Motorola Mobility, Inc.

TEST REPORT FOR

DOCSIS 3.0 Wi-Fi Gateway, SBG6580

Tested To The Following Standards:

FCC Part 15 Subpart C Sections 15.207 and 15.247 & RSS-210 Issue 8

Report No.: 92742-18

Date of issue: February 7, 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 **REPORT PREPARED BY:**

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

Representative: Chris Fulmer Customer Reference Number: MM1084691

DATE OF EQUIPMENT RECEIPT: DATE(S) OF TESTING: Project Number: 92742

December 7, 2011 December 7, 2011 to February 5, 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 -7 Bel

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 #	JAPAN	CANADA	FCC
Brea A	US0060	R-2945, C-3248 & T-1572	3082D-1	90473



SUMMARY OF RESULTS

Standard / Specification: FCC Part 15 Subpart C & RSS-210 Issue 8

Description	Test Procedure/Method	Results
Conducted Emissions	FCC Part 15 Subpart C Section 15.207 / ANSI C63.4 (2003)	Pass
-6dBc Occupied Bandwidth	FCC Part 15 Subpart C Section 15.247(a)(2) / KDB 558074	Pass
Bandedge	FCC Part 15 Subpart C / ITU-R 55/1 and KDB 558074	Pass
Antenna Conducted Emissions	FCC Part 15 Subpart C Section 15.247 (d) / KDB 558074	Pass
Field Strength of Spurious Emissions	FCC Part 15 Subpart C Section 15.247(d) / KDB 558074	Pass
Power Spectral Density	FCC Part 15 Subpart C 15.247(e) / KDB 558074	Pass
99 % Bandwidth	RSS-210 / RSS-GEN	Pass
Emissions Falling Within Restricted	RSS-210 Section 2.2	Pass
Bands		1 0 3 3

Conditions During Testing

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

Summary of Conditions

The manufacturer declares that for all testing the EUT was configured as follows:

HW Version: P2

Software Version: SBG6580-3.3.1.0-GA-09-058-DIAG

The manufacturer declares that during the testing for sections Conducted Emissions and Field Strength of Spurious Emissions 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.



EQUIPMENT UNDER TEST (EUT)

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**

EQUIPMENT UNDER TEST

DOCSIS 3.0 Wi-Fi Gateway

Manuf: Motorola Mobility, Inc. Model: SBG6580 Serial: 355601130600070507050085

PERIPHERAL DEVICES

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

Broadband Router

Manuf: CASA Systems Model: C2200 Serial: FD3460

Laptop Computer

Manuf: HP Model: Compaq 6910p Serial: NA

8 Way Splitter

Manuf: Regal Model: DS8DGV10 Serial: NA

DHCP Server

Manuf: HP Model: Compaq 6910p Serial: NA

Laptop Computer

Manuf: Dell Model: Precision M70 Serial: NA

Gigabit Switch

Manuf: Netgear Model: GS105v2 Serial: NA

Performance Analysis System

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

8 Way Splitter

Manuf: Regal Model: DS8DGV10 Serial: NA

Diplexer

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

Laptop Computer

Manuf: Dell Corporation Model: PP15L Serial: 35351137477



FCC PART 15 SUBPART C

This report contains EMC emissions test results under United States Federal Communications Commission (FCC) 47 CFR 15C requirements for Unlicensed Radio Frequency Devices, Subpart C - Intentional Radiators.

15.207 AC Conducted Emissions

Test Data Sheets

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

Customer:	Motorola Mobility, Inc.
Specification:	15.207 AC Mains - Average
Work Order #:	92742
Test Type:	Conducted Emissions
Equipment:	DOCSIS 3.0 Wi-Fi Gateway
Manufacturer:	Motorola Mobility, Inc.
Model:	SBG6580 P2
S/N:	355601130600070507050085

Date: 2/2/2012 Time: 20:03:32 Sequence#: 14 Tested By: S. Yamamoto 120V 60Hz

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
T1	AN02610	High Pass Filter	HE9615-150K-	11/21/2011	11/21/2013
			50-720B		
T2	ANP04358	Cable	RG142	5/7/2010	5/7/2012
T3	ANP06084	Attenuator	SA18N10W-06	12/8/2010	12/8/2012
T4	AN00847.1	50uH LISN-Line 1	3816/2NM	12/21/2010	12/21/2012
		(dB)			
	AN00847.1	50uH LISN-Line 2	3816/2NM	12/21/2010	12/21/2012
		(dB)			
	AN00848.1	50uH LISN-Line 1	3816/2nm	3/22/2011	3/22/2013
		(dB)			
	AN00848.1	50uH LISN-Line 2	3816/2nm	3/22/2011	3/22/2013
		(dB)			



Equipment Onder 10st (- LCI):		
Function	Manufacturer	Model #	S/N
DOCSIS 3.0 Wi-Fi	Motorola Mobility, Inc.	SBG6580 P2	3556011306000705070500
Gateway*			85
Support Devices:			
Function	Manufacturer	Model #	S/N
Broadband Router	CASA Systems	C2200	FD3460
Gigabit Switch	Netgear	GS105v2	
Laptop Computer	HP	Compaq 6910p	
Performance Analysis	Spirent	SMB-600B	N06012143
System			
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	

Equipment Under Test (* = EUT):

Test Conditions / Notes:

The equipment under test (EUT) is a DOCSIS 3.0 Wi-Fi Gateway. The EUT, its AC to DC adapter, and a laptop computer are placed on the table top. All other support equipment is located remote from this test area. The EUT Ethernet ports are connected to the performance analysis system and the local computer. 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 is turned on and running data. The EUT is transmitting continuously.

Frequency range of EUT: 2412MHz to 2462MHz. 5745MHz to 5825MHz.

Transmit Frequencies used for this data sheet: Worst case power setting. 2437MHz (Middle). Channels 6. 802.11n (20MHz) (7.2 Mbps)

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

Frequency range of measurement = 150 kHz to 30 MHz.

Frequency 150 kHz- 30 MHz RBW=9 kHz, VBW=9 kHz.

Temperature: 20°C, Humidity: 38%, Pressure: 100kPa.

Ext Attn: 0 dB

Measu	rement Data:	Re	eading lis	ted by ma	argin.			Test Lea	ad: L1 (L)		
#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV	dBµV	dB	Ant
1	596.504k	24.0	+0.2	+0.1	+5.8	+0.0	+0.0	30.1	46.0	-15.9	L1 (L
	Ave										
^	596.504k	41.3	+0.2	+0.1	+5.8	+0.0	+0.0	47.4	46.0	+1.4	L1 (L
									see averag	e data	
									above		
3	500.000k	23.8	+0.2	+0.1	+5.7	+0.0	+0.0	29.8	46.0	-16.2	L1 (L
	Ave										
4	1.396M	22.1	+0.2	+0.1	+5.8	+0.0	+0.0	28.2	46.0	-17.8	L1 (L
	Ave										
^	1.396M	37.3	+0.2	+0.1	+5.8	+0.0	+0.0	43.4	46.0	-2.6	L1 (L
									see averag	e data	
									above		
6	1.732M	21.2	+0.2	+0.1	+5.8	+0.0	+0.0	27.3	46.0	-18.7	L1 (L
	Ave										



see average data above 8 1.494M 21.1 +0.2 +0.1 +5.8 +0.0 +0.0 27.2 46.0 -1.8.8 L1 (L - ^ 1.494M 38.2 +0.2 +0.1 +5.8 +0.0 +0.0 44.3 46.0 -1.7 L1 (L see average data above 10 187.088k 28.7 +0.2 +0.1 +5.8 +0.0 +0.0 34.8 54.2 -19.4 L1 (L see average data above ^ 187.088k 48.3 +0.2 +0.1 +5.8 +0.0 +0.0 54.4 54.2 +0.2 L1 (L see average data above ^ 182.724k 46.7 +0.3 +0.1 +5.8 +0.1 +0.0 52.9 54.4 -1.5 L1 (L ve ^ 3.403M 37.4 +0.1 +0.2 +5.8 +0.1 +0.0 25.8 46.0 -20.2 L1 (L ve ^ 1.426M 37.4 +0.2 +0.1 +5.8 +0.0 +0.0 33.	^	1.732M	37.6	+0.2	+0.1	+5.8	+0.0	+0.0	43.7	46.0	-2.3	L1 (L
above 8 1.494M 21.1 +0.2 +0.1 +5.8 +0.0 +0.0 27.2 46.0 -1.7 L1 (L ^ 1.494M 38.2 +0.2 +0.1 +5.8 +0.0 +0.0 44.3 a6.0 -1.7 L1 (L see average data above - - 1.7 L1 (L see average data above ^ 187.088k 28.7 +0.2 +0.1 +5.8 +0.0 +0.0 54.4 54.2 +0.2 L1 (L ^ 187.088k 48.3 +0.2 +5.8 +0.0 +0.0 52.9 54.4 -1.5 L1 (L ^ 3.403M 19.7 +0.1 +0.2 +5.8 +0.1 +0.0 25.9 46.0 -2.1 L1 (L ^ 3.403M 37.4 +0.1 +5.8 +0.1 +0.0 25.8 46.0 -2.2.4 L1 (L ^ 3.403M 37.4 +0.2 +0.1 +5.8 <										see average	data	
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above 10 187.088k 28.7 +0.2 +0.1 +5.8 +0.0 +0.0 34.8 54.2 -19.4 L1 (L ^ 187.088k 48.3 +0.2 +0.1 +5.8 +0.0 +0.0 54.4 54.2 +0.2 L1 (L * 182.724k 46.7 +0.3 +0.1 +5.8 +0.0 +0.0 52.9 54.4 -1.5 L1 (L * 3.403M 19.7 +0.1 +0.2 +5.8 +0.1 +0.0 25.9 46.0 -20.1 L1 (L * 3.403M 37.4 +0.1 +0.2 +5.8 +0.1 +0.0 25.8 46.0 -2.4 L1 (L * 1.426M 37.4 +0.2 +0.1 +5.8 +0.0 +0.0 33.3 53.8 -0.5 L1 (L * 1426M 37.4 +0.2 +0.1 +5.8 +0.0 +0.0 33.3 53.8 +0.5 L1 (L										see average	data	,
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$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	^	182.724k	46.7	+0.3	+0.1	+5.8	+0.0	+0.0	52.9	54.4	-1.5	L1 (L
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Ave ^ $3.403M$ 37.4 $+0.1$ $+0.2$ $+5.8$ $+0.1$ $+0.0$ 43.6 46.0 -2.4 L1 (L see average data above 15 $1.426M$ 19.7 $+0.2$ $+0.1$ $+5.8$ $+0.0$ $+0.0$ 25.8 46.0 -20.2 L1 (L see average data above ^ $1.426M$ 37.4 $+0.2$ $+0.1$ $+5.8$ $+0.0$ $+0.0$ 43.5 46.0 -20.5 L1 (L see average data above 17 $196.541k$ 27.2 $+0.2$ $+0.1$ $+5.8$ $+0.0$ $+0.0$ 33.3 53.8 -20.5 L1 (L see average data above ^ $196.541k$ 48.2 $+0.2$ $+0.1$ $+5.8$ $+0.0$ $+0.0$ 54.3 53.8 $+0.5$ L1 (L see average data above 19 $1.970M$ 19.1 $+0.2$ $+0.1$ $+5.8$ $+0.0$ $+0.0$ 42.7 46.0 -22.2 L1 (L see average data above 21	13	3.403M	19.7	+0.1	+0.2	+5.8	+0.1	+0.0	25.9	46.0	-20.1	L1 (L
^ 3.403M 37.4 +0.1 +0.2 +5.8 +0.1 +0.0 43.6 46.0 -2.4 L1 (L see average data above 15 1.426M 19.7 +0.2 +0.1 +5.8 +0.0 +0.0 25.8 46.0 -20.2 L1 (L Ave ^ 1.426M 37.4 +0.2 +0.1 +5.8 +0.0 +0.0 43.5 46.0 -20.2 L1 (L Ave - </td <td>I</td> <td>Ave</td> <td></td>	I	Ave										
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^ 1.426M 37.4 +0.2 +0.1 +5.8 +0.0 +0.0 43.5 46.0 -2.5 L1 (L see average data above 17 196.541k 27.2 +0.2 +0.1 +5.8 +0.0 +0.0 33.3 53.8 -20.5 L1 (L see average data above ^ 196.541k 48.2 +0.2 +0.1 +5.8 +0.0 +0.0 54.3 53.8 +0.5 L1 (L see average data above 19 1.970M 19.1 +0.2 +0.1 +5.8 +0.0 +0.0 25.2 46.0 -3.3 L1 (L see average data above 21 945.249k 17.7 +0.2 +0.1 +5.8 +0.0 +0.0 23.8 46.0 -22.2 L1 (L see average data above 21 945.249k 37.3 +0.2 +0.1 +5.8 +0.0 +0.0 24.8 51.9 -27.1 L1 (L see average data above 23 245.264k 42.6 +0.2 +0.1 +5.8 +0.0 +0.0	1	Ave										
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$ \begin{array}{c c c c c c c c c c c c c c c c c c c $										see average	data	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$										above		
Ave * 196.541k 48.2 +0.2 +0.1 +5.8 +0.0 +0.0 54.3 53.8 +0.5 L1 (L see average data above 19 1.970M 19.1 +0.2 +0.1 +5.8 +0.0 +0.0 25.2 46.0 -20.8 L1 (L Ave * 1.970M 36.6 +0.2 +0.1 +5.8 +0.0 +0.0 25.2 46.0 -3.3 L1 (L see average data above * * * * 46.0 -3.3 L1 (L see average data above *	17	196.541k	27.2	+0.2	+0.1	+5.8	+0.0	+0.0	33.3	53.8	-20.5	L1 (L
^ 196.541k 48.2 +0.2 +0.1 +5.8 +0.0 +0.0 54.3 53.8 +0.5 L1 (L see average data above 19 1.970M 19.1 +0.2 +0.1 +5.8 +0.0 +0.0 25.2 46.0 -20.8 L1 (L Ave ^ 1.970M 36.6 +0.2 +0.1 +5.8 +0.0 +0.0 42.7 46.0 -3.3 L1 (L see average data above - </td <td>1</td> <td>Ave</td> <td></td>	1	Ave										
see average data above 19 1.970M 19.1 +0.2 +0.1 +5.8 +0.0 +0.0 25.2 46.0 -20.8 L1 (L ^ 1.970M 36.6 +0.2 +0.1 +5.8 +0.0 +0.0 42.7 46.0 -3.3 L1 (L ^ 1.970M 36.6 +0.2 +0.1 +5.8 +0.0 +0.0 42.7 46.0 -3.3 L1 (L ^ 945.249k 17.7 +0.2 +0.1 +5.8 +0.0 +0.0 23.8 46.0 -22.2 L1 (L Ave 37.3 +0.2 +0.1 +5.8 +0.0 +0.0 43.4 46.0 -2.6 L1 (L See average data above 23 245.264k 18.7 +0.2 +0.1 +5.8 +0.0 +0.0 24.8 51.9 -3.2 L1 (L Ave 25 208.904k 10.3 +0.2 +0.1 +5.8 +0.0 +0.0 16.4 53.2 <td>^</td> <td>196.541k</td> <td>48.2</td> <td>+0.2</td> <td>+0.1</td> <td>+5.8</td> <td>+0.0</td> <td>+0.0</td> <td>54.3</td> <td>53.8</td> <td>+0.5</td> <td>L1 (L</td>	^	196.541k	48.2	+0.2	+0.1	+5.8	+0.0	+0.0	54.3	53.8	+0.5	L1 (L
above 19 1.970M 19.1 +0.2 +0.1 +5.8 +0.0 +0.0 25.2 46.0 -20.8 L1 (L ^ 1.970M 36.6 +0.2 +0.1 +5.8 +0.0 +0.0 42.7 46.0 -3.3 L1 (L ^ 1.970M 36.6 +0.2 +0.1 +5.8 +0.0 +0.0 42.7 46.0 -3.3 L1 (L see average data above - <										see average	data	
19 1.970M 19.1 +0.2 +0.1 +5.8 +0.0 +0.0 25.2 46.0 -20.8 L1 (L Ave ^ 1.970M 36.6 +0.2 +0.1 +5.8 +0.0 +0.0 42.7 46.0 -3.3 L1 (L see average data above - 23.8 46.0 - - - L1 (L see average data above -	10	1.05016	10.1	0.0	0.1		0.0	0.0		above	20.0	X 4 (X
Ave * 1.970M 36.6 +0.2 +0.1 +5.8 +0.0 +0.0 42.7 46.0 -3.3 L1 (L 21 945.249k 17.7 +0.2 +0.1 +5.8 +0.0 +0.0 23.8 46.0 -22.2 L1 (L Ave - <td>19</td> <td>1.970M</td> <td>19.1</td> <td>+0.2</td> <td>+0.1</td> <td>+5.8</td> <td>+0.0</td> <td>+0.0</td> <td>25.2</td> <td>46.0</td> <td>-20.8</td> <td>LI (L</td>	19	1.970M	19.1	+0.2	+0.1	+5.8	+0.0	+0.0	25.2	46.0	-20.8	LI (L
* 1.970M 36.6 +0.2 +0.1 +5.8 +0.0 +0.0 42.7 46.0 -5.3 L1 (L see average data above 21 945.249k 17.7 +0.2 +0.1 +5.8 +0.0 +0.0 23.8 46.0 -22.2 L1 (L Ave * 945.249k 37.3 +0.2 +0.1 +5.8 +0.0 +0.0 23.8 46.0 -2.6 L1 (L Ave *		Ave	26.6	.0.0	.0.1		. 0. 0	. 0. 0	10.7	16.0	2.2	T 1 /T
21 945.249k 17.7 +0.2 +0.1 +5.8 +0.0 +0.0 23.8 46.0 -22.2 L1 (L Ave ^ 945.249k 37.3 +0.2 +0.1 +5.8 +0.0 +0.0 43.4 46.0 -2.6 L1 (L see average data above 23 245.264k 18.7 +0.2 +0.1 +5.8 +0.0 +0.0 24.8 51.9 -27.1 L1 (L Ave - - 245.264k 42.6 +0.2 +0.1 +5.8 +0.0 +0.0 24.8 51.9 -3.2 L1 (L Ave - - - +0.1 +5.8 +0.0 +0.0 48.7 51.9 -3.2 L1 (L see average data above -	~	1.970M	36.6	+0.2	+0.1	+5.8	+0.0	+0.0	42.7	46.0	-3.3	LI (L
21 945.249k 17.7 +0.2 +0.1 +5.8 +0.0 +0.0 23.8 46.0 -22.2 L1 (L ^ 945.249k 37.3 +0.2 +0.1 +5.8 +0.0 +0.0 43.4 46.0 -26.6 L1 (L see average data above -										see average	data	
21 943.249k 11.7 +0.2 +0.1 +5.8 +0.0 +0.0 23.8 46.0 -22.2 L1 (L Ave ^ 945.249k 37.3 +0.2 +0.1 +5.8 +0.0 +0.0 43.4 46.0 -22.2 L1 (L see average data above - 2.0 - - - - - - - - - - - - - - - - - - - 1 - - - 1 - - - - - - - - - - - - - - <td></td> <td>0.45 2.401-</td> <td>177</td> <td>.0.2</td> <td>+0.1</td> <td>50</td> <td></td> <td></td> <td>22.0</td> <td>above</td> <td>22.2</td> <td>II/I</td>		0.45 2.401-	177	.0.2	+0.1	50			22.0	above	22.2	II/I
Ave * 945.249k 37.3 +0.2 +0.1 +5.8 +0.0 +0.0 43.4 46.0 -2.6 L1 (L see average data above - <	21	945.249K	1/./	+0.2	+0.1	+3.8	+0.0	+0.0	23.8	46.0	-22.2	LI (L
1 943.249k 37.3 +0.2 +0.1 +5.8 +0.0 +0.0 43.4 46.0 -2.6 L1 (L see average data above 23 245.264k 18.7 +0.2 +0.1 +5.8 +0.0 +0.0 24.8 51.9 -27.1 L1 (L Ave - - - - - - - - - - - - - - - - - - - 1 L1 (L see average data above - - - - - - - - - - - - - - - 1 L1 (L see average data above -		045 2401-	27.2	+0.2	+0.1	150	+0.0		12.4	16.0	26	I 1 /I
See average data above 23 245.264k 18.7 +0.2 +0.1 +5.8 +0.0 +0.0 24.8 51.9 -27.1 L1 (L Ave - 245.264k 42.6 +0.2 +0.1 +5.8 +0.0 +0.0 48.7 51.9 -3.2 L1 (L see average data - 245.264k 42.6 +0.2 +0.1 +5.8 +0.0 +0.0 48.7 51.9 -3.2 L1 (L see average data above -		943.249K	57.5	+0.2	± 0.1	+3.8	+0.0	+0.0	43.4	40.0	-2.0 data	LI (L
23 245.264k 18.7 +0.2 +0.1 +5.8 +0.0 +0.0 24.8 51.9 -27.1 L1 (L ^ 245.264k 42.6 +0.2 +0.1 +5.8 +0.0 +0.0 48.7 51.9 -3.2 L1 (L see average data above -										above	uata	
25 243.204k 18.7 +0.2 +0.1 +5.8 +0.0 +0.0 24.8 51.9 -27.1 L1 (L Ave ^ 245.264k 42.6 +0.2 +0.1 +5.8 +0.0 +0.0 48.7 51.9 -3.2 L1 (L see average data above -	22	245 264k	187	+0.2	+0.1	15.8			24.8	51.0	27.1	I 1 (I
Ave * 245.264k 42.6 +0.2 +0.1 +5.8 +0.0 +0.0 48.7 51.9 -3.2 L1 (L see average data above 25 208.904k 10.3 +0.2 +0.1 +5.8 +0.0 +0.0 16.4 53.2 -36.8 L1 (L Ave -<	23	243.204K	10.7	± 0.2	± 0.1	+3.0	± 0.0	± 0.0	24.0	51.9	-27.1	LI (L
243.204k 42.0 +0.2 +0.1 +5.8 +0.0 +0.0 48.7 51.9 -5.2 L1 (L see average data above 25 208.904k 10.3 +0.2 +0.1 +5.8 +0.0 +0.0 16.4 53.2 -36.8 L1 (L Ave		245 264k	12.6	+0.2	+0.1	15.8			187	51.0	3.2	I 1 (I
See average data 25 208.904k 10.3 +0.2 +0.1 +5.8 +0.0 +0.0 16.4 53.2 -36.8 L1 (L Ave		243.204K	42.0	± 0.2	± 0.1	+5.0	± 0.0	± 0.0	40.7	see average	-J.2 data	LI (L
25 208.904k 10.3 +0.2 +0.1 +5.8 +0.0 +0.0 16.4 53.2 -36.8 L1 (L Ave ^ 208.904k 45.3 +0.2 +0.1 +5.8 +0.0 +0.0 51.4 53.2 -1.8 L1 (L see average data above 27 164.544k 11.8 +0.5 +0.1 +5.8 +0.0 +0.0 18.2 55.2 -37.0 L1 (L Ave Ave 40.0 40.0 40.0 18.2 55.2 -37.0 L1 (L										above	uuu	
Ave 10.3 10.2 10.1 15.8 10.0 10.0 10.4 55.2 10.8 11 (L Ave ^ 208.904k 45.3 +0.2 +0.1 +5.8 +0.0 +0.0 51.4 53.2 -1.8 L1 (L see average data above 27 164.544k 11.8 +0.5 +0.1 +5.8 +0.0 +0.0 18.2 55.2 -37.0 L1 (L Ave	25	208 904k	10.3	+0.2	+0.1	+5.8	+0.0	+0.0	164	53.2	-36.8	L1 (I
^ 208.904k 45.3 +0.2 +0.1 +5.8 +0.0 +0.0 51.4 53.2 -1.8 L1 (L see average data above 27 164.544k 11.8 +0.5 +0.1 +5.8 +0.0 +0.0 18.2 55.2 -37.0 L1 (L Ave		Ave	10.5	10.2	10.1	10.0	10.0	10.0	10.7	55.2	50.0	
27 164.544k 11.8 +0.5 +0.1 +5.8 +0.0 +0.0 18.2 55.2 -37.0 L1 (L Ave	^ /	208 904k	453	+0.2	+0.1	+5.8	+0.0	+0.0	51.4	53.2	-1.8	L1 (L
27 164.544k 11.8 +0.5 +0.1 +5.8 +0.0 +0.0 18.2 55.2 -37.0 L1 (L Ave		200.70 IR	10.0	10.2	1 0.1	10.0	10.0	10.0	U 1. f	see average	data	L1 (L
27 164.544k 11.8 +0.5 +0.1 +5.8 +0.0 +0.0 18.2 55.2 -37.0 L1 (L Ave										above		
Ave	27	164.544k	11.8	+0.5	+0.1	+5.8	+0.0	+0.0	18.2	55.2	-37.0	L1 (L
		Ave										(—



^	164.544k	48.5	+0.5	+0.1	+5.8	+0.0	+0.0	54.9	55.2	-0.3	L1 (L
									see average	e data	
									above		
29	228.538k	8.2	+0.2	+0.1	+5.8	+0.0	+0.0	14.3	52.5	-38.2	L1 (L
	Ave										
^	228.538k	43.3	+0.2	+0.1	+5.8	+0.0	+0.0	49.4	52.5	-3.1	L1 (L
									see average	e data	
									above		

CKC Laboratories, Inc. Date: 2/2/2012 Time: 20:03:32 Motorola Mobility, Inc. WO#: 92742 15:207 AC Mains - Average Test Lead: L1 (L) 120V 60Hz Sequence#: 14 Ext ATTN: 0 dB





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

Customer:	Motorola Mobility, Inc.
Specification:	15.207 AC Mains - Average
Work Order #:	92742
Test Type:	Conducted Emissions
Equipment:	DOCSIS 3.0 Wi-Fi Gateway
Manufacturer:	Motorola Mobility, Inc.
Model:	SBG6580 P2
S/N:	355601130600070507050085

 Date:
 2/2/2012

 Time:
 20:16:24

 Sequence#:
 15

 Tested By:
 S. Yamamoto

 120V 60Hz

Test Equipment:

	<u> </u>				
ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02672	Spectrum Analyzer	E4446A	8/9/2010	8/9/2012
T1	AN02610	High Pass Filter	HE9615-150K-	11/21/2011	11/21/2013
			50-720B		
T2	ANP04358	Cable	RG142	5/7/2010	5/7/2012
T3	ANP06084	Attenuator	SA18N10W-06	12/8/2010	12/8/2012
	AN00847.1	50uH LISN-Line 1	3816/2NM	12/21/2010	12/21/2012
		(dB)			
T4	AN00847.1	50uH LISN-Line 2	3816/2NM	12/21/2010	12/21/2012
		(dB)			
	AN00848.1	50uH LISN-Line 1	3816/2nm	3/22/2011	3/22/2013
		(dB)			
	AN00848.1	50uH LISN-Line 2	3816/2nm	3/22/2011	3/22/2013
		(dB)			

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
DOCSIS 3.0 Wi-Fi	Motorola Mobility, Inc.	SBG6580 P2	3556011306000705070500
Gateway*			85
Support Devices:			

Support 2 criters.				
Function	Manufacturer	Model #	S/N	
Broadband Router	CASA Systems	C2200	FD3460	
Gigabit Switch	Netgear	GS105v2		
Laptop Computer	HP	Compaq 6910p		
Performance Analysis	Spirent	SMB-600B	N06012143	
System				
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, its AC to DC adapter, and a laptop computer are placed on the table top. All other support equipment is located remote from this test area. The EUT Ethernet ports are connected to the performance analysis system and the local computer. 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 is turned on and running data. The EUT is transmitting continuously. Frequency range of EUT: 2412MHz to 2462MHz. 5745MHz to 5825MHz.

Transmit Frequencies used for this data sheet: Worst case power setting. 2437MHz (Middle). Channels 6. 802.11n (20MHz) (7.2 Mbps)

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

Frequency range of measurement = 150 kHz to 30 MHz.

Frequency 150 kHz- 30 MHz RBW=9 kHz, VBW=9 kHz.

Temperature: 20C, Humidity: 38%, Pressure: 100kPa.

Ext Attn: 0 dB

Measurement Data: Reading listed by margin.								Test Lea	ad: (N) L2		
#	Freq MHz	Rdng dBuV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBuV	Spec dBuV	Margin dB	Polar Ant
1	992.029k	35.4	+0.2	+0.1	+5.8	+0.0	+0.0	41.5	46.0	-4.5	(N) L
2	10.004M	38.6	+0.2	+0.3	+5.8	+0.6	+0.0	45.5	50.0	-4.5	(N) L
3	2.446M	34.7	+0.2	+0.2	+5.8	+0.1	+0.0	41.0	46.0	-5.0	(N) L
4	2.740M	34.4	+0.2	+0.2	+5.8	+0.1	+0.0	40.7	46.0	-5.3	(N) L
5	724.493k	34.3	+0.2	+0.1	+5.8	+0.0	+0.0	40.4	46.0	-5.6	(N) L
6	294.714k	38.2	+0.2	+0.1	+5.7	+0.0	+0.0	44.2	50.4	-6.2	(N) L
7	597.232k Ave	25.4	+0.2	+0.1	+5.8	+0.0	+0.0	31.5	46.0	-14.5	(N) L
^	597.232k	41.9	+0.2	+0.1	+5.8	+0.0	+0.0	48.0	46.0 see averag above	+2.0 e data	(N) L
9	538.328k Ave	25.1	+0.2	+0.1	+5.8	+0.0	+0.0	31.2	46.0	-14.8	(N) L
^	538.328k	41.4	+0.2	+0.1	+5.8	+0.0	+0.0	47.5	46.0 see averag above	+1.5 e data	(N) L
11	1.494M Ave	21.4	+0.2	+0.1	+5.8	+0.1	+0.0	27.6	46.0	-18.4	(N) L
^	1.494M	39.2	+0.2	+0.1	+5.8	+0.1	+0.0	45.4	46.0 see averag above	-0.6 e data	(N) L
13	3.408M Ave	20.3	+0.1	+0.2	+5.8	+0.1	+0.0	26.5	46.0	-19.5	(N) L
^	3.408M	37.1	+0.1	+0.2	+5.8	+0.1	+0.0	43.3	46.0 see averag above	-2.7 e data	(N) L



15	185.633k	28.2	+0.2	+0.1	+5.8	+0.0	+0.0	34.3	54.2	-19.9	(N) L		
^	185 633k	16.6	+0.2	±0.1	+5.8	+0.0	+0.0	527	54.2	15	(N) I		
	165.055K	40.0	± 0.2	± 0.1	+3.0	± 0.0	± 0.0	52.1	See average	-1.J - data	(\mathbf{N}) L		
									above	c data			
17	775.397k	19.6	+0.2	+0.1	+5.8	+0.0	+0.0	25.7	46.0	-20.3	(N) L		
	Ave										. /		
^	775.397k	37.3	+0.2	+0.1	+5.8	+0.0	+0.0	43.4	46.0	-2.6	(N) L		
									see average	e data			
									above				
19	1.970M	18.4	+0.2	+0.1	+5.8	+0.1	+0.0	24.6	46.0	-21.4	(N) L		
	Ave	26.2	.0.2	+0.1	50	+0.1		12.5	16.0	25			
	1.970M	30.3	+0.2	+0.1	+3.8	+0.1	+0.0	42.5	40.U	-3.3 Aata	(\mathbf{N}) L		
									see average data				
21	953.754k	17.1	+0.2	+0.1	+5.8	+0.0	+0.0	23.2	46.0	-22.8	(N) L		
	Ave										() -		
^	953.754k	37.8	+0.2	+0.1	+5.8	+0.0	+0.0	43.9	46.0	-2.1	(N) L		
									see average	e data			
									above				
23	405.249k	18.1	+0.2	+0.1	+5.7	+0.0	+0.0	24.1	47.7	-23.6	(N) L		
	Ave	10.7											
^	405.249k	40.5	+0.2	+0.1	+5.7	+0.0	+0.0	46.5	47.7	-1.2	(N) L		
									see average data				
25	240 174k	17.2	±0.2	⊥0 1	⊥ 5 8	+0.0	+0.0	23.3	52 1	-28.8	(N) I		
25	Ave	17.2	10.2	10.1	15.0	10.0	10.0	23.3	52.1	-20.0	$(\mathbf{I}\mathbf{i})\mathbf{L}$		
^	240.174k	42.8	+0.2	+0.1	+5.8	+0.0	+0.0	48.9	52.1	-3.2	(N) L		
									see average	e data	() —		
									above				
27	164.544k	12.1	+0.5	+0.1	+5.8	+0.0	+0.0	18.5	55.2	-36.7	(N) L		
	Ave												
^													
	164.544k	49.2	+0.5	+0.1	+5.8	+0.0	+0.0	55.6	55.2	+0.4	(N) L		
	164.544k	49.2	+0.5	+0.1	+5.8	+0.0	+0.0	55.6	55.2 see average	+0.4 e data	(N) L		
	164.544k	49.2	+0.5	+0.1	+5.8	+0.0	+0.0	55.6	55.2 see average above	+0.4 e data	(N) L		
^	164.544k 167.453k	49.2	+0.5	+0.1	+5.8	+0.0	+0.0	55.6 54.9	55.2 see average above 55.1	+0.4 e data -0.2	(N) L (N) L		
^	164.544k 167.453k 231.447k	49.2	+0.5 +0.4 +0.2	+0.1 +0.1 +0.1	+5.8 +5.8	+0.0	+0.0 +0.0 +0.0	55.6 54.9	55.2 see average above 55.1 52.4	+0.4 e data -0.2 -37.7	(N) L (N) L		
^ 30	164.544k 167.453k 231.447k Ave	49.2 48.6 8.6	+0.5 +0.4 +0.2	+0.1 +0.1 +0.1	+5.8 +5.8 +5.8	+0.0 +0.0 +0.0	+0.0 +0.0 +0.0	55.6 54.9 14.7	55.2 see average above 55.1 52.4	+0.4 e data -0.2 -37.7	(N) L (N) L (N) L		
^ 30	164.544k 167.453k 231.447k Ave 231.447k	49.2 48.6 8.6 43.0	+0.5 +0.4 +0.2 +0.2	+0.1 +0.1 +0.1 +0.1	+5.8 +5.8 +5.8 +5.8	+0.0 +0.0 +0.0 +0.0	+0.0 +0.0 +0.0 +0.0	55.6 54.9 14.7 49.1	55.2 see average above 55.1 52.4 52.4	+0.4 e data -0.2 -37.7 -3.3	(N) L (N) L (N) L (N) L		
30	164.544k 167.453k 231.447k Ave 231.447k	49.2 48.6 8.6 43.0	+0.5 +0.4 +0.2 +0.2	+0.1 +0.1 +0.1 +0.1	+5.8 +5.8 +5.8 +5.8	+0.0 +0.0 +0.0 +0.0	+0.0 +0.0 +0.0 +0.0	55.6 54.9 14.7 49.1	55.2 see average above 55.1 52.4 52.4 see average	+0.4 e data -0.2 -37.7 -3.3 e data	(N) L (N) L (N) L (N) L		
30	164.544k 167.453k 231.447k Ave 231.447k	49.2 48.6 8.6 43.0	+0.5 +0.4 +0.2 +0.2	+0.1 +0.1 +0.1 +0.1	+5.8 +5.8 +5.8 +5.8	+0.0 +0.0 +0.0 +0.0	+0.0 +0.0 +0.0 +0.0	55.6 54.9 14.7 49.1	55.2 see average above 55.1 52.4 52.4 see average above	+0.4 e data -0.2 -37.7 -3.3 e data	(N) L (N) L (N) L (N) L		
30 ^	164.544k 167.453k 231.447k Ave 231.447k 235.083k	49.2 48.6 8.6 43.0 39.0	+0.5 +0.4 +0.2 +0.2 +0.2	+0.1 +0.1 +0.1 +0.1 +0.1	+5.8 +5.8 +5.8 +5.8 +5.8	+0.0 +0.0 +0.0 +0.0 +0.0	+0.0 +0.0 +0.0 +0.0 +0.0	55.6 54.9 14.7 49.1 45.1	55.2 see average above 55.1 52.4 52.4 see average above 52.3	+0.4 e data -0.2 -37.7 -3.3 e data -7.2	(N) L (N) L (N) L (N) L (N) L		



CKC Laboratories, Inc. Date: 2/2/2012 Time: 20:16:24 Motorola Mobility, Inc. WO#: 92742 15:207 AC Mains - Average Test Lead: (N) L2 120V 60Hz Sequence#: 15 Ext ATTN: 0 dB





Test Setup Photos





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15.247(a)(2) -6dBc Occupied Bandwidth

Test Conditions / Setup

The equipment under test (EUT) is placed on the test bench. The EUT antenna port is connected to the spectrum analyzer using a coaxial cable. The EUT is set in continuous transmit mode and the measurement is taken at the antenna port. Temperature: 20°C, Humidity: 40%, Pressure: 100kPa Frequency range of EUT: 2412 to 2462MHz 802.11b (11Mbps), Transmit Frequencies: 2412MHz, 2437MHz, 2462MHz (Channel 1, 6, 11) 802.11g (6Mbps) Transmit Frequencies: 2412MHz, 2437MHz, 2462MHz (Channel 1, 6, 11) 802.11n (20MHz) (7.2Mbps) Transmit Frequencies: 2412MHz, 2437MHz, 2462MHz (Channel 1, 6, 11) 802.11n (40MHz) (15Mbps) Transmit Frequencies: 2422MHz, 2437MHz, 2452MHz (Channel 3, 6, 9) Frequency range of EUT: 5745 to 5825MHz 802.11a (6Mbps), Transmit Frequencies: 5745MHz, 5785MHz, 5825MHz (Channel 1, 6, 11) 802.11n (20MHz) (7.2Mbps) Transmit Frequencies: 5745MHz, 5785MHz, 5825MHz (Channel 149, 157, 165) 802.11n (40MHz) (15Mbps) Transmit Frequencies: 5755MHz, 5795MHz (Channel 151, 159)

Engineer Name: S. Yamamoto

Test Equipment									
Asset/Serial #	Description	Model	Manufacturer	Cal Date	Cal Due				
02672	Spectrum Analyzer	E4446A	Agilent	08/09/2010	08/09/2012				
02945	3' 40GHz cable	32022-2-2909K-36TC	Astrolab	10/19/2011	10/19/2013				



🔆 Agilent 18:12:51 Feb 3, 2012 R L Peak Search Mkr2 5.746 80 GHz Ref 13.7 dBm 5.02 dBm #Atten 24 dB Next Peak #Peak m2 month monthin Log 10 Next Pk Right dB/ monorman Manumanan Offst 9.7 dB Next Pk Left DI -1.0 dBm Min Search LgAv Center 5.745 00 GHz Span 40 MHz #Res BW 300 kHz #VBW 1 MHz Sweep 1 ms (601 pts) Pk-Pk Search Amplitude -1.20 dBm -0.08 dB 5.02 dEm Type Freq Freq Freq X Axis Marke Trace 5.736 93 GHz 16.00 MHz (1) (1) (1) 1R 1∆ 2 Mkr © CF 5.746 80 GHz More 1 of 2 File Cperation Status, C:\TEMP.WMF file saved

<u>Test Plots</u>

802.11a - Antenna Port 1



^{802.11}a - Antenna Port 0





802.11a - Antenna Port 1



802.11a - Antenna Port 0





802.11a - Antenna Port 1



802.11b - Antenna Port 0





802.11b - Antenna Port 0



802.11b - Antenna Port 0





802.11g - Antenna Port 0



802.11g - Antenna Port 1





802.11g - Antenna Port 0



802.11g - Antenna Port 1





802.11g - Antenna Port 0



802.11g - Antenna Port 1





802.11n - Antenna Port 0



802.11n - Antenna Port 1





802.11n - Antenna Port 0



802.11n - Antenna Port 1





802.11n - Antenna Port 0



802.11n - Antenna Port 1





802.11n - Antenna Port 0



802.11n - Antenna Port 1





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802.11n - Antenna Port 0



802.11n - Antenna Port 1





802.11n - Antenna Port 0



802.11n - Antenna Port 1





802.11n - Antenna Port 0



^{802.11}n - Antenna Port 1





802.11n - Antenna Port 0



802.11n - Antenna Port 1





802.11n - Antenna Port 0



802.11n - Antenna Port 1



Test Setup Photos

