

Motorola Mobility, Inc.

TEST REPORT FOR

DOCSIS 3.0 Wi-Fi Gateway, SBG6580

Tested To The Following Standards:

FCC Part 15 Subpart E Sections 15.407
&
RSS-210 Issue 8

Report No.: 92800-20

Date of issue: March 2, 2012



This test report bears the accreditation symbol indicating that the testing performed herein meets the test and reporting requirements of ISO/IEC 17025 under the applicable scope of EMC testing for CKC Laboratories, Inc.

We strive to create long-term, trust based relationships by providing sound, adaptive, customer first testing services. We embrace each of our customers' unique EMC challenges, not as an interruption to set processes, but rather as the reason we are in business.

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ADMINISTRATIVE INFORMATION

Test Report Information

REPORT PREPARED FOR:

Motorola Mobility, Inc.
6450 Sequence Drive
San Diego, CA 92121

REPRESENTATIVE: Chris Fulmer
Customer Reference Number: MM1084691

DATE OF EQUIPMENT RECEIPT:

DATE(S) OF TESTING:

REPORT PREPARED BY:

Joyce Walker
CKC Laboratories, Inc.
5046 Sierra Pines Drive
Mariposa, CA 95338

Project Number: 92800

February 13, 2012

February 13 - March 1, 2012

Report Authorization

The test data contained in this report documents the observed testing parameters pertaining to and are relevant for only the sample equipment tested in the agreed upon operational mode(s) and configuration(s) as identified herein. Compliance assessment remains the client's responsibility. This report may not be used to claim product endorsement by A2LA or any government agencies. This test report has been authorized for release under quality control from CKC Laboratories, Inc.



Steve Behm
Director of Quality Assurance & Engineering Services
CKC Laboratories, Inc.

Test Facility Information



Our laboratories are configured to effectively test a wide variety of product types. CKC utilizes first class test equipment, anechoic chambers, data acquisition and information services to create accurate, repeatable and affordable test results.

TEST LOCATION(S):
CKC Laboratories, Inc.
110 Olinda Place
Brea, CA 92823

Site Registration & Accreditation Information

Location	CB #	TAIWAN	CANADA	FCC	JAPAN
Brea A	US0060	SL2-IN-E-1146R	3082D-1	90473	R-2945 C-3248 T-1572
Brea D	US0060	SL2-IN-E-1146R	3082D-2	100638	R-1256 C-1319 T-1660 G-255

SUMMARY OF RESULTS

Standard / Specification: FCC Part 15 Subpart E and RSS-210 Issue 8

Description	Test Procedure/Method	Results
Undesirable Emission Limits (5.15 – 5.25GHz Band)	15.407(b)(1) / KDB 558074	Pass
Undesirable Emission Limits (15.209 / 15.205)	15.407(b)(6) / 15.407(b)(7) / KDB 558074	Pass
Bandedge	ITU-R 55/1 and KDB 558074	Pass
Emissions Falling Within Restricted Bands	RSS-210 Section 2.2	Pass

Conditions During Testing

This list is a summary of the conditions noted for or modifications made to the equipment during testing.

Summary of Conditions
<p>The manufacturer declares that for all testing the EUT was configured as follows: HW Version: P2 Software Version: SBG6580-3.3.1.0-GA-10-065-DIAG MAC Address: 0023ED6E76DC</p>
<p>The manufacturer declares that during the testing for sections 15.407(b1)(b6) and (b7) the EUT was configured as follows: The SmartBits is turned on and running data. Tx Bytes Rate approximately 14.8 M and Rx Bytes Rate approximately 12.3 M. The CM is fully operational with the CASA set to DS 813MHz, 819MHz, 825MHz, 831MHz, 0.0dBmV.</p>

EQUIPMENT UNDER TEST (EUT)

EQUIPMENT UNDER TEST

The following model was tested by CKC Laboratories: **SBG6580 P2**

Since the time of testing the manufacturer has chosen to use the following model name in its place. Any differences between the names does not affect their EMC characteristics and therefore meets the level of testing equivalent to the tested model name shown on the data sheets: **SBG6580**

DOCSIS 3.0 Wi-Fi Gateway

Manuf: Motorola Mobility, Inc.
Model: SBG6580
Serial: 35560113060065107050085

AC to 12Vdc Power Adapter

Manuf: Asian Power Devices, Inc.
Model: WA-24|12FU
Serial: NA

PERIPHERAL DEVICES

The EUT was tested with the following peripheral device(s):

Broadband Router

Manuf: CASA Systems
Model: C2200
Serial: FD3460

Gigabit Switch

Manuf: Netgear
Model: GS105v2
Serial: NA

Laptop Computer

Manuf: HP
Model: Compaq 6910p
Serial: NA

Performance Analysis System

Manuf: Spirent
Model: SMB-600B
Serial: N06012143

8 Way Splitter

Manuf: Regal
Model: DS8DGV10
Serial: NA

8 Way Splitter

Manuf: Regal
Model: DS8DGV10
Serial: NA

DHCP Server

Manuf: HP
Model: Compaq 6910p
Serial: NA

Diplexer

Manuf: Eagle Comtronics
Model: EDPF-65/85
Serial: NA



Laptop Computer

Manuf: Dell
Model: Precision M70
Serial: NA

FCC PART 15 SUBPART E

This report contains EMC emissions test results under United States Federal Communications Commission (FCC) 47 CFR 15C requirements for Unlicensed Radio Frequency Devices, Subpart E – Unlicensed National Information Infrastructure Devices.

15.407(b)(1) Undesirable Emission Limits (5.15–5.25 GHz Band)

Limit Line Calculations

Limit line calculation:

For a distance, d , of 3 meters:

$$\text{EIRP}[\text{dBm}] = \text{E}[\text{dBuV/m}] - 95.2$$

$$-27.0 = \text{E}[\text{dBuV/m}] - 95.2$$

$$\text{E}[\text{dBuV/m}] = 68.2$$

Test Data

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Motorola Mobility, Inc.**
 Specification: **15.407(b)(1) Radiated Undesirable Emissions**
 Work Order #: **92800** Date: 2/28/2012
 Test Type: **Maximized Emissions** Time: 13:07:16
 Equipment: **DOCSIS 3.0 Wi-Fi Gateway** Sequence#: 8
 Manufacturer: Motorola Mobility, Inc. Tested By: S. Yamamoto
 Model: SBG6580 P2
 S/N: 35560113060065107050085

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
	ANP05050	Cable	RG223/U	3/21/2011	3/21/2013
	AN00309	Preamp	8447D	5/7/2010	5/7/2012
	ANP05198	Cable	8268	12/21/2010	12/21/2012
	AN01995	Biconilog Antenna	CBL6111C	3/8/2010	3/8/2012
	AN00314	Loop Antenna	6502	6/30/2010	6/30/2012
	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
T1	AN03239	Cable	32022-2-29094K-24TC	8/30/2011	8/30/2013
T2	ANP06081	Cable	L1-PNMNM-48	4/28/2011	4/28/2013
T3	ANP05421	Cable	Sucoflex 104A	2/8/2012	2/8/2014
T4	AN00786	Preamp	83017A	8/5/2010	8/5/2012
T5	AN00849	Horn Antenna	3115	4/23/2010	4/23/2012
T6	AN02744	High Pass Filter	11SH10-3000/T10000-O/O	3/5/2010	3/5/2012
	ANP06153	Cable	16301	10/27/2011	10/27/2013
	AN01413	Horn Antenna-ANSI C63.5 Antenna Factors (dB)	84125-80008	12/2/2010	12/2/2012
	AN01413	Horn Antenna-1 Meter Antenna Factors (dB) - SAE ARP 958	84125-80008	12/2/2010	12/2/2012
	AN03158	Active Horn Antenna	AMFW-5F-26004000-33-8P	4/1/2010	4/1/2012
T7	AN02945	Cable	32022-2-2909K-36TC	10/19/2011	10/19/2013

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
DOCSIS 3.0 Wi-Fi Gateway*	Motorola Mobility, Inc.	SBG6580 P2	35560113060065107050085
AC to 12Vdc Power Adapter	Asian Power Devices, Inc.	WA-24 12FU	

Support Devices:

Function	Manufacturer	Model #	S/N
Broadband Router	CASA Systems	C2200	FD3460
Gigabit Switch	Netgear	GS105v2	
Laptop Computer	HP	Compaq 6910p	
Performance Analysis System	Spirent	SMB-600B	N06012143
8 Way Splitter	Regal	DS8DGV10	
8 Way Splitter	Regal	DS8DGV10	
DHCP Server	HP	Compaq 6910p	
Diplexer	Eagle Comtronics	EDPF-65/85	(none)
Laptop Computer	Dell	Precision M70	

Test Conditions / Notes:

The equipment under test (EUT) is a DOCSIS 3.0 Wi-Fi Gateway. The EUT and its AC to DC adapter are stand alone on the table top lined with 5cm thick Styrofoam. All other support equipment is located remote from this test area. The CM Ethernet ports are connected to the SmartBits performance analysis system. The CM RF port is connected to the diplexer, then splitters and finally to the broadband router (CASA). The DHCP server is connected to the broadband router through the gigabit switch. The laptop is connected to the performance analysis system. The SmartBits is turned on and running data. Tx Bytes Rate approximately 14.8 M and Rx Bytes Rate approximately 12.3 M. The CM is operational with the CASA set to DS 813MHz, 819MHz, 825MHz, 831MHz, 0.0dBmV. The EUT is transmitting continuously.
 Hardware Version: 2. Software Version: SBG6580-3.3.1.0-GA-10-065-DIAG. Site A.
 Frequency range of EUT: 5180MHz to 5240MHz
 Transmit Frequencies used for this data sheet: 5180MHz (Low), 5200MHz (Middle), and 5240MHz (High). Channels 36, 40, and 48. 802.11a (6 Mbps)
 Antenna: Antenna Gain: 4.1 dBi max at 2.4GHz band. Antenna Gain: 4.4 dBi max at 5GHz band
 Frequency range of measurement = 9 kHz to 40GHz.
 Frequency 9 kHz - 150 kHz RBW=200 Hz, VBW=200 Hz; 150 kHz- 30 MHz RBW=9 kHz, VBW=9 kHz; 30 MHz- 1000 MHz RBW=120 kHz, VBW=120 kHz; 1000 MHz- 40000 MHz RBW=1 MHz, VBW=1 MHz.
 Temperature: 18°C, Humidity: 48%, Pressure: 100kPa.

Ext Attn: 0 dB

Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	10480.000 M	37.9	+0.8 +37.7	+7.9 +0.4	+2.7 +1.6	-36.6	+0.0	52.4	68.2	-15.8	Vert
^	10480.000 M	50.7	+0.8 +37.7	+7.9 +0.4	+2.7 +1.6	-36.6	+0.0	65.2	68.2	-3.0	Vert
3	9999.966M	37.1	+0.8 +37.2	+7.3 +0.5	+2.7 +1.6	-35.9	+0.0	51.3	68.2	-16.9	Horiz

4	10399.833 M Ave	36.7	+0.8 +37.6	+7.8 +0.3	+2.7 +1.5	-36.6	+0.0	50.8	68.2	-17.4	Vert
^	10399.833 M	48.7	+0.8 +37.6	+7.8 +0.3	+2.7 +1.5	-36.6	+0.0	62.8	68.2	-5.4	Vert
6	2999.984M	50.7	+0.4 +30.0	+3.6 +0.9	+1.5 +0.8	-37.8	+0.0	50.1	68.2	-18.1	Horiz
7	2666.655M	53.6	+0.4 +29.0	+3.4 +0.0	+1.4 +0.0	-37.9	+0.0	49.9	68.2	-18.3	Horiz
8	2999.985M	50.3	+0.4 +30.0	+3.6 +0.9	+1.5 +0.8	-37.8	+0.0	49.7	68.2	-18.5	Vert
9	10359.324 M Ave	35.3	+0.8 +37.6	+7.7 +0.2	+2.7 +1.5	-36.5	+0.0	49.3	68.2	-18.9	Vert
^	10359.324 M	46.6	+0.8 +37.6	+7.7 +0.2	+2.7 +1.5	-36.5	+0.0	60.6	68.2	-7.6	Vert
11	9999.950M	33.4	+0.8 +37.2	+7.3 +0.5	+2.7 +1.6	-35.9	+0.0	47.6	68.2	-20.6	Vert
12	10479.159 M Ave	33.0	+0.8 +37.7	+7.9 +0.4	+2.7 +1.6	-36.6	+0.0	47.5	68.2	-20.7	Horiz
^	10479.159 M	41.5	+0.8 +37.7	+7.9 +0.4	+2.7 +1.6	-36.6	+0.0	56.0	68.2	-12.2	Horiz
14	10359.175 M Ave	33.5	+0.8 +37.6	+7.7 +0.2	+2.7 +1.5	-36.5	+0.0	47.5	68.2	-20.7	Horiz
^	10359.175 M	46.9	+0.8 +37.6	+7.7 +0.2	+2.7 +1.5	-36.5	+0.0	60.9	68.2	-7.3	Horiz
16	10399.000 M Ave	33.1	+0.8 +37.6	+7.8 +0.3	+2.7 +1.5	-36.5	+0.0	47.3	68.2	-20.9	Horiz
^	10399.000 M	45.3	+0.8 +37.6	+7.8 +0.3	+2.7 +1.5	-36.5	+0.0	59.5	68.2	-8.7	Horiz
18	3099.985M	47.3	+0.4 +30.2	+3.7 +0.7	+1.5 +0.8	-37.8	+0.0	46.8	68.2	-21.4	Vert
19	3100.032M	47.2	+0.4 +30.2	+3.7 +0.7	+1.5 +0.8	-37.8	+0.0	46.7	68.2	-21.5	Horiz
20	3199.985M	45.8	+0.4 +30.4	+3.8 +0.6	+1.5 +0.8	-37.8	+0.0	45.5	68.2	-22.7	Vert
21	3299.985M	45.3	+0.4 +30.6	+3.9 +0.6	+1.5 +0.8	-37.7	+0.0	45.4	68.2	-22.8	Vert
22	2099.989M	50.5	+0.4 +28.1	+3.0 +0.0	+1.2 +0.0	-37.9	+0.0	45.3	68.2	-22.9	Horiz
23	3199.982M	44.5	+0.4 +30.4	+3.8 +0.6	+1.5 +0.8	-37.8	+0.0	44.2	68.2	-24.0	Horiz
24	3299.992M	43.7	+0.4 +30.6	+3.9 +0.6	+1.5 +0.8	-37.7	+0.0	43.8	68.2	-24.4	Horiz

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Motorola Mobility, Inc.**
 Specification: **15.407(b)(1) Radiated Undesirable Emissions**
 Work Order #: **92800** Date: 2/28/2012
 Test Type: **Maximized Emissions** Time: 13:16:41
 Equipment: **DOCSIS 3.0 Wi-Fi Gateway** Sequence#: 9
 Manufacturer: Motorola Mobility, Inc. Tested By: S. Yamamoto
 Model: SBG6580 P2
 S/N: 35560113060065107050085

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
	ANP05050	Cable	RG223/U	3/21/2011	3/21/2013
	AN00309	Preamp	8447D	5/7/2010	5/7/2012
	ANP05198	Cable	8268	12/21/2010	12/21/2012
	AN01995	Biconilog Antenna	CBL6111C	3/8/2010	3/8/2012
	AN00314	Loop Antenna	6502	6/30/2010	6/30/2012
	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
T1	AN03239	Cable	32022-2-29094K-24TC	8/30/2011	8/30/2013
T2	ANP06081	Cable	L1-PNMMN-48	4/28/2011	4/28/2013
T3	ANP05421	Cable	Sucoflex 104A	2/8/2012	2/8/2014
T4	AN00786	Preamp	83017A	8/5/2010	8/5/2012
T5	AN00849	Horn Antenna	3115	4/23/2010	4/23/2012
T6	AN02744	High Pass Filter	11SH10-3000/T10000-O/O	3/5/2010	3/5/2012
	ANP06153	Cable	16301	10/27/2011	10/27/2013
	AN01413	Horn Antenna-ANSI C63.5 Antenna Factors (dB)	84125-80008	12/2/2010	12/2/2012
	AN01413	Horn Antenna-1 Meter Antenna Factors (dB) - SAE ARP 958	84125-80008	12/2/2010	12/2/2012
	AN03158	Active Horn Antenna	AMFW-5F-26004000-33-8P	4/1/2010	4/1/2012
	AN02945	Cable	32022-2-2909K-36TC	10/19/2011	10/19/2013

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
DOCSIS 3.0 Wi-Fi Gateway*	Motorola Mobility, Inc.	SBG6580 P2	35560113060065107050085
AC to 12Vdc Power Adapter	Asian Power Devices, Inc.	WA-24 12FU	

Support Devices:

Function	Manufacturer	Model #	S/N
Broadband Router	CASA Systems	C2200	FD3460
Gigabit Switch	Netgear	GS105v2	
Laptop Computer	HP	Compaq 6910p	
Performance Analysis System	Spirent	SMB-600B	N06012143
8 Way Splitter	Regal	DS8DGV10	
8 Way Splitter	Regal	DS8DGV10	
DHCP Server	HP	Compaq 6910p	
Diplexer	Eagle Comtronics	EDPF-65/85	(none)
Laptop Computer	Dell	Precision M70	

Test Conditions / Notes:

The equipment under test (EUT) is a DOCSIS 3.0 Wi-Fi Gateway. The EUT and its AC to DC adapter are stand alone on the table top lined with 5cm thick Styrofoam. All other support equipment is located remote from this test area. The CM Ethernet ports are connected to the SmartBits performance analysis system. The CM RF port is connected to the diplexer, then splitters and finally to the broadband router (CASA). The DHCP server is connected to the broadband router through the gigabit switch. The laptop is connected to the performance analysis system. The SmartBits is turned on and running data. Tx Bytes Rate approximately 14.8 M and Rx Bytes Rate approximately 12.3 M. The CM is operational with the CASA set to DS 813MHz, 819MHz, 825MHz, 831MHz, 0.0dBmV. The EUT is transmitting continuously.
 Hardware Version: 2. Software Version: SBG6580-3.3.1.0-GA-10-065-DIAG. Site A.
 Frequency range of EUT: 5180MHz to 5240MHz
 Transmit Frequencies used for this data sheet: 5180MHz (Low), 5200MHz (Middle), and 5240MHz (High).
 Channels 36, 40, and 48. 802.11n (20MHz) (7.2 Mbps)
 Antenna: Antenna Gain: 4.1 dBi max at 2.4GHz band. Antenna Gain: 4.4 dBi max at 5GHz band
 Frequency range of measurement = 9 kHz to 40GHz.
 Frequency 9 kHz - 150 kHz RBW=200 Hz, VBW=200 Hz; 150 kHz- 30 MHz RBW=9 kHz, VBW=9 kHz; 30 MHz- 1000 MHz RBW=120 kHz, VBW=120 kHz; 1000 MHz- 40000 MHz RBW=1 MHz, VBW=1 MHz.
 Temperature: 18°C, Humidity: 48%, Pressure: 100kPa.

Ext Attn: 0 dB

Measurement Data:

Reading listed by margin.

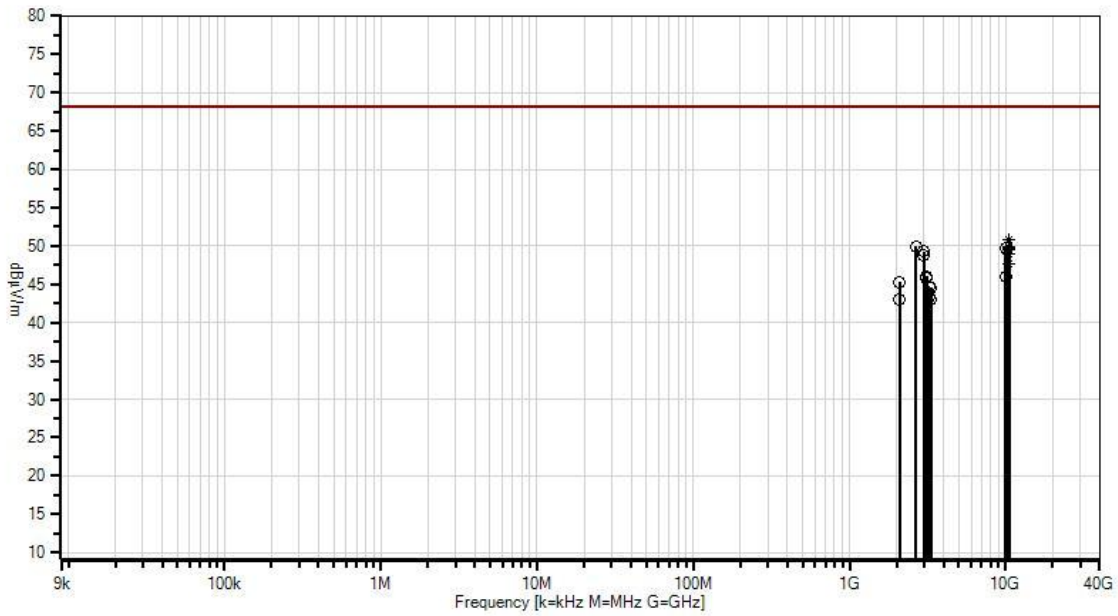
Test Distance: 3 Meters

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	10481.792 M	37.9	+0.8 +37.7	+7.9 +0.4	+2.7	-36.6	+0.0	50.8	68.2	-17.4	Vert
^	10481.792 M	49.9	+0.8 +37.7	+7.9 +0.4	+2.7	-36.6	+0.0	62.8	68.2	-5.4	Vert
3	2666.655M	53.6	+0.4 +29.0	+3.4 +0.0	+1.4	-37.9	+0.0	49.9	68.2	-18.3	Horiz

4	10360.867 M Ave	37.3	+0.8 +37.6	+7.7 +0.2	+2.7	-36.5	+0.0	49.8	68.2	-18.4	Horiz
^	10360.867 M	51.1	+0.8 +37.6	+7.7 +0.2	+2.7	-36.5	+0.0	63.6	68.2	-4.6	Horiz
6	9999.966M	37.1	+0.8 +37.2	+7.3 +0.5	+2.7	-35.9	+0.0	49.7	68.2	-18.5	Horiz
7	10400.125 M Ave	37.1	+0.8 +37.6	+7.8 +0.3	+2.7	-36.6	+0.0	49.7	68.2	-18.5	Vert
^	10400.125 M	50.7	+0.8 +37.6	+7.8 +0.3	+2.7	-36.6	+0.0	63.3	68.2	-4.9	Vert
9	10481.208 M Ave	36.7	+0.8 +37.7	+7.9 +0.4	+2.7	-36.6	+0.0	49.6	68.2	-18.6	Horiz
^	10481.208 M	50.2	+0.8 +37.7	+7.9 +0.4	+2.7	-36.6	+0.0	63.1	68.2	-5.1	Horiz
11	2999.984M	50.7	+0.4 +30.0	+3.6 +0.9	+1.5	-37.8	+0.0	49.3	68.2	-18.9	Horiz
12	10359.333 M Ave	36.5	+0.8 +37.6	+7.7 +0.2	+2.7	-36.5	+0.0	49.0	68.2	-19.2	Vert
^	10359.333 M	49.7	+0.8 +37.6	+7.7 +0.2	+2.7	-36.5	+0.0	62.2	68.2	-6.0	Vert
14	2999.985M	50.3	+0.4 +30.0	+3.6 +0.9	+1.5	-37.8	+0.0	48.9	68.2	-19.3	Vert
15	10403.708 M Ave	35.1	+0.8 +37.6	+7.8 +0.3	+2.7	-36.6	+0.0	47.7	68.2	-20.5	Horiz
^	10403.708 M	49.7	+0.8 +37.6	+7.8 +0.3	+2.7	-36.6	+0.0	62.3	68.2	-5.9	Horiz
17	3099.985M	47.3	+0.4 +30.2	+3.7 +0.7	+1.5	-37.8	+0.0	46.0	68.2	-22.2	Vert
18	9999.950M	33.4	+0.8 +37.2	+7.3 +0.5	+2.7	-35.9	+0.0	46.0	68.2	-22.2	Vert
19	3100.032M	47.2	+0.4 +30.2	+3.7 +0.7	+1.5	-37.8	+0.0	45.9	68.2	-22.3	Horiz
20	2099.989M	50.5	+0.4 +28.1	+3.0 +0.0	+1.2	-37.9	+0.0	45.3	68.2	-22.9	Horiz
21	3199.985M	45.8	+0.4 +30.4	+3.8 +0.6	+1.5	-37.8	+0.0	44.7	68.2	-23.5	Vert
22	3299.985M	45.3	+0.4 +30.6	+3.9 +0.6	+1.5	-37.7	+0.0	44.6	68.2	-23.6	Vert
23	3199.982M	44.5	+0.4 +30.4	+3.8 +0.6	+1.5	-37.8	+0.0	43.4	68.2	-24.8	Horiz
24	2099.991M	48.3	+0.4 +28.1	+3.0 +0.0	+1.2	-37.9	+0.0	43.1	68.2	-25.1	Vert

25	3299.992M	43.7	+0.4	+3.9	+1.5	-37.7	+0.0	43.0	68.2	-25.2	Horiz
			+30.6	+0.6							

CKC Laboratories, Inc. Date: 2/28/2012 Time: 13:16:41 Motorola Mobility, Inc. WO#: 92800
15.407(b)(1) Radiated Undesireable Emissions Test Distance: 3 Meters Sequence#: 9 Ext ATTN: 0 dB



— Readings
* Average Readings
○ Peak Readings
▼ Ambient
× QP Readings
— 1 - 15.407(b)(1) Radiated Undesireable Emissions



Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Motorola Mobility, Inc.**
 Specification: **15.407(b)(1) Radiated Undesirable Emissions**
 Work Order #: **92800** Date: 2/28/2012
 Test Type: **Maximized Emissions** Time: 13:22:12
 Equipment: **DOCSIS 3.0 Wi-Fi Gateway** Sequence#: 10
 Manufacturer: Motorola Mobility, Inc. Tested By: S. Yamamoto
 Model: SBG6580 P2
 S/N: 35560113060065107050085

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
	ANP05050	Cable	RG223/U	3/21/2011	3/21/2013
	AN00309	Preamp	8447D	5/7/2010	5/7/2012
	ANP05198	Cable	8268	12/21/2010	12/21/2012
	AN01995	Biconilog Antenna	CBL6111C	3/8/2010	3/8/2012
	AN00314	Loop Antenna	6502	6/30/2010	6/30/2012
	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
T1	AN03239	Cable	32022-2-29094K- 24TC	8/30/2011	8/30/2013
T2	ANP06081	Cable	L1-PNMNM-48	4/28/2011	4/28/2013
T3	ANP05421	Cable	Sucoflex 104A	2/8/2012	2/8/2014
T4	AN00786	Preamp	83017A	8/5/2010	8/5/2012
T5	AN00849	Horn Antenna	3115	4/23/2010	4/23/2012
T6	AN02744	High Pass Filter	11SH10- 3000/T10000- O/O	3/5/2010	3/5/2012
	ANP06153	Cable	16301	10/27/2011	10/27/2013
	AN01413	Horn Antenna-ANSI C63.5 Antenna Factors (dB)	84125-80008	12/2/2010	12/2/2012
	AN01413	Horn Antenna-1 Meter Antenna Factors (dB) - SAE ARP 958	84125-80008	12/2/2010	12/2/2012
	AN02945	Cable	32022-2-2909K- 36TC	10/19/2011	10/19/2013
	AN03158	Active Horn Antenna	AMFW-5F- 26004000-33-8P	4/1/2010	4/1/2012

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
DOCSIS 3.0 Wi-Fi Gateway*	Motorola Mobility, Inc.	SBG6580 P2	3556011306006510705008 5
AC to 12Vdc Power Adapter	Asian Power Devices, Inc.	WA-24 12FU	

Support Devices:

Function	Manufacturer	Model #	S/N
Broadband Router	CASA Systems	C2200	FD3460
Gigabit Switch	Netgear	GS105v2	
Laptop Computer	HP	Compaq 6910p	
Performance Analysis System	Spirent	SMB-600B	N06012143
8 Way Splitter	Regal	DS8DGV10	
8 Way Splitter	Regal	DS8DGV10	
DHCP Server	HP	Compaq 6910p	
Diplexer	Eagle Comtronics	EDPF-65/85	(none)
Laptop Computer	Dell	Precision M70	

Test Conditions / Notes:

The equipment under test (EUT) is a DOCSIS 3.0 Wi-Fi Gateway. The EUT and its AC to DC adapter are stand alone on the table top lined with 5cm thick Styrofoam. All other support equipment is located remote from this test area. The CM Ethernet ports are connected to the SmartBits performance analysis system. The CM RF port is connected to the diplexer, then splitters and finally to the broadband router (CASA). The DHCP server is connected to the broadband router through the gigabit switch. The laptop is connected to the performance analysis system. The SmartBits is turned on and running data. Tx Bytes Rate approximately 14.8 M and Rx Bytes Rate approximately 12.3 M. The CM is operational with the CASA set to DS 813MHz, 819MHz, 825MHz, 831MHz, 0.0dBmV. The EUT is transmitting continuously.
 Hardware Version: 2. Software Version: SBG6580-3.3.1.0-GA-10-065-DIAG. Site A.
 Frequency range of EUT: 5180MHz to 5240MHz
 Transmit Frequencies used for this data sheet: 5190MHz (Low), and 5230MHz (High). Channels 40 and 48. 802.11n (40MHz) (15 Mbps)
 Antenna: Antenna Gain: 4.1 dBi max at 2.4GHz band. Antenna Gain: 4.4 dBi max at 5GHz band
 Frequency range of measurement = 9 kHz to 40GHz.
 Frequency 9 kHz - 150 kHz RBW=200 Hz, VBW=200 Hz; 150 kHz- 30 MHz RBW=9 kHz, VBW=9 kHz; 30 MHz- 1000 MHz RBW=120 kHz, VBW=120 kHz; 1000 MHz- 40000 MHz RBW=1 MHz, VBW=1 MHz.
 Temperature: 18°C, Humidity: 48%, Pressure: 100kPa.

Ext Attn: 0 dB

Measurement Data:

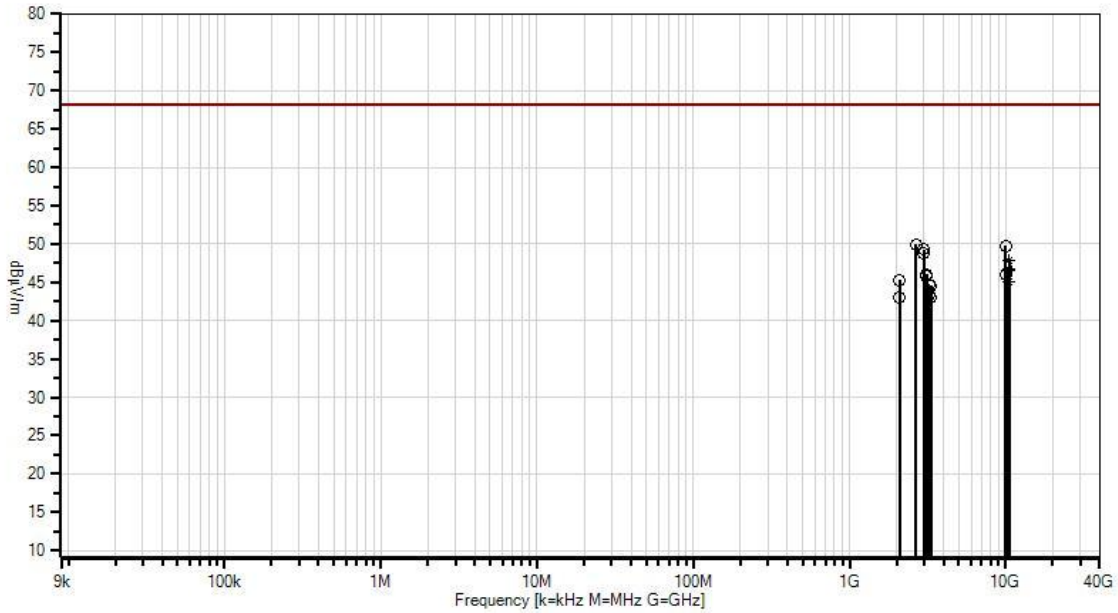
Reading listed by margin.

Test Distance: 3 Meters

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	2666.655M	53.6	+0.4 +29.0	+3.4 +0.0	+1.4	-37.9	+0.0	49.9	68.2	-18.3	Horiz
2	9999.966M	37.1	+0.8 +37.2	+7.3 +0.5	+2.7	-35.9	+0.0	49.7	68.2	-18.5	Horiz
3	2999.984M	50.7	+0.4 +30.0	+3.6 +0.9	+1.5	-37.8	+0.0	49.3	68.2	-18.9	Horiz
4	2999.985M	50.3	+0.4 +30.0	+3.6 +0.9	+1.5	-37.8	+0.0	48.9	68.2	-19.3	Vert

5	10459.333 M Ave	35.1	+0.8 +37.7	+7.9 +0.3	+2.7	-36.6	+0.0	47.9	68.2	-20.3	Vert
^	10459.333 M	45.4	+0.8 +37.7	+7.9 +0.3	+2.7	-36.6	+0.0	58.2	68.2	-10.0	Vert
7	10379.250 M Ave	34.2	+0.8 +37.6	+7.8 +0.2	+2.7	-36.5	+0.0	46.8	68.2	-21.4	Vert
^	10379.250 M	46.7	+0.8 +37.6	+7.8 +0.2	+2.7	-36.5	+0.0	59.3	68.2	-8.9	Vert
9	10379.980 M Ave	34.0	+0.8 +37.6	+7.8 +0.2	+2.7	-36.5	+0.0	46.6	68.2	-21.6	Horiz
^	10379.980 M	47.0	+0.8 +37.6	+7.8 +0.2	+2.7	-36.5	+0.0	59.6	68.2	-8.6	Horiz
11	3099.985M	47.3	+0.4 +30.2	+3.7 +0.7	+1.5	-37.8	+0.0	46.0	68.2	-22.2	Vert
12	9999.950M	33.4	+0.8 +37.2	+7.3 +0.5	+2.7	-35.9	+0.0	46.0	68.2	-22.2	Vert
13	3100.032M	47.2	+0.4 +30.2	+3.7 +0.7	+1.5	-37.8	+0.0	45.9	68.2	-22.3	Horiz
14	2099.989M	50.5	+0.4 +28.1	+3.0 +0.0	+1.2	-37.9	+0.0	45.3	68.2	-22.9	Horiz
15	10461.000 M Ave	32.2	+0.8 +37.7	+7.9 +0.3	+2.7	-36.6	+0.0	45.0	68.2	-23.2	Horiz
^	10461.000 M	42.9	+0.8 +37.7	+7.9 +0.3	+2.7	-36.6	+0.0	55.7	68.2	-12.5	Horiz
17	3199.985M	45.8	+0.4 +30.4	+3.8 +0.6	+1.5	-37.8	+0.0	44.7	68.2	-23.5	Vert
18	3299.985M	45.3	+0.4 +30.6	+3.9 +0.6	+1.5	-37.7	+0.0	44.6	68.2	-23.6	Vert
19	3199.982M	44.5	+0.4 +30.4	+3.8 +0.6	+1.5	-37.8	+0.0	43.4	68.2	-24.8	Horiz
20	2099.991M	48.3	+0.4 +28.1	+3.0 +0.0	+1.2	-37.9	+0.0	43.1	68.2	-25.1	Vert
21	3299.992M	43.7	+0.4 +30.6	+3.9 +0.6	+1.5	-37.7	+0.0	43.0	68.2	-25.2	Horiz

CKC Laboratories, Inc. Date: 2/28/2012 Time: 13:22:12 Motorola Mobility, Inc. WO#: 92800
15.407(b)(1) Radiated Undesireable Emissions Test Distance: 3 Meters Sequence#: 10 Ext ATTN: 0 dB



— Readings
 * Average Readings
 ○ Peak Readings
 ▼ Ambient
 × QP Readings
 — 1 - 15.407(b)(1) Radiated Undesireable Emissions

Test Setup Photos



15.407(b)(6) & 15.407(b)(7) Undesirable Emissions Limits (15.209 / 15.205)

Test Data Sheets

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Motorola Mobility, Inc.**
 Specification: **15.407(b)(6)/15.407(b)(7) Radiated Undesirable Emissions (15.209/15.205)**
 Work Order #: **92800** Date: 2/28/2012
 Test Type: **Maximized Emissions** Time: 14:53:43
 Equipment: **DOCSIS 3.0 Wi-Fi Gateway** Sequence#: 8
 Manufacturer: Motorola Mobility, Inc. Tested By: S. Yamamoto
 Model: SBG6580 P2
 S/N: 35560113060065107050085

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
T1	ANP05050	Cable	RG223/U	3/21/2011	3/21/2013
T2	AN00309	Preamp	8447D	5/7/2010	5/7/2012
T3	ANP05198	Cable	8268	12/21/2010	12/21/2012
T4	AN01995	Biconilog Antenna	CBL6111C	3/8/2010	3/8/2012
	AN00314	Loop Antenna	6502	6/30/2010	6/30/2012
T5	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
T6	AN03239	Cable	32022-2-29094K-24TC	8/30/2011	8/30/2013
T7	ANP06081	Cable	L1-PNMNM-48	4/28/2011	4/28/2013
T8	ANP05421	Cable	Sucoflex 104A	2/8/2012	2/8/2014
T9	AN00786	Preamp	83017A	8/5/2010	8/5/2012
T10	AN00849	Horn Antenna	3115	4/23/2010	4/23/2012
T11	AN02744	High Pass Filter	11SH10-3000/T10000-O/O	3/5/2010	3/5/2012
	ANP06153	Cable	16301	10/27/2011	10/27/2013
	AN01413	Horn Antenna-ANSI C63.5 Antenna Factors (dB)	84125-80008	12/2/2010	12/2/2012
T12	AN01413	Horn Antenna-1 Meter Antenna Factors (dB) - SAE ARP 958	84125-80008	12/2/2010	12/2/2012
	AN03158	Active Horn Antenna	AMFW-5F-26004000-33-8P	4/1/2010	4/1/2012
T13	AN02945	Cable	32022-2-2909K-36TC	10/19/2011	10/19/2013

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
DOCSIS 3.0 Wi-Fi Gateway*	Motorola Mobility, Inc.	SBG6580 P2	3556011306006510705008 5
AC to 12Vdc Power Adapter	Asian Power Devices, Inc.	WA-24 12FU	

Support Devices:

Function	Manufacturer	Model #	S/N
Broadband Router	CASA Systems	C2200	FD3460
Gigabit Switch	Netgear	GS105v2	
Laptop Computer	HP	Compaq 6910p	
Performance Analysis System	Spirent	SMB-600B	N06012143
8 Way Splitter	Regal	DS8DGV10	
8 Way Splitter	Regal	DS8DGV10	
DHCP Server	HP	Compaq 6910p	
Diplexer	Eagle Comtronics	EDPF-65/85	(none)
Laptop Computer	Dell	Precision M70	

Test Conditions / Notes:

The equipment under test (EUT) is a DOCSIS 3.0 Wi-Fi Gateway. The EUT and its AC to DC adapter are stand alone on the table top lined with 5cm thick Styrofoam. All other support equipment is located remote from this test area. The CM Ethernet ports are connected to the SmartBits performance analysis system. The CM RF port is connected to the diplexer, then splitters and finally to the broadband router (CASA). The DHCP server is connected to the broadband router through the gigabit switch. The laptop is connected to the performance analysis system. The SmartBits is turned on and running data. Tx Bytes Rate approximately 14.8 M and Rx Bytes Rate approximately 12.3 M. The CM is operational with the CASA set to DS 813MHz, 819MHz, 825MHz, 831MHz, 0.0dBmV. The EUT is transmitting continuously.

Hardware Version: 2. Software Version: SBG6580-3.3.1.0-GA-10-065-DIAG. Site A.

Frequency range of EUT: 5180MHz to 5240MHz

Transmit Frequencies used for this data sheet: 5180MHz (Low), 5200MHz (Middle), and 5240MHz (High). Channels 36, 40, and 48. 802.11a (6 Mbps)

Antenna: Antenna Gain: 4.1 dBi max at 2.4GHz band. Antenna Gain: 4.4 dBi max at 5GHz band

Frequency range of measurement = 9 kHz to 40GHz.

Frequency 9 kHz - 150 kHz RBW=200 Hz, VBW=200 Hz; 150 kHz- 30 MHz RBW=9 kHz, VBW=9 kHz; 30 MHz- 1000 MHz RBW=120 kHz, VBW=120 kHz; 1000 MHz- 40000 MHz RBW=1 MHz, VBW=1 MHz.

Temperature: 18°C, Humidity: 48%, Pressure: 100kPa.

Ext Attn: 0 dB

Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T5	T6	T7	T8					
			T9	T10	T11	T12					
			T13								
	MHz	dB μ V	dB	dB	dB	dB	Table	dB μ V/m	dB μ V/m	dB	Ant
1	15600.857	30.9	+0.0	+0.0	+0.0	+0.0	+0.0	51.7	54.0	-2.3	Vert
	M		+0.0	+1.0	+9.8	+3.3					
	Ave		-34.7	+41.4	+0.0	+0.0					
			+0.0								
^	15600.857	41.2	+0.0	+0.0	+0.0	+0.0	+0.0	62.0	54.0	+8.0	Vert
	M		+0.0	+1.0	+9.8	+3.3					
			-34.7	+41.4	+0.0	+0.0					
			+0.0								
3	15719.500	30.0	+0.0	+0.0	+0.0	+0.0	+0.0	50.9	54.0	-3.1	Vert
	M		+0.0	+1.0	+9.8	+3.3					
	Ave		-34.5	+41.3	+0.0	+0.0					
			+0.0								
^	15719.500	41.1	+0.0	+0.0	+0.0	+0.0	+0.0	62.0	54.0	+8.0	Vert
	M		+0.0	+1.0	+9.8	+3.3					
			-34.5	+41.3	+0.0	+0.0					
			+0.0								
5	15540.967	30.1	+0.0	+0.0	+0.0	+0.0	+0.0	50.8	54.0	-3.2	Vert
	M		+0.0	+1.0	+9.7	+3.3					
	Ave		-34.8	+41.5	+0.0	+0.0					
			+0.0								
^	15540.967	42.3	+0.0	+0.0	+0.0	+0.0	+0.0	63.0	54.0	+9.0	Vert
	M		+0.0	+1.0	+9.7	+3.3					
			-34.8	+41.5	+0.0	+0.0					
			+0.0								
7	20959.850	49.5	+0.0	+0.0	+0.0	+0.0	-9.5	50.6	54.0	-3.4	Horiz
	M		+0.0	+1.2	+0.0	+0.0					
			-32.8	+0.0	+0.0	+39.6					
			+2.6								
8	20799.783	49.2	+0.0	+0.0	+0.0	+0.0	-9.5	50.3	54.0	-3.7	Vert
	M		+0.0	+1.1	+0.0	+0.0					
			-32.8	+0.0	+0.0	+39.8					
			+2.5								
9	20799.783	48.9	+0.0	+0.0	+0.0	+0.0	-9.5	50.0	54.0	-4.0	Horiz
	M		+0.0	+1.1	+0.0	+0.0					
			-32.8	+0.0	+0.0	+39.8					
			+2.5								
10	15718.784	29.1	+0.0	+0.0	+0.0	+0.0	+0.0	50.0	54.0	-4.0	Horiz
	M		+0.0	+1.0	+9.8	+3.3					
	Ave		-34.5	+41.3	+0.0	+0.0					
			+0.0								
^	15718.784	39.7	+0.0	+0.0	+0.0	+0.0	+0.0	60.6	54.0	+6.6	Horiz
	M		+0.0	+1.0	+9.8	+3.3					
			-34.5	+41.3	+0.0	+0.0					
			+0.0								

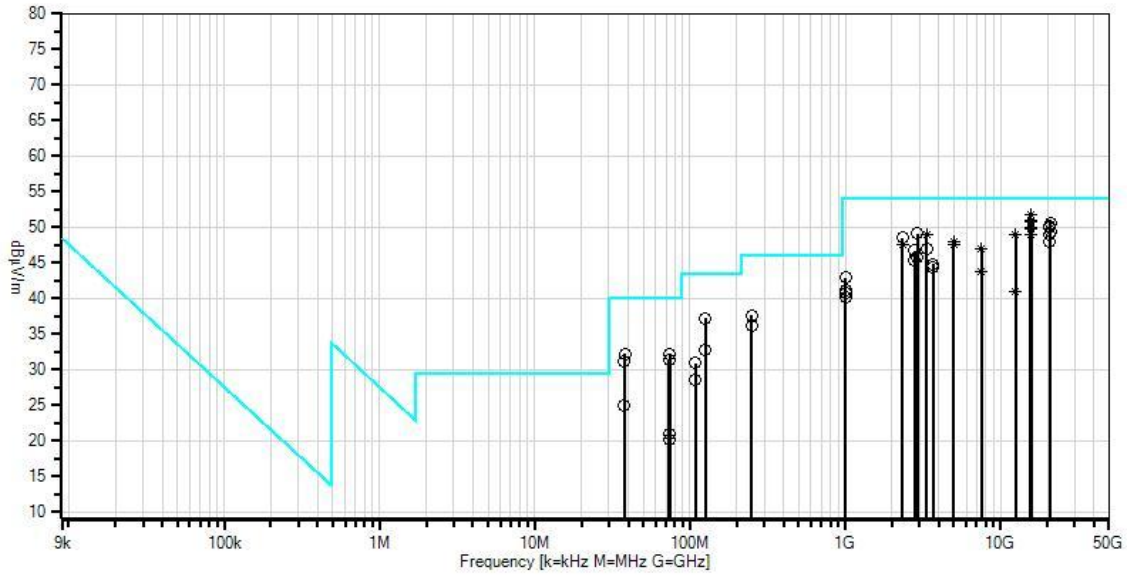
12	15599.200	28.9	+0.0	+0.0	+0.0	+0.0	+0.0	49.7	54.0	-4.3	Horiz
	M		+0.0	+1.0	+9.8	+3.3					
	Ave		-34.7	+41.4	+0.0	+0.0					
			+0.0								
^	15599.200	38.5	+0.0	+0.0	+0.0	+0.0	+0.0	59.3	54.0	+5.3	Horiz
	M		+0.0	+1.0	+9.8	+3.3					
			-34.7	+41.4	+0.0	+0.0					
			+0.0								
14	20959.817	48.3	+0.0	+0.0	+0.0	+0.0	-9.5	49.4	54.0	-4.6	Vert
	M		+0.0	+1.2	+0.0	+0.0					
			-32.8	+0.0	+0.0	+39.6					
			+2.6								
15	2899.988M	50.8	+0.0	+0.0	+0.0	+0.0	+0.0	49.1	54.0	-4.9	Horiz
			+0.0	+0.4	+3.6	+1.4					
			-37.9	+29.7	+1.1	+0.0					
			+0.0								
16	15541.425	28.4	+0.0	+0.0	+0.0	+0.0	+0.0	49.1	54.0	-4.9	Horiz
	M		+0.0	+1.0	+9.7	+3.3					
	Ave		-34.8	+41.5	+0.0	+0.0					
			+0.0								
^	15541.425	37.3	+0.0	+0.0	+0.0	+0.0	+0.0	58.0	54.0	+4.0	Horiz
	M		+0.0	+1.0	+9.7	+3.3					
			-34.8	+41.5	+0.0	+0.0					
			+0.0								
18	3333.317M	49.7	+0.0	+0.0	+0.0	+0.0	+0.0	49.1	54.0	-4.9	Horiz
	Ave		+0.0	+0.4	+3.9	+1.5					
			-37.7	+30.7	+0.6	+0.0					
			+0.0								
^	3333.317M	53.1	+0.0	+0.0	+0.0	+0.0	+0.0	52.5	54.0	-1.5	Horiz
			+0.0	+0.4	+3.9	+1.5					
			-37.7	+30.7	+0.6	+0.0					
			+0.0								
20	20719.833	48.0	+0.0	+0.0	+0.0	+0.0	-9.5	49.1	54.0	-5.0	Vert
	M		+0.0	+1.1	+0.0	+0.0					
			-32.9	+0.0	+0.0	+39.9					
			+2.5								
21	12499.947	33.3	+0.0	+0.0	+0.0	+0.0	+0.0	48.9	54.0	-5.1	Horiz
	M		+0.0	+0.8	+8.9	+2.9					
	Ave		-35.9	+38.7	+0.2	+0.0					
			+0.0								
^	12499.947	36.7	+0.0	+0.0	+0.0	+0.0	+0.0	52.3	54.0	-1.7	Horiz
	M		+0.0	+0.8	+8.9	+2.9					
			-35.9	+38.7	+0.2	+0.0					
			+0.0								
23	2333.324M	53.3	+0.0	+0.0	+0.0	+0.0	+0.0	48.5	54.0	-5.5	Vert
			+0.0	+0.4	+3.2	+1.3					
			-38.0	+28.3	+0.0	+0.0					
			+0.0								
24	4999.977M	44.2	+0.0	+0.0	+0.0	+0.0	+0.0	48.1	54.0	-5.9	Vert
	Ave		+0.0	+0.5	+5.0	+1.8					
			-37.0	+33.3	+0.3	+0.0					
			+0.0								

^	4999.977M	47.0	+0.0	+0.0	+0.0	+0.0	+0.0	50.9	54.0	-3.1	Vert
			+0.0	+0.5	+5.0	+1.8					
			-37.0	+33.3	+0.0	+0.0					
			+0.0								
26	20719.717 M	46.9	+0.0	+0.0	+0.0	+0.0	-9.5	48.0	54.0	-6.0	Horiz
			+0.0	+1.1	+0.0	+0.0					
			-32.9	+0.0	+0.0	+39.9					
			+2.5								
27	124.998M	50.8	+0.2	-27.8	+1.9	+12.1	+0.0	37.2	43.5	-6.3	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
28	4999.978M Ave	43.7	+0.0	+0.0	+0.0	+0.0	+0.0	47.6	54.0	-6.4	Horiz
			+0.0	+0.5	+5.0	+1.8					
			-37.0	+33.3	+0.3	+0.0					
			+0.0								
^	4999.978M	46.5	+0.0	+0.0	+0.0	+0.0	+0.0	50.4	54.0	-3.6	Horiz
			+0.0	+0.5	+5.0	+1.8					
			-37.0	+33.3	+0.3	+0.0					
			+0.0								
30	2333.317M Ave	52.4	+0.0	+0.0	+0.0	+0.0	+0.0	47.6	54.0	-6.4	Horiz
			+0.0	+0.4	+3.2	+1.3					
			-38.0	+28.3	+0.0	+0.0					
			+0.0								
^	2333.317M	55.6	+0.0	+0.0	+0.0	+0.0	+0.0	50.8	54.0	-3.2	Horiz
			+0.0	+0.4	+3.2	+1.3					
			-38.0	+28.3	+0.0	+0.0					
			+0.0								
32	7499.966M Ave	38.4	+0.0	+0.0	+0.0	+0.0	+0.0	47.0	54.0	-7.0	Horiz
			+0.0	+0.7	+6.5	+2.3					
			-36.5	+35.5	+0.1	+0.0					
			+0.0								
^	7499.966M	42.6	+0.0	+0.0	+0.0	+0.0	+0.0	51.2	54.0	-2.8	Horiz
			+0.0	+0.7	+6.5	+2.3					
			-36.5	+35.5	+0.1	+0.0					
			+0.0								
34	3333.321M	47.6	+0.0	+0.0	+0.0	+0.0	+0.0	47.0	54.0	-7.0	Vert
			+0.0	+0.4	+3.9	+1.5					
			-37.7	+30.7	+0.6	+0.0					
			+0.0								
35	2799.984M	45.8	+0.0	+0.0	+0.0	+0.0	+0.0	46.8	54.0	-7.2	Horiz
			+0.0	+0.4	+3.5	+1.4					
			-37.8	+29.4	+4.1	+0.0					
			+0.0								
36	37.902M	44.5	+0.1	-27.8	+1.0	+14.5	+0.0	32.3	40.0	-7.7	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
37	74.008M	51.8	+0.1	-27.9	+1.4	+6.7	+0.0	32.1	40.0	-7.9	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								

38	2899.988M	47.4	+0.0	+0.0	+0.0	+0.0	+0.0	45.7	54.0	-8.3	Vert
			+0.0	+0.4	+3.6	+1.4					
			-37.9	+29.7	+1.1	+0.0					
			+0.0								
39	249.998M	49.7	+0.2	-27.8	+2.8	+12.7	+0.0	37.6	46.0	-8.4	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
40	2799.982M	44.5	+0.0	+0.0	+0.0	+0.0	+0.0	45.5	54.0	-8.5	Vert
			+0.0	+0.4	+3.5	+1.4					
			-37.8	+29.4	+4.1	+0.0					
			+0.0								
41	73.320M	51.2	+0.1	-27.9	+1.4	+6.5	+0.0	31.3	40.0	-8.7	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
42	37.609M	43.2	+0.1	-27.8	+1.0	+14.7	+0.0	31.2	40.0	-8.8	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
43	3666.656M	44.4	+0.0	+0.0	+0.0	+0.0	+0.0	44.9	54.0	-9.1	Vert
			+0.0	+0.4	+4.2	+1.6					
			-37.4	+31.3	+0.4	+0.0					
			+0.0								
44	3666.655M	43.8	+0.0	+0.0	+0.0	+0.0	+0.0	44.3	54.0	-9.7	Horiz
			+0.0	+0.4	+4.2	+1.6					
			-37.4	+31.3	+0.4	+0.0					
			+0.0								
45	249.998M	48.2	+0.2	-27.8	+2.8	+12.7	+0.0	36.1	46.0	-9.9	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
46	7499.965M Ave	35.3	+0.0	+0.0	+0.0	+0.0	+0.0	43.9	54.0	-10.1	Vert
			+0.0	+0.7	+6.5	+2.3					
			-36.5	+35.5	+0.1	+0.0					
			+0.0								
^	7499.965M	40.9	+0.0	+0.0	+0.0	+0.0	+0.0	49.5	54.0	-4.5	Vert
			+0.0	+0.7	+6.5	+2.3					
			-36.5	+35.5	+0.1	+0.0					
			+0.0								
48	125.007M	46.4	+0.2	-27.8	+1.9	+12.1	+0.0	32.8	43.5	-10.7	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
49	999.993M	38.6	+0.6	-27.3	+6.2	+24.8	+0.0	42.9	54.0	-11.1	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
50	108.799M	45.9	+0.1	-27.8	+1.8	+10.9	+0.0	30.9	43.5	-12.6	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								

51	1000.008M	54.2	+0.0	+0.0	+0.0	+0.0	+0.0	41.2	54.0	-12.8	Vert
			+0.0	+0.3	+2.0	+0.9					
			-40.4	+24.2	+0.0	+0.0					
			+0.0								
52	12499.972 M Ave	25.3	+0.0	+0.0	+0.0	+0.0	+0.0	40.9	54.0	-13.1	Vert
			+0.0	+0.8	+8.9	+2.9					
			-35.9	+38.7	+0.2	+0.0					
			+0.0								
^	12499.972 M	33.5	+0.0	+0.0	+0.0	+0.0	+0.0	49.1	54.0	-4.9	Vert
			+0.0	+0.8	+8.9	+2.9					
			-35.9	+38.7	+0.2	+0.0					
			+0.0								
54	999.992M	36.5	+0.6	-27.3	+6.2	+24.8	+0.0	40.8	54.0	-13.2	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
55	1000.016M	53.1	+0.0	+0.0	+0.0	+0.0	+0.0	40.1	54.0	-13.9	Horiz
			+0.0	+0.3	+2.0	+0.9					
			-40.4	+24.2	+0.0	+0.0					
			+0.0								
56	108.804M	43.6	+0.1	-27.8	+1.8	+10.9	+0.0	28.6	43.5	-14.9	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
57	37.877M	37.1	+0.1	-27.8	+1.0	+14.6	+0.0	25.0	40.0	-15.0	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
58	74.012M	40.6	+0.1	-27.9	+1.4	+6.7	+0.0	20.9	40.0	-19.1	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
59	73.985M	40.1	+0.1	-27.9	+1.4	+6.6	+0.0	20.3	40.0	-19.7	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								

CKC Laboratories, Inc. Date: 2/28/2012 Time: 14:53:43 Motorola Mobility, Inc. WO#: 92800
 15.407(b)(6)/15.407(b)(7) Radiated Undesirable Emissions (15.209/15.205) Test Distance: 3 Meters Sequence#: 8
 Ext ATTN: 0 dB



- Readings
- × QP Readings
- ▼ Ambient
- Peak Readings
- * Average Readings
- 1 - 15.407(b)(6)/15.407(b)(7) Radiated Undesirable Emissions (15.209/15.205)

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Motorola Mobility, Inc.**
 Specification: **15.407(b)(6)/15.407(b)(7) Radiated Undesirable Emissions (15.209/15.205)**
 Work Order #: **92800** Date: 2/28/2012
 Test Type: **Maximized Emissions** Time: 14:53:43
 Equipment: **DOCSIS 3.0 Wi-Fi Gateway** Sequence#: 9
 Manufacturer: Motorola Mobility, Inc. Tested By: S. Yamamoto
 Model: SBG6580 P2
 S/N: 35560113060065107050085

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
T1	ANP05050	Cable	RG223/U	3/21/2011	3/21/2013
T2	AN00309	Preamp	8447D	5/7/2010	5/7/2012
T3	ANP05198	Cable	8268	12/21/2010	12/21/2012
T4	AN01995	Biconilog Antenna	CBL6111C	3/8/2010	3/8/2012
	AN00314	Loop Antenna	6502	6/30/2010	6/30/2012
T5	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
T6	AN03239	Cable	32022-2-29094K- 24TC	8/30/2011	8/30/2013
T7	ANP06081	Cable	L1-PNMNM-48	4/28/2011	4/28/2013
T8	ANP05421	Cable	Sucoflex 104A	2/8/2012	2/8/2014
T9	AN00786	Preamp	83017A	8/5/2010	8/5/2012
T10	AN00849	Horn Antenna	3115	4/23/2010	4/23/2012
T11	AN02744	High Pass Filter	11SH10- 3000/T10000- O/O	3/5/2010	3/5/2012
	ANP06153	Cable	16301	10/27/2011	10/27/2013
	AN01413	Horn Antenna-ANSI C63.5 Antenna Factors (dB)	84125-80008	12/2/2010	12/2/2012
T12	AN01413	Horn Antenna-1 Meter Antenna Factors (dB) - SAE ARP 958	84125-80008	12/2/2010	12/2/2012
	AN03158	Active Horn Antenna	AMFW-5F- 26004000-33-8P	4/1/2010	4/1/2012
T13	AN02945	Cable	32022-2-2909K- 36TC	10/19/2011	10/19/2013

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
DOCSIS 3.0 Wi-Fi Gateway*	Motorola Mobility, Inc.	SBG6580 P2	3556011306006510705008 5
AC to 12Vdc Power Adapter	Asian Power Devices, Inc.	WA-24 12FU	

Support Devices:

Function	Manufacturer	Model #	S/N
Broadband Router	CASA Systems	C2200	FD3460
Gigabit Switch	Netgear	GS105v2	
Laptop Computer	HP	Compaq 6910p	
Performance Analysis System	Spirent	SMB-600B	N06012143
8 Way Splitter	Regal	DS8DGV10	
8 Way Splitter	Regal	DS8DGV10	
DHCP Server	HP	Compaq 6910p	
Diplexer	Eagle Comtronics	EDPF-65/85	(none)
Laptop Computer	Dell	Precision M70	

Test Conditions / Notes:

The equipment under test (EUT) is a DOCSIS 3.0 Wi-Fi Gateway. The EUT and its AC to DC adapter are stand alone on the table top lined with 5cm thick Styrofoam. All other support equipment is located remote from this test area. The CM Ethernet ports are connected to the SmartBits performance analysis system. The CM RF port is connected to the diplexer, then splitters and finally to the broadband router (CASA). The DHCP server is connected to the broadband router through the gigabit switch. The laptop is connected to the performance analysis system. The SmartBits is turned on and running data. Tx Bytes Rate approximately 14.8 M and Rx Bytes Rate approximately 12.3 M. The CM is operational with the CASA set to DS 813MHz, 819MHz, 825MHz, 831MHz, 0.0dBmV. The EUT is transmitting continuously.

Hardware Version: 2. Software Version: SBG6580-3.3.1.0-GA-10-065-DIAG. Site A.

Frequency range of EUT: 5180MHz to 5240MHz

Transmit Frequencies used for this data sheet: 5180MHz (Low), 5200MHz (Middle), and 5240MHz (High). Channels 36, 40, and 48. 802.11n (20MHz) (7.2 Mbps)

Antenna: Antenna Gain: 4.1 dBi max at 2.4GHz band. Antenna Gain: 4.4 dBi max at 5GHz band

Frequency range of measurement = 9 kHz to 40GHz.

Frequency 9 kHz - 150 kHz RBW=200 Hz, VBW=200 Hz; 150 kHz- 30 MHz RBW=9 kHz, VBW=9 kHz; 30 MHz- 1000 MHz RBW=120 kHz, VBW=120 kHz; 1000 MHz- 40000 MHz RBW=1 MHz, VBW=1 MHz.

Temperature: 18°C, Humidity: 48%, Pressure: 100kPa.

Ext Attn: 0 dB

Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq	Rdng	T1 T5 T9 T13	T2 T6 T10	T3 T7 T11	T4 T8 T12	Dist	Corr	Spec	Margin	Polar
	MHz	dB μ V	dB	dB	dB	dB	Table	dB μ V/m	dB μ V/m	dB	Ant
1	15540.583	30.1	+0.0	+0.0	+0.0	+0.0	+0.0	50.8	54.0	-3.2	Vert
	M		+0.0	+1.0	+9.7	+3.3					
	Ave		-34.8	+41.5	+0.0	+0.0					
			+0.0								
^	15540.583	41.7	+0.0	+0.0	+0.0	+0.0	+0.0	62.4	54.0	+8.4	Vert
	M		+0.0	+1.0	+9.7	+3.3					
			-34.8	+41.5	+0.0	+0.0					
			+0.0								
3	20959.808	49.6	+0.0	+0.0	+0.0	+0.0	-9.5	50.7	54.0	-3.3	Horiz
	M		+0.0	+1.2	+0.0	+0.0					
			-32.8	+0.0	+0.0	+39.6					
			+2.6								
4	15601.667	29.6	+0.0	+0.0	+0.0	+0.0	+0.0	50.4	54.0	-3.6	Vert
	M		+0.0	+1.0	+9.8	+3.3					
	Ave		-34.7	+41.4	+0.0	+0.0					
			+0.0								
^	15601.667	41.7	+0.0	+0.0	+0.0	+0.0	+0.0	62.5	54.0	+8.5	Vert
	M		+0.0	+1.0	+9.8	+3.3					
			-34.7	+41.4	+0.0	+0.0					
			+0.0								
6	15717.750	29.4	+0.0	+0.0	+0.0	+0.0	+0.0	50.3	54.0	-3.7	Vert
	M		+0.0	+1.0	+9.8	+3.3					
	Ave		-34.5	+41.3	+0.0	+0.0					
			+0.0								
^	15717.750	41.8	+0.0	+0.0	+0.0	+0.0	+0.0	62.7	54.0	+8.7	Vert
	M		+0.0	+1.0	+9.8	+3.3					
			-34.5	+41.3	+0.0	+0.0					
			+0.0								
8	20799.833	48.8	+0.0	+0.0	+0.0	+0.0	-9.5	49.9	54.0	-4.1	Vert
	M		+0.0	+1.1	+0.0	+0.0					
			-32.8	+0.0	+0.0	+39.8					
			+2.5								
9	20799.733	48.6	+0.0	+0.0	+0.0	+0.0	-9.5	49.7	54.0	-4.3	Horiz
	M		+0.0	+1.1	+0.0	+0.0					
			-32.8	+0.0	+0.0	+39.8					
			+2.5								
10	15541.325	28.9	+0.0	+0.0	+0.0	+0.0	+0.0	49.6	54.0	-4.4	Horiz
	M		+0.0	+1.0	+9.7	+3.3					
	Ave		-34.8	+41.5	+0.0	+0.0					
			+0.0								
^	15541.325	39.6	+0.0	+0.0	+0.0	+0.0	+0.0	60.3	54.0	+6.3	Horiz
	M		+0.0	+1.0	+9.7	+3.3					
			-34.8	+41.5	+0.0	+0.0					
			+0.0								

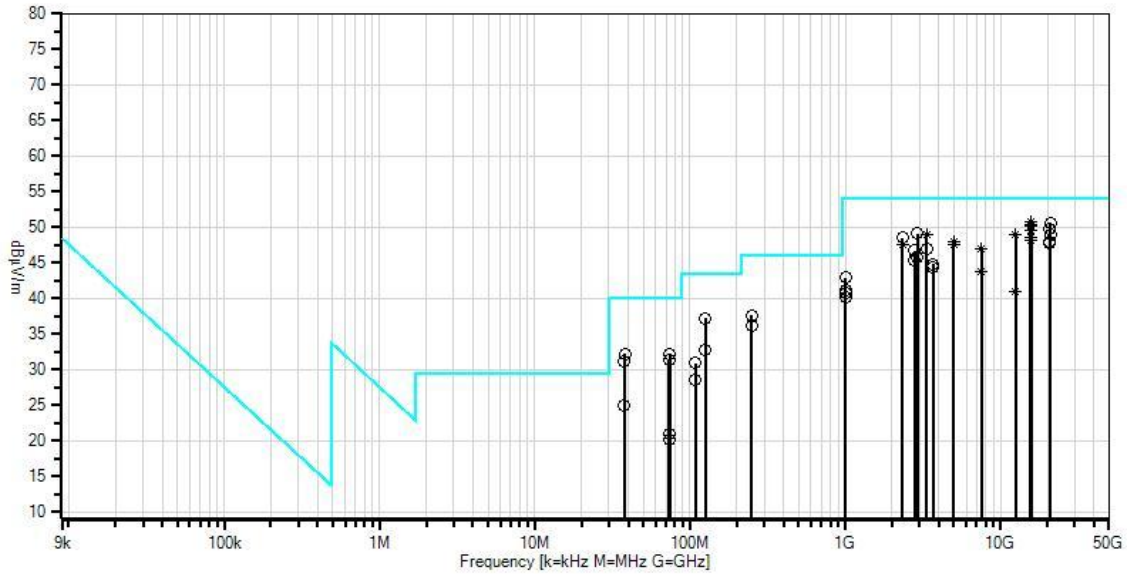
12	2899.988M	50.8	+0.0	+0.0	+0.0	+0.0	+0.0	49.1	54.0	-4.9	Horiz
			+0.0	+0.4	+3.6	+1.4					
			-37.9	+29.7	+1.1	+0.0					
			+0.0								
13	3333.317M	49.7	+0.0	+0.0	+0.0	+0.0	+0.0	49.1	54.0	-4.9	Horiz
	Ave		+0.0	+0.4	+3.9	+1.5					
			-37.7	+30.7	+0.6	+0.0					
			+0.0								
^	3333.317M	53.1	+0.0	+0.0	+0.0	+0.0	+0.0	52.5	54.0	-1.5	Horiz
			+0.0	+0.4	+3.9	+1.5					
			-37.7	+30.7	+0.6	+0.0					
			+0.0								
15	20959.858	48.0	+0.0	+0.0	+0.0	+0.0	-9.5	49.1	54.0	-4.9	Vert
	M		+0.0	+1.2	+0.0	+0.0					
			-32.8	+0.0	+0.0	+39.6					
			+2.6								
16	12499.947	33.3	+0.0	+0.0	+0.0	+0.0	+0.0	48.9	54.0	-5.1	Horiz
	M		+0.0	+0.8	+8.9	+2.9					
	Ave		-35.9	+38.7	+0.2	+0.0					
			+0.0								
^	12499.947	36.7	+0.0	+0.0	+0.0	+0.0	+0.0	52.3	54.0	-1.7	Horiz
	M		+0.0	+0.8	+8.9	+2.9					
			-35.9	+38.7	+0.2	+0.0					
			+0.0								
18	15720.875	27.7	+0.0	+0.0	+0.0	+0.0	+0.0	48.6	54.0	-5.4	Horiz
	M		+0.0	+1.0	+9.8	+3.3					
	Ave		-34.5	+41.3	+0.0	+0.0					
			+0.0								
^	15720.875	41.2	+0.0	+0.0	+0.0	+0.0	+0.0	62.1	54.0	+8.1	Horiz
	M		+0.0	+1.0	+9.8	+3.3					
			-34.5	+41.3	+0.0	+0.0					
			+0.0								
20	2333.324M	53.3	+0.0	+0.0	+0.0	+0.0	+0.0	48.5	54.0	-5.5	Vert
			+0.0	+0.4	+3.2	+1.3					
			-38.0	+28.3	+0.0	+0.0					
			+0.0								
21	15597.808	27.5	+0.0	+0.0	+0.0	+0.0	+0.0	48.3	54.0	-5.7	Horiz
	M		+0.0	+1.0	+9.8	+3.3					
	Ave		-34.7	+41.4	+0.0	+0.0					
			+0.0								
^	15597.808	40.6	+0.0	+0.0	+0.0	+0.0	+0.0	61.4	54.0	+7.4	Horiz
	M		+0.0	+1.0	+9.8	+3.3					
			-34.7	+41.4	+0.0	+0.0					
			+0.0								
23	4999.977M	44.2	+0.0	+0.0	+0.0	+0.0	+0.0	48.1	54.0	-5.9	Vert
	Ave		+0.0	+0.5	+5.0	+1.8					
			-37.0	+33.3	+0.3	+0.0					
			+0.0								
^	4999.977M	47.0	+0.0	+0.0	+0.0	+0.0	+0.0	50.9	54.0	-3.1	Vert
			+0.0	+0.5	+5.0	+1.8					
			-37.0	+33.3	+0.0	+0.0					
			+0.0								

25	20719.950 M	46.9	+0.0 +0.0 -32.9 +2.5	+0.0 +1.1 +0.0 +0.0	+0.0 +0.0 +0.0 +0.0	+0.0 +0.0 +0.0 +39.9	-9.5	48.0	54.0	-6.0	Horiz
26	20719.900 M	46.8	+0.0 +0.0 -32.9 +2.5	+0.0 +1.1 +0.0 +0.0	+0.0 +0.0 +0.0 +0.0	+0.0 +0.0 +0.0 +39.9	-9.5	47.9	54.0	-6.1	Vert
27	124.998M	50.8	+0.2 +0.0 +0.0 +0.0	-27.8 +0.0 +0.0 +0.0	+1.9 +0.0 +0.0 +0.0	+12.1 +0.0 +0.0 +0.0	+0.0	37.2	43.5	-6.3	Vert
28	4999.978M Ave	43.7	+0.0 +0.0 -37.0 +0.0	+0.0 +0.5 +33.3 +0.0	+0.0 +5.0 +0.3 +0.0	+0.0 +1.8 +0.0 +0.0	+0.0	47.6	54.0	-6.4	Horiz
^	4999.978M	46.5	+0.0 +0.0 -37.0 +0.0	+0.0 +0.5 +33.3 +0.0	+0.0 +5.0 +0.3 +0.0	+0.0 +1.8 +0.0 +0.0	+0.0	50.4	54.0	-3.6	Horiz
30	2333.317M Ave	52.4	+0.0 +0.0 -38.0 +0.0	+0.0 +0.4 +28.3 +0.0	+0.0 +3.2 +0.0 +0.0	+0.0 +1.3 +0.0 +0.0	+0.0	47.6	54.0	-6.4	Horiz
^	2333.317M	55.6	+0.0 +0.0 -38.0 +0.0	+0.0 +0.4 +28.3 +0.0	+0.0 +3.2 +0.0 +0.0	+0.0 +1.3 +0.0 +0.0	+0.0	50.8	54.0	-3.2	Horiz
32	7499.966M Ave	38.4	+0.0 +0.0 -36.5 +0.0	+0.0 +0.7 +35.5 +0.0	+0.0 +6.5 +0.1 +0.0	+0.0 +2.3 +0.0 +0.0	+0.0	47.0	54.0	-7.0	Horiz
^	7499.966M	42.6	+0.0 +0.0 -36.5 +0.0	+0.0 +0.7 +35.5 +0.0	+0.0 +6.5 +0.1 +0.0	+0.0 +2.3 +0.0 +0.0	+0.0	51.2	54.0	-2.8	Horiz
34	3333.321M	47.6	+0.0 +0.0 -37.7 +0.0	+0.0 +0.4 +30.7 +0.0	+0.0 +3.9 +0.6 +0.0	+0.0 +1.5 +0.0 +0.0	+0.0	47.0	54.0	-7.0	Vert
35	2799.984M	45.8	+0.0 +0.0 -37.8 +0.0	+0.0 +0.4 +29.4 +0.0	+0.0 +3.5 +4.1 +0.0	+0.0 +1.4 +0.0 +0.0	+0.0	46.8	54.0	-7.2	Horiz
36	37.902M	44.5	+0.1 +0.0 +0.0 +0.0	-27.8 +0.0 +0.0 +0.0	+1.0 +0.0 +0.0 +0.0	+14.5 +0.0 +0.0 +0.0	+0.0	32.3	40.0	-7.7	Vert
37	74.008M	51.8	+0.1 +0.0 +0.0 +0.0	-27.9 +0.0 +0.0 +0.0	+1.4 +0.0 +0.0 +0.0	+6.7 +0.0 +0.0 +0.0	+0.0	32.1	40.0	-7.9	Vert

38	2899.988M	47.4	+0.0	+0.0	+0.0	+0.0	+0.0	45.7	54.0	-8.3	Vert
			+0.0	+0.4	+3.6	+1.4					
			-37.9	+29.7	+1.1	+0.0					
			+0.0								
39	249.998M	49.7	+0.2	-27.8	+2.8	+12.7	+0.0	37.6	46.0	-8.4	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
40	2799.982M	44.5	+0.0	+0.0	+0.0	+0.0	+0.0	45.5	54.0	-8.5	Vert
			+0.0	+0.4	+3.5	+1.4					
			-37.8	+29.4	+4.1	+0.0					
			+0.0								
41	73.320M	51.2	+0.1	-27.9	+1.4	+6.5	+0.0	31.3	40.0	-8.7	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
42	37.609M	43.2	+0.1	-27.8	+1.0	+14.7	+0.0	31.2	40.0	-8.8	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
43	3666.656M	44.4	+0.0	+0.0	+0.0	+0.0	+0.0	44.9	54.0	-9.1	Vert
			+0.0	+0.4	+4.2	+1.6					
			-37.4	+31.3	+0.4	+0.0					
			+0.0								
44	3666.655M	43.8	+0.0	+0.0	+0.0	+0.0	+0.0	44.3	54.0	-9.7	Horiz
			+0.0	+0.4	+4.2	+1.6					
			-37.4	+31.3	+0.4	+0.0					
			+0.0								
45	249.998M	48.2	+0.2	-27.8	+2.8	+12.7	+0.0	36.1	46.0	-9.9	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
46	7499.965M Ave	35.3	+0.0	+0.0	+0.0	+0.0	+0.0	43.9	54.0	-10.1	Vert
			+0.0	+0.7	+6.5	+2.3					
			-36.5	+35.5	+0.1	+0.0					
			+0.0								
^	7499.965M	40.9	+0.0	+0.0	+0.0	+0.0	+0.0	49.5	54.0	-4.5	Vert
			+0.0	+0.7	+6.5	+2.3					
			-36.5	+35.5	+0.1	+0.0					
			+0.0								
48	125.007M	46.4	+0.2	-27.8	+1.9	+12.1	+0.0	32.8	43.5	-10.7	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
49	999.993M	38.6	+0.6	-27.3	+6.2	+24.8	+0.0	42.9	54.0	-11.1	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
50	108.799M	45.9	+0.1	-27.8	+1.8	+10.9	+0.0	30.9	43.5	-12.6	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								

51	1000.008M	54.2	+0.0	+0.0	+0.0	+0.0	+0.0	41.2	54.0	-12.8	Vert
			+0.0	+0.3	+2.0	+0.9					
			-40.4	+24.2	+0.0	+0.0					
			+0.0								
52	12499.972 M Ave	25.3	+0.0	+0.0	+0.0	+0.0	+0.0	40.9	54.0	-13.1	Vert
			+0.0	+0.8	+8.9	+2.9					
			-35.9	+38.7	+0.2	+0.0					
			+0.0								
^	12499.972 M	33.5	+0.0	+0.0	+0.0	+0.0	+0.0	49.1	54.0	-4.9	Vert
			+0.0	+0.8	+8.9	+2.9					
			-35.9	+38.7	+0.2	+0.0					
			+0.0								
54	999.992M	36.5	+0.6	-27.3	+6.2	+24.8	+0.0	40.8	54.0	-13.2	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
55	1000.016M	53.1	+0.0	+0.0	+0.0	+0.0	+0.0	40.1	54.0	-13.9	Horiz
			+0.0	+0.3	+2.0	+0.9					
			-40.4	+24.2	+0.0	+0.0					
			+0.0								
56	108.804M	43.6	+0.1	-27.8	+1.8	+10.9	+0.0	28.6	43.5	-14.9	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
57	37.877M	37.1	+0.1	-27.8	+1.0	+14.6	+0.0	25.0	40.0	-15.0	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
58	74.012M	40.6	+0.1	-27.9	+1.4	+6.7	+0.0	20.9	40.0	-19.1	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
59	73.985M	40.1	+0.1	-27.9	+1.4	+6.6	+0.0	20.3	40.0	-19.7	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								

CKC Laboratories, Inc. Date: 2/28/2012 Time: 14:53:43 Motorola Mobility, Inc. WO#: 92800
 15.407(b)(6)/15.407(b)(7) Radiated Undesirable Emissions (15.209/15.205) Test Distance: 3 Meters Sequence#: 9
 Ext ATTN: 0 dB



— Readings
 × QP Readings
 ▼ Ambient
 ○ Peak Readings
 * Average Readings
 — 1 - 15.407(b)(6)/15.407(b)(7) Radiated Undesirable Emissions (15.209/15.205)



Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Motorola Mobility, Inc.**
 Specification: **15.407(b)(6)/15.407(b)(7) Radiated Undesirable Emissions (15.209/15.205)**
 Work Order #: **92800** Date: 2/28/2012
 Test Type: **Maximized Emissions** Time: 14:53:43
 Equipment: **DOCSIS 3.0 Wi-Fi Gateway** Sequence#: 10
 Manufacturer: Motorola Mobility, Inc. Tested By: S. Yamamoto
 Model: SBG6580 P2
 S/N: 35560113060065107050085

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
T1	ANP05050	Cable	RG223/U	3/21/2011	3/21/2013
T2	AN00309	Preamp	8447D	5/7/2010	5/7/2012
T3	ANP05198	Cable	8268	12/21/2010	12/21/2012
T4	AN01995	Biconilog Antenna	CBL6111C	3/8/2010	3/8/2012
	AN00314	Loop Antenna	6502	6/30/2010	6/30/2012
T5	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
T6	AN03239	Cable	32022-2-29094K- 24TC	8/30/2011	8/30/2013
T7	ANP06081	Cable	L1-PNMMN-48	4/28/2011	4/28/2013
T8	ANP05421	Cable	Sucoflex 104A	2/8/2012	2/8/2014
T9	AN00786	Preamp	83017A	8/5/2010	8/5/2012
T10	AN00849	Horn Antenna	3115	4/23/2010	4/23/2012
T11	AN02744	High Pass Filter	11SH10- 3000/T10000- O/O	3/5/2010	3/5/2012
	ANP06153	Cable	16301	10/27/2011	10/27/2013
	AN01413	Horn Antenna-ANSI C63.5 Antenna Factors (dB)	84125-80008	12/2/2010	12/2/2012
T12	AN01413	Horn Antenna-1 Meter Antenna Factors (dB) - SAE ARP 958	84125-80008	12/2/2010	12/2/2012
T13	AN03158	Active Horn Antenna	AMFW-5F- 26004000-33-8P	4/1/2010	4/1/2012
	AN02945	Cable	32022-2-2909K- 36TC	10/19/2011	10/19/2013

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
DOCSIS 3.0 Wi-Fi Gateway*	Motorola Mobility, Inc.	SBG6580 P2	3556011306006510705008 5
AC to 12Vdc Power Adapter	Asian Power Devices, Inc.	WA-24 12FU	

Support Devices:

Function	Manufacturer	Model #	S/N
Broadband Router	CASA Systems	C2200	FD3460
Gigabit Switch	Netgear	GS105v2	
Laptop Computer	HP	Compaq 6910p	
Performance Analysis System	Spirent	SMB-600B	N06012143
8 Way Splitter	Regal	DS8DGV10	
8 Way Splitter	Regal	DS8DGV10	
DHCP Server	HP	Compaq 6910p	
Diplexer	Eagle Comtronics	EDPF-65/85	(none)
Laptop Computer	Dell	Precision M70	

Test Conditions / Notes:

The equipment under test (EUT) is a DOCSIS 3.0 Wi-Fi Gateway. The EUT and its AC to DC adapter are stand alone on the table top lined with 5cm thick Styrofoam. All other support equipment is located remote from this test area. The CM Ethernet ports are connected to the SmartBits performance analysis system. The CM RF port is connected to the diplexer, then splitters and finally to the broadband router (CASA). The DHCP server is connected to the broadband router through the gigabit switch. The laptop is connected to the performance analysis system. The SmartBits is turned on and running data. Tx Bytes Rate approximately 14.8 M and Rx Bytes Rate approximately 12.3 M. The CM is operational with the CASA set to DS 813MHz, 819MHz, 825MHz, 831MHz, 0.0dBmV. The EUT is transmitting continuously.

Hardware Version: 2. Software Version: SBG6580-3.3.1.0-GA-10-065-DIAG. Site A.

Frequency range of EUT: 5180MHz to 5240MHz

Transmit Frequencies used for this data sheet: 5190MHz (Low), and 5230MHz (High). Channels 40 and 48. 802.11n (40MHz) (15 Mbps)

Antenna: Antenna Gain: 4.1 dBi max at 2.4GHz band. Antenna Gain: 4.4 dBi max at 5GHz band

Frequency range of measurement = 9 kHz to 40GHz.

Frequency 9 kHz - 150 kHz RBW=200 Hz, VBW=200 Hz; 150 kHz- 30 MHz RBW=9 kHz, VBW=9 kHz; 30 MHz- 1000 MHz RBW=120 kHz, VBW=120 kHz; 1000 MHz- 40000 MHz RBW=1 MHz, VBW=1 MHz.

Temperature: 18°C, Humidity: 48%, Pressure: 100kPa.

Ext Attn: 0 dB

Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T5	T6	T7	T8					
			T9	T10	T11	T12					
			T13								
	MHz	dB μ V	dB	dB	dB	dB	Table	dB μ V/m	dB μ V/m	dB	Ant
1	15698.000	30.0	+0.0	+0.0	+0.0	+0.0	+0.0	50.9	54.0	-3.1	Vert
	M		+0.0	+1.0	+9.8	+3.3					
	Ave		-34.5	+41.3	+0.0	+0.0					
			+0.0								
^	15698.000	37.8	+0.0	+0.0	+0.0	+0.0	+0.0	58.7	54.0	+4.7	Vert
	M		+0.0	+1.0	+9.8	+3.3					
			-34.5	+41.3	+0.0	+0.0					
			+0.0								
3	20759.817	49.7	+0.0	+0.0	+0.0	+0.0	-9.5	50.9	54.0	-3.2	Horiz
	M		+0.0	+1.1	+0.0	+0.0					
			-32.8	+0.0	+0.0	+39.9					
			+2.5								
4	20919.800	49.6	+0.0	+0.0	+0.0	+0.0	-9.5	50.8	54.0	-3.2	Horiz
	M		+0.0	+1.2	+0.0	+0.0					
			-32.8	+0.0	+0.0	+39.7					
			+2.6								
5	20759.783	49.0	+0.0	+0.0	+0.0	+0.0	-9.5	50.2	54.0	-3.8	Vert
	M		+0.0	+1.1	+0.0	+0.0					
			-32.8	+0.0	+0.0	+39.9					
			+2.5								
6	20919.825	48.7	+0.0	+0.0	+0.0	+0.0	-9.5	49.9	54.0	-4.1	Vert
	M		+0.0	+1.2	+0.0	+0.0					
			-32.8	+0.0	+0.0	+39.7					
			+2.6								
7	15691.083	28.4	+0.0	+0.0	+0.0	+0.0	+0.0	49.3	54.0	-4.7	Horiz
	M		+0.0	+1.0	+9.8	+3.3					
	Ave		-34.5	+41.3	+0.0	+0.0					
			+0.0								
^	15691.083	39.7	+0.0	+0.0	+0.0	+0.0	+0.0	60.6	54.0	+6.6	Horiz
	M		+0.0	+1.0	+9.8	+3.3					
			-34.5	+41.3	+0.0	+0.0					
			+0.0								
9	2899.988M	50.8	+0.0	+0.0	+0.0	+0.0	+0.0	49.1	54.0	-4.9	Horiz
			+0.0	+0.4	+3.6	+1.4					
			-37.9	+29.7	+1.1	+0.0					
			+0.0								
10	3333.317M	49.7	+0.0	+0.0	+0.0	+0.0	+0.0	49.1	54.0	-4.9	Horiz
	Ave		+0.0	+0.4	+3.9	+1.5					
			-37.7	+30.7	+0.6	+0.0					
			+0.0								
^	3333.317M	53.1	+0.0	+0.0	+0.0	+0.0	+0.0	52.5	54.0	-1.5	Horiz
			+0.0	+0.4	+3.9	+1.5					
			-37.7	+30.7	+0.6	+0.0					
			+0.0								

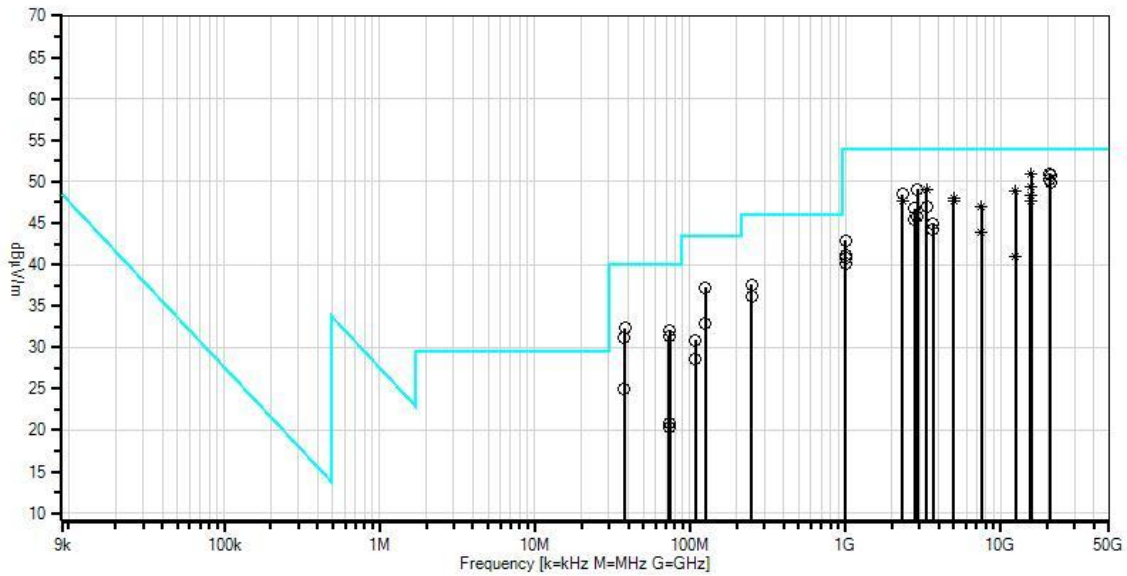
12	12499.947	33.3	+0.0	+0.0	+0.0	+0.0	+0.0	48.9	54.0	-5.1	Horiz
	M		+0.0	+0.8	+8.9	+2.9					
	Ave		-35.9	+38.7	+0.2	+0.0					
			+0.0								
^	12499.947	36.7	+0.0	+0.0	+0.0	+0.0	+0.0	52.3	54.0	-1.7	Horiz
	M		+0.0	+0.8	+8.9	+2.9					
			-35.9	+38.7	+0.2	+0.0					
			+0.0								
14	2333.324M	53.3	+0.0	+0.0	+0.0	+0.0	+0.0	48.5	54.0	-5.5	Vert
			+0.0	+0.4	+3.2	+1.3					
			-38.0	+28.3	+0.0	+0.0					
			+0.0								
15	15570.055	27.7	+0.0	+0.0	+0.0	+0.0	+0.0	48.3	54.0	-5.7	Horiz
	M		+0.0	+1.0	+9.7	+3.3					
	Ave		-34.8	+41.4	+0.0	+0.0					
			+0.0								
^	15570.055	39.9	+0.0	+0.0	+0.0	+0.0	+0.0	60.5	54.0	+6.5	Horiz
	M		+0.0	+1.0	+9.7	+3.3					
			-34.8	+41.4	+0.0	+0.0					
			+0.0								
17	4999.977M	44.2	+0.0	+0.0	+0.0	+0.0	+0.0	48.1	54.0	-5.9	Vert
	Ave		+0.0	+0.5	+5.0	+1.8					
			-37.0	+33.3	+0.3	+0.0					
			+0.0								
^	4999.977M	47.0	+0.0	+0.0	+0.0	+0.0	+0.0	50.9	54.0	-3.1	Vert
			+0.0	+0.5	+5.0	+1.8					
			-37.0	+33.3	+0.0	+0.0					
			+0.0								
19	15573.450	27.1	+0.0	+0.0	+0.0	+0.0	+0.0	47.7	54.0	-6.3	Vert
	M		+0.0	+1.0	+9.7	+3.3					
	Ave		-34.8	+41.4	+0.0	+0.0					
			+0.0								
^	15573.450	39.7	+0.0	+0.0	+0.0	+0.0	+0.0	60.3	54.0	+6.3	Vert
	M		+0.0	+1.0	+9.7	+3.3					
			-34.8	+41.4	+0.0	+0.0					
			+0.0								
21	124.998M	50.8	+0.2	-27.8	+1.9	+12.1	+0.0	37.2	43.5	-6.3	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
22	4999.978M	43.7	+0.0	+0.0	+0.0	+0.0	+0.0	47.6	54.0	-6.4	Horiz
	Ave		+0.0	+0.5	+5.0	+1.8					
			-37.0	+33.3	+0.3	+0.0					
			+0.0								
^	4999.978M	46.5	+0.0	+0.0	+0.0	+0.0	+0.0	50.4	54.0	-3.6	Horiz
			+0.0	+0.5	+5.0	+1.8					
			-37.0	+33.3	+0.3	+0.0					
			+0.0								
24	2333.317M	52.4	+0.0	+0.0	+0.0	+0.0	+0.0	47.6	54.0	-6.4	Horiz
	Ave		+0.0	+0.4	+3.2	+1.3					
			-38.0	+28.3	+0.0	+0.0					
			+0.0								

^	2333.317M	55.6	+0.0	+0.0	+0.0	+0.0	+0.0	50.8	54.0	-3.2	Horiz
			+0.0	+0.4	+3.2	+1.3					
			-38.0	+28.3	+0.0	+0.0					
			+0.0								
26	7499.966M Ave	38.4	+0.0	+0.0	+0.0	+0.0	+0.0	47.0	54.0	-7.0	Horiz
			+0.0	+0.7	+6.5	+2.3					
			-36.5	+35.5	+0.1	+0.0					
			+0.0								
^	7499.966M	42.6	+0.0	+0.0	+0.0	+0.0	+0.0	51.2	54.0	-2.8	Horiz
			+0.0	+0.7	+6.5	+2.3					
			-36.5	+35.5	+0.1	+0.0					
			+0.0								
28	3333.321M	47.6	+0.0	+0.0	+0.0	+0.0	+0.0	47.0	54.0	-7.0	Vert
			+0.0	+0.4	+3.9	+1.5					
			-37.7	+30.7	+0.6	+0.0					
			+0.0								
29	2799.984M	45.8	+0.0	+0.0	+0.0	+0.0	+0.0	46.8	54.0	-7.2	Horiz
			+0.0	+0.4	+3.5	+1.4					
			-37.8	+29.4	+4.1	+0.0					
			+0.0								
30	37.902M	44.5	+0.1	-27.8	+1.0	+14.5	+0.0	32.3	40.0	-7.7	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
31	74.008M	51.8	+0.1	-27.9	+1.4	+6.7	+0.0	32.1	40.0	-7.9	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
32	2899.988M	47.4	+0.0	+0.0	+0.0	+0.0	+0.0	45.7	54.0	-8.3	Vert
			+0.0	+0.4	+3.6	+1.4					
			-37.9	+29.7	+1.1	+0.0					
			+0.0								
33	249.998M	49.7	+0.2	-27.8	+2.8	+12.7	+0.0	37.6	46.0	-8.4	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
34	2799.982M	44.5	+0.0	+0.0	+0.0	+0.0	+0.0	45.5	54.0	-8.5	Vert
			+0.0	+0.4	+3.5	+1.4					
			-37.8	+29.4	+4.1	+0.0					
			+0.0								
35	73.320M	51.2	+0.1	-27.9	+1.4	+6.5	+0.0	31.3	40.0	-8.7	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
36	37.609M	43.2	+0.1	-27.8	+1.0	+14.7	+0.0	31.2	40.0	-8.8	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
37	3666.656M	44.4	+0.0	+0.0	+0.0	+0.0	+0.0	44.9	54.0	-9.1	Vert
			+0.0	+0.4	+4.2	+1.6					
			-37.4	+31.3	+0.4	+0.0					
			+0.0								

38	3666.655M	43.8	+0.0	+0.0	+0.0	+0.0	+0.0	44.3	54.0	-9.7	Horiz
			+0.0	+0.4	+4.2	+1.6					
			-37.4	+31.3	+0.4	+0.0					
			+0.0								
39	249.998M	48.2	+0.2	-27.8	+2.8	+12.7	+0.0	36.1	46.0	-9.9	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
40	7499.965M Ave	35.3	+0.0	+0.0	+0.0	+0.0	+0.0	43.9	54.0	-10.1	Vert
			+0.0	+0.7	+6.5	+2.3					
			-36.5	+35.5	+0.1	+0.0					
			+0.0								
^	7499.965M	40.9	+0.0	+0.0	+0.0	+0.0	+0.0	49.5	54.0	-4.5	Vert
			+0.0	+0.7	+6.5	+2.3					
			-36.5	+35.5	+0.1	+0.0					
			+0.0								
42	125.007M	46.4	+0.2	-27.8	+1.9	+12.1	+0.0	32.8	43.5	-10.7	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
43	999.993M	38.6	+0.6	-27.3	+6.2	+24.8	+0.0	42.9	54.0	-11.1	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
44	108.799M	45.9	+0.1	-27.8	+1.8	+10.9	+0.0	30.9	43.5	-12.6	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
45	1000.008M	54.2	+0.0	+0.0	+0.0	+0.0	+0.0	41.2	54.0	-12.8	Vert
			+0.0	+0.3	+2.0	+0.9					
			-40.4	+24.2	+0.0	+0.0					
			+0.0								
46	12499.972 M Ave	25.3	+0.0	+0.0	+0.0	+0.0	+0.0	40.9	54.0	-13.1	Vert
			+0.0	+0.8	+8.9	+2.9					
			-35.9	+38.7	+0.2	+0.0					
			+0.0								
^	12499.972 M	33.5	+0.0	+0.0	+0.0	+0.0	+0.0	49.1	54.0	-4.9	Vert
			+0.0	+0.8	+8.9	+2.9					
			-35.9	+38.7	+0.2	+0.0					
			+0.0								
48	999.992M	36.5	+0.6	-27.3	+6.2	+24.8	+0.0	40.8	54.0	-13.2	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
49	1000.016M	53.1	+0.0	+0.0	+0.0	+0.0	+0.0	40.1	54.0	-13.9	Horiz
			+0.0	+0.3	+2.0	+0.9					
			-40.4	+24.2	+0.0	+0.0					
			+0.0								
50	108.804M	43.6	+0.1	-27.8	+1.8	+10.9	+0.0	28.6	43.5	-14.9	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								

51	37.877M	37.1	+0.1	-27.8	+1.0	+14.6	+0.0	25.0	40.0	-15.0	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
52	74.012M	40.6	+0.1	-27.9	+1.4	+6.7	+0.0	20.9	40.0	-19.1	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
53	73.985M	40.1	+0.1	-27.9	+1.4	+6.6	+0.0	20.3	40.0	-19.7	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								

CKC Laboratories, Inc. Date: 2/28/2012 Time: 14:53:43 Motorola Mobility, Inc. WO#: 92800
 15.407(b)(6)/15.407(b)(7) Radiated Undesirable Emissions (15.209/15.205) Test Distance: 3 Meters Sequence#: 10 Ext ATTN: 0 dB



— Readings
 × QP Readings
 ▼ Ambient
 ○ Peak Readings
 * Average Readings
 — 1 - 15.407(b)(6)/15.407(b)(7) Radiated Undesirable Emissions (15.209/15.205)

Test Setup Photos



Bandedge

Test Conditions / Setup

The equipment under test (EUT) is a DOCSIS 3.0 Wi-Fi Gateway. The EUT is stand alone on the table top lined with 5cm thick Styrofoam. All other support equipment is located remote from this test area. The EUT Ethernet ports are connected to the performance analysis system. The EUT RF port is connected to the diplexer, then splitters and finally to the broadband router (CASA). The DHCP server is connected to the broadband router through the gigabit switch. The laptop is connected to the performance analysis system. The performance analysis system is running data. Tx Bytes Rate approximately 14.8 M and Rx Bytes Rate approximately 12.3 M. The CM is operational with the CASA set to DS 813MHz, 819MHz, 825MHz, 831MHz, 0.0dBmV. The EUT is transmitting continuously. Temperature: 18°C, Humidity: 48%, Pressure: 100kPa.

Frequency range of EUT: 5180MHz to 5240MHz

802.11a (6Mbps)

Transmit Frequencies: 5180MHz, 5200MHz, 5240MHz (Channel 36, 40, 48)

802.11n (20MHz) (7.2Mbps)

Transmit Frequencies: 5180MHz, 5200MHz, 5240MHz (Channel 36, 40, 48)

802.11n (40MHz) (15Mbps)

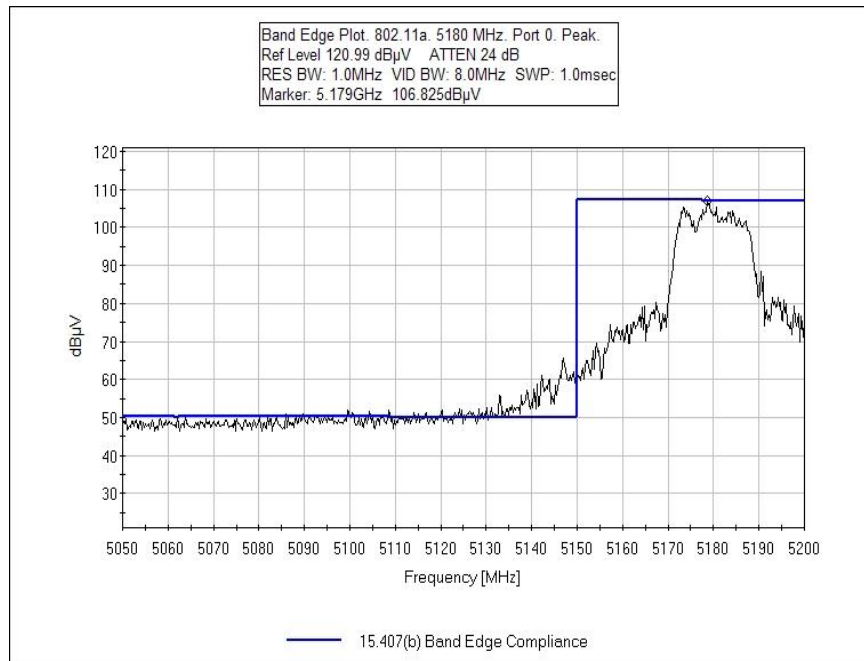
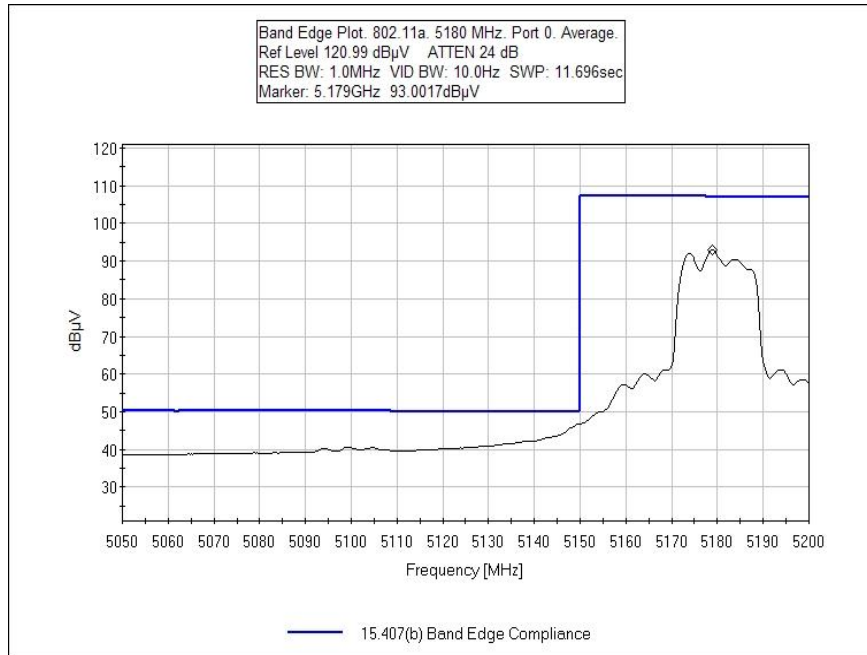
Transmit Frequencies: 5190MHz, 5230MHz (Channel 40, 48)

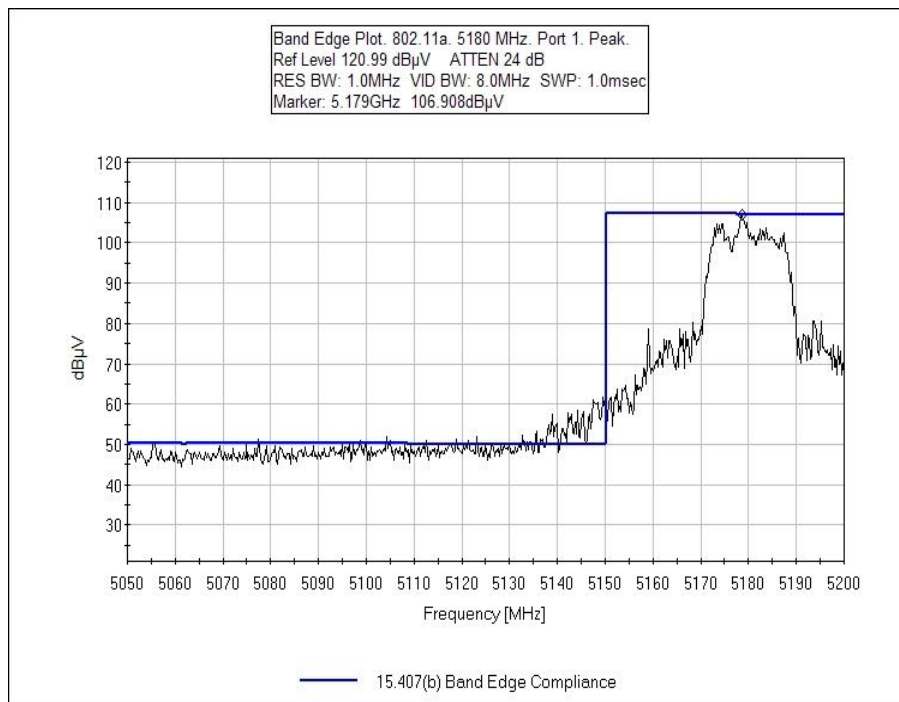
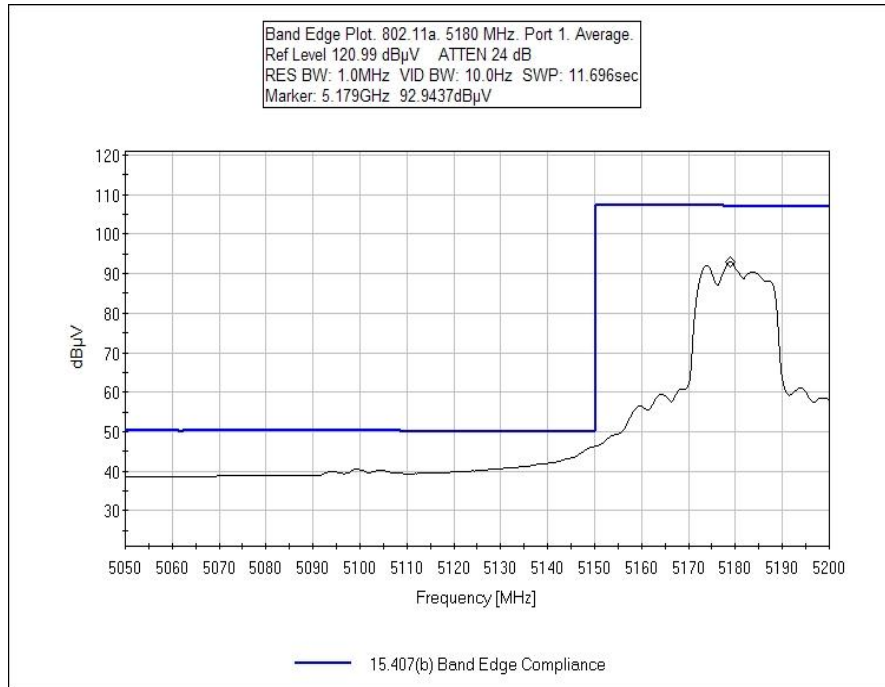
Integral Antenna Gain: 4.4 dBi max at 5GHz band

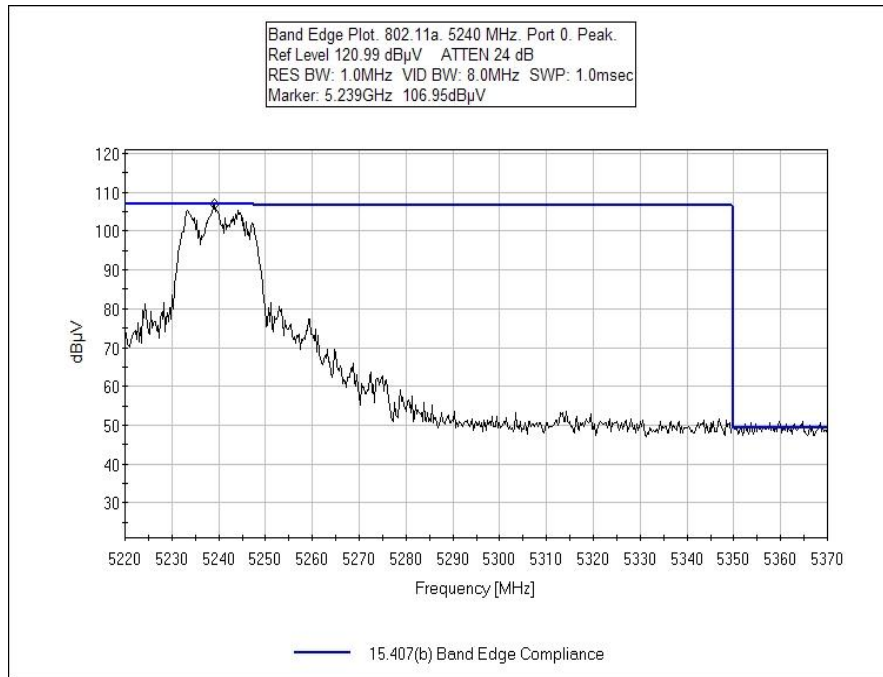
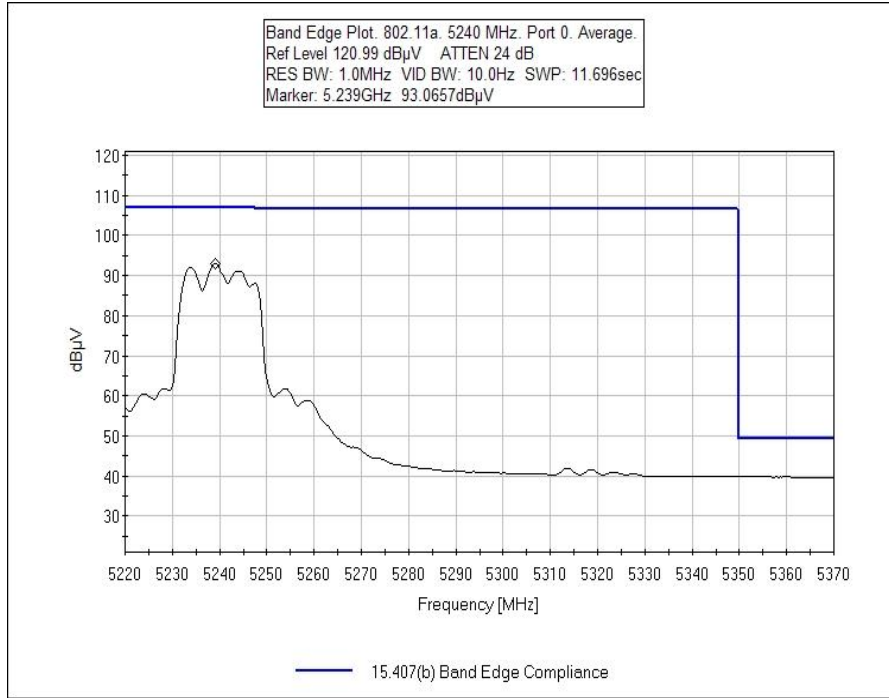
Engineer Name: S. Yamamoto

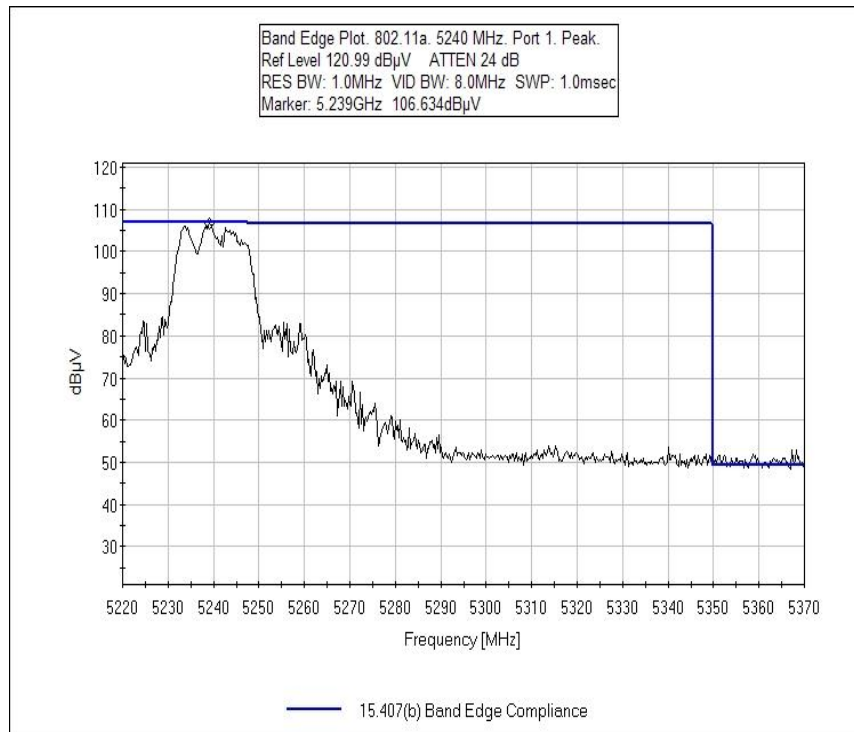
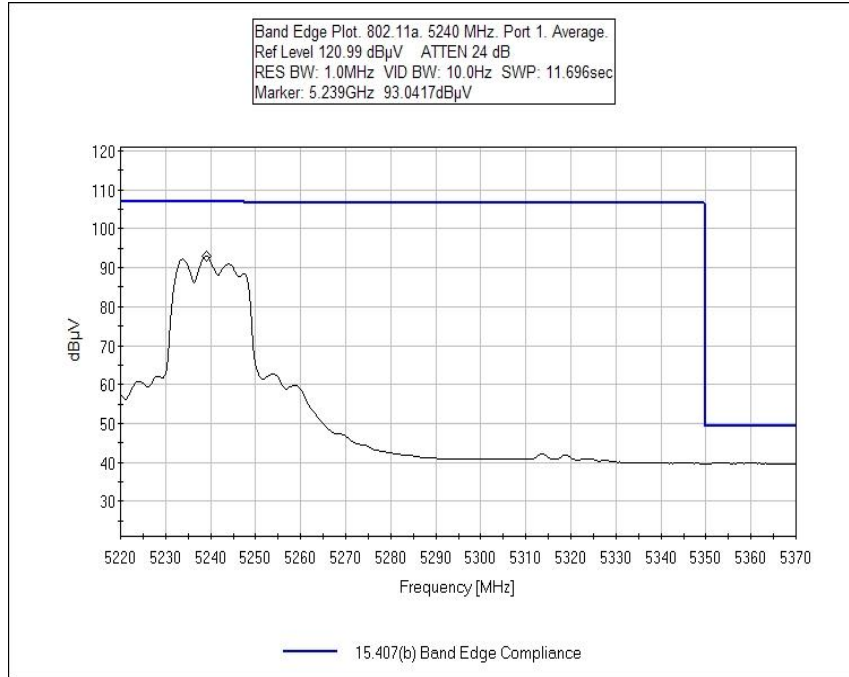
Test Equipment					
Asset/Serial #	Description	Model	Manufacturer	Cal Date	Cal Due
02672	Spectrum Analyzer	E4446A	Agilent	8/9/2010	8/9/2012
01646	Horn Antenna	3115	Emco	8/18/2010	8/18/2012
00786	Preamp	83017A	HP	8/5/2010	8/5/2012
03239	Cable	32022-2-29094K-24TC	Astrolab	8/30/2011	8/30/2013
P05421	Cable	Sucoflex 104A	Huber & Suhner	2/12/2010	2/12/2012
P06081	Cable	74Z-0-0-21/NCM 100	Huber & Suhner	4/28/2011	4/28/2013

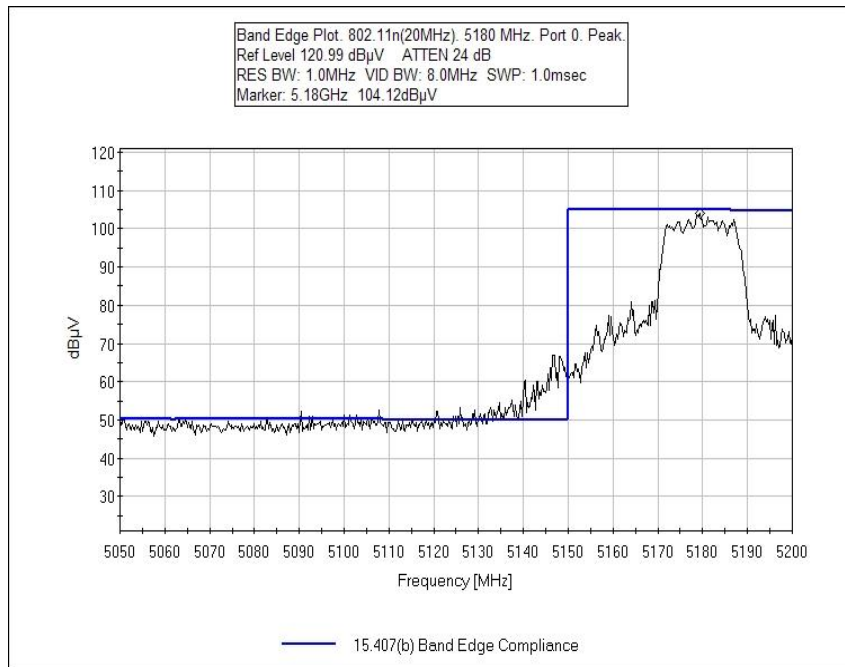
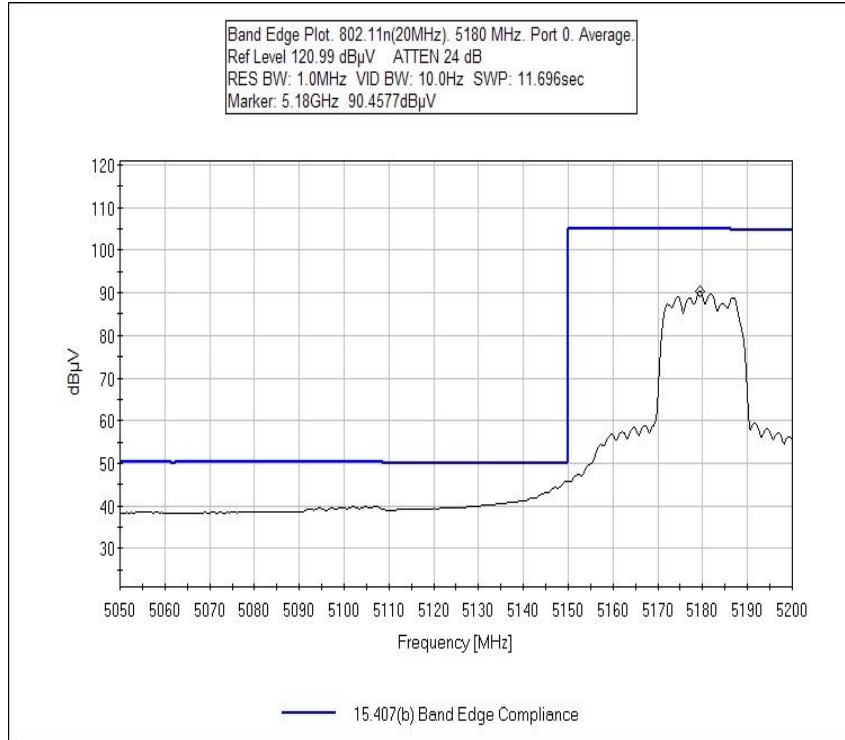
Test Plots

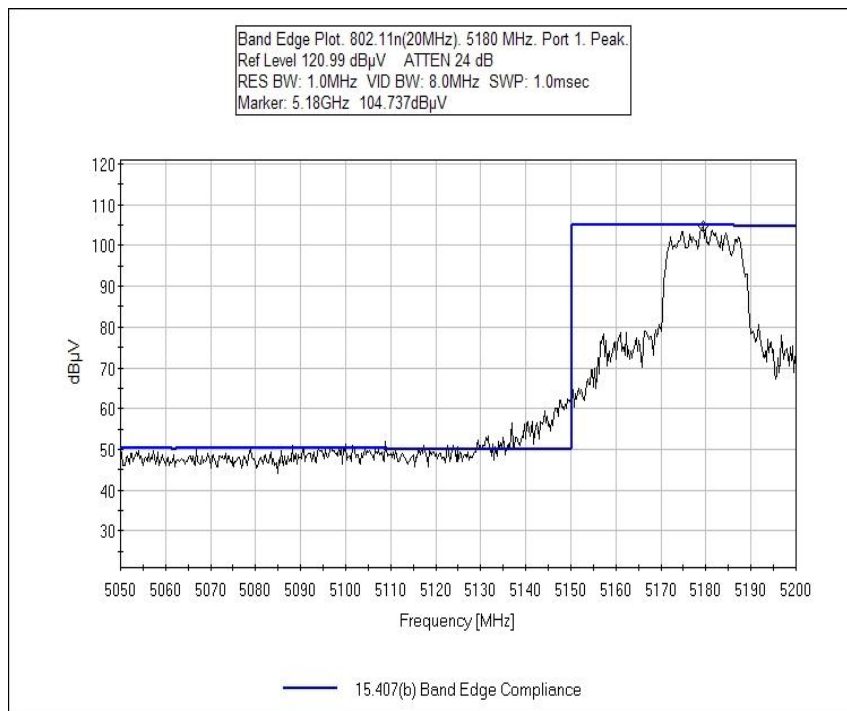
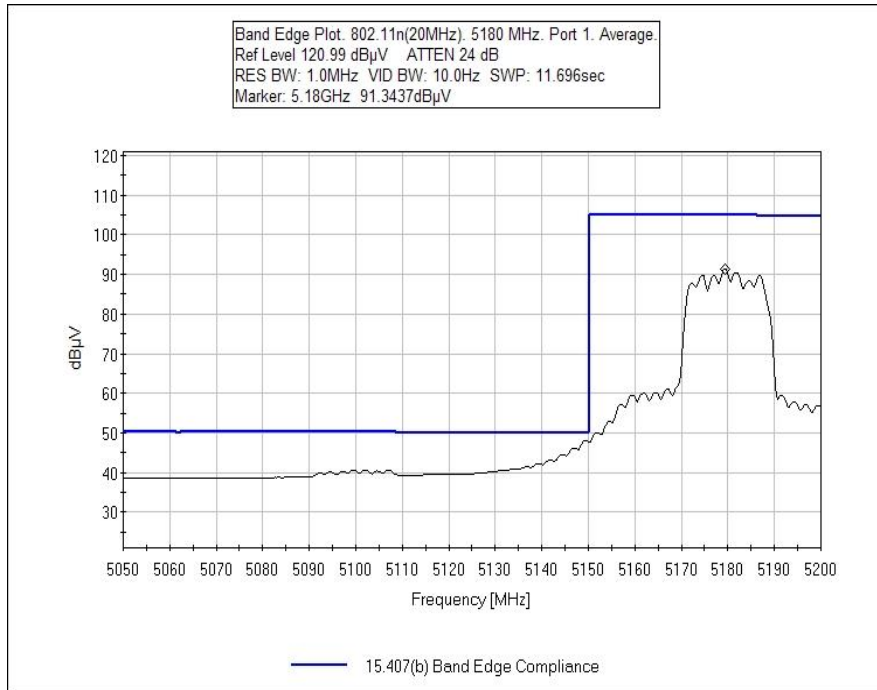


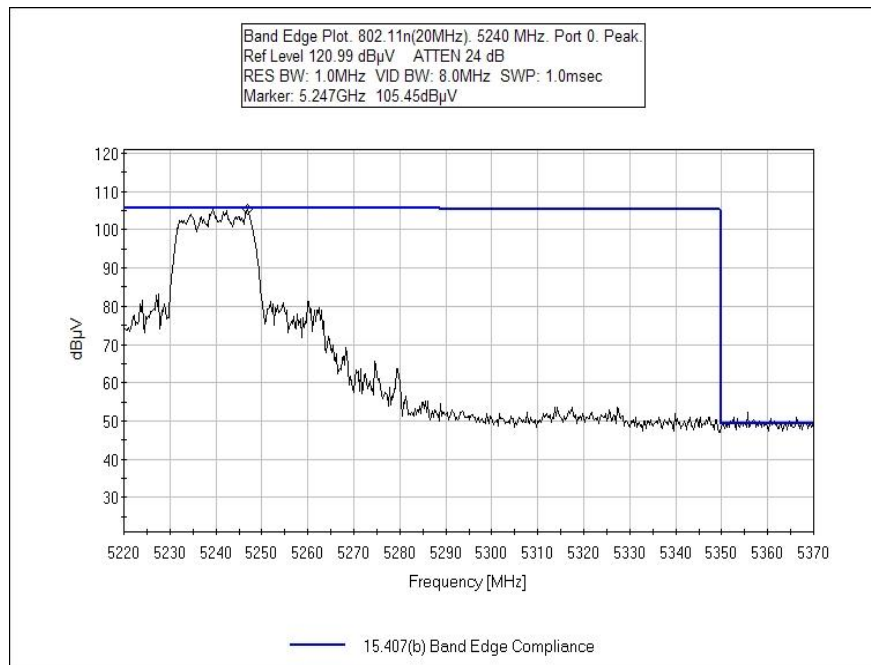
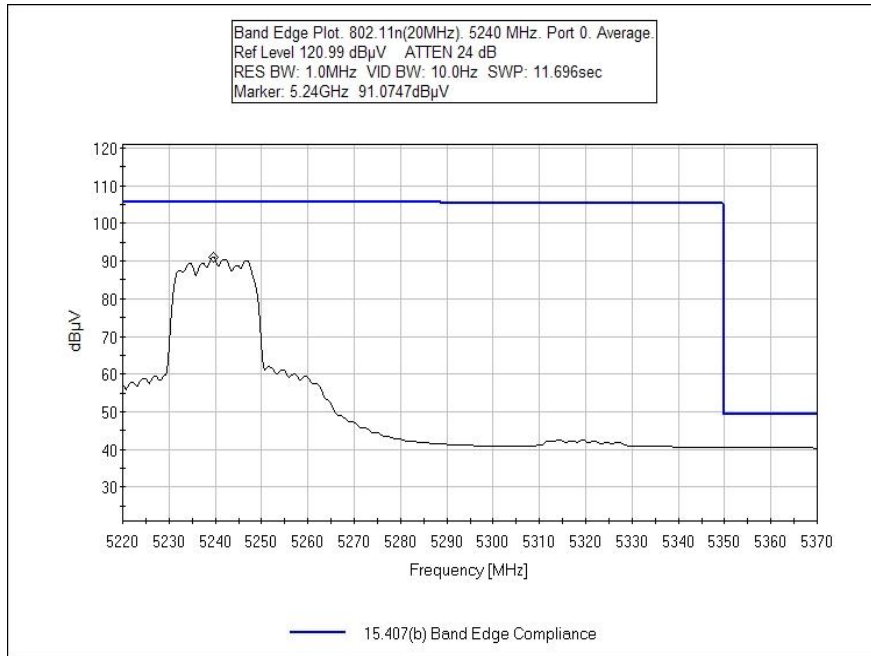


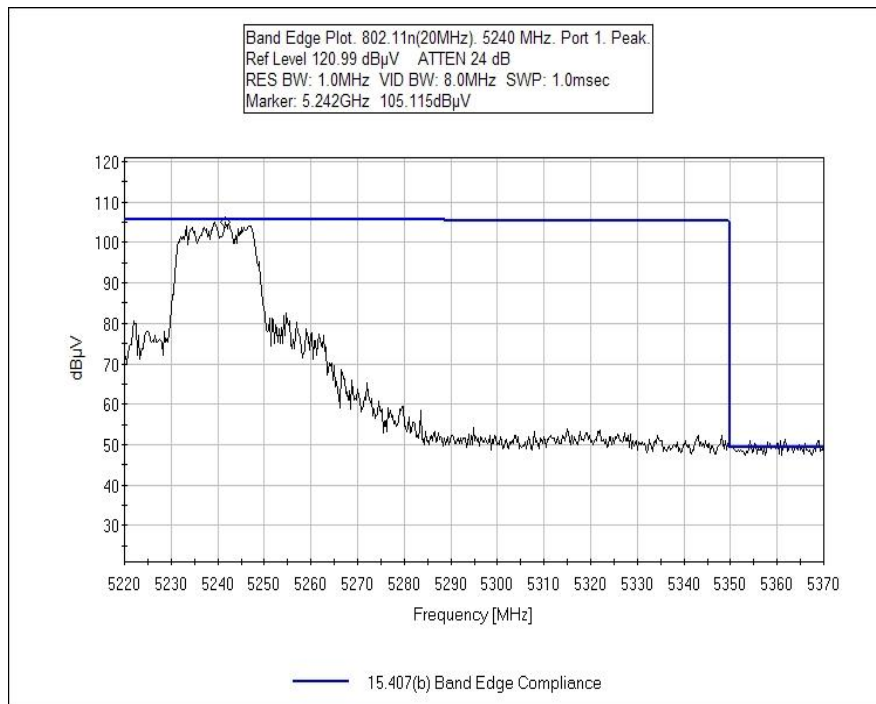
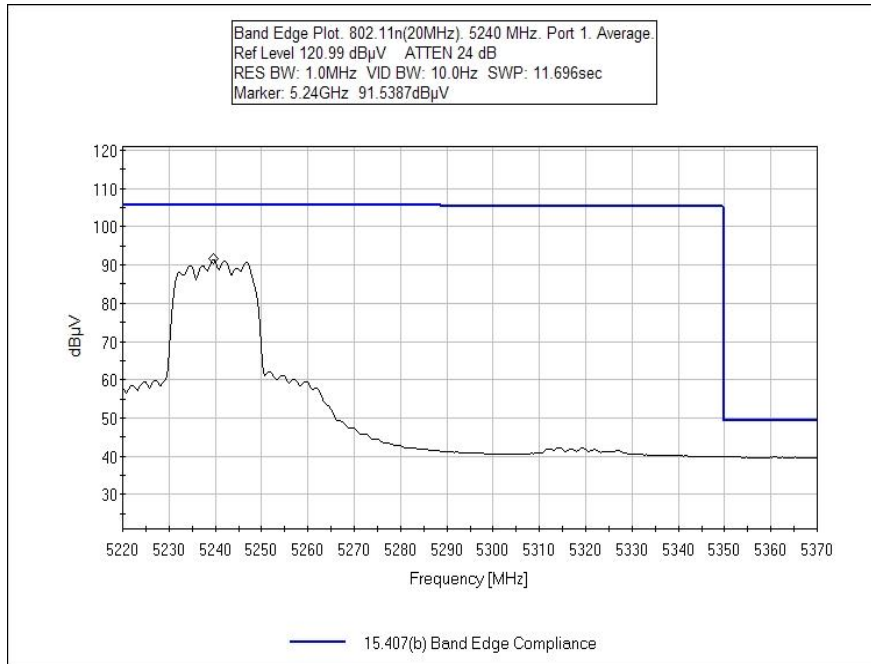


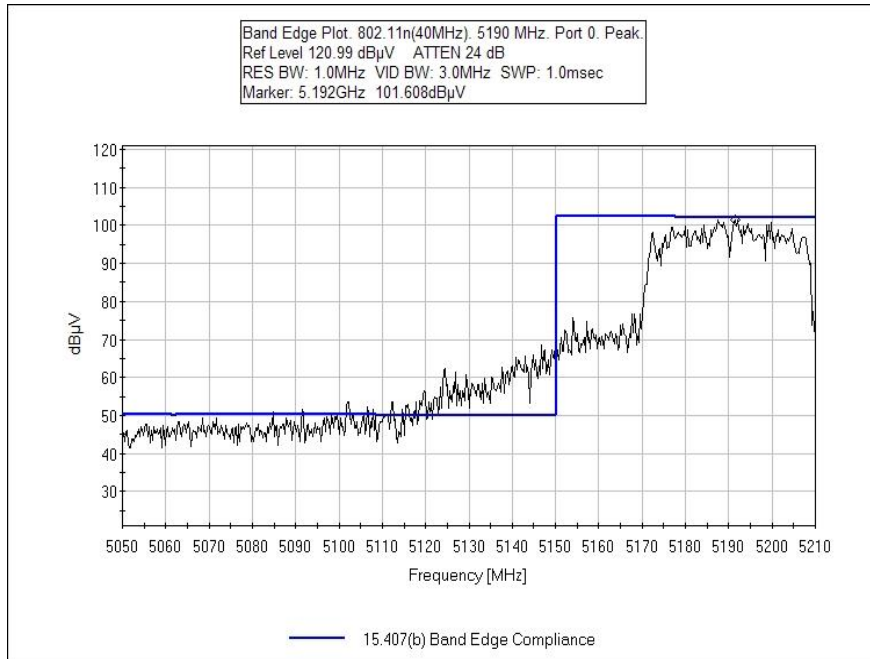
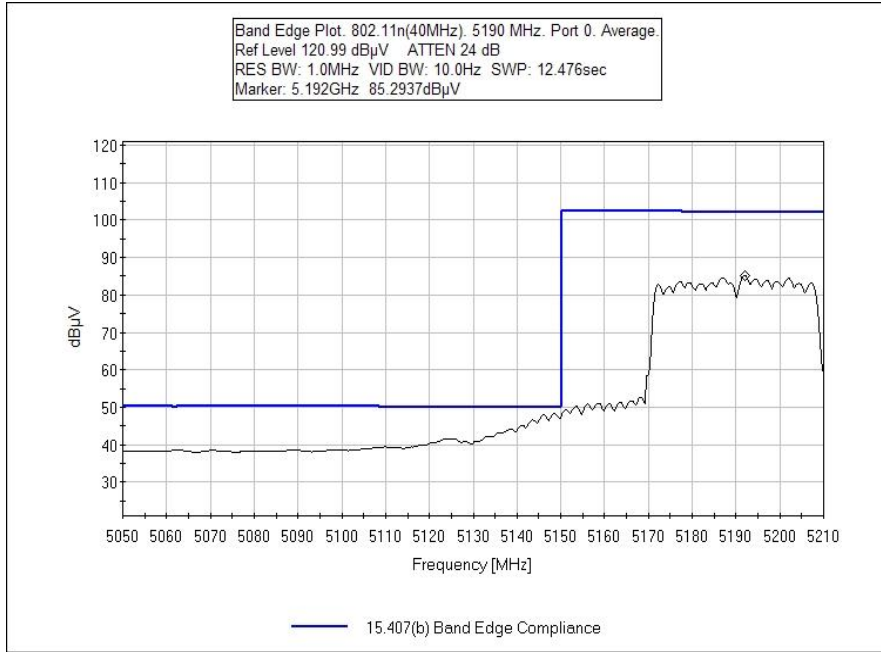


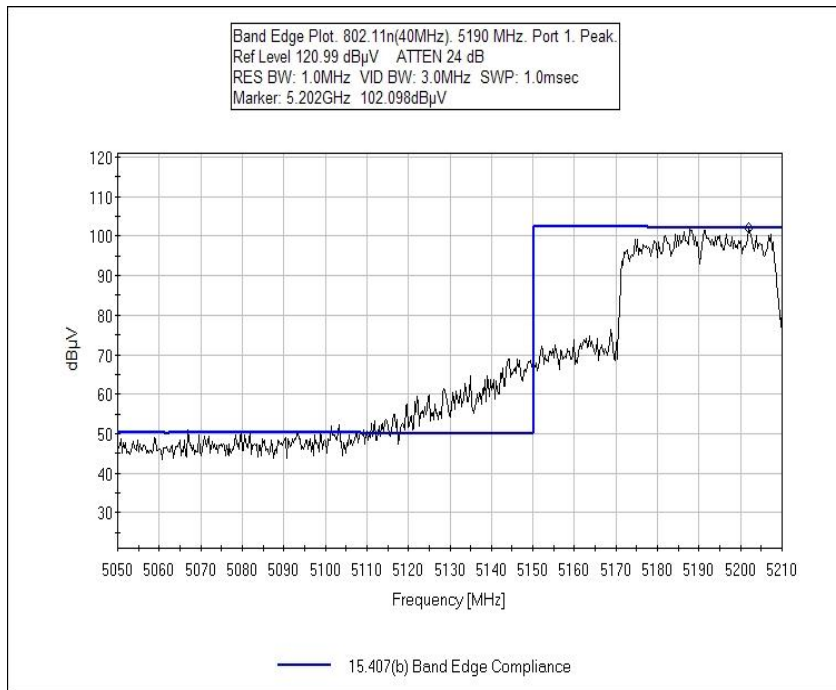
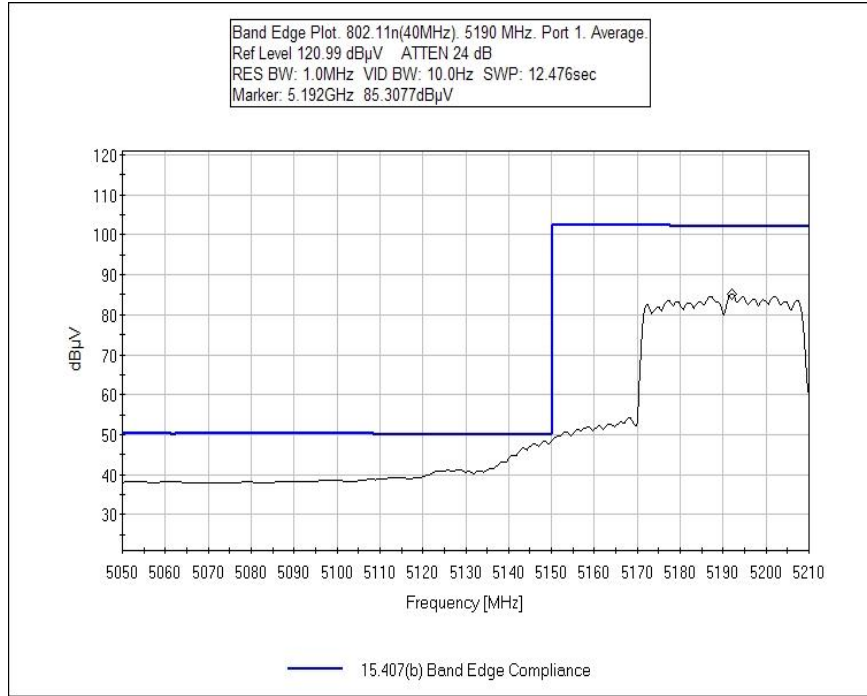


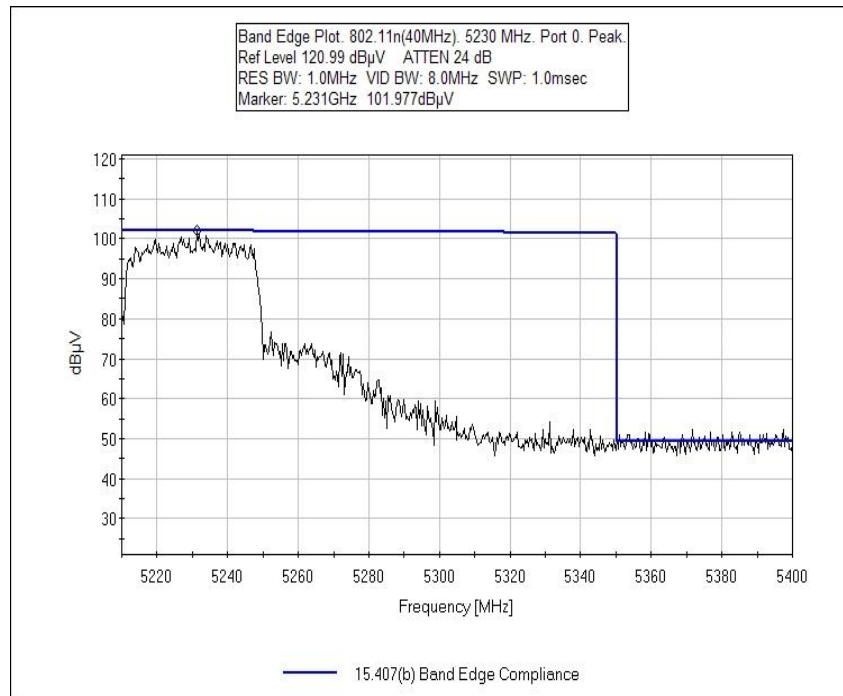
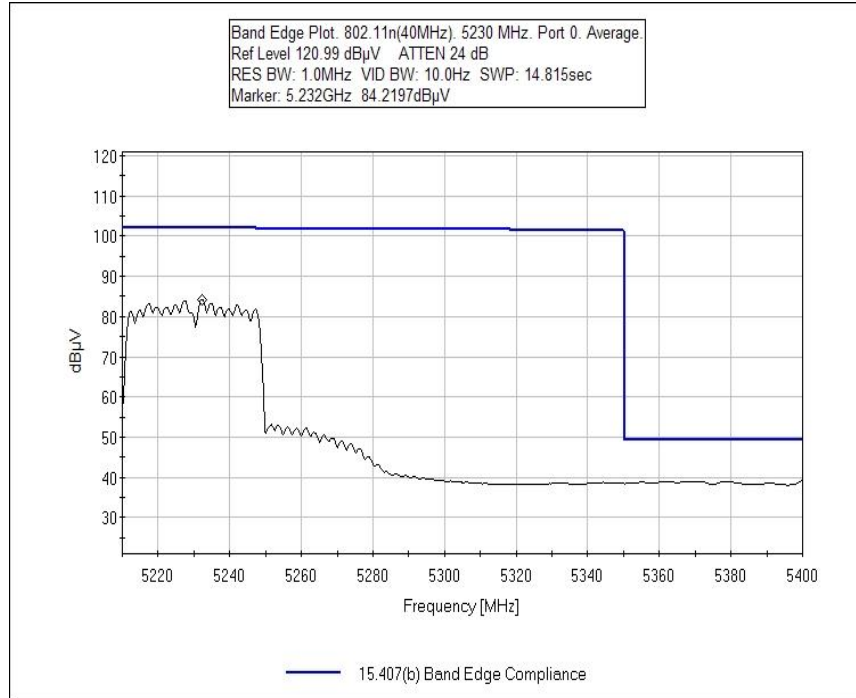


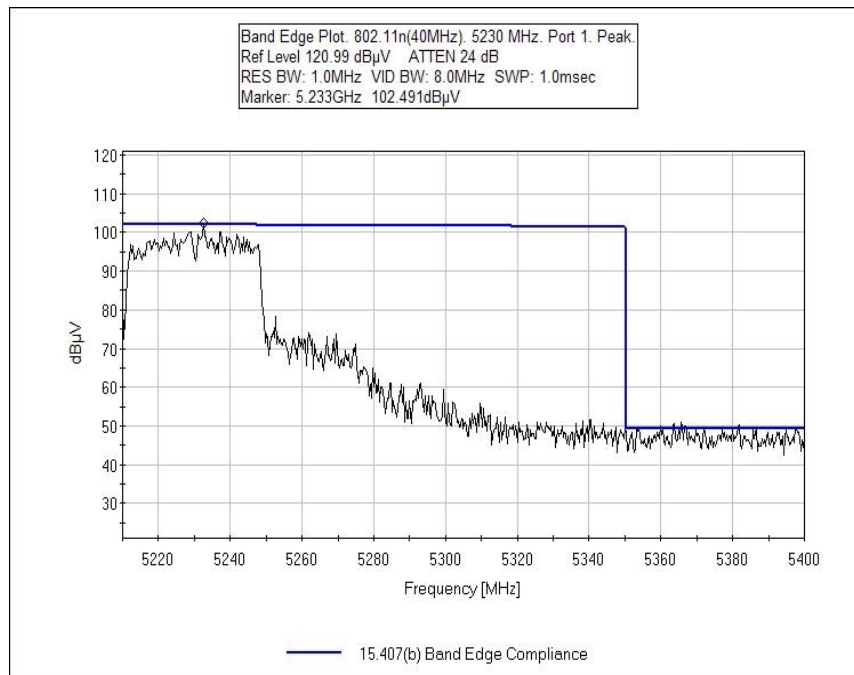
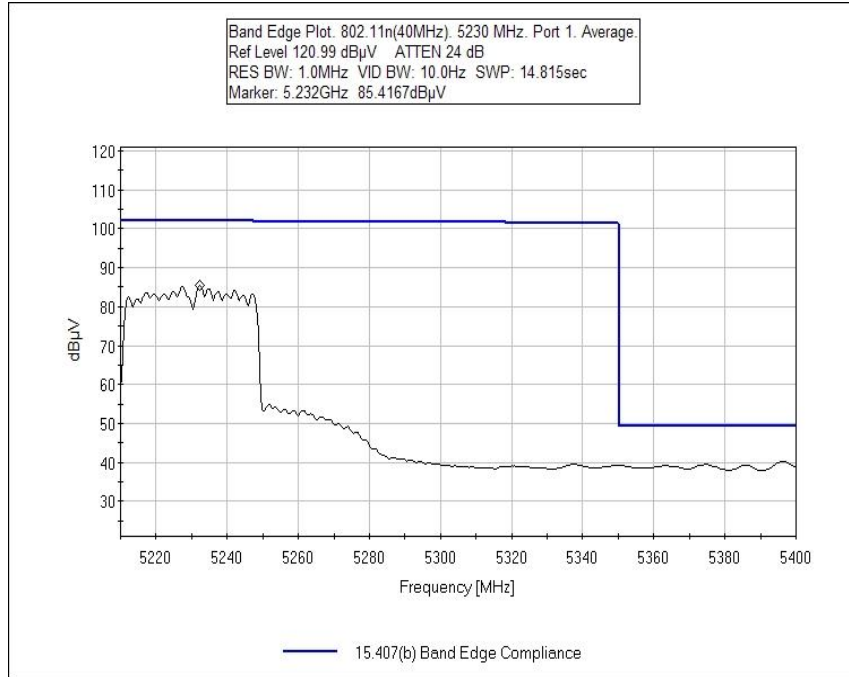












Test Setup Photos



RSS-210 §2.2 Restricted Bands

Test Data

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Motorola Mobility, Inc.**

Specification: **RSS-210 Unwanted Emissions in Restricted Bands (Radiated)**

Work Order #: **92800** Date: 2/28/2012

Test Type: **Maximized Emissions** Time: 14:53:43

Equipment: **DOCSIS 3.0 Wi-Fi Gateway** Sequence#: 8

Manufacturer: Motorola Mobility, Inc. Tested By: S. Yamamoto

Model: SBG6580 P2

S/N: 35560113060065107050085

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
T1	ANP05050	Cable	RG223/U	3/21/2011	3/21/2013
T2	AN00309	Preamp	8447D	5/7/2010	5/7/2012
T3	ANP05198	Cable	8268	12/21/2010	12/21/2012
T4	AN01995	Biconilog Antenna	CBL6111C	3/8/2010	3/8/2012
	AN00314	Loop Antenna	6502	6/30/2010	6/30/2012
T5	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
T6	AN03239	Cable	32022-2-29094K-24TC	8/30/2011	8/30/2013
T7	ANP06081	Cable	L1-PNMMN-48	4/28/2011	4/28/2013
T8	ANP05421	Cable	Sucoflex 104A	2/8/2012	2/8/2014
T9	AN00786	Preamp	83017A	8/5/2010	8/5/2012
T10	AN00849	Horn Antenna	3115	4/23/2010	4/23/2012
T11	AN02744	High Pass Filter	11SH10-3000/T10000-O/O	3/5/2010	3/5/2012
	ANP06153	Cable	16301	10/27/2011	10/27/2013
	AN01413	Horn Antenna-ANSI C63.5 Antenna Factors (dB)	84125-80008	12/2/2010	12/2/2012
T12	AN01413	Horn Antenna-1 Meter Antenna Factors (dB) - SAE ARP 958	84125-80008	12/2/2010	12/2/2012
	AN03158	Active Horn Antenna	AMFW-5F-26004000-33-8P	4/1/2010	4/1/2012
T13	AN02945	Cable	32022-2-2909K-36TC	10/19/2011	10/19/2013

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
DOCSIS 3.0 Wi-Fi Gateway*	Motorola Mobility, Inc.	SBG6580 P2	3556011306006510705008 5
AC to 12Vdc Power Adapter	Asian Power Devices, Inc.	WA-24 12FU	

Support Devices:

Function	Manufacturer	Model #	S/N
Broadband Router	CASA Systems	C2200	FD3460
Gigabit Switch	Netgear	GS105v2	
Laptop Computer	HP	Compaq 6910p	
Performance Analysis System	Spirent	SMB-600B	N06012143
8 Way Splitter	Regal	DS8DGV10	
8 Way Splitter	Regal	DS8DGV10	
DHCP Server	HP	Compaq 6910p	
Diplexer	Eagle Comtronics	EDPF-65/85	(none)
Laptop Computer	Dell	Precision M70	

Test Conditions / Notes:

The equipment under test (EUT) is a DOCSIS 3.0 Wi-Fi Gateway. The EUT and its AC to DC adapter are stand alone on the table top lined with 5cm thick Styrofoam. All other support equipment is located remote from this test area. The CM Ethernet ports are connected to the SmartBits performance analysis system. The CM RF port is connected to the diplexer, then splitters and finally to the broadband router (CASA). The DHCP server is connected to the broadband router through the gigabit switch. The laptop is connected to the performance analysis system. The SmartBits is turned on and running data. Tx Bytes Rate approximately 14.8 M and Rx Bytes Rate approximately 12.3 M. The CM is operational with the CASA set to DS 813MHz, 819MHz, 825MHz, 831MHz, 0.0dBmV. The EUT is transmitting continuously.

Hardware Version: 2. Software Version: SBG6580-3.3.1.0-GA-10-065-DIAG. Site A.

Frequency range of EUT: 5180MHz to 5240MHz

Transmit Frequencies used for this data sheet: 5180MHz (Low), 5200MHz (Middle), and 5240MHz (High). Channels 36, 40, and 48. 802.11a (6 Mbps)

Antenna: Antenna Gain: 4.1 dBi max at 2.4GHz band. Antenna Gain: 4.4 dBi max at 5GHz band

Frequency range of measurement = 9 kHz to 40GHz.

Frequency 9 kHz - 150 kHz RBW=200 Hz, VBW=200 Hz; 150 kHz- 30 MHz RBW=9 kHz, VBW=9 kHz; 30 MHz- 1000 MHz RBW=120 kHz, VBW=120 kHz; 1000 MHz- 40000 MHz RBW=1 MHz, VBW=1 MHz.

Temperature: 18°C, Humidity: 48%, Pressure: 100kPa.

Ext Attn: 0 dB

Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T5	T6	T7	T8					
			T9	T10	T11	T12					
			T13								
	MHz	dB μ V	dB	dB	dB	dB	Table	dB μ V/m	dB μ V/m	dB	Ant
1	15600.857	30.9	+0.0	+0.0	+0.0	+0.0	+0.0	51.7	54.0	-2.3	Vert
	M		+0.0	+1.0	+9.8	+3.3					
	Ave		-34.7	+41.4	+0.0	+0.0					
			+0.0								
^	15600.857	41.2	+0.0	+0.0	+0.0	+0.0	+0.0	62.0	54.0	+8.0	Vert
	M		+0.0	+1.0	+9.8	+3.3					
			-34.7	+41.4	+0.0	+0.0					
			+0.0								
3	15719.500	30.0	+0.0	+0.0	+0.0	+0.0	+0.0	50.9	54.0	-3.1	Vert
	M		+0.0	+1.0	+9.8	+3.3					
	Ave		-34.5	+41.3	+0.0	+0.0					
			+0.0								
^	15719.500	41.1	+0.0	+0.0	+0.0	+0.0	+0.0	62.0	54.0	+8.0	Vert
	M		+0.0	+1.0	+9.8	+3.3					
			-34.5	+41.3	+0.0	+0.0					
			+0.0								
5	15540.967	30.1	+0.0	+0.0	+0.0	+0.0	+0.0	50.8	54.0	-3.2	Vert
	M		+0.0	+1.0	+9.7	+3.3					
	Ave		-34.8	+41.5	+0.0	+0.0					
			+0.0								
^	15540.967	42.3	+0.0	+0.0	+0.0	+0.0	+0.0	63.0	54.0	+9.0	Vert
	M		+0.0	+1.0	+9.7	+3.3					
			-34.8	+41.5	+0.0	+0.0					
			+0.0								
7	20959.850	49.5	+0.0	+0.0	+0.0	+0.0	-9.5	50.6	54.0	-3.4	Horiz
	M		+0.0	+1.2	+0.0	+0.0					
			-32.8	+0.0	+0.0	+39.6					
			+2.6								
8	20799.783	49.2	+0.0	+0.0	+0.0	+0.0	-9.5	50.3	54.0	-3.7	Vert
	M		+0.0	+1.1	+0.0	+0.0					
			-32.8	+0.0	+0.0	+39.8					
			+2.5								
9	20799.783	48.9	+0.0	+0.0	+0.0	+0.0	-9.5	50.0	54.0	-4.0	Horiz
	M		+0.0	+1.1	+0.0	+0.0					
			-32.8	+0.0	+0.0	+39.8					
			+2.5								
10	15718.784	29.1	+0.0	+0.0	+0.0	+0.0	+0.0	50.0	54.0	-4.0	Horiz
	M		+0.0	+1.0	+9.8	+3.3					
	Ave		-34.5	+41.3	+0.0	+0.0					
			+0.0								
^	15718.784	39.7	+0.0	+0.0	+0.0	+0.0	+0.0	60.6	54.0	+6.6	Horiz
	M		+0.0	+1.0	+9.8	+3.3					
			-34.5	+41.3	+0.0	+0.0					
			+0.0								

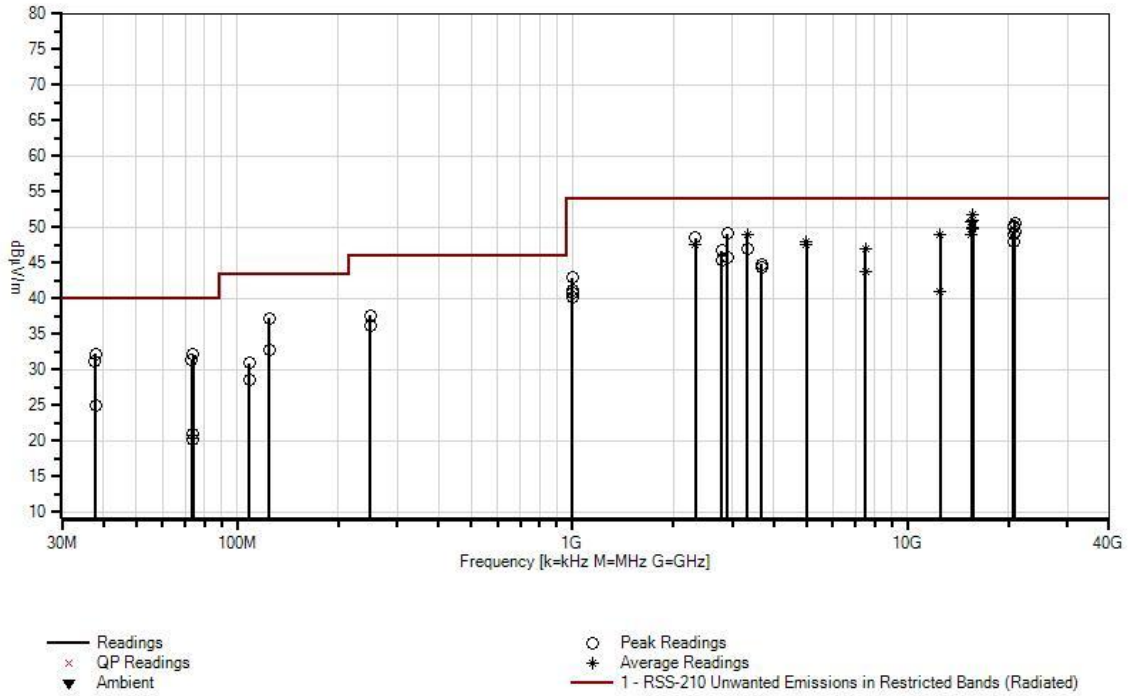
12	15599.200	28.9	+0.0	+0.0	+0.0	+0.0	+0.0	49.7	54.0	-4.3	Horiz
	M		+0.0	+1.0	+9.8	+3.3					
	Ave		-34.7	+41.4	+0.0	+0.0					
			+0.0								
^	15599.200	38.5	+0.0	+0.0	+0.0	+0.0	+0.0	59.3	54.0	+5.3	Horiz
	M		+0.0	+1.0	+9.8	+3.3					
			-34.7	+41.4	+0.0	+0.0					
			+0.0								
14	20959.817	48.3	+0.0	+0.0	+0.0	+0.0	-9.5	49.4	54.0	-4.6	Vert
	M		+0.0	+1.2	+0.0	+0.0					
			-32.8	+0.0	+0.0	+39.6					
			+2.6								
15	2899.988M	50.8	+0.0	+0.0	+0.0	+0.0	+0.0	49.1	54.0	-4.9	Horiz
			+0.0	+0.4	+3.6	+1.4					
			-37.9	+29.7	+1.1	+0.0					
			+0.0								
16	15541.425	28.4	+0.0	+0.0	+0.0	+0.0	+0.0	49.1	54.0	-4.9	Horiz
	M		+0.0	+1.0	+9.7	+3.3					
	Ave		-34.8	+41.5	+0.0	+0.0					
			+0.0								
^	15541.425	37.3	+0.0	+0.0	+0.0	+0.0	+0.0	58.0	54.0	+4.0	Horiz
	M		+0.0	+1.0	+9.7	+3.3					
			-34.8	+41.5	+0.0	+0.0					
			+0.0								
18	3333.317M	49.7	+0.0	+0.0	+0.0	+0.0	+0.0	49.1	54.0	-4.9	Horiz
	Ave		+0.0	+0.4	+3.9	+1.5					
			-37.7	+30.7	+0.6	+0.0					
			+0.0								
^	3333.317M	53.1	+0.0	+0.0	+0.0	+0.0	+0.0	52.5	54.0	-1.5	Horiz
			+0.0	+0.4	+3.9	+1.5					
			-37.7	+30.7	+0.6	+0.0					
			+0.0								
20	20719.833	48.0	+0.0	+0.0	+0.0	+0.0	-9.5	49.1	54.0	-5.0	Vert
	M		+0.0	+1.1	+0.0	+0.0					
			-32.9	+0.0	+0.0	+39.9					
			+2.5								
21	12499.947	33.3	+0.0	+0.0	+0.0	+0.0	+0.0	48.9	54.0	-5.1	Horiz
	M		+0.0	+0.8	+8.9	+2.9					
	Ave		-35.9	+38.7	+0.2	+0.0					
			+0.0								
^	12499.947	36.7	+0.0	+0.0	+0.0	+0.0	+0.0	52.3	54.0	-1.7	Horiz
	M		+0.0	+0.8	+8.9	+2.9					
			-35.9	+38.7	+0.2	+0.0					
			+0.0								
23	2333.324M	53.3	+0.0	+0.0	+0.0	+0.0	+0.0	48.5	54.0	-5.5	Vert
			+0.0	+0.4	+3.2	+1.3					
			-38.0	+28.3	+0.0	+0.0					
			+0.0								
24	4999.977M	44.2	+0.0	+0.0	+0.0	+0.0	+0.0	48.1	54.0	-5.9	Vert
	Ave		+0.0	+0.5	+5.0	+1.8					
			-37.0	+33.3	+0.3	+0.0					
			+0.0								

^	4999.977M	47.0	+0.0	+0.0	+0.0	+0.0	+0.0	50.9	54.0	-3.1	Vert
			+0.0	+0.5	+5.0	+1.8					
			-37.0	+33.3	+0.0	+0.0					
			+0.0								
26	20719.717 M	46.9	+0.0	+0.0	+0.0	+0.0	-9.5	48.0	54.0	-6.0	Horiz
			+0.0	+1.1	+0.0	+0.0					
			-32.9	+0.0	+0.0	+39.9					
			+2.5								
27	124.998M	50.8	+0.2	-27.8	+1.9	+12.1	+0.0	37.2	43.5	-6.3	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
28	4999.978M Ave	43.7	+0.0	+0.0	+0.0	+0.0	+0.0	47.6	54.0	-6.4	Horiz
			+0.0	+0.5	+5.0	+1.8					
			-37.0	+33.3	+0.3	+0.0					
			+0.0								
^	4999.978M	46.5	+0.0	+0.0	+0.0	+0.0	+0.0	50.4	54.0	-3.6	Horiz
			+0.0	+0.5	+5.0	+1.8					
			-37.0	+33.3	+0.3	+0.0					
			+0.0								
30	2333.317M Ave	52.4	+0.0	+0.0	+0.0	+0.0	+0.0	47.6	54.0	-6.4	Horiz
			+0.0	+0.4	+3.2	+1.3					
			-38.0	+28.3	+0.0	+0.0					
			+0.0								
^	2333.317M	55.6	+0.0	+0.0	+0.0	+0.0	+0.0	50.8	54.0	-3.2	Horiz
			+0.0	+0.4	+3.2	+1.3					
			-38.0	+28.3	+0.0	+0.0					
			+0.0								
32	7499.966M Ave	38.4	+0.0	+0.0	+0.0	+0.0	+0.0	47.0	54.0	-7.0	Horiz
			+0.0	+0.7	+6.5	+2.3					
			-36.5	+35.5	+0.1	+0.0					
			+0.0								
^	7499.966M	42.6	+0.0	+0.0	+0.0	+0.0	+0.0	51.2	54.0	-2.8	Horiz
			+0.0	+0.7	+6.5	+2.3					
			-36.5	+35.5	+0.1	+0.0					
			+0.0								
34	3333.321M	47.6	+0.0	+0.0	+0.0	+0.0	+0.0	47.0	54.0	-7.0	Vert
			+0.0	+0.4	+3.9	+1.5					
			-37.7	+30.7	+0.6	+0.0					
			+0.0								
35	2799.984M	45.8	+0.0	+0.0	+0.0	+0.0	+0.0	46.8	54.0	-7.2	Horiz
			+0.0	+0.4	+3.5	+1.4					
			-37.8	+29.4	+4.1	+0.0					
			+0.0								
36	37.902M	44.5	+0.1	-27.8	+1.0	+14.5	+0.0	32.3	40.0	-7.7	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
37	74.008M	51.8	+0.1	-27.9	+1.4	+6.7	+0.0	32.1	40.0	-7.9	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								

38	2899.988M	47.4	+0.0	+0.0	+0.0	+0.0	+0.0	45.7	54.0	-8.3	Vert
			+0.0	+0.4	+3.6	+1.4					
			-37.9	+29.7	+1.1	+0.0					
			+0.0								
39	249.998M	49.7	+0.2	-27.8	+2.8	+12.7	+0.0	37.6	46.0	-8.4	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
40	2799.982M	44.5	+0.0	+0.0	+0.0	+0.0	+0.0	45.5	54.0	-8.5	Vert
			+0.0	+0.4	+3.5	+1.4					
			-37.8	+29.4	+4.1	+0.0					
			+0.0								
41	73.320M	51.2	+0.1	-27.9	+1.4	+6.5	+0.0	31.3	40.0	-8.7	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
42	37.609M	43.2	+0.1	-27.8	+1.0	+14.7	+0.0	31.2	40.0	-8.8	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
43	3666.656M	44.4	+0.0	+0.0	+0.0	+0.0	+0.0	44.9	54.0	-9.1	Vert
			+0.0	+0.4	+4.2	+1.6					
			-37.4	+31.3	+0.4	+0.0					
			+0.0								
44	3666.655M	43.8	+0.0	+0.0	+0.0	+0.0	+0.0	44.3	54.0	-9.7	Horiz
			+0.0	+0.4	+4.2	+1.6					
			-37.4	+31.3	+0.4	+0.0					
			+0.0								
45	249.998M	48.2	+0.2	-27.8	+2.8	+12.7	+0.0	36.1	46.0	-9.9	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
46	7499.965M Ave	35.3	+0.0	+0.0	+0.0	+0.0	+0.0	43.9	54.0	-10.1	Vert
			+0.0	+0.7	+6.5	+2.3					
			-36.5	+35.5	+0.1	+0.0					
			+0.0								
^	7499.965M	40.9	+0.0	+0.0	+0.0	+0.0	+0.0	49.5	54.0	-4.5	Vert
			+0.0	+0.7	+6.5	+2.3					
			-36.5	+35.5	+0.1	+0.0					
			+0.0								
48	125.007M	46.4	+0.2	-27.8	+1.9	+12.1	+0.0	32.8	43.5	-10.7	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
49	999.993M	38.6	+0.6	-27.3	+6.2	+24.8	+0.0	42.9	54.0	-11.1	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
50	108.799M	45.9	+0.1	-27.8	+1.8	+10.9	+0.0	30.9	43.5	-12.6	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								

51	1000.008M	54.2	+0.0	+0.0	+0.0	+0.0	+0.0	41.2	54.0	-12.8	Vert
			+0.0	+0.3	+2.0	+0.9					
			-40.4	+24.2	+0.0	+0.0					
			+0.0								
52	12499.972 M Ave	25.3	+0.0	+0.0	+0.0	+0.0	+0.0	40.9	54.0	-13.1	Vert
			+0.0	+0.8	+8.9	+2.9					
			-35.9	+38.7	+0.2	+0.0					
			+0.0								
^	12499.972 M	33.5	+0.0	+0.0	+0.0	+0.0	+0.0	49.1	54.0	-4.9	Vert
			+0.0	+0.8	+8.9	+2.9					
			-35.9	+38.7	+0.2	+0.0					
			+0.0								
54	999.992M	36.5	+0.6	-27.3	+6.2	+24.8	+0.0	40.8	54.0	-13.2	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
55	1000.016M	53.1	+0.0	+0.0	+0.0	+0.0	+0.0	40.1	54.0	-13.9	Horiz
			+0.0	+0.3	+2.0	+0.9					
			-40.4	+24.2	+0.0	+0.0					
			+0.0								
56	108.804M	43.6	+0.1	-27.8	+1.8	+10.9	+0.0	28.6	43.5	-14.9	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
57	37.877M	37.1	+0.1	-27.8	+1.0	+14.6	+0.0	25.0	40.0	-15.0	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
58	74.012M	40.6	+0.1	-27.9	+1.4	+6.7	+0.0	20.9	40.0	-19.1	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
59	73.985M	40.1	+0.1	-27.9	+1.4	+6.6	+0.0	20.3	40.0	-19.7	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								

CKC Laboratories, Inc. Date: 2/28/2012 Time: 14:53:43 Motorola Mobility, Inc. WO#: 92800
 RSS-210 Unwanted Emissions in Restricted Bands (Radiated) Test Distance: 3 Meters Sequence#: 8 Ext ATTN: 0 dB





Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Motorola Mobility, Inc.**
 Specification: **RSS-210 Unwanted Emissions in Restricted Bands (Radiated)**
 Work Order #: **92800** Date: 2/28/2012
 Test Type: **Maximized Emissions** Time: 14:53:43
 Equipment: **DOCSIS 3.0 Wi-Fi Gateway** Sequence#: 9
 Manufacturer: Motorola Mobility, Inc. Tested By: S. Yamamoto
 Model: SBG6580 P2
 S/N: 35560113060065107050085

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
T1	ANP05050	Cable	RG223/U	3/21/2011	3/21/2013
T2	AN00309	Preamp	8447D	5/7/2010	5/7/2012
T3	ANP05198	Cable	8268	12/21/2010	12/21/2012
T4	AN01995	Biconilog Antenna	CBL6111C	3/8/2010	3/8/2012
	AN00314	Loop Antenna	6502	6/30/2010	6/30/2012
T5	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
T6	AN03239	Cable	32022-2-29094K- 24TC	8/30/2011	8/30/2013
T7	ANP06081	Cable	L1-PNMNM-48	4/28/2011	4/28/2013
T8	ANP05421	Cable	Sucoflex 104A	2/8/2012	2/8/2014
T9	AN00786	Preamp	83017A	8/5/2010	8/5/2012
T10	AN00849	Horn Antenna	3115	4/23/2010	4/23/2012
T11	AN02744	High Pass Filter	11SH10- 3000/T10000- O/O	3/5/2010	3/5/2012
	ANP06153	Cable	16301	10/27/2011	10/27/2013
	AN01413	Horn Antenna-ANSI C63.5 Antenna Factors (dB)	84125-80008	12/2/2010	12/2/2012
T12	AN01413	Horn Antenna-1 Meter Antenna Factors (dB) - SAE ARP 958	84125-80008	12/2/2010	12/2/2012
	AN03158	Active Horn Antenna	AMFW-5F- 26004000-33-8P	4/1/2010	4/1/2012
T13	AN02945	Cable	32022-2-2909K- 36TC	10/19/2011	10/19/2013

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
DOCSIS 3.0 Wi-Fi Gateway*	Motorola Mobility, Inc.	SBG6580 P2	3556011306006510705008 5
AC to 12Vdc Power Adapter	Asian Power Devices, Inc.	WA-24 12FU	

Support Devices:

Function	Manufacturer	Model #	S/N
Broadband Router	CASA Systems	C2200	FD3460
Gigabit Switch	Netgear	GS105v2	
Laptop Computer	HP	Compaq 6910p	
Performance Analysis System	Spirent	SMB-600B	N06012143
8 Way Splitter	Regal	DS8DGV10	
8 Way Splitter	Regal	DS8DGV10	
DHCP Server	HP	Compaq 6910p	
Diplexer	Eagle Comtronics	EDPF-65/85	(none)
Laptop Computer	Dell	Precision M70	

Test Conditions / Notes:

The equipment under test (EUT) is a DOCSIS 3.0 Wi-Fi Gateway. The EUT and its AC to DC adapter are stand alone on the table top lined with 5cm thick Styrofoam. All other support equipment is located remote from this test area. The CM Ethernet ports are connected to the SmartBits performance analysis system. The CM RF port is connected to the diplexer, then splitters and finally to the broadband router (CASA). The DHCP server is connected to the broadband router through the gigabit switch. The laptop is connected to the performance analysis system. The SmartBits is turned on and running data. Tx Bytes Rate approximately 14.8 M and Rx Bytes Rate approximately 12.3 M. The CM is operational with the CASA set to DS 813MHz, 819MHz, 825MHz, 831MHz, 0.0dBmV. The EUT is transmitting continuously.
 Hardware Version: 2. Software Version: SBG6580-3.3.1.0-GA-10-065-DIAG. Site A.
 Frequency range of EUT: 5180MHz to 5240MHz
 Transmit Frequencies used for this data sheet: 5180MHz (Low), 5200MHz (Middle), and 5240MHz (High).
 Channels 36, 40, and 48. 802.11n (20MHz) (7.2 Mbps)
 Antenna: Antenna Gain: 4.1 dBi max at 2.4GHz band. Antenna Gain: 4.4 dBi max at 5GHz band
 Frequency range of measurement = 9 kHz to 40GHz.
 Frequency 9 kHz - 150 kHz RBW=200 Hz, VBW=200 Hz; 150 kHz- 30 MHz RBW=9 kHz, VBW=9 kHz; 30 MHz- 1000 MHz RBW=120 kHz, VBW=120 kHz; 1000 MHz- 40000 MHz RBW=1 MHz, VBW=1 MHz.
 Temperature: 18°C, Humidity: 48%, Pressure: 100kPa.

Ext Attn: 0 dB

Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T5	T6	T7	T8					
			T9	T10	T11	T12					
			T13								
	MHz	dB μ V	dB	dB	dB	dB	Table	dB μ V/m	dB μ V/m	dB	Ant
1	15540.583	30.1	+0.0	+0.0	+0.0	+0.0	+0.0	50.8	54.0	-3.2	Vert
	M		+0.0	+1.0	+9.7	+3.3					
	Ave		-34.8	+41.5	+0.0	+0.0					
			+0.0								
^	15540.583	41.7	+0.0	+0.0	+0.0	+0.0	+0.0	62.4	54.0	+8.4	Vert
	M		+0.0	+1.0	+9.7	+3.3					
			-34.8	+41.5	+0.0	+0.0					
			+0.0								
3	20959.808	49.6	+0.0	+0.0	+0.0	+0.0	-9.5	50.7	54.0	-3.3	Horiz
	M		+0.0	+1.2	+0.0	+0.0					
			-32.8	+0.0	+0.0	+39.6					
			+2.6								
4	15601.667	29.6	+0.0	+0.0	+0.0	+0.0	+0.0	50.4	54.0	-3.6	Vert
	M		+0.0	+1.0	+9.8	+3.3					
	Ave		-34.7	+41.4	+0.0	+0.0					
			+0.0								
^	15601.667	41.7	+0.0	+0.0	+0.0	+0.0	+0.0	62.5	54.0	+8.5	Vert
	M		+0.0	+1.0	+9.8	+3.3					
			-34.7	+41.4	+0.0	+0.0					
			+0.0								
6	15717.750	29.4	+0.0	+0.0	+0.0	+0.0	+0.0	50.3	54.0	-3.7	Vert
	M		+0.0	+1.0	+9.8	+3.3					
	Ave		-34.5	+41.3	+0.0	+0.0					
			+0.0								
^	15717.750	41.8	+0.0	+0.0	+0.0	+0.0	+0.0	62.7	54.0	+8.7	Vert
	M		+0.0	+1.0	+9.8	+3.3					
			-34.5	+41.3	+0.0	+0.0					
			+0.0								
8	20799.833	48.8	+0.0	+0.0	+0.0	+0.0	-9.5	49.9	54.0	-4.1	Vert
	M		+0.0	+1.1	+0.0	+0.0					
			-32.8	+0.0	+0.0	+39.8					
			+2.5								
9	20799.733	48.6	+0.0	+0.0	+0.0	+0.0	-9.5	49.7	54.0	-4.3	Horiz
	M		+0.0	+1.1	+0.0	+0.0					
			-32.8	+0.0	+0.0	+39.8					
			+2.5								
10	15541.325	28.9	+0.0	+0.0	+0.0	+0.0	+0.0	49.6	54.0	-4.4	Horiz
	M		+0.0	+1.0	+9.7	+3.3					
	Ave		-34.8	+41.5	+0.0	+0.0					
			+0.0								
^	15541.325	39.6	+0.0	+0.0	+0.0	+0.0	+0.0	60.3	54.0	+6.3	Horiz
	M		+0.0	+1.0	+9.7	+3.3					
			-34.8	+41.5	+0.0	+0.0					
			+0.0								

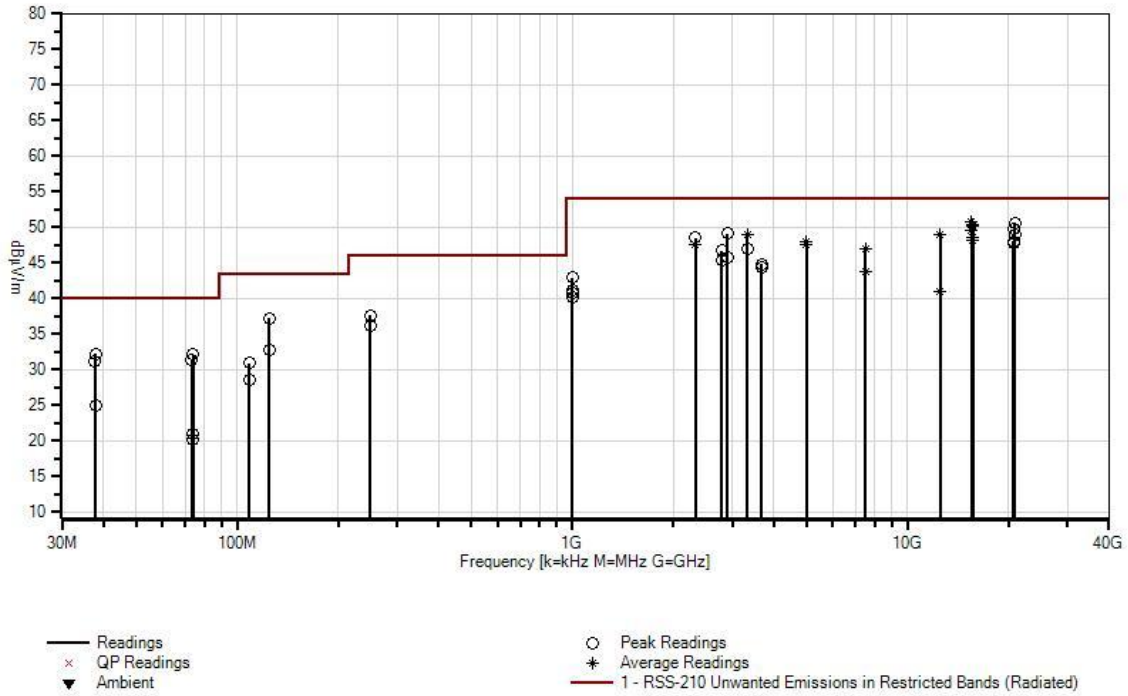
12	2899.988M	50.8	+0.0	+0.0	+0.0	+0.0	+0.0	49.1	54.0	-4.9	Horiz
			+0.0	+0.4	+3.6	+1.4					
			-37.9	+29.7	+1.1	+0.0					
			+0.0								
13	3333.317M	49.7	+0.0	+0.0	+0.0	+0.0	+0.0	49.1	54.0	-4.9	Horiz
	Ave		+0.0	+0.4	+3.9	+1.5					
			-37.7	+30.7	+0.6	+0.0					
			+0.0								
^	3333.317M	53.1	+0.0	+0.0	+0.0	+0.0	+0.0	52.5	54.0	-1.5	Horiz
			+0.0	+0.4	+3.9	+1.5					
			-37.7	+30.7	+0.6	+0.0					
			+0.0								
15	20959.858	48.0	+0.0	+0.0	+0.0	+0.0	-9.5	49.1	54.0	-4.9	Vert
	M		+0.0	+1.2	+0.0	+0.0					
			-32.8	+0.0	+0.0	+39.6					
			+2.6								
16	12499.947	33.3	+0.0	+0.0	+0.0	+0.0	+0.0	48.9	54.0	-5.1	Horiz
	M		+0.0	+0.8	+8.9	+2.9					
	Ave		-35.9	+38.7	+0.2	+0.0					
			+0.0								
^	12499.947	36.7	+0.0	+0.0	+0.0	+0.0	+0.0	52.3	54.0	-1.7	Horiz
	M		+0.0	+0.8	+8.9	+2.9					
			-35.9	+38.7	+0.2	+0.0					
			+0.0								
18	15720.875	27.7	+0.0	+0.0	+0.0	+0.0	+0.0	48.6	54.0	-5.4	Horiz
	M		+0.0	+1.0	+9.8	+3.3					
	Ave		-34.5	+41.3	+0.0	+0.0					
			+0.0								
^	15720.875	41.2	+0.0	+0.0	+0.0	+0.0	+0.0	62.1	54.0	+8.1	Horiz
	M		+0.0	+1.0	+9.8	+3.3					
			-34.5	+41.3	+0.0	+0.0					
			+0.0								
20	2333.324M	53.3	+0.0	+0.0	+0.0	+0.0	+0.0	48.5	54.0	-5.5	Vert
			+0.0	+0.4	+3.2	+1.3					
			-38.0	+28.3	+0.0	+0.0					
			+0.0								
21	15597.808	27.5	+0.0	+0.0	+0.0	+0.0	+0.0	48.3	54.0	-5.7	Horiz
	M		+0.0	+1.0	+9.8	+3.3					
	Ave		-34.7	+41.4	+0.0	+0.0					
			+0.0								
^	15597.808	40.6	+0.0	+0.0	+0.0	+0.0	+0.0	61.4	54.0	+7.4	Horiz
	M		+0.0	+1.0	+9.8	+3.3					
			-34.7	+41.4	+0.0	+0.0					
			+0.0								
23	4999.977M	44.2	+0.0	+0.0	+0.0	+0.0	+0.0	48.1	54.0	-5.9	Vert
	Ave		+0.0	+0.5	+5.0	+1.8					
			-37.0	+33.3	+0.3	+0.0					
			+0.0								
^	4999.977M	47.0	+0.0	+0.0	+0.0	+0.0	+0.0	50.9	54.0	-3.1	Vert
			+0.0	+0.5	+5.0	+1.8					
			-37.0	+33.3	+0.0	+0.0					
			+0.0								

25	20719.950 M	46.9	+0.0 +0.0 -32.9 +2.5	+0.0 +1.1 +0.0 +0.0	+0.0 +0.0 +0.0 +0.0	+0.0 +0.0 +0.0 +39.9	-9.5	48.0	54.0	-6.0	Horiz
26	20719.900 M	46.8	+0.0 +0.0 -32.9 +2.5	+0.0 +1.1 +0.0 +0.0	+0.0 +0.0 +0.0 +0.0	+0.0 +0.0 +0.0 +39.9	-9.5	47.9	54.0	-6.1	Vert
27	124.998M	50.8	+0.2 +0.0 +0.0 +0.0	-27.8 +0.0 +0.0 +0.0	+1.9 +0.0 +0.0 +0.0	+12.1 +0.0 +0.0 +0.0	+0.0	37.2	43.5	-6.3	Vert
28	4999.978M Ave	43.7	+0.0 +0.0 -37.0 +0.0	+0.0 +0.5 +33.3 +0.0	+0.0 +5.0 +0.3 +0.0	+0.0 +1.8 +0.0 +0.0	+0.0	47.6	54.0	-6.4	Horiz
^	4999.978M	46.5	+0.0 +0.0 -37.0 +0.0	+0.0 +0.5 +33.3 +0.0	+0.0 +5.0 +0.3 +0.0	+0.0 +1.8 +0.0 +0.0	+0.0	50.4	54.0	-3.6	Horiz
30	2333.317M Ave	52.4	+0.0 +0.0 -38.0 +0.0	+0.0 +0.4 +28.3 +0.0	+0.0 +3.2 +0.0 +0.0	+0.0 +1.3 +0.0 +0.0	+0.0	47.6	54.0	-6.4	Horiz
^	2333.317M	55.6	+0.0 +0.0 -38.0 +0.0	+0.0 +0.4 +28.3 +0.0	+0.0 +3.2 +0.0 +0.0	+0.0 +1.3 +0.0 +0.0	+0.0	50.8	54.0	-3.2	Horiz
32	7499.966M Ave	38.4	+0.0 +0.0 -36.5 +0.0	+0.0 +0.7 +35.5 +0.0	+0.0 +6.5 +0.1 +0.0	+0.0 +2.3 +0.0 +0.0	+0.0	47.0	54.0	-7.0	Horiz
^	7499.966M	42.6	+0.0 +0.0 -36.5 +0.0	+0.0 +0.7 +35.5 +0.0	+0.0 +6.5 +0.1 +0.0	+0.0 +2.3 +0.0 +0.0	+0.0	51.2	54.0	-2.8	Horiz
34	3333.321M	47.6	+0.0 +0.0 -37.7 +0.0	+0.0 +0.4 +30.7 +0.0	+0.0 +3.9 +0.6 +0.0	+0.0 +1.5 +0.0 +0.0	+0.0	47.0	54.0	-7.0	Vert
35	2799.984M	45.8	+0.0 +0.0 -37.8 +0.0	+0.0 +0.4 +29.4 +0.0	+0.0 +3.5 +4.1 +0.0	+0.0 +1.4 +0.0 +0.0	+0.0	46.8	54.0	-7.2	Horiz
36	37.902M	44.5	+0.1 +0.0 +0.0 +0.0	-27.8 +0.0 +0.0 +0.0	+1.0 +0.0 +0.0 +0.0	+14.5 +0.0 +0.0 +0.0	+0.0	32.3	40.0	-7.7	Vert
37	74.008M	51.8	+0.1 +0.0 +0.0 +0.0	-27.9 +0.0 +0.0 +0.0	+1.4 +0.0 +0.0 +0.0	+6.7 +0.0 +0.0 +0.0	+0.0	32.1	40.0	-7.9	Vert

38	2899.988M	47.4	+0.0	+0.0	+0.0	+0.0	+0.0	45.7	54.0	-8.3	Vert
			+0.0	+0.4	+3.6	+1.4					
			-37.9	+29.7	+1.1	+0.0					
			+0.0								
39	249.998M	49.7	+0.2	-27.8	+2.8	+12.7	+0.0	37.6	46.0	-8.4	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
40	2799.982M	44.5	+0.0	+0.0	+0.0	+0.0	+0.0	45.5	54.0	-8.5	Vert
			+0.0	+0.4	+3.5	+1.4					
			-37.8	+29.4	+4.1	+0.0					
			+0.0								
41	73.320M	51.2	+0.1	-27.9	+1.4	+6.5	+0.0	31.3	40.0	-8.7	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
42	37.609M	43.2	+0.1	-27.8	+1.0	+14.7	+0.0	31.2	40.0	-8.8	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
43	3666.656M	44.4	+0.0	+0.0	+0.0	+0.0	+0.0	44.9	54.0	-9.1	Vert
			+0.0	+0.4	+4.2	+1.6					
			-37.4	+31.3	+0.4	+0.0					
			+0.0								
44	3666.655M	43.8	+0.0	+0.0	+0.0	+0.0	+0.0	44.3	54.0	-9.7	Horiz
			+0.0	+0.4	+4.2	+1.6					
			-37.4	+31.3	+0.4	+0.0					
			+0.0								
45	249.998M	48.2	+0.2	-27.8	+2.8	+12.7	+0.0	36.1	46.0	-9.9	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
46	7499.965M Ave	35.3	+0.0	+0.0	+0.0	+0.0	+0.0	43.9	54.0	-10.1	Vert
			+0.0	+0.7	+6.5	+2.3					
			-36.5	+35.5	+0.1	+0.0					
			+0.0								
^	7499.965M	40.9	+0.0	+0.0	+0.0	+0.0	+0.0	49.5	54.0	-4.5	Vert
			+0.0	+0.7	+6.5	+2.3					
			-36.5	+35.5	+0.1	+0.0					
			+0.0								
48	125.007M	46.4	+0.2	-27.8	+1.9	+12.1	+0.0	32.8	43.5	-10.7	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
49	999.993M	38.6	+0.6	-27.3	+6.2	+24.8	+0.0	42.9	54.0	-11.1	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
50	108.799M	45.9	+0.1	-27.8	+1.8	+10.9	+0.0	30.9	43.5	-12.6	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								

51	1000.008M	54.2	+0.0	+0.0	+0.0	+0.0	+0.0	41.2	54.0	-12.8	Vert
			+0.0	+0.3	+2.0	+0.9					
			-40.4	+24.2	+0.0	+0.0					
			+0.0								
52	12499.972 M Ave	25.3	+0.0	+0.0	+0.0	+0.0	+0.0	40.9	54.0	-13.1	Vert
			+0.0	+0.8	+8.9	+2.9					
			-35.9	+38.7	+0.2	+0.0					
			+0.0								
^	12499.972 M	33.5	+0.0	+0.0	+0.0	+0.0	+0.0	49.1	54.0	-4.9	Vert
			+0.0	+0.8	+8.9	+2.9					
			-35.9	+38.7	+0.2	+0.0					
			+0.0								
54	999.992M	36.5	+0.6	-27.3	+6.2	+24.8	+0.0	40.8	54.0	-13.2	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
55	1000.016M	53.1	+0.0	+0.0	+0.0	+0.0	+0.0	40.1	54.0	-13.9	Horiz
			+0.0	+0.3	+2.0	+0.9					
			-40.4	+24.2	+0.0	+0.0					
			+0.0								
56	108.804M	43.6	+0.1	-27.8	+1.8	+10.9	+0.0	28.6	43.5	-14.9	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
57	37.877M	37.1	+0.1	-27.8	+1.0	+14.6	+0.0	25.0	40.0	-15.0	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
58	74.012M	40.6	+0.1	-27.9	+1.4	+6.7	+0.0	20.9	40.0	-19.1	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
59	73.985M	40.1	+0.1	-27.9	+1.4	+6.6	+0.0	20.3	40.0	-19.7	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								

CKC Laboratories, Inc. Date: 2/28/2012 Time: 14:53:43 Motorola Mobility, Inc. WO#: 92800
 RSS-210 Unwanted Emissions in Restricted Bands (Radiated) Test Distance: 3 Meters Sequence#: 9 Ext ATTN: 0 dB





Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Motorola Mobility, Inc.**
 Specification: **RSS-210 Unwanted Emissions in Restricted Bands (Radiated)**
 Work Order #: **92800** Date: 2/28/2012
 Test Type: **Maximized Emissions** Time: 14:53:43
 Equipment: **DOCSIS 3.0 Wi-Fi Gateway** Sequence#: 10
 Manufacturer: Motorola Mobility, Inc. Tested By: S. Yamamoto
 Model: SBG6580 P2
 S/N: 35560113060065107050085

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
T1	ANP05050	Cable	RG223/U	3/21/2011	3/21/2013
T2	AN00309	Preamp	8447D	5/7/2010	5/7/2012
T3	ANP05198	Cable	8268	12/21/2010	12/21/2012
T4	AN01995	Biconilog Antenna	CBL6111C	3/8/2010	3/8/2012
	AN00314	Loop Antenna	6502	6/30/2010	6/30/2012
T5	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
T6	AN03239	Cable	32022-2-29094K- 24TC	8/30/2011	8/30/2013
T7	ANP06081	Cable	L1-PNMMN-48	4/28/2011	4/28/2013
T8	ANP05421	Cable	Sucoflex 104A	2/8/2012	2/8/2014
T9	AN00786	Preamp	83017A	8/5/2010	8/5/2012
T10	AN00849	Horn Antenna	3115	4/23/2010	4/23/2012
T11	AN02744	High Pass Filter	11SH10- 3000/T10000- O/O	3/5/2010	3/5/2012
	ANP06153	Cable	16301	10/27/2011	10/27/2013
	AN01413	Horn Antenna-ANSI C63.5 Antenna Factors (dB)	84125-80008	12/2/2010	12/2/2012
T12	AN01413	Horn Antenna-1 Meter Antenna Factors (dB) - SAE ARP 958	84125-80008	12/2/2010	12/2/2012
T13	AN03158	Active Horn Antenna	AMFW-5F- 26004000-33-8P	4/1/2010	4/1/2012
	AN02945	Cable	32022-2-2909K- 36TC	10/19/2011	10/19/2013

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
DOCSIS 3.0 Wi-Fi Gateway*	Motorola Mobility, Inc.	SBG6580 P2	3556011306006510705008 5
AC to 12Vdc Power Adapter	Asian Power Devices, Inc.	WA-24 12FU	

Support Devices:

Function	Manufacturer	Model #	S/N
Broadband Router	CASA Systems	C2200	FD3460
Gigabit Switch	Netgear	GS105v2	
Laptop Computer	HP	Compaq 6910p	
Performance Analysis System	Spirent	SMB-600B	N06012143
8 Way Splitter	Regal	DS8DGV10	
8 Way Splitter	Regal	DS8DGV10	
DHCP Server	HP	Compaq 6910p	
Diplexer	Eagle Comtronics	EDPF-65/85	(none)
Laptop Computer	Dell	Precision M70	

Test Conditions / Notes:

The equipment under test (EUT) is a DOCSIS 3.0 Wi-Fi Gateway. The EUT and its AC to DC adapter are stand alone on the table top lined with 5cm thick Styrofoam. All other support equipment is located remote from this test area. The CM Ethernet ports are connected to the SmartBits performance analysis system. The CM RF port is connected to the diplexer, then splitters and finally to the broadband router (CASA). The DHCP server is connected to the broadband router through the gigabit switch. The laptop is connected to the performance analysis system. The SmartBits is turned on and running data. Tx Bytes Rate approximately 14.8 M and Rx Bytes Rate approximately 12.3 M. The CM is operational with the CASA set to DS 813MHz, 819MHz, 825MHz, 831MHz, 0.0dBmV. The EUT is transmitting continuously.

Hardware Version: 2. Software Version: SBG6580-3.3.1.0-GA-10-065-DIAG. Site A.

Frequency range of EUT: 5180MHz to 5240MHz

Transmit Frequencies used for this data sheet: 5190MHz (Low), and 5230MHz (High). Channels 40 and 48. 802.11n (40MHz) (15 Mbps)

Antenna: Antenna Gain: 4.1 dBi max at 2.4GHz band. Antenna Gain: 4.4 dBi max at 5GHz band

Frequency range of measurement = 9 kHz to 40GHz.

Frequency 9 kHz - 150 kHz RBW=200 Hz, VBW=200 Hz; 150 kHz- 30 MHz RBW=9 kHz, VBW=9 kHz; 30 MHz- 1000 MHz RBW=120 kHz, VBW=120 kHz; 1000 MHz- 40000 MHz RBW=1 MHz, VBW=1 MHz.

Temperature: 18°C, Humidity: 48%, Pressure: 100kPa.

Ext Attn: 0 dB

Measurement Data:

Reading listed by margin.

Test Distance: 3 Meters

#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T5	T6	T7	T8					
			T9	T10	T11	T12					
			T13								
	MHz	dB μ V	dB	dB	dB	dB	Table	dB μ V/m	dB μ V/m	dB	Ant
1	15698.000	30.0	+0.0	+0.0	+0.0	+0.0	+0.0	50.9	54.0	-3.1	Vert
	M		+0.0	+1.0	+9.8	+3.3					
	Ave		-34.5	+41.3	+0.0	+0.0					
			+0.0								
^	15698.000	37.8	+0.0	+0.0	+0.0	+0.0	+0.0	58.7	54.0	+4.7	Vert
	M		+0.0	+1.0	+9.8	+3.3					
			-34.5	+41.3	+0.0	+0.0					
			+0.0								
3	20759.817	49.7	+0.0	+0.0	+0.0	+0.0	-9.5	50.9	54.0	-3.2	Horiz
	M		+0.0	+1.1	+0.0	+0.0					
			-32.8	+0.0	+0.0	+39.9					
			+2.5								
4	20919.800	49.6	+0.0	+0.0	+0.0	+0.0	-9.5	50.8	54.0	-3.2	Horiz
	M		+0.0	+1.2	+0.0	+0.0					
			-32.8	+0.0	+0.0	+39.7					
			+2.6								
5	20759.783	49.0	+0.0	+0.0	+0.0	+0.0	-9.5	50.2	54.0	-3.8	Vert
	M		+0.0	+1.1	+0.0	+0.0					
			-32.8	+0.0	+0.0	+39.9					
			+2.5								
6	20919.825	48.7	+0.0	+0.0	+0.0	+0.0	-9.5	49.9	54.0	-4.1	Vert
	M		+0.0	+1.2	+0.0	+0.0					
			-32.8	+0.0	+0.0	+39.7					
			+2.6								
7	15691.083	28.4	+0.0	+0.0	+0.0	+0.0	+0.0	49.3	54.0	-4.7	Horiz
	M		+0.0	+1.0	+9.8	+3.3					
	Ave		-34.5	+41.3	+0.0	+0.0					
			+0.0								
^	15691.083	39.7	+0.0	+0.0	+0.0	+0.0	+0.0	60.6	54.0	+6.6	Horiz
	M		+0.0	+1.0	+9.8	+3.3					
			-34.5	+41.3	+0.0	+0.0					
			+0.0								
9	2899.988M	50.8	+0.0	+0.0	+0.0	+0.0	+0.0	49.1	54.0	-4.9	Horiz
			+0.0	+0.4	+3.6	+1.4					
			-37.9	+29.7	+1.1	+0.0					
			+0.0								
10	3333.317M	49.7	+0.0	+0.0	+0.0	+0.0	+0.0	49.1	54.0	-4.9	Horiz
	Ave		+0.0	+0.4	+3.9	+1.5					
			-37.7	+30.7	+0.6	+0.0					
			+0.0								
^	3333.317M	53.1	+0.0	+0.0	+0.0	+0.0	+0.0	52.5	54.0	-1.5	Horiz
			+0.0	+0.4	+3.9	+1.5					
			-37.7	+30.7	+0.6	+0.0					
			+0.0								

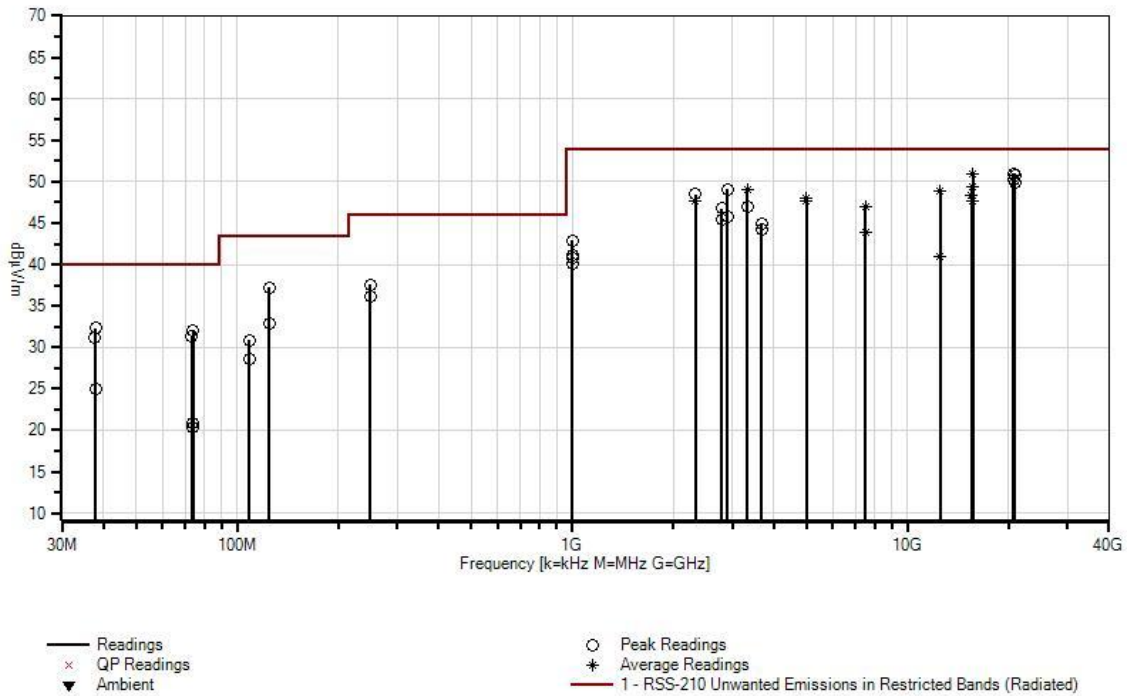
12	12499.947	33.3	+0.0	+0.0	+0.0	+0.0	+0.0	48.9	54.0	-5.1	Horiz
	M		+0.0	+0.8	+8.9	+2.9					
	Ave		-35.9	+38.7	+0.2	+0.0					
			+0.0								
^	12499.947	36.7	+0.0	+0.0	+0.0	+0.0	+0.0	52.3	54.0	-1.7	Horiz
	M		+0.0	+0.8	+8.9	+2.9					
			-35.9	+38.7	+0.2	+0.0					
			+0.0								
14	2333.324M	53.3	+0.0	+0.0	+0.0	+0.0	+0.0	48.5	54.0	-5.5	Vert
			+0.0	+0.4	+3.2	+1.3					
			-38.0	+28.3	+0.0	+0.0					
			+0.0								
15	15570.055	27.7	+0.0	+0.0	+0.0	+0.0	+0.0	48.3	54.0	-5.7	Horiz
	M		+0.0	+1.0	+9.7	+3.3					
	Ave		-34.8	+41.4	+0.0	+0.0					
			+0.0								
^	15570.055	39.9	+0.0	+0.0	+0.0	+0.0	+0.0	60.5	54.0	+6.5	Horiz
	M		+0.0	+1.0	+9.7	+3.3					
			-34.8	+41.4	+0.0	+0.0					
			+0.0								
17	4999.977M	44.2	+0.0	+0.0	+0.0	+0.0	+0.0	48.1	54.0	-5.9	Vert
	Ave		+0.0	+0.5	+5.0	+1.8					
			-37.0	+33.3	+0.3	+0.0					
			+0.0								
^	4999.977M	47.0	+0.0	+0.0	+0.0	+0.0	+0.0	50.9	54.0	-3.1	Vert
			+0.0	+0.5	+5.0	+1.8					
			-37.0	+33.3	+0.0	+0.0					
			+0.0								
19	15573.450	27.1	+0.0	+0.0	+0.0	+0.0	+0.0	47.7	54.0	-6.3	Vert
	M		+0.0	+1.0	+9.7	+3.3					
	Ave		-34.8	+41.4	+0.0	+0.0					
			+0.0								
^	15573.450	39.7	+0.0	+0.0	+0.0	+0.0	+0.0	60.3	54.0	+6.3	Vert
	M		+0.0	+1.0	+9.7	+3.3					
			-34.8	+41.4	+0.0	+0.0					
			+0.0								
21	124.998M	50.8	+0.2	-27.8	+1.9	+12.1	+0.0	37.2	43.5	-6.3	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
22	4999.978M	43.7	+0.0	+0.0	+0.0	+0.0	+0.0	47.6	54.0	-6.4	Horiz
	Ave		+0.0	+0.5	+5.0	+1.8					
			-37.0	+33.3	+0.3	+0.0					
			+0.0								
^	4999.978M	46.5	+0.0	+0.0	+0.0	+0.0	+0.0	50.4	54.0	-3.6	Horiz
			+0.0	+0.5	+5.0	+1.8					
			-37.0	+33.3	+0.3	+0.0					
			+0.0								
24	2333.317M	52.4	+0.0	+0.0	+0.0	+0.0	+0.0	47.6	54.0	-6.4	Horiz
	Ave		+0.0	+0.4	+3.2	+1.3					
			-38.0	+28.3	+0.0	+0.0					
			+0.0								

^	2333.317M	55.6	+0.0	+0.0	+0.0	+0.0	+0.0	50.8	54.0	-3.2	Horiz
			+0.0	+0.4	+3.2	+1.3					
			-38.0	+28.3	+0.0	+0.0					
			+0.0								
26	7499.966M Ave	38.4	+0.0	+0.0	+0.0	+0.0	+0.0	47.0	54.0	-7.0	Horiz
			+0.0	+0.7	+6.5	+2.3					
			-36.5	+35.5	+0.1	+0.0					
			+0.0								
^	7499.966M	42.6	+0.0	+0.0	+0.0	+0.0	+0.0	51.2	54.0	-2.8	Horiz
			+0.0	+0.7	+6.5	+2.3					
			-36.5	+35.5	+0.1	+0.0					
			+0.0								
28	3333.321M	47.6	+0.0	+0.0	+0.0	+0.0	+0.0	47.0	54.0	-7.0	Vert
			+0.0	+0.4	+3.9	+1.5					
			-37.7	+30.7	+0.6	+0.0					
			+0.0								
29	2799.984M	45.8	+0.0	+0.0	+0.0	+0.0	+0.0	46.8	54.0	-7.2	Horiz
			+0.0	+0.4	+3.5	+1.4					
			-37.8	+29.4	+4.1	+0.0					
			+0.0								
30	37.902M	44.5	+0.1	-27.8	+1.0	+14.5	+0.0	32.3	40.0	-7.7	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
31	74.008M	51.8	+0.1	-27.9	+1.4	+6.7	+0.0	32.1	40.0	-7.9	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
32	2899.988M	47.4	+0.0	+0.0	+0.0	+0.0	+0.0	45.7	54.0	-8.3	Vert
			+0.0	+0.4	+3.6	+1.4					
			-37.9	+29.7	+1.1	+0.0					
			+0.0								
33	249.998M	49.7	+0.2	-27.8	+2.8	+12.7	+0.0	37.6	46.0	-8.4	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
34	2799.982M	44.5	+0.0	+0.0	+0.0	+0.0	+0.0	45.5	54.0	-8.5	Vert
			+0.0	+0.4	+3.5	+1.4					
			-37.8	+29.4	+4.1	+0.0					
			+0.0								
35	73.320M	51.2	+0.1	-27.9	+1.4	+6.5	+0.0	31.3	40.0	-8.7	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
36	37.609M	43.2	+0.1	-27.8	+1.0	+14.7	+0.0	31.2	40.0	-8.8	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
37	3666.656M	44.4	+0.0	+0.0	+0.0	+0.0	+0.0	44.9	54.0	-9.1	Vert
			+0.0	+0.4	+4.2	+1.6					
			-37.4	+31.3	+0.4	+0.0					
			+0.0								

38	3666.655M	43.8	+0.0	+0.0	+0.0	+0.0	+0.0	44.3	54.0	-9.7	Horiz
			+0.0	+0.4	+4.2	+1.6					
			-37.4	+31.3	+0.4	+0.0					
			+0.0								
39	249.998M	48.2	+0.2	-27.8	+2.8	+12.7	+0.0	36.1	46.0	-9.9	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
40	7499.965M Ave	35.3	+0.0	+0.0	+0.0	+0.0	+0.0	43.9	54.0	-10.1	Vert
			+0.0	+0.7	+6.5	+2.3					
			-36.5	+35.5	+0.1	+0.0					
			+0.0								
^	7499.965M	40.9	+0.0	+0.0	+0.0	+0.0	+0.0	49.5	54.0	-4.5	Vert
			+0.0	+0.7	+6.5	+2.3					
			-36.5	+35.5	+0.1	+0.0					
			+0.0								
42	125.007M	46.4	+0.2	-27.8	+1.9	+12.1	+0.0	32.8	43.5	-10.7	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
43	999.993M	38.6	+0.6	-27.3	+6.2	+24.8	+0.0	42.9	54.0	-11.1	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
44	108.799M	45.9	+0.1	-27.8	+1.8	+10.9	+0.0	30.9	43.5	-12.6	Vert
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
45	1000.008M	54.2	+0.0	+0.0	+0.0	+0.0	+0.0	41.2	54.0	-12.8	Vert
			+0.0	+0.3	+2.0	+0.9					
			-40.4	+24.2	+0.0	+0.0					
			+0.0								
46	12499.972 M Ave	25.3	+0.0	+0.0	+0.0	+0.0	+0.0	40.9	54.0	-13.1	Vert
			+0.0	+0.8	+8.9	+2.9					
			-35.9	+38.7	+0.2	+0.0					
			+0.0								
^	12499.972 M	33.5	+0.0	+0.0	+0.0	+0.0	+0.0	49.1	54.0	-4.9	Vert
			+0.0	+0.8	+8.9	+2.9					
			-35.9	+38.7	+0.2	+0.0					
			+0.0								
48	999.992M	36.5	+0.6	-27.3	+6.2	+24.8	+0.0	40.8	54.0	-13.2	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
49	1000.016M	53.1	+0.0	+0.0	+0.0	+0.0	+0.0	40.1	54.0	-13.9	Horiz
			+0.0	+0.3	+2.0	+0.9					
			-40.4	+24.2	+0.0	+0.0					
			+0.0								
50	108.804M	43.6	+0.1	-27.8	+1.8	+10.9	+0.0	28.6	43.5	-14.9	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								

51	37.877M	37.1	+0.1	-27.8	+1.0	+14.6	+0.0	25.0	40.0	-15.0	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
52	74.012M	40.6	+0.1	-27.9	+1.4	+6.7	+0.0	20.9	40.0	-19.1	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								
53	73.985M	40.1	+0.1	-27.9	+1.4	+6.6	+0.0	20.3	40.0	-19.7	Horiz
			+0.0	+0.0	+0.0	+0.0					
			+0.0	+0.0	+0.0	+0.0					
			+0.0								

CKC Laboratories, Inc. Date: 2/28/2012 Time: 14:53:43 Motorola Mobility, Inc. WO#: 92800
 RSS-210 Unwanted Emissions in Restricted Bands (Radiated) Test Distance: 3 Meters Sequence#: 10 Ext ATTN:
 0 dB



Test Setup Photos



SUPPLEMENTAL INFORMATION

Measurement Uncertainty

Uncertainty Value	Parameter
4.73 dB	Radiated Emissions
3.34 dB	Mains Conducted Emissions
3.30 dB	Disturbance Power

The reported measurement uncertainties are calculated based on the worst case of all laboratory environments from CKC Laboratories, Inc. test sites. Only those parameters which require estimation of measurement uncertainty are reported. The reported worst case measurement uncertainty is less than the maximum values derived in CISPR 16-4-2. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k=2. Compliance is deemed to occur provided measurements are below the specified limits.

Emissions Test Details

TESTING PARAMETERS

Unless otherwise indicated, the following configuration parameters are used for equipment setup: The cables were routed consistent with the typical application by varying the configuration of the test sample. Interface cables were connected to the available ports of the test unit. The effect of varying the position of the cables was investigated to find the configuration that produced maximum emissions. Cables were of the type and length specified in the individual requirements. The length of cable that produced maximum emissions was selected.

The equipment under test (EUT) was set up in a manner that represented its normal use, as shown in the setup photographs. Any special conditions required for the EUT to operate normally are identified in the comments that accompany the emissions tables.

The emissions data was taken with a spectrum analyzer or receiver. Incorporating the applicable correction factors for distance, antenna, cable loss and amplifier gain, the data was reduced as shown in the table below. The corrected data was then compared to the applicable emission limits. Preliminary and final measurements were taken in order to ensure that all emissions from the EUT were found and maximized.

CORRECTION FACTORS

The basic spectrum analyzer reading was converted using correction factors as shown in the highest emissions readings in the tables. For radiated emissions in dBμV/m, the spectrum analyzer reading in dBμV was corrected by using the following formula. This reading was then compared to the applicable specification limit.

SAMPLE CALCULATIONS		
	Meter reading	(dBμV)
+	Antenna Factor	(dB)
+	Cable Loss	(dB)
-	Distance Correction	(dB)
-	Preamplifier Gain	(dB)
=	Corrected Reading	(dBμV/m)

TEST INSTRUMENTATION AND ANALYZER SETTINGS

The test instrumentation and equipment listed were used to collect the emissions data. A spectrum analyzer or receiver was used for all measurements. Unless otherwise specified, the following table shows the measuring equipment bandwidth settings that were used in designated frequency bands. For testing emissions, an appropriate reference level and a vertical scale size of 10 dB per division were used.

MEASURING EQUIPMENT BANDWIDTH SETTINGS PER FREQUENCY RANGE			
TEST	BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING
CONDUCTED EMISSIONS	150 kHz	30 MHz	9 kHz
RADIATED EMISSIONS	30 MHz	1000 MHz	120 kHz
RADIATED EMISSIONS	1000 MHz	>1 GHz	1 MHz

SPECTRUM ANALYZER/RECEIVER DETECTOR FUNCTIONS

The notes that accompany the measurements contained in the emissions tables indicate the type of detector function used to obtain the given readings. Unless otherwise noted, all readings were made in the "positive peak" detector mode. Whenever a "quasi-peak" or "average" reading was recorded, the measurement was annotated with a "QP" or an "Ave" on the appropriate rows of the data sheets. In cases where quasi-peak or average limits were employed and data exists for multiple measurement types for the same frequency then the peak measurement was retained in the report for reference, however the numbering for the affected row was removed and an arrow or carrot ("^") was placed in the far left-hand column indicating that the row above takes precedence for comparison to the limit. The following paragraphs describe in more detail the detector functions and when they were used to obtain the emissions data.

Peak

In this mode, the spectrum analyzer or receiver recorded all emissions at their peak value as the frequency band selected was scanned. By combining this function with another feature called "peak hold," the measurement device had the ability to measure intermittent or low duty cycle transient emission peak levels. In this mode the measuring device made a slow scan across the frequency band selected and measured the peak emission value found at each frequency across the band.

Quasi-Peak

Quasi-peak measurements were taken using the quasi-peak detector when the true peak values exceeded or were within 2 dB of a quasi-peak specification limit. Additional QP measurements may have been taken at the discretion of the operator.

Average

Average measurements were taken using the average detector when the true peak values exceeded or were within 2 dB of an average specification limit. Additional average measurements may have been taken at the discretion of the operator. If the specification or test procedure requires trace averaging, then the averaging was performed using 100 samples or as required by the specification. All other average measurements are performed using video bandwidth averaging. To make these measurements, the test engineer reduces the video bandwidth on the measuring device until the modulation of the signal is filtered out. At this point the measuring device is set into the linear mode and the scan time is reduced.