
**COMPLIANCE WORLDWIDE INC.
TEST REPORT 185-13**

**In Accordance with the Requirements of
FCC PART 15.207 & 15.209, Subpart C**

**Low Power License-Exempt Radio Communication Devices
Intentional Radiators**

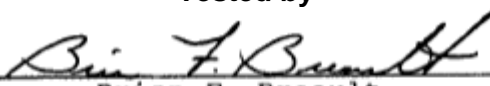
**Issued to
DeLorme
Two DeLorme Drive
P.O. Box 298
Yarmouth, ME 04096**

**for the
inReach SE
Handheld Two-Way Satellite Communicator
with Bluetooth**

FCC ID: UTNINRCH20

Report Issued on April 4, 2013

Tested by


Brian F. Breault

Reviewed by


Larry K. Stillings

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1. Scope

The scope of this test was to determine that the DeLorme inReach SE Handheld Two-Way Satellite Communicator, with the Bluetooth 2.4 GHz and Iridium 1.6 GHz transmitters running simultaneously, met the FCC Part 15, Subpart C 15.207 and 15.209 requirements.

This test report certifies that the DeLorme inReach SE Handheld Two-Way Satellite Communicator with Bluetooth, as tested, meets FCC Part 15, Subpart C 15.207 and 15.209 requirements.

The scope of this test report is limited to the test sample provided by the client, only in as much as that sample represents other production units. If any significant changes are made to the unit, the changes shall be evaluated and a retest may be required.

2. Product Details

2.1 Manufacturer: DeLorme

2.2 Model Number: inReach SE

2.3 Serial Number: IRB_043

2.4 Description of EUT: Handheld Two-Way Satellite Communicator with Bluetooth

2.5 Power Source: DC 3.7 volts – Provided by an MYT 783967 Rechargeable Li-Poly Battery

2.6. Hardware Revision: 2.0

2.7. Software Revision: 2.0.0

2.8 EMC Modifications: None

3. Product Configuration

3.1. Operational Characteristics & Software

The DeLorme inReach SE Handheld Two-Way Satellite Communicator was tested using Bluetooth software designed to communicate with the Panasonic PAN1325A/1315A Series Bluetooth RF Modules and Iridium software designed for the Iridium 9603 two-way satellite data transceiver. Individual commands could be issued to set channel, modulation and data formats for each device, enabling the transmission of the two devices simultaneously.

3. Product Configuration

3.2. EUT Hardware

Qty	Manufacturer	Model	Serial Number	Input Volts	Frq (Hz)	Description/Function
1	DeLorme	inReach SE	IRB_043	3.7	DC	Handheld Unit
1	DeLorme	MYT 783967	N/A	N/A	N/A	Rechargeable 3.7 VDC, 2450 mAh Li-Poly Battery
1	Charger City	USB-WAL31	N/A	120	60	AC Wall Charger w/Single USB Port
1	DeLorme	Charger 2	N/A	12	DC	Car Charger w/Single USB Port
1	DeLorme	Charger 3	N/A	12	DC	Car Charger w/Dual USB Port

3.3. EUT Cables/Transducers

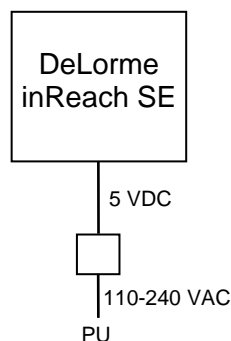
Qty	Manufacturer	Model/Part #	Length (m)	Shield Y/N	Description/Function
1	DeLorme	N2CT2315300000	0.8 Meters	Y	USB to Micro USB

3.4. Support Equipment

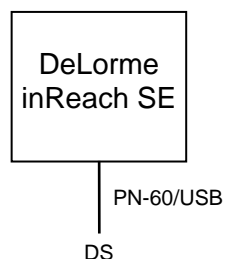
Qty	Manufacturer	Model	Serial Number	Description
1	Dell	Latitude D630	6056089309	Laptop Computer
1	Generic	RS232	N/A	9-Pin Modem Cable
1	SparkFun	RS232 Shifter SMD	N/A	Used for RS232 to Micro USB Conversion

3.5. Block Diagram

3.5.1. Power line conducted emissions measurements.



3.5.2. Spurious radiated emissions measurements.



4. Measurements Parameters

4.1. Measurement Equipment Used to Perform Test

Device	Manufacturer	Model No.	Serial No.	Cal Due
Spectrum Analyzer	Rohde & Schwarz	FSV40	100899	5/26/2013
Spectrum Analyzer	Agilent Tech	E7405A	MY45115430	5/11/2013
EMI Receiver	Hewlett Packard	8546A	3650A00360	6/13/2014
Microwave Preamp	Hewlett Packard	83050A	3331A00404	6/6/2013
Loop Antenna	EMCO	6512	9309-1139	8/28/2014
Bilog Antenna	Com-Power	AC-220	25509	8/20/2013
Horn Antenna	ETS-Lindgren	3117	00143292	1/14/2015
Horn Antenna	Com-Power	AH-840	03075	8/27/2014
2.4 GHz Notch Filter	Micro-Tronics	BRM50702	014	2/27/2014
1.6 GHz Notch Filter	Micro-Tronics	BRM17534	001	4/1/2014
LISN 50 μ H / 50 ohm	EMCO	3825/2	9109-1860	07/02/2013
Digital Barometer	Extech Instruments	SD700	Q590483	5/1/2013

4.2. Measurement & Equipment Setup

Test Dates:	March 4, 2013 – April 3, 2013
Test Engineer:	Brian Breault
Normal Site Temperature (15 - 35°C):	24.0
Relative Humidity (20 -75%RH):	33%
Frequency Range:	10 kHz to 25 GHz
Measurement Distance:	3 Meters
EMI Receiver IF Bandwidth:	9 kHz – 10 kHz to 30 MHz 120 kHz - 30 MHz to 1 GHz 1 MHz - Above 1 GHz
EMI Receiver Avg Bandwidth:	30 kHz – 10 kHz to 30 MHz 300 kHz - 30 MHz to 1 GHz 3 MHz - Above 1 GHz
Detector Function:	Peak, QP - 30 MHz to 1 GHz Peak, Avg - Above 1 GHz Unless otherwise specified.

4.3. Test Procedure

The test measurements contained in this report are based on the requirements detailed in FCC Part 15, Section 15.207, Conducted limits and Section 15.209, Radiated emission limits; general requirements.

The test methods used to generate the data in this test report is in accordance with ANSI C63.10-2009, American National Standard for Testing Unlicensed Wireless Devices.

In accordance with ANSI C63.10-2009, section 6.3.2 b), the device under test was rotated through three orthogonal planes to ensure that each attitude was investigated to determine the highest emissions relative to the limit. The axes are defined as follows:

- X - Unit is on its left side, antenna protrusion faces left. Front faces 0 degrees.
- Y - Unit antenna protrusion faces up. Front faces 0 degrees.
- Z - Unit is lying on its back side. Front is facing up. Bottom faces 0 degrees. Antenna protrusion faces 180 degrees.

5. Choice of Equipment for Test Suites

5.1 Choice of Model

This test report is based on a test sample supplied by the manufacturer and is reported by the manufacturer to be equivalent to the production units.

5.2 Presentation

This test sample was tested complete with all required ancillary equipment. Refer to Section 3 of this report for product equipment configuration.

5.3 Choice of Operating Frequencies

The choice of operating frequencies selected for the testing outlined in this report was based on the lowest, middle and highest operating frequencies in each of the two bands utilized by the device under test. The frequencies selected were 2405 MHz (Channel 11), 2455 (Channel 21), and 2480 MHz (Channel 26).

5.4. Antennas Used with this Device

For the Iridium transmitter, the DeLorme inReach SE Handheld Two-Way Satellite Communicator utilizes a Maxtenna M1621HCT-UFL helical antenna which is mounted inside the device. Peak gain of this antenna is 2.8 dBi.

For the Bluetooth transmitter, the DeLorme inReach SE Handheld Two-Way Satellite Communicator utilizes a Pulse W3008C Ceramic Chip Antenna provides a peak antenna gain of +2.2 dBi and drops to 1.9 dBi at the band edges in the range of 2400 MHz to 2483.5 MHz.

6. Measurement Summary

Test Requirement	FCC Part 15.247 Reference	Test Report Section	Result	Comment
Spurious Radiated Emissions	15.209	7.1	Compliant	
Conducted Emissions	15.207	7.2	Compliant	

7. Measurement Data

7.1. Spurious Radiated Emissions (10 kHz to DUT 10th Harmonic)

Requirement: (15.209) The Emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency Range (MHz)	Distance (Meters)	Limit (dB μ V/m) ¹
0.009 to 0.490	3	128.5 to 93.8
0.490 to 1.705	3	73.8 to 63.0
1.705 to 30	3	69.5
30 to 88	3	40.0
88 to 216	3	43.5
216 to 960	3	46.0
>960	3	54.0

¹ Measurements in the 9 to 90 kHz, 110 to 490 kHz and above 1000 MHz ranges employ an average detector. Otherwise a quasi-peak detector is used.

Procedure: This test was performed in accordance with the procedure detailed in FCC OET publication number 558074, Section 10.0: Maximum Unwanted Emissions Levels and FCC 47 CFR Part 15.209: Radiated Emission Limits; General Requirements.

Test measurements were made in accordance with ANSI C63.10-2009, Standard Methods for Testing Unlicensed Wireless Devices.

Conclusion: The Emissions from the DUT did not exceed the field strength levels specified in the above table.

Test Note: The three orthogonal planes used for testing the DUT are detailed in Section 4.3.

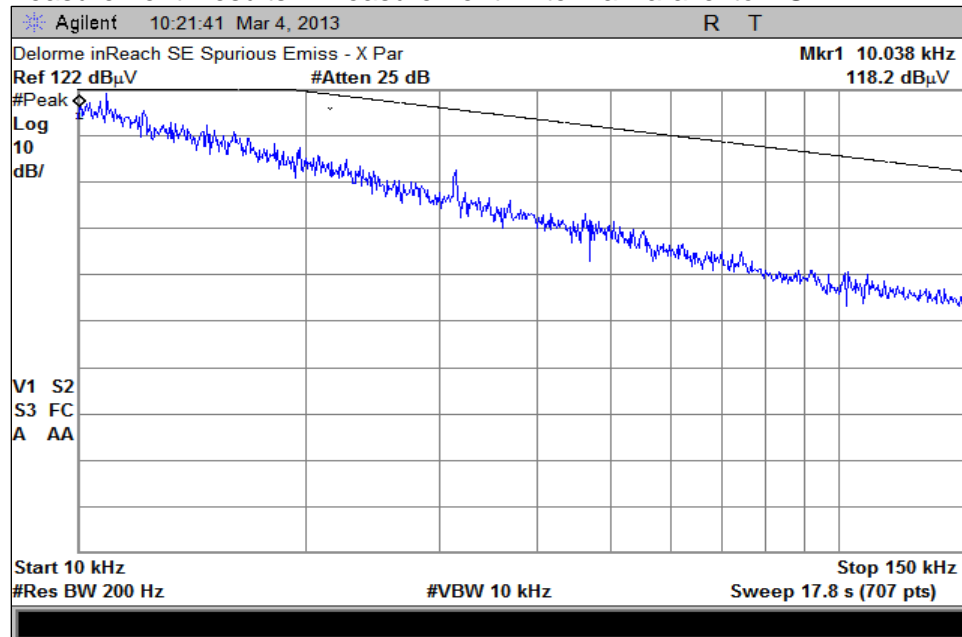
7. Measurement Data (continued)

7.1. Spurious Radiated Emissions

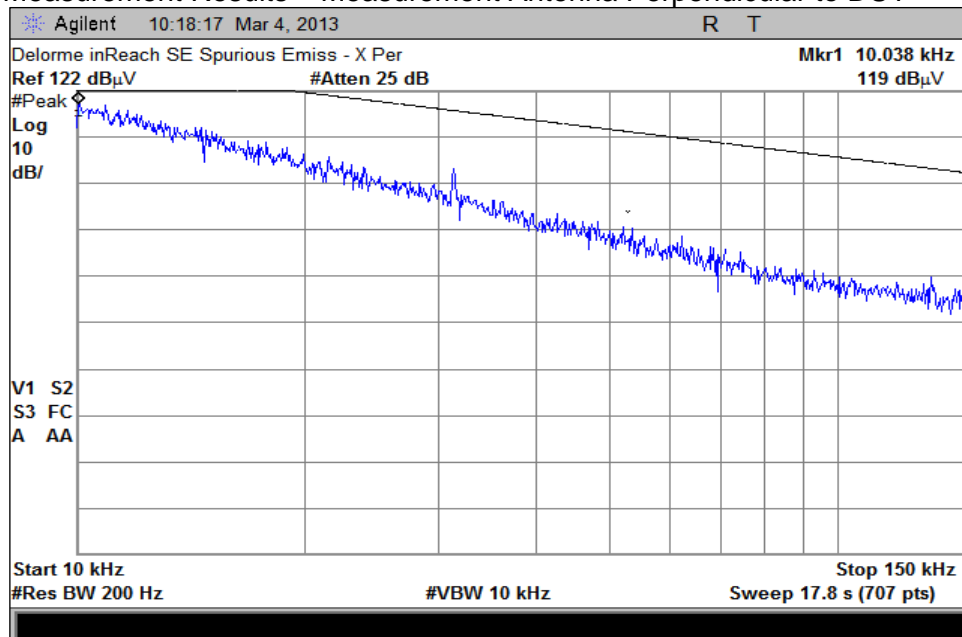
7.1.1. Frequency Span: 10 kHz to 150 kHz

7.1.1.1. Unit Positioned on the X-Axis

Measurement Results – Measurement Antenna Parallel to DUT



Measurement Results – Measurement Antenna Perpendicular to DUT



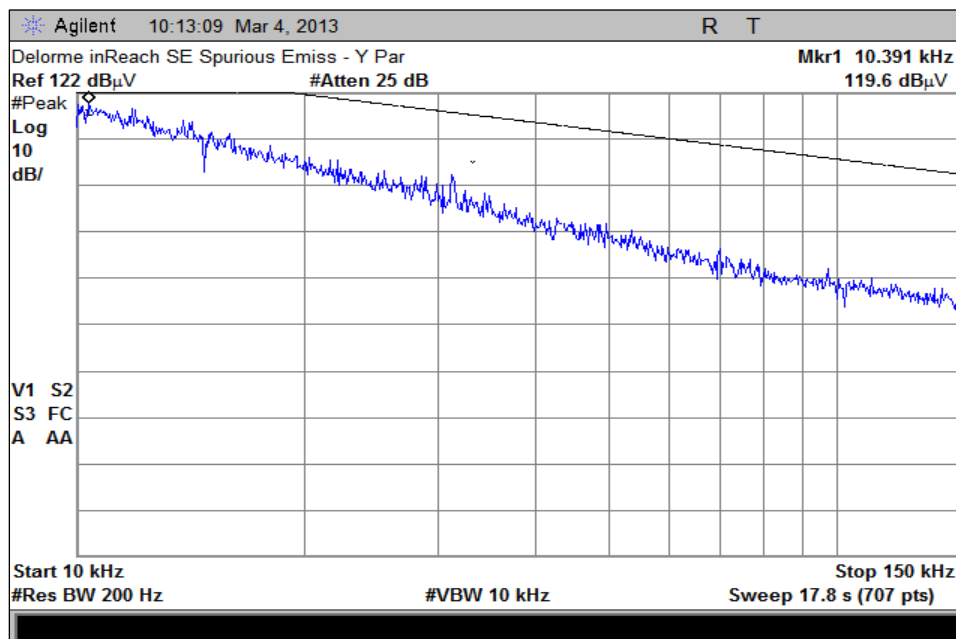
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7.1. Spurious Radiated Emissions

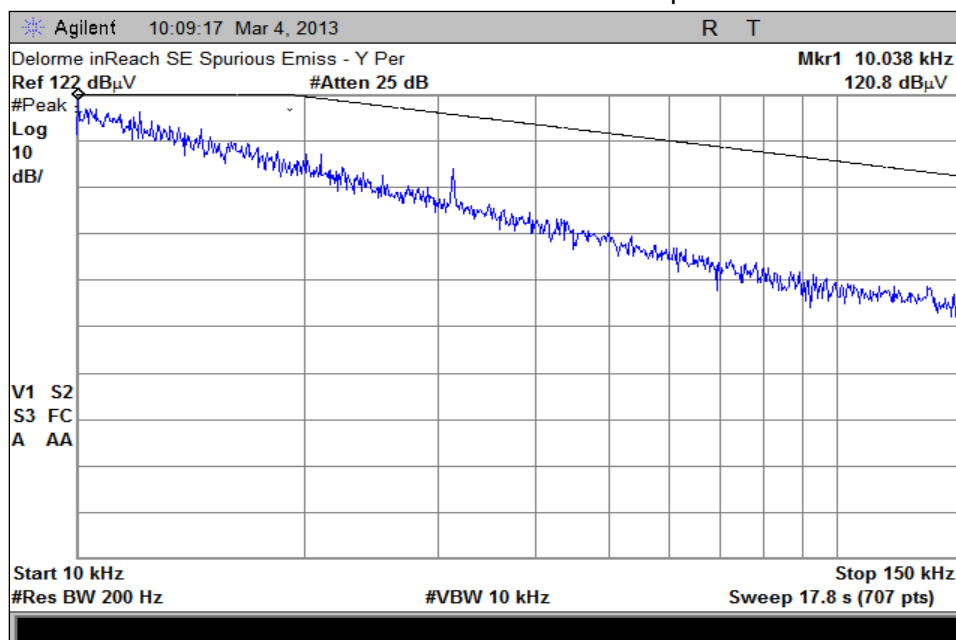
7.1.1. Frequency Span: 10 kHz to 150 kHz

7.1.1.2. Unit Positioned on the Y-Axis

Measurement Results – Measurement Antenna Parallel to DUT



Measurement Results – Measurement Antenna Perpendicular to DUT



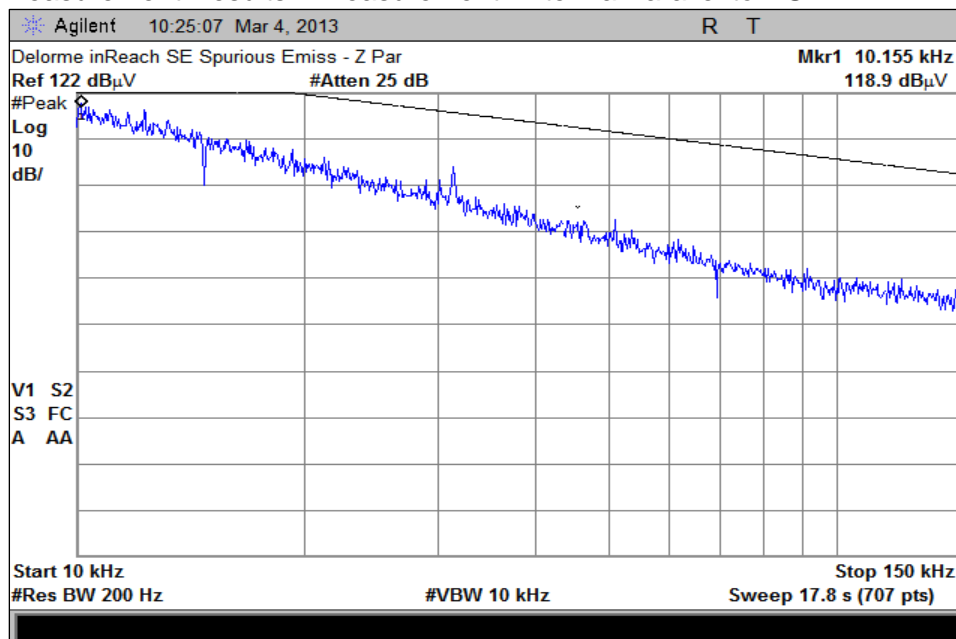
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7.1. Spurious Radiated Emissions

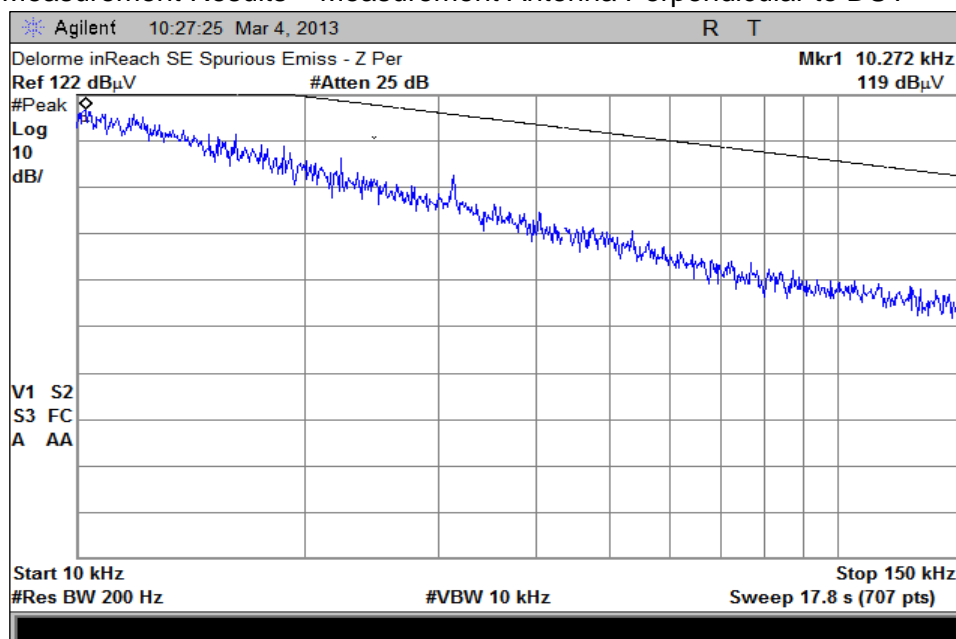
7.1.1. Frequency Span: 10 kHz to 150 kHz

7.1.1.3. Unit Positioned on the Z-Axis

Measurement Results – Measurement Antenna Parallel to DUT



Measurement Results – Measurement Antenna Perpendicular to DUT



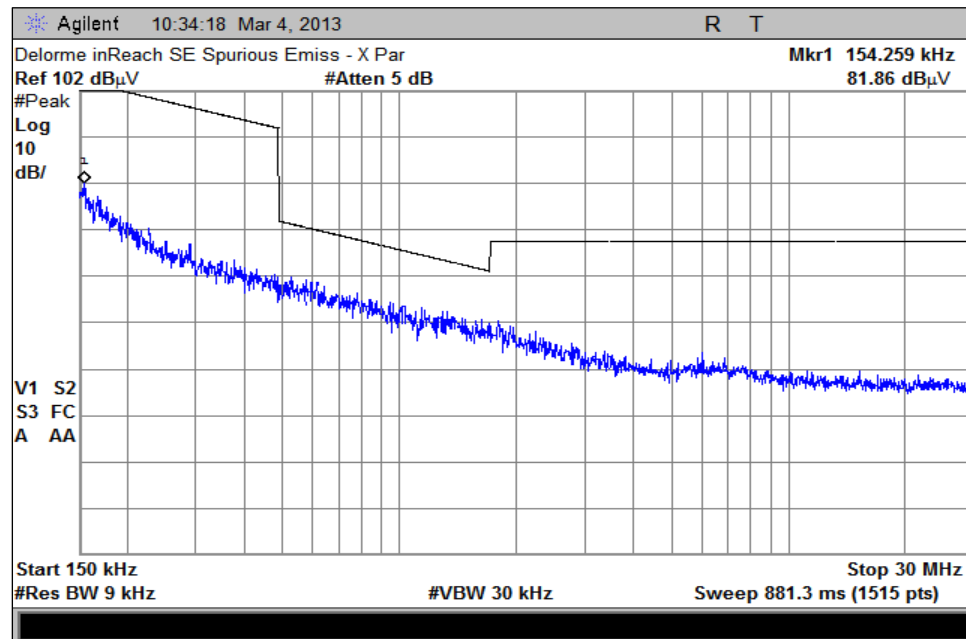
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7.1. Spurious Radiated Emissions

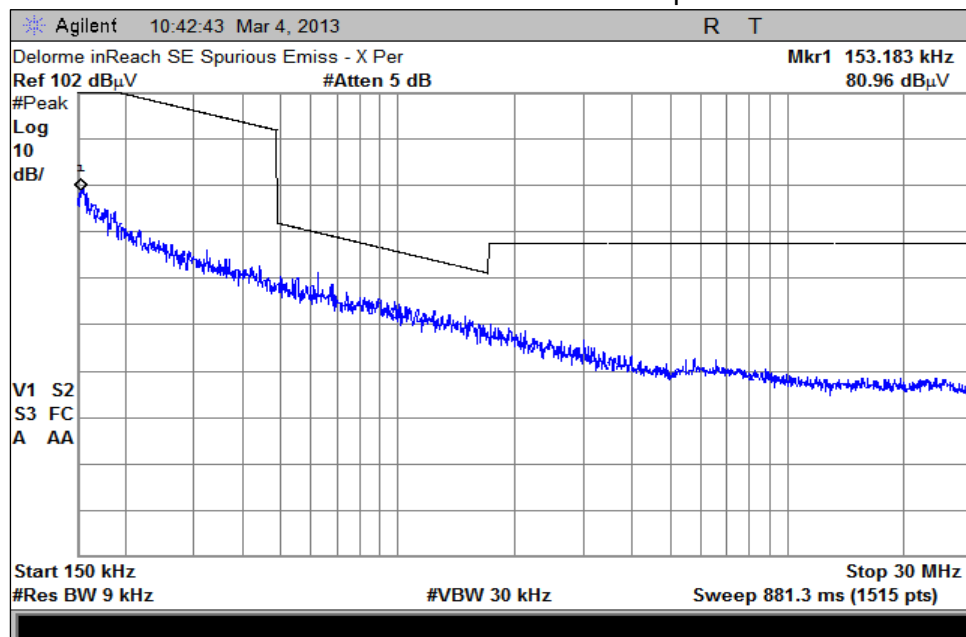
7.1.2. Frequency Span: 150 kHz to 30 MHz

7.1.2.1. Unit Positioned on the X-Axis

Measurement Results – Measurement Antenna Parallel to DUT



Measurement Results – Measurement Antenna Perpendicular to DUT



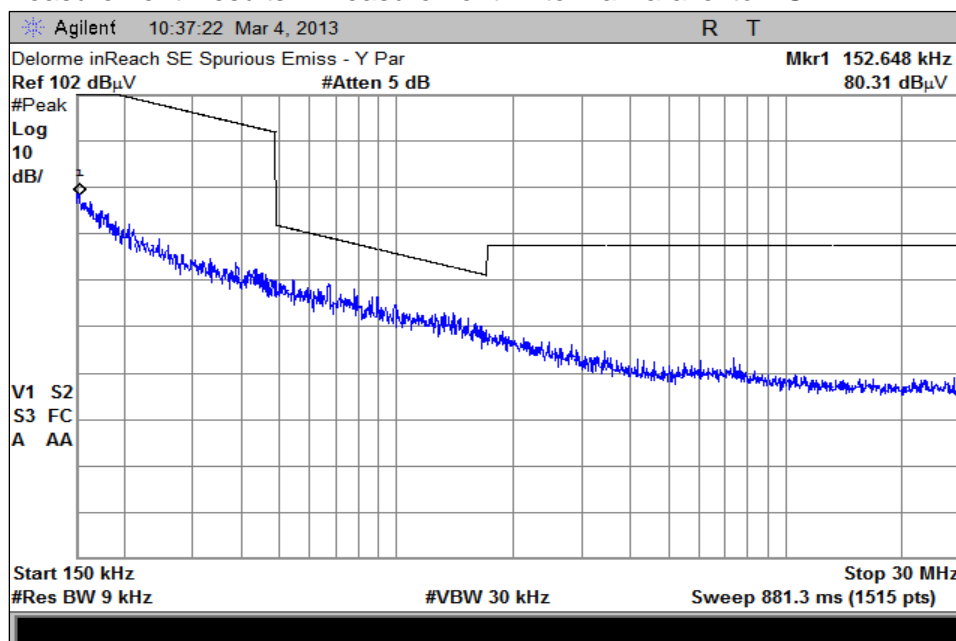
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7.1. Spurious Radiated Emissions

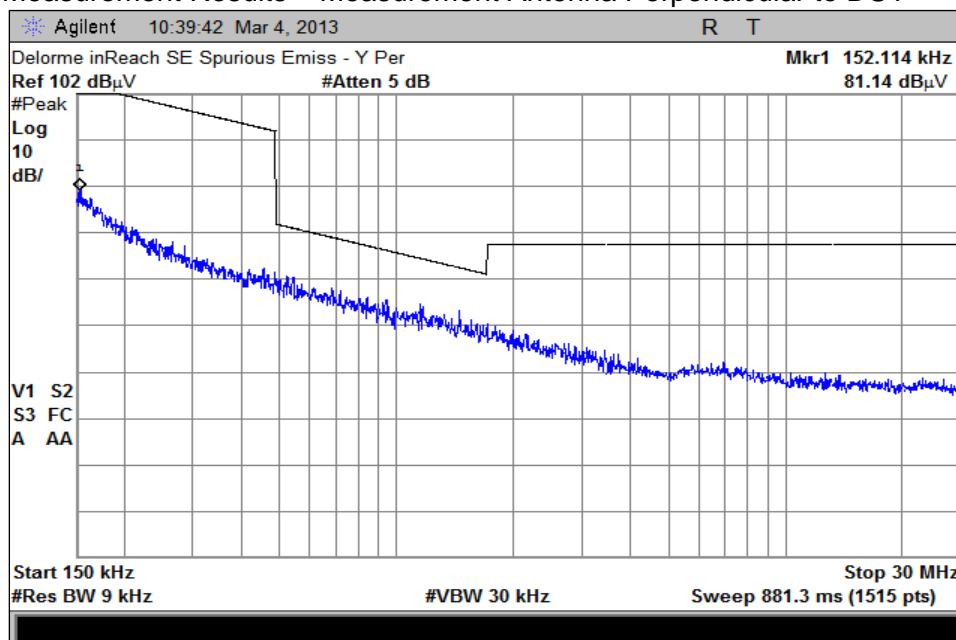
7.1.2. Frequency Span: 150 kHz to 30 MHz

7.1.2.2. Unit Positioned on the Y-Axis

Measurement Results – Measurement Antenna Parallel to DUT



Measurement Results – Measurement Antenna Perpendicular to DUT



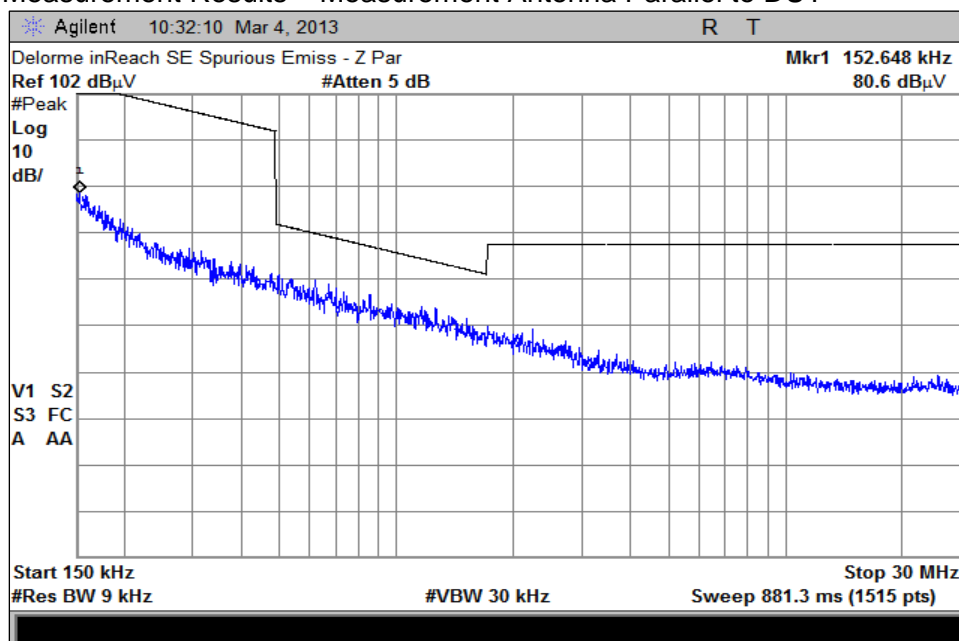
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7.1. Spurious Radiated Emissions

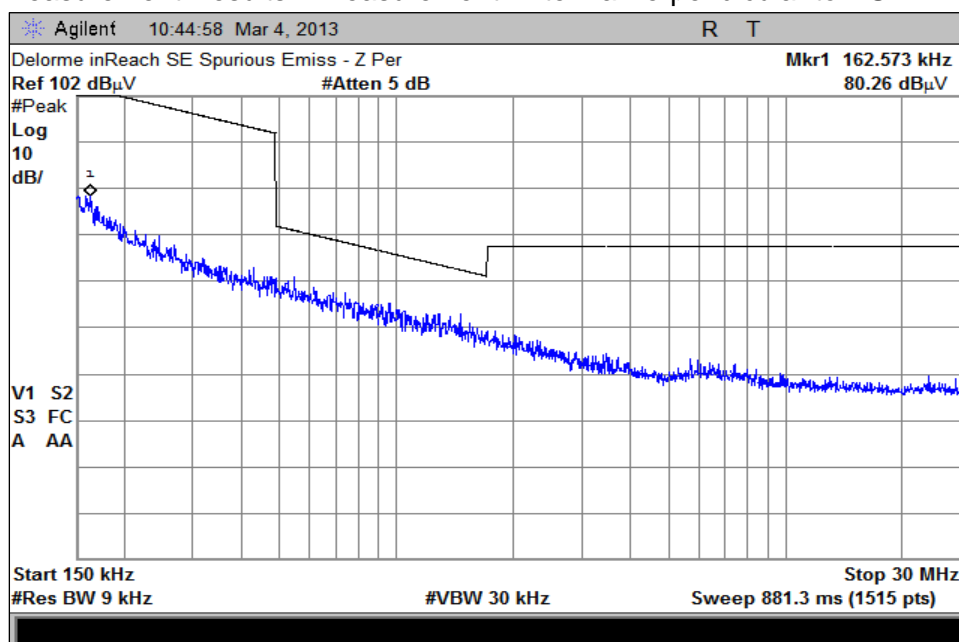
7.1.2. Frequency Span: 150 kHz to 30 MHz

7.1.2.3. Unit Positioned on the Z-Axis

Measurement Results – Measurement Antenna Parallel to DUT



Measurement Results – Measurement Antenna Perpendicular to DUT



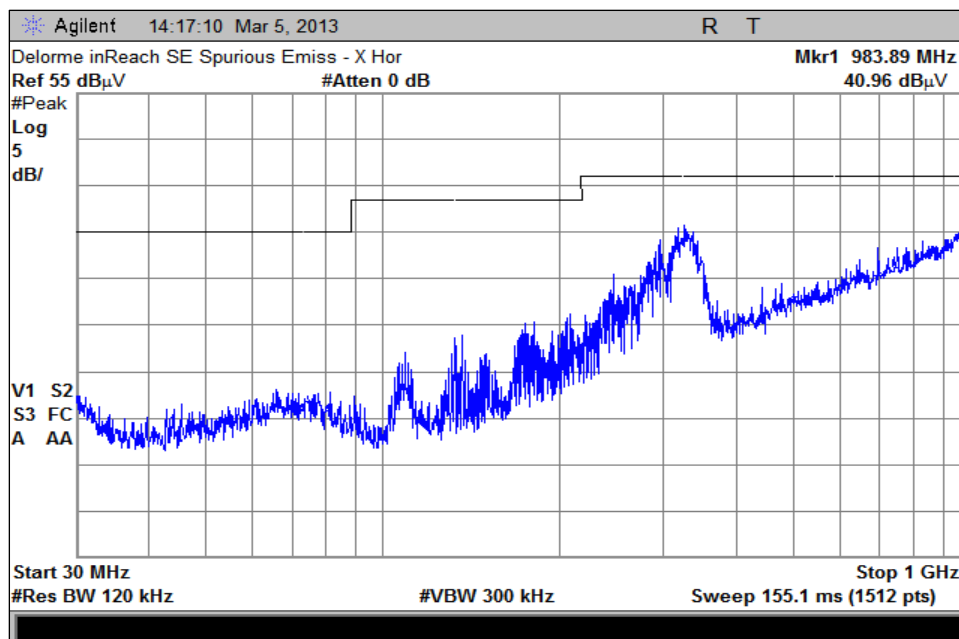
7. Measurement Data (continued)

7.1. Spurious Radiated Emissions

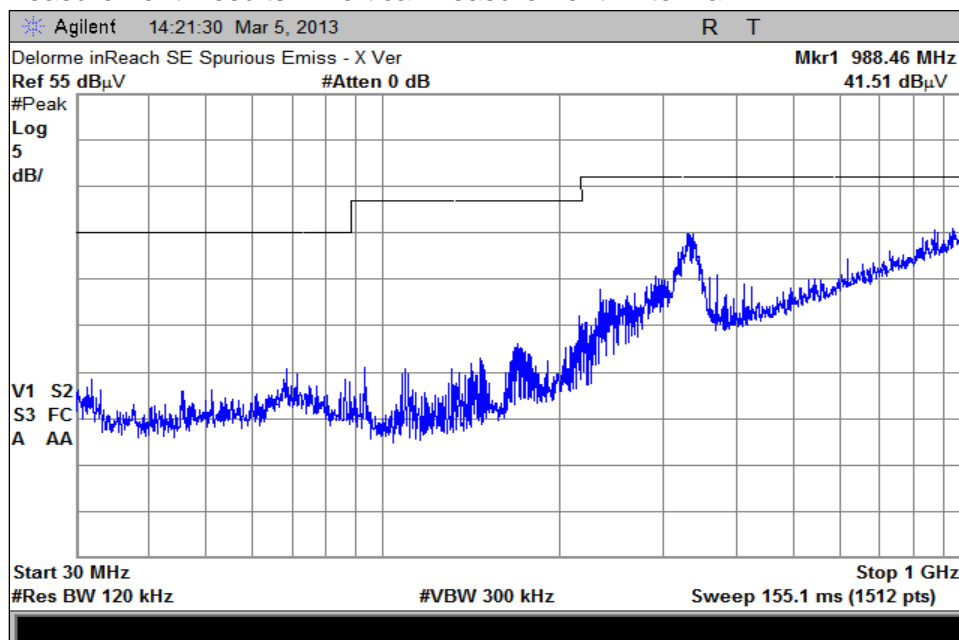
7.1.3. Frequency Span: 30 MHz to 1 GHz

7.1.3.1. Unit Positioned on the X-Axis

Measurement Results – Horizontal Measurement Antenna



Measurement Results – Vertical Measurement Antenna



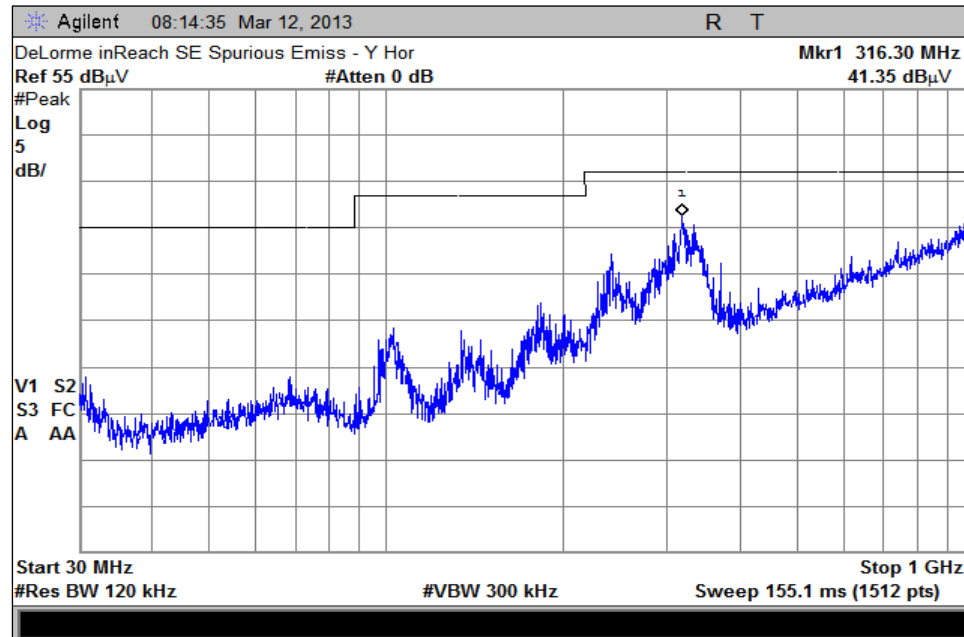
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7.1. Spurious Radiated Emissions

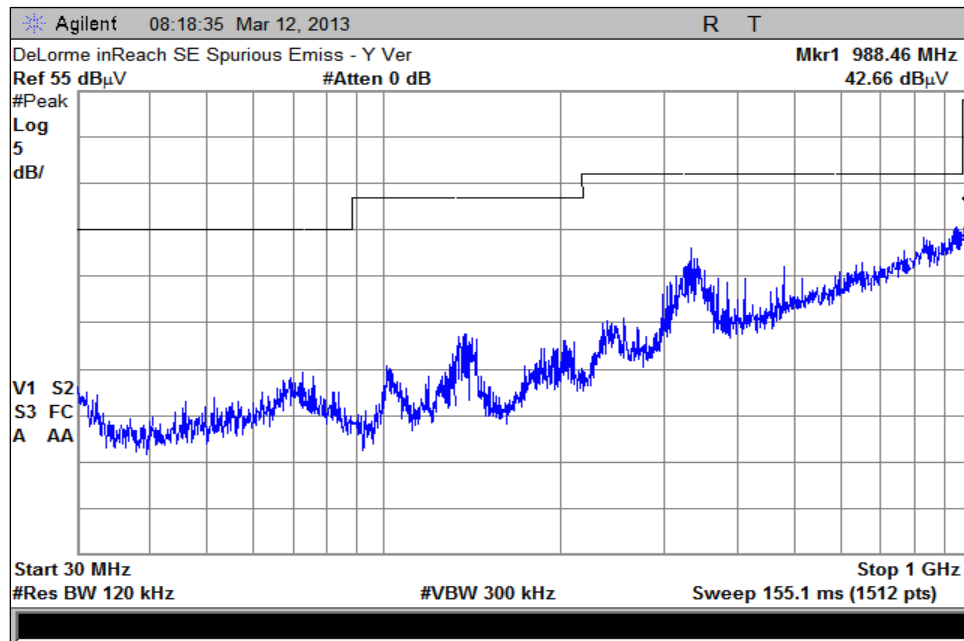
7.1.3. Frequency Span: 30 MHz to 1 GHz

7.1.3.2. Unit Positioned on the Y-Axis

Measurement Results – Horizontal Measurement Antenna



Measurement Results – Vertical Measurement Antenna



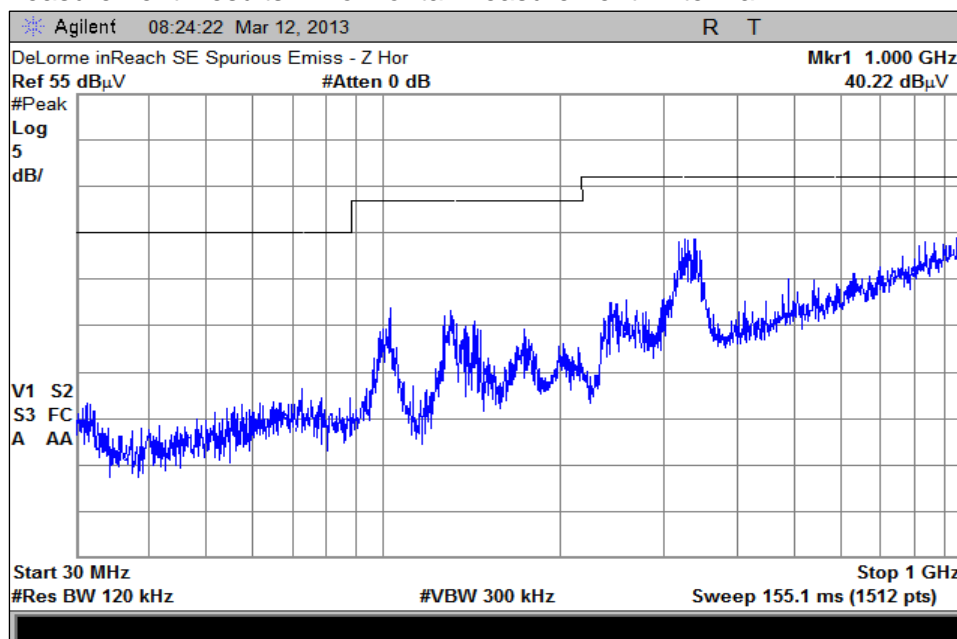
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7.1. Spurious Radiated Emissions

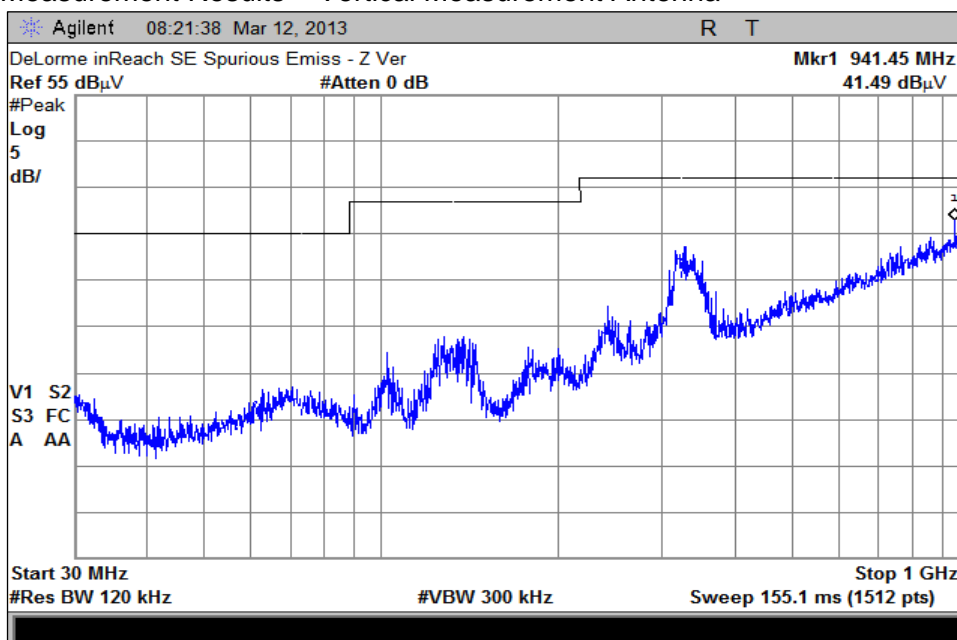
7.1.3. Frequency Span: 30 MHz to 1 GHz

7.1.3.3. Unit Positioned on the Z-Axis

Measurement Results – Horizontal Measurement Antenna



Measurement Results – Vertical Measurement Antenna



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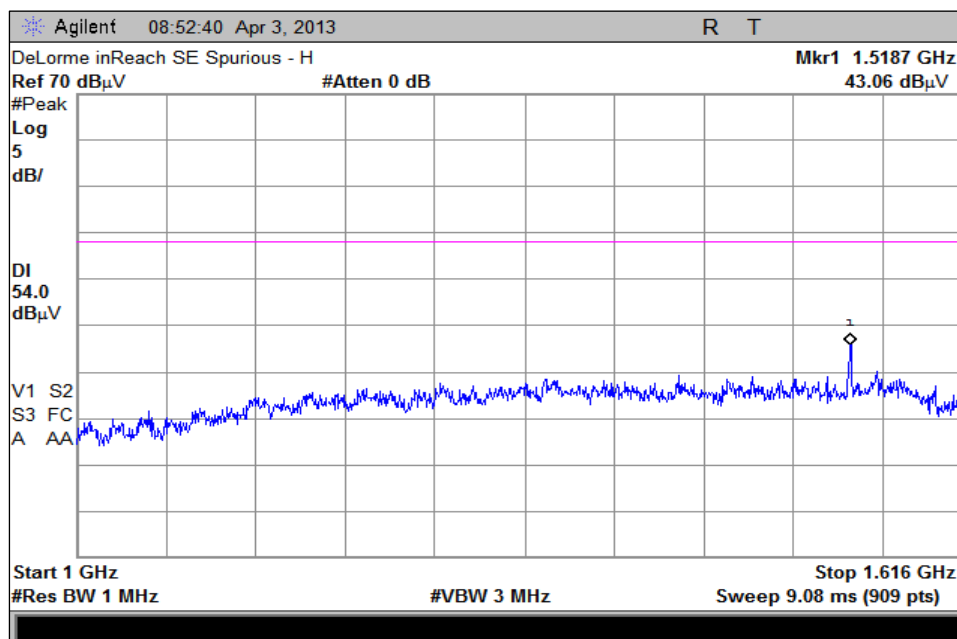
7. Measurement Data (continued)

7.1. Spurious Radiated Emissions

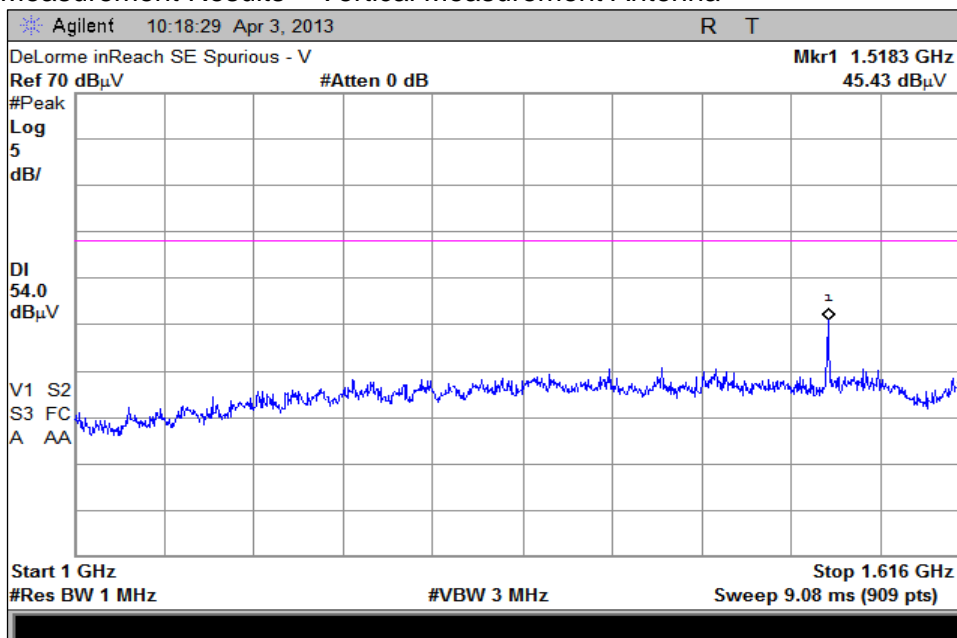
7.1.4. Frequency Span: 1 GHz to 1.6 GHz

7.1.4.1. Unit Positioned on the X-Axis

Measurement Results – Horizontal Measurement Antenna



Measurement Results – Vertical Measurement Antenna



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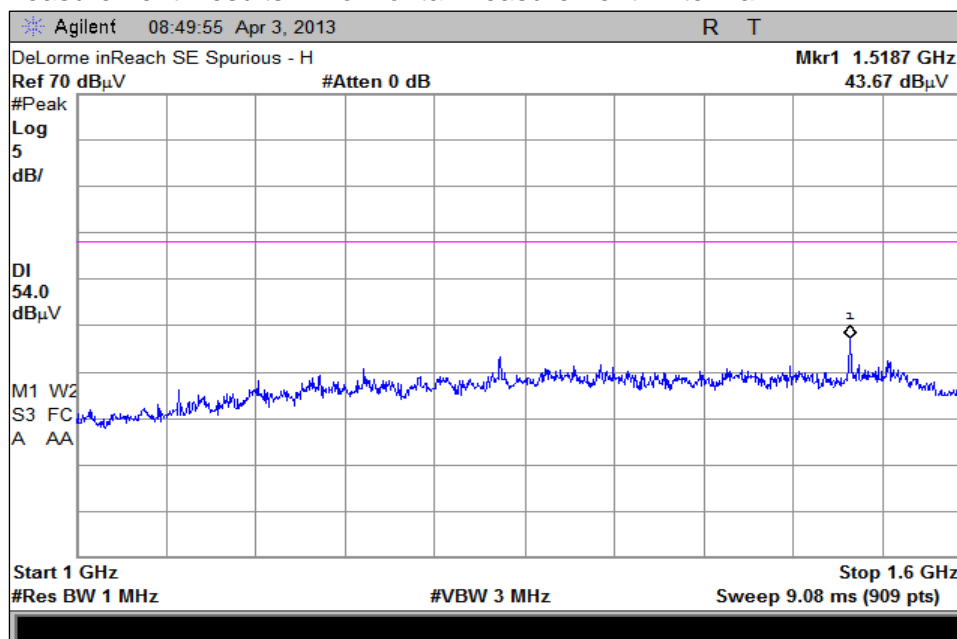
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7.1. Spurious Radiated Emissions

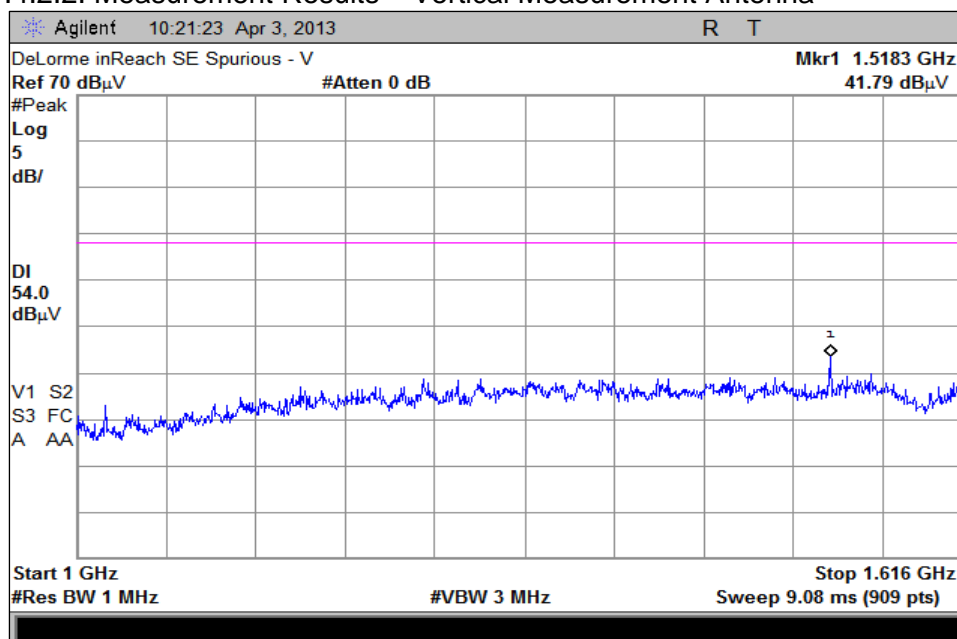
7.1.4. Frequency Span: 1 GHz to 1.6 GHz

7.1.4.2. Unit Positioned on the Y-Axis

Measurement Results – Horizontal Measurement Antenna



7.4.2.2. Measurement Results – Vertical Measurement Antenna



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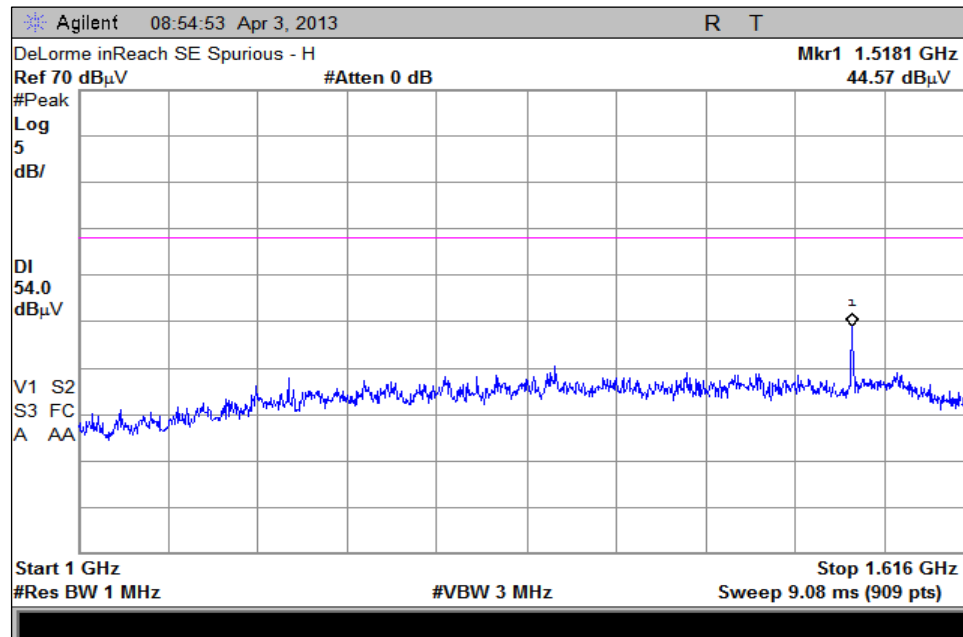
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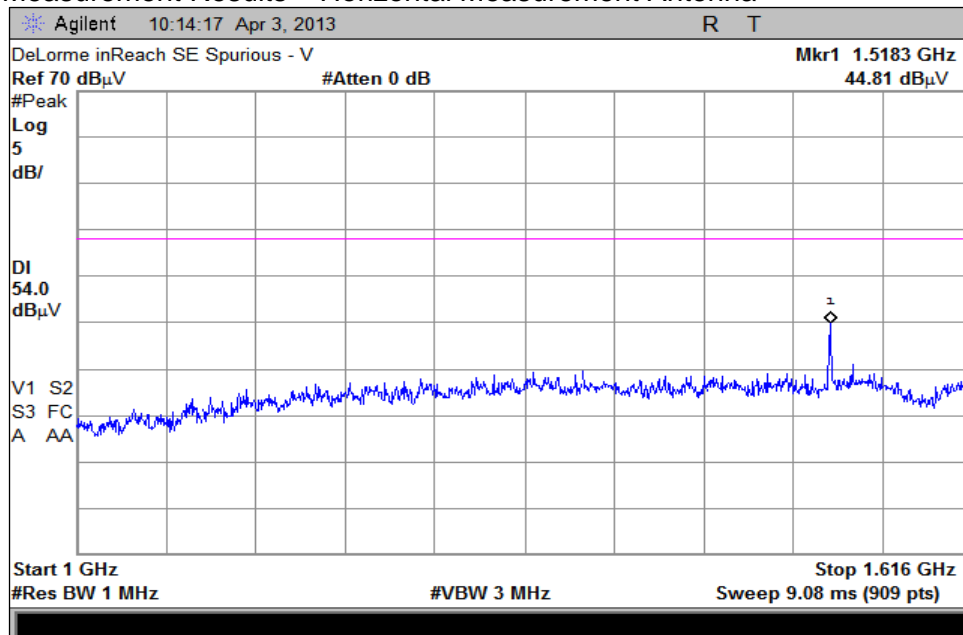
7.1.4. Frequency Span: 1 GHz to 1.614 GHz

7.1.4.3. Unit Positioned on the Z-Axis

Measurement Results – Horizontal Measurement Antenna



Measurement Results – Horizontal Measurement Antenna



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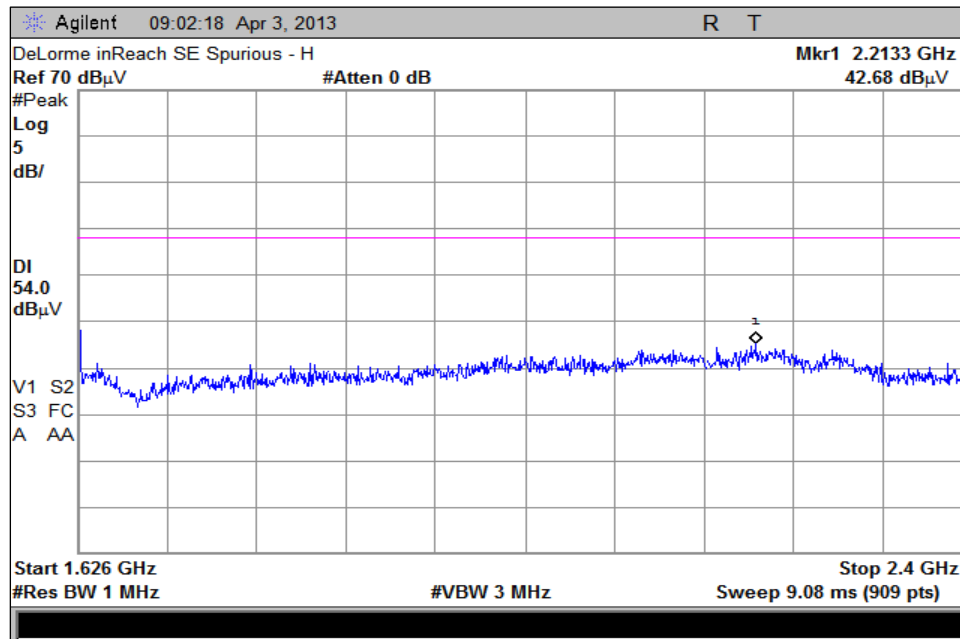
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7.1. Spurious Radiated Emissions

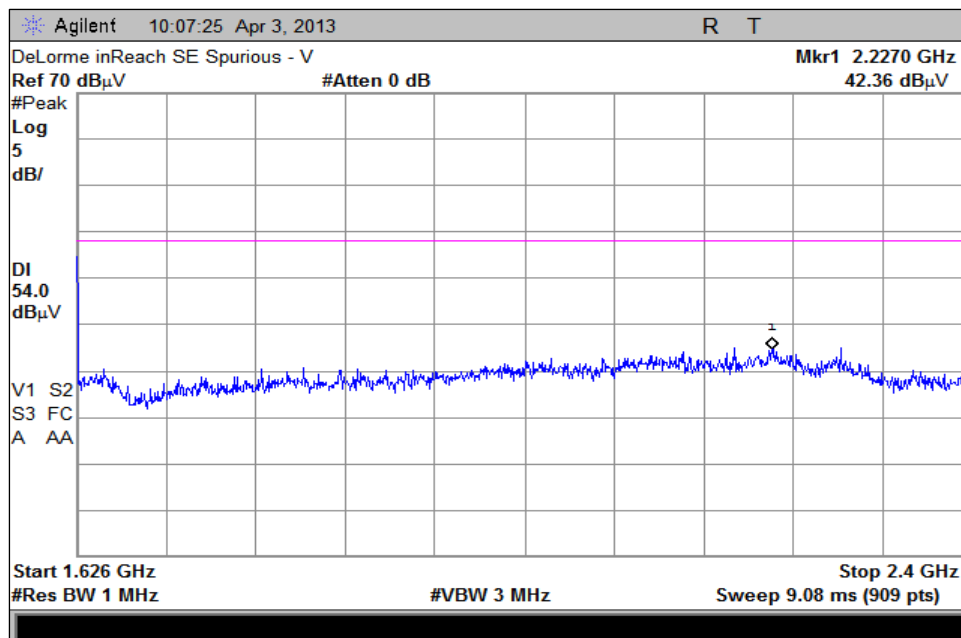
7.1.5. Frequency Span: 1.6265 GHz to 2.4 GHz

7.1.5.1. Unit Positioned on the X-Axis

Measurement Results – Horizontal Measurement Antenna



Measurement Results – Vertical Measurement Antenna



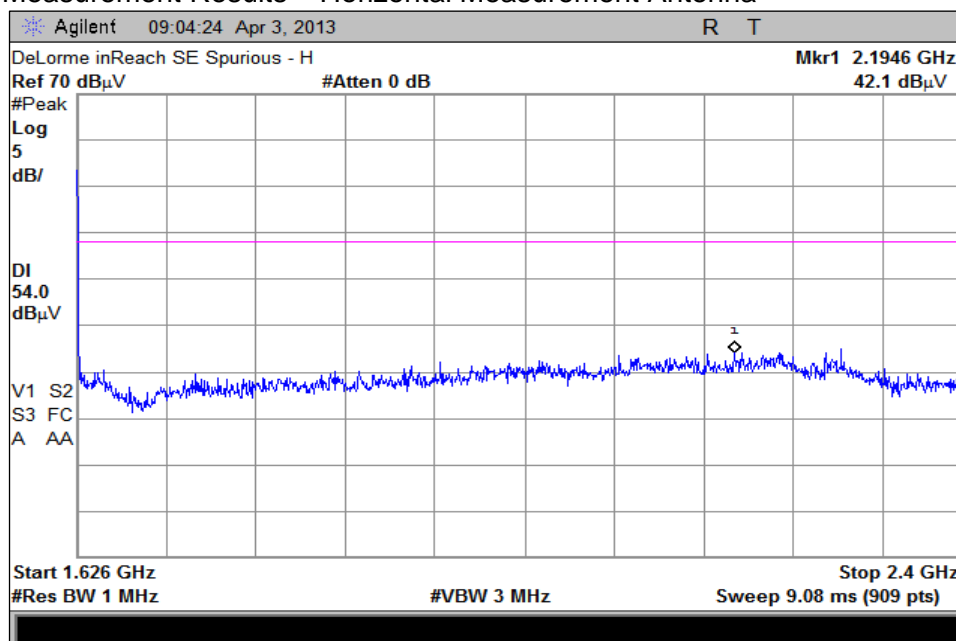
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7.1. Spurious Radiated Emissions

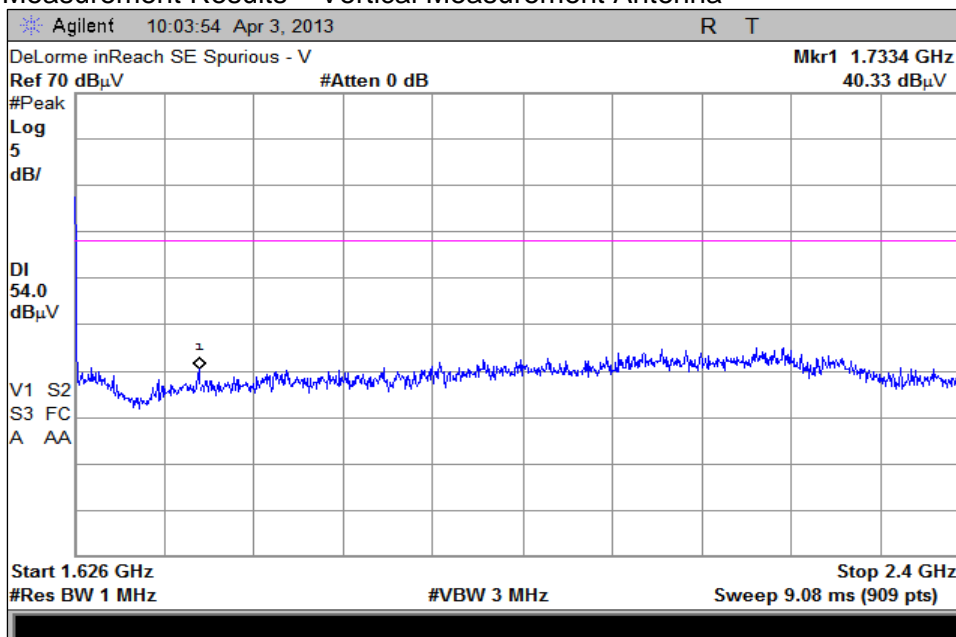
7.1.5. Frequency Span: 1.6265 GHz to 2.4 GHz

7.1.5.2. Unit Positioned on the Y- Axis

Measurement Results – Horizontal Measurement Antenna



Measurement Results – Vertical Measurement Antenna



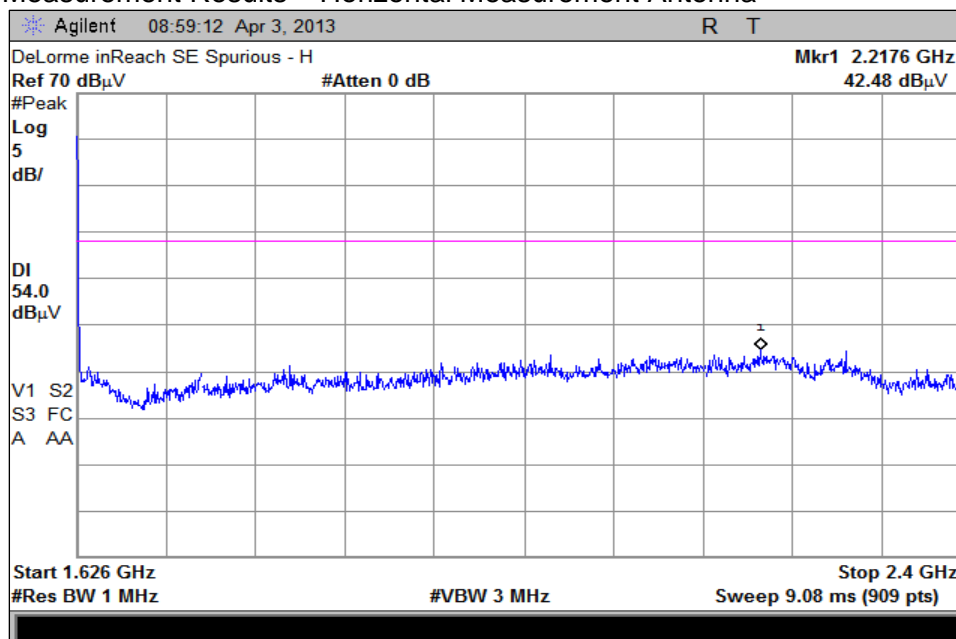
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7.1. Spurious Radiated Emissions

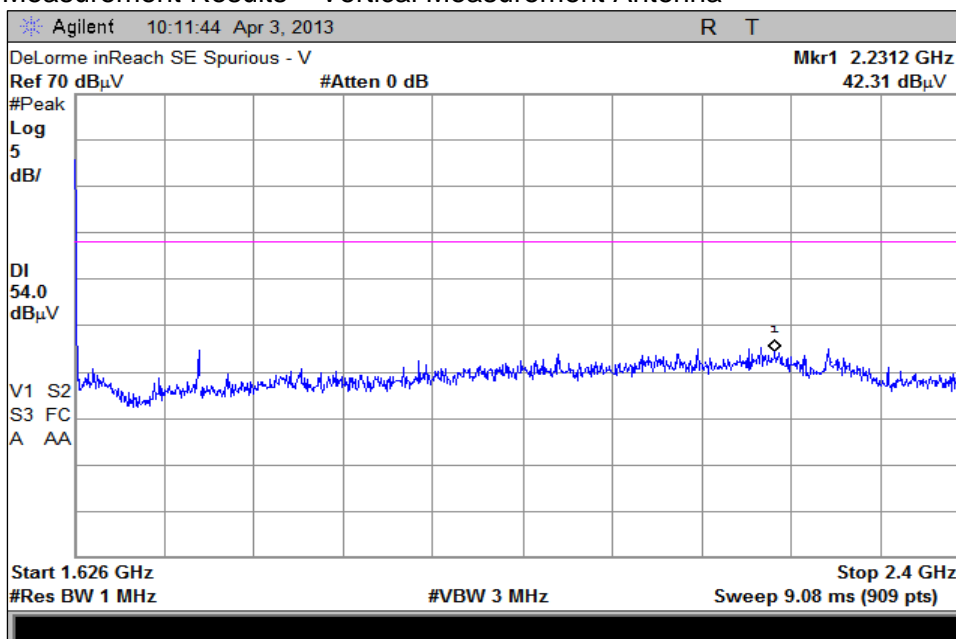
7.1.5. Frequency Span: 1.6265 GHz to 2.4 GHz

7.1.5.3. Unit Positioned on the Z-Axis

Measurement Results – Horizontal Measurement Antenna



Measurement Results – Vertical Measurement Antenna



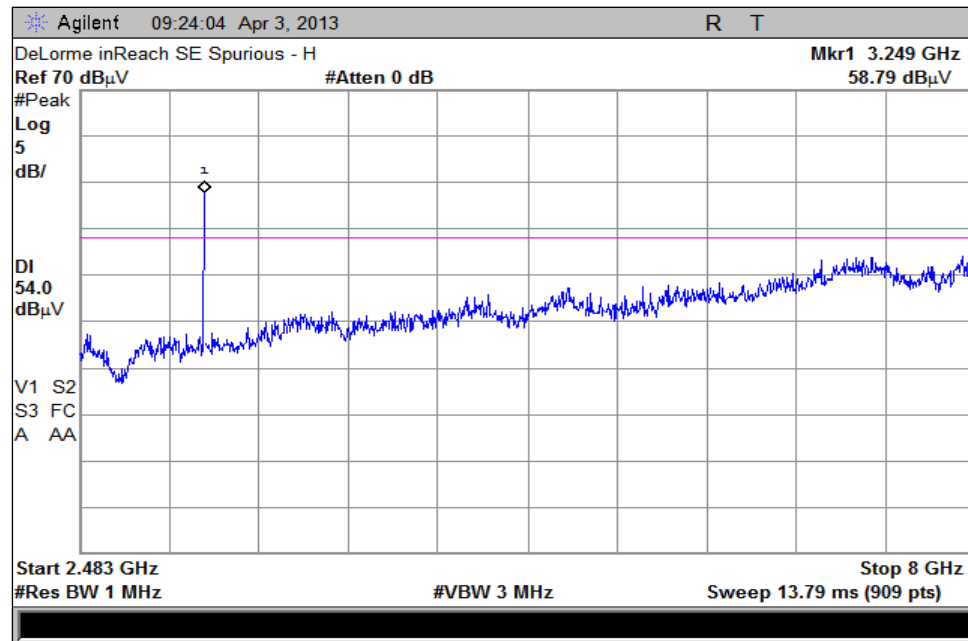
7. Measurement Data (continued)

7.1. Spurious Radiated Emissions

7.1.6. Frequency Span: 2.4835 GHz to 8 GHz

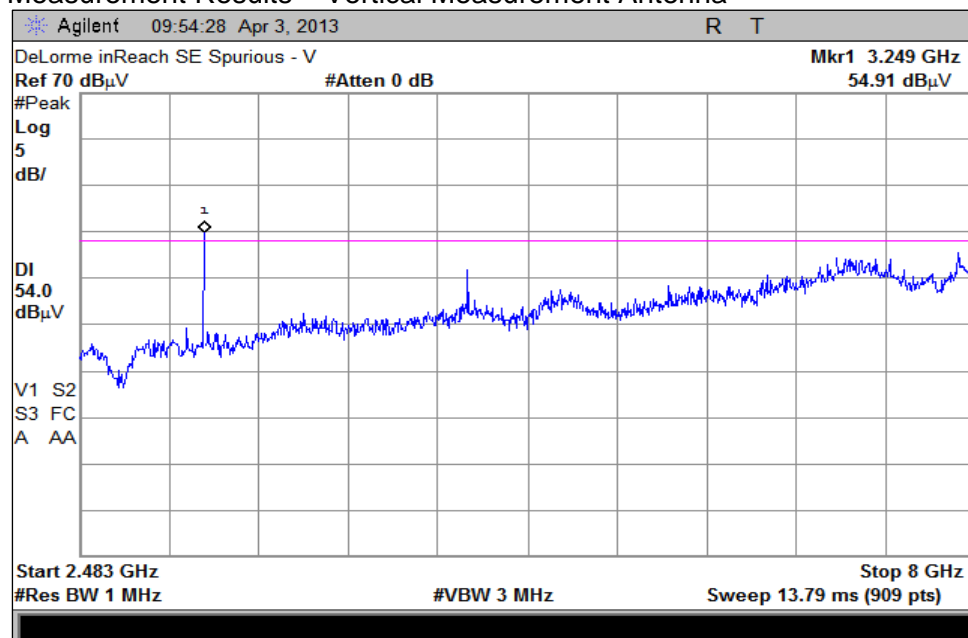
7.1.6.1. Unit Positioned on the X-Axis

Measurement Results – Horizontal Measurement Antenna



Note: The marked emission is a harmonic of the Iridium transmitter.

Measurement Results – Vertical Measurement Antenna



Note: The marked emission is a harmonic of the Iridium transmitter.

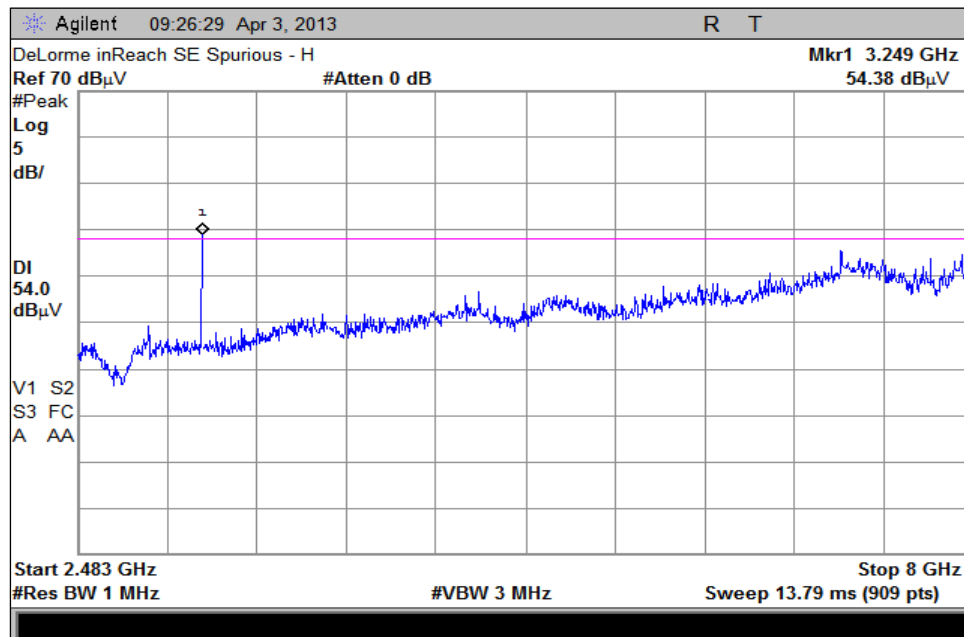
7. Measurement Data (continued)

7.1. Spurious Radiated Emissions

7.1.6. Frequency Span: 2.4835 GHz to 8 GHz

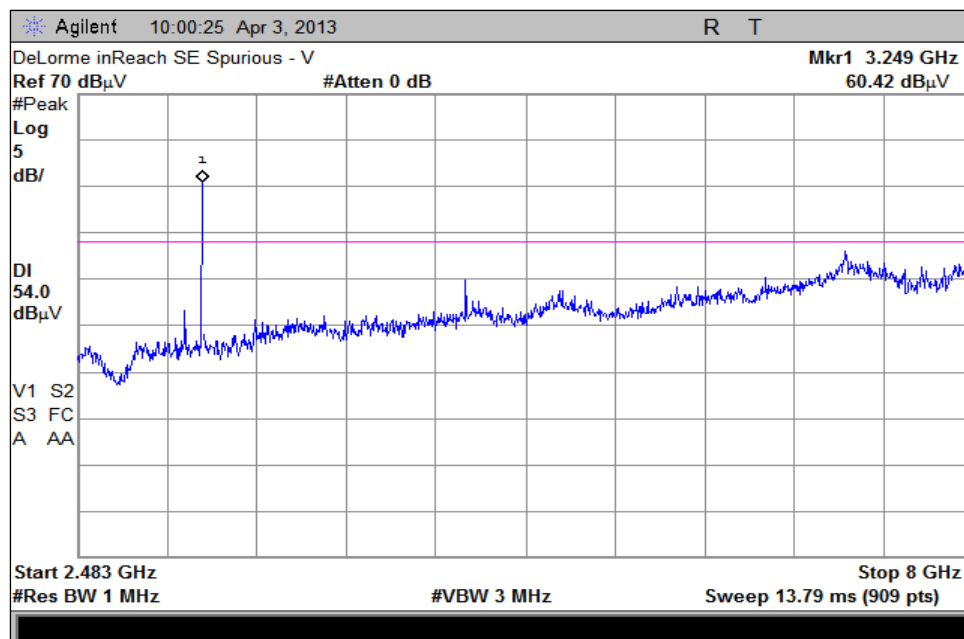
7.1.6.2. Unit Positioned on the Y-Axis

Measurement Results – Horizontal Measurement Antenna



Note: The marked emission is a harmonic of the Iridium transmitter.

Measurement Results – Vertical Measurement Antenna



Note: The marked emission is a harmonic of the Iridium transmitter.

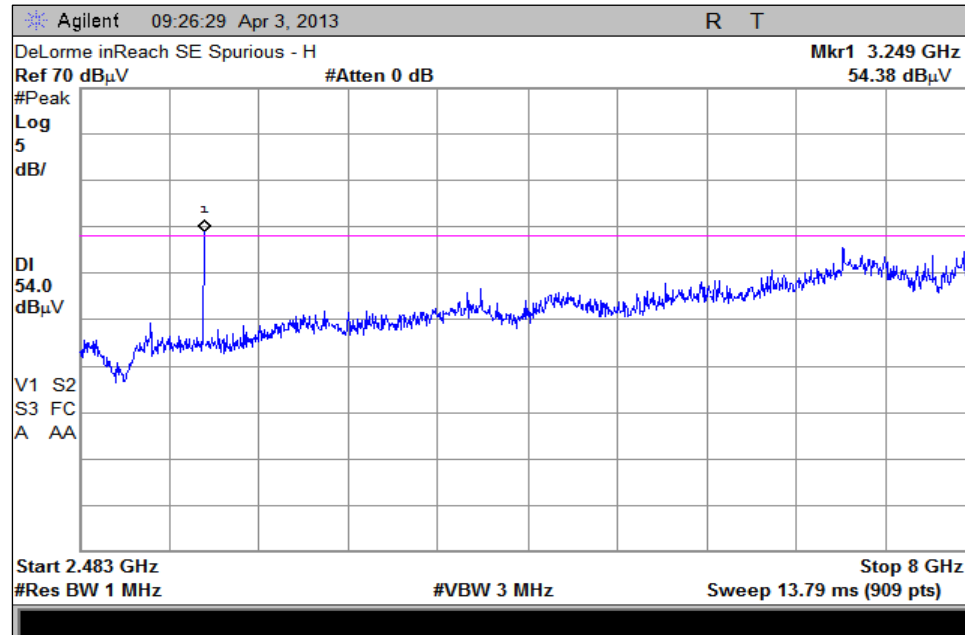
7. Measurement Data (continued)

7.1. Spurious Radiated Emissions

7.1.6. Frequency Span: 2.4835 GHz to 8 GHz

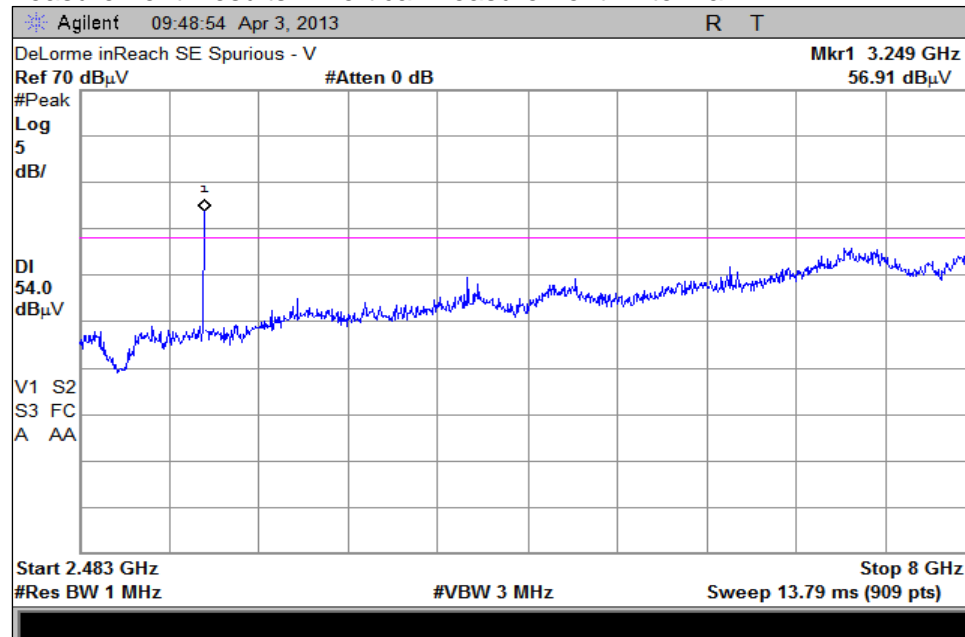
7.1.6.3. Unit Positioned on the Z-Axis

Measurement Results – Horizontal Measurement Antenna



Note: The marked emission is a harmonic of the Iridium transmitter.

Measurement Results – Vertical Measurement Antenna



Note: The marked emission is a harmonic of the Iridium transmitter.

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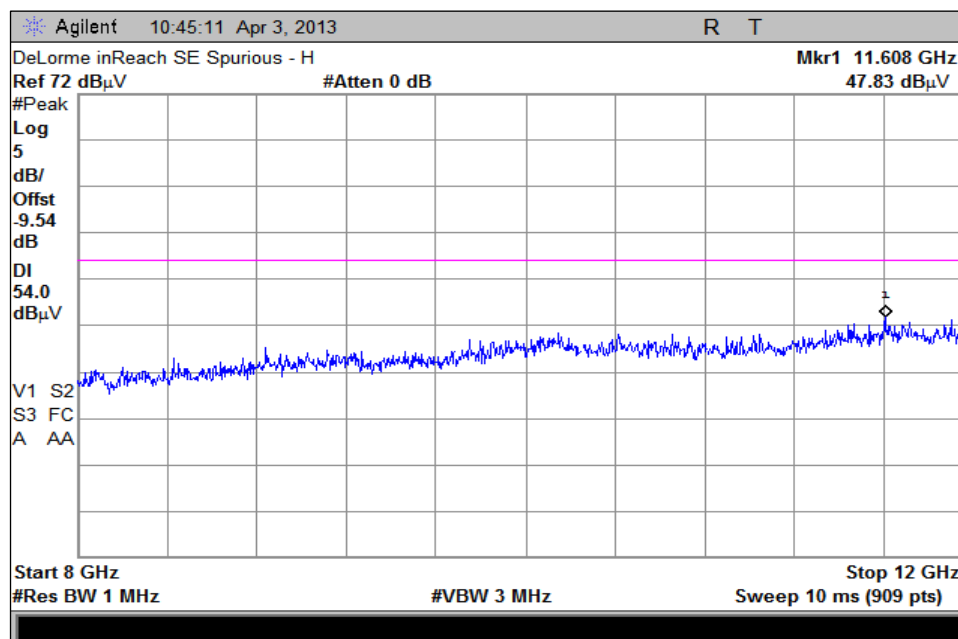
7. Measurement Data (continued)

7.1. Spurious Radiated Emissions

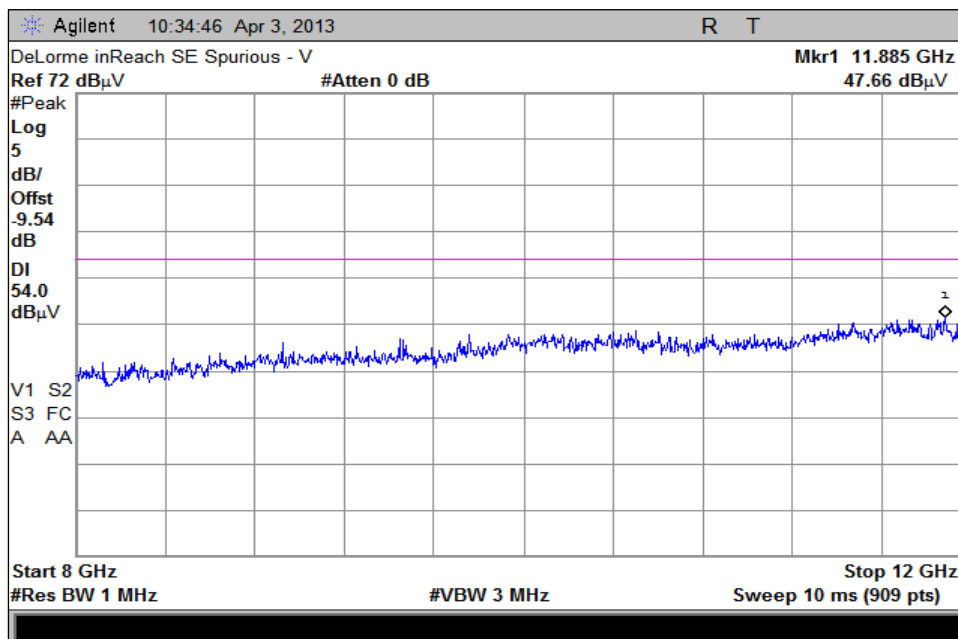
7.1.7. Frequency Span: 8 GHz to 12 GHz

7.1.7.1. Unit Positioned on the X-Axis

Measurement Results – Horizontal Measurement Antenna



Measurement Results – Vertical Measurement Antenna



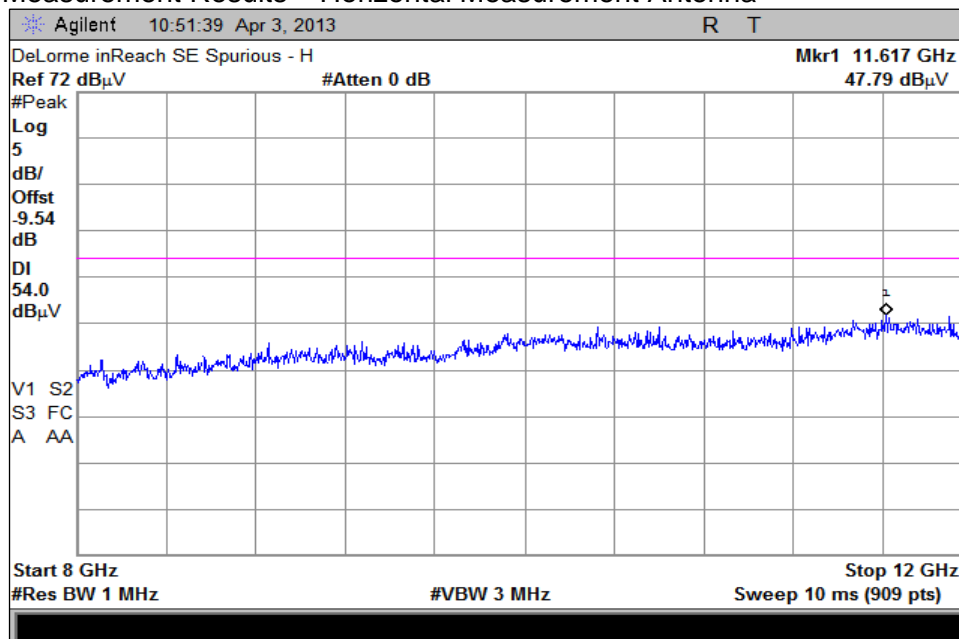
7. Measurement Data (continued)

7.1. Spurious Radiated Emissions

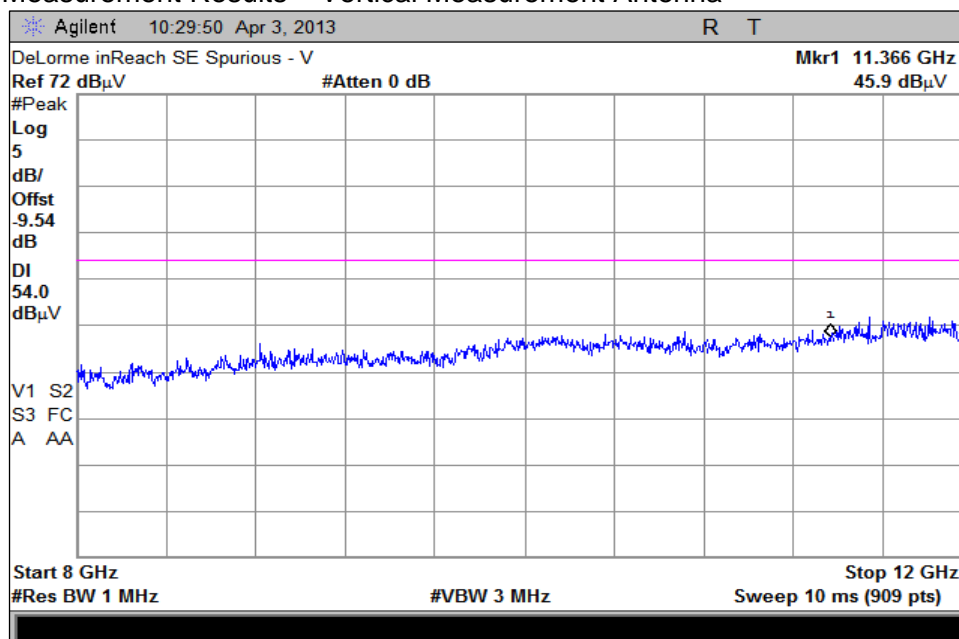
7.1.7. Frequency Span: 8 GHz to 12 GHz

7.1.7.2. Unit Positioned on the Y-Axis

Measurement Results – Horizontal Measurement Antenna



Measurement Results – Vertical Measurement Antenna



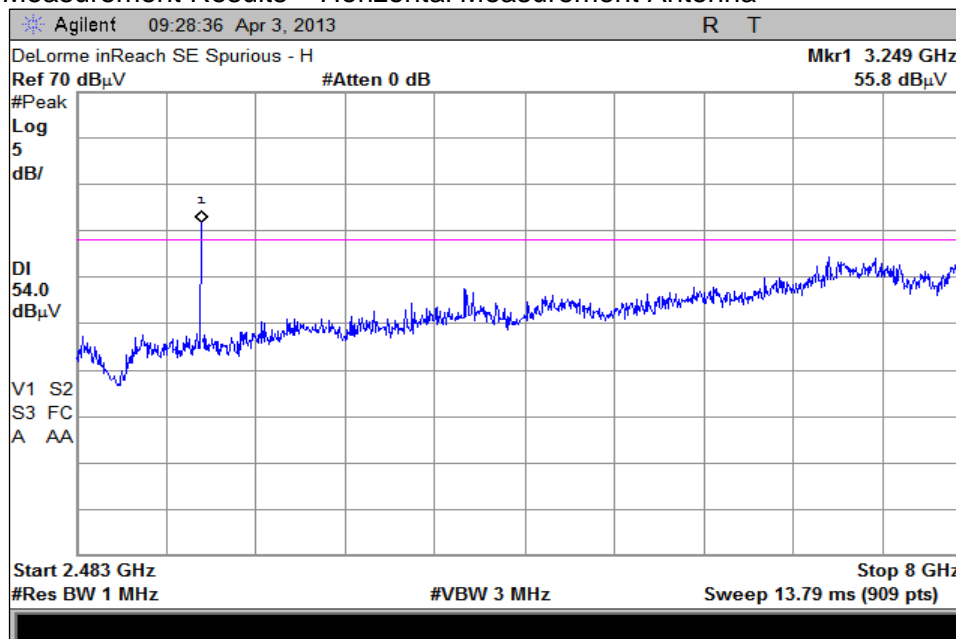
7. Measurement Data (continued)

7.1. Spurious Radiated Emissions

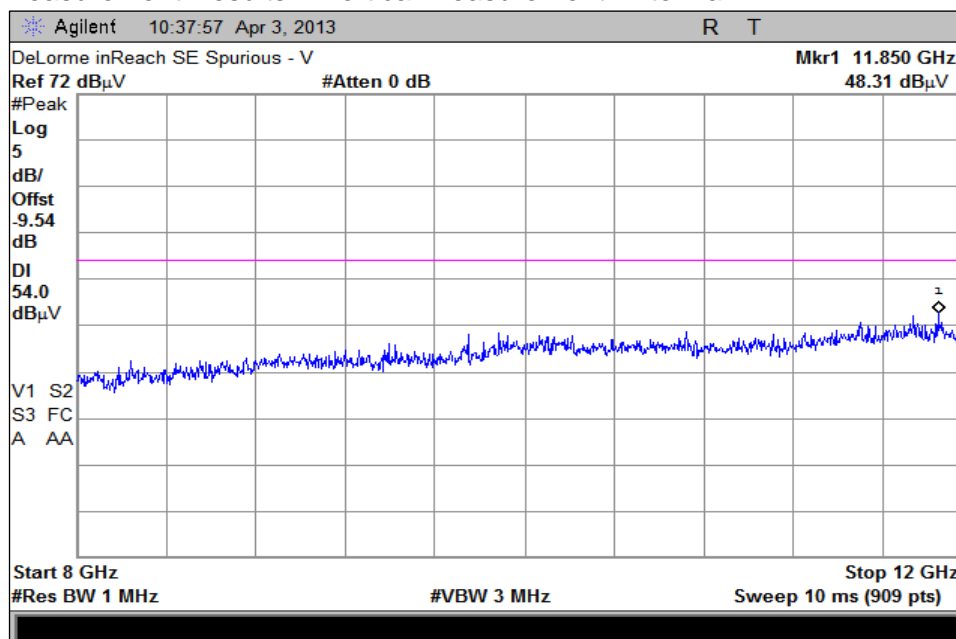
7.1.7. Frequency Span: 8 GHz to 12 GHz

7.1.7.3. Unit Positioned on the Z-Axis

Measurement Results – Horizontal Measurement Antenna



Measurement Results – Vertical Measurement Antenna



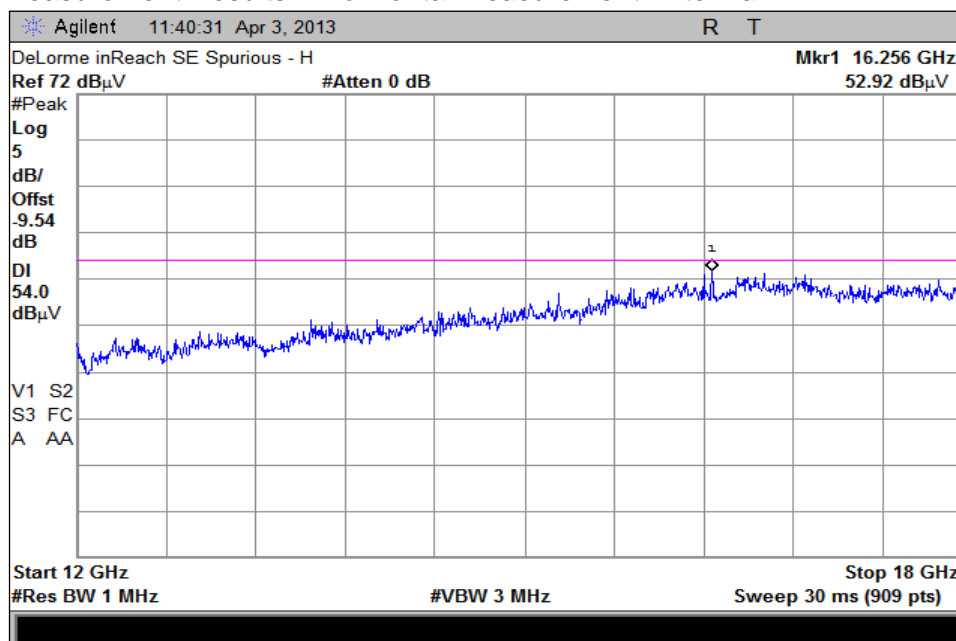
7. Measurement Data (continued)

7.1. Spurious Radiated Emissions

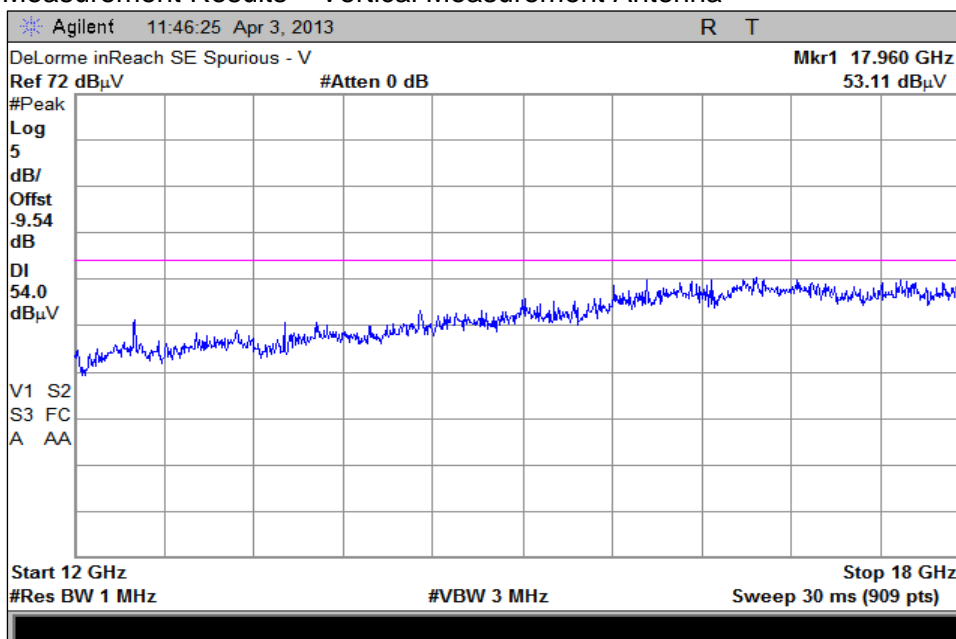
7.1.8. Frequency Span: 12 GHz to 18 GHz

7.1.8.1. Unit Positioned on the X-Axis

Measurement Results – Horizontal Measurement Antenna



Measurement Results – Vertical Measurement Antenna



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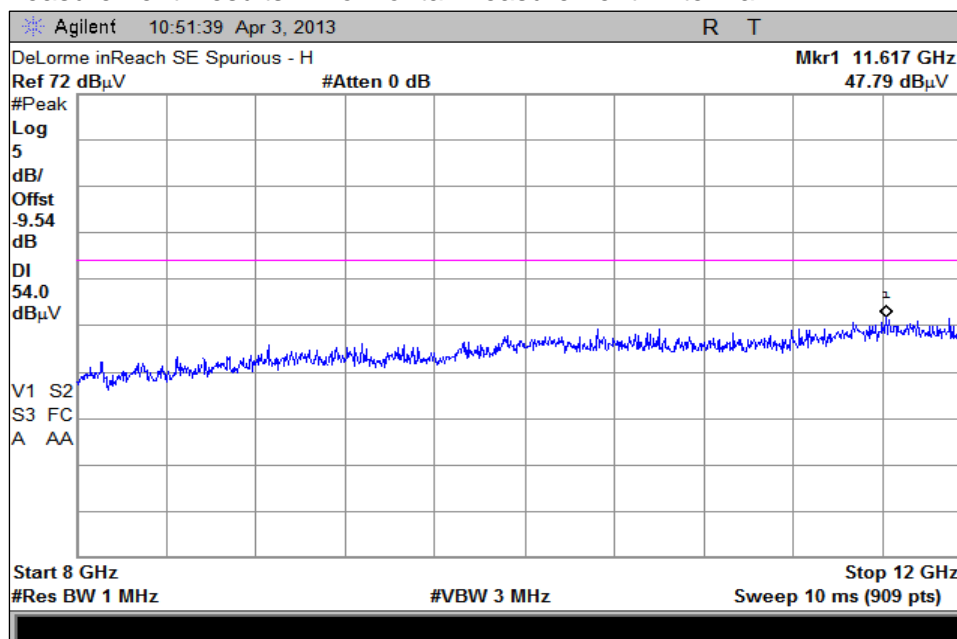
7. Measurement Data (continued)

7.1. Spurious Radiated Emissions

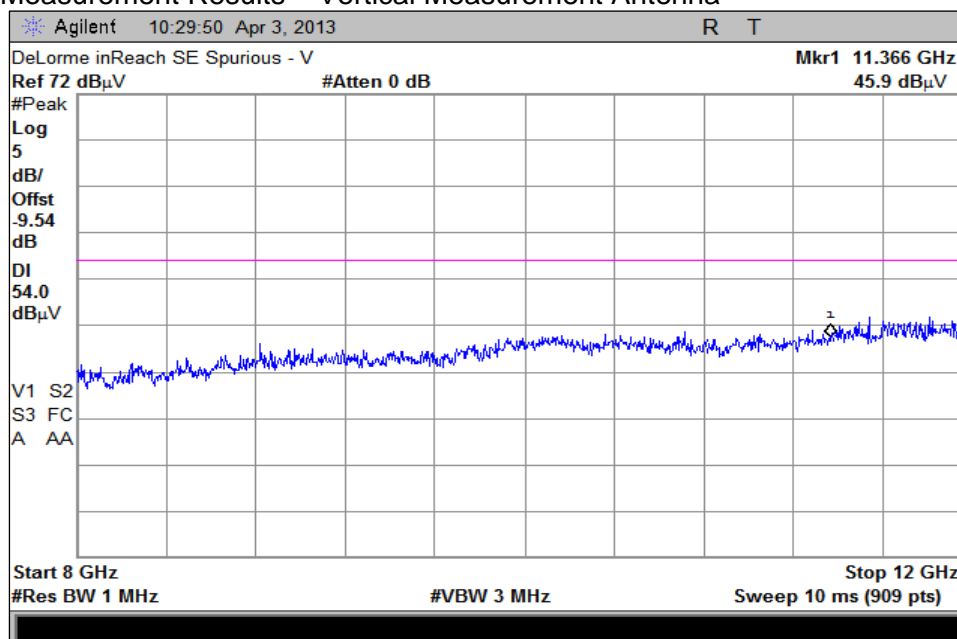
7.1.8. Frequency Span: 12 GHz to 18 GHz

7.1.8.2. Unit Positioned on the Y-Axis

Measurement Results – Horizontal Measurement Antenna



Measurement Results – Vertical Measurement Antenna



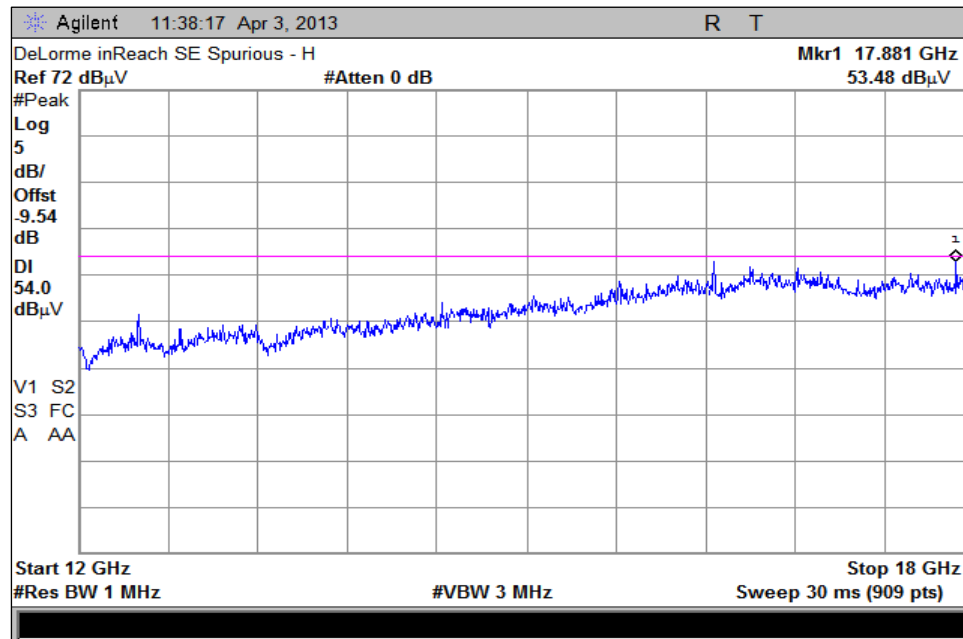
7. Measurement Data (continued)

7.1. Spurious Radiated Emissions

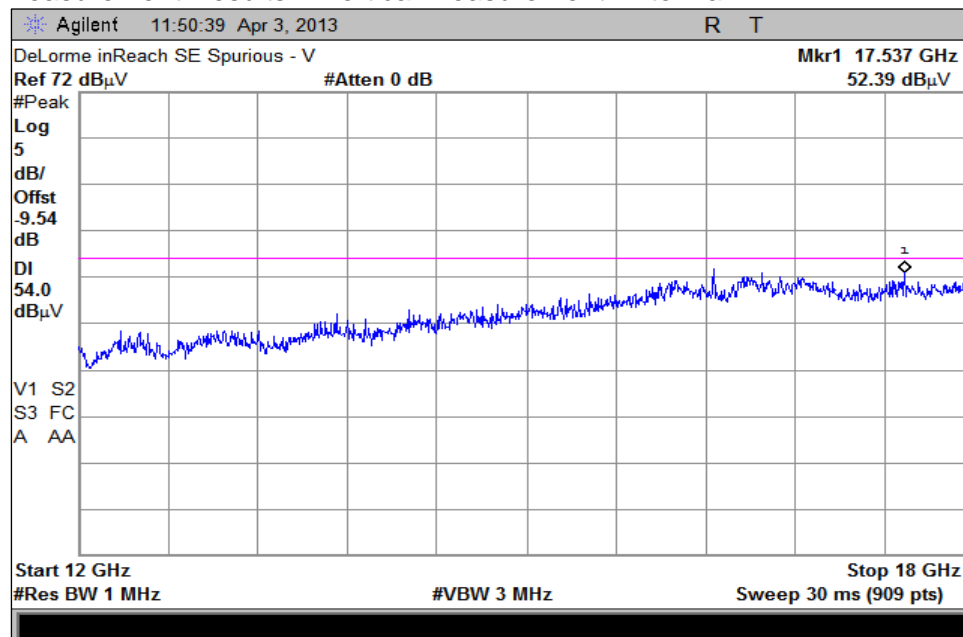
7.1.8. Frequency Span: 12 GHz to 18 GHz

7.1.8.3. Unit Positioned on the Z-Axis

Measurement Results – Horizontal Measurement Antenna



Measurement Results – Vertical Measurement Antenna



Test Number: 185-13

Issue Date: 4/4/2013

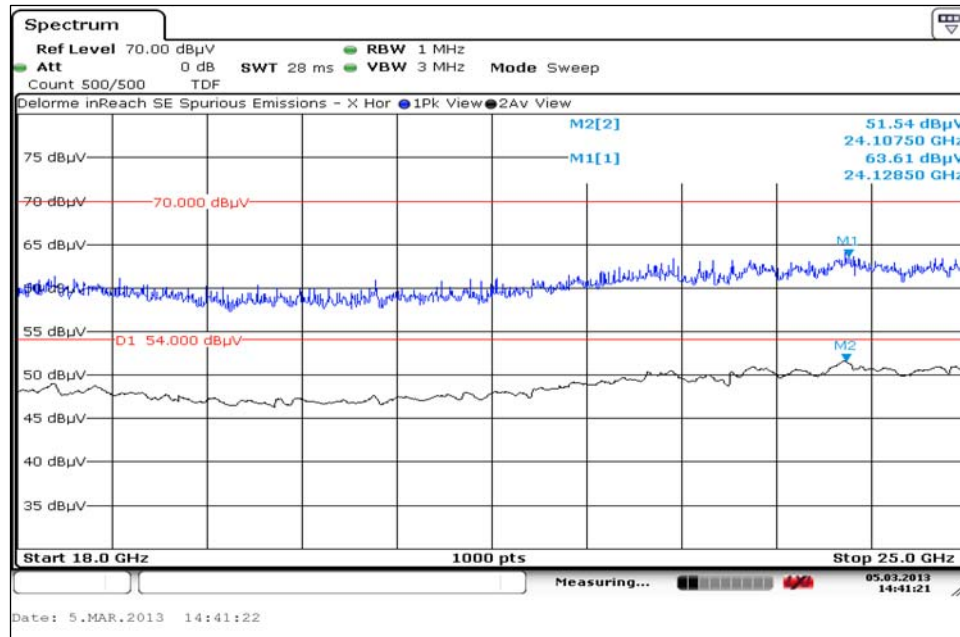
7. Measurement Data (continued)

7.1. Spurious Radiated Emissions

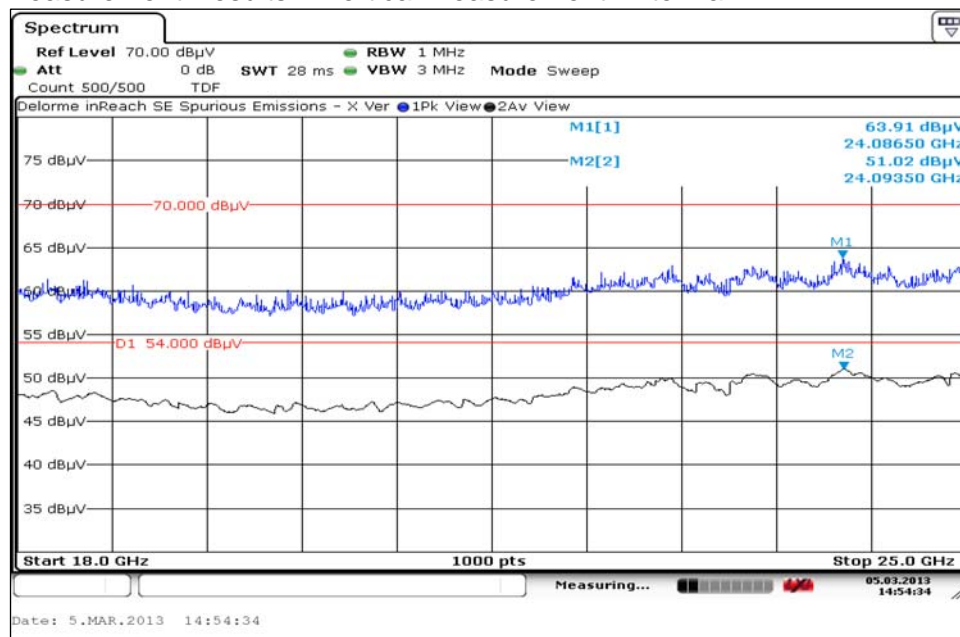
7.1.9. Frequency Span: 18 GHz to 25 GHz

7.1.9.1. Unit Positioned on the X-Axis

Measurement Results – Horizontal Measurement Antenna



Measurement Results – Vertical Measurement Antenna



Test Number: 185-13

Issue Date: 4/4/2013

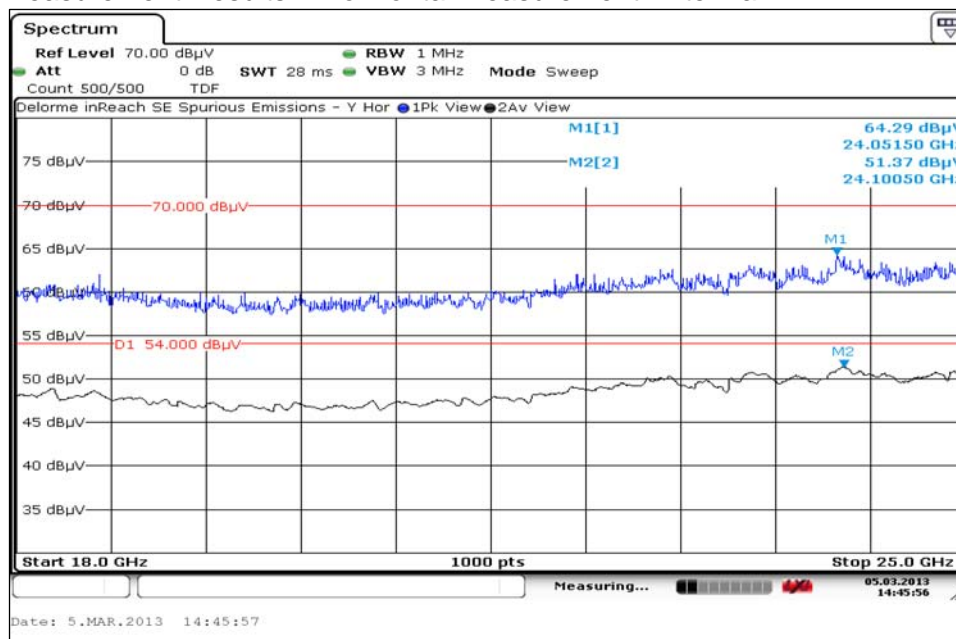
7. Measurement Data (continued)

7.1. Spurious Radiated Emissions

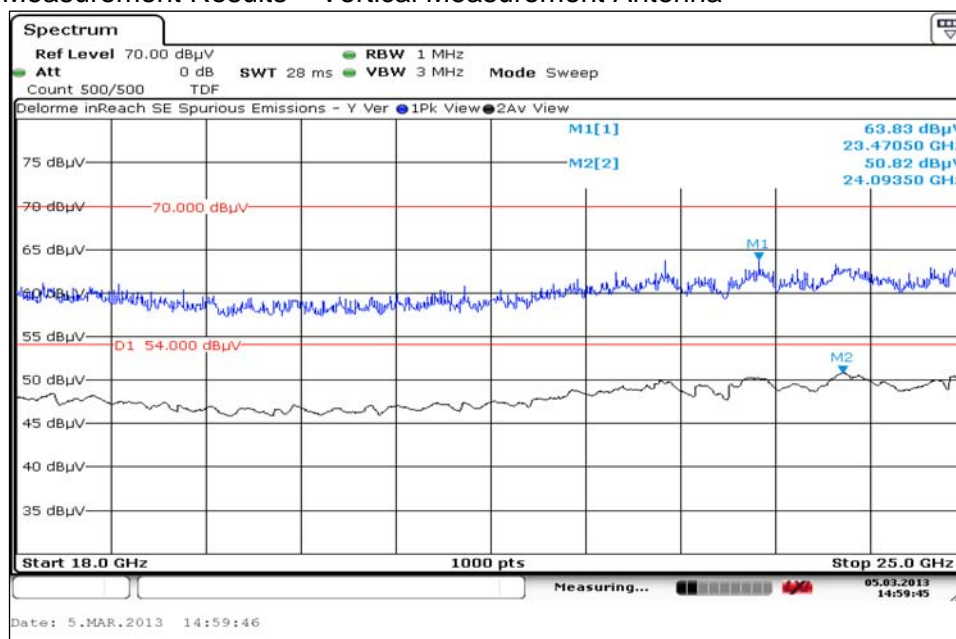
7.1.9. Frequency Span: 18 GHz to 25 GHz

7.1.9.2. Unit Positioned on the Y-Axis

Measurement Results – Horizontal Measurement Antenna



Measurement Results – Vertical Measurement Antenna



Test Number: 185-13

Issue Date: 4/4/2013

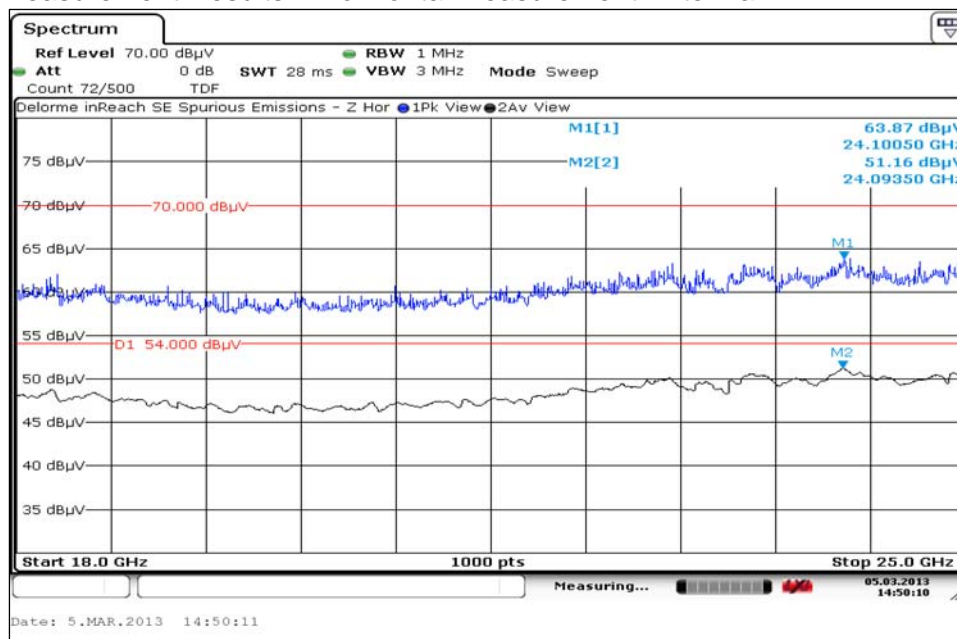
7. Measurement Data (continued)

7.1. Spurious Radiated Emissions

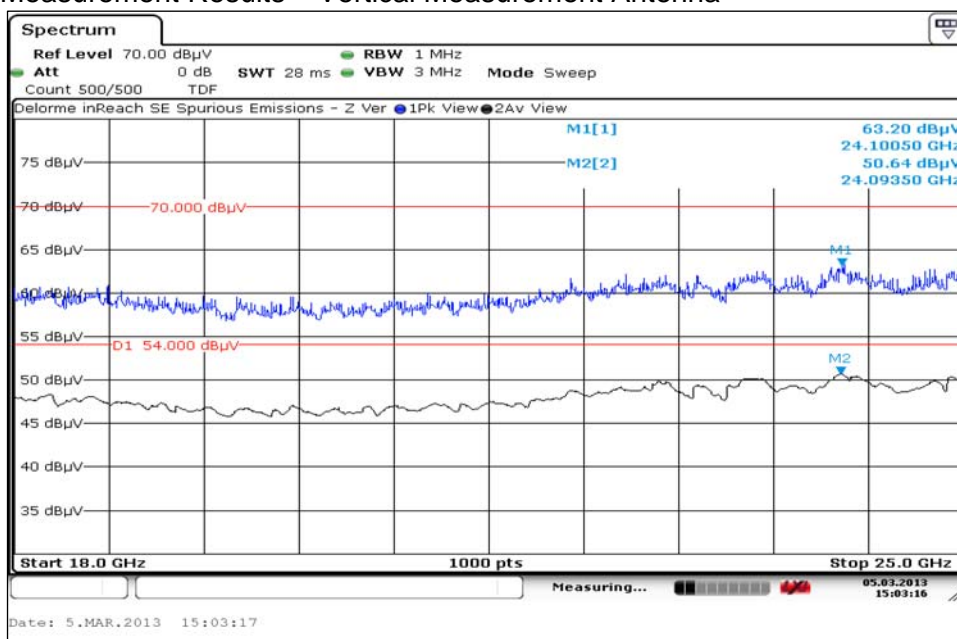
7.1.9. Frequency Span: 18 GHz to 25 GHz

7.1.9.3. Unit Positioned on the Z-Axis

Measurement Results – Horizontal Measurement Antenna



Measurement Results – Vertical Measurement Antenna



7. Measurement Data (continued)

7.1. Conducted Emissions Regulatory Limit: FCC P15.207

Frequency Range (MHz)	Limits (dBµV)	
	Quasi-Peak	Average
0.15 to 0.50	66 to 56 ¹	56 to 46 ¹
0.50 to 5.0	56	46
5.0 to 30	60	50

¹ The limit decreases linearly with the logarithm of the frequency.

7.2. Measurement Equipment and Software Used to Perform Test

Device	Manufacturer	Model No.	Serial No.	Cal Due
LISN	EMCO	3825/2	9109-1860	07/02/2013
EMI Receiver	Hewlett Packard	8546A	3330A00115	06/08/2014
Manufacturer	Software Description		Title/Model #	Rev.
Compliance Worldwide	Test Report Generation Software		Test Report Generator	1.0

7.3. Measurement & Equipment Setup

Test Date:	03/20/2013
Test Engineer:	Brian Breault
Site Temperature (°C):	21.5
Relative Humidity (%RH):	27.0
Frequency Range:	0.15 MHz to 30 MHz
EMI Receiver IF Bandwidth:	9 kHz
EMI Receiver Avg Bandwidth:	30 kHz
Detector Functions:	Peak, Quasi-Peak. & Average

7.4. Test Procedure

Test measurements were made in accordance with ANSI C63.10-2009, American National Standard for Testing Unlicensed Wireless Devices.

The unit was tested both in normal operating mode and while the device was charging.

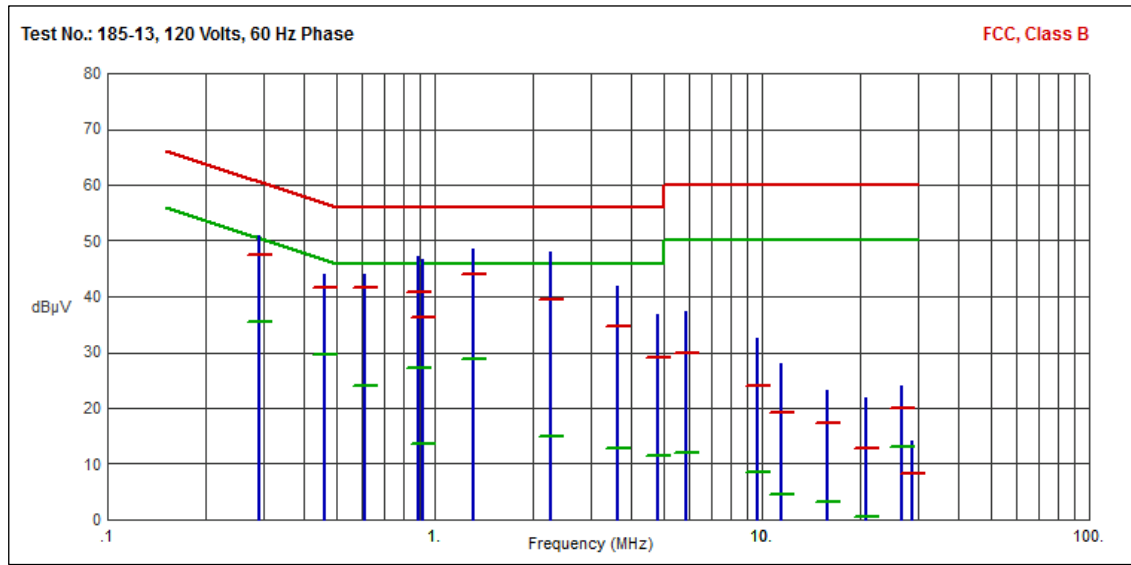
7. Measurement Data (continued)

7.5. Conducted Emissions

The inReach SE was plugged into the included 120 volt AC to 5 volt USB charger.

7.5.1. Device Under Test is Operating

7.5.1.1. Phase



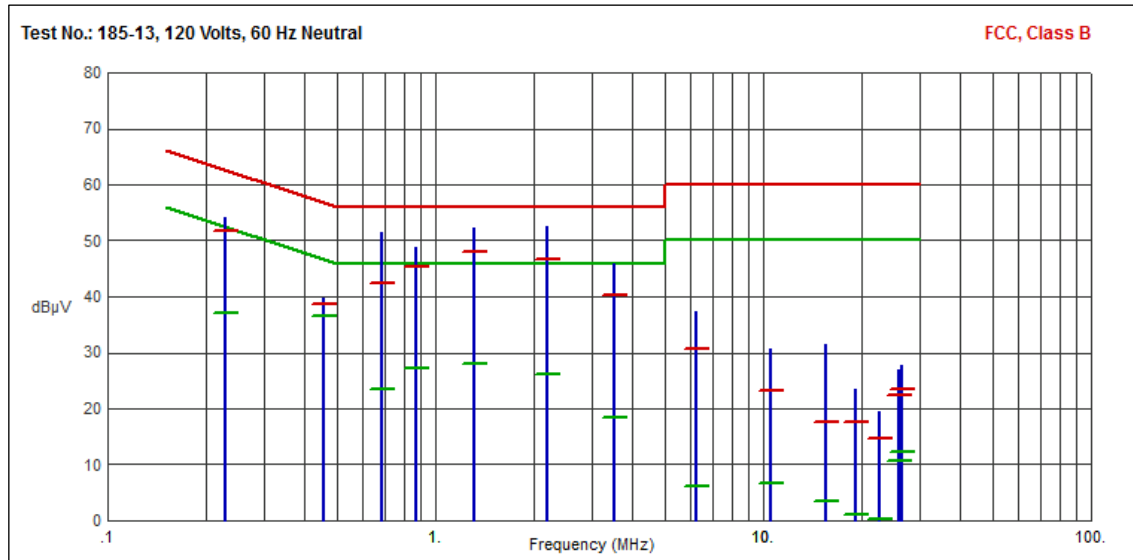
Frequency (MHz)	Pk Amp (dBµV)	QP Amp (dBµV)	QP Limit (dBµV)	QP Margin (dB)	Avg Amp (dBµV)	Avg Limit (dBµV)	Avg Margin (dB)	Comments
.2902	50.93	47.51	60.52	-13.01	35.35	50.52	-15.17	
.4606	44.02	41.59	56.68	-15.09	29.70	46.68	-16.98	
.6135	44.11	41.59	56.00	-14.41	24.10	46.00	-21.90	
.8879	47.07	40.92	56.00	-15.08	27.19	46.00	-18.81	
.9157	46.57	36.35	56.00	-19.65	13.69	46.00	-32.31	
1.3063	48.47	43.93	56.00	-12.07	28.86	46.00	-17.14	
2.2644	47.92	39.40	56.00	-16.60	15.05	46.00	-30.95	
3.6347	41.97	34.72	56.00	-21.28	12.82	46.00	-33.18	
4.8150	36.69	29.14	56.00	-26.86	11.41	46.00	-34.59	
5.8675	37.37	29.81	60.00	-30.19	12.05	50.00	-37.95	
9.6422	32.61	23.87	60.00	-36.13	8.57	50.00	-41.43	
11.5151	27.88	19.23	60.00	-40.77	4.65	50.00	-45.35	
15.8827	23.13	17.26	60.00	-42.74	3.13	50.00	-46.87	
20.7537	21.90	12.78	60.00	-47.22	0.65	50.00	-49.35	
26.6097	23.99	19.92	60.00	-40.08	13.06	50.00	-36.94	
28.8116	14.25	8.33	60.00	-51.67	-0.87	50.00	-50.87	

7. Measurement Data (continued)

7.5. Conducted Emissions (continued)

7.5.1. Device Under Test is Operating

7.5.1.2. Neutral



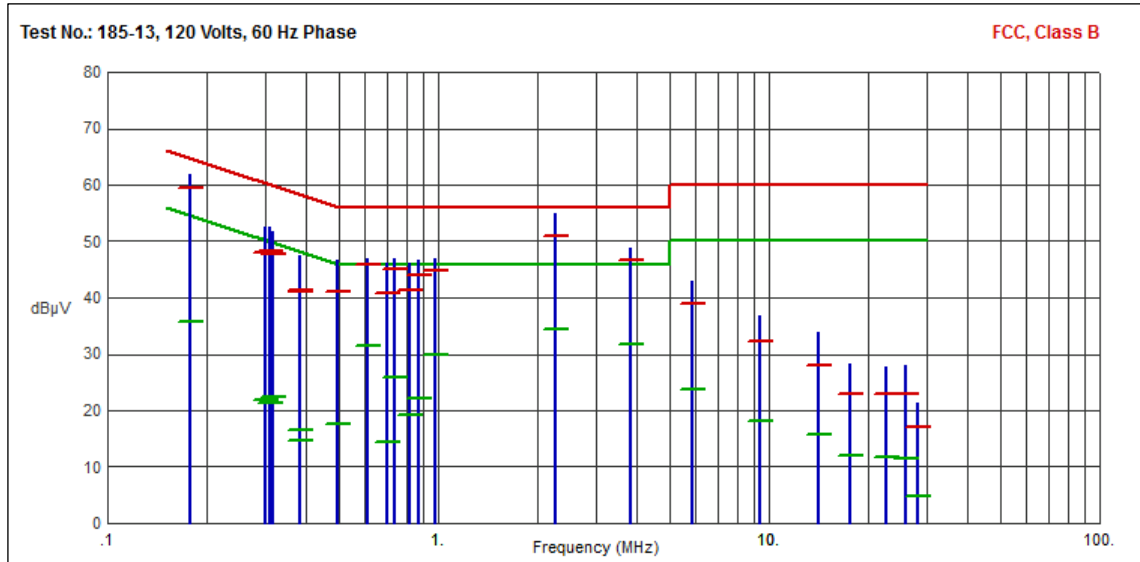
Frequency (MHz)	Pk Amp (dBµV)	QP Amp (dBµV)	QP Limit (dBµV)	QP Margin (dB)	Avg Amp (dBµV)	Avg Limit (dBµV)	Avg Margin (dB)	Comments
.2279	54.20	51.63	62.53	-10.90	37.07	52.53	-15.46	
.4547	39.78	38.78	56.79	-18.01	36.57	46.79	-10.22	
.6863	51.41	42.42	56.00	-13.58	23.57	46.00	-22.43	
.8731	48.88	45.39	56.00	-10.61	27.08	46.00	-18.92	
1.3099	52.21	47.94	56.00	-8.06	27.95	46.00	-18.05	
2.1987	52.57	46.68	56.00	-9.32	26.26	46.00	-19.74	
3.4933	45.91	40.36	56.00	-15.64	18.39	46.00	-27.61	
6.2658	37.38	30.77	60.00	-29.23	6.01	50.00	-43.99	
10.5396	30.68	23.23	60.00	-36.77	6.70	50.00	-43.30	
15.5116	31.40	17.54	60.00	-42.46	3.50	50.00	-46.50	
19.1121	23.51	17.53	60.00	-42.47	1.13	50.00	-48.87	
22.7204	19.51	14.54	60.00	-45.46	0.20	50.00	-49.80	
25.9975	27.02	22.30	60.00	-37.70	10.65	50.00	-39.35	
26.4870	27.86	23.54	60.00	-36.46	12.15	50.00	-37.85	

7. Measurement Data (continued)

7.5. Conducted Emissions

7.5.2. Device Under Test is Charging

7.5.2.1. Phase



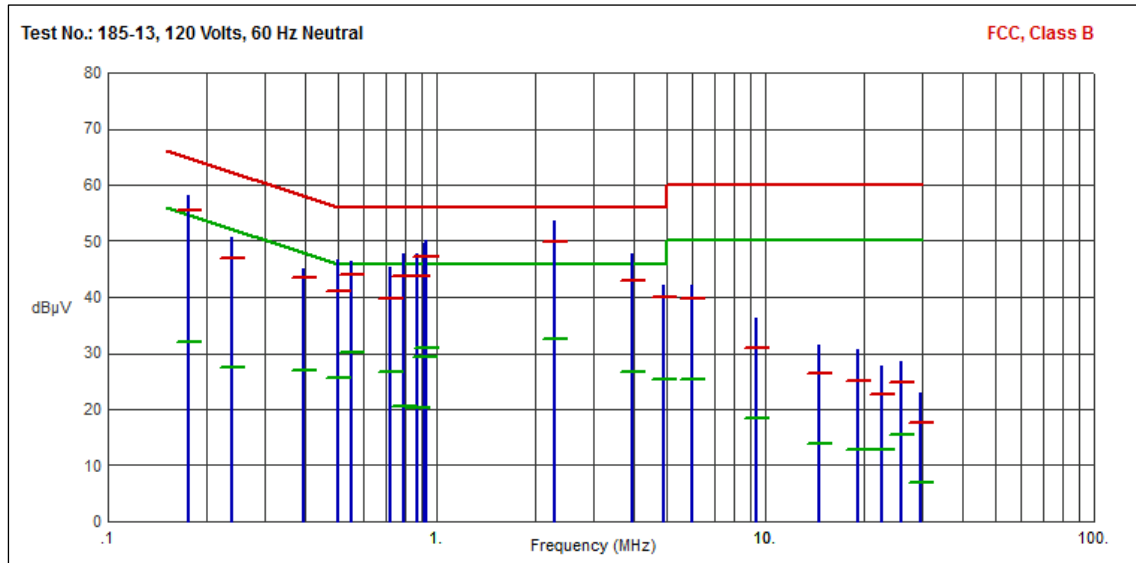
Frequency (MHz)	Pk Amp (dBµV)	QP Amp (dBµV)	QP Limit (dBµV)	QP Margin (dB)	Avg Amp (dBµV)	Avg Limit (dBµV)	Avg Margin (dB)	Comments
.1784	61.91	59.41	64.56	-5.15	35.77	54.56	-18.79	
.2991	52.55	48.11	60.27	-12.16	21.85	50.27	-28.42	
.3082	52.55	48.24	60.02	-11.78	21.29	50.02	-28.73	
.3175	51.85	47.63	59.77	-12.14	22.37	49.77	-27.40	
.3802	46.32	41.14	58.28	-17.14	14.79	48.28	-33.49	
.3831	47.51	41.32	58.21	-16.89	16.54	48.21	-31.67	
.4962	46.70	41.16	56.06	-14.90	17.57	46.06	-28.49	
.6098	46.87	45.86	56.00	-10.14	31.36	46.00	-14.64	
.6980	46.11	40.80	56.00	-15.20	14.36	46.00	-31.64	
.7366	46.83	44.96	56.00	-11.04	25.86	46.00	-20.14	
.8193	46.10	41.45	56.00	-14.55	19.25	46.00	-26.75	
.8759	46.71	43.93	56.00	-12.07	22.20	46.00	-23.80	
.9822	46.92	44.71	56.00	-11.29	29.99	46.00	-16.01	
2.2553	54.80	51.06	56.00	-4.94	34.34	46.00	-11.66	
3.8092	48.80	46.62	56.00	-9.38	31.77	46.00	-14.23	
5.8401	42.86	38.86	60.00	-21.14	23.71	50.00	-26.29	
9.3650	36.70	32.15	60.00	-27.85	18.06	50.00	-31.94	
14.1504	33.75	28.01	60.00	-31.99	15.76	50.00	-34.24	
17.5245	28.35	23.01	60.00	-36.99	11.91	50.00	-38.09	
22.5783	27.67	22.99	60.00	-37.01	11.79	50.00	-38.21	
25.9981	28.09	22.82	60.00	-37.18	11.52	50.00	-38.48	
28.2454	21.32	17.06	60.00	-42.94	4.84	50.00	-45.16	

7. Measurement Data (continued)

7.5. Conducted Emissions

7.5.2. Device Under Test is Charging

7.5.2.2. Neutral



Frequency (MHz)	Pk Amp (dBμV)	QP Amp (dBμV)	QP Limit (dBμV)	QP Margin (dB)	Avg Amp (dBμV)	Avg Limit (dBμV)	Avg Margin (dB)	Comments
.1758	58.16	55.54	64.68	-9.14	32.09	54.68	-22.59	
.2374	50.66	46.83	62.19	-15.36	27.44	52.19	-24.75	
.3960	44.96	43.42	57.94	-14.52	26.86	47.94	-21.08	
.5025	46.54	41.02	56.00	-14.98	25.58	46.00	-20.42	
.5531	46.36	43.87	56.00	-12.13	30.21	46.00	-15.79	
.7265	45.45	39.66	56.00	-16.34	26.70	46.00	-19.30	
.7923	47.70	43.80	56.00	-12.20	20.61	46.00	-25.39	
.8770	47.72	43.61	56.00	-12.39	20.24	46.00	-25.76	
.9151	49.64	47.26	56.00	-8.74	29.34	46.00	-16.66	
.9311	50.11	47.12	56.00	-8.88	30.86	46.00	-15.14	
2.2828	53.63	49.80	56.00	-6.20	32.49	46.00	-13.51	
3.9465	47.62	42.98	56.00	-13.02	26.80	46.00	-19.20	
4.9029	42.09	39.92	56.00	-16.08	25.26	46.00	-20.74	
6.0164	42.20	39.68	60.00	-20.32	25.36	50.00	-24.64	
9.4016	36.31	30.95	60.00	-29.05	18.36	50.00	-31.64	
14.5878	31.58	26.51	60.00	-33.49	13.98	50.00	-36.02	
19.0604	30.64	25.04	60.00	-34.96	12.84	50.00	-37.16	
22.5809	27.66	22.58	60.00	-37.42	12.89	50.00	-37.11	
25.8761	28.62	24.69	60.00	-35.31	15.41	50.00	-34.59	
29.6370	22.95	17.50	60.00	-42.50	6.91	50.00	-43.09	

8. Test Site Description

Compliance Worldwide is located at 357 Main Street in Sandown, New Hampshire. The test sites at Compliance Worldwide are used for conducted and radiated emissions testing in accordance with Federal Communications Commission (FCC) and Industry Canada standards. A description of the test sites is on file with the FCC (registration number **96392**) and Industry Canada (file number **IC 3023A-1**).

The radiated emissions test site is a 3 and 10 meter enclosed open area test site (OATS). Personnel, support equipment and test equipment are located in the basement beneath the OATS ground plane.

The conducted emissions site is part of a 16' x 20' x 12' ferrite tile chamber and uses one of the walls for the vertical ground plane required by EN 55022.

Both sites are designed to test products or systems 1.5 meter W x 1.5 meter L x 2.0 meter H, floor standing or table top.