Gets power from host unit. EUT internally voltage regulated.

FCC Part 15 Class B and RSS-210/RSS-GEN

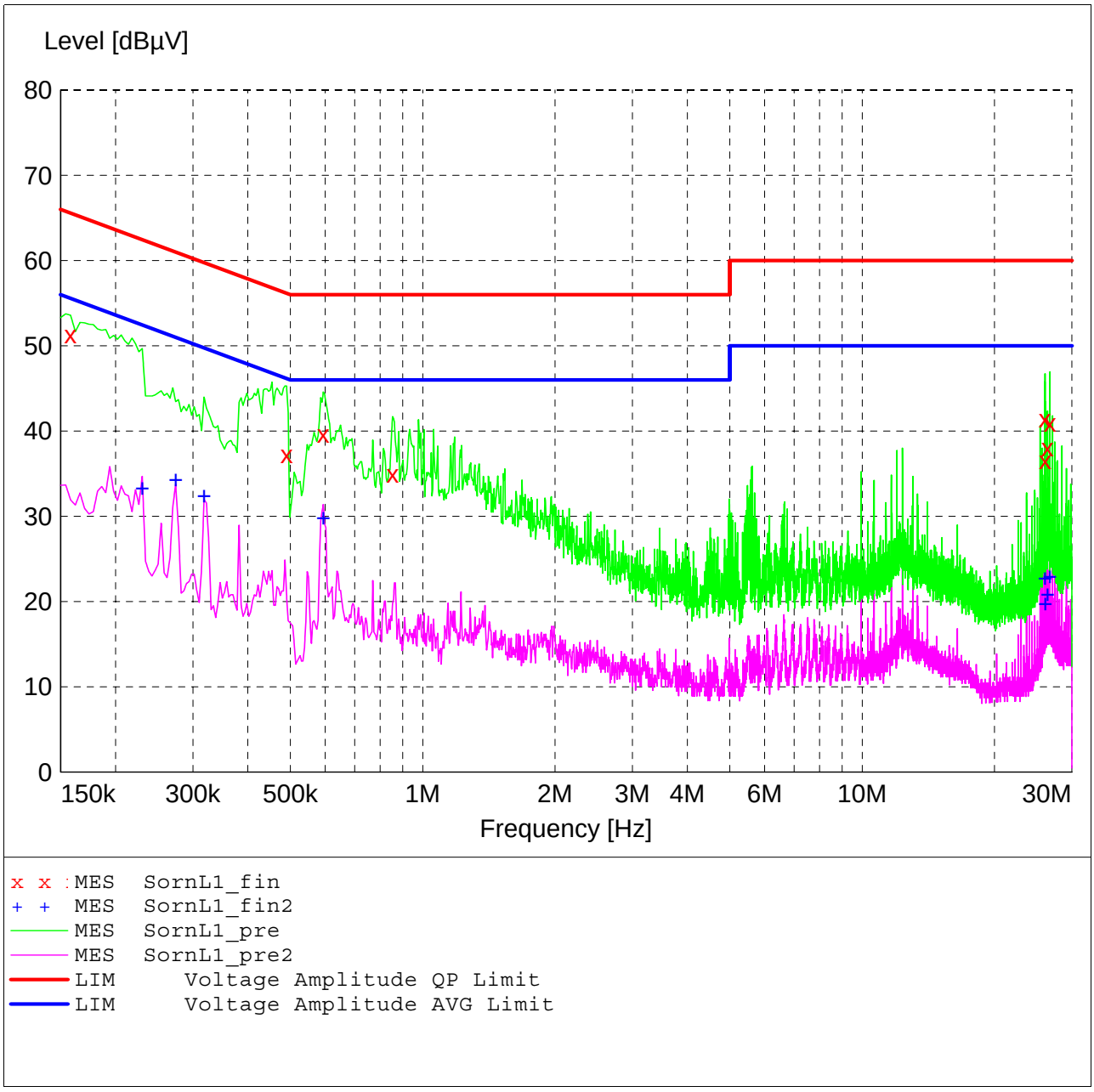
Voltage Mains Test

```
EUT:                  SORN 802.15.4 Radio
Manufacturer:         Stryker Instruments
Operating Condition:  74 deg. F,  48%  R.H.
Test Site:            DLS O.F. Site 1 (Screenroom)
Operator:             Craig B
Test Specification:   120 V,  60 Hz
Comment:              Line 1
                      Date:  07-30-2008
```

SCAN TABLE: "Line Cond Scrn RmFin"

Short Description: Line Conducted Emissions

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	30.0 MHz	4.0 kHz	QuasiPeak CISPR AV	2.0 s	9 kHz	LISN DLS#128



MEASUREMENT RESULT: "SornL1_fin"

7/30/2008 7:55AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.158000	51.30	11.4	66	14.3	QP	---	---
0.490000	37.20	10.3	56	19.0	QP	---	---
0.594000	39.70	10.3	56	16.3	QP	---	---
0.854000	35.00	10.3	56	21.0	QP	---	---
26.058000	41.40	11.9	60	18.6	QP	---	---
26.098000	36.60	11.9	60	23.4	QP	---	---
26.410000	38.10	11.9	60	21.9	QP	---	---
26.758000	41.00	11.9	60	19.0	QP	---	---

MEASUREMENT RESULT: "SornL1_fin2"

7/30/2008 7:55AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.230000	33.30	10.7	52	19.1	CAV	---	---
0.274000	34.30	10.6	51	16.7	CAV	---	---
0.318000	32.40	10.5	50	17.4	CAV	---	---
0.594000	29.80	10.3	46	16.2	CAV	---	---
26.058000	22.70	11.9	50	27.3	CAV	---	---
26.098000	19.70	11.9	50	30.3	CAV	---	---
26.406000	20.80	11.9	50	29.2	CAV	---	---
26.758000	22.90	11.9	50	27.1	CAV	---	---

FCC Part 15 Class B and RSS-210/RSS-GEN

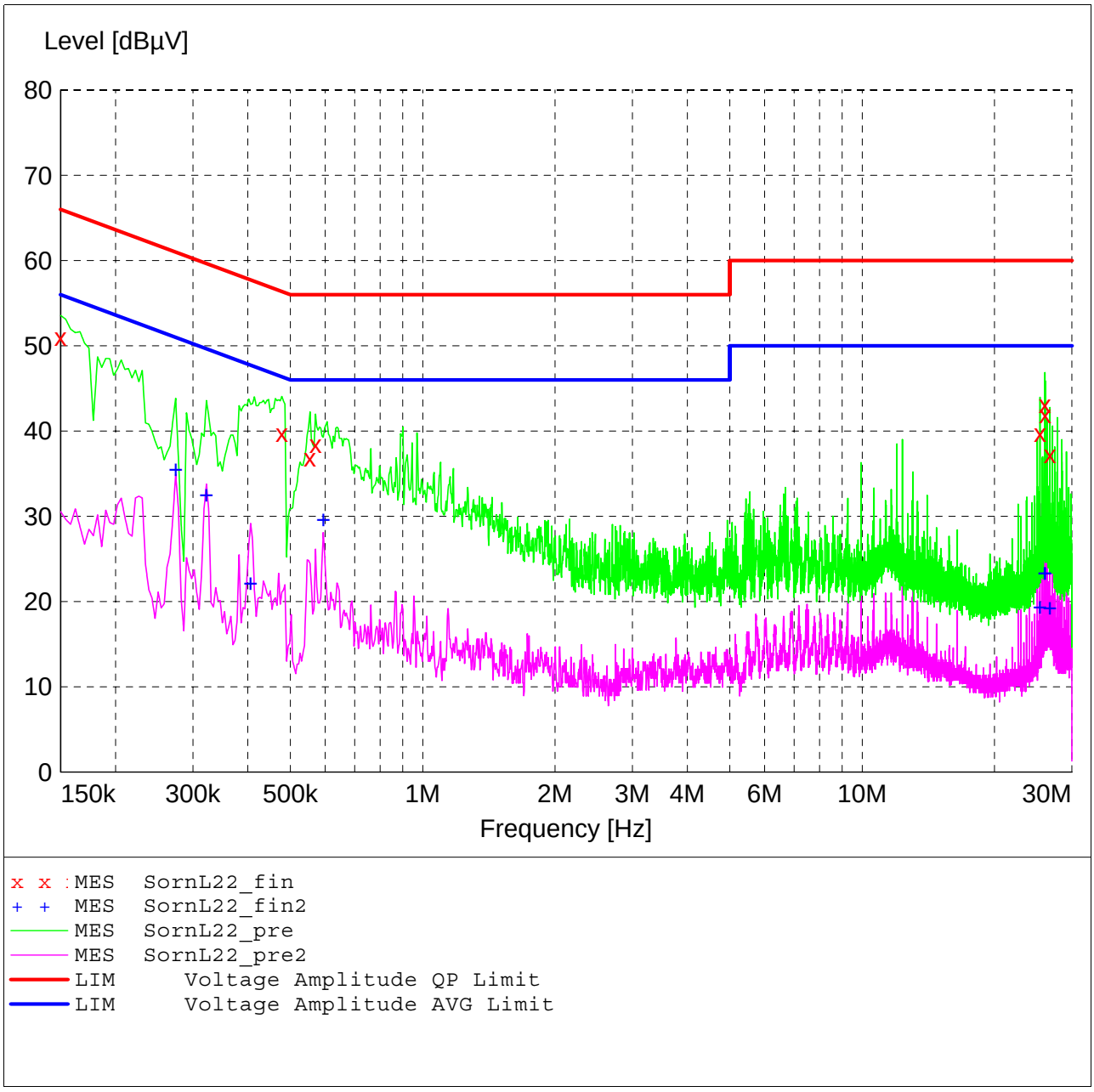
Voltage Mains Test

```
EUT:                  SORN 802.15.4 Radio
Manufacturer:         Stryker Instruments
Operating Condition:  74 deg. F,  48%  R.H.
Test Site:            DLS O.F. Site 1 (Screenroom)
Operator:             Craig B
Test Specification:   120 V,  60 Hz
Comment:              Line 2
                      Date:  07-30-2008
```

SCAN TABLE: "Line Cond Scrn RmFin"

Short Description: Line Conducted Emissions

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	30.0 MHz	4.0 kHz	QuasiPeak CISPR AV	2.0 s	9 kHz	LISN DLS#128



MEASUREMENT RESULT: "SornL22_fin"

7/30/2008 8:02AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	51.00	11.5	66	15.0	QP	---	---
0.478000	39.80	10.3	56	16.6	QP	---	---
0.554000	36.90	10.3	56	19.1	QP	---	---
0.570000	38.50	10.3	56	17.5	QP	---	---
25.386000	39.80	11.8	60	20.2	QP	---	---
26.050000	43.10	11.9	60	16.9	QP	---	---
26.090000	41.90	11.9	60	18.1	QP	---	---
26.746000	37.30	11.9	60	22.7	QP	---	---

MEASUREMENT RESULT: "SornL22_fin2"

7/30/2008 8:02AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.274000	35.50	10.6	51	15.5	CAV	---	---
0.322000	32.50	10.5	50	17.2	CAV	---	---
0.406000	22.10	10.4	48	25.6	CAV	---	---
0.594000	29.60	10.3	46	16.4	CAV	---	---
25.390000	19.30	11.8	50	30.7	CAV	---	---
26.050000	23.30	11.9	50	26.7	CAV	---	---
26.090000	23.30	11.9	50	26.7	CAV	---	---
26.750000	19.20	11.9	50	30.8	CAV	---	---

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APPENDIX A

2.0 SPURIOUS EMISSIONS AT ANTENNA TERMINALS – PART 15.247(c)

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 10^{th} harmonic of the fundamental.

The allowed emissions for transmitters operating in the 2400 MHz - 2483.5 MHz bands for SORN 802.15.4 Radio equipment are found under Part 15, Section 15.247(c). 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

CONDUCTED EMISSION DATA AND GRAPH(S)

TAKEN FOR

SPURIOUS EMISSION MEASUREMENTS MADE

AT THE ANTENNA TERMINALS

PART 15.247(c)

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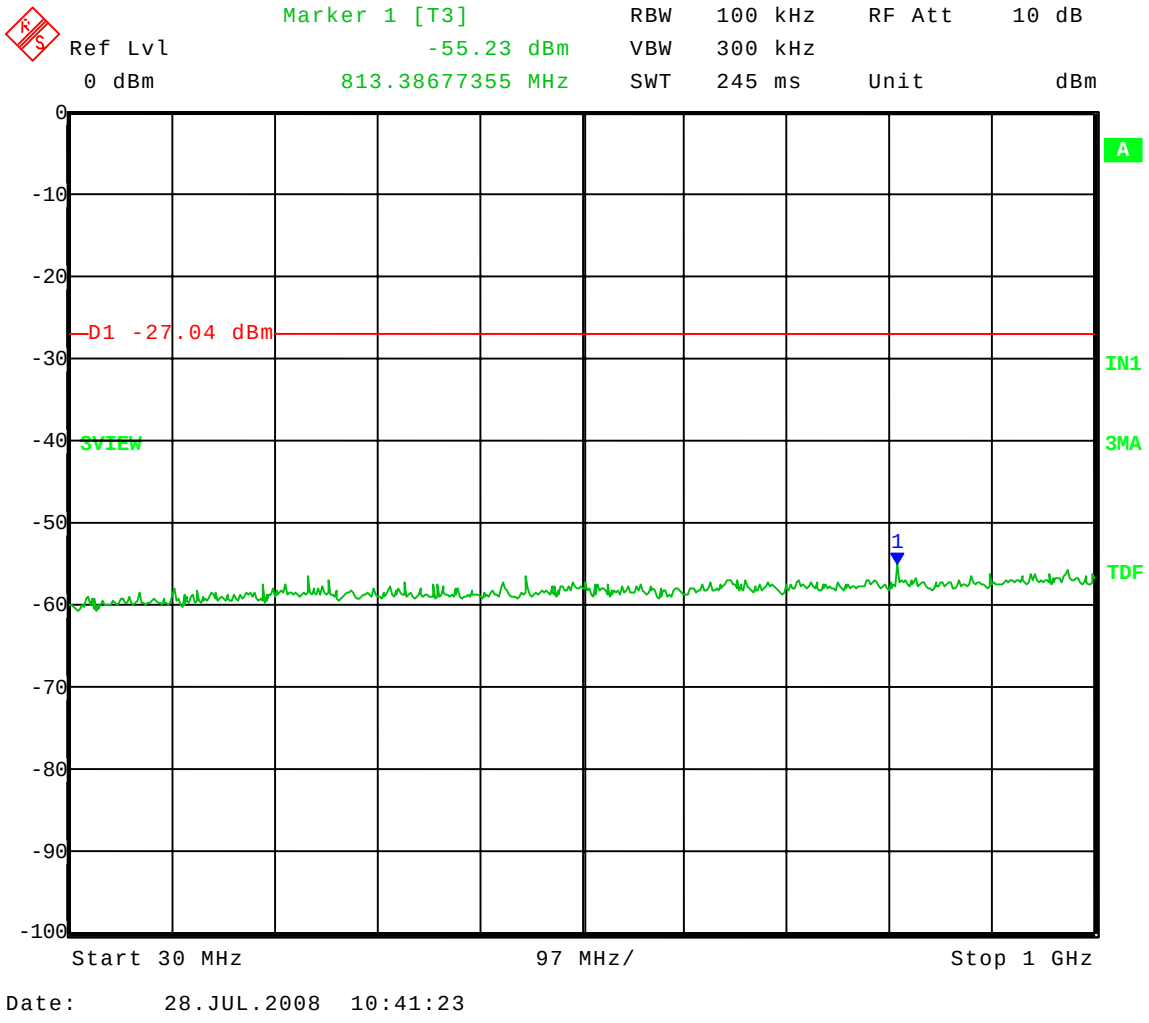
APPENDIX A

Test Date: 07-28-2008
Company: Stryker Instruments
EUT: SORN 802.15.4
Test: Spurious Emissions - Conducted
Operator: Craig B
Comment: Low Channel Transmit = 2.405 GHz
Frequency Range: 30 to 1000 MHz
Limit = -27.04 dBm
All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency



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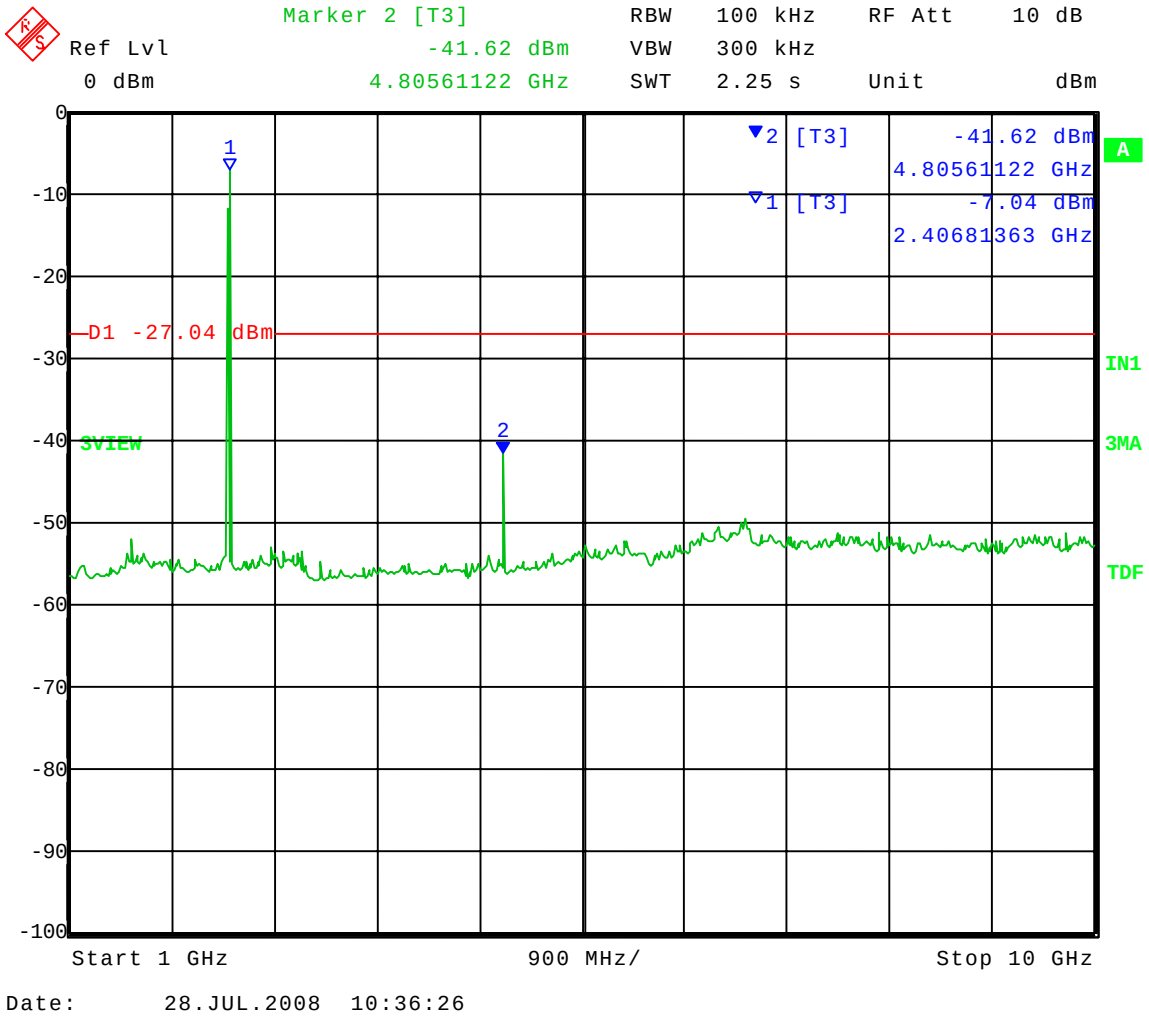
APPENDIX A

Test Date: 07-28-2008
Company: Stryker Instruments
EUT: SORN 802.15.4
Test: Spurious Emissions - Conducted
Operator: Craig B
Comment: Low Channel Transmit = 2.405 GHz
Frequency Range: 1 to 10 GHz
Limit = -27.04 dBm
All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency



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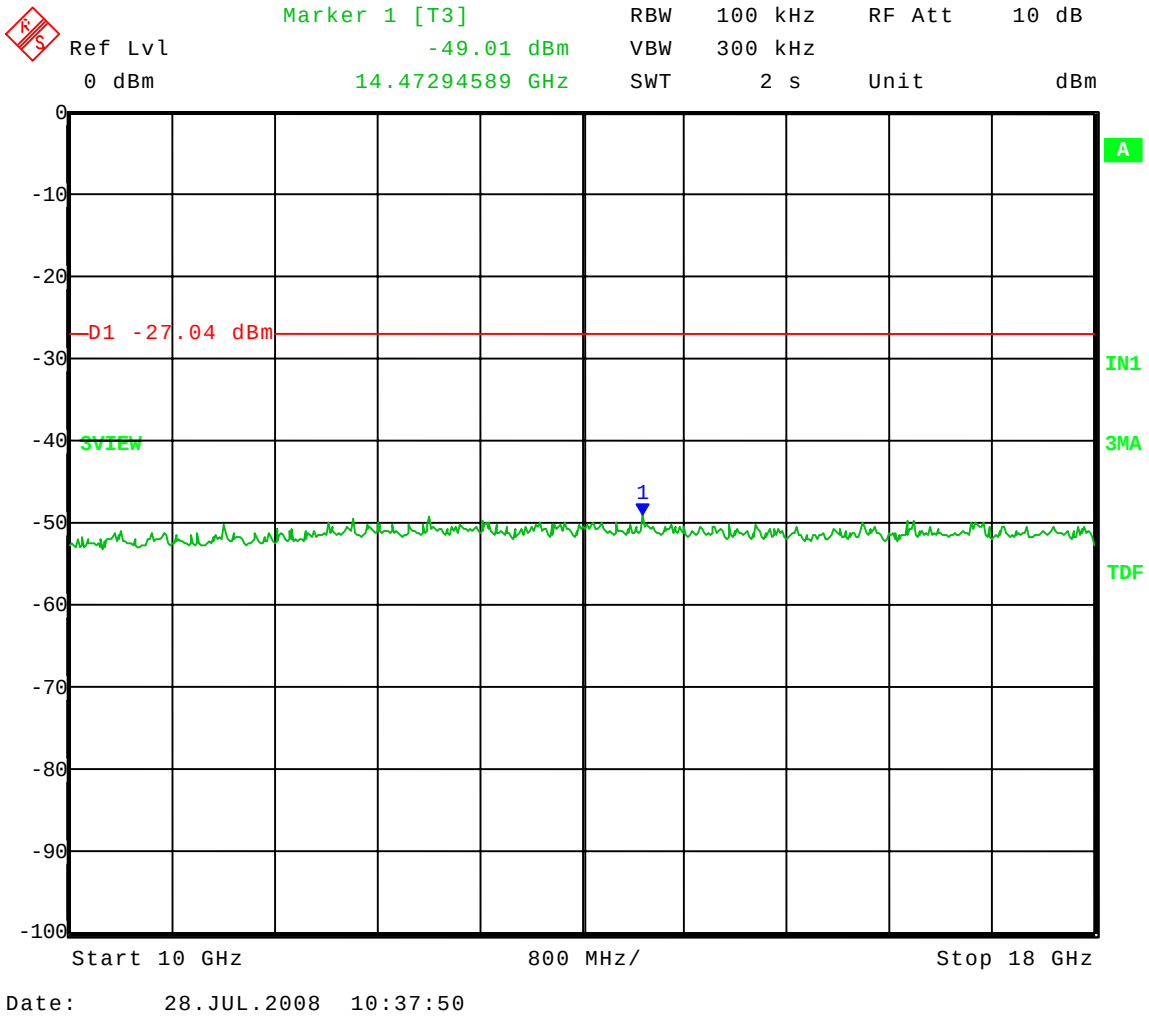
APPENDIX A

Test Date: 07-28-2008
Company: Stryker Instruments
EUT: SORN 802.15.4
Test: Spurious Emissions - Conducted
Operator: Craig B
Comment: Low Channel Transmit = 2.405 GHz
Frequency Range: 10 to 18 GHz
Limit = -27.04 dBm
All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency



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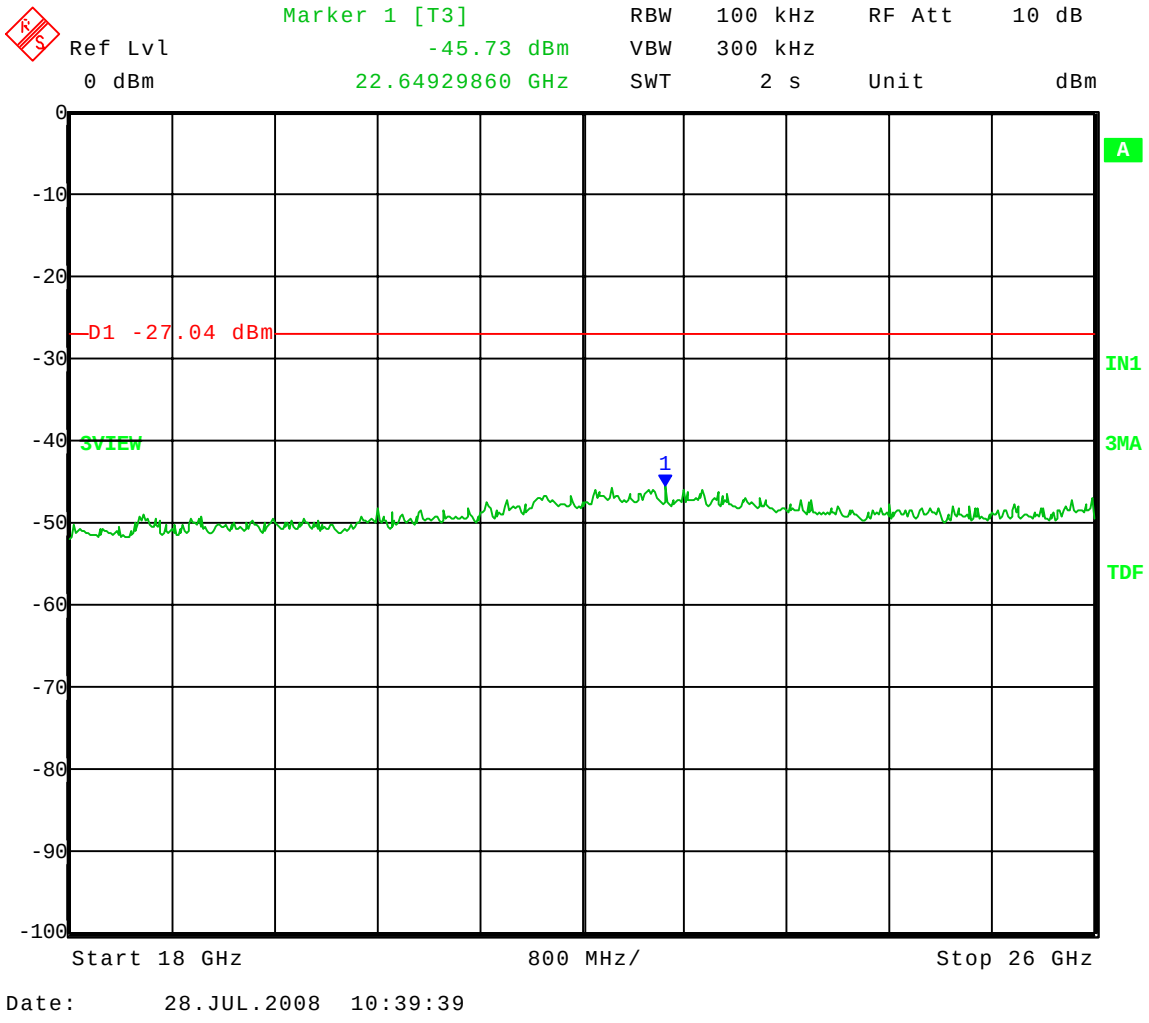
APPENDIX A

Test Date: 07-28-2008
Company: Stryker Instruments
EUT: SORN 802.15.4
Test: Spurious Emissions - Conducted
Operator: Craig B
Comment: Low Channel Transmit = 2.405 GHz
Frequency Range: 18 to 26 GHz
Limit = -27.04 dBm
All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency



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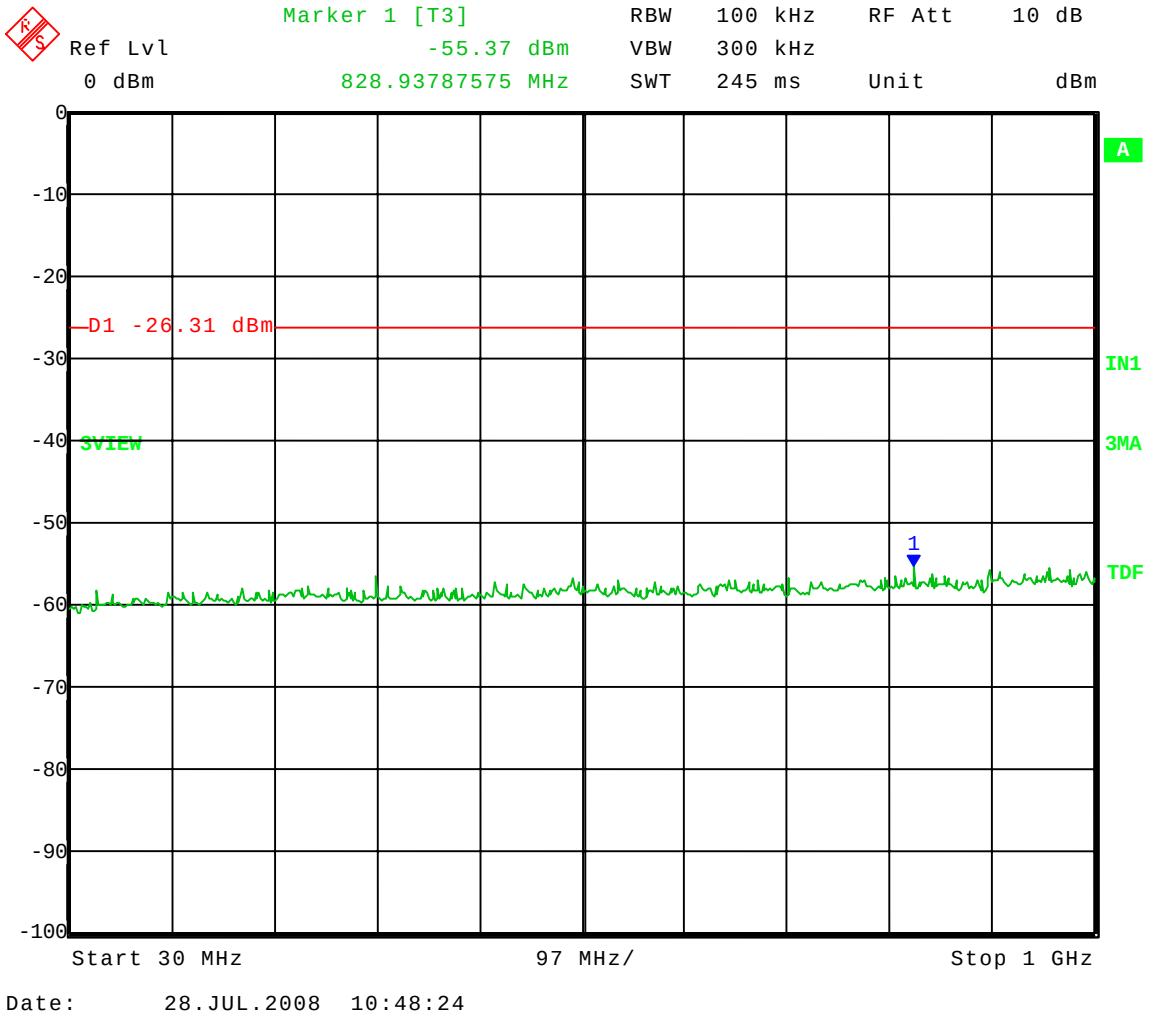
APPENDIX A

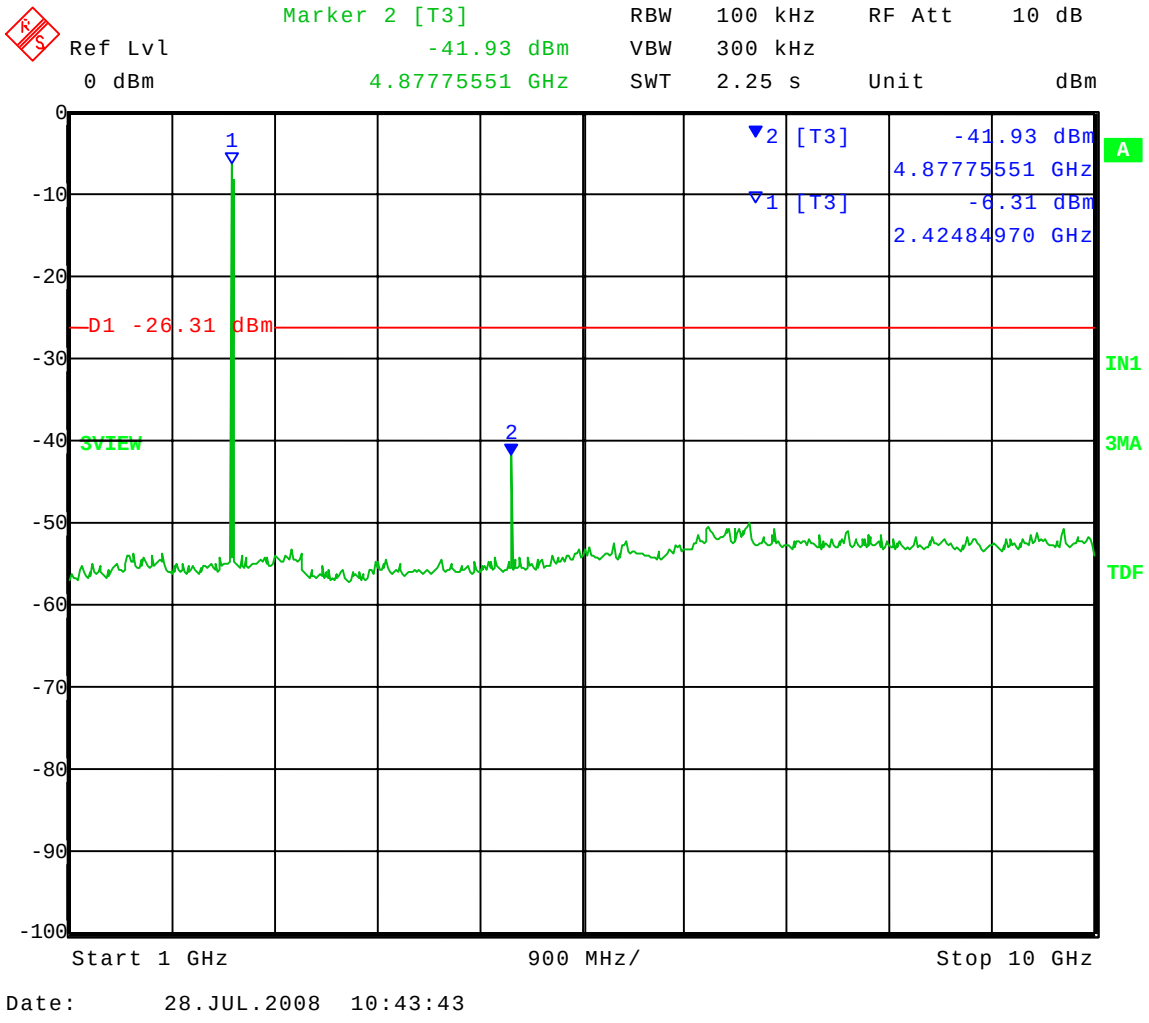
Test Date: 07-28-2008
Company: Stryker Instruments
EUT: SORN 802.15.4
Test: Spurious Emissions - Conducted
Operator: Craig B
Comment: Middle Channel Transmit = 2.440 GHz
Frequency Range: 30 to 1000 MHz
Limit = -26.31 dBm
All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency



1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 07-28-2008
Company: Stryker Instruments
EUT: SORN 802.15.4
Test: Spurious Emissions - Conducted
Operator: Craig B
Comment: Middle Channel Transmit = 2.440 GHz
Frequency Range: 1 to 10 GHz
Limit = -26.31 dBm
All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency



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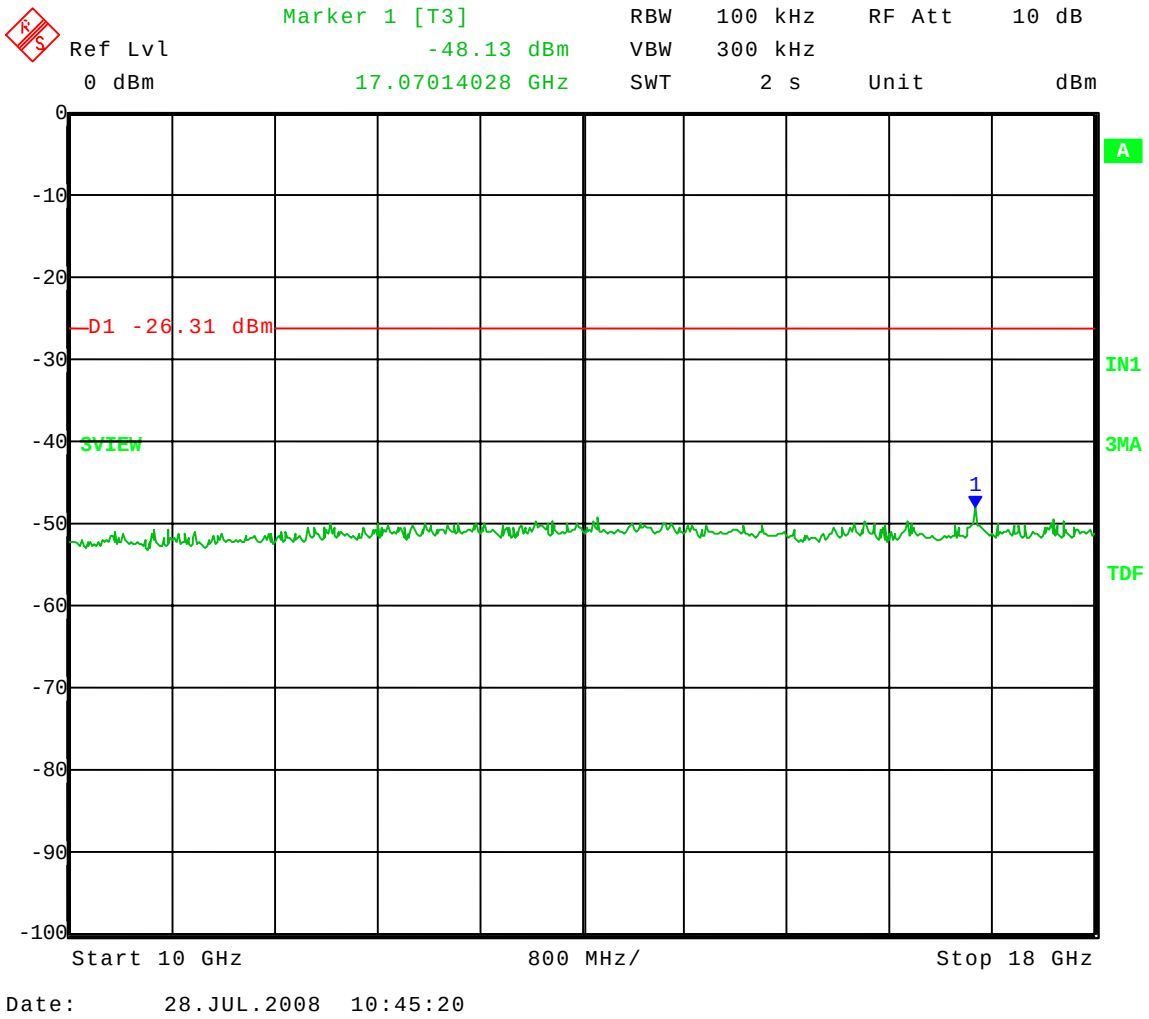
APPENDIX A

Test Date: 07-28-2008
Company: Stryker Instruments
EUT: SORN 802.15.4
Test: Spurious Emissions - Conducted
Operator: Craig B
Comment: Middle Channel Transmit = 2.440 GHz
Frequency Range: 10 to 18 GHz
Limit = -26.31 dBm

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

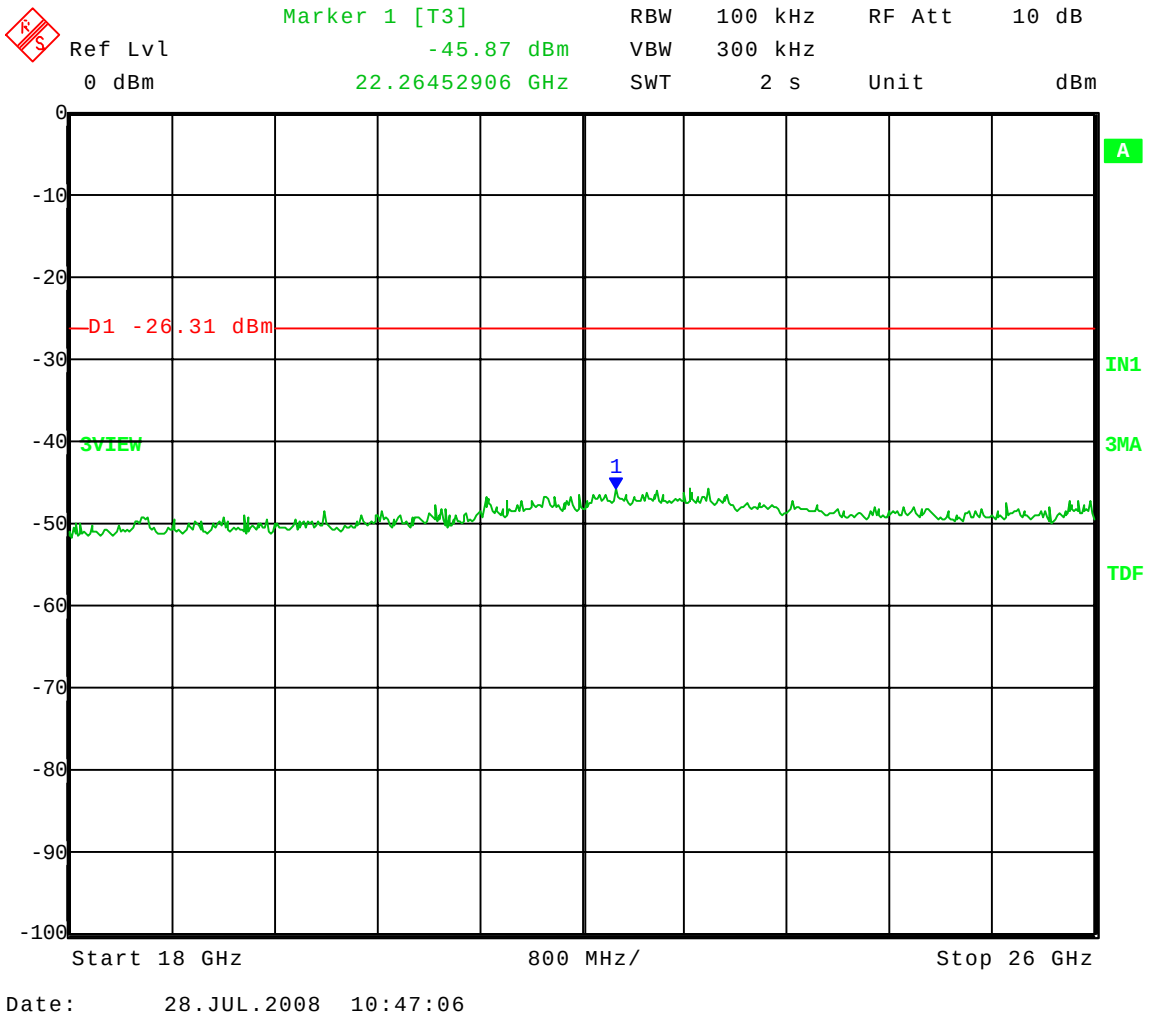


1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 07-28-2008
Company: Stryker Instruments
EUT: SORN 802.15.4
Test: Spurious Emissions - Conducted
Operator: Craig B
Comment: Middle Channel Transmit = 2.440 GHz
Frequency Range: 18 to 26 GHz
Limit = -26.31 dBm

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



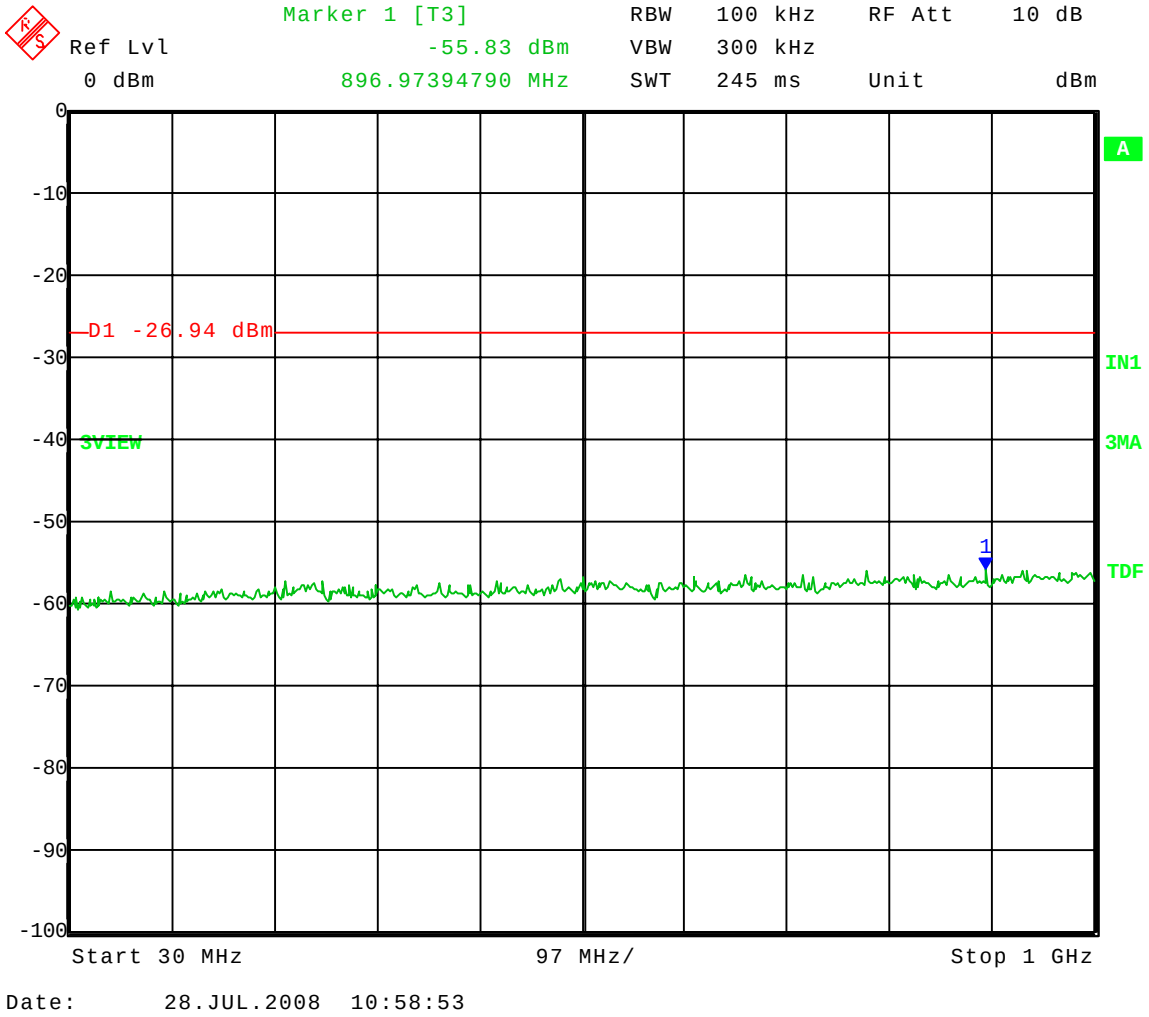
1250 Peterson Dr., Wheeling, IL 60090

Company: Stryker Instruments
Model Tested: 4251-001-010
Report Number: 14387

APPENDIX A

Test Date: 07-28-2008
Company: Stryker Instruments
EUT: SORN 802.15.4
Test: Spurious Emissions - Conducted
Operator: Craig B
Comment: High Channel Transmit = 2.480 GHz
Frequency Range: 30 to 1000 MHz
Limit = -26.94 dBm

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

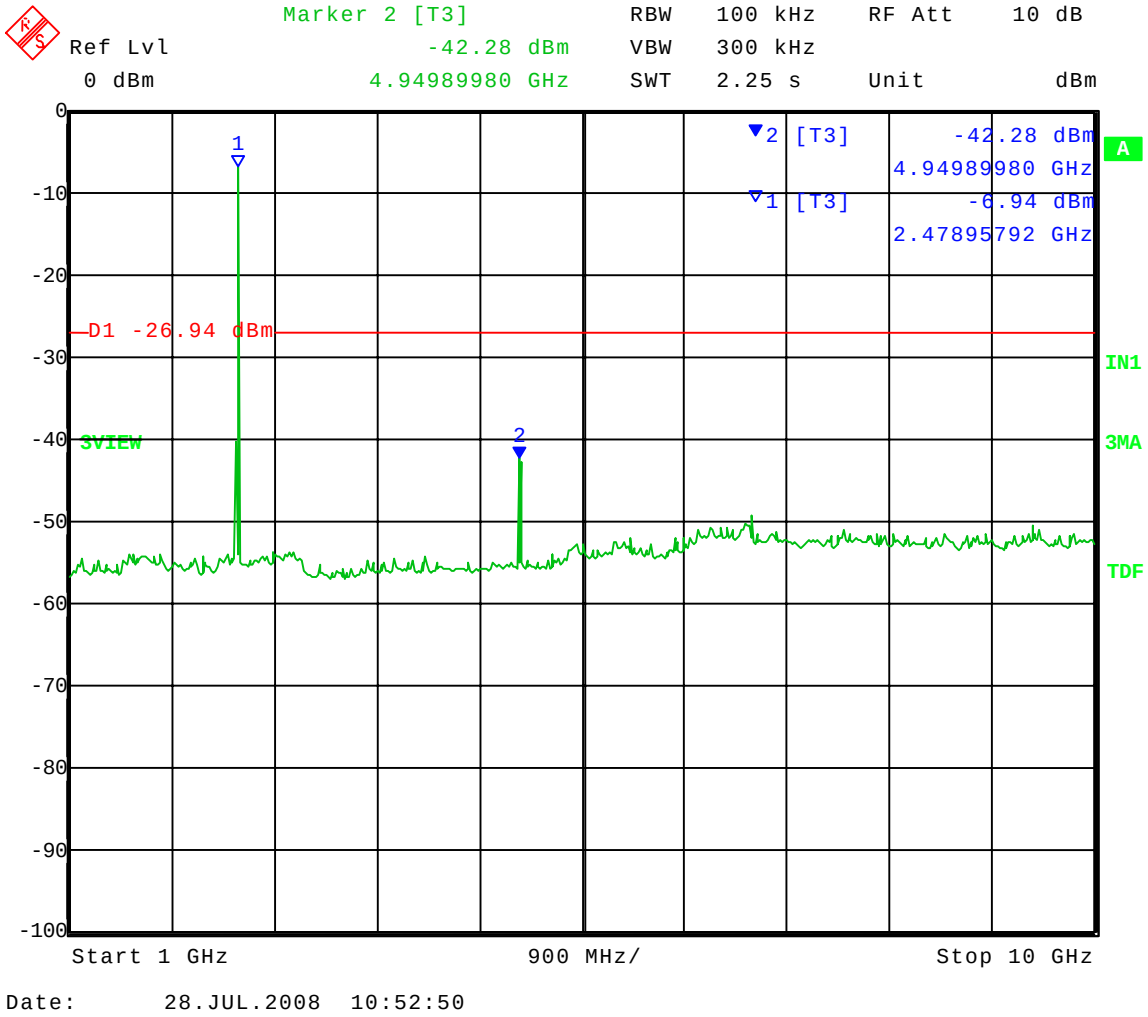


1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 07-28-2008
Company: Stryker Instruments
EUT: SORN 802.15.4
Test: Spurious Emissions - Conducted
Operator: Craig B
Comment: High Channel Transmit = 2.480 GHz
Frequency Range: 1 to 10 GHz
Limit = -26.94 dBm

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

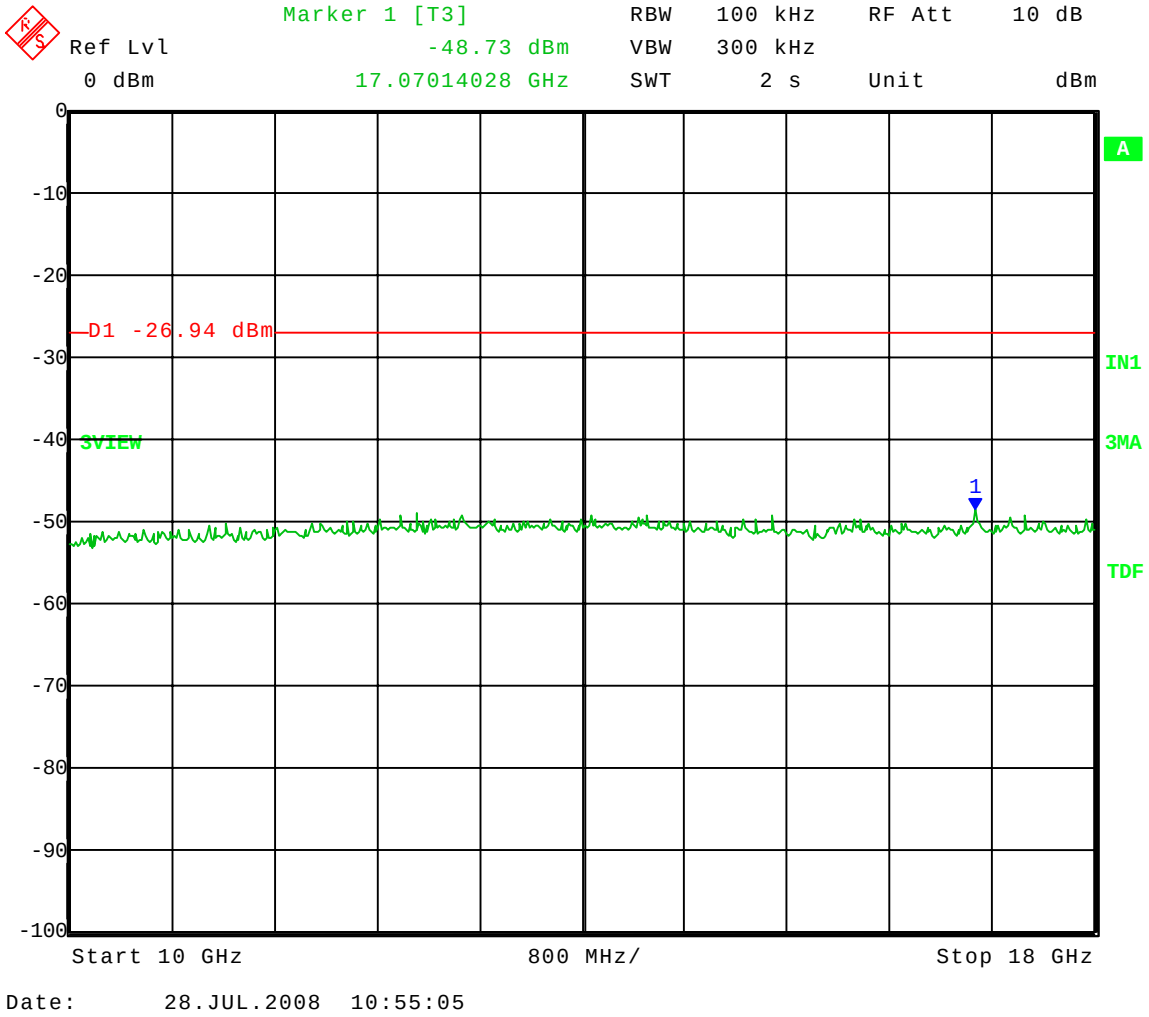


1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 07-28-2008
Company: Stryker Instruments
EUT: SORN 802.15.4
Test: Spurious Emissions - Conducted
Operator: Craig B
Comment: High Channel Transmit = 2.480 GHz
Frequency Range: 10 to 18 GHz
Limit = -26.94 dBm

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

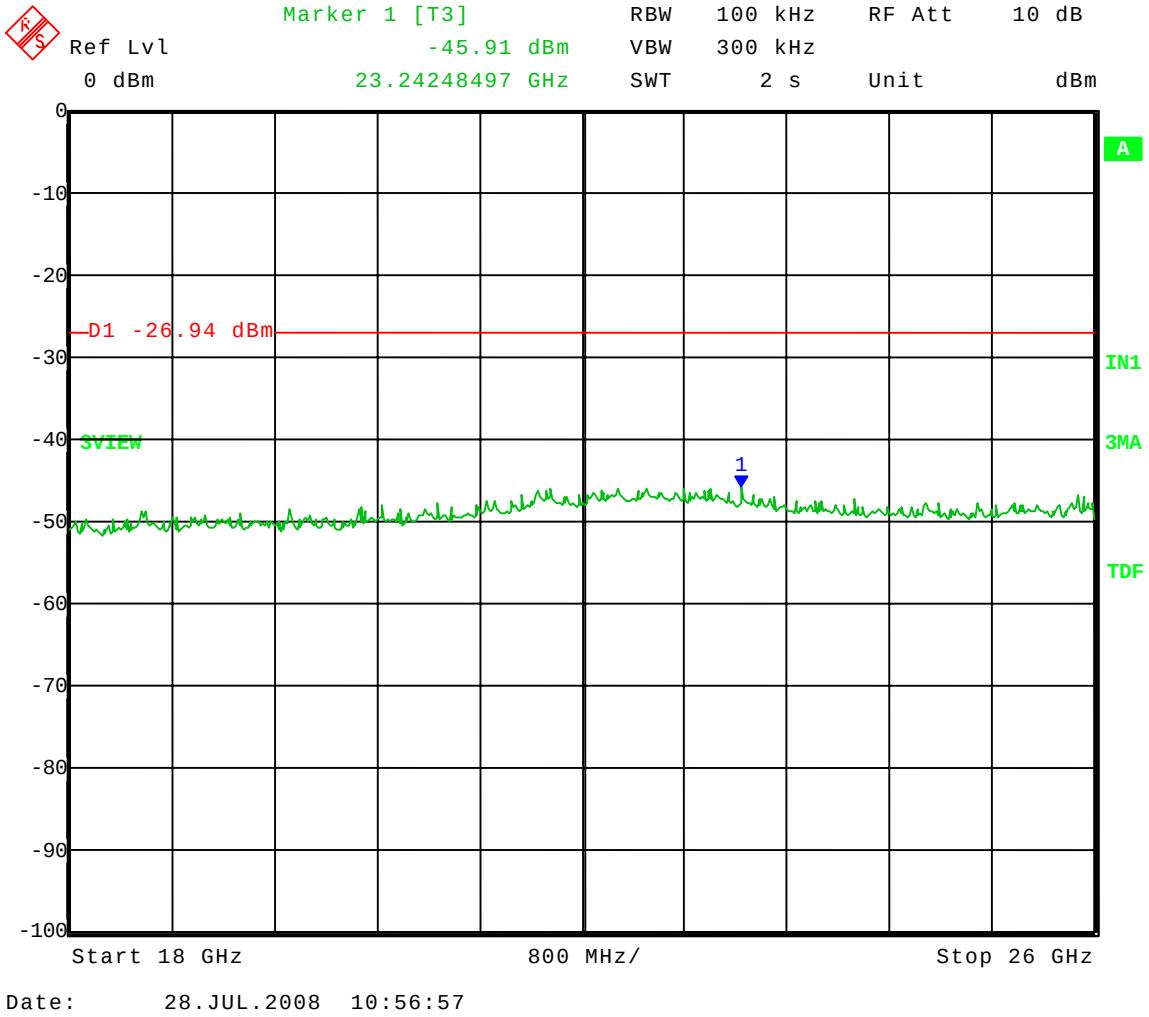


1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Test Date: 07-28-2008
Company: Stryker Instruments
EUT: SORN 802.15.4
Test: Spurious Emissions - Conducted
Operator: Craig B
Comment: High Channel Transmit = 2.480 GHz
Frequency Range: 18 to 26 GHz
Limit = -26.94 dBm

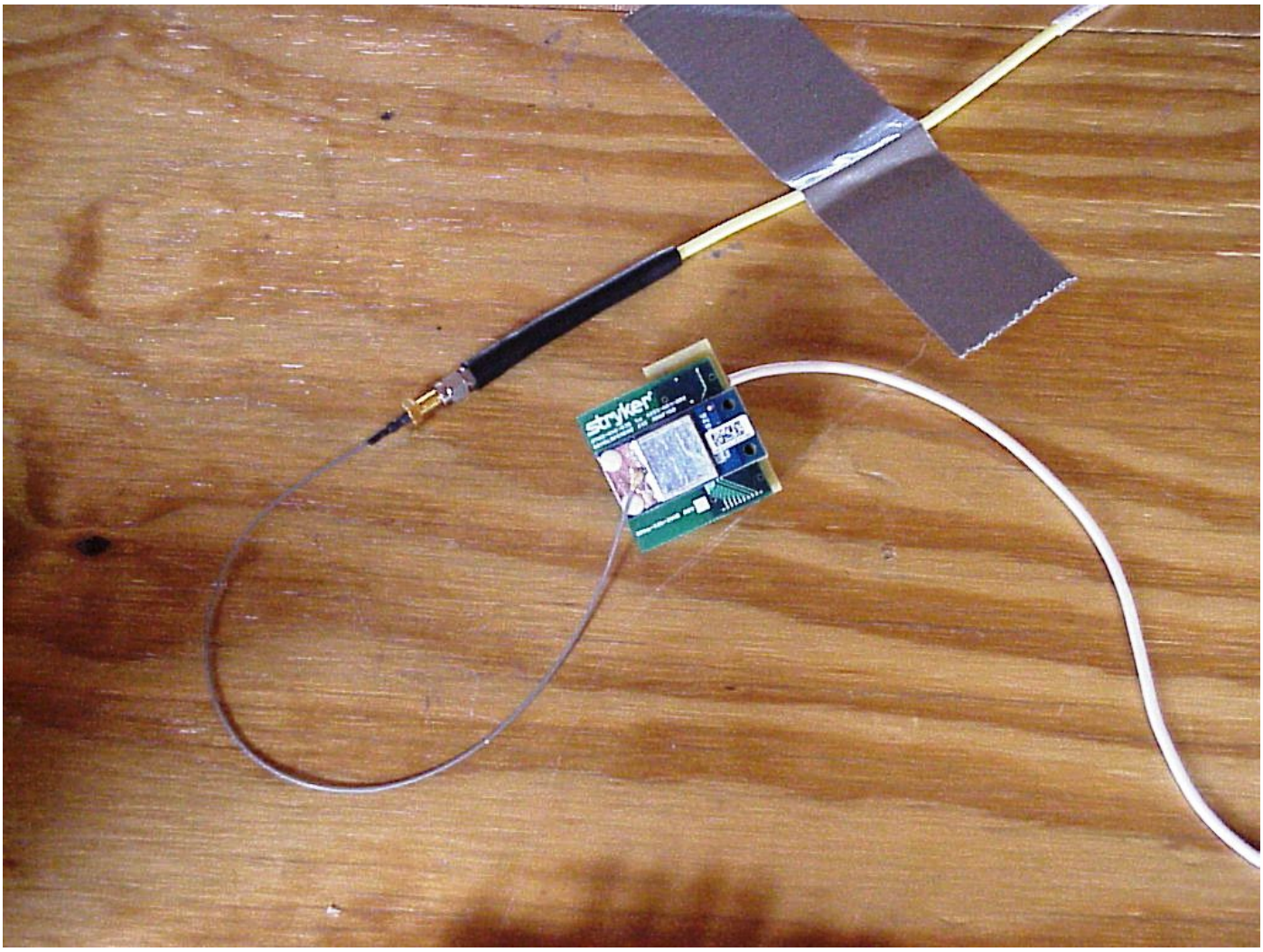
All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency



1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

2.0 CONDUCTED EMISSIONS (ANTENNA TERMINAL) PHOTOS TAKEN DURING TESTING



RF CONDUCTED

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

3.0 RESTRICTED BANDS

As stated in Section 15.205a, the fundamental emission from the SORN 802.15.4 Radio 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

APPENDIX A

DATA AND GRAPH(S) TAKEN SHOWING

THE RESTRICTED BAND COMPLIANCE

PART 15.247(c)

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Radiated Spurious Emissions in Restricted Bands
Tested at a 3 Meter Distance

EUT: SORN 802.15.4 Radio
Manufacturer: Stryker Instruments
Operating Condition: 73 deg F; 60% R.H.
Test Site: Site 3
Operator: Adam A
Test Specification: FCC Part 15.247(d) and FCC Part 15.205, and RSS-210 Annex 8
Comment:
Date: 7/24/2008

Notes: **(1)** Peak measurements were taken with RBW = 1 MHz, VBW = 3 MHz
(2) Average measurements were taken with RBW = 1 MHz, VBW = 10 Hz
(3) All other restricted band emissions at least 20 dB under the limit.

Channel 0B:

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	35.98	32.82	-32.2	36.60	26.7	9.9	54	44.1	Res. Band
4.81	Max Peak	Vert	51.23	32.82	-32.2	51.85	---	51.85	74	22.15	Res. Band
4.81	Average	Horz	37.88	32.82	-32.2	38.50	26.7	11.8	54	42.2	Res. Band
4.81	Max Peak	Horz	52.01	32.82	-32.2	52.63	---	52.63	74	21.37	Res. Band

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Radiated Spurious Emissions in Restricted Bands
Tested at a 3 Meter Distance

EUT: SORN 802.15.4 Radio
Manufacturer: Stryker Instruments
Operating Condition: 70 deg F; 64% R.H.
Test Site: Site 3
Operator: Adam A
Test Specification: FCC Part 15.247(d) and FCC Part 15.205, and RSS-210 Annex 8
Comment:
Date: 07-24-2008

Notes: **(1)** Peak measurements were taken with RBW = 1 MHz, VBW = 3 MHz
(2) Average measurements were taken with RBW = 1 MHz, VBW = 10 Hz
(3) All other restricted band emissions at least 20 dB under the limit.

Channel 1A:

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	36.07	33.12	-32.0	37.19	26.7	10.49	54	43.51	Res. Band
4.96	Max Peak	Vert	50.36	33.12	-32.0	51.48	---	51.48	74	22.52	Res. Band
4.96	Average	Horz	38.34	33.12	-32.0	39.46	26.7	12.76	54	41.24	Res. Band
4.96	Max Peak	Horz	51.45	33.12	-32.0	52.57	---	52.57	74	21.43	Res. Band

1250 Peterson Dr., Wheeling, IL 60090

APPENDIX A

Radiated Spurious Emissions in Restricted Bands
Tested at a 3 Meter Distance

EUT: SORN 802.15.4 Radio
Manufacturer: Stryker Instruments
Operating Condition: 73 deg F; 58% R.H.
Test Site: Site 3
Operator: Adam A
Test Specification: FCC Part 15.247(d) and FCC Part 15.205, and RSS-210 Annex 8
Comment:
Date: 7/24/2008

Notes: **(1)** Peak measurements were taken with RBW = 1 MHz, VBW = 3 MHz
(2) Average measurements were taken with RBW = 1 MHz, VBW = 10 Hz
(3) All other restricted band emissions at least 20 dB under the limit.

Channel 12:

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	35.41	32.96	-32.1	36.27	26.7	9.57	54	44.43	Res. Band
4.88	Max Peak	Vert	49.81	32.96	-32.1	50.67	---	50.67	74	23.33	Res. Band
4.88	Average	Horz	38.81	32.96	-32.1	39.67	26.7	12.97	54	41.03	Res. Band
4.88	Max Peak	Horz	51.16	32.96	-32.1	52.02	---	52.02	74	21.98	Res. Band

DATA AND GRAPH(S) TAKEN SHOWING

THE BAND EDGE CONDUCTED COMPLIANCE

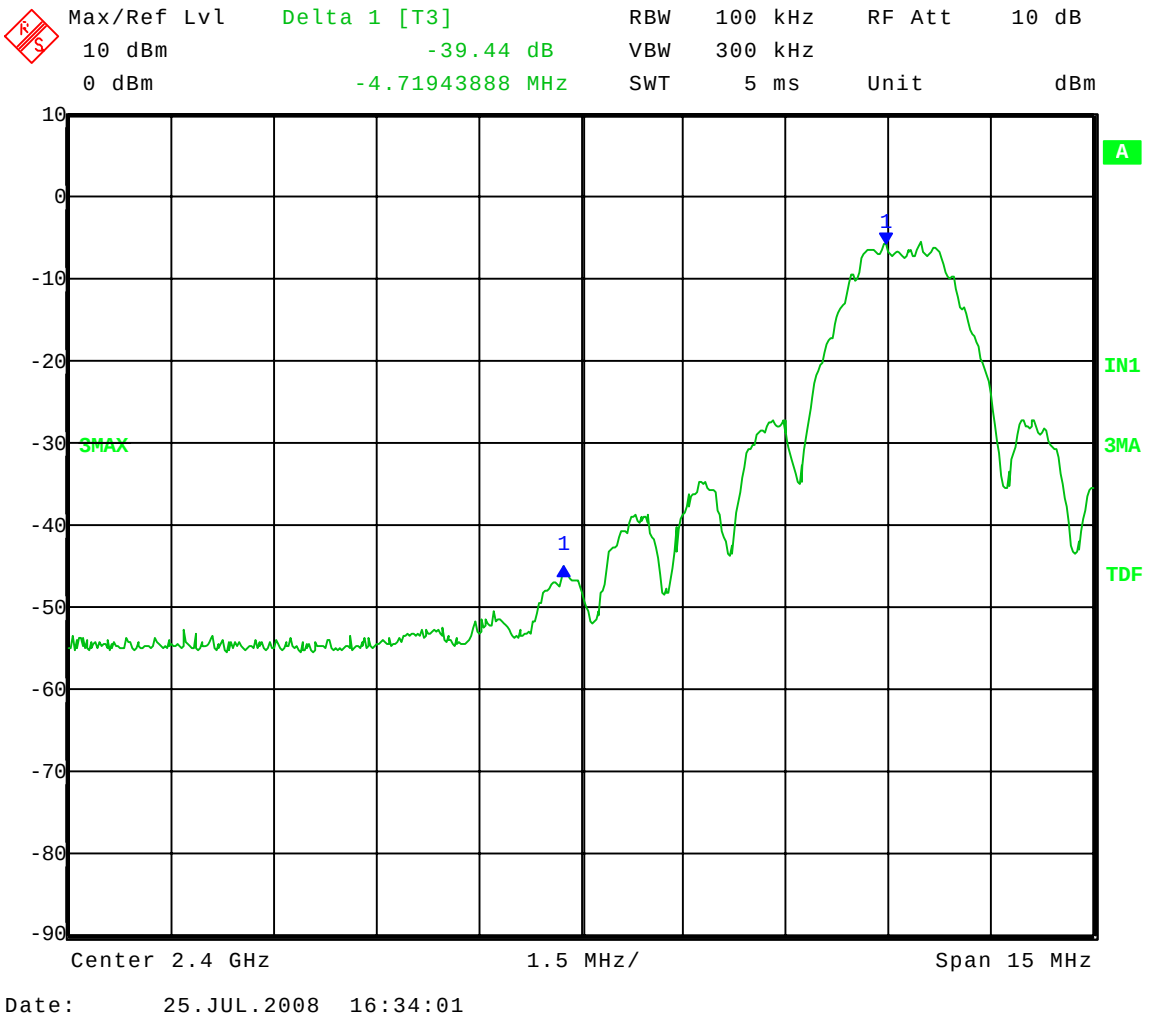
PART 15.247(c)

1250 Peterson Dr., Wheeling, IL 60090

Company: Stryker Instruments
Model Tested: 4251-001-010
Report Number: 14387

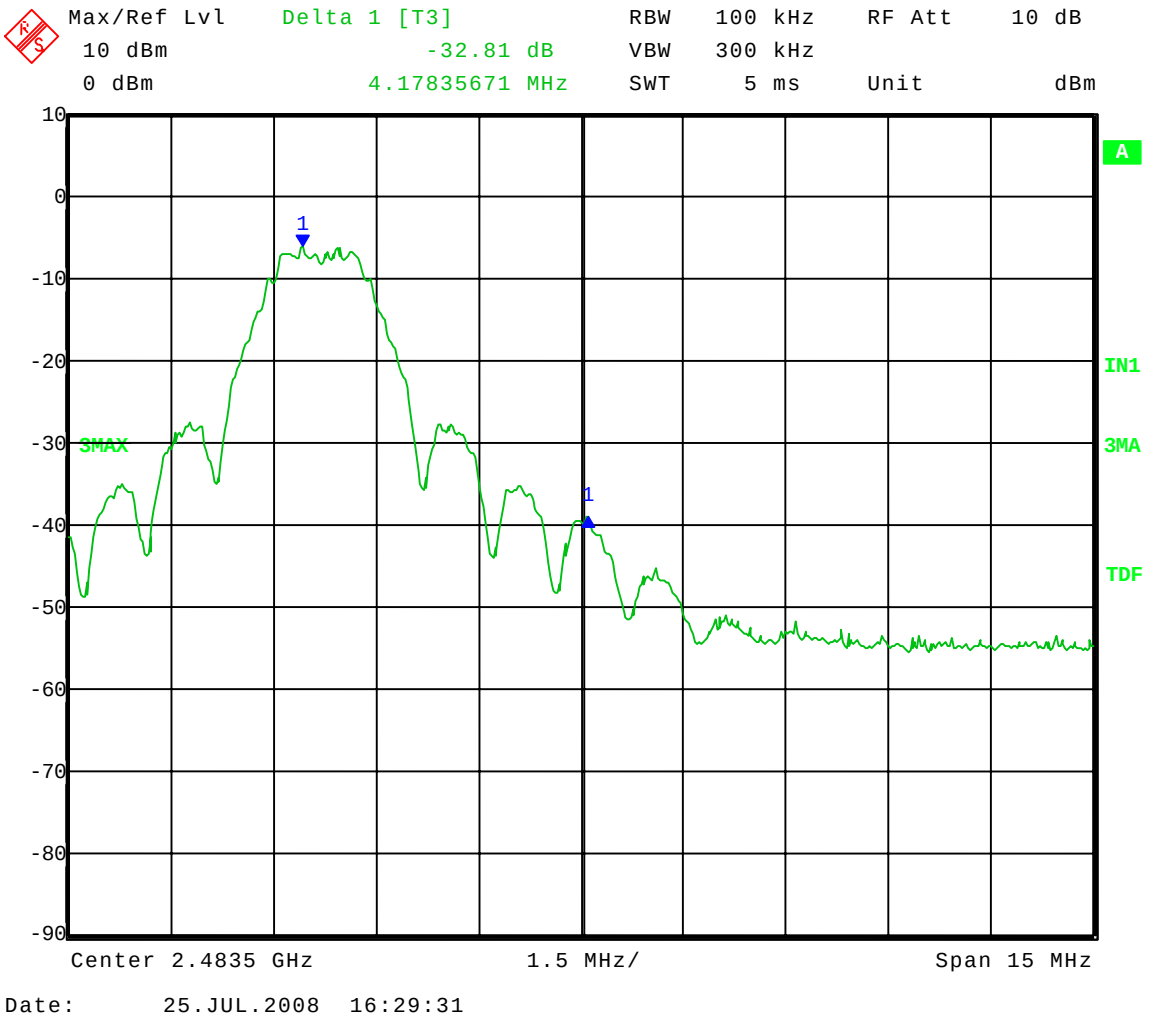
Test Date: 07-25-2008
Company: Stryker Instruments
EUT: SORN 802.15.4
Test: Lower Band-Edge Compliance - Conducted
Operator: Adam A
Comment: Low Channel: Frequency – 2.405 GHz

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



Test Date: 07-25-2008
Company: Stryker Instruments
EUT: SORN 802.15.4
Test: Upper Band-Edge Compliance - Conducted
Operator: Adam A
Comment: High Channel: Frequency – 2.480 GHz

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



DATA AND GRAPH(S) TAKEN SHOWING

THE UPPER BAND EDGE

PART 15.247(c)

BAND EDGE FALLS ON THE RESTRICTED

FREQUENCY BAND

Radiated Upper Band-Edge measurement

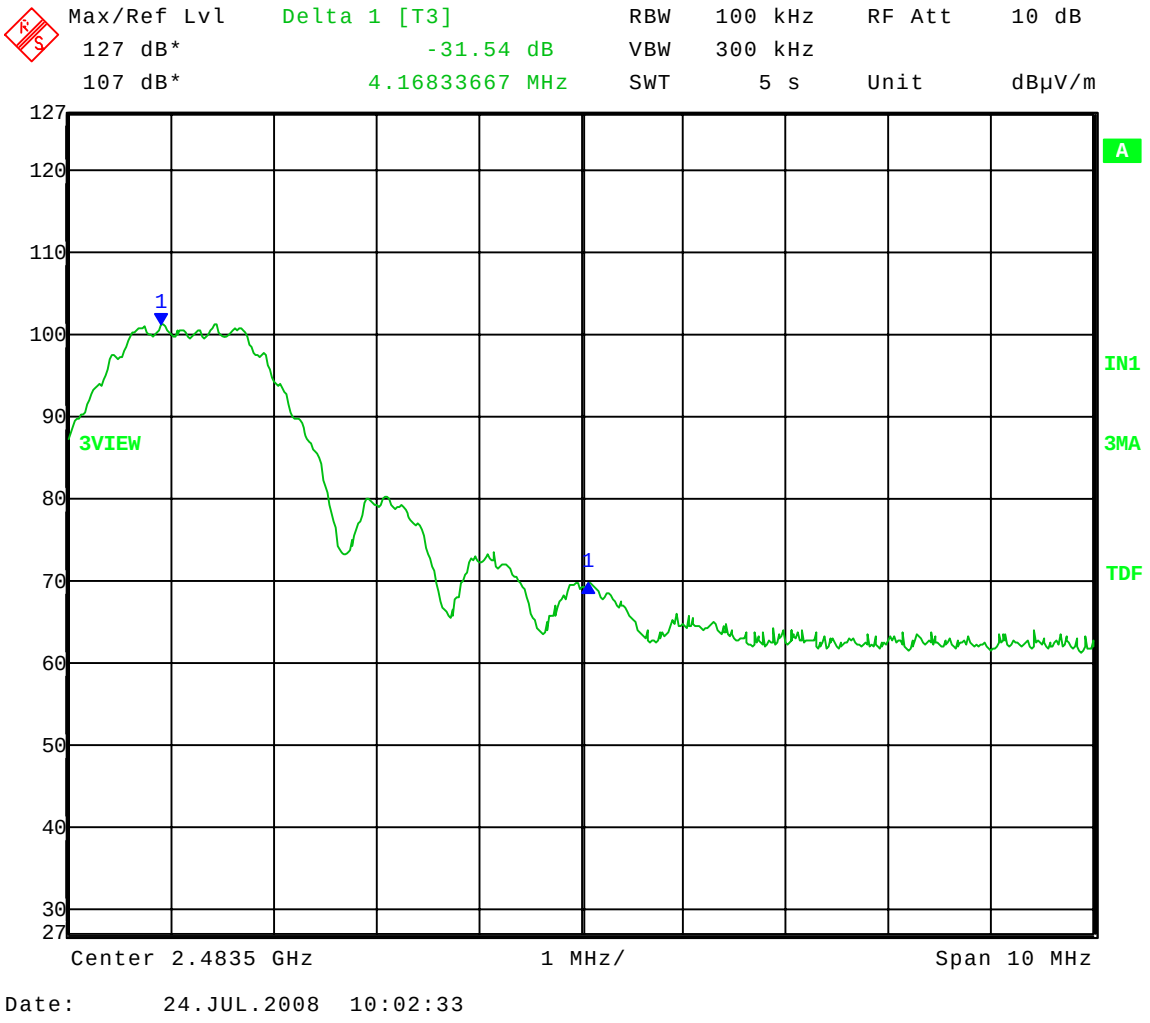
Test Procedure: "Measurement of Digital Transmission Systems Operating under Section 15.247 (March 23, 2005) for the FCC, and RSS-210 Annex 8 for Industry Canada.

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 (dBµV/m)	Duty Cycle Correction (dB)	Delta-Marker (dB)	Band-Edge Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2480 (Peak)	H	95.37	N/A	-31.54	63.8	74	10.2
2480 (Avg)	H	92.64	-26.7	-31.54	34.4	54	19.6

Test Date: 07-24-2008
Company: Stryker Instruments
EUT: SORN 802.15.4 Radio
Test: Upper Band-Edge Radiated – Marker Delta Method
Operator: Craig B
Comment: High Channel: Frequency – 2.480 GHz



6.0 FIELD STRENGTH OF FUNDAMENTAL AND SPURIOUS EMISSION MEASUREMENTS

The radiated measurements made at D.L.S. Electronic Systems, Inc., for the SORN 802.15.4 Radio, Model Number: 4251-001-010, 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 SORN 802.15.4 Radio were made up to 26 GHz MHz, in accordance with Section 15.33a for Intentional Radiators with a fundamental frequency of 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. 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.

6.0 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 75°F at 35% relative humidity.

RADIATED DATA AND GRAPH(S) TAKEN FOR

FIELD STRENGTH

SPURIOUS EMISSION MEASUREMENTS

PART 15.247

30 MHz – 1000 MHz

FCC Part 15 Class B and RSS-210/RSS-GEN Section 7.2.3

Electric Field Strength

```
EUT:                 SORN 802.15.4
Manufacturer:        Stryker
Operating Condition: 72 deg. F; 65% R.H.
Test Site:           DLS O.F. Site 3
Operator:            Adam A
Test Specification:
Comment:             Tx and Rx; Low, Mid and High Channels
                     Date:  07-25-2008
```

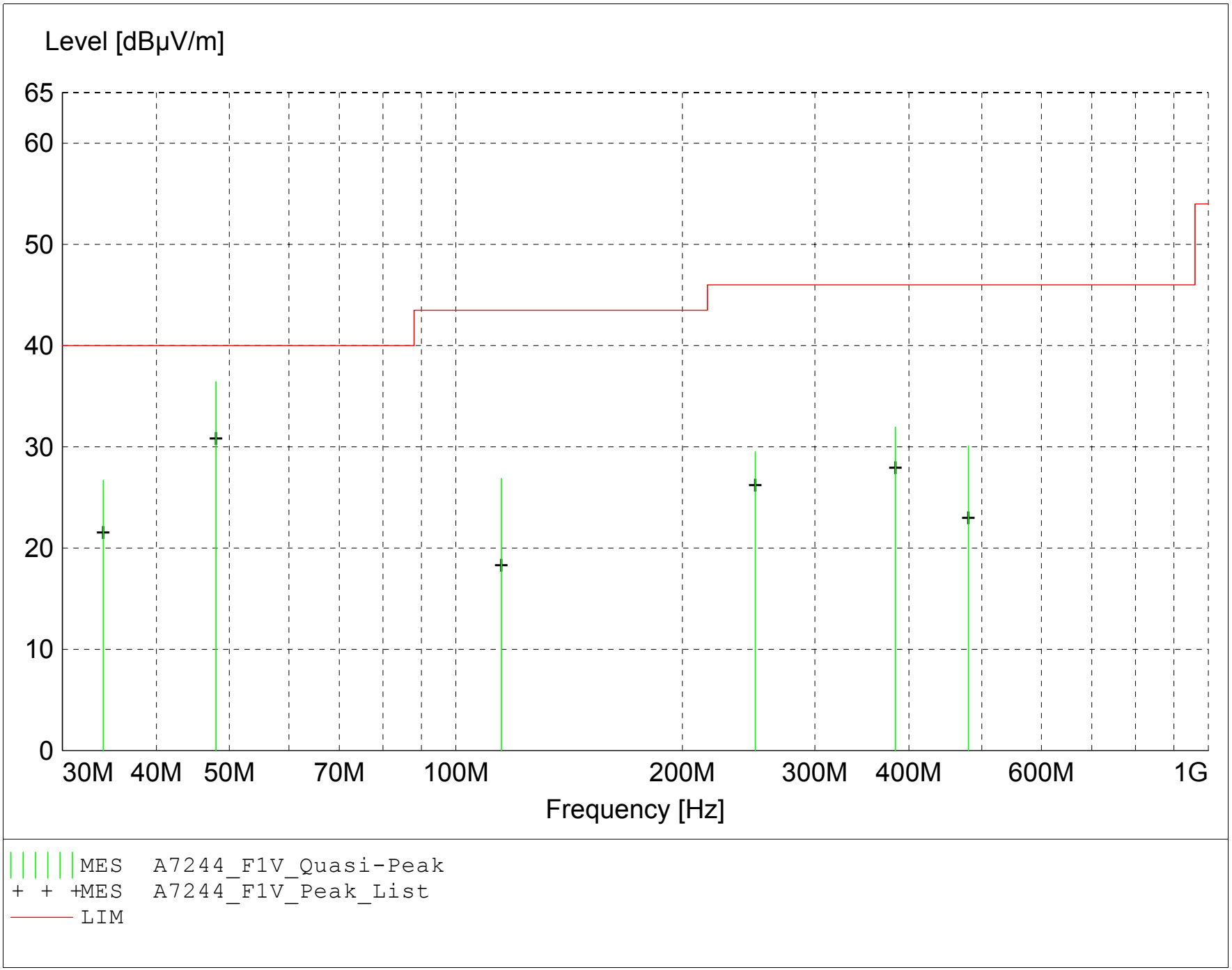
TEXT: "Site 3 MidV 3M"

```
  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
```


Level [dBµV/m]
65
60
50
40
30
20
10
0
30M
40M
50M
70M
100M
200M
300M
400M
600M
1G
Frequency [Hz]
MES A7244_F1V_Quasi-Peak
MES A7244_F1V_Peak_List
LIM

MEASUREMENT RESULT: "A7244_F1V_Final"

7/25/2008 10:14AM

Frequency	Level	Antenna Factor	System Loss	Total Level	Limit	Margin	Height Ant.	EuT Angle	Final Detector	Comment
MHz	dBµV	dBµV/m	dB	dBµV/m	dBµV/m	dB	m	deg		
48.000000	44.68	16.24	-24.5	36.4	40.0	3.6	1.00	0	QUASI-PEAK	From eval board
34.000000	36.08	15.39	-24.8	26.7	40.0	13.3	1.00	5	QUASI-PEAK	
383.940000	34.89	18.74	-21.7	32.0	46.0	14.0	1.00	0	QUASI-PEAK	None
479.920000	30.79	20.64	-21.3	30.1	46.0	15.9	1.00	0	QUASI-PEAK	
249.980000	34.66	17.19	-22.3	29.5	46.0	16.5	1.00	180	QUASI-PEAK	From eval board
114.950000	33.13	17.23	-23.5	26.9	43.5	16.6	1.00	15	QUASI-PEAK	

FCC Part 15 Class B and RSS-210/RSS-GEN Section 7.2.3

Electric Field Strength

```
EUT:                 SORN 802.15.4
Manufacturer:        Stryker
Operating Condition: 72 deg. F; 65% R.H.
Test Site:           DLS O.F. Site 3
Operator:            Adam A
Test Specification:
Comment:             Tx and Rx; Low, Mid and High Channels
                     Date:  07-25-2008
```

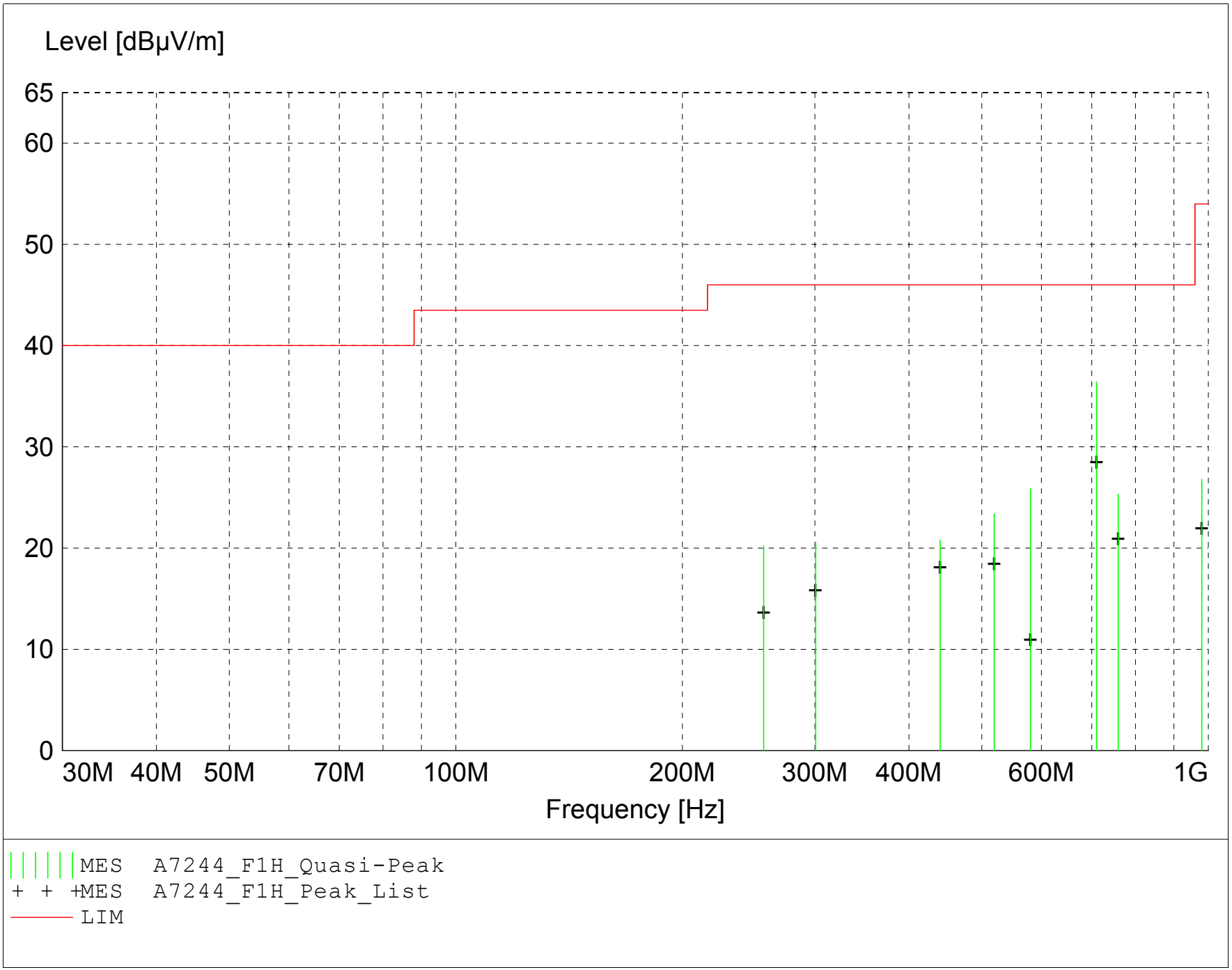
TEXT: "Site 3 MidH 3M"

```
  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
```


Level [dBµV/m]
65
60
50
40
30
20
10
0
30M
40M
50M
70M
100M
200M
300M
400M
600M
1G
Frequency [Hz]
MES A7244_F1H_Quasi-Peak
MES A7244_F1H_Peak_List
LIM

MEASUREMENT RESULT: "A7244_F1H_Final"

7/25/2008 10:49AM

Frequency	Level	Antenna Factor	System Loss	Total Level	Limit	Margin	Height Ant.	EuT Angle	Final Detector	Comment
MHz	dBµV	dBµV/m	dB	dBµV/m	dBµV/m	dB	m	deg		
710.320000	31.77	23.60	-19.0	36.4	46.0	9.6	2.00	245	QUASI-PEAK	From eval board
580.220000	24.98	21.84	-20.9	25.9	46.0	20.1	3.40	15	QUASI-PEAK	
758.800000	20.63	23.28	-18.6	25.3	46.0	20.7	3.00	200	QUASI-PEAK	From eval board
519.320000	22.99	21.60	-21.2	23.4	46.0	22.6	2.70	150	QUASI-PEAK	From eval board
440.020000	22.38	19.86	-21.5	20.8	46.0	25.2	2.00	190	QUASI-PEAK	From eval board
300.720000	23.94	18.66	-22.1	20.5	46.0	25.5	3.80	205	QUASI-PEAK	From eval board
256.460000	25.53	16.99	-22.3	20.2	46.0	25.8	3.00	230	QUASI-PEAK	From eval board
979.980000	20.16	24.32	-17.7	26.8	54.0	27.2	2.30	205	QUASI-PEAK	From eval board

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

PART 15.247

DLS Electronic Systems, Inc.

Company: Stryker Instruments
Operator: Adam A
Date of test: 07-25-2008
Temperature: 73 deg. F
Humidity: 67% R.H.

EIRP - Substitution Method

Model: **SORN 802.15.4**

Channel: 0B

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	95.73	-10.22	1.85	9.59	-2.48	30.00	32.48	0.56
2405 horizontal	95.39	-12.62	1.58	9.59	-4.61	30.00	34.61	0.35

EIRP = Signal generator output - cable loss + antenna gain

$ERP_{(ref.\ to\ \frac{1}{2}\lambda\ dipole)}$ = Signal generator output - cable loss + antenna gain - 2.15

DLS Electronic Systems, Inc.

Company: Stryker Instruments
Operator: Adam A
Date of test: 07-25-2008
Temperature: 77 deg. F
Humidity: 66% R.H.

EIRP - Substitution Method

Model: **SORN 802.15.4**

Channel: 1A

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	95.64	-9.76	1.86	9.68	-1.94	30.00	31.94	0.64
2480 horizontal	95.12	-12.04	1.86	9.68	-4.22	30.00	34.22	0.38

EIRP = Signal generator output - cable loss + antenna gain

$ERP_{(ref.\ to\ \frac{1}{2}\lambda\ dipole)}$ = Signal generator output - cable loss + antenna gain - 2.15

DLS Electronic Systems, Inc.

Company: Stryker Instruments
Operator: Adam A
Date of test: 07-25-2008
Temperature: 75 deg. F
Humidity: 67% R.H.

EIRP - Substitution Method

Model: **SORN 802.15.4**

Channel 12

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	95.13	-10.55	1.86	9.63	-2.78	30.00	32.78	0.53
2440 horizontal	96.00	-11.26	1.86	9.63	-3.49	30.00	33.49	0.45

EIRP = Signal generator output - cable loss + antenna gain

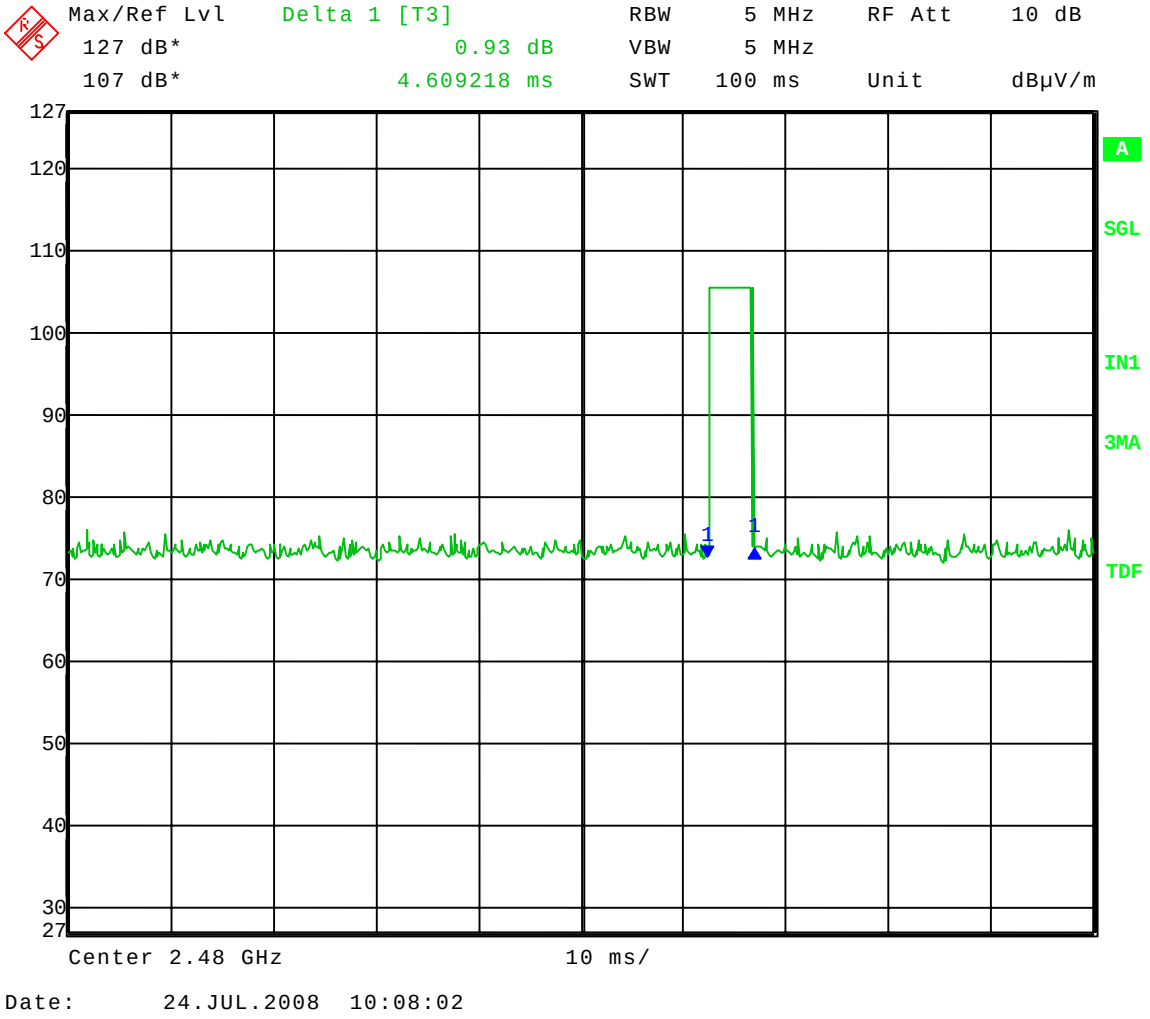
$ERP_{(ref.\ to\ \frac{1}{2}\lambda\ dipole)}$ = Signal generator output - cable loss + antenna gain - 2.15

DUTY CYCLE GRAPHS

PART 15.247

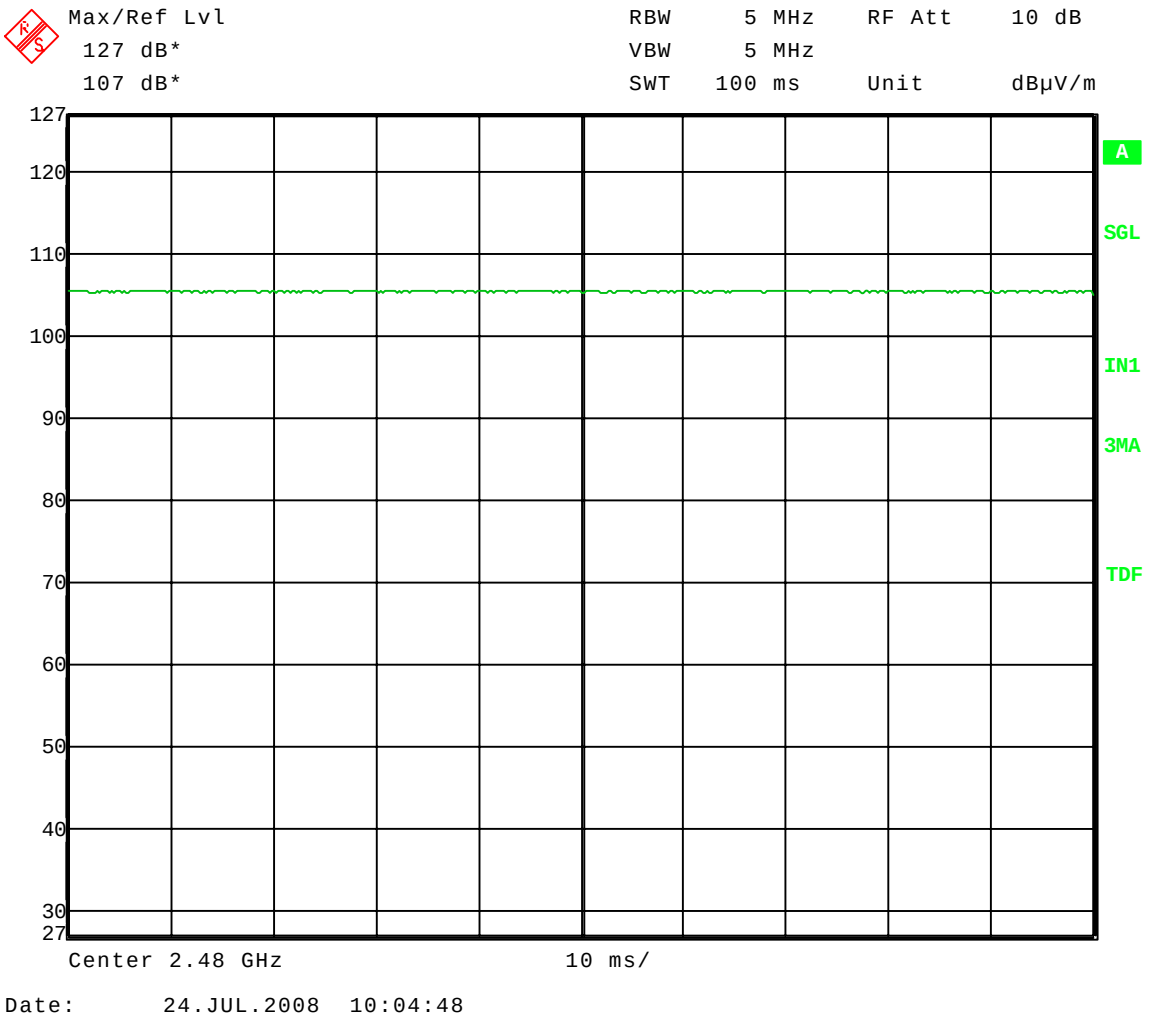
Test Date: 07-24-2008
Company: Stryker Instruments
EUT: SORN 802.15.4 Radio
Test: Duty Cycle
Operator: Craig B

Comment: Total on Time = 4.61 ms during 100 ms Sweep
20 log (4.61 / 100) = -26.7
Duty Cycle Correction Factor = 26.7 dB



Test Date: 07-24-2008
Company: Stryker Instruments
EUT: SORN 802.15.4 Radio
Test: Duty Cycle
Operator: Craig B

Comment: Total on Time = 100 ms during 100 ms Sweep
Duty Cycle = 100%

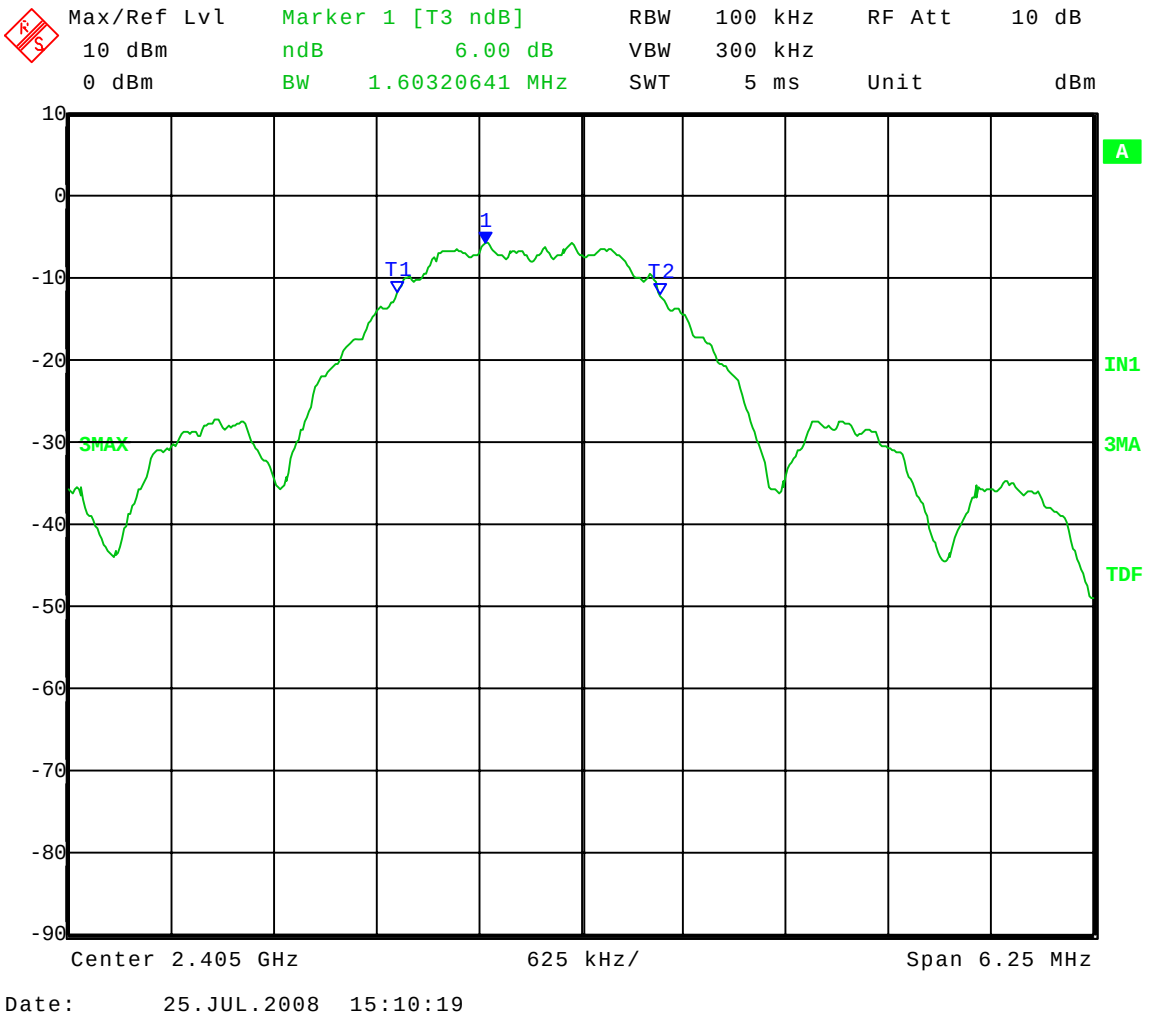


6 dB BANDWIDTH GRAPHS

PART 15.247

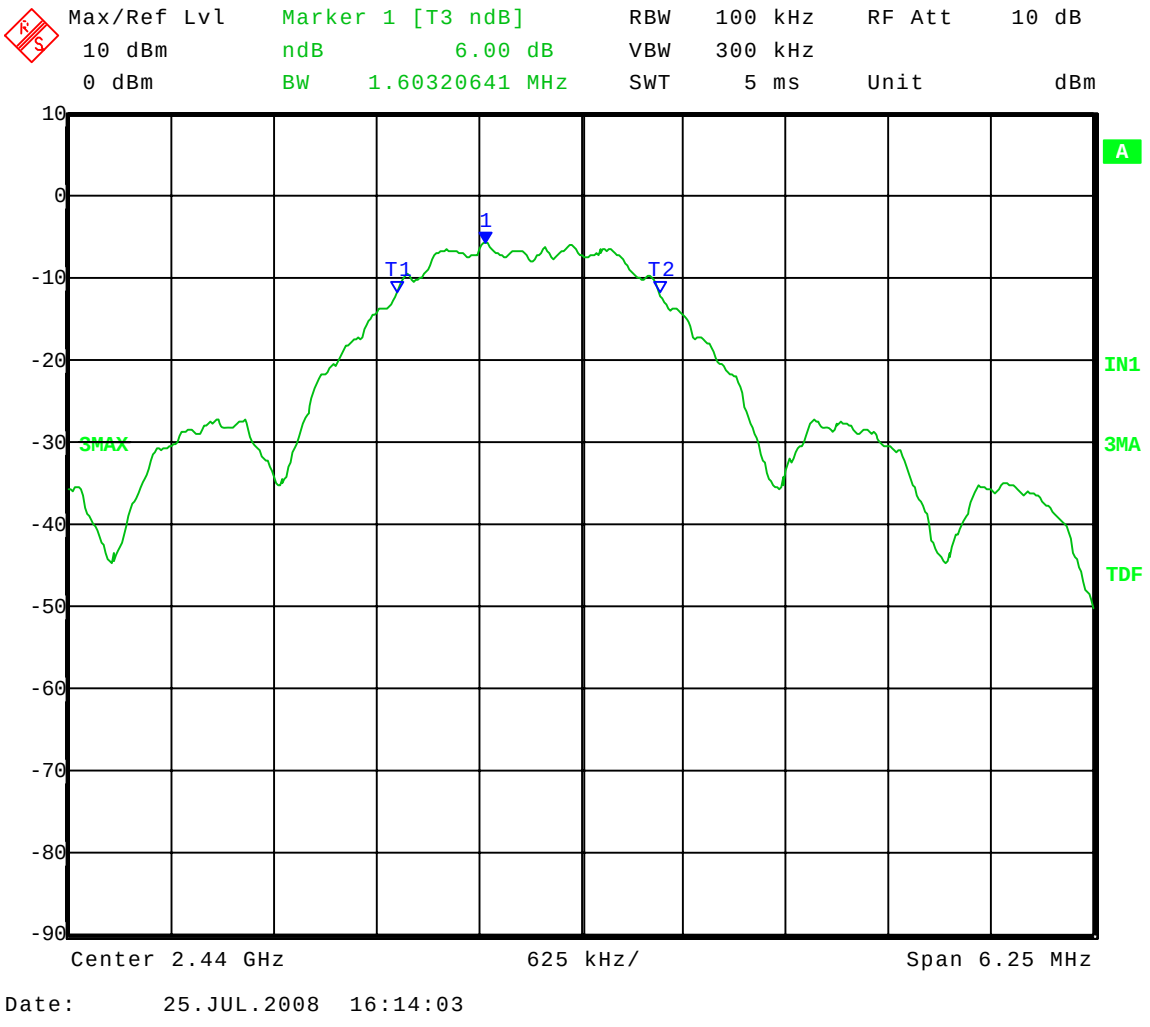
Test Date: 07-25-2008
Company: Stryker Instruments
EUT: SORN 805.15.4
Test: 6 dB Bandwidth - Conducted
Operator: Adam A
Comment: Low Channel: Frequency – 2.405 GHz

6 dB Bandwidth = 1.603 MHz



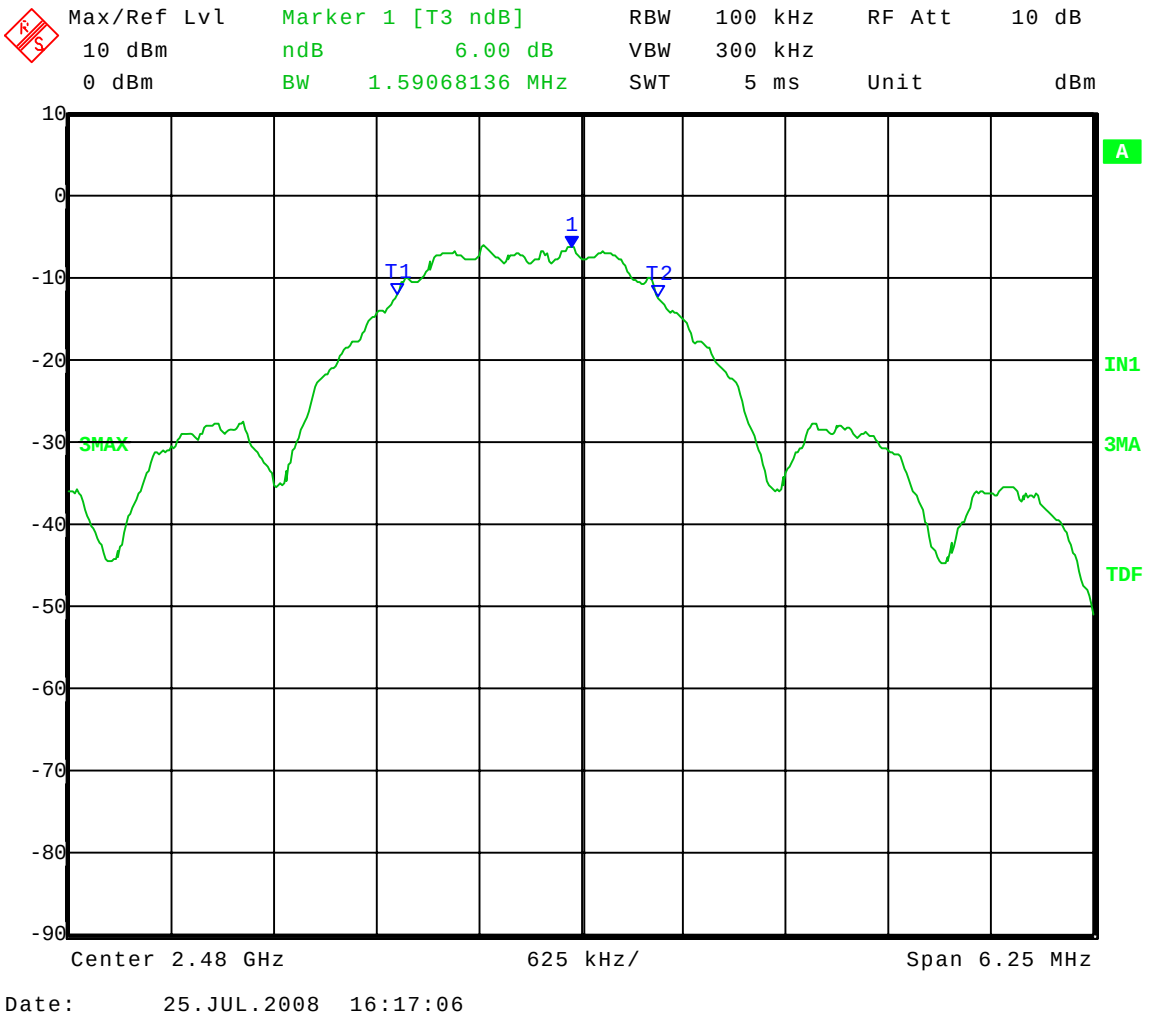
Test Date: 07-25-2008
Company: Stryker Instruments
EUT: SORN 805.15.4
Test: 6 dB Bandwidth - Conducted
Operator: Adam A
Comment: Middle Channel: Frequency – 2.440 GHz

6 dB Bandwidth = 1.603 MHz



Test Date: 07-25-2008
Company: Stryker Instruments
EUT: SORN 805.15.4
Test: 6 dB Bandwidth - Conducted
Operator: Adam A
Comment: High Channel: Frequency – 2.480 GHz

6 dB Bandwidth = 1.590 MHz

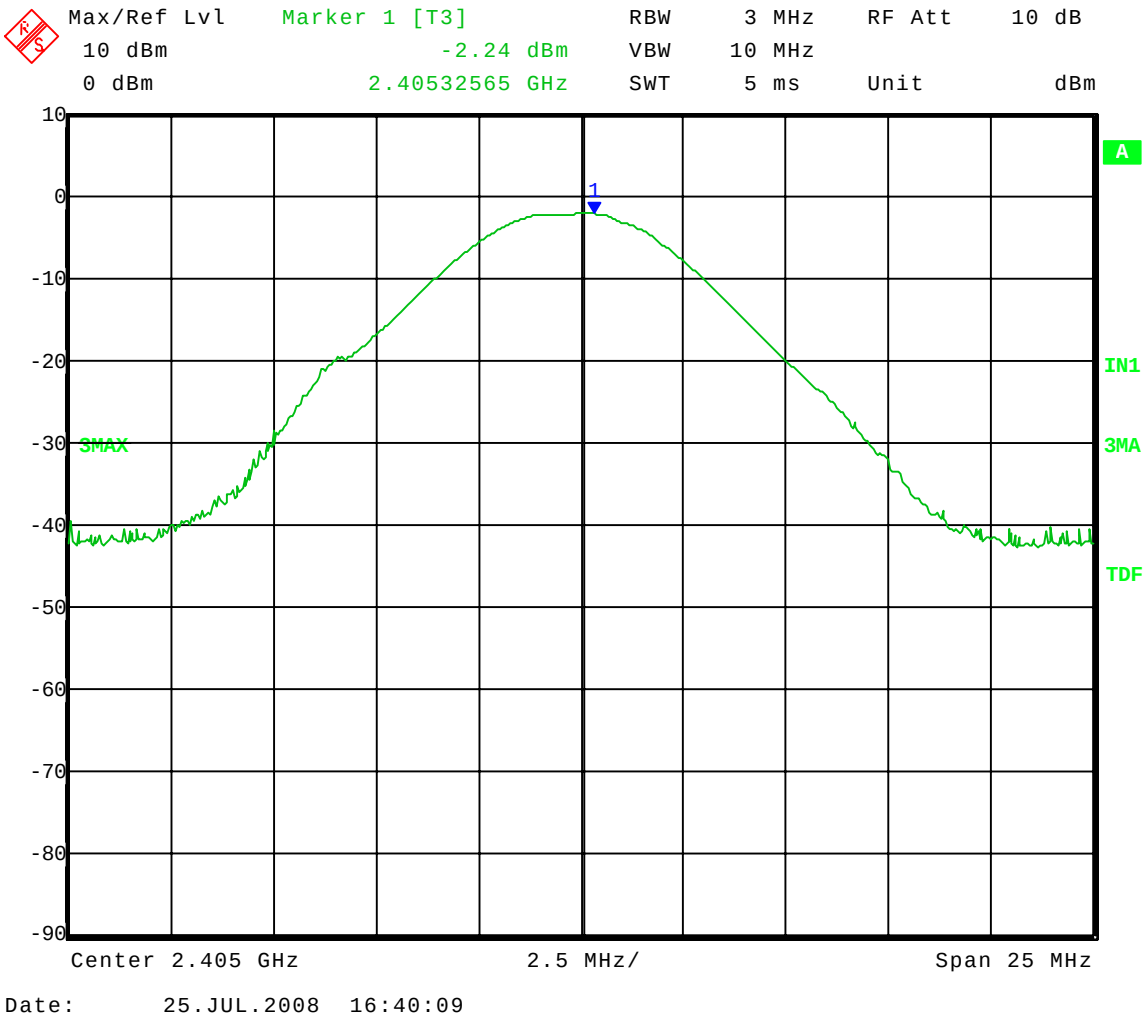


CONDUCTED PEAK OUTPUT POWER GRAPHS

PART 15.247

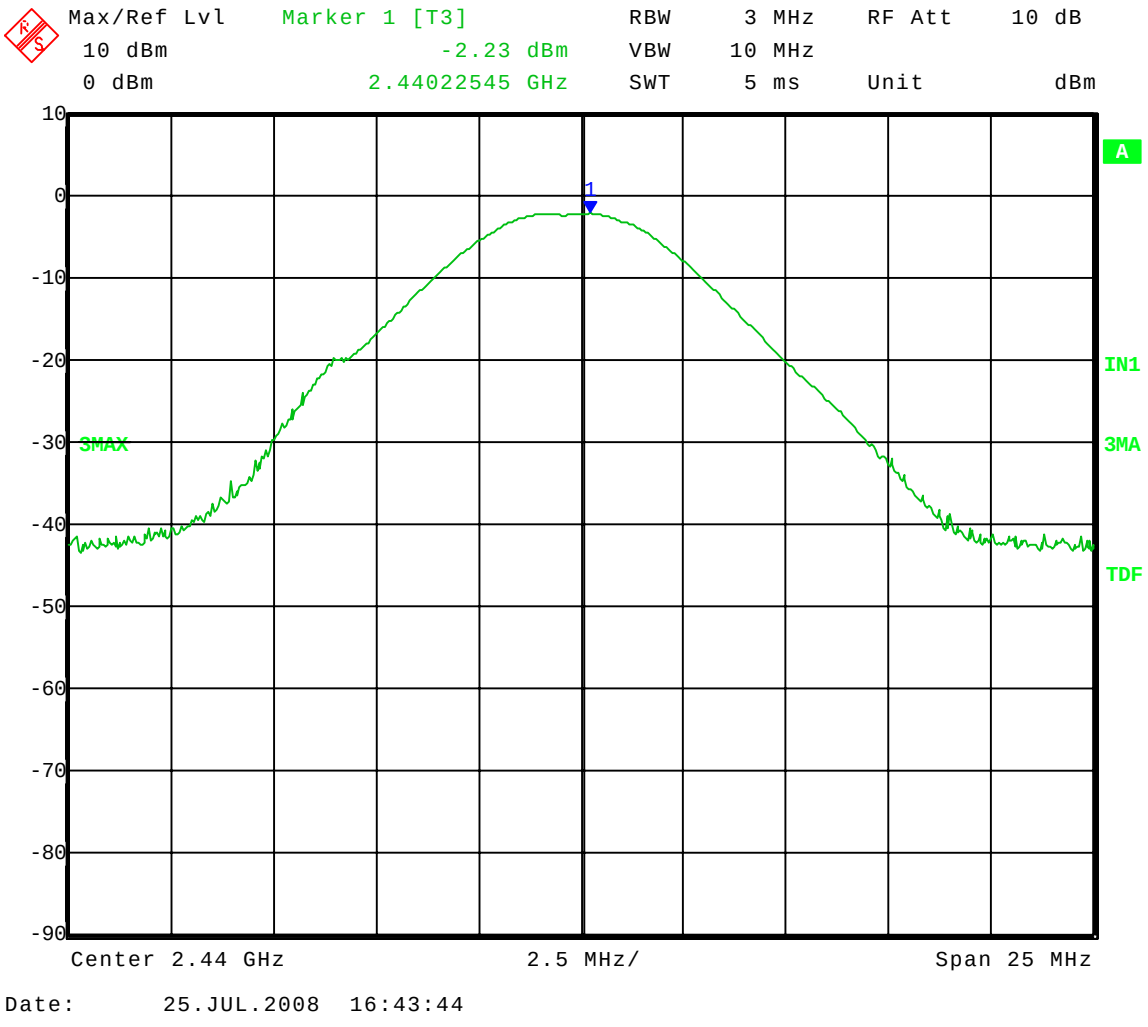
Test Date: 07-25-2008
Company: Stryker Instruments
EUT: SORN 802.15.4
Test: Peak Power Output - Conducted
Operator: Adam A
Comment: Low Channel: Frequency – 2.405 GHz

Peak Output Power = -2.24 dBm = **0.597 mW**



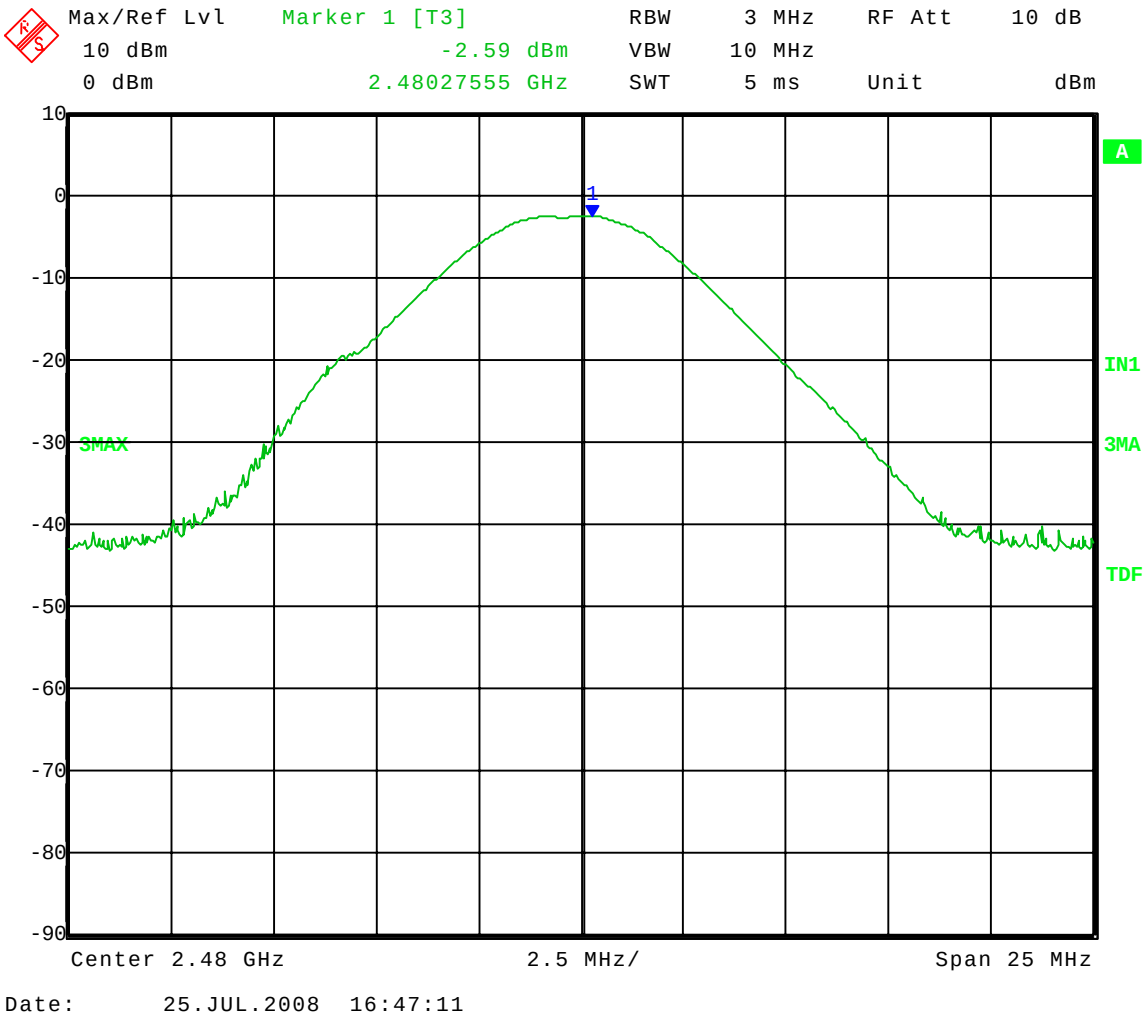
Test Date: 07-25-2008
Company: Stryker Instruments
EUT: SORN 802.15.4
Test: Peak Power Output - Conducted
Operator: Adam A
Comment: Middle Channel: Frequency – 2.440 GHz

Peak Output Power = -2.23 dBm = **0.598 mW**



Test Date: 07-25-2008
Company: Stryker Instruments
EUT: SORN 802.15.4
Test: Peak Power Output - Conducted
Operator: Adam A
Comment: High Channel: Frequency – 2.480 GHz

Peak Output Power = -2.59 dBm = **0.551 mW**

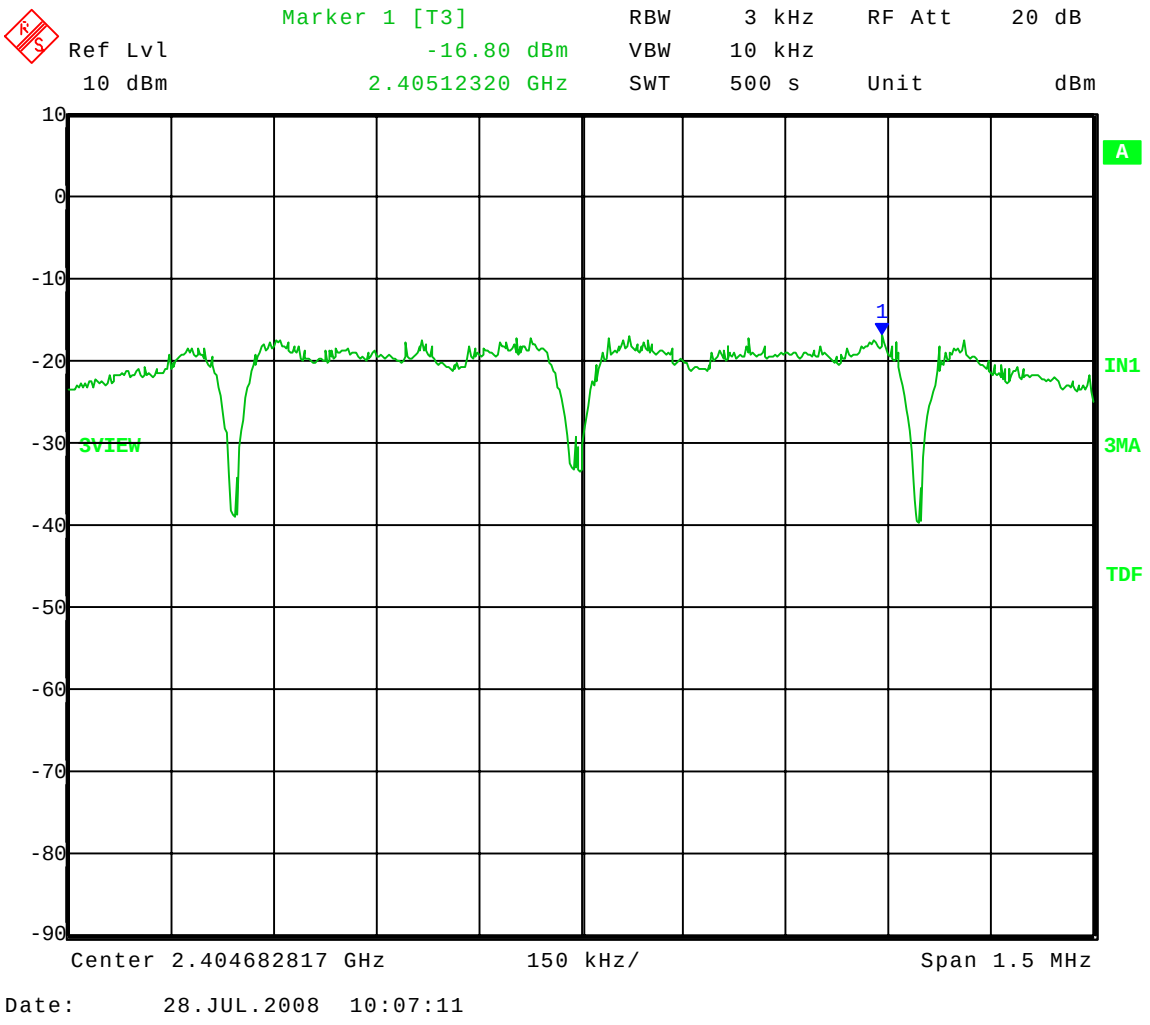


PEAK POWER SPECTRAL DENSITY GRAPHS

PART 15.247

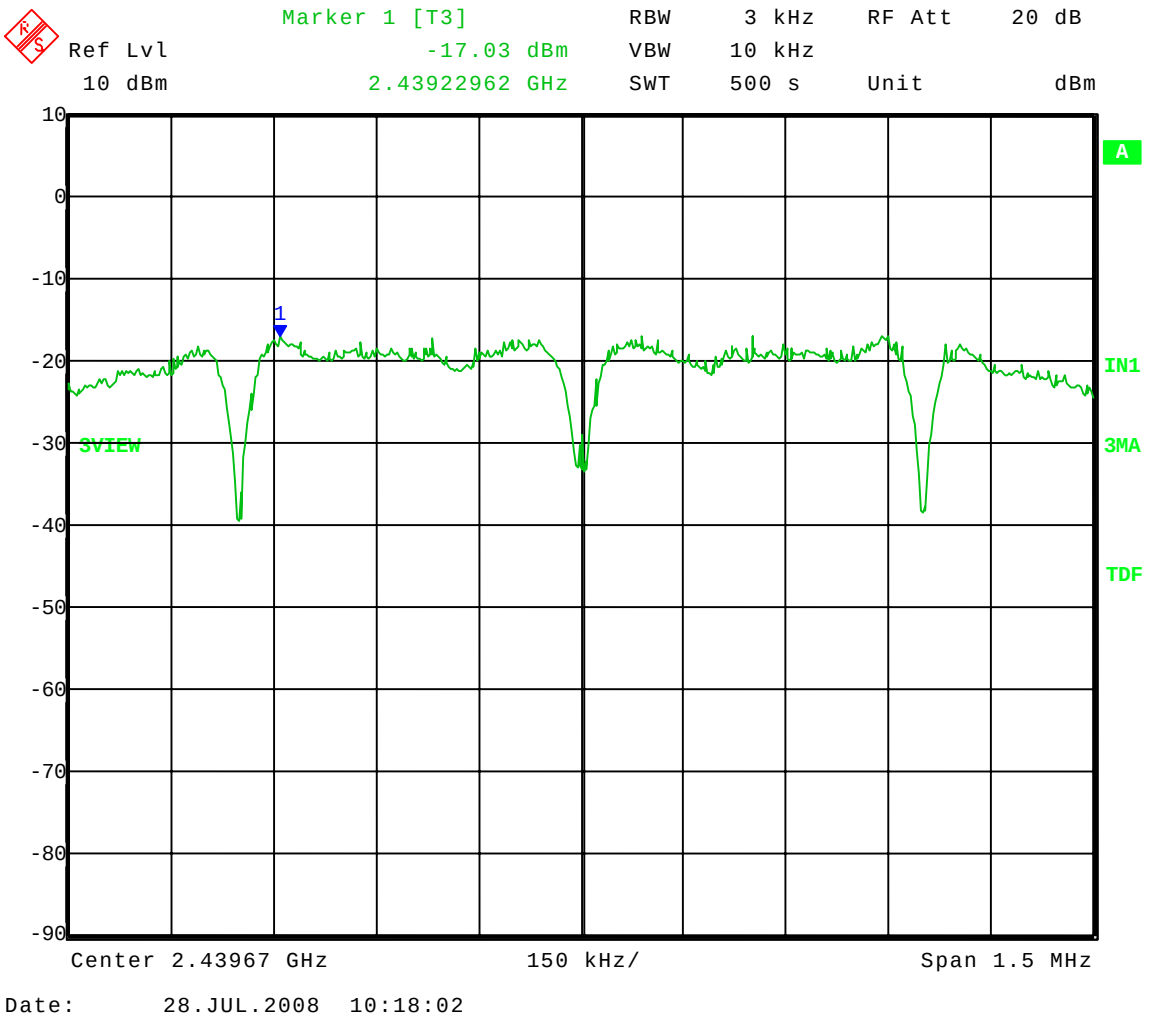
Test Date: 07-28-2008
Company: Stryker Instruments
EUT: SORN 802.15.4
Test: Peak Power Spectral Density - Conducted
Operator: Craig B
Comment: Low Channel: Frequency – 2.405 GHz
Limit: 8 dBm

3 kHz Bandwidth = -16.80 dBm



Test Date: 07-28-2008
Company: Stryker Instruments
EUT: SORN 802.15.4
Test: Peak Power Spectral Density - Conducted
Operator: Craig B
Comment: Middle Channel: Frequency – 2.440 GHz
Limit: 8 dBm

3 kHz Bandwidth = -17.03 dBm



Test Date: 07-28-2008
Company: Stryker Instruments
EUT: SORN 802.15.4
Test: Peak Power Spectral Density - Conducted
Operator: Adam A
Comment: High Channel: Frequency – 2.480 GHz
Limit: 8 dBm

3 kHz Bandwidth = -17.18 dBm