166 South Carter, Genoa City, WI 53128

Company:	Roche Diagnostics
Model Tested:	481
Report Number:	19041
DLS Project:	5792

Code of Federal Regulations 47 Part 15 – Radio Frequency Devices

Subpart C – Intentional Radiators
Section 15.247
Operation within the bands 902 - 928 MHz,
2400 - 2483.5 MHz, 5725 - 5875 MHz,
and 24.0 - 24.25 GHz.

THE FOLLOWING **MEETS** THE ABOVE TEST SPECIFICATION

Formal Name:	Accu-Chek Aviva Insight (tested) and Accu-Chek Performa Insight
Kind of Equipment:	Bluetooth transceiver
Frequency Range:	2402-2480 MHz
Test Configuration:	Hand-held
Model Number(s):	Model 481, 482, 465, 467 and 468
Model(s) Tested:	481 (labeled as "Calypso meter with Bluetooth" on test data)
Serial Number(s):	RF Conducted: 48100002115 Radiated: 48100001895
Date of Tests:	April 2nd through April 24th, 2013
Test Conducted For:	Roche Diagnostics Operations, Inc. 9115 Hague Road Indianapolis, IN 46256, USA

NOTICE: "This test report relates only to the items tested and must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government". Please see the "Description of Test Sample" page listed inside of this report.

166 South Carter, Genoa City, WI 53128

Company:	Roche Diagnostics
Model Tested:	481
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SIGNATURE PAGE

Tested By:

Craig Brandt
Test Engineer

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 January 2009).

2012-10-01 through 2013-09-30
Effective dates

For the National Institute of Standards and Technology

NVLAP-01C (REV. 2009-01-28)

1.0 Summary of Test Report

It was determined that the Roche Diagnostics Accu-Chek Aviva Insight model 481, complies with the requirements of CFR 47 Part 15 Subpart C Section 15.247.

Subpart C Section 15.247 Applicable Technical Requirements Tested:

Section	Description	Procedure	Note	Compliant?
15.247(a)(1)	20 dB Bandwidth	DA 00-705 March 30, 2000	4	N/A
15.247(a)(1)	Carrier Frequency Separation	DA 00-705 March 30, 2000	1	Yes
15.247(a)(1)(iii)	Number of Hopping Channels	DA 00-705 March 30, 2000	1	Yes
15.247(a)(1)(iii)	Time of Occupancy	DA 00-705 March 30, 2000	1	Yes
15.247(b)(1)	Maximum Peak Conducted Output Power	DA 00-705 March 30, 2000	1	Yes
15.247(d)	Spurious RF Conducted Emissions	DA 00-705 March 30, 2000	1	Yes
15.247(d)	Band-Edge Compliance – RF Conducted	DA 00-705 March 30, 2000	1	Yes
15.247(d)	Duty Cycle Correction Factor	DA 00-705 March 30, 2000	1,4	N/A
15.247(d) 15.205(a) 15.209(a)	Spurious Radiated Emissions (Restricted Frequency Bands) – Radiated	DA 00-705 March 30, 2000 & ANSI C63.10-2009	2	Yes
15.247(d) 15.205(a) 15.209(a)	Band-Edge Compliance - Radiated	DA 00-705 March 30, 2000	2	Yes
15.207	AC Power-Line Conducted Emissions	ANSI C63.10-2009	3	Yes

Note 1: RF conducted measurement.
Note 2: Radiated emission measurement.
Note 3: AC power line conducted measurement.
Note 4: Informative

2.0 Introduction

In April 2013, the Accu-Chek Aviva Insight model 481, as provided from Roche Diagnostics was tested to the requirements of CFR 47 Part 15 Subpart C Section 15.247. To meet these requirements, the procedures contained within this report were performed by personnel of D.L.S Electronic Systems, Inc.

3.0 Test Facilities

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.

Wisconsin Test Facility:
D.L.S. Electronic Systems, Inc.
166 S. Carter Street
Genoa City, Wisconsin 53128

Wheeling Test Facility:
D.L.S. Electronic Systems, Inc.
1250 Peterson Drive
Wheeling, IL 60090

4.0 Description of Test Sample

The Insight Meter is a hand held blood glucose meter utilizing the Accu-Chek test strips to perform blood glucose measurements. The meter stores the blood glucose measurement results as well as control results. The meter can communicate with an insulin pump via Bluetooth. The meter communicates with a computer via a 1 meter USB cable provided by Roche. The Insight meter has five model numbers. All five meters utilize the same firmware and the same RF design. The Aviva Insight meter utilizes the Aviva plus test strip and the Performa Insight meter utilizes the Performa test strips.

All five models use the same PWB main board and the same PWB and PWA for the communication board. The PWA on the Aviva models (481, 482 and 465) is slightly different from the Performa Insight models (467 and 468).

- Housing strip port area: Aviva has a 9.35 mm opening and Performa has a 7.35 mm opening
- Touch window labeling are different (specifies Aviva Insight or Performa Insight)
- Aviva has 1 diode that Performa does not have
- Aviva strip connector has 9 pins and the Performa strip connector has 7 pins
- Jumper resistors are the same but populated in different locations.

The other differences in the models are in the meter configuration such as languages, units of measure (mg/dl or mmol/L) and information on the back of the meter.

The model number of the Accu-Chek Aviva Insight meter for the USA is 465. This meter is configured for the USA. The units of measure are mg/dl; primary language is English. The meter back label will also contain labeling specific to the USA such as FCC ID number, FCC logo, model number, and the 1-800 number for the USA customer call center.

4.0 Description of Test Sample - continued

Type of Equipment / Frequency Range:

Portable / 2402-2480 MHz

Physical Dimensions of Equipment Under Test:

Length: 10.5 cm x Width: 5.3 cm x Height: 1.9 cm

Power Source:

120 Volt 60 Hz power adapter, or 3.7 VDC Li-ion battery

Internal Frequencies:

1.5 MHz (switching power supply)
480, 454, 131, 24, 14.7, 10, 0.032 MHz

Transmit / Receive Frequencies Used For Test Purpose:

Low channel: 2402 MHz, Middle channel: 2440 MHz, High channel: 2480 MHz

Type of Modulation(s) / Antenna Type:

GFSK / surface mount antenna with 3.8 dBi max gain.

Description of Circuit Board(s) / Part Number:

PWA Main 7mm	7003380 rev E
PWA Main 9mm	7003386 rev E
PWB Main	7003527 rev D
PWA Comm	7003390 rev F
PWB Comm	7003494 rev C

5.0 Test Equipment

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

D.L.S. Wisconsin - G1

Description	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Dates	Cal Due Dates
Receiver	Rohde & Schwarz	ESI 40	837808/005	20 Hz – 40 GHz	7-23-12	7-23-13
Preamp	Planar	PTB-60-120-5R0-10-115V AC-S	PL13291	1GHz-20GHz	8-13-12	8-13-13
Horn Antenna	EMCO	3115	9502-4451	1-18GHz	3-18-13	3-18-15
Filter- High-Pass	Q-Microwave	100462	1	4.2GHz-18GHz	5-18-12	5-18-13
Preamp	Miteq	AMF-8B-180265-40-10P-H/S	438727	18GHz-26GHz	8-13-12	8-13-13
Horn Antenna	EMCO	3116	2549	18 – 40GHz	9-6-12	9-6-14
High Pass Filter	Planar	CL22500-9000-CD-SS	PF1230/0728	15-40 GHz	8-13-12	8-13-13
20 dB attenuator	MCE/Weinschel	5955A-20	0256	DC – 40 GHz	8-13-12	8-13-13
Multimeter	Fluke	77	N/A	DC	8-16-12	8-16-13

D.L.S. Wisconsin – OATS 2

Description	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Dates	Cal Due Dates
Receiver	Rohde & Schwarz	ESI 26	837491/010	20 Hz – 26 GHz	1-3-13	1-3-14
Preamplifier	Rohde & Schwarz	TS-PR10	032001/004	9 kHz – 1 GHz	1-10-13	1-10-14
Antenna	EMCO	3104C	00054892	20 MHz – 200 MHz	9-13-12	9-13-14
Antenna	EMCO	3146	1205	200 MHz – 1 GHz	9-19-12	9-19-14

5.0 Test Equipment - continued

D.L.S. Wisconsin – Screen Room

Description	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Dates	Cal Due Dates
Receiver	Rohde & Schwarz	ESI 40	837808/006	20 Hz – 40 GHz	4-17-13	4-17-14
LISN	Solar	9252-50-R-24-BNC	961019	9 kHz – 30 MHz	5-24-12	5-24-13
Filter- High-Pass	SOLAR	7930-120	090702	120 kHz – 30 MHz	1-7-13	1-11-14
Limiter	Electro-Metrics	EM-7600	706	9 kHz – 30 MHz	1-7-13	1-11-14

6.0 Test Arrangements

Radiated Emissions Measurement Arrangement:

All radiated emission measurements were performed at D.L.S. Electronic Systems, Inc. and set up according to FCC DA 00-705 (March 30, 2000), ANSI C63.4-2009 and ANSI C63.10-2009, unless otherwise noted. Description of procedures and measurements can be found in Appendix B – Measurement Data. See Appendix A for additional photos of the test set up.

Unless otherwise noted, the bandwidth of the measuring receiver / analyzer used during testing is shown below.

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

RF Conducted Emissions Measurement Arrangement:

All RF conducted emission measurements were performed at D.L.S. Electronic Systems, Inc. and set up according to FCC DA 00-705 (March 30, 2000), ANSI C63.4-2009 and ANSI C63.10-2009, unless otherwise noted. Description of procedures and measurements can be found in Appendix B – Measurement Data. See Appendix A for additional photos of the test set up.

7.0 Test Conditions

Normal Test Conditions:

Temperature and Humidity:

74°F at 26% RH

Supply Voltage:

120 Volts 60 Hz & 3.7 Volt battery

8.0 Modifications Made To EUT For Compliance

No modifications made at time of test.

9.0 Additional Descriptions

For radiated emissions, the EUT was tested in three orthogonal axis of rotation. Data shown represents worst-case position for each emission.

The EUT was tested with a 120 Volt power adapter and re-checked with the internal 3.7 Volt battery power.

The EUT was programmed to transmit continuously at the Low, Middle, and High channels of operation.

10.0 Results

Measurements were performed in accordance with FCC DA 00-705 (March 30, 2000), ANSI C63.4-2009 and ANSI C63.10-2009. Graphical and tabular data can be found in Appendix B at the end of this report.

11.0 Conclusion

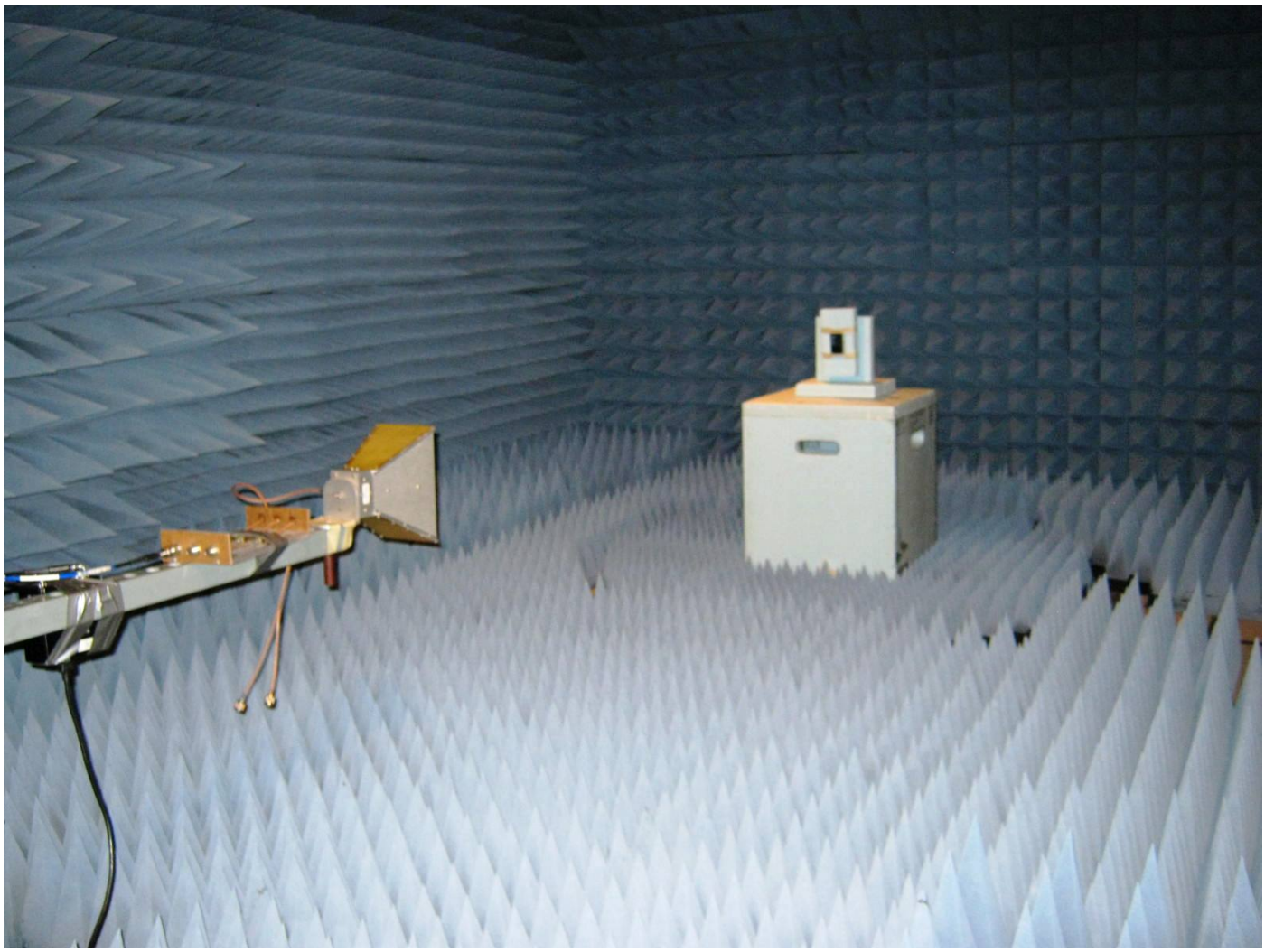
The Accu-Chek Aviva Insight model 481, as provided from Roche Diagnostics, tested in April 2013 **meets** the requirements of CFR 47 Part 15 Subpart C Section 15.247.

Appendix A – Test Photos

Photo Information and Test Setup:

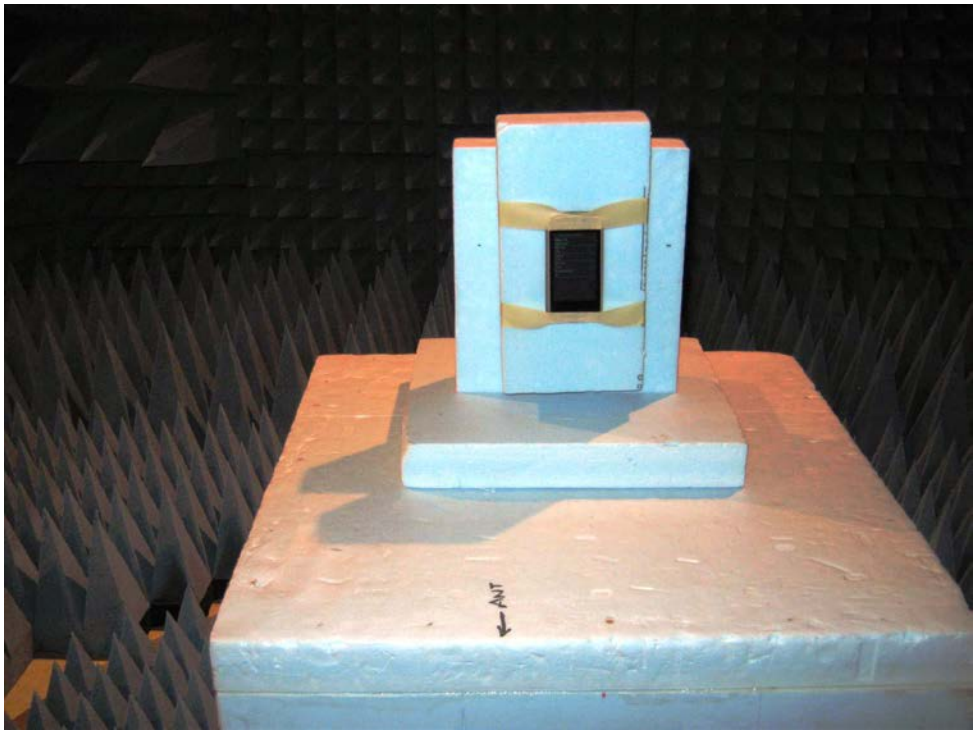
Item 0: Roche Diagnostics Accu-Chek Aviva Insight model 481
Item 1: AC Power adapter. Phihong model PSM03A-050Q.
Item 2: 1 meter shielded USB cable.

Radiated Emissions - above 1 GHz



Appendix A – Test Photos

Radiated Emissions - above 1 GHz - position 1

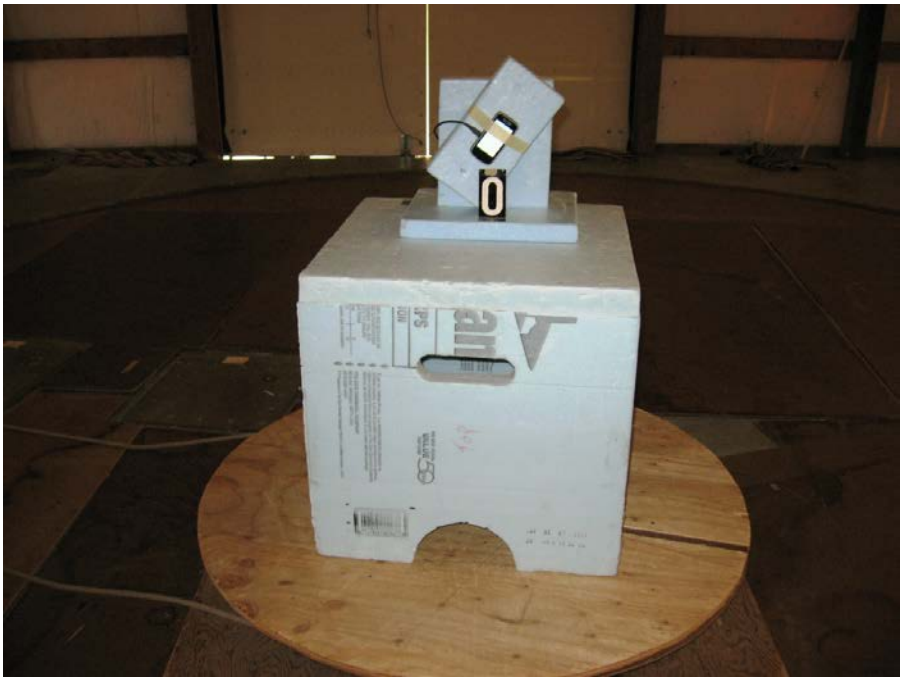


Radiated Emissions - above 1 GHz - position 2

Appendix A – Test Photos

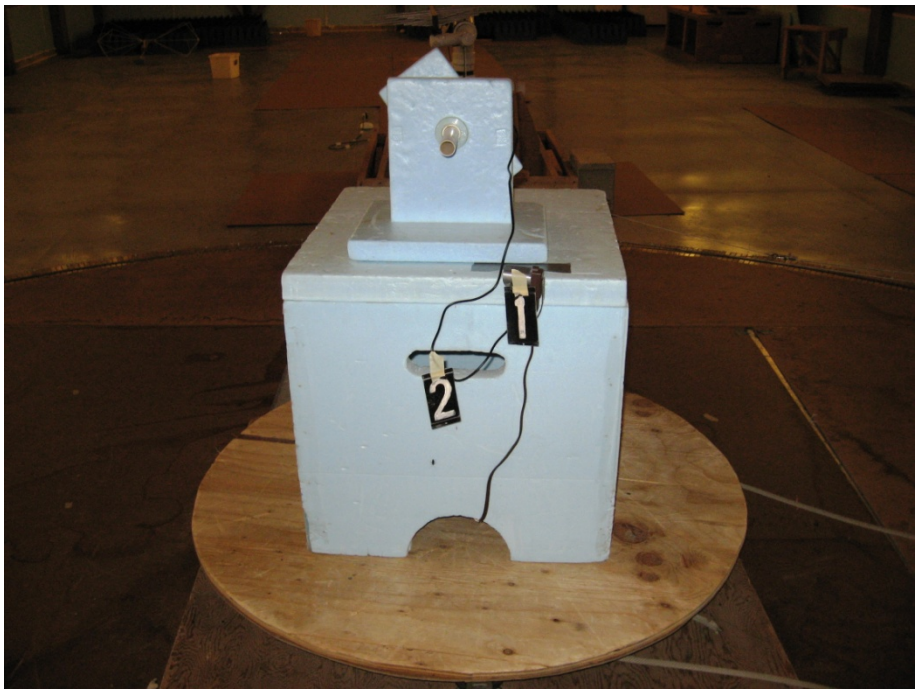
Radiated Emissions - above 1 GHz - position 3

Radiated Emissions - below 1 GHz - front



Appendix A – Test Photos

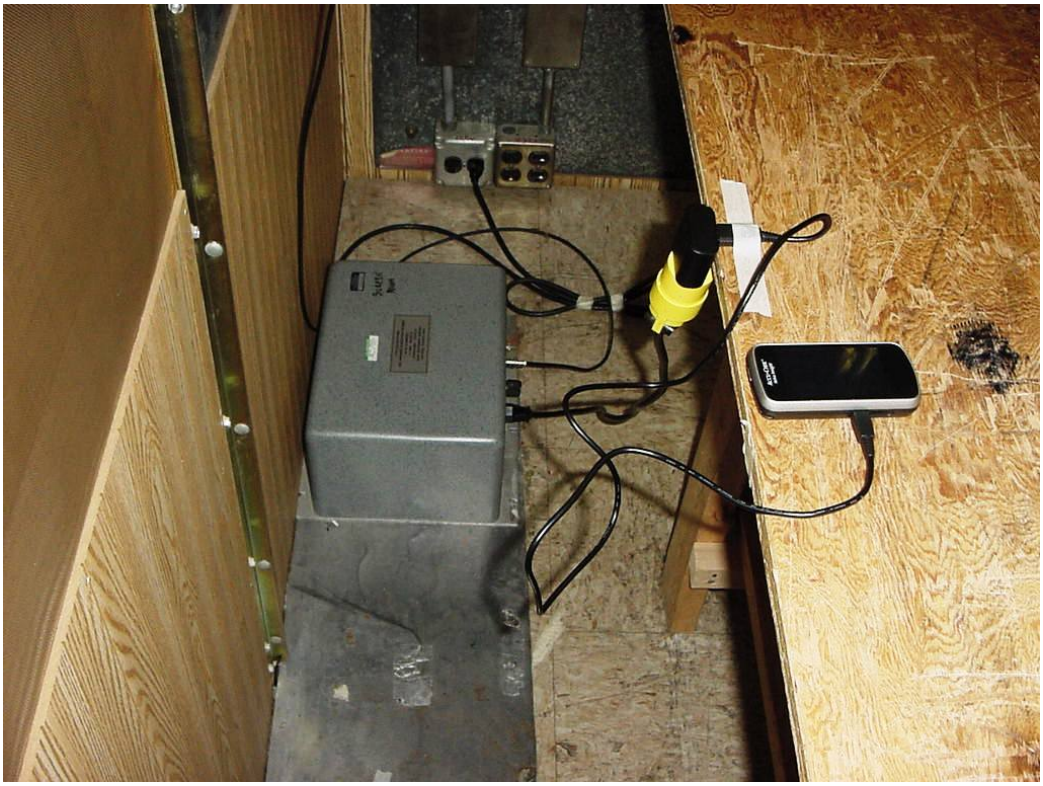
Radiated Emissions - below 1 GHz - back



RF conducted

Appendix A – Test Photos

AC Line Conducted Emissions



Appendix B – Measurement Data

1.0 20 dB Bandwidth

Rule Part:

Section 15.247 (a) (1)

Test Procedure:

DA 00-705 March 30, 2000

Limit:

None / Informative

Results:

Minimum 20 dB bandwidth: 454 kHz.
Maximum 20 dB bandwidth: 499 kHz.

Notes:

This was an RF conducted measurement. The EUT was connected to the measuring equipment through an SMA connector allowing RF conducted measurements. Cable loss and attenuation was accounted for in the transducer factors set in the analyzer.

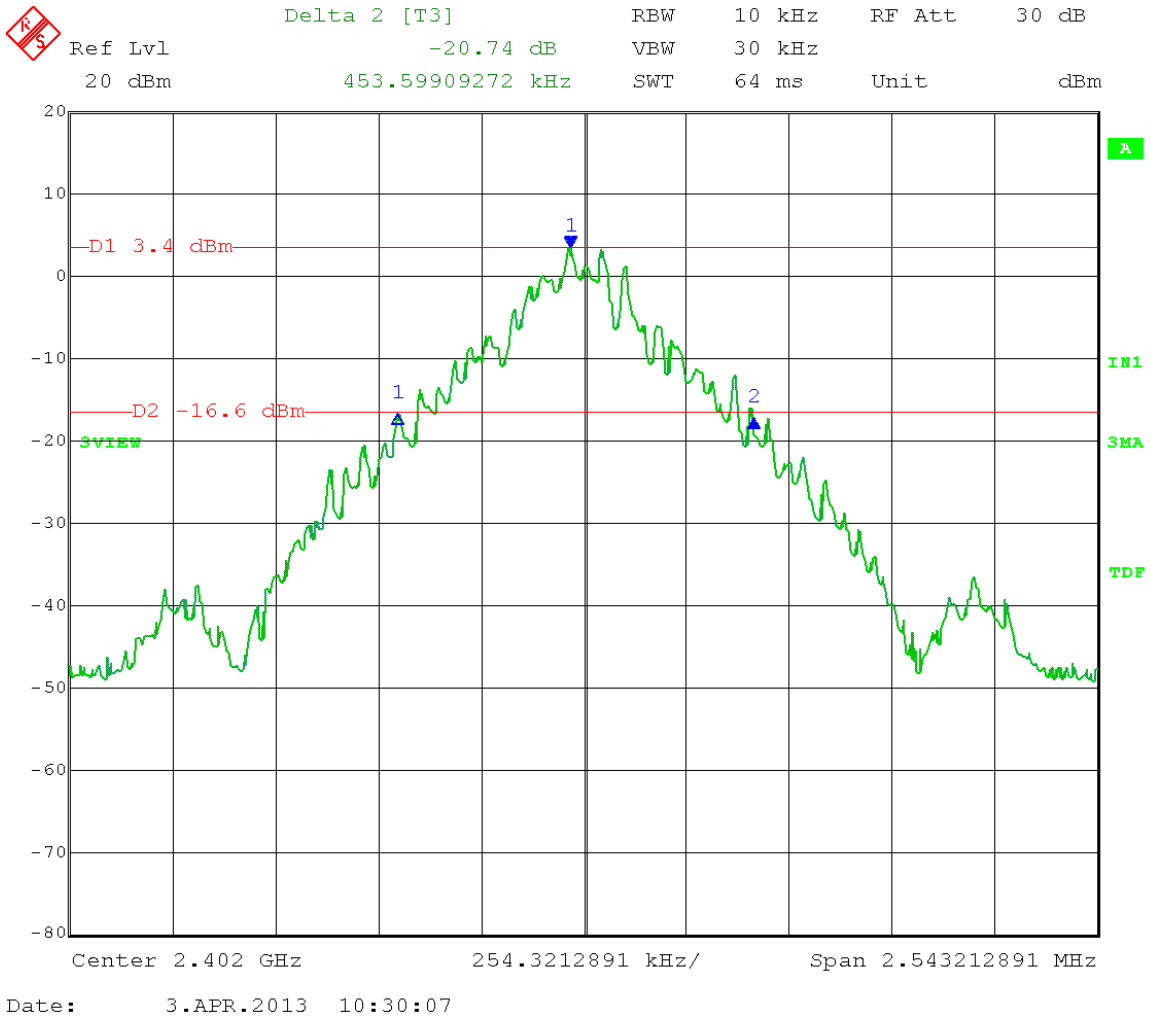
The EUT was set to continuously transmit (100% duty cycle) a modulated signal at its maximum power on the low, middle, and high channels of the operating band.

166 South Carter, Genoa City, WI 53128

Company: Roche Diagnostics
Model Tested: 481
Report Number: 19041
DLS Project: 5792

Test Date: 04-03-2013
Company: Roche Diagnostics
EUT: Calypso meter with Bluetooth
Test: 20 dB Bandwidth
Operator: Craig B
Comment: Low channel; power setting 15; GFSK modulation

20 dB Bandwidth = 454 kHz

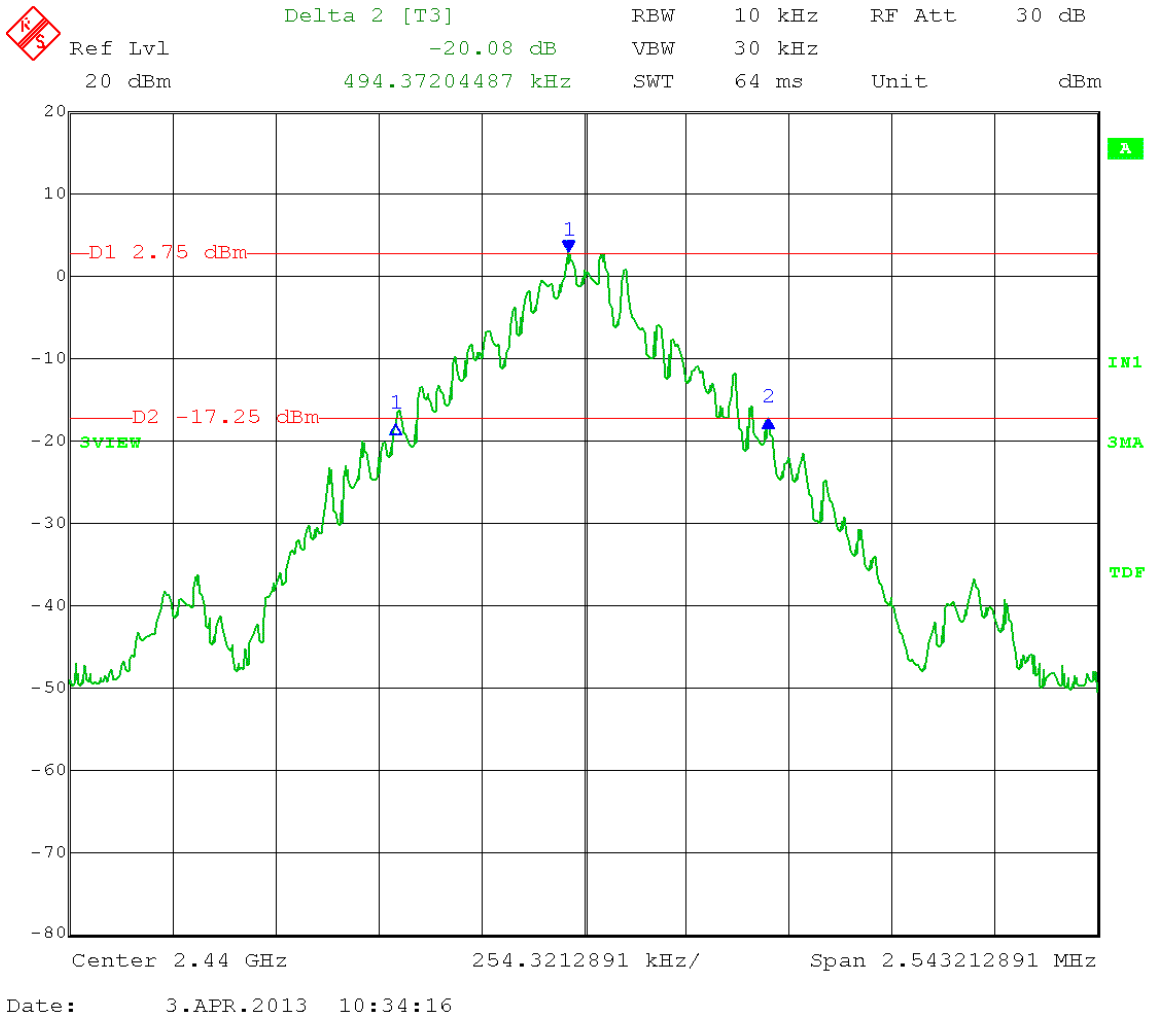


166 South Carter, Genoa City, WI 53128

Company: Roche Diagnostics
Model Tested: 481
Report Number: 19041
DLS Project: 5792

Test Date: 04-03-2013
Company: Roche Diagnostics
EUT: Calypso meter with Bluetooth
Test: 20 dB Bandwidth
Operator: Craig B
Comment: Mid channel; power setting 15; GFSK modulation

20 dB Bandwidth = 494 kHz

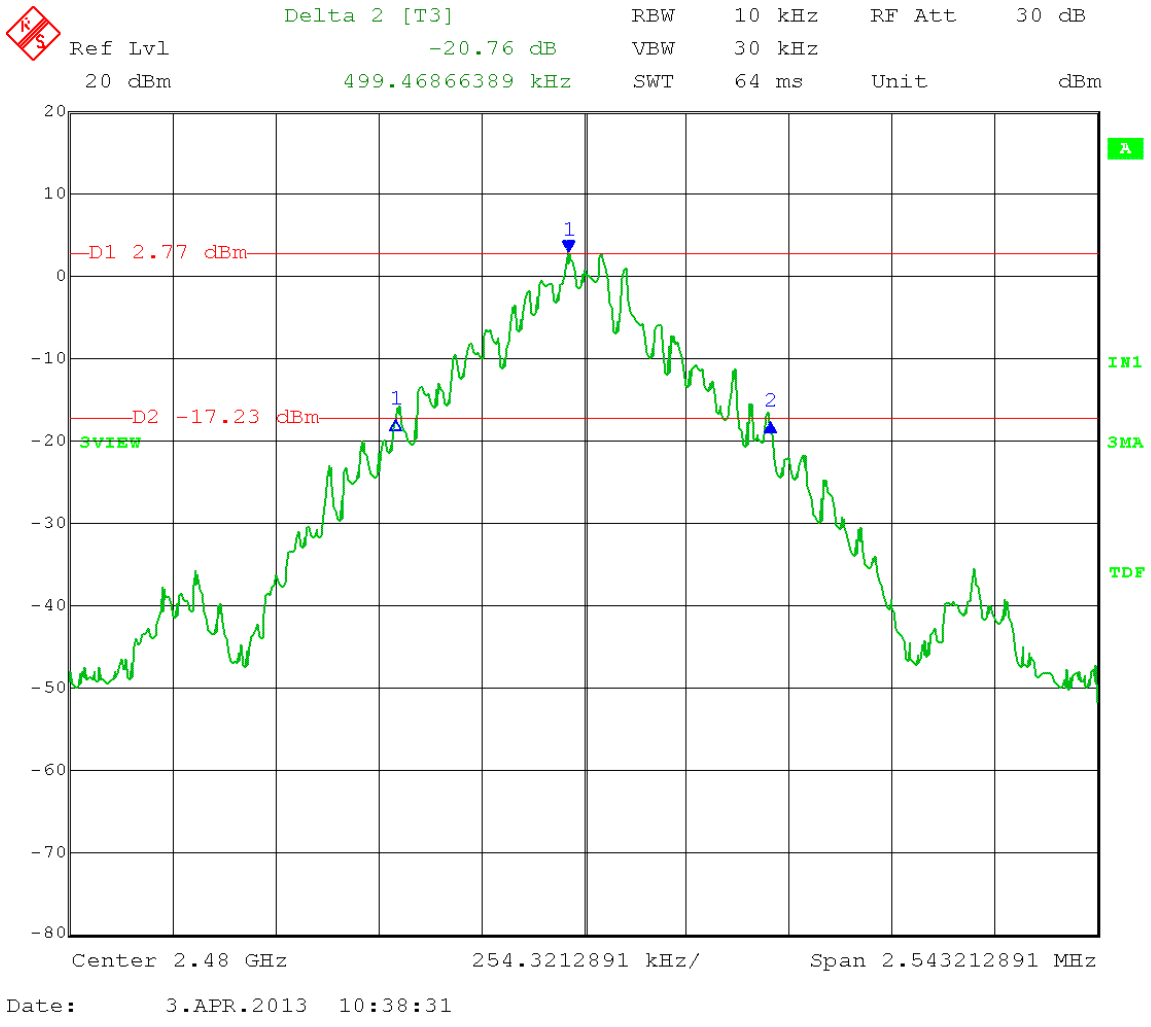


166 South Carter, Genoa City, WI 53128

Company: Roche Diagnostics
Model Tested: 481
Report Number: 19041
DLS Project: 5792

Test Date: 04-03-2013
Company: Roche Diagnostics
EUT: Calypso meter with Bluetooth
Test: 20 dB Bandwidth
Operator: Craig B
Comment: High channel; power setting 15; GFSK modulation

20 dB Bandwidth = 499 kHz



Appendix B

2.0 Carrier Frequency Separation

Rule Part:

15.247 (a) (1)

Test Procedure:

DA 00-705 March 30, 2000

Limit:

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.
Maximum 20 dB bandwidth of the hopping channel is 499 kHz.
Minimum carrier frequency separation = **499 kHz**.

Results:

Compliant
Carrier frequency separation: **1.0 MHz**

Notes:

This was an RF conducted measurement. The EUT was connected to the measuring equipment through an SMA connector allowing RF conducted measurements. Cable loss and attenuation was accounted for in the transducer factors set in the analyzer.

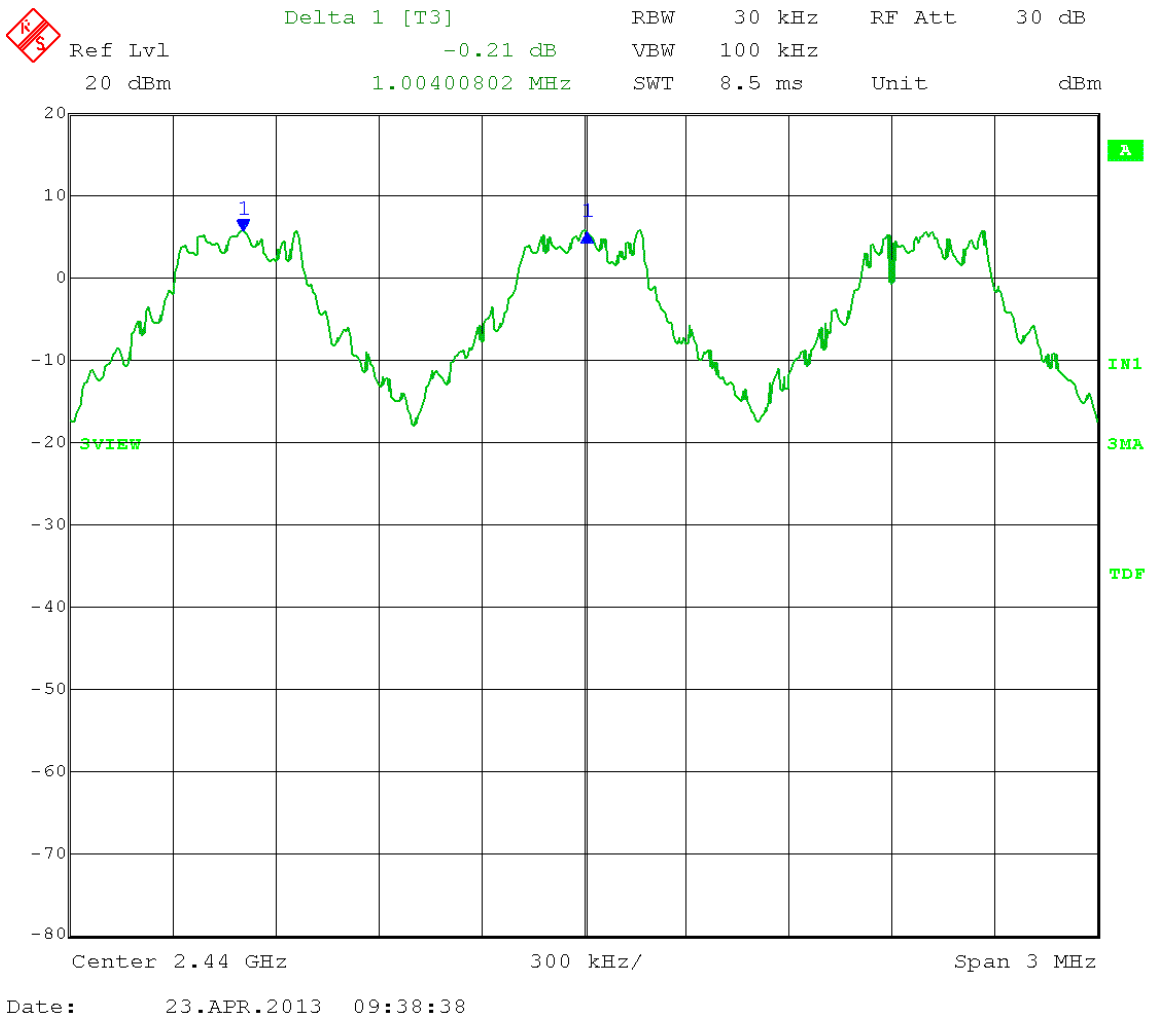
The EUT was set to continuously transmit (100% duty cycle) a modulated signal at its maximum power. The EUT was set to hop on all 79 channels while the separation of two adjacent channels was measured.

166 South Carter, Genoa City, WI 53128

Company:	Roche Diagnostics
Model Tested:	481
Report Number:	19041
DLS Project:	5792

Test Date:	04-23-2013
Company:	Roche Diagnostics
EUT:	Calypso meter with Bluetooth
Test:	Channel Separation
Operator:	Craig B
Comment:	
Limit:	Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. The 20 dB bandwidth for this device is 499 kHz.

Carrier Freq Separation = 1.00 MHz



Appendix B

3.0 Number of Hopping Channels

Rule Part:

15.247 (a) (1) (iii)

Test Procedure:

DA 00-705 March 30, 2000

Limit:

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least **15** channels.

Results:

Compliant
Number of hopping channels: **79**

Notes:

This was an RF conducted measurement. The EUT was connected to the measuring equipment through an SMA connector allowing RF conducted measurements. Cable loss and attenuation was accounted for in the transducer factors set in the analyzer.

The EUT was set to continuously transmit (100% duty cycle) a modulated signal at its maximum power. The EUT was set to hop on all 79 channels.

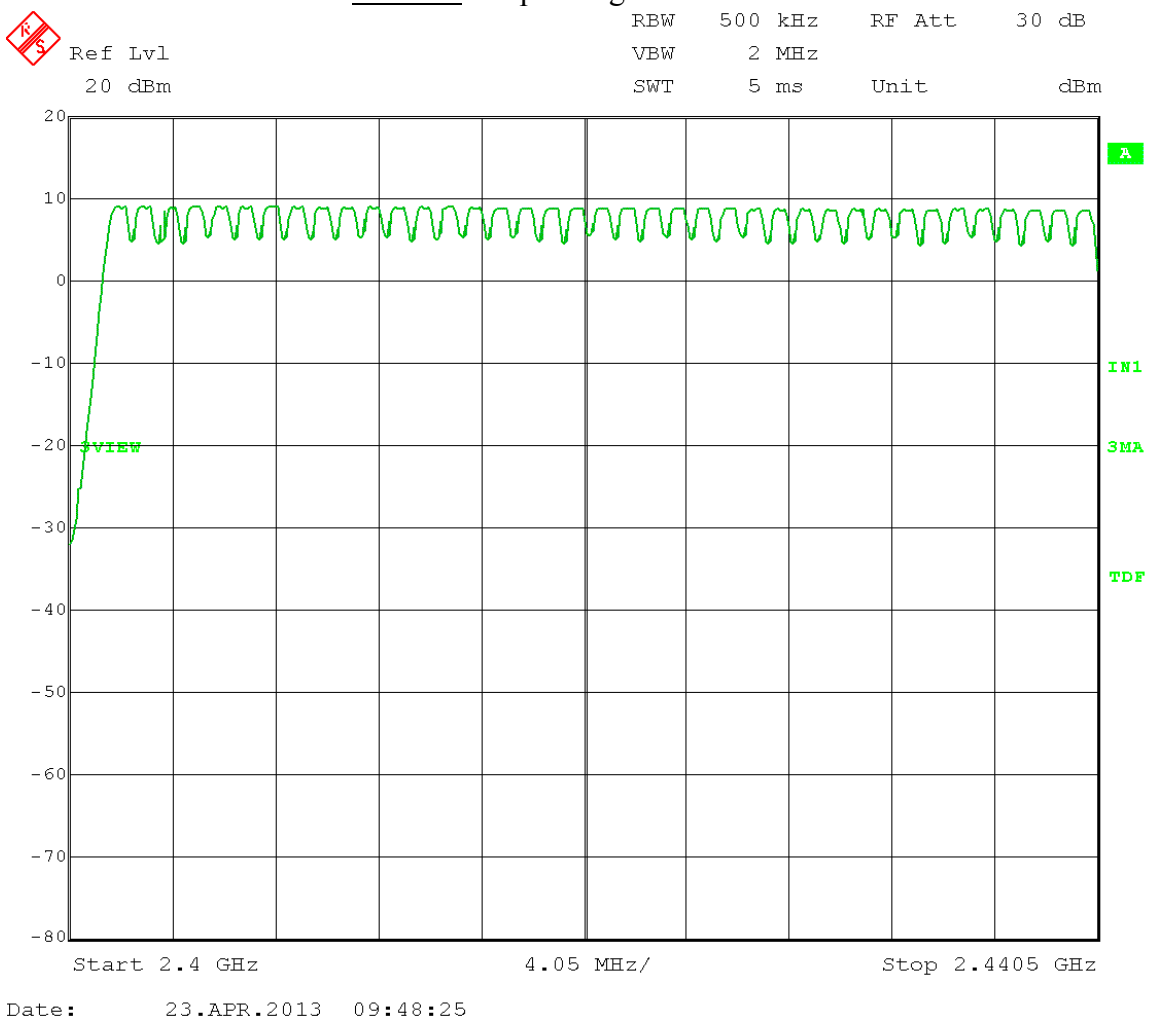
166 South Carter, Genoa City, WI 53128

Company: Roche Diagnostics
Model Tested: 481
Report Number: 19041
DLS Project: 5792

Test Date: 04-23-2013
Company: Roche Diagnostics
EUT: Calypso meter with Bluetooth
Test: Number of Hopping Channels
Operator: Craig B
Limit: Frequency hopping systems in the 2400–2483.5 MHz band shall use at least 15 channels.

Number of hopping channels: 39 + 40 = **79 channels**

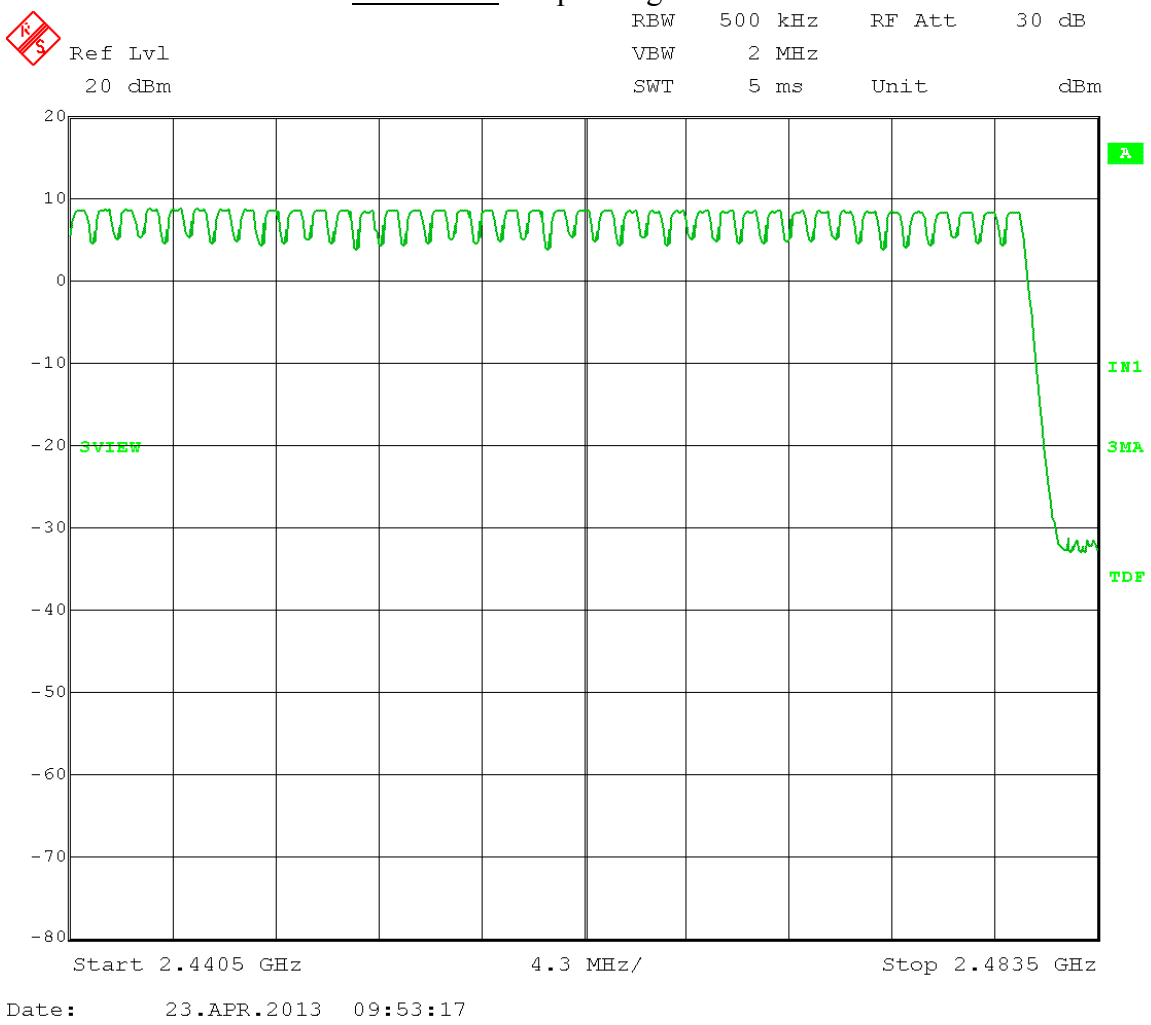
Number of channels in <u>first half</u> of operating band: 39



Test Date: 04-23-2013
Company: Roche Diagnostics
EUT: Calypso meter with Bluetooth
Test: Number of Hopping Channels
Operator: Craig B
Limit: Frequency hopping systems in the 2400–2483.5 MHz band shall use at least 15 channels.

Number of hopping channels: 39 + 40 = **79 channels**

Number of channels in second half of operating band: 40



Appendix B

4.0 Time of Occupancy

Rule Part:

15.247 (a) (1) (iii)

Test Procedure:

DA 00-705 March 30, 2000

Limit:

The average time of occupancy on any channel shall not be greater than **0.4 seconds** within a period of 0.4 seconds multiplied by the number of hopping channels employed.

Limit: < 0.4 seconds within a period of 31.6 seconds (0.4 seconds x 79 channels)

Results:

Compliant
Time of occupancy = 391 μs x 22 ON times per 2 seconds x 31.6 seconds
= **0.136** seconds within a period of 31.6 seconds

Notes:

This was an RF conducted measurement. The EUT was connected to the measuring equipment through an SMA connector allowing RF conducted measurements. Cable loss and attenuation was accounted for in the transducer factors set in the analyzer.

The EUT was set to continuously transmit (100% duty cycle) a modulated signal at its maximum power. The EUT was set to hop on all 79 channels. The ON time of one hop, and the frequency at which the EUT hops on the same channel were measured. From this, the average time of occupancy on any one channel was calculated.

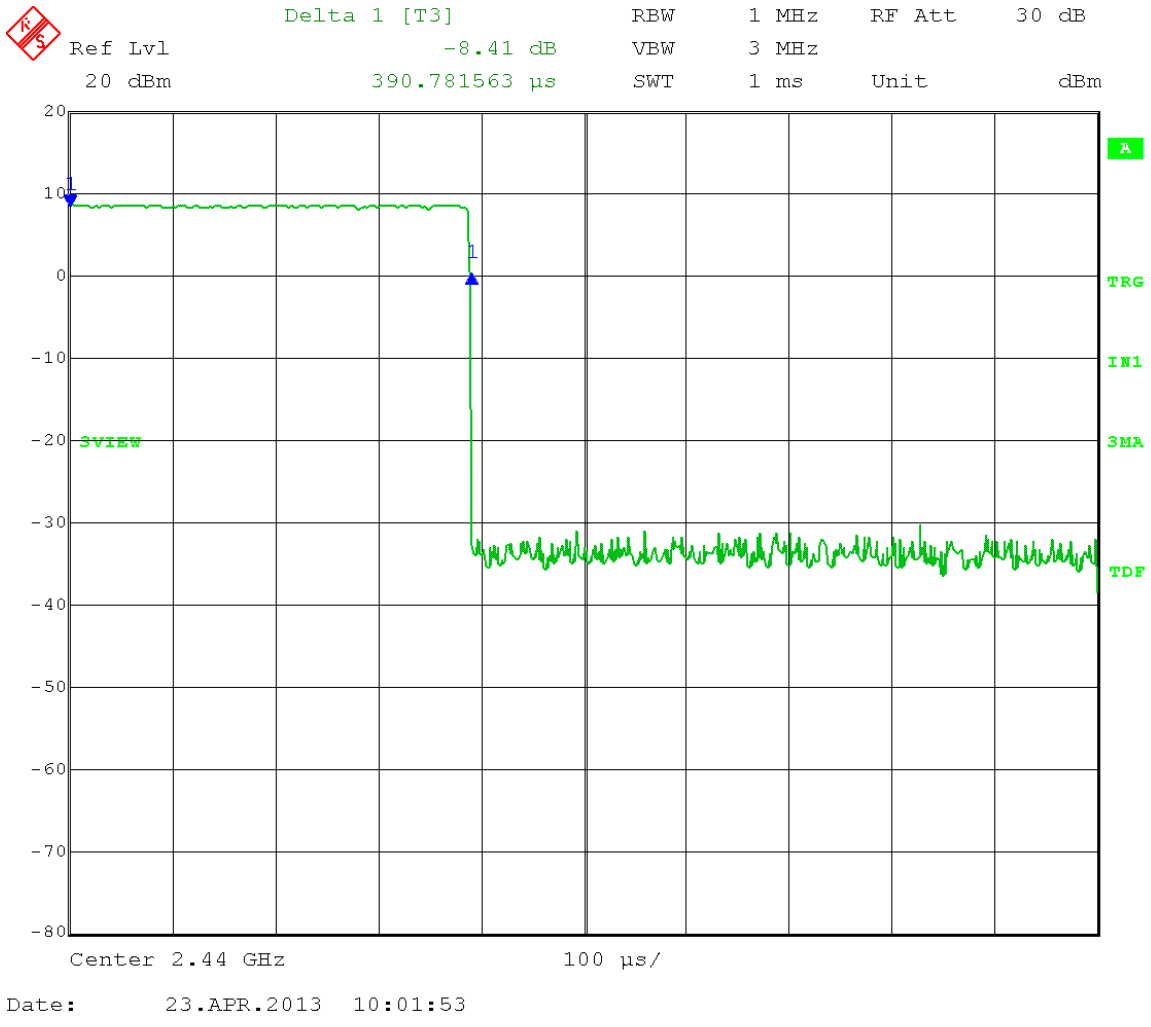
166 South Carter, Genoa City, WI 53128

Company: Roche Diagnostics
Model Tested: 481
Report Number: 19041
DLS Project: 5792

Test Date: 04-23-2013
Company: Roche Diagnostics
EUT: Calypso meter with Bluetooth
Test: Time of occupancy
Operator: Craig B
Limit: The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

Limit: < 0.4 seconds within a period of 31.6 seconds (0.4 seconds x 79 channels)
Time of occupancy = 391 µs x 22 ON times per 2 seconds x 31.6 seconds
= **0.136 seconds** within a period of 31.6 seconds

Duration of one ON time:

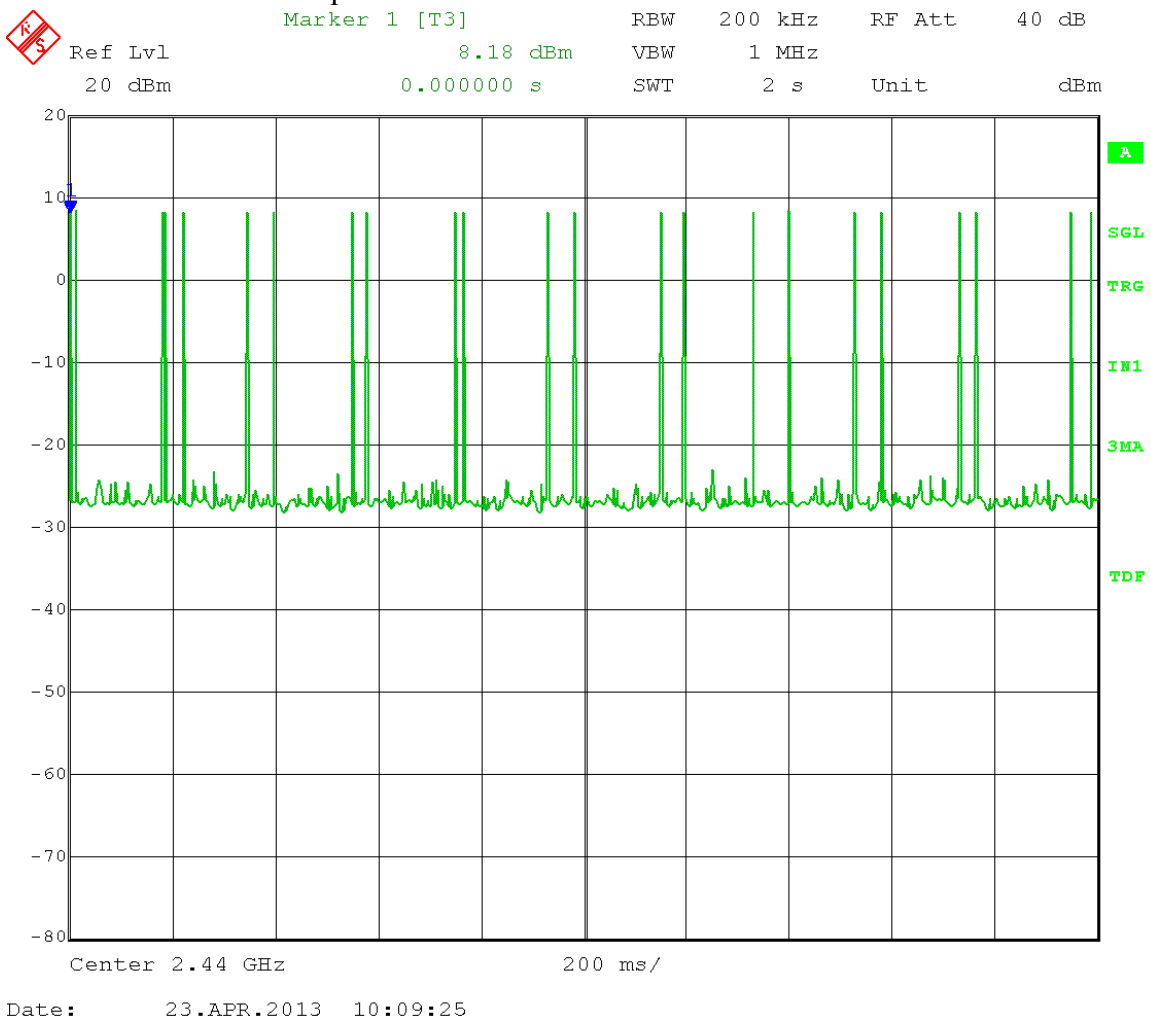


166 South Carter, Genoa City, WI 53128

Company: Roche Diagnostics
Model Tested: 481
Report Number: 19041
DLS Project: 5792

Test Date: 04-23-2013
Company: Roche Diagnostics
EUT: Calypso meter with Bluetooth
Test: Time of occupancy
Operator: Craig B
Limit: The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed

Number of ON times per 2 seconds: 22



Appendix B

5.0 Maximum Peak Conducted Output Power

Rule Part:

15.247 (b) (1)

Test Procedure:

DA 00-705 March 30, 2000

Limit:

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels: 1 watt.

Results:

Compliant
Maximum peak conducted output power = 9.21 dBm

Notes:

This was an RF conducted measurement. The EUT was connected to the measuring equipment through an SMA connector allowing RF conducted measurements. Cable loss and attenuation was accounted for in the transducer factors set in the analyzer.

The EUT was set to continuously transmit (100% duty cycle) a modulated signal at its maximum power on the low, middle, and high channels of the operating band.

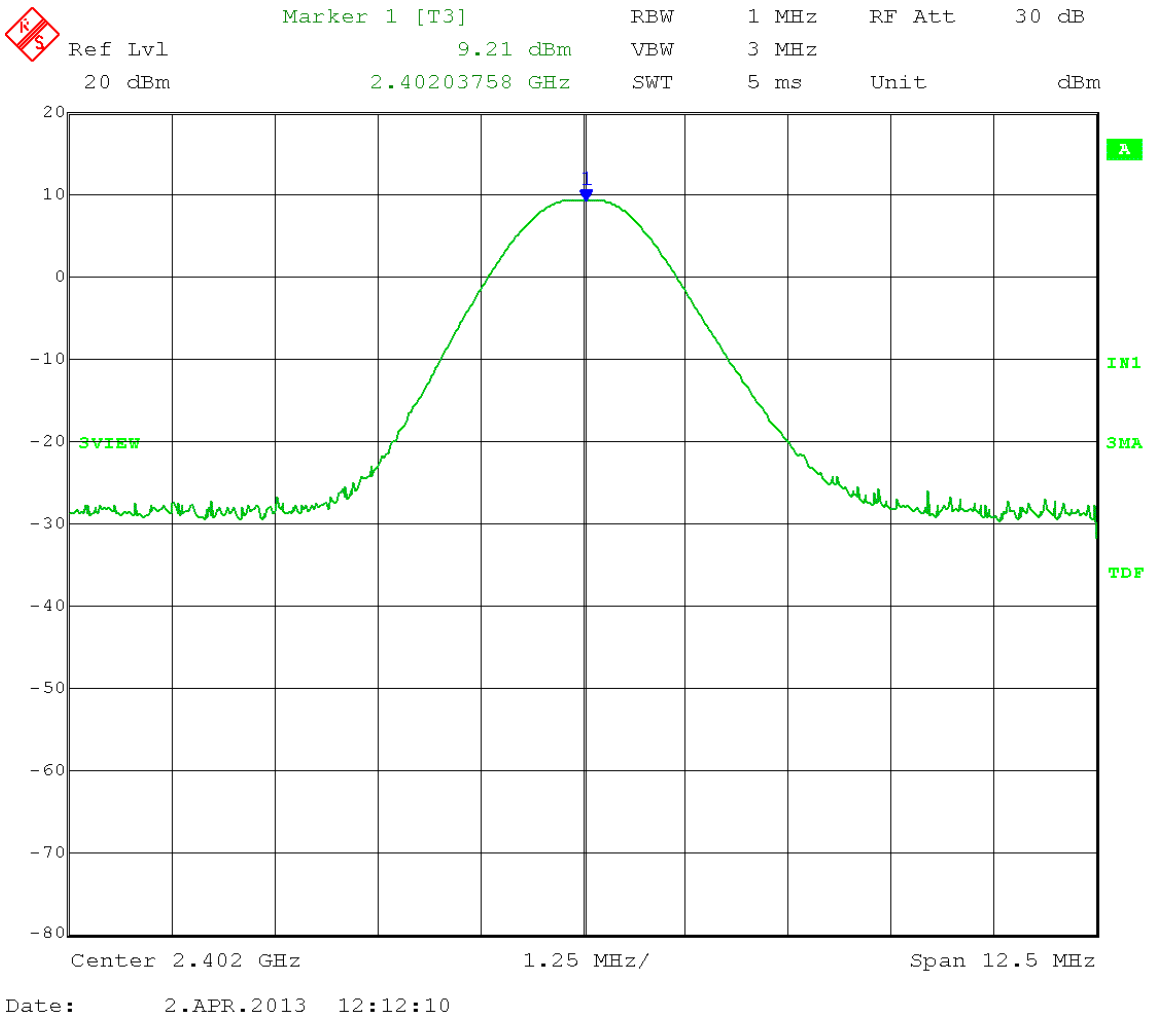
166 South Carter, Genoa City, WI 53128

Company: Roche Diagnostics
Model Tested: 481
Report Number: 19041
DLS Project: 5792

Test Date: 04-02-2013
Company: Roche Diagnostics
EUT: Calypso meter with Bluetooth
Test: Fundamental Emission Output Power - Conducted
Operator: Craig B

Comment: Low Channel: Frequency – 2402 MHz

Fundamental Emission Output Power = 9.21 dBm



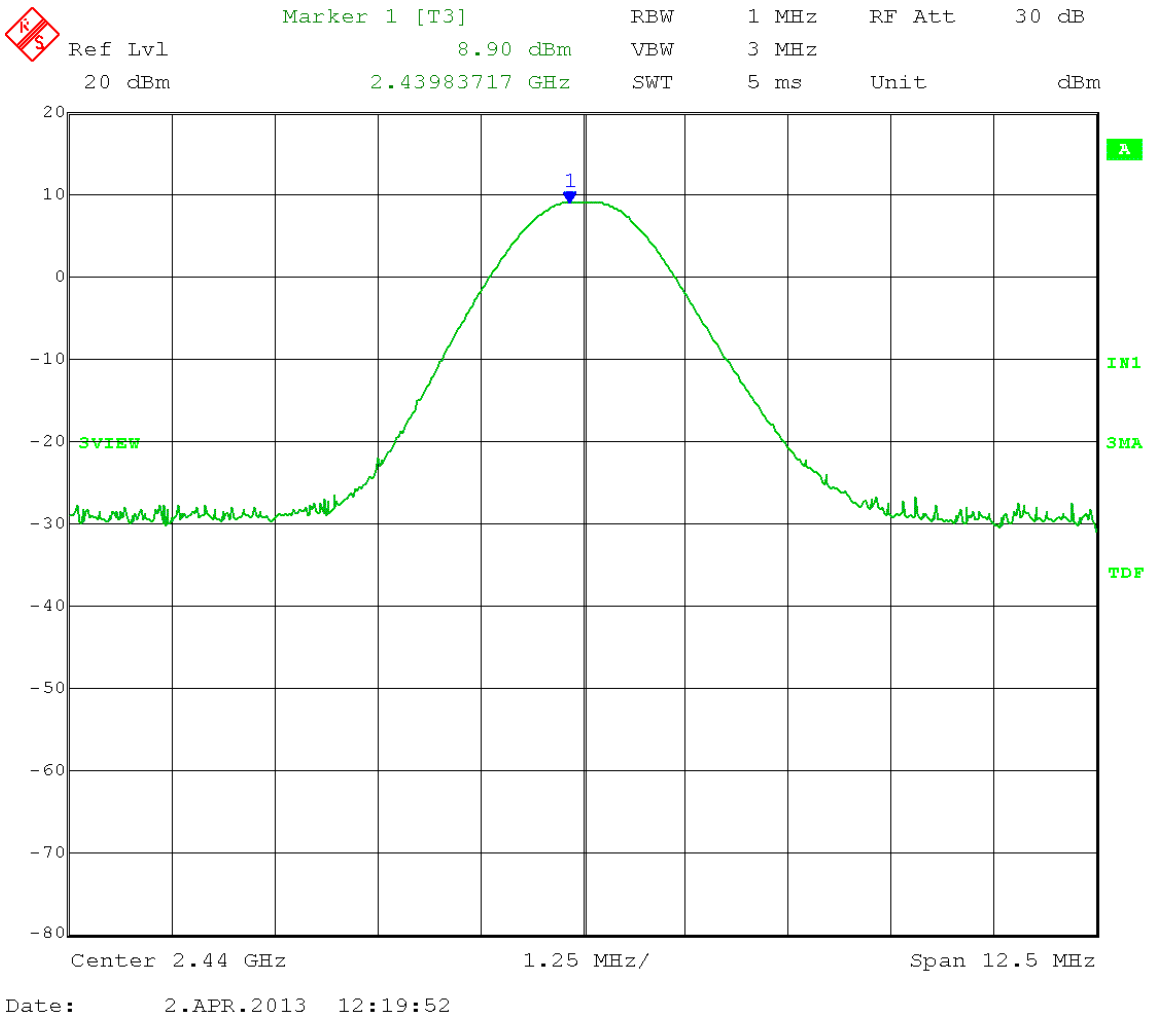
166 South Carter, Genoa City, WI 53128

Company: Roche Diagnostics
Model Tested: 481
Report Number: 19041
DLS Project: 5792

Test Date: 04-02-2013
Company: Roche Diagnostics
EUT: Calypso meter with Bluetooth
Test: Fundamental Emission Output Power - Conducted
Operator: Craig B

Comment: Mid Channel: Frequency – 2440 MHz

Fundamental Emission Output Power = 8.90 dBm



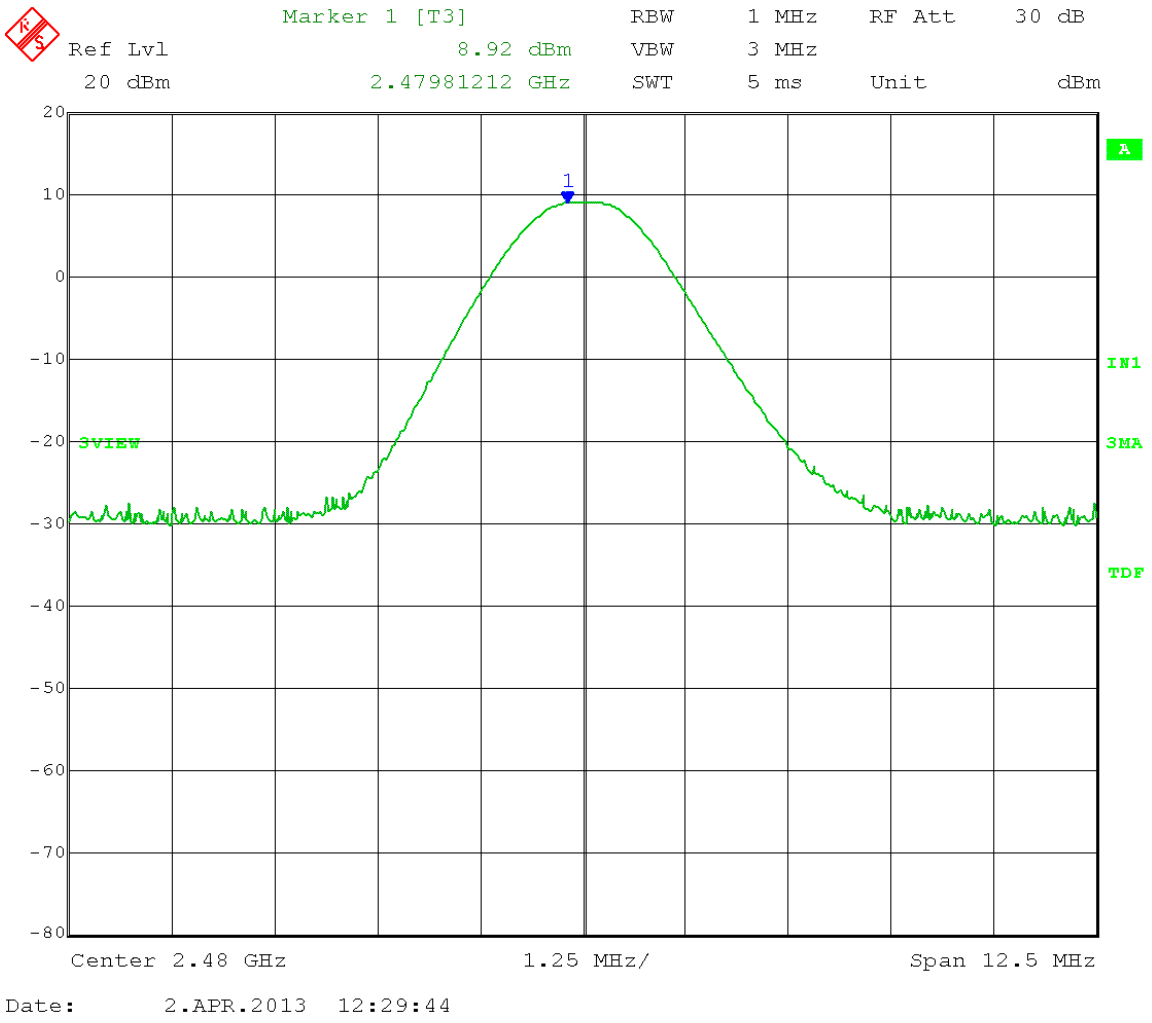
166 South Carter, Genoa City, WI 53128

Company: Roche Diagnostics
Model Tested: 481
Report Number: 19041
DLS Project: 5792

Test Date: 04-02-2013
Company: Roche Diagnostics
EUT: Calypso meter with Bluetooth
Test: Fundamental Emission Output Power - Conducted
Operator: Craig B

Comment: High Channel: Frequency – 2480 MHz

Fundamental Emission Output Power = 8.92 dBm



Appendix B

6.0 Spurious RF Conducted Emissions

Rule Part:

15.247 (d)

Test Procedure:

DA 00-705 March 30, 2000

Limit:

In any 100 kHz bandwidth outside the frequency band of operation, the radio frequency power that is 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.

Results:

Compliant

Notes:

This was an RF conducted measurement. The EUT was connected to the measuring equipment through an SMA connector allowing RF conducted measurements. Cable loss and attenuation was accounted for in the transducer factors set in the analyzer.

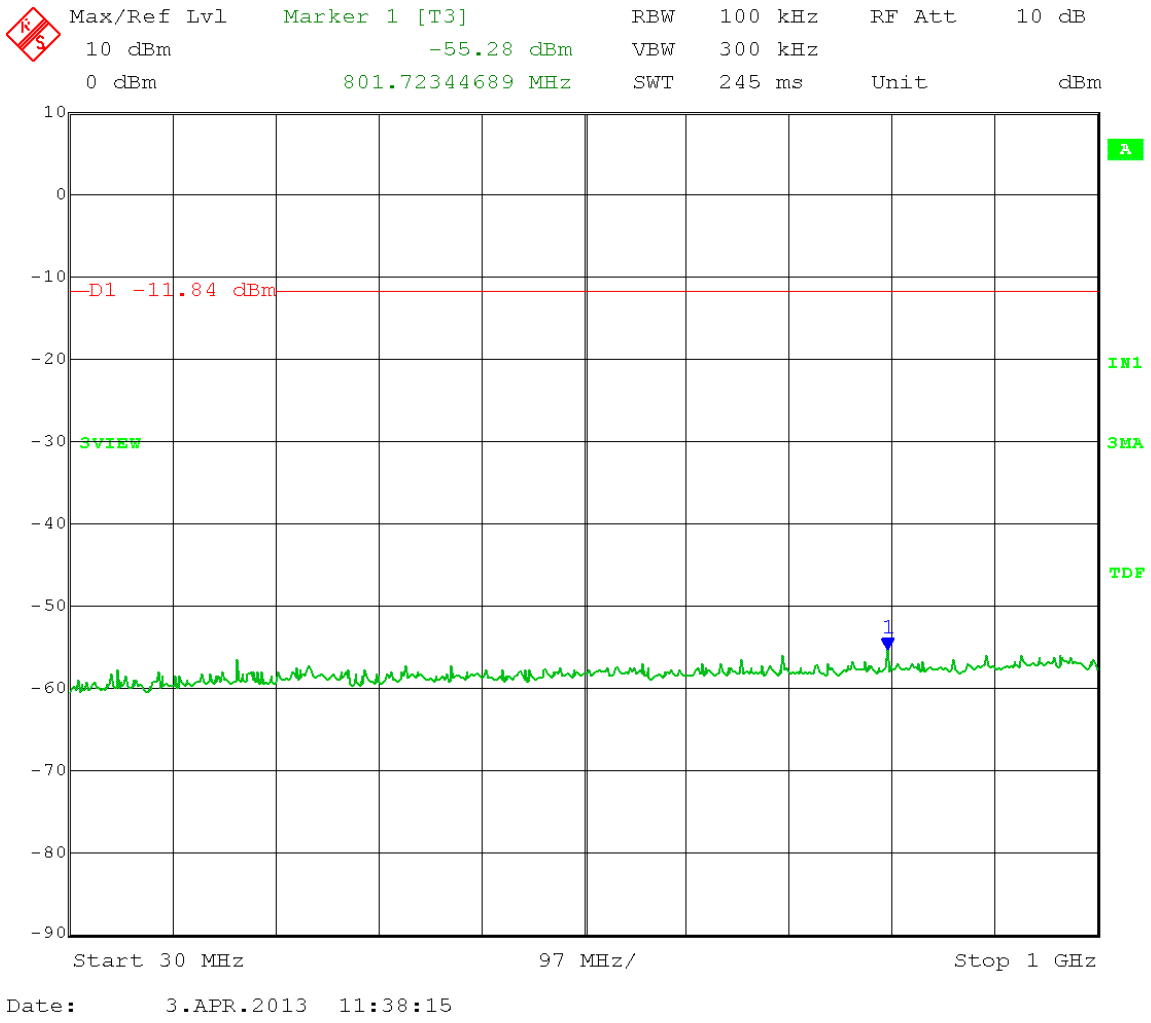
The EUT was set to continuously transmit (100% duty cycle) a modulated signal at its maximum power on the low, middle, and high channels of the operating band.

166 South Carter, Genoa City, WI 53128

Company:	Roche Diagnostics
Model Tested:	481
Report Number:	19041
DLS Project:	5792

Test Date: 04-03-2013
Company: Roche Diagnostics
EUT: Calypso meter with Bluetooth
Test: Conducted Spurious Emissions
Operator: Craig B
Comment: Low channel: Frequency – 2.402 GHz

Frequency Range: 30 to 1000 MHz
Limit = -11.84 dBm
All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency

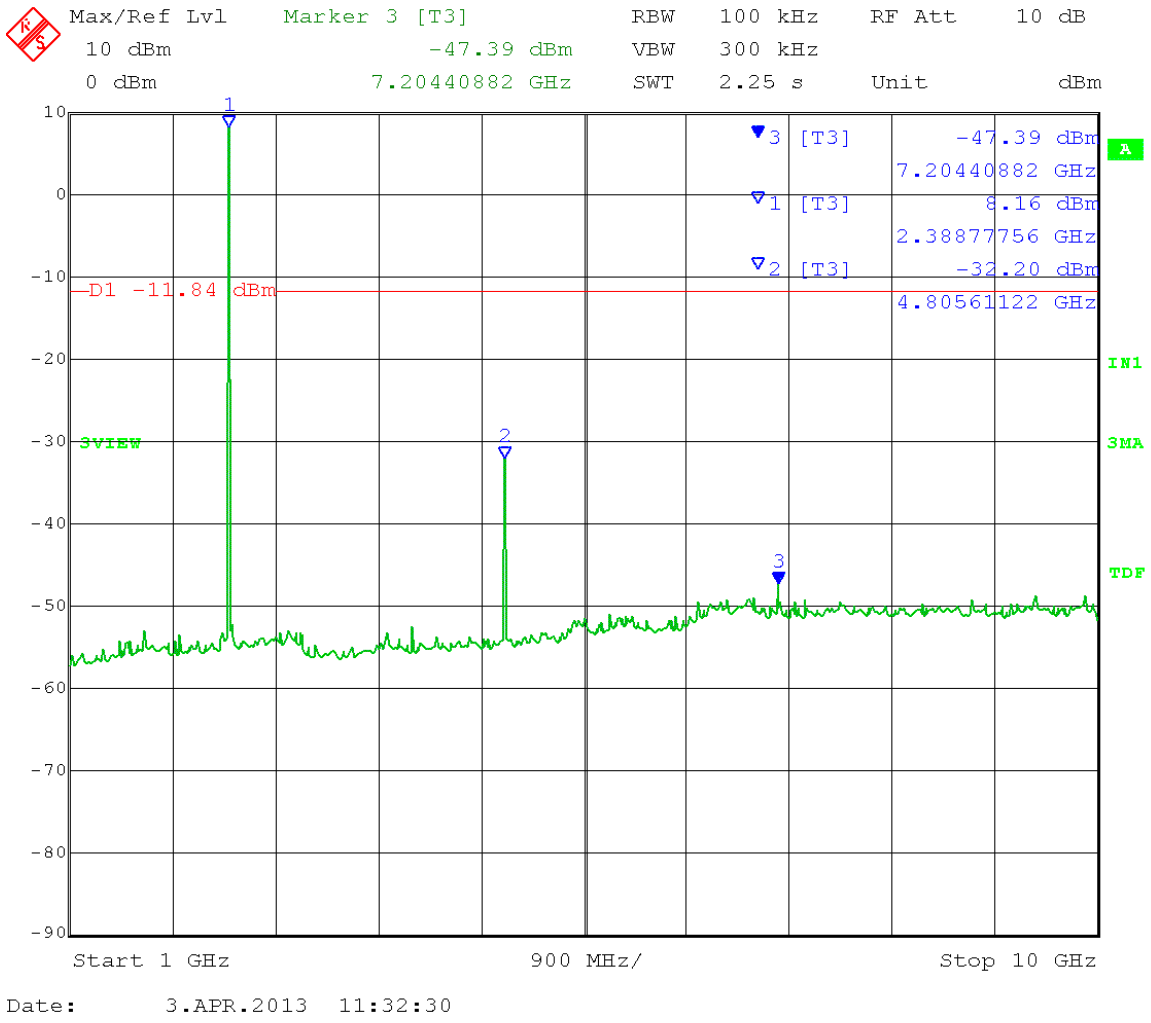


166 South Carter, Genoa City, WI 53128

Company: Roche Diagnostics
Model Tested: 481
Report Number: 19041
DLS Project: 5792

Test Date: 04-03-2013
Company: Roche Diagnostics
EUT: Calypso meter with Bluetooth
Test: Conducted Spurious Emissions
Operator: Craig B
Comment: Low channel: Frequency – 2.402 GHz

Frequency Range: 1 to 10 GHz
Limit = -11.84 dBm
All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency

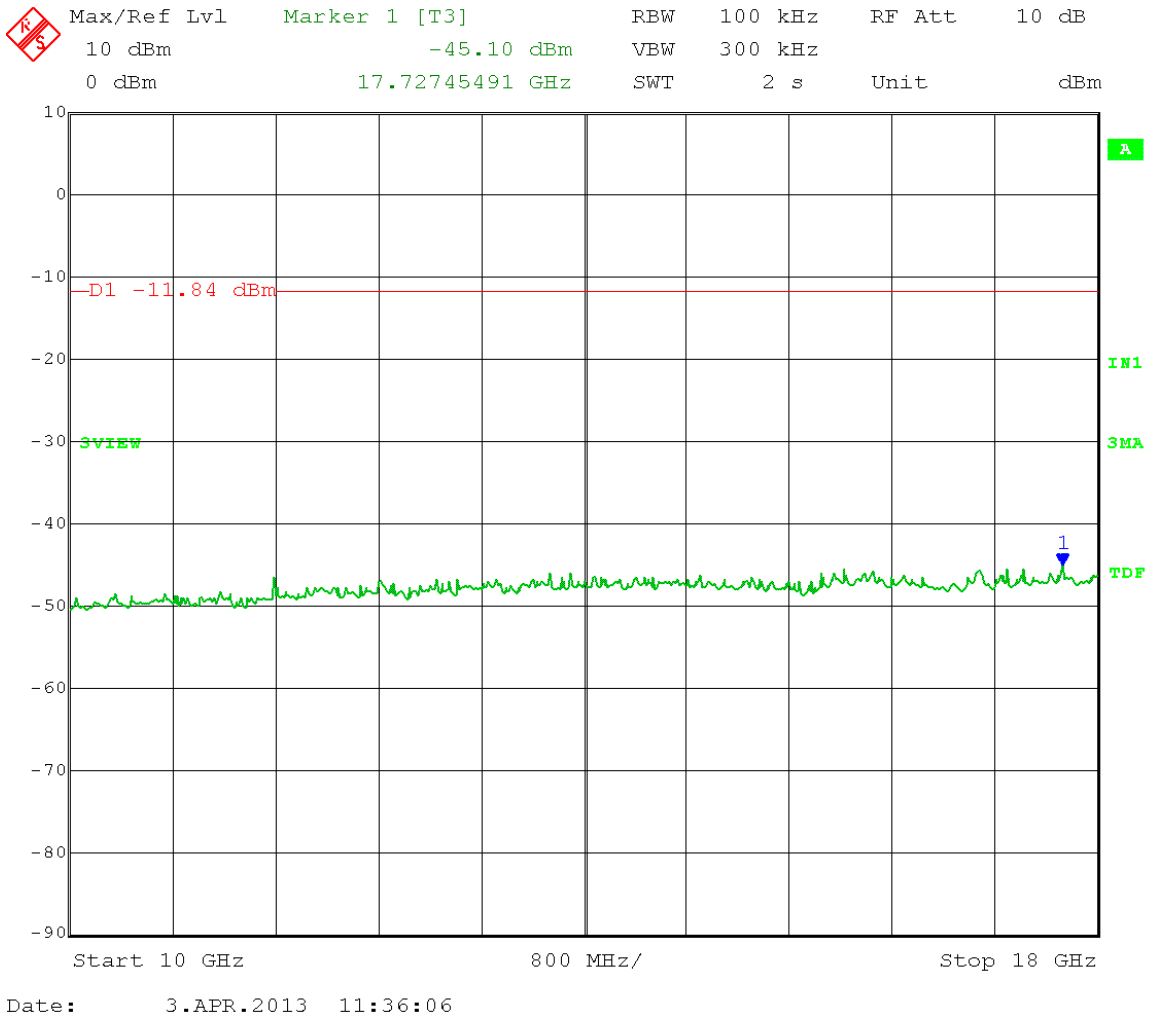


ELECTRONIC SYSTEMS, INC.
166 South Carter, Genoa City, WI 53128

Company: Roche Diagnostics
Model Tested: 481
Report Number: 19041
DLS Project: 5792

Test Date: 04-03-2013
Company: Roche Diagnostics
EUT: Calypso meter with Bluetooth
Test: Conducted Spurious Emissions
Operator: Craig B
Comment: Low channel: Frequency – 2.402 GHz

Frequency Range: 10 to 18 GHz
Limit = -11.84 dBm
All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency

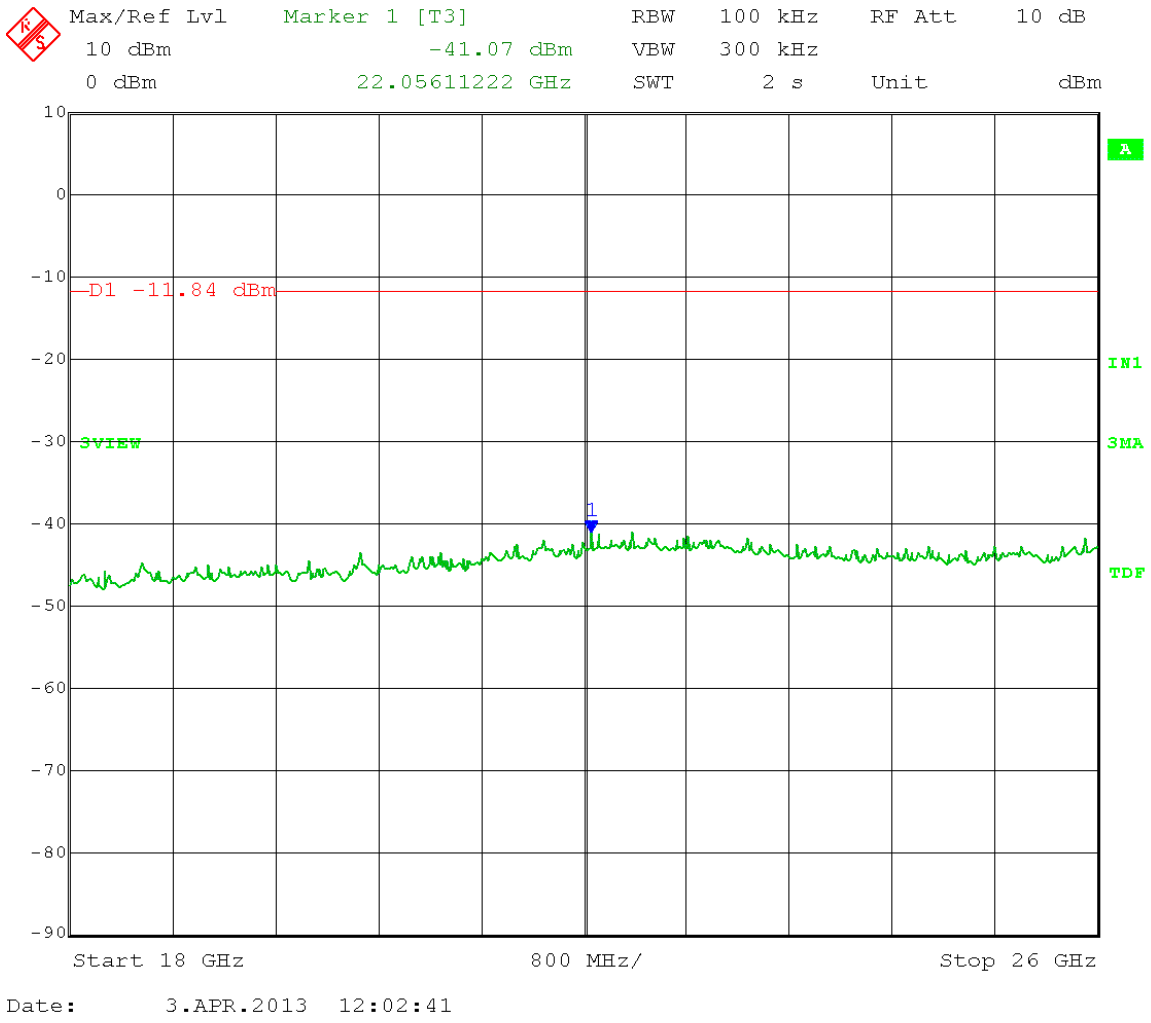


166 South Carter, Genoa City, WI 53128

Company: Roche Diagnostics
Model Tested: 481
Report Number: 19041
DLS Project: 5792

Test Date: 04-03-2013
Company: Roche Diagnostics
EUT: Calypso meter with Bluetooth
Test: Conducted Spurious Emissions
Operator: Craig B
Comment: Low channel: Frequency – 2.402 GHz

Frequency Range: 18 to 26 GHz
Limit = -11.84 dBm
All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency

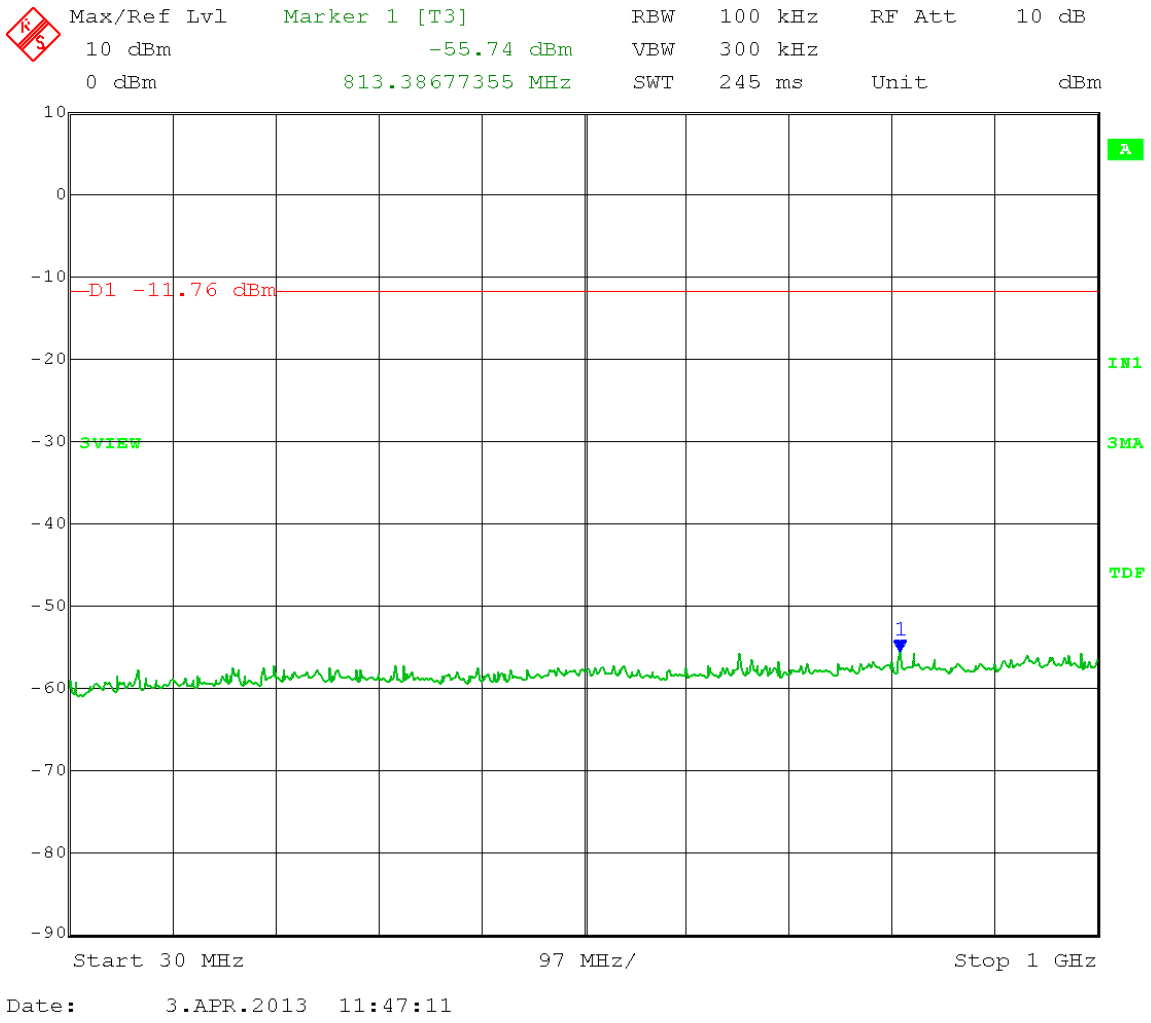


ELECTRONIC SYSTEMS, INC.
166 South Carter, Genoa City, WI 53128

Company: Roche Diagnostics
Model Tested: 481
Report Number: 19041
DLS Project: 5792

Test Date: 04-03-2013
Company: Roche Diagnostics
EUT: Calypso meter with Bluetooth
Test: Conducted Spurious Emissions
Operator: Craig B
Comment: Mid channel: Frequency – 2.440 GHz

Frequency Range: 30 to 1000 MHz
Limit = -11.76 dBm
All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency

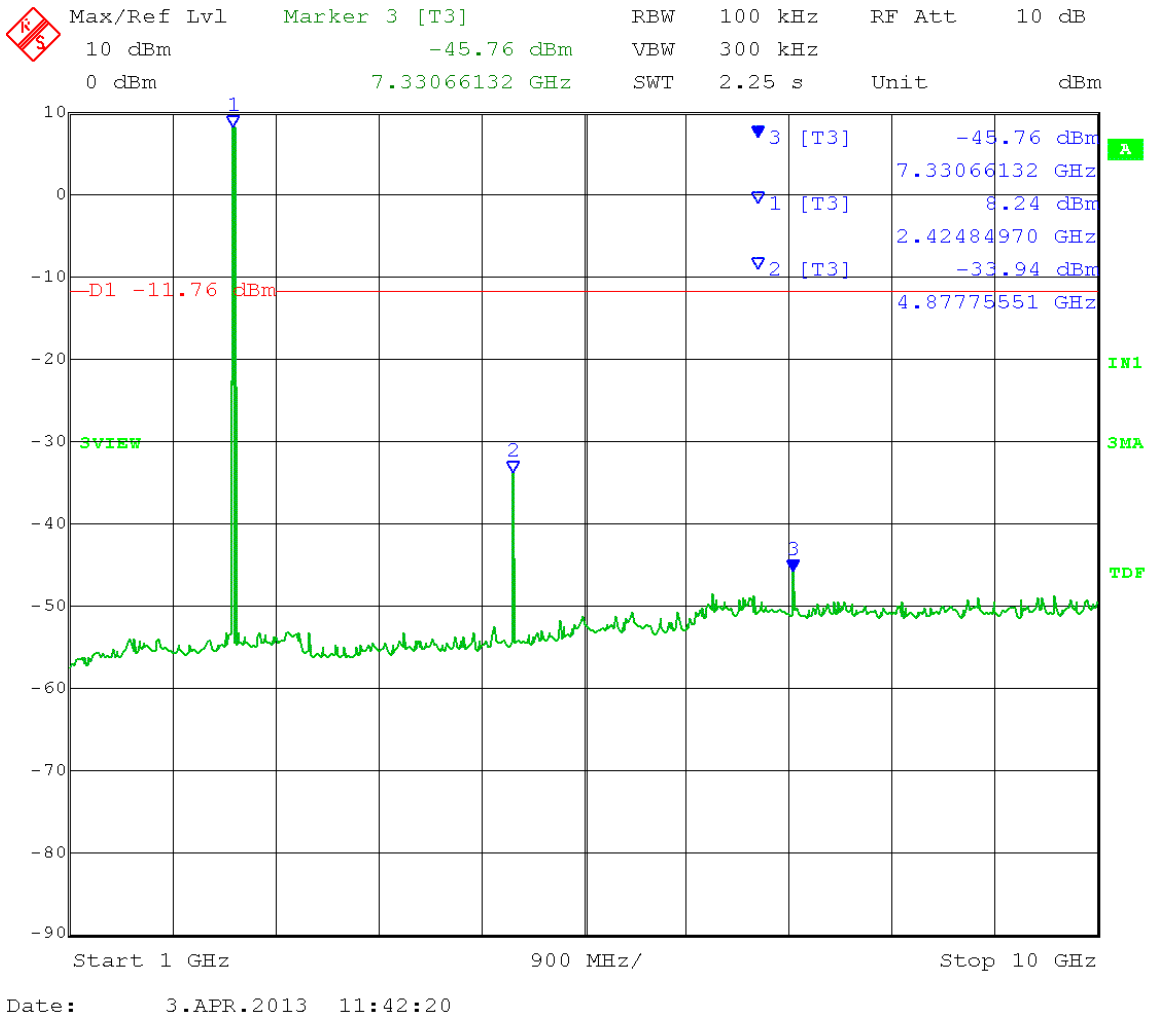


ELECTRONIC SYSTEMS, INC.
166 South Carter, Genoa City, WI 53128

Company: Roche Diagnostics
Model Tested: 481
Report Number: 19041
DLS Project: 5792

Test Date: 04-03-2013
Company: Roche Diagnostics
EUT: Calypso meter with Bluetooth
Test: Conducted Spurious Emissions
Operator: Craig B
Comment: Mid channel: Frequency – 2.440 GHz

Frequency Range: 1 to 10 GHz
Limit = -11.76 dBm
All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency

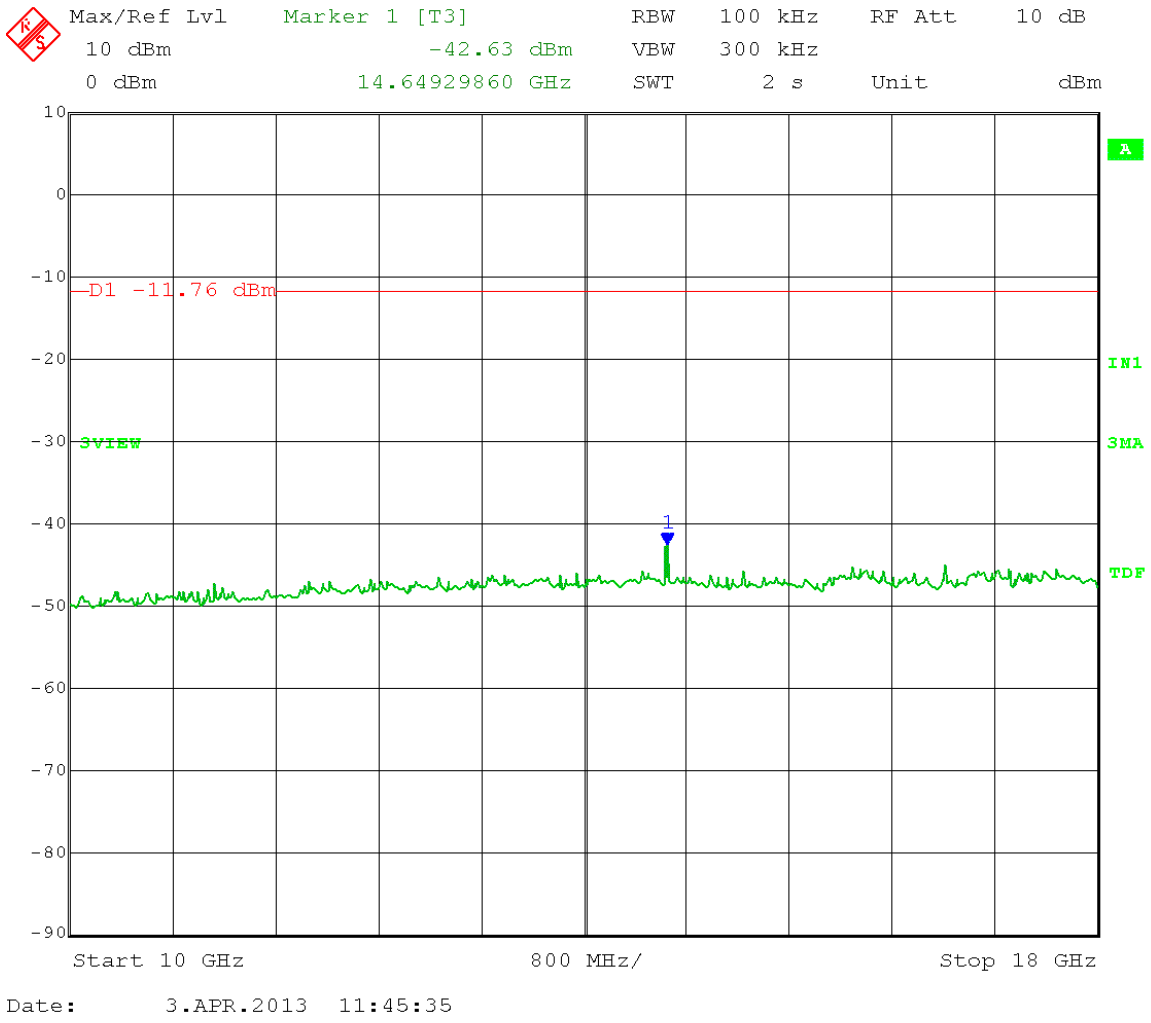


ELECTRONIC SYSTEMS, INC.
166 South Carter, Genoa City, WI 53128

Company: Roche Diagnostics
Model Tested: 481
Report Number: 19041
DLS Project: 5792

Test Date: 04-03-2013
Company: Roche Diagnostics
EUT: Calypso meter with Bluetooth
Test: Conducted Spurious Emissions
Operator: Craig B
Comment: Mid channel: Frequency – 2.440 GHz

Frequency Range: 10 to 18 GHz
Limit = -11.76 dBm
All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency

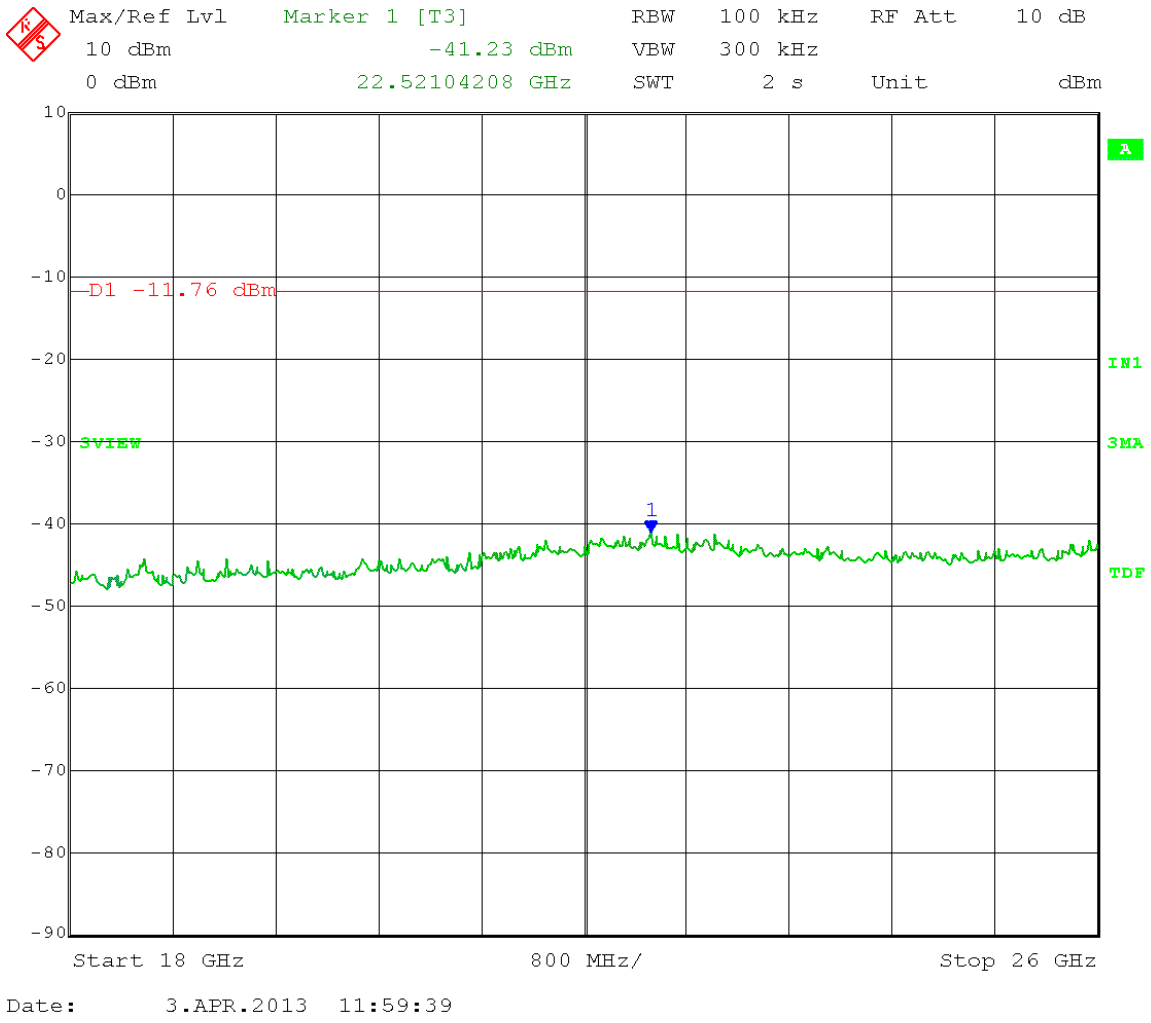


166 South Carter, Genoa City, WI 53128

Company: Roche Diagnostics
Model Tested: 481
Report Number: 19041
DLS Project: 5792

Test Date: 04-03-2013
Company: Roche Diagnostics
EUT: Calypso meter with Bluetooth
Test: Conducted Spurious Emissions
Operator: Craig B
Comment: Mid channel: Frequency – 2.440 GHz

Frequency Range: 18 to 26 GHz
Limit = -11.76 dBm
All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency

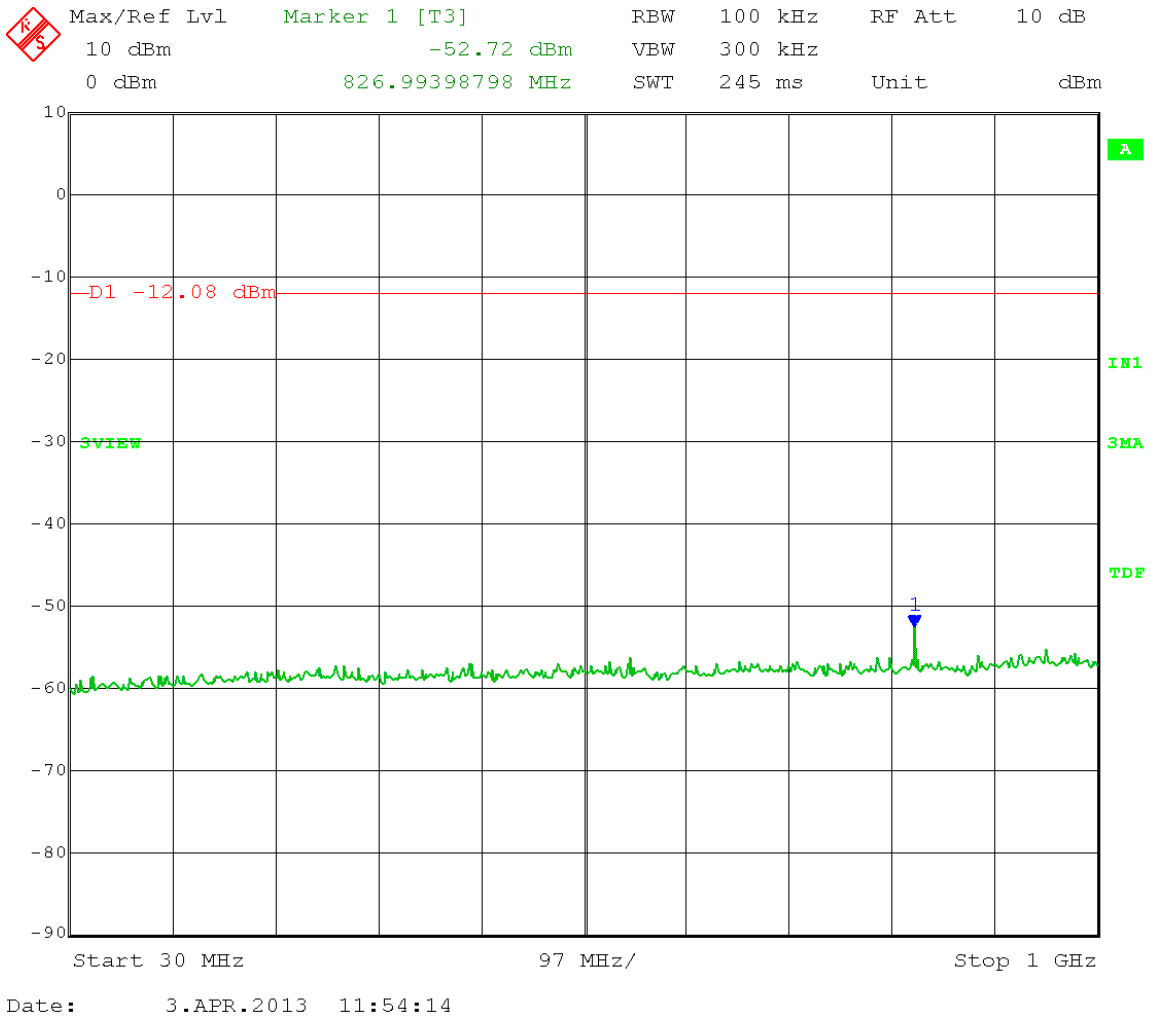


166 South Carter, Genoa City, WI 53128

Company: Roche Diagnostics
Model Tested: 481
Report Number: 19041
DLS Project: 5792

Test Date: 04-03-2013
Company: Roche Diagnostics
EUT: Calypso meter with Bluetooth
Test: Conducted Spurious Emissions
Operator: Craig B
Comment: High channel: Frequency – 2.480 GHz

Frequency Range: 30 to 1000 MHz
Limit = -12.08 dBm
All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency

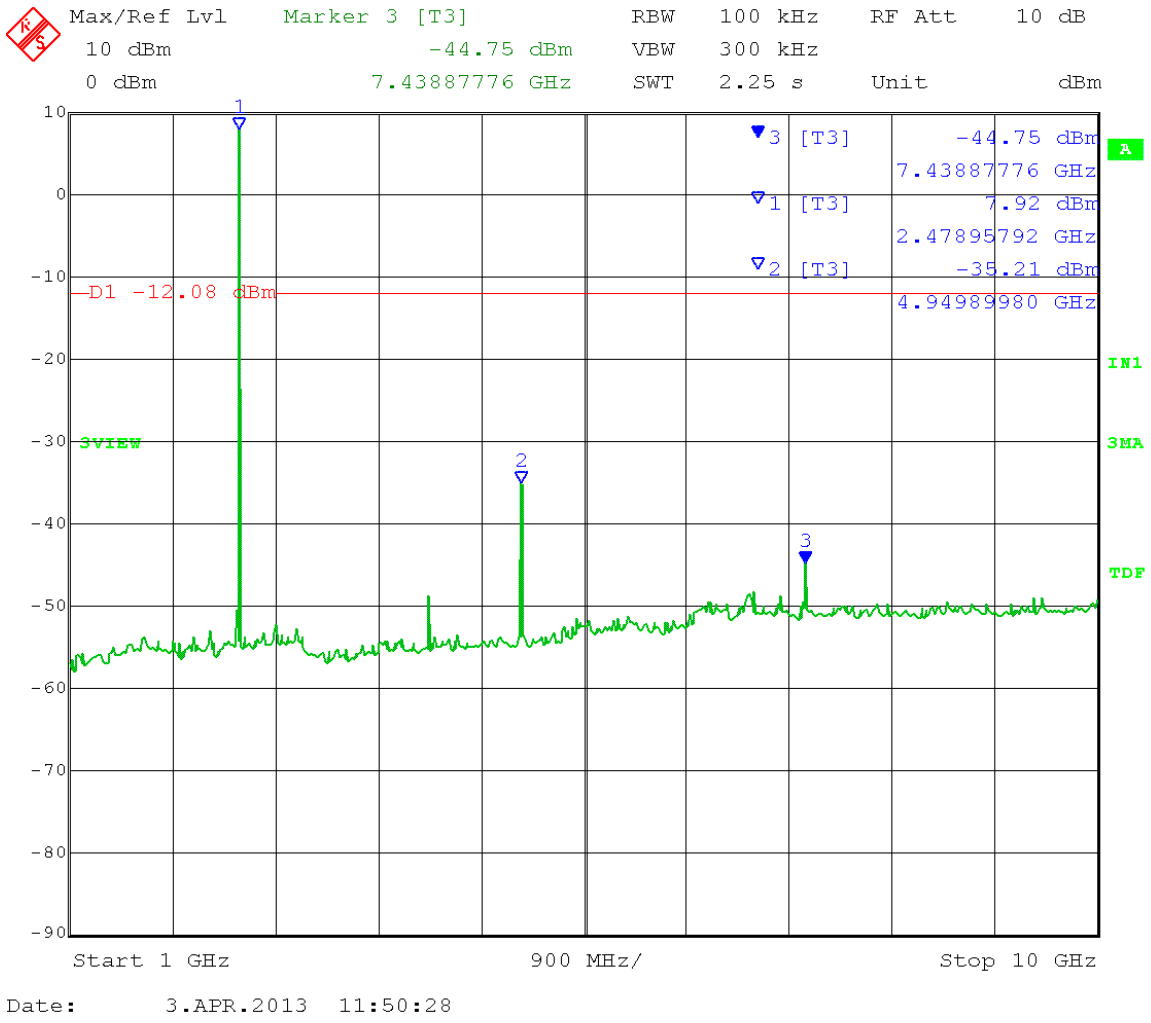


166 South Carter, Genoa City, WI 53128

Company:	Roche Diagnostics
Model Tested:	481
Report Number:	19041
DLS Project:	5792

Test Date: 04-03-2013
Company: Roche Diagnostics
EUT: Calypso meter with Bluetooth
Test: Conducted Spurious Emissions
Operator: Craig B
Comment: High channel: Frequency – 2.480 GHz

Frequency Range: 1 to 10 GHz
Limit = -12.08 dBm
All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency

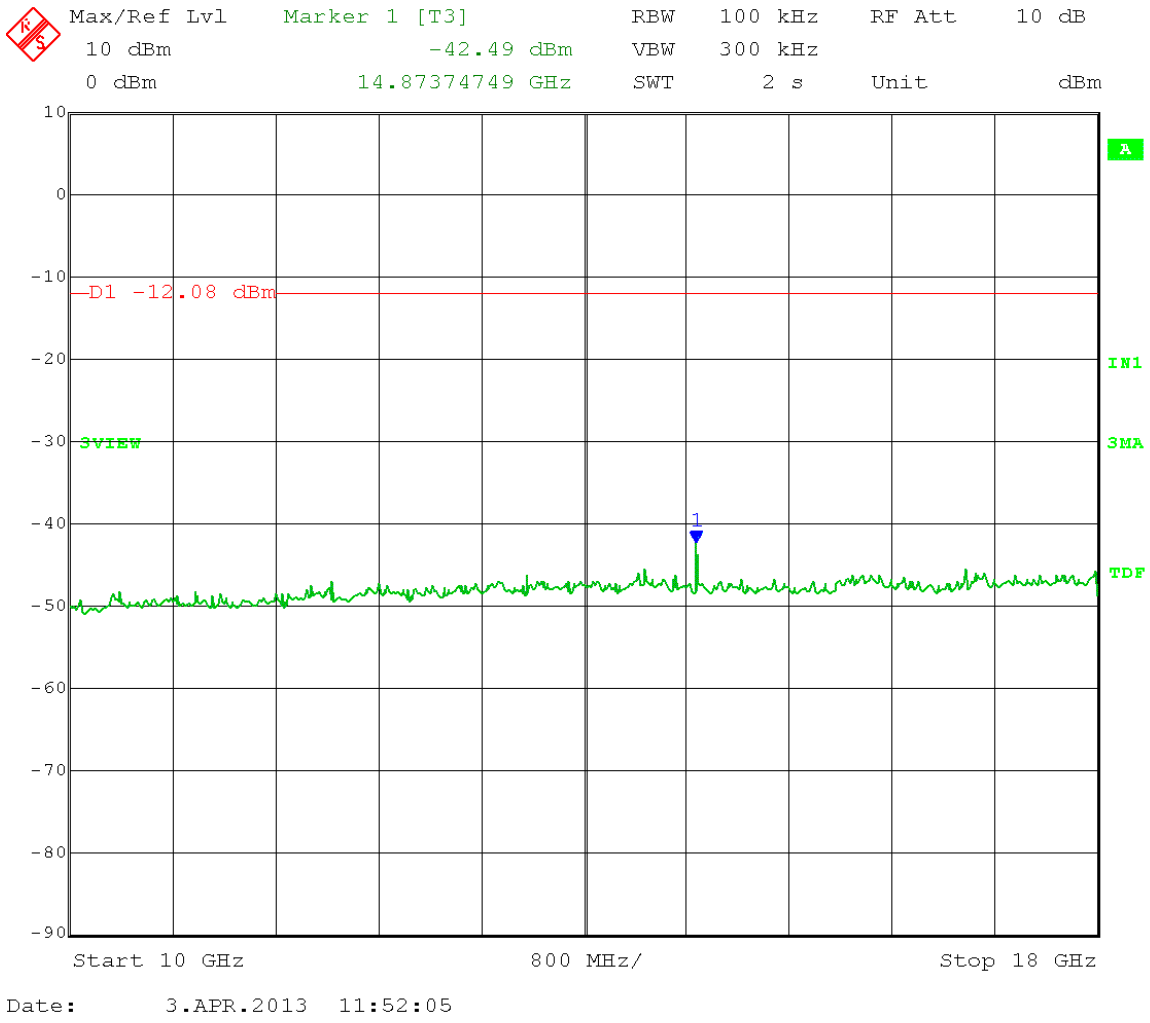


166 South Carter, Genoa City, WI 53128

Company: Roche Diagnostics
Model Tested: 481
Report Number: 19041
DLS Project: 5792

Test Date: 04-03-2013
Company: Roche Diagnostics
EUT: Calypso meter with Bluetooth
Test: Conducted Spurious Emissions
Operator: Craig B
Comment: High channel: Frequency – 2.480 GHz

Frequency Range: 10 to 18 GHz
Limit = -12.08 dBm
All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency

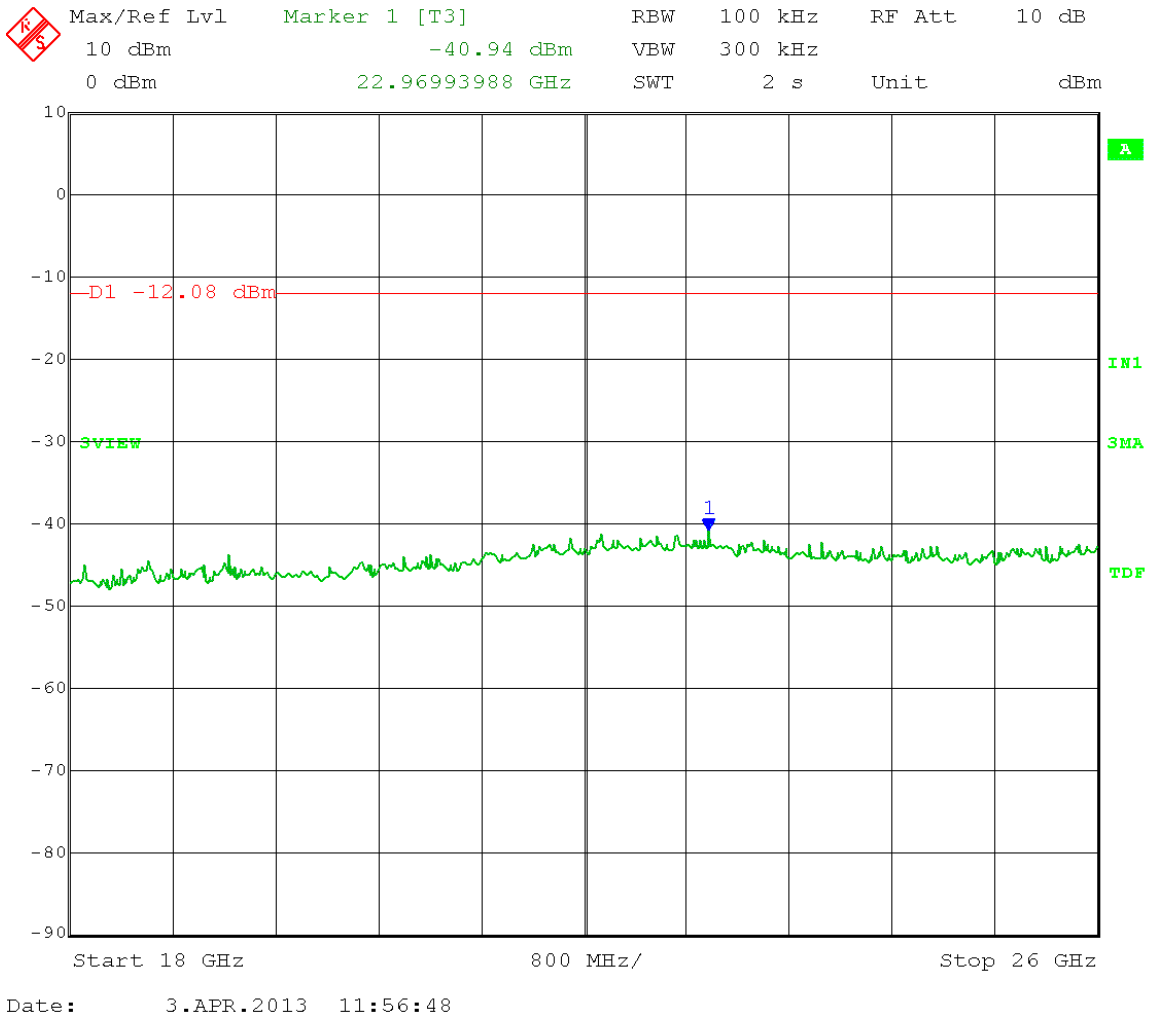


166 South Carter, Genoa City, WI 53128

Company: Roche Diagnostics
Model Tested: 481
Report Number: 19041
DLS Project: 5792

Test Date: 04-03-2013
Company: Roche Diagnostics
EUT: Calypso meter with Bluetooth
Test: Conducted Spurious Emissions
Operator: Craig B
Comment: High channel: Frequency – 2.480 GHz

Frequency Range: 18 to 26 GHz
Limit = -12.08 dBm
All Spurious Emissions at Least 20 dB below Peak Level of In Band Frequency



Appendix B

7.0 Band-Edge Compliance - RF Conducted

Rule Part:

15.247 (d)

Test Procedure:

DA 00-705 March 30, 2000

Limit:

In any 100 kHz bandwidth outside the frequency band of operation, the radio frequency power that is 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.

Results:

Compliant

Notes:

This was an RF conducted measurement. The EUT was connected to the measuring equipment through an SMA connector allowing RF conducted measurements. Cable loss and attenuation was accounted for in the transducer factors set in the analyzer.

The EUT was set to continuously transmit (100% duty cycle) a modulated signal at its maximum power on the low and high channels of the operating band.

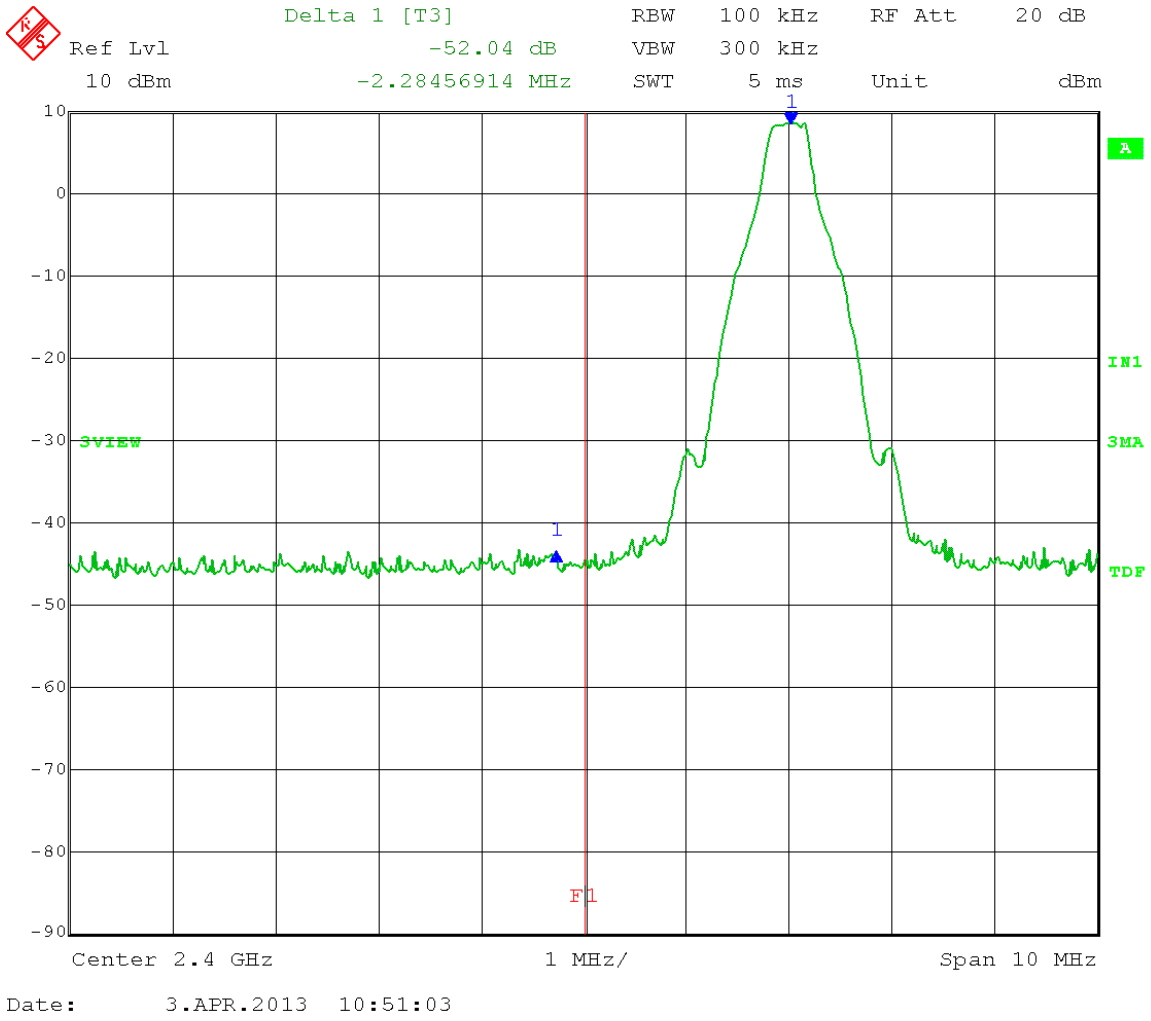
The EUT was also tested in frequency hopping mode.

166 South Carter, Genoa City, WI 53128

Company: Roche Diagnostics
Model Tested: 481
Report Number: 19041
DLS Project: 5792

Test Date: 04-03-2013
Company: Roche Diagnostics
EUT: Calypso meter with Bluetooth
Test: Band-Edge
Operator: Craig B
Comment: Low Channel: Frequency – 2.402 GHz
Hopping OFF

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

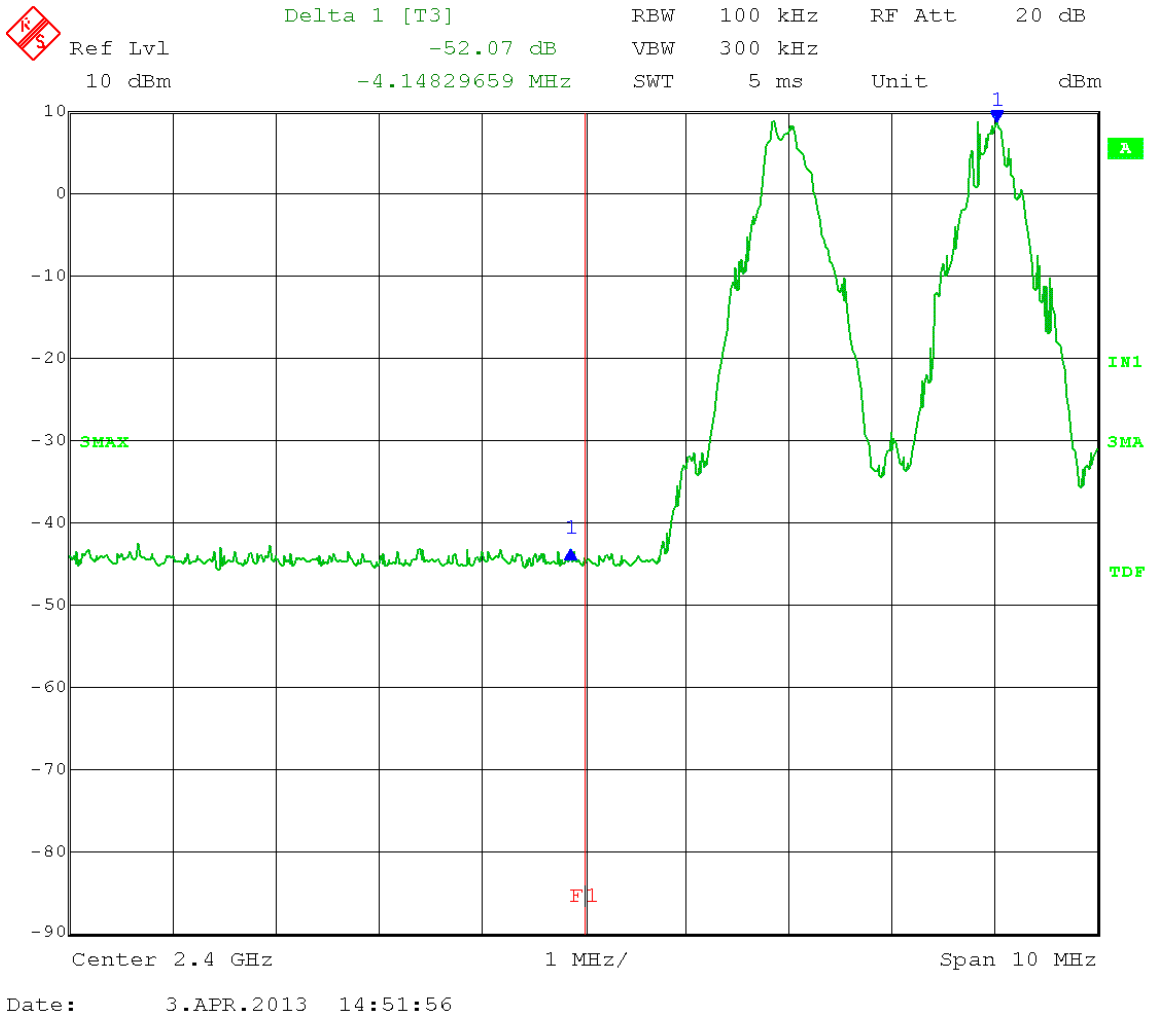


166 South Carter, Genoa City, WI 53128

Company: Roche Diagnostics
Model Tested: 481
Report Number: 19041
DLS Project: 5792

Test Date: 04-03-2013
Company: Roche Diagnostics
EUT: Calypso meter with Bluetooth
Test: Band-Edge
Operator: Craig B
Comment: Low Channel: Frequency – 2.402 GHz
Hopping ON

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

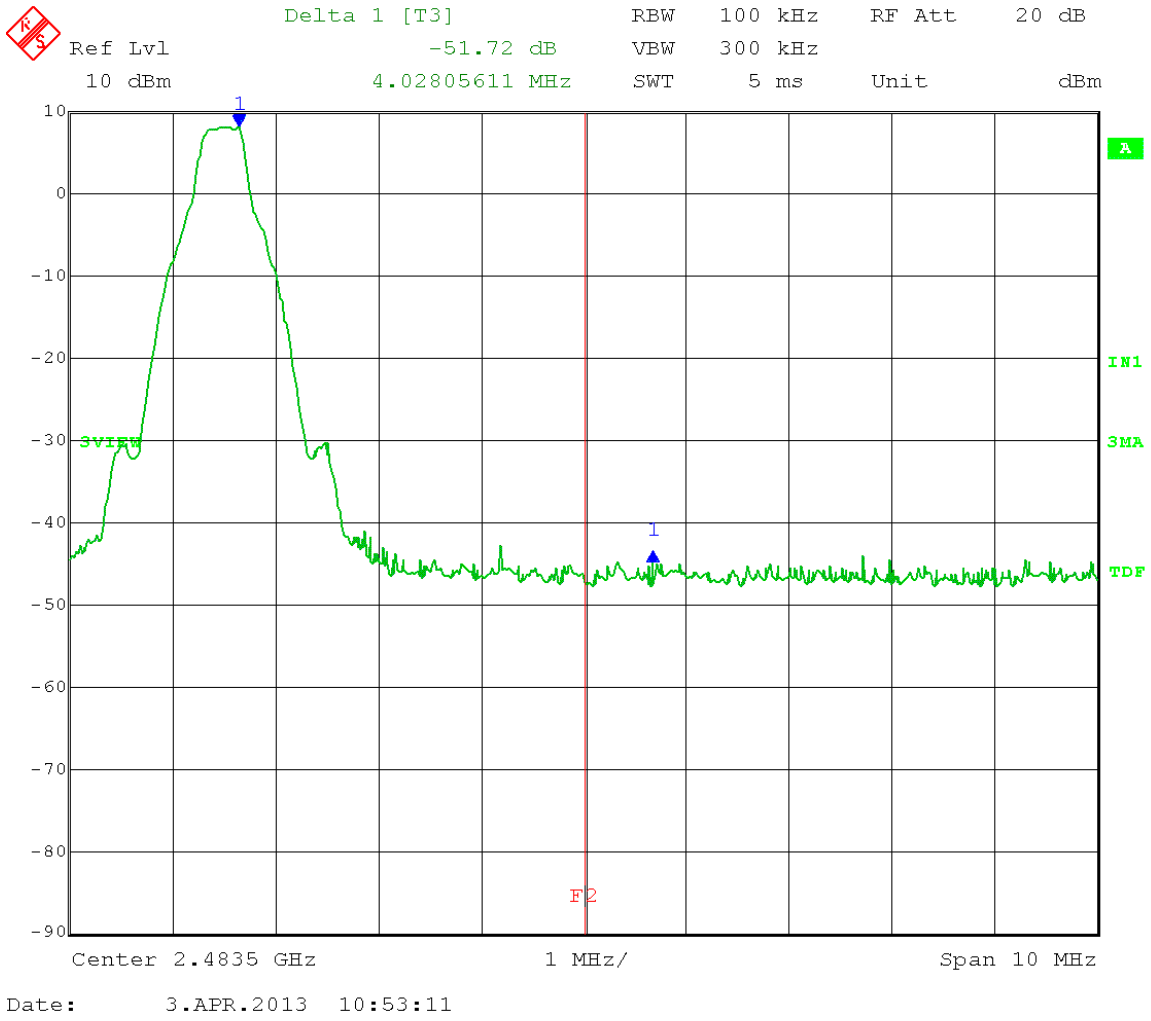


166 South Carter, Genoa City, WI 53128

Company: Roche Diagnostics
Model Tested: 481
Report Number: 19041
DLS Project: 5792

Test Date: 04-03-2013
Company: Roche Diagnostics
EUT: Calypso meter with Bluetooth
Test: Band-Edge
Operator: Craig B
Comment: High Channel: Frequency – 2.480 GHz
Hopping OFF

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

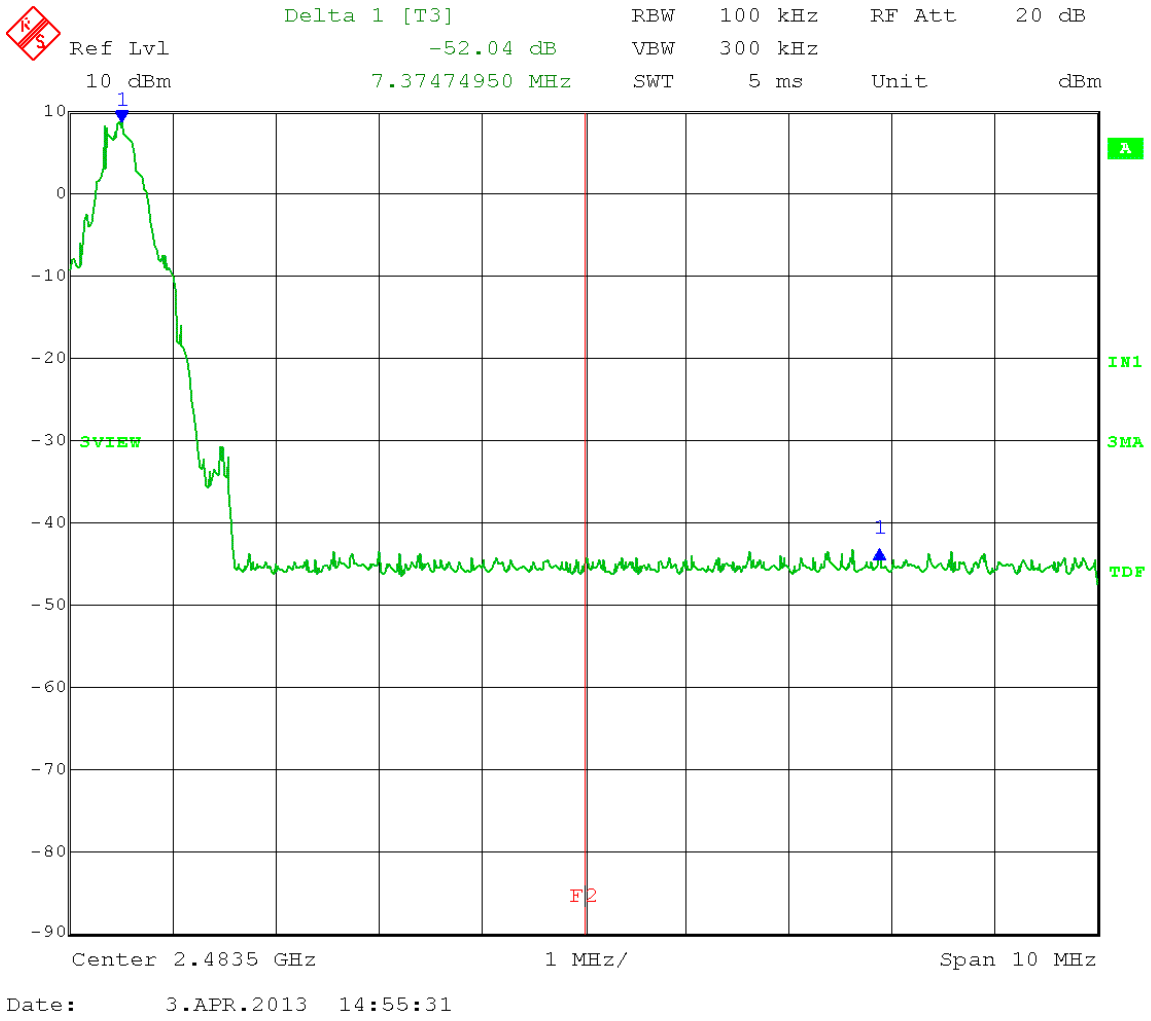


166 South Carter, Genoa City, WI 53128

Company: Roche Diagnostics
Model Tested: 481
Report Number: 19041
DLS Project: 5792

Test Date: 04-03-2013
Company: Roche Diagnostics
EUT: Calypso meter with Bluetooth
Test: Band-Edge
Operator: Craig B
Comment: High Channel: Frequency – 2.480 GHz
Hopping ON

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



8.0 Duty Cycle Correction Factor

Rule Part:

15.247 (d)

Test Procedure:

DA 00-705 March 30, 2000

Limit:

Informative

Results:

Note: See charts in section titled "Time of Occupancy"
Time of occupancy shows one ON time = 391 µs, and a maximum of two ON times during a 100 ms period.
Duty Cycle Correction Factor = 20 Log (0.391 ms x 2 / 100 ms) = **42.13 dB**

Appendix B

9.0 Unwanted Emissions into Restricted Frequency Bands – Radiated

Rule Part:

15.247 (d), 15.205 (5), 15.209 (a)

Test Procedure:

DA 00-705 March 30, 2000
ANSI C63.10-2009

Limits:

15.209 (a)

Results:

Compliant

Notes:

This was a radiated measurement.

The EUT was set to continuously transmit (100% duty cycle) a modulated signal at its maximum power on the low, middle, and high channels of the operating band. The EUT was rotated through 3 orthogonal axis at each measurement frequency. The worst-case emissions were recorded.

166 South Carter, Genoa City, WI 53128

Company: Roche Diagnostics
Model Tested: 481
Report Number: 19041
DLS Project: 5792

Radiated Spurious Emissions in Restricted Bands

Tested at a 3 Meter Distance 30 MHz to 18 GHz

Tested at a 1 Meter Distance 18 GHz to 26 GHz

EUT: Calypso meter with Bluetooth
Manufacturer: Roche Diagnostics
Operating Condition: 74 deg F; 26% R.H.
Test Site: Site G1
Operator: Craig B
Test Specification: FCC Part 15.247(d) and FCC Part 15.205
Comment: Continuous transmit; duty cycle 100%
Date: 04-07-2013 and 04-15-2013
Notes: **(1)** Peak measurements were taken with RBW = 1 MHz, VBW = 3 MHz, Detector = Peak.
(2) Average measurements were taken with RBW = 1 MHz, VBW = 3 MHz, Detector = CISPR Average.
(3) All other restricted band emissions at least 20 dB under the limit.

Low channel (2.402 GHz):

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
4.804	Average	Vert	91.82	32.89	-55.4	69.3	-42.1	27.2	54	26.8	Res. Band
4.804	Max Peak	Vert	93.37	32.89	-55.4	70.8	N/A	70.8	74	3.2	Res. Band
4.804	Average	Horz	92.70	32.89	-55.4	70.2	-42.1	28.1	54	25.9	Res. Band
4.804	Max Peak	Horz	94.17	32.89	-55.4	71.7	N/A	71.7	74	2.3	Res. Band
12.010	Average	Vert	64.49	39.08	-52.04	51.6	-42.1	9.5	54	44.5	Res. Band
12.010	Max Peak	Vert	73.29	39.08	-52.04	60.3	N/A	60.3	74	13.7	Res. Band
12.010	Average	Horz	65.83	39.08	-52.04	52.9	-42.1	10.8	54	43.2	Res. Band
12.010	Max Peak	Horz	73.69	39.08	-52.04	60.8	N/A	60.8	74	12.2	Res. Band
19.216	Average	Vert	59.70	45.56	-41.3	63.9	-42.1	21.8	63.5	41.7	Res. Band
19.216	Max Peak	Vert	67.86	45.56	-41.3	72.1	N/A	72.1	83.5	11.4	Res. Band
19.216	Average	Horz	58.69	45.56	-41.3	62.9	-42.1	20.8	63.5	42.7	Res. Band
19.216	Max Peak	Horz	66.86	45.56	-41.3	71.1	N/A	71.1	83.5	12.4	Res. Band

DLS ELECTRONIC SYSTEMS, INC.
166 South Carter, Genoa City, WI 53128

Company: Roche Diagnostics
Model Tested: 481
Report Number: 19041
DLS Project: 5792

Radiated Spurious Emissions in Restricted Bands

Tested at a 3 Meter Distance 30 MHz to 18 GHz

Tested at a 1 Meter Distance 18 GHz to 26 GHz

EUT: Calypso meter with Bluetooth
Manufacturer: Roche Diagnostics
Operating Condition: 74 deg F; 26% R.H.
Test Site: Site G1
Operator: Craig B
Test Specification: FCC Part 15.247(d) and FCC Part 15.205
Comment: Continuous transmit; duty cycle 100%
Date: 04-07-2013 and 04-15-2013
Notes: **(1)** Peak measurements were taken with RBW = 1 MHz, VBW = 3 MHz, Detector = Peak.
(2) Average measurements were taken with RBW = 1 MHz, VBW = 3 MHz, Detector = CISPR Average.
(3) All other restricted band emissions at least 20 dB under the limit.

Mid channel (2.440 GHz):

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
4.880	Average	Vert	92.45	32.95	-55.5	69.9	-42.1	27.8	54	26.2	Res. Band
4.880	Max Peak	Vert	93.95	32.95	-55.5	71.4	N/A	71.4	74	2.6	Res. Band
4.880	Average	Horz	92.22	32.95	-55.5	69.7	-42.1	27.6	54	26.4	Res. Band
4.880	Max Peak	Horz	93.72	32.95	-55.5	71.2	N/A	71.2	74	2.8	Res. Band
7.320	Average	Vert	83.25	36.52	-54.5	65.3	-42.1	23.2	54	30.8	Res. Band
7.320	Max Peak	Vert	86.30	36.52	-54.5	68.3	N/A	68.3	74	5.7	Res. Band
7.320	Average	Horz	82.85	36.52	-54.5	64.9	-42.1	22.8	54	31.2	Res. Band
7.320	Max Peak	Horz	86.02	36.52	-54.5	68.0	N/A	68.0	74	6.0	Res. Band
12.200	Average	Vert	64.79	38.96	-51.6	52.2	-42.1	10.1	54	43.9	Res. Band
12.200	Max Peak	Vert	73.41	38.96	-51.6	60.8	N/A	60.8	74	13.2	Res. Band
12.200	Average	Horz	63.81	38.96	-51.6	51.2	-42.1	9.1	54	44.9	Res. Band
12.200	Max Peak	Horz	72.66	38.96	-51.6	60.0	N/A	60.0	74	14.0	Res. Band
19.520	Average	Vert	56.41	45.96	-41.0	61.4	-42.1	19.3	63.5	44.2	Res. Band
19.520	Max Peak	Vert	65.00	45.96	-41.0	70.0	N/A	70.0	83.5	13.5	Res. Band
19.520	Average	Horz	56.73	45.96	-41.0	61.7	-42.1	19.6	63.5	43.9	Res. Band
19.520	Max Peak	Horz	64.86	45.96	-41.0	69.8	N/A	69.8	83.5	13.7	Res. Band

DLS ELECTRONIC SYSTEMS, INC.
166 South Carter, Genoa City, WI 53128

Company: Roche Diagnostics
Model Tested: 481
Report Number: 19041
DLS Project: 5792

Radiated Spurious Emissions in Restricted Bands

Tested at a 3 Meter Distance 30 MHz to 18 GHz

Tested at a 1 Meter Distance 18 GHz to 26 GHz

EUT: Calypso meter with Bluetooth
Manufacturer: Roche Diagnostics
Operating Condition: 74 deg F; 26% R.H.
Test Site: Site G1
Operator: Craig B
Test Specification: FCC Part 15.247(d) and FCC Part 15.205
Comment: Continuous transmit; duty cycle 100%
Date: 04-07-2013 and 04-15-2013
Notes: **(1)** Peak measurements were taken with RBW = 1 MHz, VBW = 3 MHz, Detector = Peak.
(2) Average measurements were taken with RBW = 1 MHz, VBW = 3 MHz, Detector = CISPR Average.
(3) All other restricted band emissions at least 20 dB under the limit.

High channel (2.480 GHz):

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
4.960	Average	Vert	91.50	33.06	-55.52	69.0	-42.1	26.9	54	27.1	Res. Band
4.960	Max Peak	Vert	93.08	33.06	-55.52	70.6	N/A	70.6	74	3.4	Res. Band
4.960	Average	Horz	91.95	33.06	-55.52	69.5	-42.1	27.4	54	26.6	Res. Band
4.960	Max Peak	Horz	93.51	33.06	-55.52	71.1	N/A	71.1	74	2.9	Res. Band
7.440	Average	Vert	80.58	36.64	-54.09	63.1	-42.1	21.0	54	33.0	Res. Band
7.440	Max Peak	Vert	84.13	36.64	-54.09	66.7	N/A	66.7	74	7.3	Res. Band
7.440	Average	Horz	81.75	36.64	-54.09	64.3	-42.1	22.2	54	31.8	Res. Band
7.440	Max Peak	Horz	85.15	36.64	-54.09	67.7	N/A	67.7	74	6.3	Res. Band
12.400	Average	Vert	66.20	38.82	-51.54	53.5	-42.1	11.4	54	42.6	Res. Band
12.400	Max Peak	Vert	74.43	38.82	-51.54	61.7	N/A	61.7	74	12.3	Res. Band
12.400	Average	Horz	64.39	38.82	-51.54	51.7	-42.1	9.6	54	44.4	Res. Band
12.400	Max Peak	Horz	72.92	38.82	-51.54	60.2	N/A	60.2	74	13.8	Res. Band
19.840	Average	Vert	54.20	46.26	-40.4	60.0	-42.1	17.9	63.5	45.6	Res. Band
19.840	Max Peak	Vert	63.23	46.26	-40.4	69.1	N/A	69.1	83.5	14.4	Res. Band
19.840	Average	Horz	54.77	46.26	-40.4	60.6	-42.1	18.5	63.5	45.0	Res. Band
19.840	Max Peak	Horz	63.37	46.26	-40.4	69.2	N/A	69.2	83.5	14.3	Res. Band
22.320	Average	Vert	53.29	46.39	-42.5	57.2	-42.1	15.1	63.5	48.4	Res. Band
22.320	Max Peak	Vert	62.52	46.39	-42.5	66.4	N/A	66.4	83.5	17.1	Res. Band
22.320	Average	Horz	52.18	46.39	-42.5	56.1	-42.1	14.0	63.5	49.5	Res. Band
22.320	Max Peak	Horz	61.82	46.39	-42.5	65.7	N/A	65.7	83.5	17.8	Res. Band

Appendix B

10.0 Band-Edge Measurements – Radiated Upper Restricted Band

Rule Part:

15.247 (d), 15.205 (5), 15.209 (a)

Test Procedure:

DA 00-705 March 30, 2000
ANSI C63.10-2009

Limit:

15.209 (a)

Results:

Compliant

Notes:

This was a radiated measurement.

The EUT was set to continuously transmit (100% duty cycle) a modulated signal at its maximum power on the highest channel of the operating band. The EUT was rotated through 3 orthogonal axis at each measurement frequency. The worst-case emission was recorded.

Test Methodology

Because the upper band-edge coincides with a restricted band, bandedge compliance for the upper band-edge was determined using the radiated marker-delta method as outlined in DA 00-705 and ANSI C63.10. The radiated field strength of the fundamental emission was first determined and then the marker-delta method was used to determine the field strength of the band-edge emissions.

Upper Band-Edge Marker Delta Method (Peak detector)
(Horizontal measured worst-case)

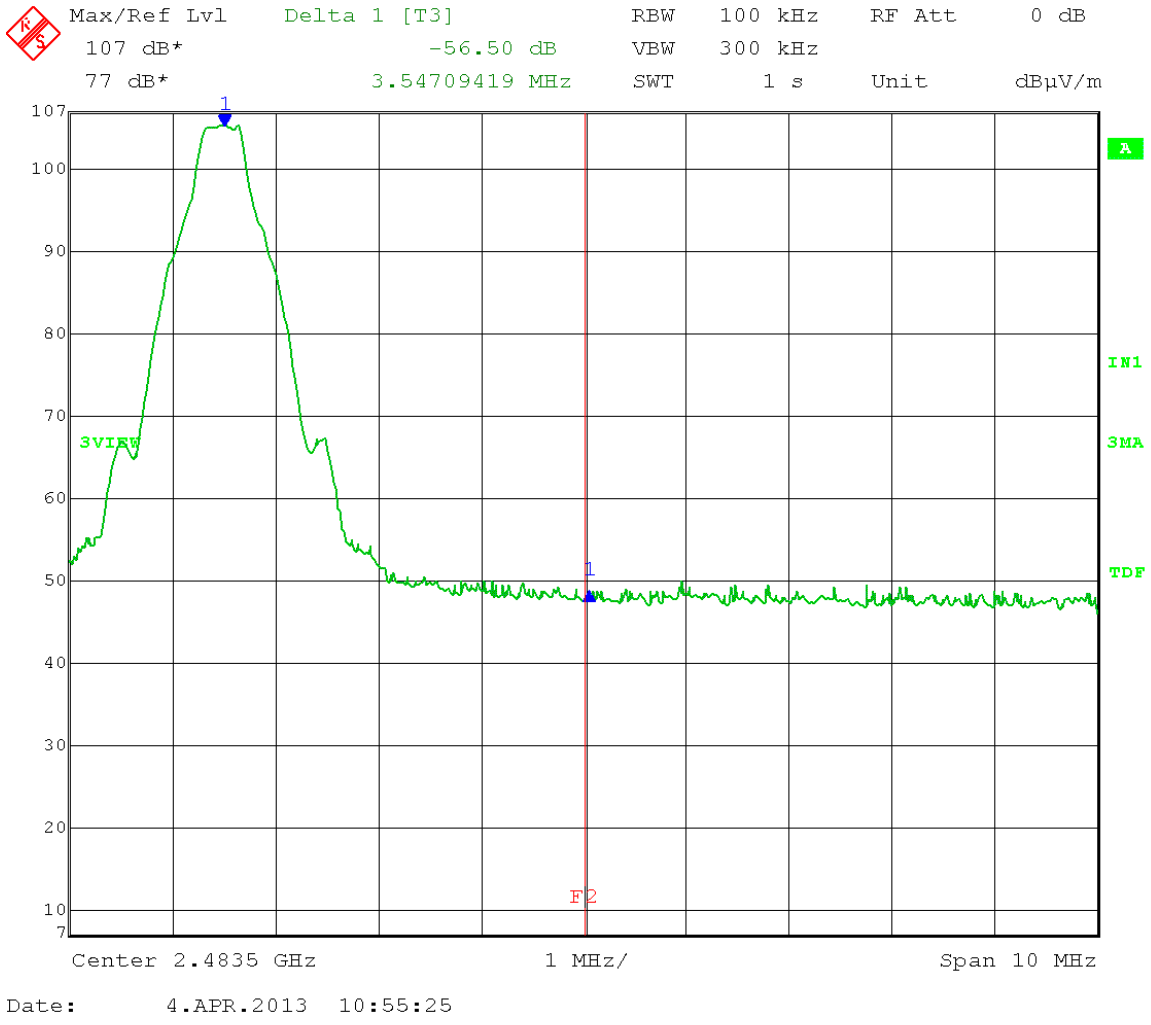
Frequency (MHz)	Antenna Polarity (H/V)	Fundamental Field Strength (dBµV/m)	Duty Cycle Correction (dB)	Delta-Marker (dB)	Band-Edge Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2480 (Peak)	H	106.39	N/A	-56.50	49.89	74	24.11
2480 (Avg)	H	106.39	-42.13	-56.50	7.76	54	46.24

166 South Carter, Genoa City, WI 53128

Company: Roche Diagnostics
Model Tested: 481
Report Number: 19041
DLS Project: 5792

Test Date: 04-04-2013
Company: Roche Diagnostics
EUT: Calypso meter with Bluetooth
Test: Upper Band-Edge Radiated – Marker Delta Method
Rule part: FCC Part 15.247(d) and FCC Part 15.205
Operator: Craig B
Comment: High Channel: Frequency – 2.480 GHz

Marker Delta:



Appendix B

11.0 AC Line Conducted Emissions

Rule Part:

15.207

Test Procedure:

ANSI C63.10-2009

Limit:

15.207 (a)

Results:

Compliant

Notes:

The EUT was set to continuously transmit (100% duty cycle) a modulated signal at its maximum power on the low channel of the operating band.

FCC Part 15.207

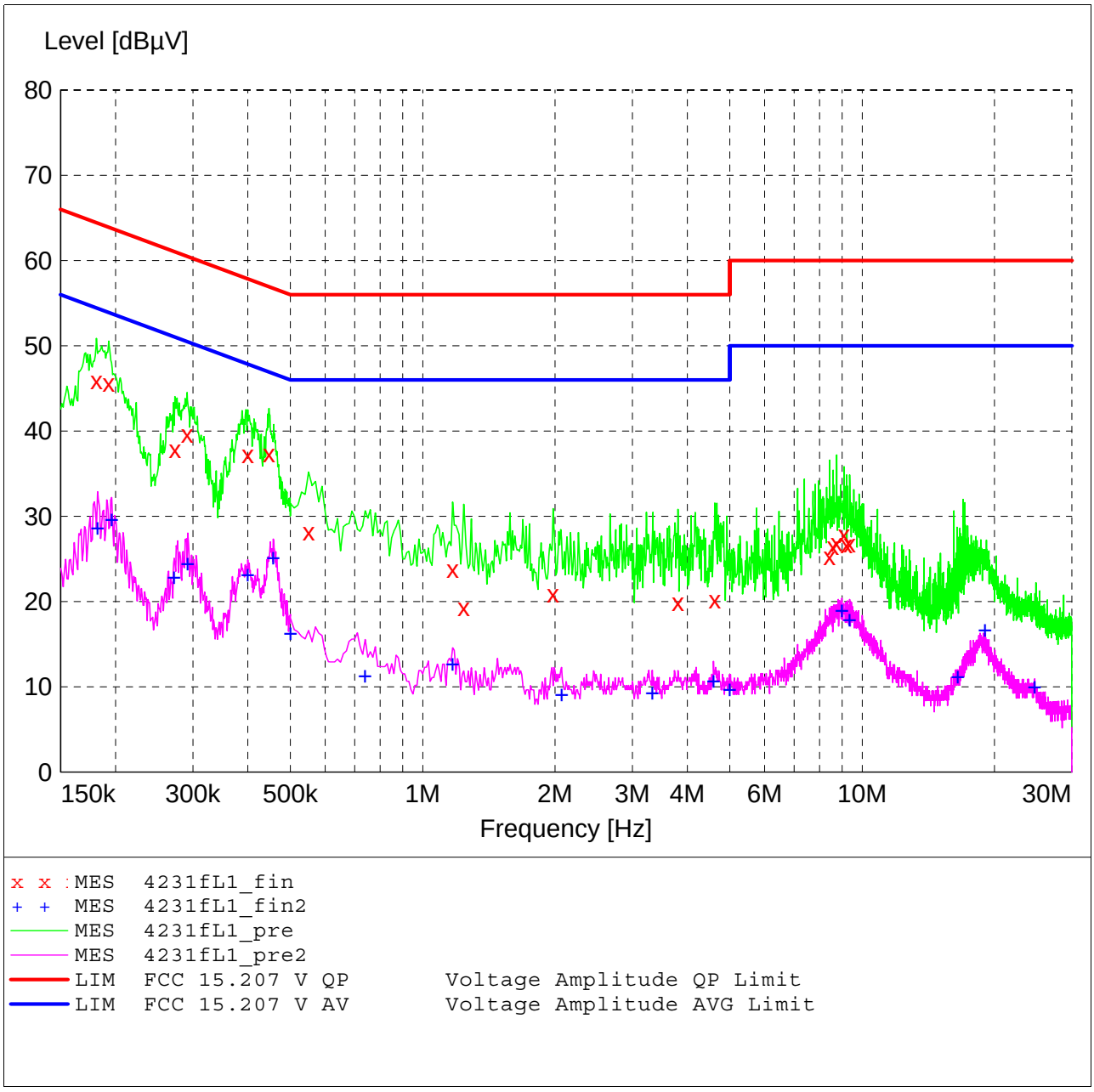
Voltage Mains Test

EUT:	Calypso meter with Bluetooth
Manufacturer:	Roche Diagnostics
Operating Condition:	72 deg. F, 31% R.H.
Test Site:	DLS O.F. Screen Room
Operator:	Craig B
Test Specification:	120 V 60 Hz
Comment:	Line 1; continuous transmit mode
	Date: 04-23-2013

SCAN TABLE: "Line Cond SR Final"

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	5.0 s	9 kHz	LISN DLS#128



MEASUREMENT RESULT: "4231fL1_fin"

4/23/2013 1:31PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector
0.181000	45.90	12.9	64	18.5	QP
0.193000	45.60	12.8	64	18.3	QP
0.273000	37.90	12.0	61	23.1	QP
0.291000	39.60	11.9	61	20.9	QP
0.400000	37.30	11.4	58	20.6	QP
0.447000	37.40	11.3	57	19.5	QP
0.550000	28.20	11.1	56	27.8	QP
1.170000	23.80	10.6	56	32.2	QP
1.240000	19.30	10.6	56	36.7	QP
1.980000	20.90	10.6	56	35.1	QP
3.810000	19.90	10.6	56	36.1	QP
4.620000	20.20	10.6	56	35.8	QP
8.435000	25.30	10.9	60	34.7	QP
8.585000	26.50	10.9	60	33.5	QP
8.750000	26.90	10.9	60	33.1	QP
9.095000	27.90	10.9	60	32.1	QP
9.215000	26.70	10.9	60	33.3	QP
9.365000	26.80	10.9	60	33.2	QP

MEASUREMENT RESULT: "4231fL1_fin2"

4/23/2013 1:31PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector
0.182000	28.60	12.9	54	25.8	CAV
0.196000	29.60	12.7	54	24.2	CAV
0.272000	22.80	12.0	51	28.3	CAV
0.292000	24.40	11.9	51	26.1	CAV
0.400000	23.10	11.4	48	24.8	CAV
0.457000	25.10	11.3	47	21.6	CAV
0.500000	16.20	11.2	46	29.8	CAV
0.740000	11.20	10.7	46	34.8	CAV
1.170000	12.60	10.6	46	33.4	CAV
2.070000	9.10	10.6	46	36.9	CAV
3.330000	9.20	10.7	46	36.8	CAV
4.590000	10.60	10.6	46	35.4	CAV
5.000000	9.60	10.6	46	36.4	CAV
8.990000	18.90	10.9	50	31.1	CAV
9.365000	17.80	10.9	50	32.2	CAV
16.505000	11.10	11.1	50	38.9	CAV
19.025000	16.60	11.2	50	33.4	CAV
24.710000	9.90	11.4	50	40.1	CAV

FCC Part 15.207

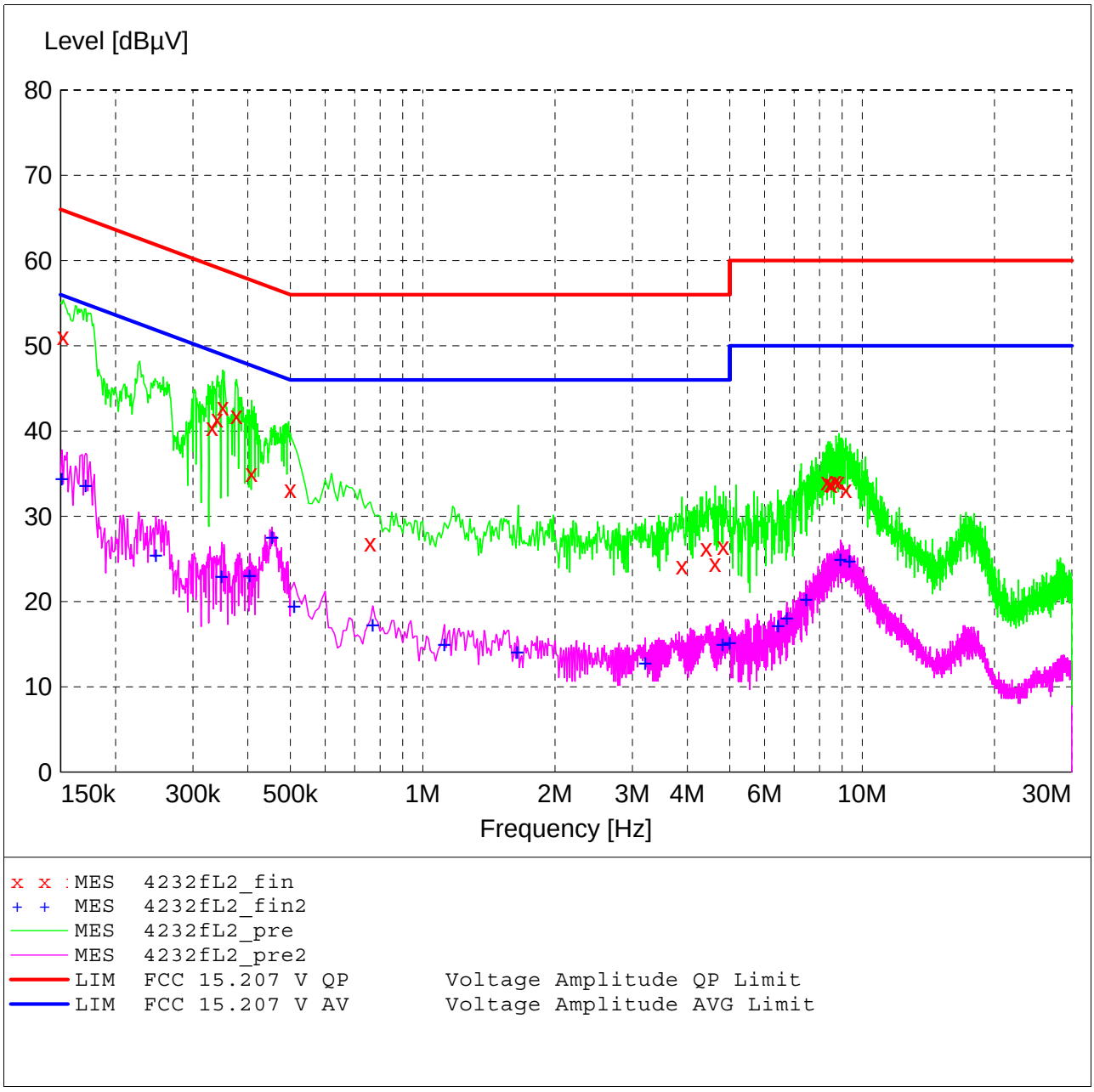
Voltage Mains Test

EUT:	Calypso meter with Bluetooth
Manufacturer:	Roche Diagnostics
Operating Condition:	72 deg. F, 31% R.H.
Test Site:	DLS O.F. Screen Room
Operator:	Craig B
Test Specification:	120 V 60 Hz
Comment:	Line 2; continuous transmit mode
	Date: 04-23-2013

SCAN TABLE: "Line Cond SR Final"

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	5.0 s	9 kHz	LISN DLS#128



MEASUREMENT RESULT: "4232fL2_fin"

4/23/2013 1:59PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector
0.152000	51.10	13.7	66	14.8	QP
0.332000	40.50	11.6	59	18.9	QP
0.341000	41.40	11.6	59	17.8	QP
0.351000	42.80	11.5	59	16.1	QP
0.377000	41.80	11.5	58	16.5	QP
0.408000	35.10	11.4	58	22.6	QP
0.500000	33.20	11.2	56	22.8	QP
0.760000	26.90	10.7	56	29.1	QP
3.890000	24.20	10.6	56	31.8	QP
4.420000	26.30	10.6	56	29.7	QP
4.630000	24.50	10.6	56	31.5	QP
4.830000	26.50	10.6	56	29.5	QP
8.300000	34.10	10.9	60	25.9	QP
8.450000	33.90	10.9	60	26.1	QP
8.525000	33.80	10.9	60	26.2	QP
8.720000	34.20	10.9	60	25.8	QP
8.855000	34.10	10.9	60	25.9	QP
9.185000	33.20	10.9	60	26.8	QP

MEASUREMENT RESULT: "4232fL2_fin2"

4/23/2013 1:59PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector
0.151000	34.40	13.7	56	21.5	CAV
0.171000	33.60	13.1	55	21.3	CAV
0.247000	25.40	12.1	52	26.5	CAV
0.349000	22.90	11.5	49	26.1	CAV
0.404000	23.00	11.4	48	24.8	CAV
0.454000	27.50	11.3	47	19.3	CAV
0.510000	19.40	11.2	46	26.6	CAV
0.770000	17.20	10.7	46	28.8	CAV
1.120000	14.90	10.6	46	31.1	CAV
1.640000	14.00	10.6	46	32.0	CAV
3.210000	12.70	10.7	46	33.3	CAV
4.810000	14.90	10.6	46	31.1	CAV
5.000000	15.10	10.6	46	30.9	CAV
6.440000	17.10	10.7	50	32.9	CAV
6.740000	18.00	10.7	50	32.0	CAV
7.460000	20.20	10.8	50	29.8	CAV
8.930000	24.90	10.9	50	25.1	CAV
9.365000	24.70	10.9	50	25.3	CAV

END OF REPORT

Revision #	Date	Comments	By
1.0	05-17-2013	Preliminary Release	CB
1.1	05-22-2013	Added company and product information from DLS Part A form	CB
1.2	05-23-2013	Minor edits pgs 6, 43, 51, 55, 56	JS
1.3	07-21-2014	Added notes for Model 465	JS