COMPLIANCE WORLDWIDE INC.
TEST REPORT 252-13R2

In Accordance with the Requirements of

Federal Communications Commission CFR Title 47 Part 15.249, Subpart C
Industry Canada RSS 210, Issue 8

Low Power License-Exempt Radio Communication Devices
Intentional Radiators

Issued to

Fishman Transducers
6 Riverside Drive
Andover, MA 01810

for the

Triple Play Wireless Guitar USB Receiver

FCC ID: RMU-494000220
IC: 10812A-494000220

Report Issued on April 18, 2013
Revised Report Issued on May 16, 2013

Tested by

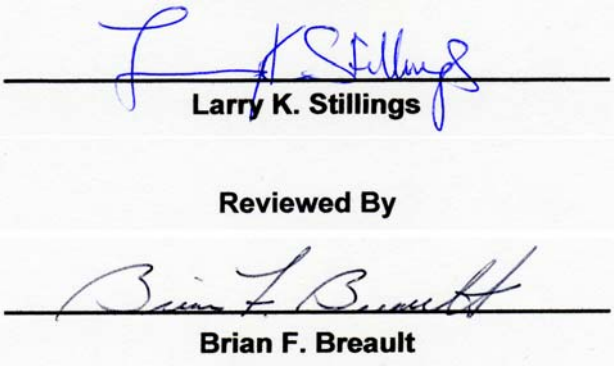

Table of Contents

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1. Scope

This test report certifies that the Fishman Transducers Triple Play Wireless Guitar Controller USB receiver, as tested, meets the FCC Part 15, Subpart C and Industry Canada RSS 210, Issue 8 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. Revision R1 – Corrected the margin values on page 9. Revision R2 removes EMC modifications from this page, as these modifications were implemented prior to receiving the tested sample.

2. Product Details

2.1. Manufacturer:	Fishman Transducers
2.2. Model Number:	PRO-TRP-301 Triple Play Wireless USB Receiver, Part # 494-000-220
2.3. Serial Number:	N/A
2.4. Description:	Wireless Guitar MIDI Controller USB Receiver (transceiver) Note: The Wireless USB Receiver (transceiver) employs the identical circuit topology and board design as the Wireless Guitar Controller. The USB receiver (transceiver) utilizes a Listen Before Talk (LBT) protocol in order to receive data from the Wireless Guitar MIDI Controller.
2.5. Power Source:	5 Volts DC - USB Port
2.6. Hardware Revs.:	3.0
2.7. Software Rev.:	N/A
2.8. EMC Modifications:	None

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3. Product Configuration

3.1. Support Equipment

Device	Manufacturer	Model	Serial No.
Laptop	Dell	Lattitude D620	16211603485
Laptop Power Adapter	Dell	LA90PS0-00	CN0-0DF266-71615-65J-C2D6

3.2. Cables

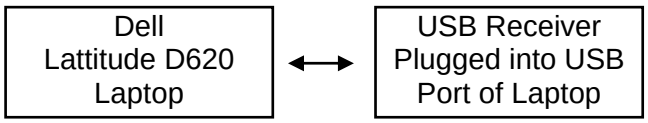
Cable Type	Length	Shield	From	To
None				

3.3. Operational Characteristics & Software

For fixed transmit frequency operation:

1. Press the button on top of the Wireless USB Receiver. While holding the button down, plug it into the USB port of the lap.
2. Using the Microchip USB HID Bootloader v2.6a software installed on the desktop of the laptop, press the Open Hex File command button and select the channel to be loaded into the Wireless USB Receiver.
3. From the same program, press the Program/Verify command button. The hex data will download to the Wireless USB Receiver. The program will update the progress and tell you when the download is complete.
4. Unplug the Wireless USB Receiver from the USB port and plug it back in. The LED in the center of the button on the Wireless USB Receiver will blink to indicate that the unit is transmitting.

3.4. Block Diagram



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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	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	ComPower	AH-840	03075	8/27/2014
2.4 GHz BP Filter	Micro-Tronics	BRM50702	14	2/27/2013
Digital Barometer	Extech Instruments	SD700	Q590483	5/1/2013

4.2. Measurement & Equipment Setup

Test Dates:	4/10/2013 – 4/17/2013
Test Engineer:	Brian Breault
Normal Site Temperature (15 - 35°C):	22.4
Relative Humidity (20 -75%RH):	32
Frequency Range:	10 kHz to 25 GHz
Measurement Distance:	3 Meters
EMI Receiver IF Bandwidth:	200 Hz – 10 kHz – 150 kHz 9 kHz – 150 kHz – 30 MHz 120 kHz - 30 MHz to 1 GHz 1 MHz - Above 1 GHz
EMI Receiver Avg/Video Bandwidth:	300 Hz – 10 kHz – 150 kHz 30 kHz – 150 kHz – 30 MHz 300 kHz - 30 MHz to 1 GHz 3 MHz - Above 1 GHz
Detector Function:	Peak, Quasi-Peak & Average

4.3. Measurement Procedure

Test measurements were made in accordance FCC Part 15.249, IC RSS-210 Annex II: Operation within the bands 902 - 928 MHz, 2400 - 2483.5 MHz, 5725 - 5875 MHz, and 24.0 - 24.25 GHz.

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

4.4. Choice of Operating Frequencies

The Fishman Transducers Triple Play Wireless Guitar Controller USB Receiver uses 77 channels from 2404 to 2480 MHz spaced 1 MHz apart.

Three channels are detailed in this test report:

- Low Channel – 2404 MHz
- Middle Channel – 2441 MHz
- High Channel – 2480 MHz

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5. Measurement Summary

Test Requirement	FCC Requirement	IC Requirement	Test Section	Result	Comment
Antenna Requirement	15.203	RSS-GEN 7.1.2	6.1	Compliant	Unit has internal PCB mount antenna.
Radiated Field Strength of Fundamental	15.249 (a),(c)	RSS-210 A2.9	6.2	Compliant	
Radiated Field Strength of Harmonics	15.249 (a),(c)	RSS-210 A2.9	6.3	Compliant	
Fixed, Point-to-Point Operation	15.249 (b)	N/A	---	Not Required	
Band Edge Measurements	15.249 (d) 15.209	RSS GEN 4.9	6.4	Compliant	
Spurious Radiated Emissions	15.249 (d), 15.209	RSS-210 A2.9(b)	6.5	Compliant	
Occupied Bandwidth 26 dB & 99% Power Bandwidth	ANSI C63.4 § 13.1.7	RSS-GEN 4.6.1	6.6	Compliant	
Conducted Emissions	15.207	RSS-GEN 7.2.2	6.7	Compliant	

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6. Measurement Data

6.1. Antenna Requirement (Section 15.203, RSS-GEN)

Requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section.

Result: The unit under test employs a permanent, internal, PCB mounted, non-user accessible antenna.

6.2. Radiated Field Strength of Fundamental (15.249, Section (a), (c)), IC RSS-210 A2.9

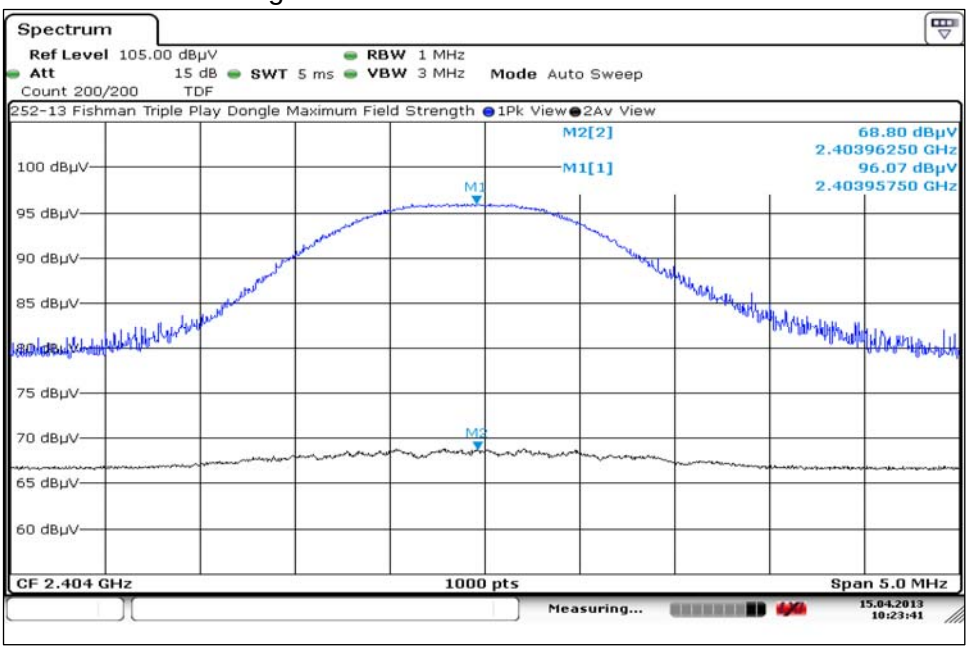
Requirement: The 3 meter field strength of the fundamental emissions from intentional radiators operated within the 2400 – 2483.5 MHz frequency band shall comply with the following requirement: 50 millivolts/meter (94 dBµV/m) average mode measurement, (114 dBµV/m) peak mode measurement.

Result: Compliant.

Frequency (MHz)	Amplitude[1] (dBµV/m) at 3 Meters		Limit (dBµV/m) at 3 Meters		Margin (dBµV/m) at 3 Meters		Ant Polarity	Ant Height	Turntable Azimuth	Result
	Peak	Average	Peak	Average	Peak	Average	H/V	cm	Deg	
2404.0	96.07	68.80	114.00	94.00	-17.93	-25.20	H	104	262	Compliant
2441.0	100.52	69.55	114.00	94.00	-13.48	-24.45	H	100	249	Compliant
2480.0	103.93	70.00	114.00	94.00	-10.07	-24.00	H	100	262	Compliant

[1] All correction factors are included in measurement values

6.2.1. Radiated Field Strength of Fundamental – Low Channel



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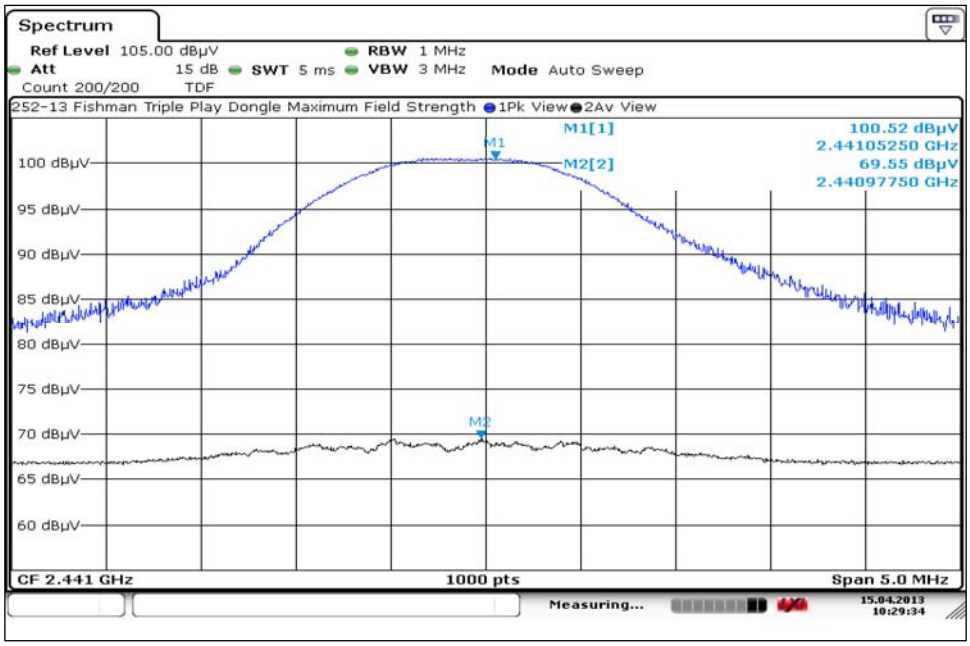
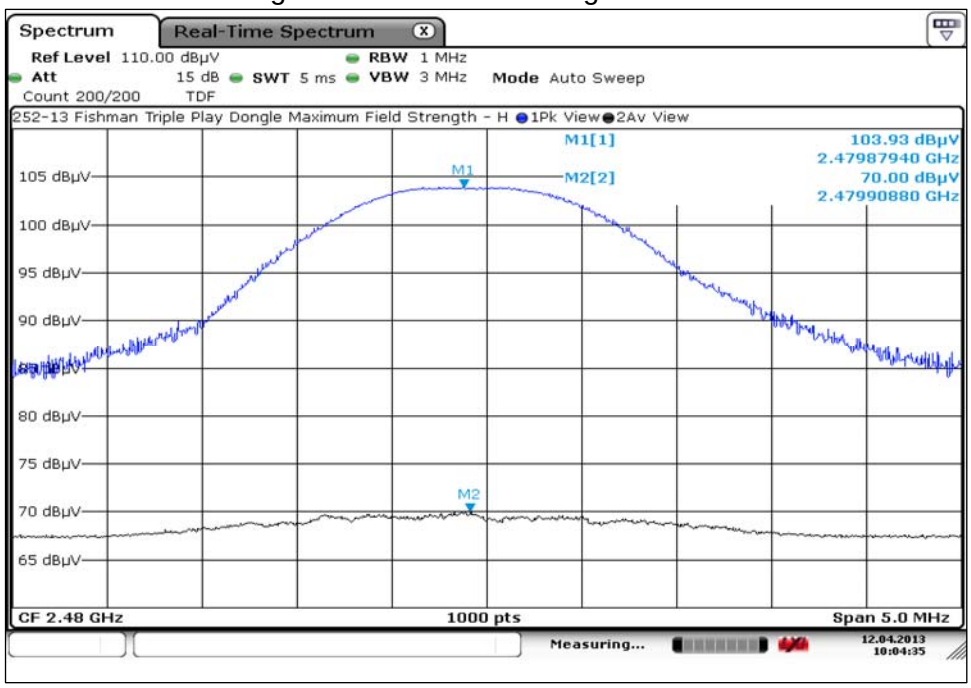
6. Measurement Data (continued)

6.2. Radiated Field Strength of Fundamental (15.249, Section (a)), IC RSS-210 A2.9

6.2.2. Radiated Field Strength of Fundamental – Middle Channel



6.2.3. Radiated Field Strength of Fundamental – High Channel



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6. Measurement Data (continued)

6.3. Radiated Field Strength of Harmonics (15.249, Section (a)), IC RSS-210 A2.9

Requirement: The 3 meter field strength of the harmonic emissions from intentional radiators operated within the 2400 to 2483.5 MHz frequency bands shall comply with the following: 500 microvolts/meter (54 dBµV/m), average mode measurement. Peak field strength may not be greater than 20 dB above the average limit (74 dBµV/m).

Result: Compliant

Test Note: The harmonic emissions detailed in this section represent the combined worst case emissions of the low, middle and high operating frequencies. Each tabled emission represents the worst case polarity for the specific harmonic frequency. All correction factors are included in the field strength values.

Frequency (MHz)	Field Strength (dBµV/m)		Limit (dBµV/m)		Margin (dB)		Antenna Polarity (H/V)
	Peak	Average	Peak	Average	Peak	Average	
4808	53.25	38.61	74.00	54.00	-18.85	-14.90	V
4882	55.15	39.10	74.00	54.00	-14.79	-12.55	V
4960	59.21	41.45	74.00	54.00	-15.44	-8.41	V
7212	58.56	45.59	74.00	54.00	-14.55	-8.53	V
7323	59.45	45.47	74.00	54.00	-14.15	-8.25	H
7440	59.85	45.75	74.00	54.00	-12.84	-6.29	H
9616	61.17	47.71	74.00	54.00	-12.00	-6.21	H
9764	62.00	47.79	74.00	54.00	-11.40	-5.58	H
9920	62.60	48.42	74.00	54.00	-9.56	-3.42	H
12020	64.44	50.58	74.00	54.00	-8.77	-2.81	H
12205	65.23	51.19	74.00	54.00	-8.08	-2.14	H
12400	65.92	51.86	74.00	54.00	-14.59	-8.00	V
14424	59.41	46.00	74.00	54.00	-14.56	-8.12	H
14646	59.44	45.88	74.00	54.00	-13.75	-7.22	H
14880	60.25	46.78	74.00	54.00	-11.95	-5.38	H
16828	62.05	48.62	74.00	54.00	-10.91	-5.26	H
17087	63.09	48.74	74.00	54.00	-11.00	-4.39	H
17360	63.00	49.61	74.00	54.00	-16.66	-9.92	H
19232	57.34	44.08	74.00	54.00	-17.16	-10.36	H
19528	56.84	43.64	74.00	54.00	-17.60	-11.19	H
19840	56.40	42.81	74.00	54.00	-15.08	-8.83	H
21636	58.92	45.17	74.00	54.00	-13.92	-8.49	H
21969	60.08	45.51	74.00	54.00	-13.42	-7.08	H
22320	60.58	46.92	74.00	54.00	-11.39	-4.97	V
24040	62.61	49.03	74.00	54.00	-12.02	-5.41	H
24410	61.98	48.59	74.00	54.00	-10.51	-4.43	H
24800	63.49	49.57	74.00	54.00	-18.85	-14.90	H

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6. Measurement Data (continued)

6.4. Band Edge Measurements

Requirement: Emissions radiated outside of the specified frequency band of 2400 to 2483.5 MHz, except for harmonics, shall be 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.

Test Note: For the band edge measurements, the procedure detailed in the FCC Office of Engineering and Technology (FCC OET) Publication Number 913591 was used in determining the measurement results.

Measurement Results – Lower Band Edge and Out of Band (OOB)

FCC OET Publication Number KDB 913591 Calculator

Lowest Channel Frequency (MHz)	Lowest Channel Field Strength (dBµV/m)		Band Edge & W/C Out of Band Calculator		Corrected Band Edge & Worst Case Out of Band (dBµV/m)	
			Freq. (MHz)	50 kHz BW Offset (dB)[2]		
	Peak[1]	Average[1]			Peak	Average
2404	107.30	80.94	2400.00	49.83	46.24	18.97
			2399.66	49.14	46.93	19.66

Lower Band Edge Measurement Data

Lowest Channel Frequency	Field Strength (dBµV/m)		Band Edge & OOB Frequency	Field Strength (dBµV/m)		Limit (dBµV/m)		Margin (dB)		Result
(MHz)	Peak	Average	(MHz)	Peak	Average	Peak	Average	Peak	Average	
2404	107.30	80.94	2400.00	46.24	18.97	74	54	-27.76	-35.03	Compliant
			2399.66	46.93	19.66	74	54	-27.07	-34.34	Compliant

Measurement Results – Upper Band Edge and Out of Band (OOB)

FCC OET Publication Number KDB 913591 Calculator

Highest Channel Frequency (MHz)	Highest Channel Field Strength (dBµV/m)		Band Edge & W/C Out of Band Calculator		Corrected Band Edge & Worst Case Out of Band (dBµV/m)	
			Freq. (MHz)	50 kHz BW Offset (dB)[2]		
	Peak[1]	Average[1]			Peak	Average
2480	103.93	70	2483.50	48.84	55.09	21.16
			2363.88	49.37	54.56	20.63

Upper Band Edge Measurement Data

Highest Channel Frequency	Field Strength (dBµV/m)		Band Edge & OOB Frequency	Field Strength (dBµV/m)		Limit (dBµV/m)		Margin (dB)		Result
(MHz)	Peak	Average	(MHz)	Peak	Average	Peak	Average	Peak	Average	
2480	103.93	70.00	2483.50	55.09	21.16	74	54	-18.91	-32.84	Compliant
			2483.77	54.56	20.63	74	54	-19.04	-33.37	Compliant

Notes: 1 – Taken from the table in section 6.2
2 – Delta values from plot in 6.4
Delta values are subtracted from the peak & average values

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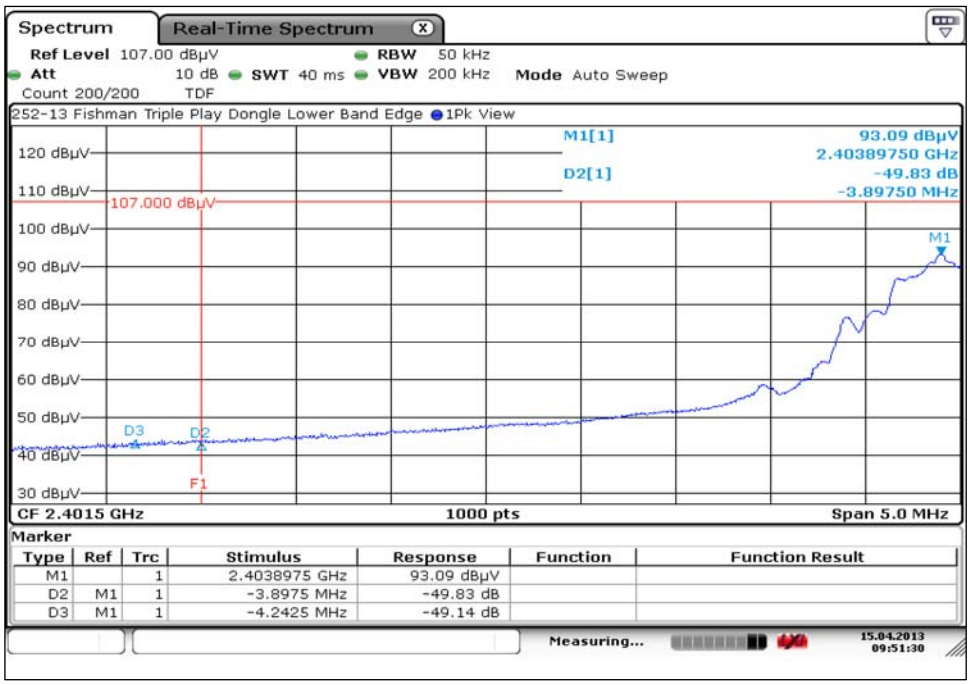
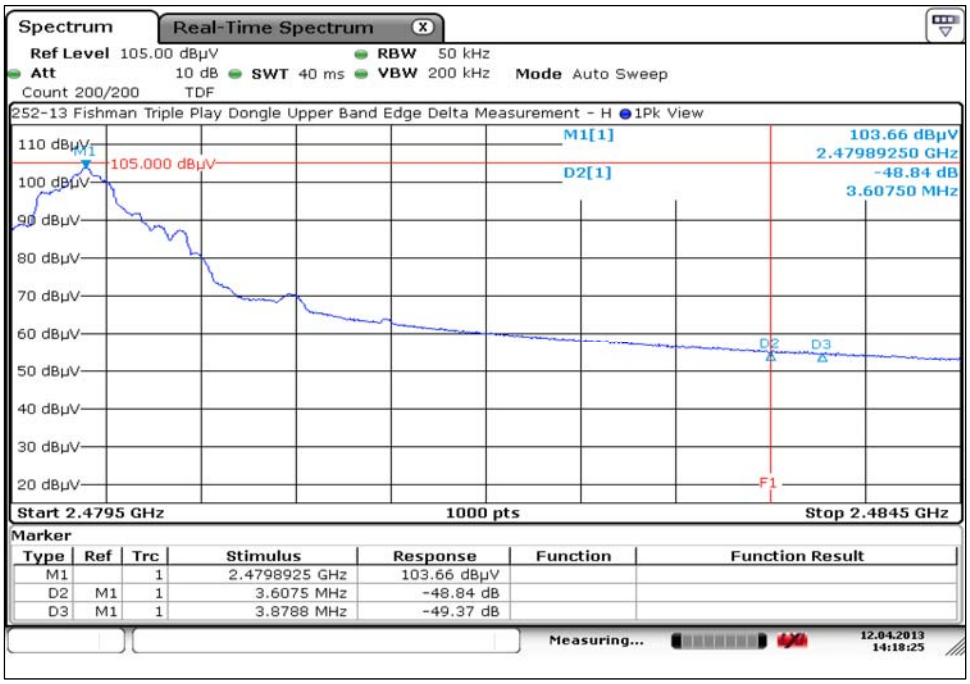
6. Measurement Data (continued)

6.4. Band Edge Measurements (continued)

6.4.1. Lower Band Edge Measurement Offset



6.4.2. Upper Band Edge Measurement Offset



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6. Measurement Data (continued)

6.5. Spurious Radiated Emissions, 10 kHz to EUT 10th Harmonic (15.249, Section (d)), IC RSS-GEN

Requirement: Emissions radiated outside of the specified frequency bands, except for harmonics, shall be 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.

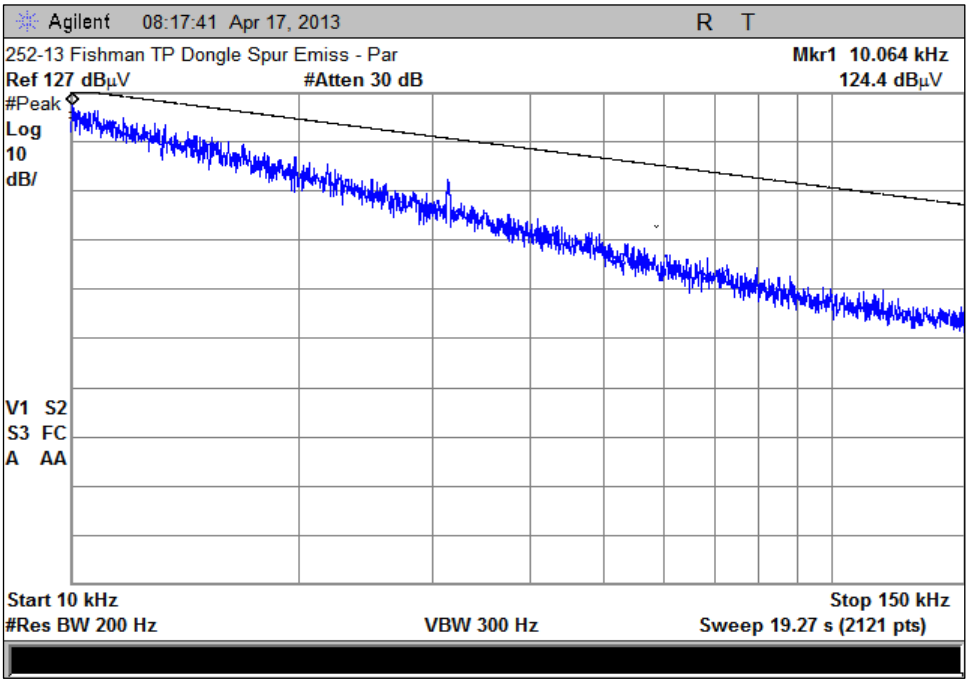
Test Note: The spurious emissions detailed in this section represent the combined worst case emissions of the low, middle and high operating frequencies.

Regulatory Limit: FCC Part 209, Quasi-Peak & Average

Frequency Range (MHz)	Distance (Meters)	Limit (dBµV/m)
0.009 to 0.490	3	108.5 to 73.8
0.490 to 1.705	3	73.8 to 62.9
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
Above 960	3	54.0

6.5.1. Spurious Radiated Emissions (10 kHz to 150 kHz) Test Results

6.5.1.1. Measurement Results – Parallel



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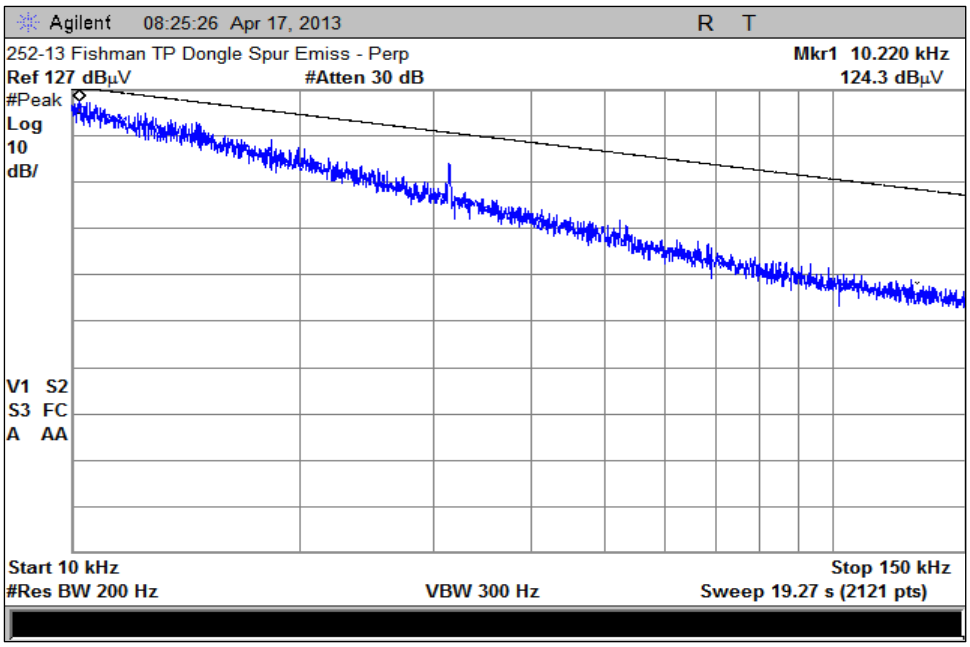
6. Measurement Data (continued)

6.5. Spurious Radiated Emissions (10 kHz to 25 GHz) (continued)

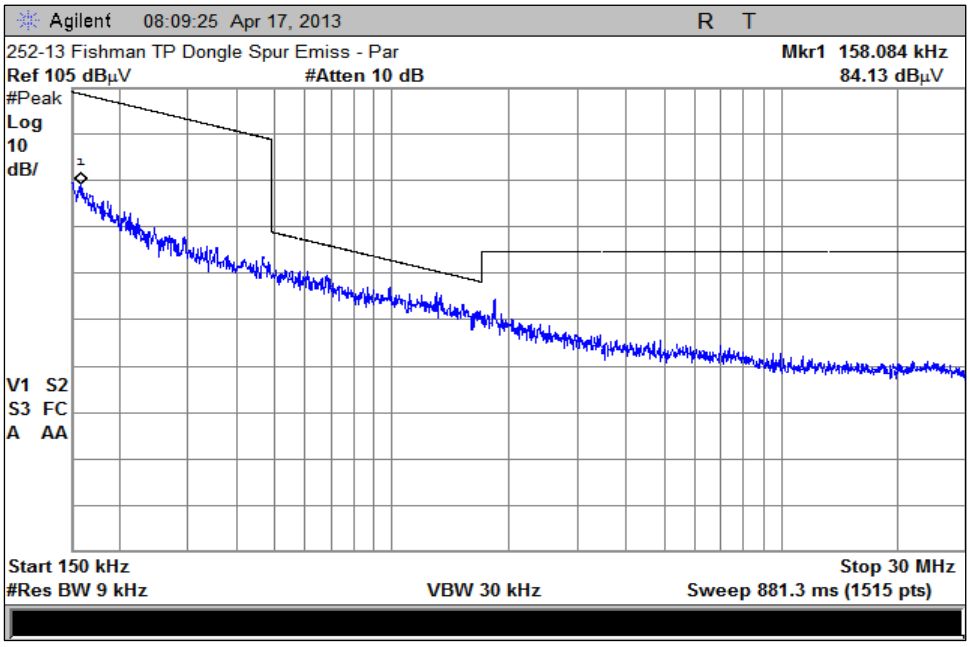
6.5.1. Spurious Radiated Emissions (10 kHz to 150 kHz) Test Results

6.5.1.2. Measurement Results – Perpendicular



6.5.2. Spurious Radiated Emissions (150 kHz to 30 MHz) Test Results

6.5.2.1. Measurement Results – Parallel



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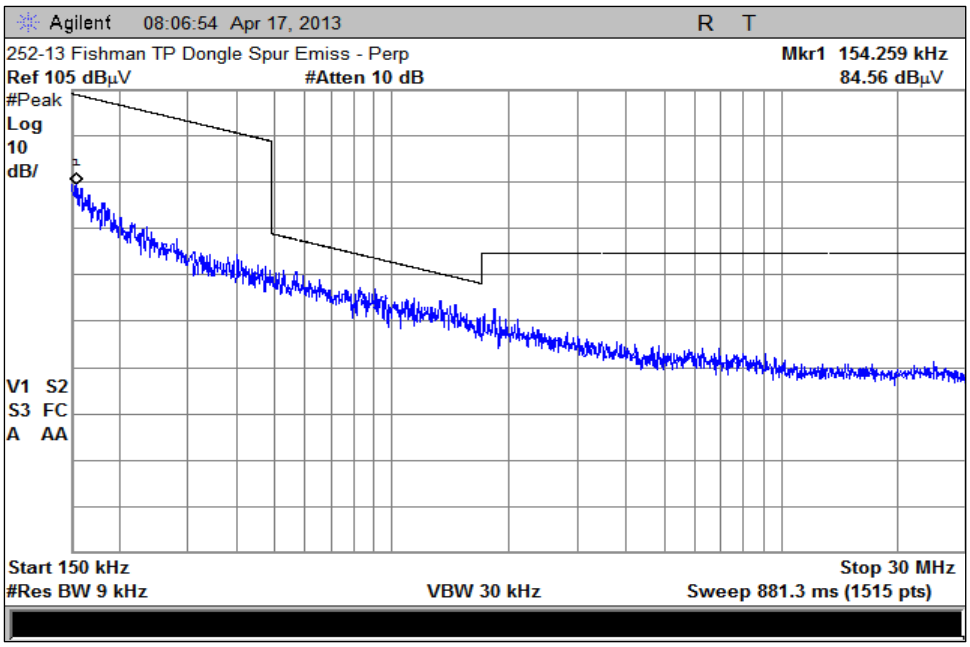
6. Measurement Data (continued)

6.5. Spurious Radiated Emissions (10 kHz to 25 GHz) (continued)

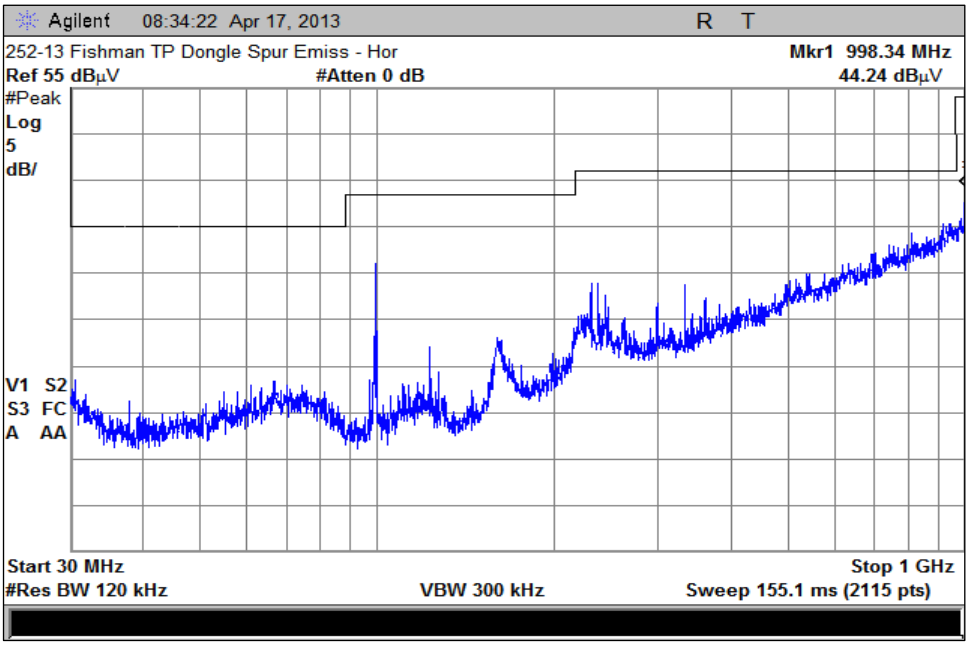
6.5.2. Spurious Radiated Emissions (150 kHz to 30 MHz) Test Results

6.5.2.2. Measurement Results – Perpendicular



6.5.3. Spurious Radiated Emissions (30 MHz to 1 GHz) Test Results

6.5.3.1. Measurement Results – Horizontal



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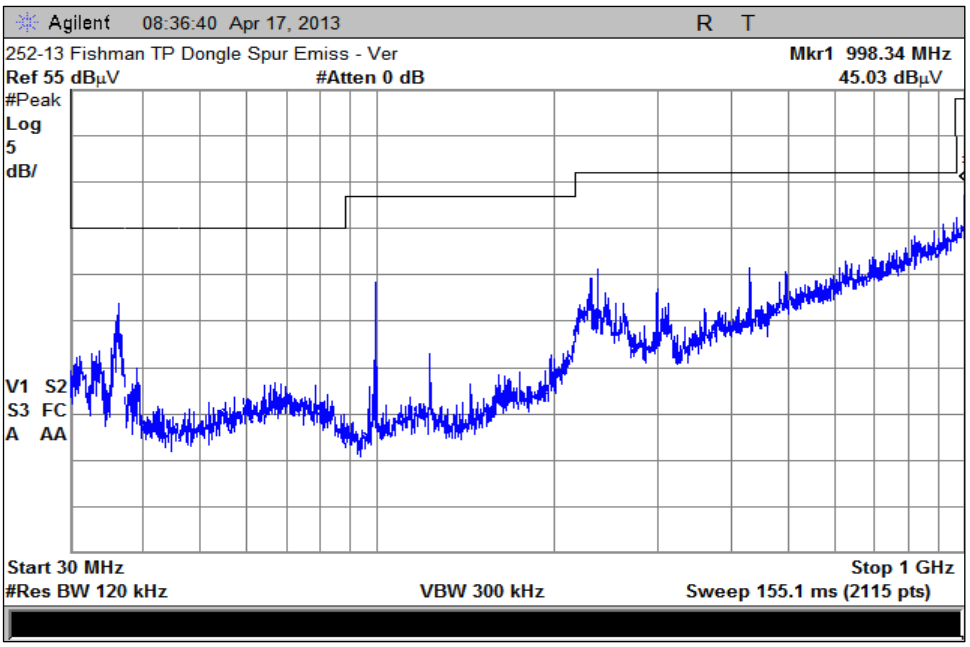
6. Measurement Data (continued)

6.5. Spurious Radiated Emissions (10 kHz to 25 GHz) (continued)

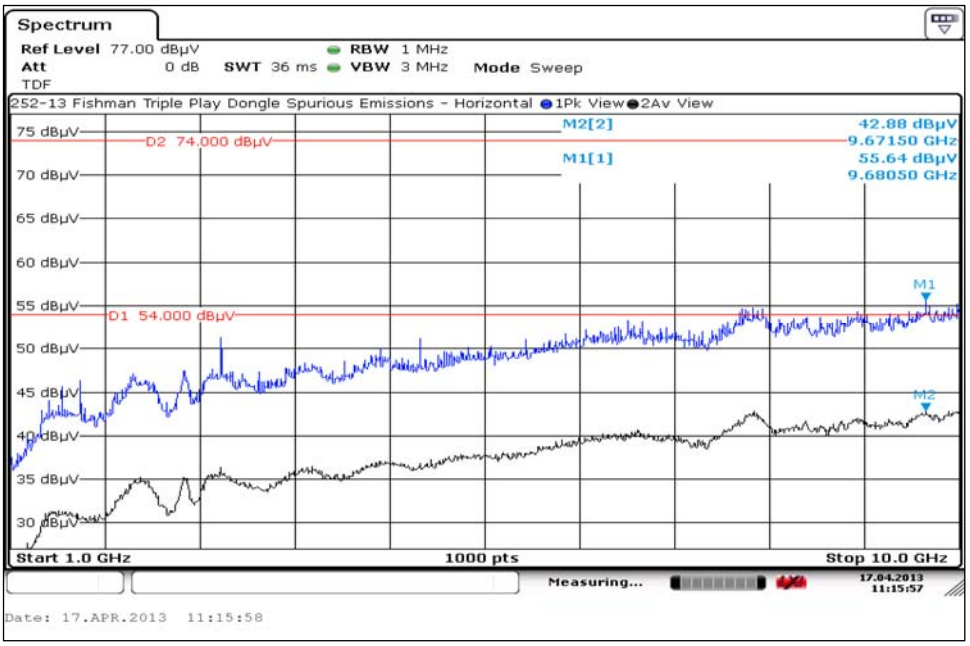
6.5.3. Spurious Radiated Emissions (30 MHz to 1 GHz) Test Results

6.5.3.2. Measurement Results – Vertical



6.5.4. Spurious Radiated Emissions (1 GHz to 10 GHz) Test Results

6.5.4.1. Measurement Results – Horizontal



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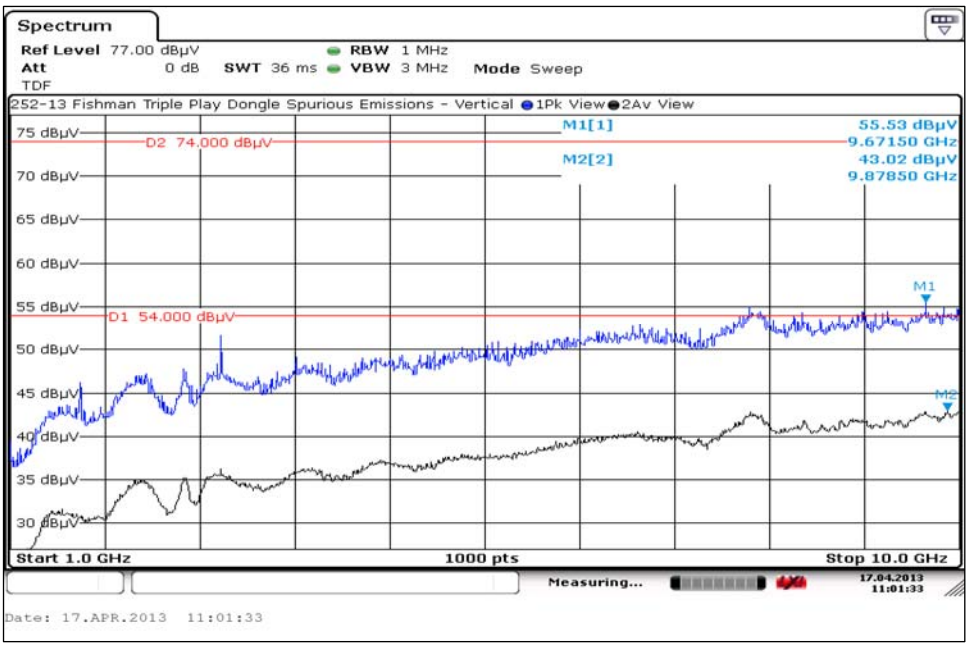
6. Measurement Data (continued)

6.5. Spurious Radiated Emissions (10 kHz to 25 GHz) (continued)

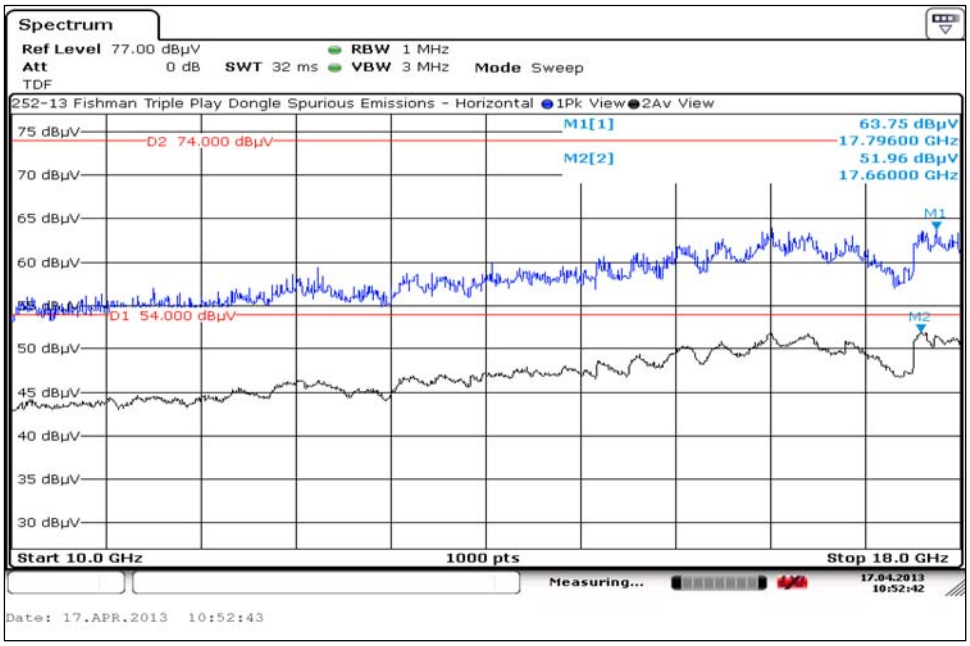
6.5.4. Spurious Radiated Emissions (1 GHz to 10 GHz) Test Results

6.5.4.2. Measurement Results – Vertical



6.5.5. Spurious Radiated Emissions (10 GHz to 18 GHz) Test Results

6.5.5.1. Measurement Results – Horizontal



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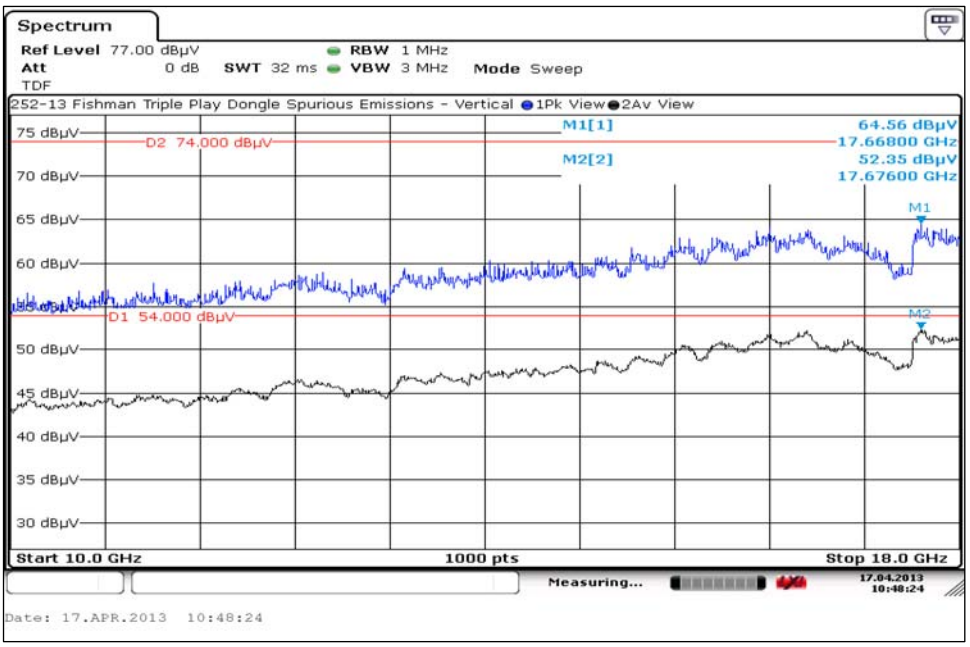
6. Measurement Data (continued)

6.5. Spurious Radiated Emissions (10 kHz to 25 GHz) (continued)

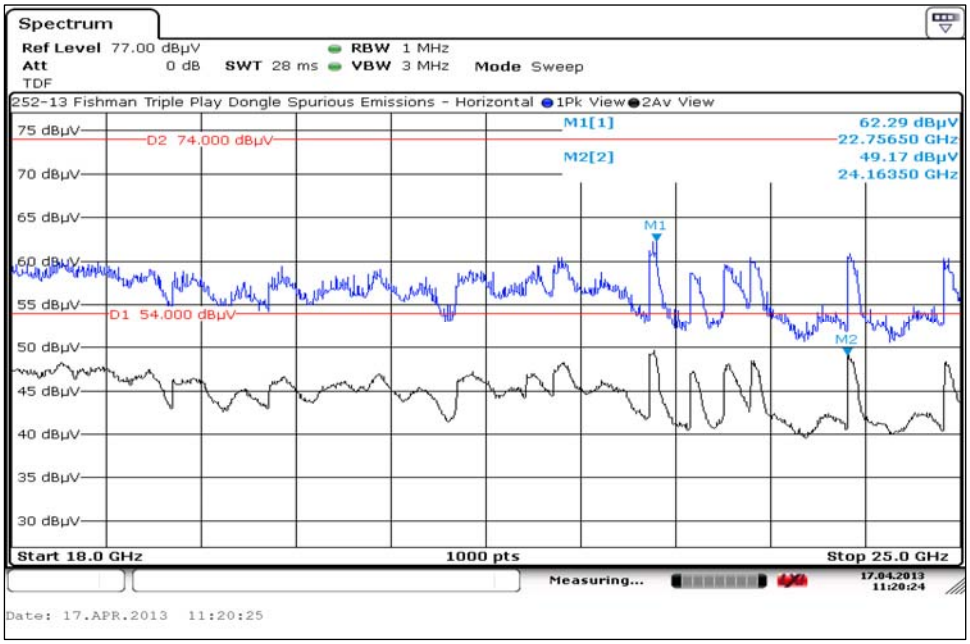
6.5.5. Spurious Radiated Emissions (10 GHz to 18 GHz) Test Results

6.5.5.2. Measurement Results – Vertical



6.5.6. Spurious Radiated Emissions (18 GHz to 25 GHz) Test Results

6.5.6.1. Measurement Results – Horizontal



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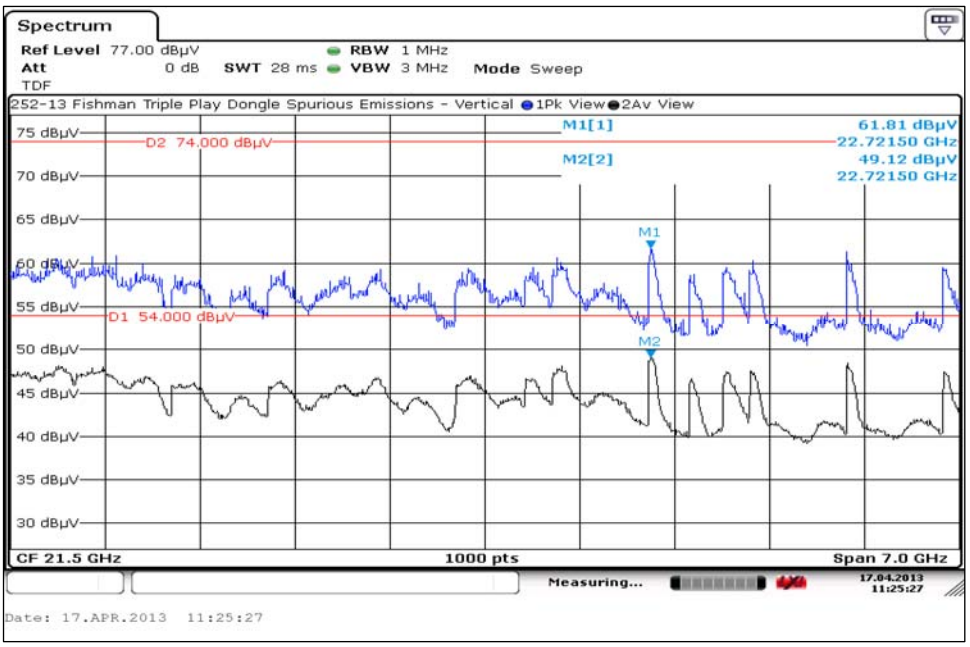
6. Measurement Data (continued)

6.5. Spurious Radiated Emissions (10 kHz to 25 GHz) (continued)

6.5.6. Spurious Radiated Emissions (18 GHz to 25 GHz) Test Results

6.5.6.2. Measurement Results – Vertical



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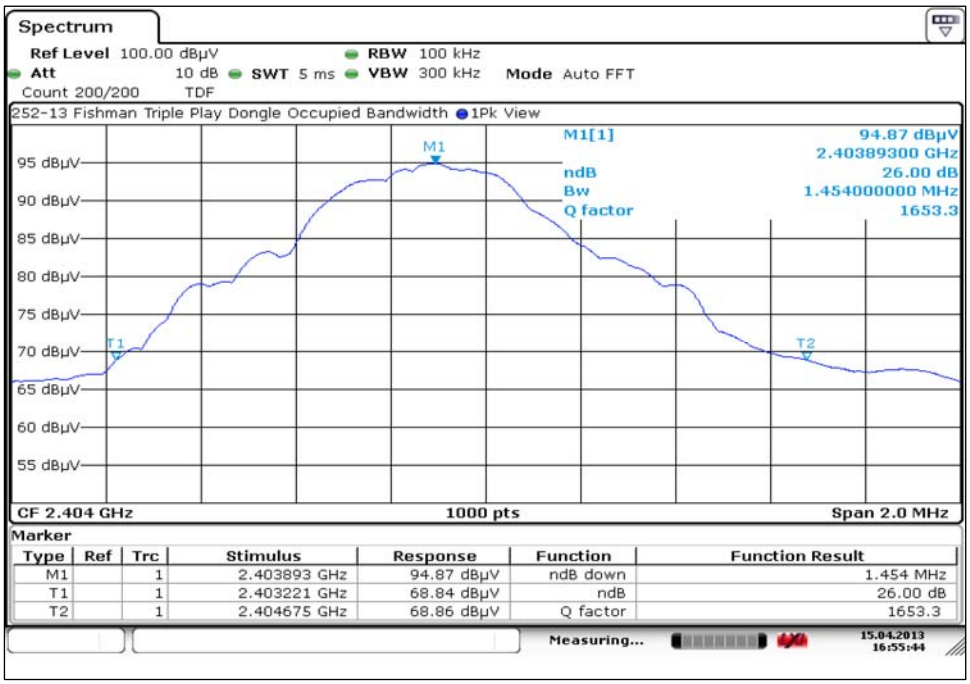
6. Measurement Data (continued)

6.6 Occupied Bandwidth & 99% Power Bandwidth (ANSI C63.4, Section 13.1.7 & IC RSS-GEN)

Requirement: The occupied bandwidth measurements on an intentional radiator shall be made in accordance with the requirements outlined in ANSI C63.4-2003, Section 13.1.7. If no bandwidth requirement is specified by the procuring or regulatory agency, measure the bandwidth at –26 dB with respect to the reference level.

Channel	Frequency (MHz)	-26 dB Bandwidth (MHz)	99% Power Bandwidth (MHz)	Result
Low	2404	1.454	1.2340	Compliant
Middle	2441	1.426	1.0880	Compliant
High	2480	1.548	1.1120	Compliant

6.6.1. Occupied Bandwidth – Low Frequency



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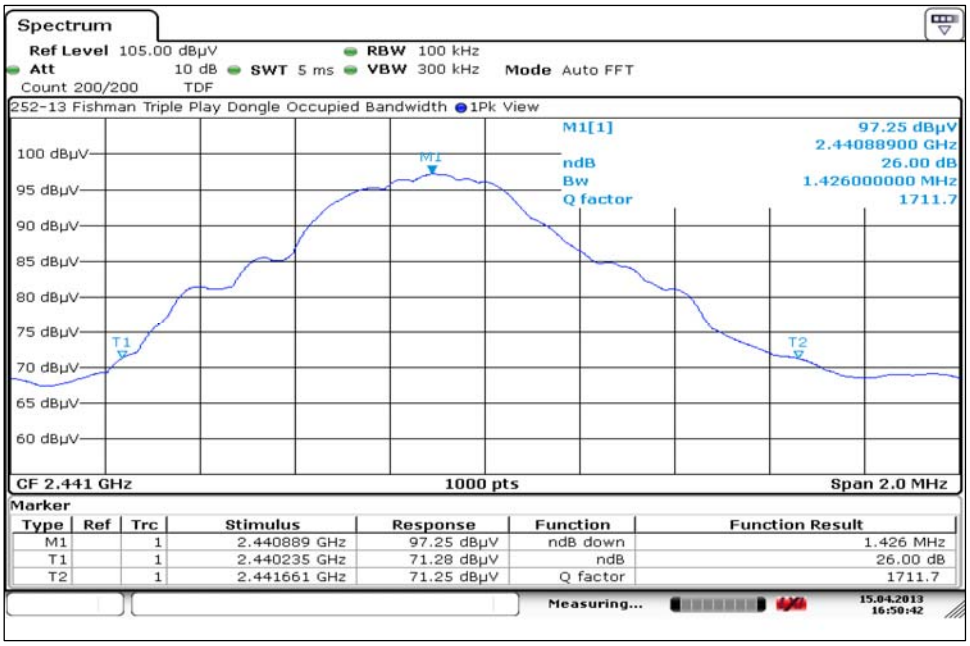
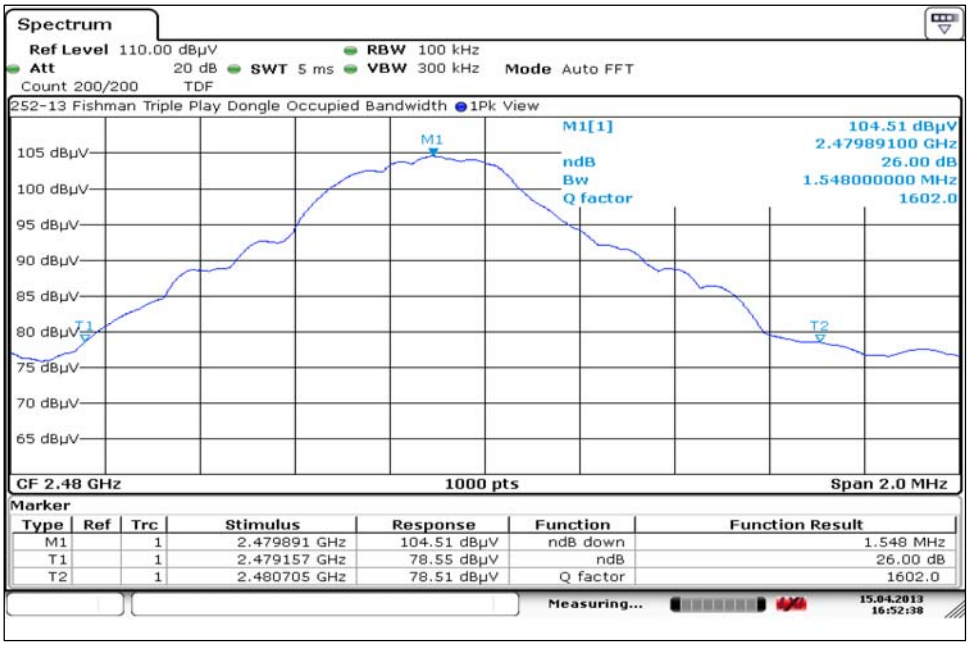
6. Measurement Data (continued)

6.6 Occupied Bandwidth & 99% Power Bandwidth (ANSI C63.4, Section 13.1.7 & IC RSS-GEN)

6.6.2. Occupied Bandwidth – Middle Frequency



6.6.3. Occupied Bandwidth – High Frequency



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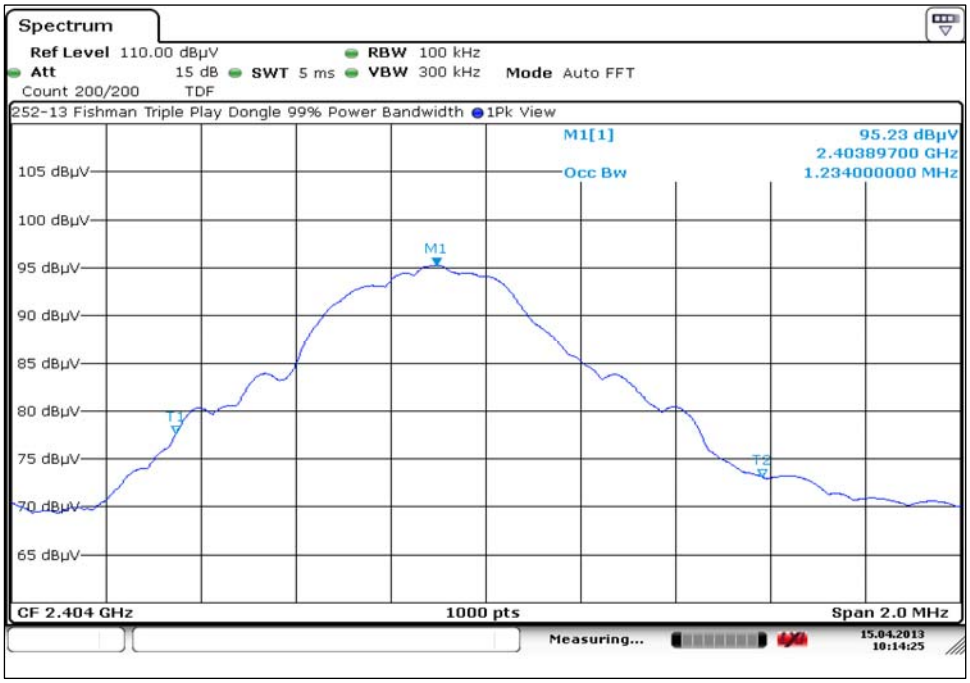
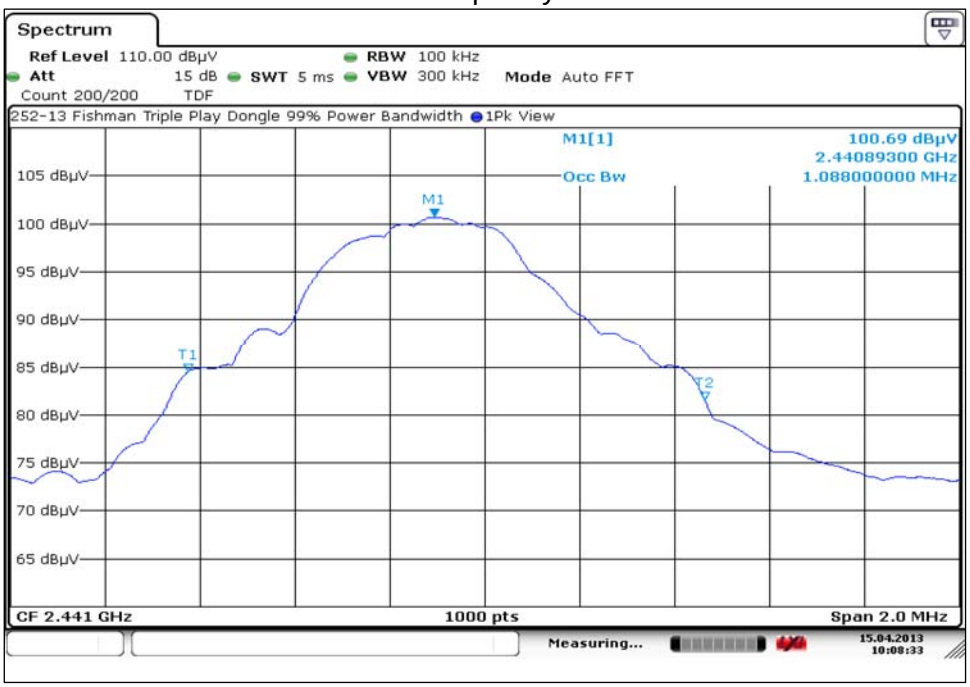
6. Measurement Data (continued)

6.6 Occupied Bandwidth & 99% Power Bandwidth (ANSI C63.4, Section 13.1.7 & IC RSS-GEN)

6.6.4. 99% Power Bandwidth – Low Frequency



6.6.5. 99% Power Bandwidth – Middle Frequency



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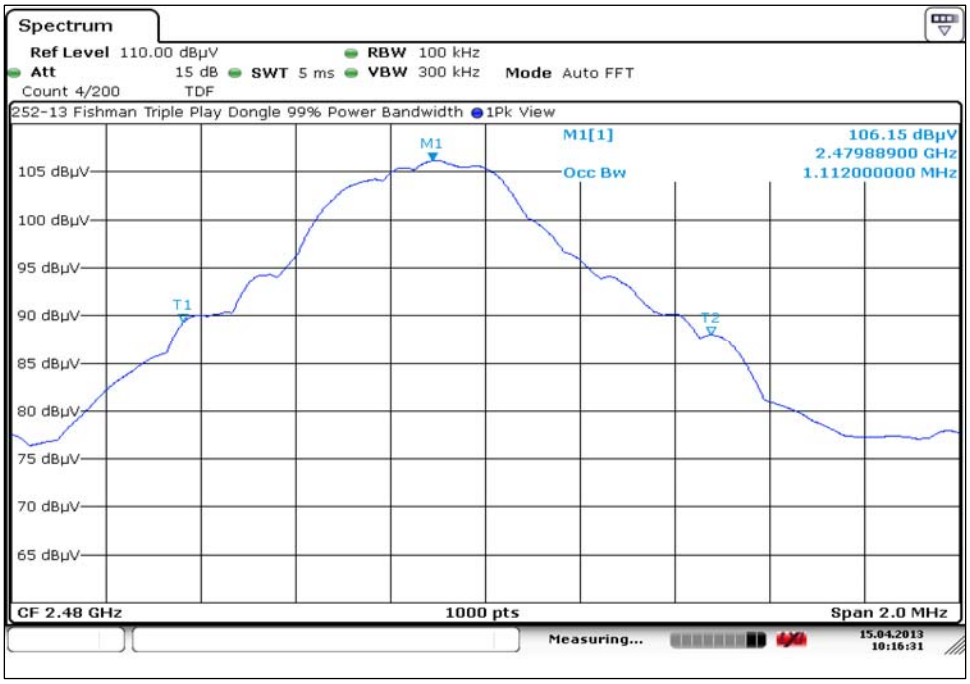
6. Measurement Data (continued)

6.6 Occupied Bandwidth & 99% Power Bandwidth (ANSI C63.4, Section 13.1.7 & IC RSS-GEN)

6.6.6. 99% Power Bandwidth – High Frequency



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6. Measurement Data (continued)

6.7. Conducted Emissions (15.207)

6.7.1. 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.		

6.7.2. 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

6.7.3. Measurement & Equipment Setup

Test Date:	04/17/2013
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

6.7.4. Test Procedure

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

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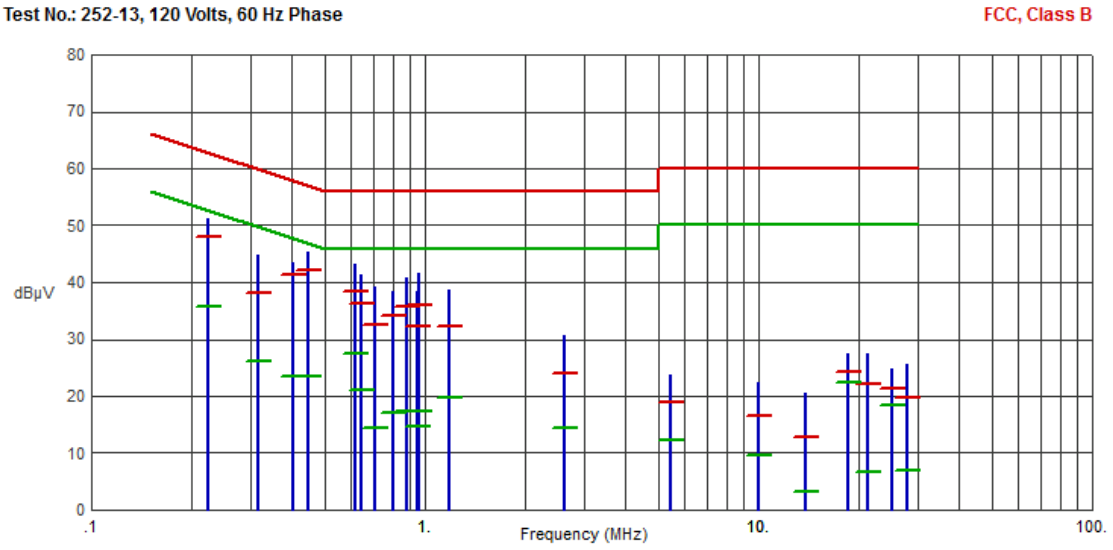
6. Measurement Data (continued)

6.7. Conducted Emissions (15.207) (cont.)

6.7.5. 120 Volts, 60 Hz 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
.2246	51.29	47.96	62.65	-14.69	35.78	52.65	-16.87	
.3150	44.81	38.16	59.84	-21.68	26.01	49.84	-23.83	
.4004	43.54	41.22	57.85	-16.63	23.52	47.85	-24.33	
.4447	45.27	42.08	56.97	-14.89	23.34	46.97	-23.63	
.6155	43.31	38.32	56.00	-17.68	27.36	46.00	-18.64	
.6452	41.26	36.23	56.00	-19.77	21.19	46.00	-24.81	
.7049	39.22	32.56	56.00	-23.44	14.36	46.00	-31.64	
.8060	38.46	34.25	56.00	-21.75	17.16	46.00	-28.84	
.8863	40.78	35.69	56.00	-20.31	17.27	46.00	-28.73	
.9509	38.41	32.36	56.00	-23.64	14.74	46.00	-31.26	
.9543	41.57	36.00	56.00	-20.00	17.41	46.00	-28.59	
1.1832	38.76	32.32	56.00	-23.68	19.85	46.00	-26.15	
2.6313	30.61	24.11	56.00	-31.89	14.38	46.00	-31.62	
5.4247	23.71	18.81	60.00	-41.19	12.17	50.00	-37.83	
10.0106	22.49	16.50	60.00	-43.50	9.60	50.00	-40.40	
13.8060	20.65	12.72	60.00	-47.28	3.12	50.00	-46.88	
18.5010	27.55	24.32	60.00	-35.68	22.40	50.00	-27.60	
21.1566	27.47	22.08	60.00	-37.92	6.74	50.00	-43.26	
25.1105	24.84	21.43	60.00	-38.57	18.47	50.00	-31.53	
27.7683	25.64	19.71	60.00	-40.29	6.80	50.00	-43.20	

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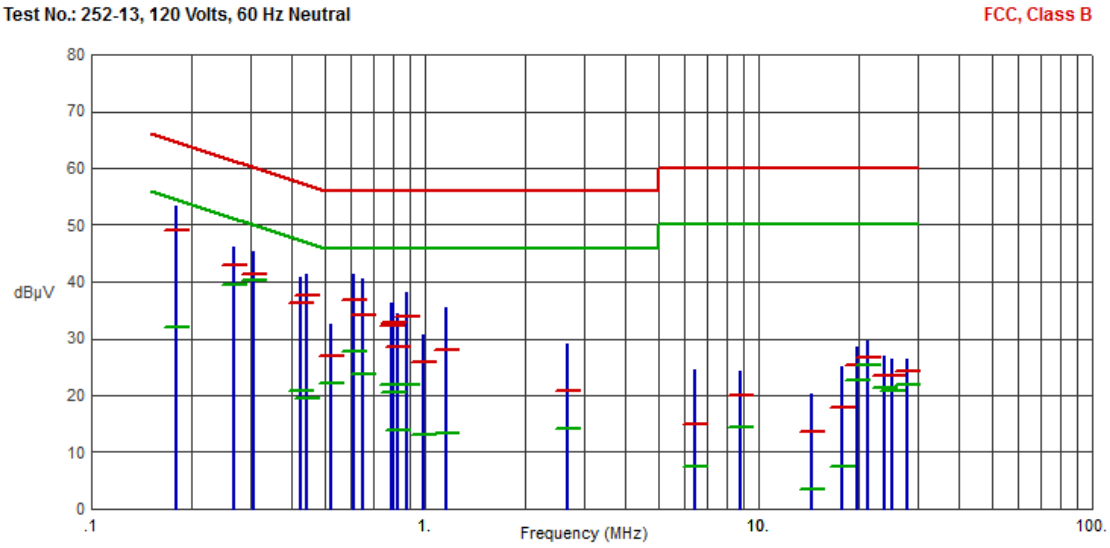
6. Measurement Data (continued)

6.7. Conducted Emissions (15.207)

6.7.6. 120 Volts, 60 Hz 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
.1793	53.21	48.96	64.52	-15.56	31.89	54.52	-22.63	
.2665	46.05	43.02	61.23	-18.21	39.57	51.23	-11.66	
.3061	45.44	41.42	60.08	-18.66	40.27	50.08	-9.81	
.4238	40.85	36.27	57.37	-21.10	20.89	47.37	-26.48	
.4398	41.46	37.65	57.07	-19.42	19.58	47.07	-27.49	
.5248	32.58	26.86	56.00	-29.14	22.18	46.00	-23.82	
.6102	41.21	36.92	56.00	-19.08	27.86	46.00	-18.14	
.6527	40.52	34.13	56.00	-21.87	23.86	46.00	-22.14	
.7949	36.22	32.37	56.00	-23.63	21.75	46.00	-24.25	
.7998	36.36	32.76	56.00	-23.24	20.59	46.00	-25.41	
.8290	34.39	28.53	56.00	-27.47	13.83	46.00	-32.17	
.8815	38.14	33.80	56.00	-22.20	21.77	46.00	-24.23	
.9911	30.78	25.98	56.00	-30.02	13.16	46.00	-32.84	
1.1611	35.34	27.92	56.00	-28.08	13.31	46.00	-32.69	
2.6713	29.04	20.72	56.00	-35.28	14.23	46.00	-31.77	
6.4299	24.45	14.96	60.00	-45.04	7.35	50.00	-42.65	
8.8396	24.26	20.01	60.00	-39.99	14.33	50.00	-35.67	
14.3722	20.21	13.49	60.00	-46.51	3.36	50.00	-46.64	
17.8264	25.19	17.99	60.00	-42.01	7.44	50.00	-42.56	
19.8236	28.46	25.46	60.00	-34.54	22.65	50.00	-27.35	
21.1438	29.50	26.77	60.00	-33.23	25.27	50.00	-24.73	
23.7864	26.85	23.38	60.00	-36.62	21.37	50.00	-28.63	
25.1100	26.36	23.46	60.00	-36.54	20.79	50.00	-29.21	
27.7525	26.42	24.34	60.00	-35.66	21.94	50.00	-28.06	

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7. Test Setup Photographs

7.1. Radiated Emissions Front View Above 1 GHz

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7. Test Setup Photographs

7.2 Radiated Emissions Rear View 18 – 25 GHz

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7. Test Setup Photographs

7.3 Spurious Emissions – Front (10 kHz to 1 GHz)

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7. Test Setup Photographs

7.4. Spurious Emissions – Rear 10 kHz to 30 MHz

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7. Test Setup Photographs

7.5. Spurious Emissions – Rear 30 MHz to 1 GHz

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7. Test Setup Photographs

7.6. Spurious Emissions – Rear >1 GHz

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7. Test Setup Photographs

7.7. Conducted Emissions Front View

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7. Test Setup Photographs

7.8. Conducted Emissions Rear View

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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), Industry Canada, and Voluntary Control Council Interference (VCCI) standards. A description of the test sites is on file with the FCC (registration number 96392), Industry Canada (file number IC 3023A-1), and VCCI (Member number 3168), Registration numbers C-3673, G-167, R-3305 & T-1809.

Compliance Worldwide is also designated as a Phase 1 CAB under APEC-MRA (US0132) for Australia/New Zealand AS/NZS CISPR 22, Chinese-Taipei (Taiwan) BSMI CNS 13438 and Korea (RRA) KN 22.

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 meters W x 1.5 meters L x 2.0 meters H, floor standing or table top.

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