HCT CO.,LTD

HCT CO., LTD.

CERTIFICATE OF COMPLIANCE

FCC Certification

Applicant Name:
LG Electronics MobileComm U.S.A., Inc.

Address:
1000 Sylvan Avenue, Englewood Cliffs NJ 07632

Date of Issue:
April 05, 2013

Test Site/Location:
HCT CO., LTD., 105-1, Jangam-ri, Majang-Myeon, Icheon-si, Kyunggi-Do, Korea

Report No.: HCTR1304FR05

HCT FRN: 0005866421

FCC ID	**: ZNFE440G**
APPLICANT	**: LG Electronics MobileComm U.S.A., Inc.**

FCC Model(s):	LG-E440g
Additional FCC Model(s):	LGE440g, E440g
EUT Type:	GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n
Max. RF Output Power:	Wi-Fi 802.11b(21.31 dBm) / Wi-Fi 802.11g (22.03 dBm) / Wi-Fi 802.11n_20 MHz (19.75 dBm) / Wi-Fi 802.11n_40 MHz (19.42 dBm)
Frequency Range:	2412 MHz - 2462 MHz (2.4 GHz Band) 2422 MHz - 2452 MHz (2.4 GHz Band)_40 MHz BW
Modulation type	CCK/DSSS/OFDM
FCC Classification:	Digital Transmission System(DTS)
FCC Rule Part(s):	Part 15.247

Engineering Statement:

The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.

HCT CO., LTD. Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998,21 U.S. C.853(a)

Report prepared by
: Jong Seok Lee
Test engineer of RF Team

Approved by
: Chang Seok Choi
Manager of RF Team

Version

TEST REPORT NO.	DATE	DESCRIPTION
HCTR1304FR05	April 05, 2013	- First Approval Report

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1. GENERAL INFORMATION

Applicant:	LG Electronics MobileComm U.S.A., Inc.
Address:	1000 Sylvan Avenue, Englewood Cliffs NJ 07632
FCC ID:	ZNFE440G
EUT Type:	GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n
Model name(s):	LG-E440g
Additional Model name(s):	LGE440g, E440g
Date(s) of Tests:	March 23, 2013 ~ April 04, 2013
Place of Tests:	HCT Co., Ltd. 105-1, Jangam-ri , Majang-Myeon, Icheon-si, Kyunggi-Do, 467-811, KOREA. (IC Recognition No. : 5944A-3)

2. EUT DESCRIPTION

EUT Type	GSM/WCDMA Phone with Bluetooth3.0, WIFI802.11 b/g/n	
FCC Model Name	LG-E440g	
Additional FCC Model Name	LGE440g, E440g	
Power Supply	DC 3.7 V	
Battery type	Li-ion Battery(Standard)	
Frequency Range	TX: 2412 MHz ~ 2462 MHz, 2422 MHz - 2452 MHz_40 MHz BW RX: 2412 MHz ~ 2462 MHz, 2422 MHz - 2452 MHz_40 MHz BW	
Max. RF Output Power	Peak	Wi-Fi 802.11b(21.31 dBm) / Wi-Fi 802.11g (22.03 dBm) / Wi-Fi 802.11n_20 MHz (19.75 dBm) / Wi-Fi 802.11n_40 MHz (19.42 dBm)
	Average	Wi-Fi 802.11b(15.824 dBm) / Wi-Fi 802.11g (11.239 dBm) / Wi-Fi 802.11n_20 MHz (9.413 dBm) / Wi-Fi 802.11n_40 MHz (10.669 dBm)
Modulation Type	DSSS/CCK(802.11b), OFDM(802.11g, 802.11n)	
Antenna Specification	Manufacturer: KOMATECH Co., Ltd. Antenna type: Internal Antenna Peak Gain : 2.64 dBi	

3. TEST METHODOLOGY

FCC KDB 558074 D01 DTS Meas Guidance v02 dated October 04, 2012 entitled “Guidance for Performing Compliance Measurements on Digital Transmission Systems(DTS) and the measurement procedure described in the American National Standard for Testing Unlicensed Wireless Devices(ANSI C63.4-2003) Operating Under §15.247” were used in the measurement.

3.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

3.2 EUT EXERCISE

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209 and 15.247 under the FCC Rules Part 15 Subpart C.

3.3 GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4. (Version :2003) Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3 m away from the receiving antenna, which varied from 1 m to 4 m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes according to the requirements in Section 13.1.4.1 of ANSI C63.4. (Version: 2003)

Conducted Antenna Terminal

See Section from 8.1 to 8.4.(KDB 558074)

3.4 DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition. Test program used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

Channel low, mid and high with highest data rate (worst case) is chosen for full testing.

4. INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipments, which is traceable to recognized national standards.

5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

The SAC(Semi-Anechoic Chamber) and conducted measurement facility used to collect the radiated data are located at the 105-1, Jangam-ri, Majang-Myeon, Icheon-si, Kyunggi-Do, 467-811, Korea. The site is constructed in conformance with the requirements of ANSI C63.4. (Version :2003) and CISPR Publication 22. Detailed description of test facility was submitted to the Commission and accepted dated March 02, 2011 (Registration Number: 90661)

5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of Linearly polarized antennas: tuned dipole, bi-conical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements. Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers. Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, “Radio Interference Measuring Apparatus and Measurement Methods.”

6. ANTENNA REQUIREMENTS

According to FCC 47 CFR §15.203:

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

* The antennas of this E.U.T are permanently attached.

*The E.U.T Complies with the requirement of §15.203

7. SUMMARY TEST OF RESULTS

Test Description	FCC Part Section(s)	Test Limit	Test Condition	Test Result
6 dB Bandwidth	§15.247(a)(2)	> 500 kHz	CONDUCTED	PASS
Conducted Maximum Peak Output Power	§15.247(b)(3)	< 1 Watt		PASS
Power Spectral Density	§15.247(e)	< 8 dBm / 3 kHz Band		PASS
Band Edge(Out of Band Emissions)	§15.247(d)	Conducted < 20 dBc		PASS
AC Power line Conducted Emissions	§15.207	cf. Section 8.6		PASS
Radiated Spurious Emissions	§15.205, 15.209	cf. Section 8.5.1	RADIATED	PASS
Radiated Restricted Band Edge	§15.247(d), 15.205, 15.209	cf. Section 8.5.2		PASS

8. TEST RESULT

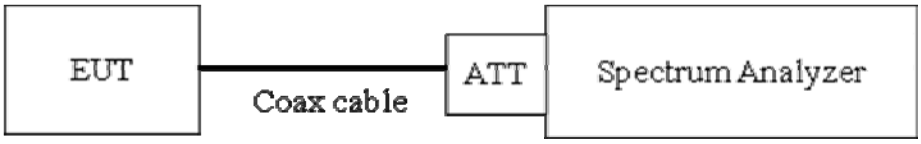
8.1 6dB BANDWIDTH (802.11b/g/n)

Test Requirements and limit, §15.247(a)(2)

The bandwidth at 6dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the receive antenna while the EUT is operating in transmission mode at the appropriate frequencies.

The minimum permissible 6dB bandwidth is 500 kHz.

▣ TEST CONFIGURATION



▣ TEST PROCEDURE

The transmitter output is connected to the Spectrum Analyzer.

The Spectrum Analyzer is set to (Page 4 in KDB 558074, issued 10/04/2012)

RBW = 1 – 5 % of DTS BW, not to exceed 100 kHz

VBW = 3 * RBW

SPAN = 40 MHz

Detector = Peak

Trace mode = max hold

Sweep = auto couple

Note : We tested 6 dB bandwidth using the automatic bandwidth measurement capability of a spectrum analyzer. X dB is set 6 dB.

▣ TEST RESULTS

Conducted 6dB Bandwidth Measurements for 802.11b

802.11b Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
2412	1	9.202	0.500	Pass
2437	6	9.071	0.500	Pass
2462	11	9.775	0.500	Pass

Conducted 6dB Bandwidth Measurements for 802.11g

802.11g Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
2412	1	16.450	0.500	Pass
2437	6	16.510	0.500	Pass
2462	11	16.460	0.500	Pass

Conducted 6dB Bandwidth Measurements for 802.11n

802.11n Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
2412	1	17.650	0.500	Pass
2437	6	17.650	0.500	Pass
2462	11	17.640	0.500	Pass

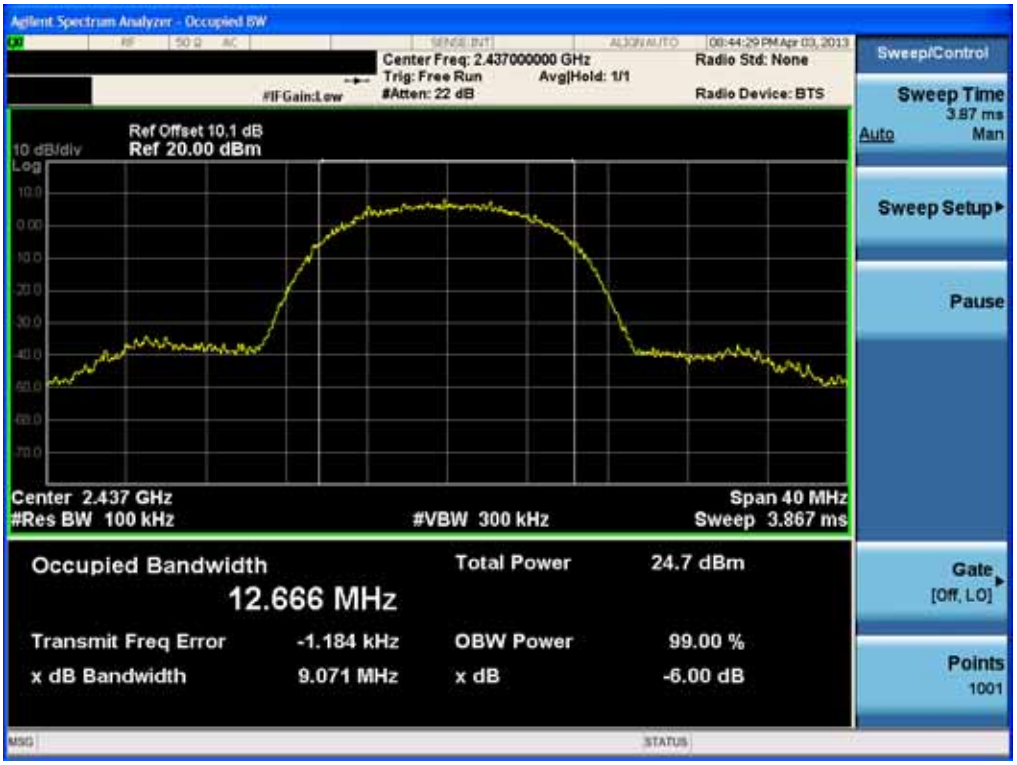
Conducted 6dB Bandwidth Measurements for 802.11n_40 MHz BW

802.11n Mode		Measured Bandwidth [MHz]	Minimum Bandwidth [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
2422	3	35.20	0.500	Pass
2437	6	35.20	0.500	Pass
2452	9	35.21	0.500	Pass

▣ RESULT PLOTS

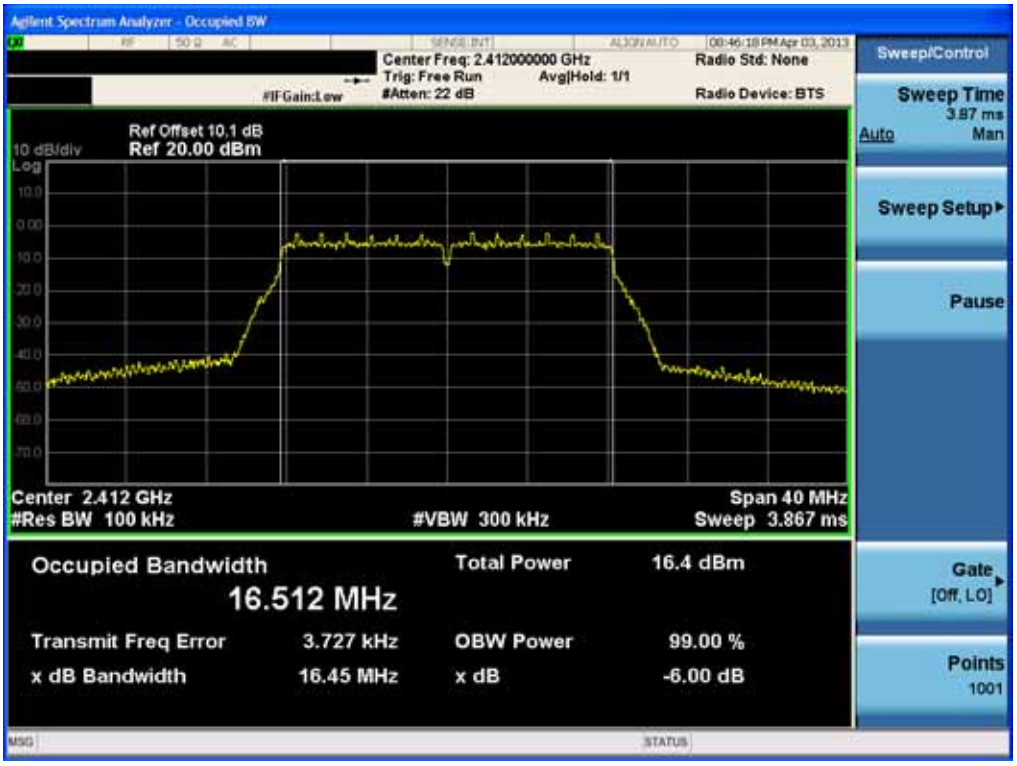
6dB Bandwidth plot (802.11b-CH 1)

6dB Bandwidth plot (802.11b-CH 6)

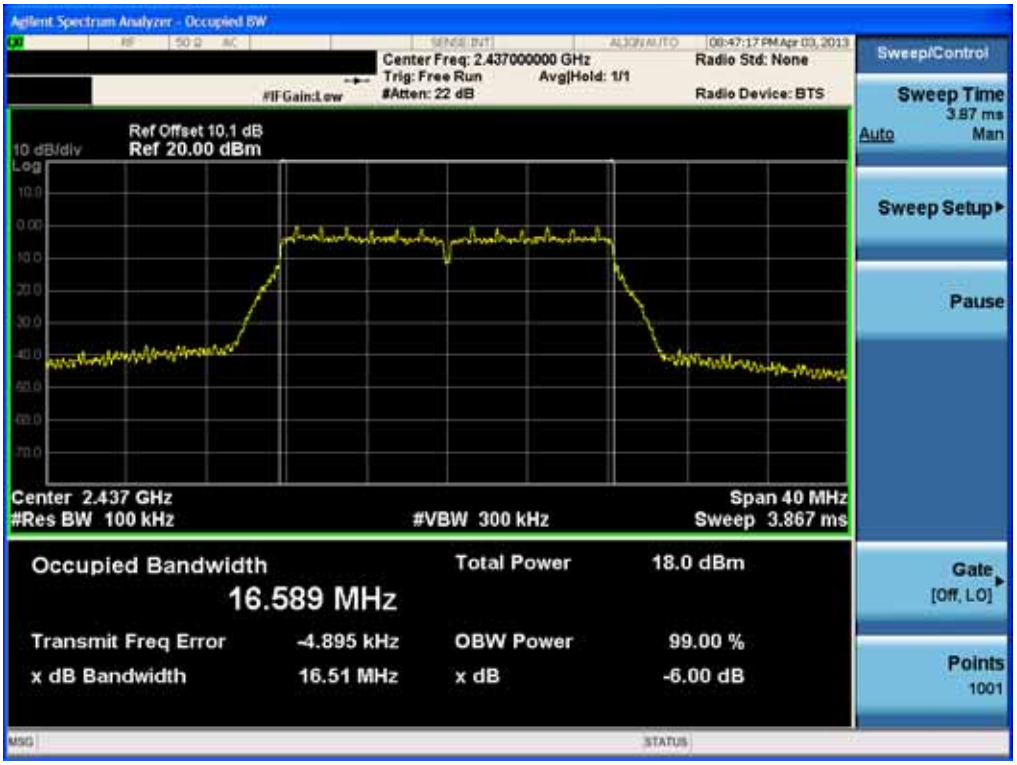


6dB Bandwidth plot (802.11b-CH 11)

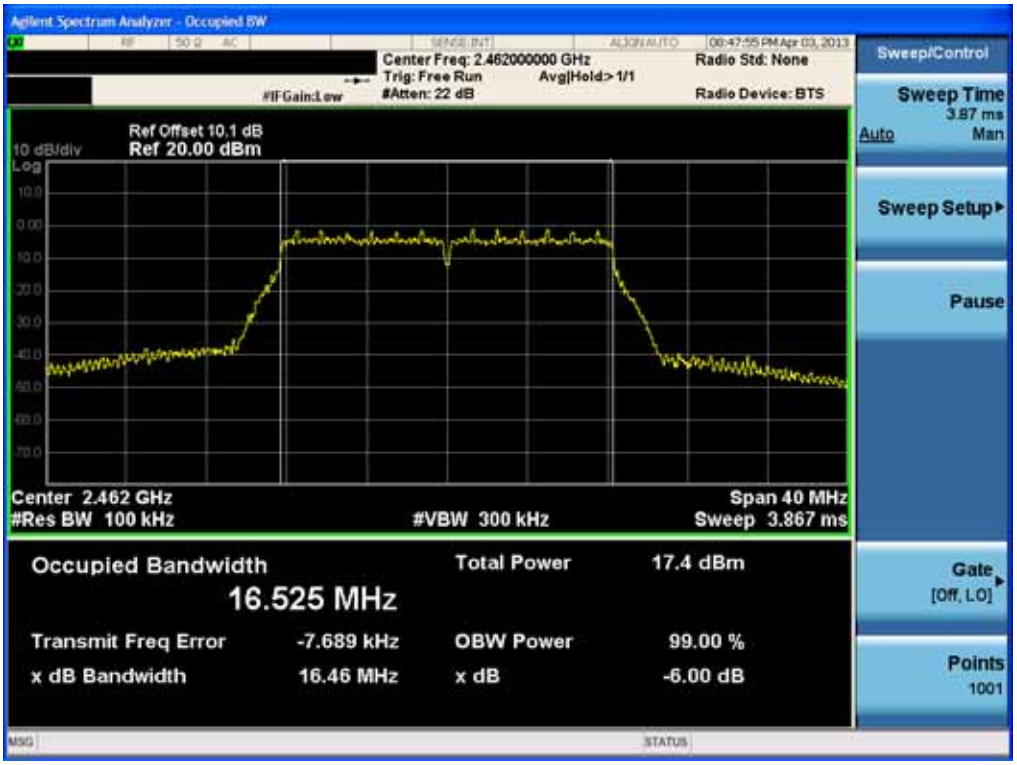
6dB Bandwidth plot (802.11g-CH 1)



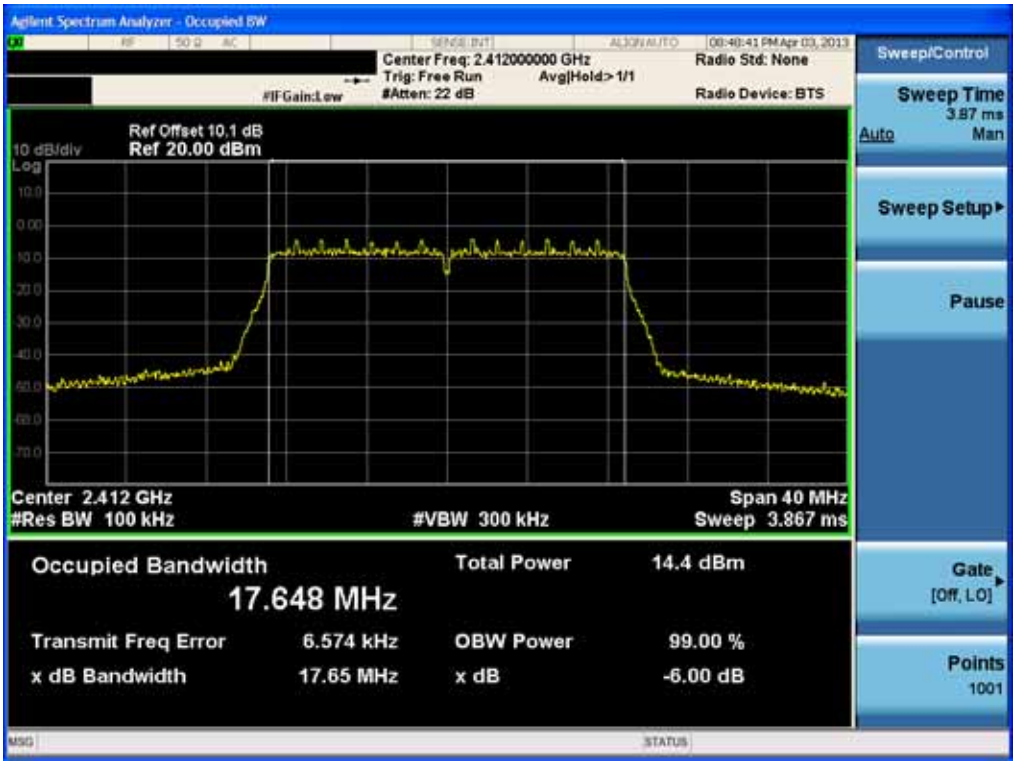
6dB Bandwidth plot (802.11g-CH 6)



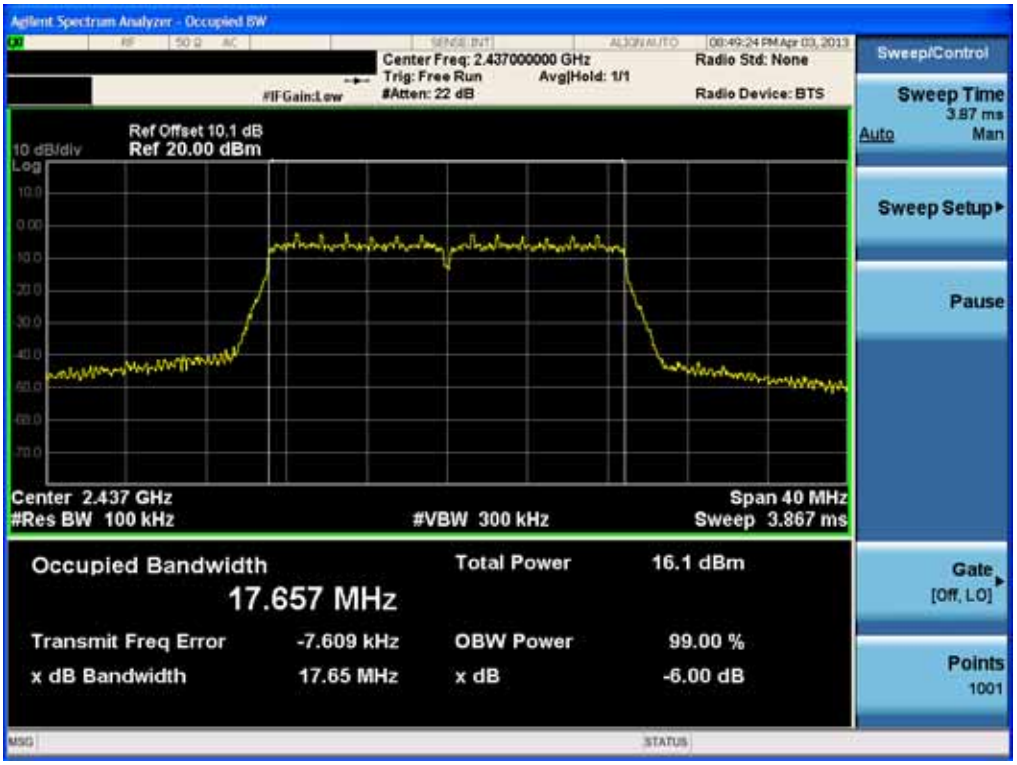
6dB Bandwidth plot (802.11g-CH 11)



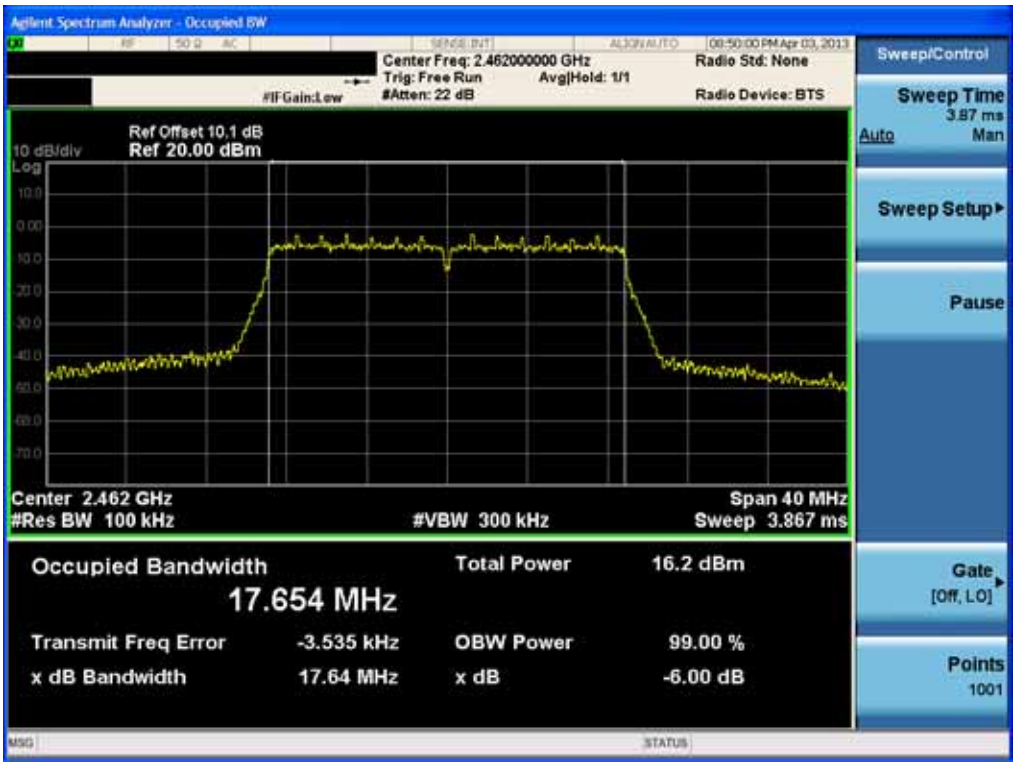
6dB Bandwidth plot (802.11n-CH 1) _20 MHz BW



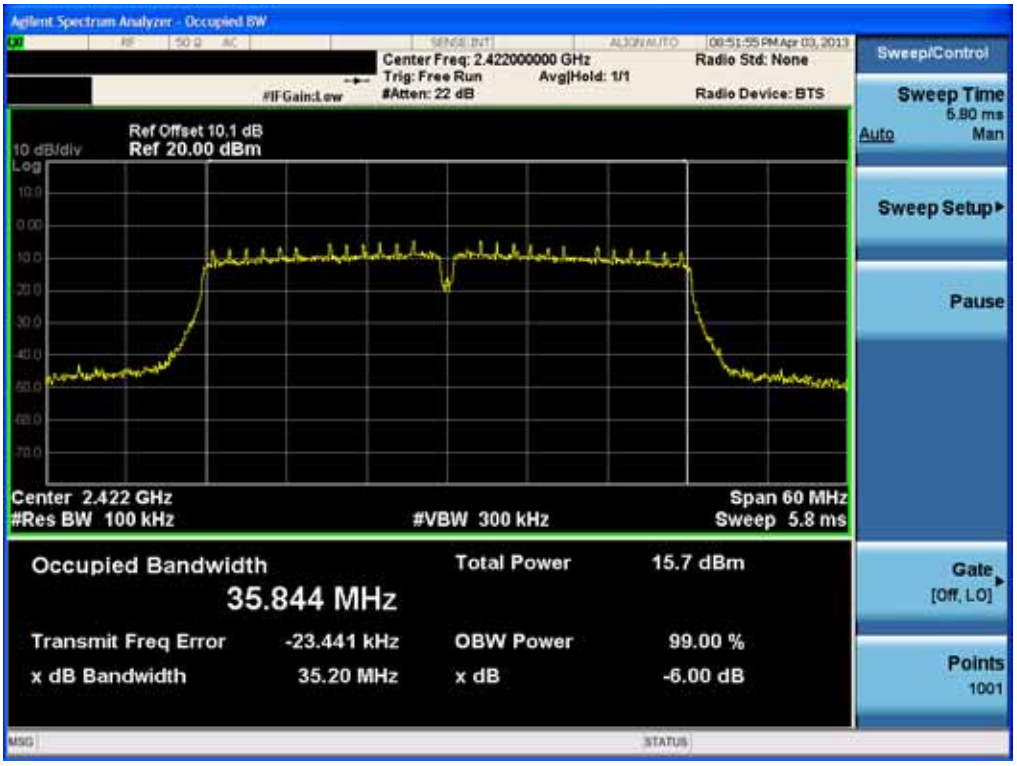
6dB Bandwidth plot (802.11n-CH 6) _20 MHz BW



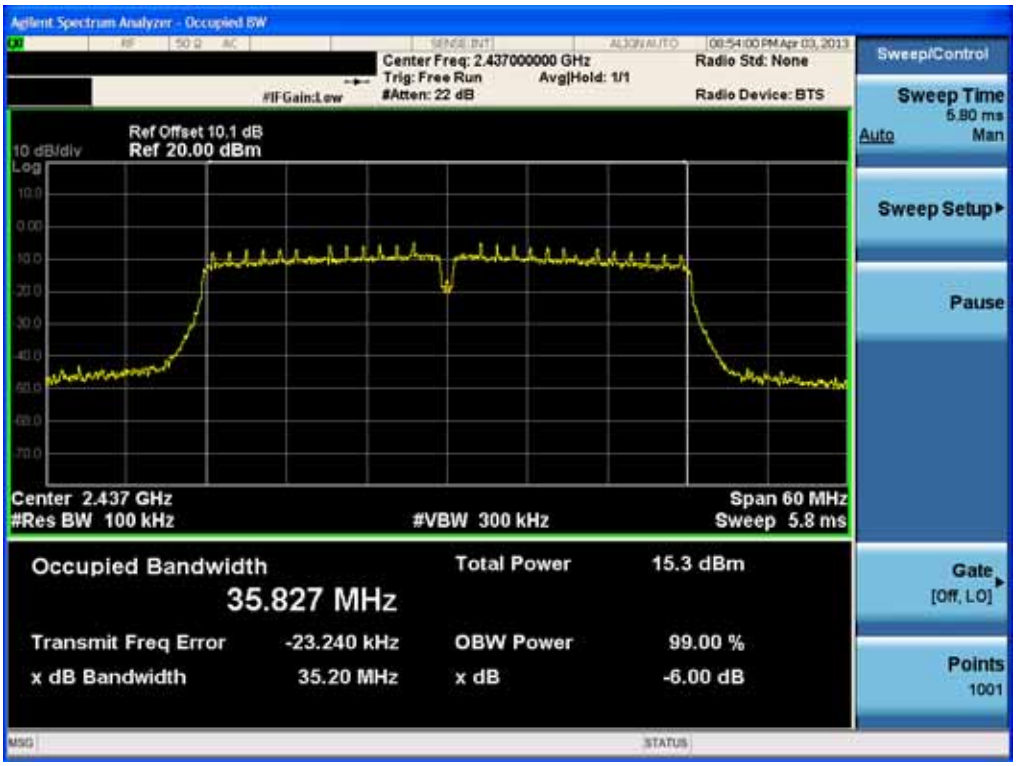
6dB Bandwidth plot (802.11n-CH 11) _20 MHz BW



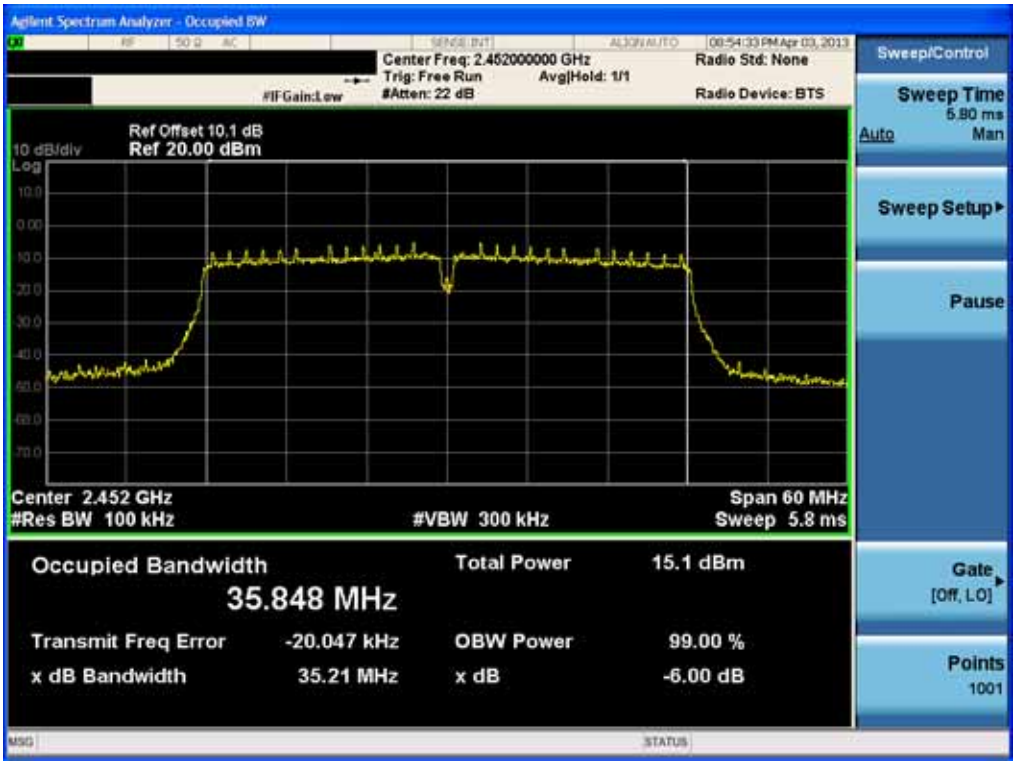
6dB Bandwidth plot (802.11n-CH 3)_40 MHz BW



6dB Bandwidth plot (802.11n-CH 6) _40 MHz BW



6dB Bandwidth plot (802.11n-CH 9) _40 MHz BW



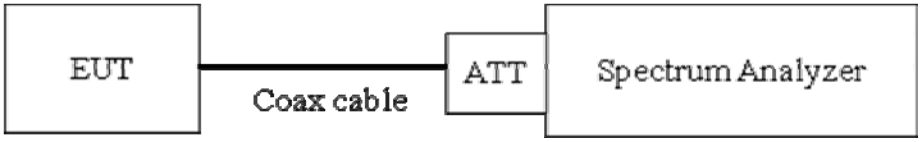
8.2 OUTPUT POWER (802.11b/g/n)

Test Requirements and limit, §15.247(b)(3)

A transmitter antenna terminal of EUT is connected to the input of a Spectrum Analyzer. Measurement is made while the EUT is operating in transmission mode at the appropriate frequencies.

The maximum permissible conducted output power is 1 Watt.

▣ TEST CONFIGURATION



▣ TEST PROCEDURE

The transmitter output is connected to the Spectrum Analyzer. We use the spectrum analyzer's integrated band power measurement function.

The Spectrum Analyzer is set to

- Peak Power (Procedure 8.1.2 Option2 in KDB 558074, issued 10/04/2012)

  RBW = Maximum available (at least 1 MHz)

  VBW = 3 x RBW or maximum available setting (must be ≥ RBW)

  SPAN = Set the span to fully encompass the DTS bandwidth

  Detector Mode = Peak

  Sweep = auto couple

  Trace Mode = max hold

  Allow trace to fully stabilize.

  Use the spectrum analyzer's band/channel power measurement function with the band limits set equal to the DTS bandwidth edges (for some analyzers, this may require a manual override to ensure use of peak detector). If the spectrum analyzer does not have a band power function, sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the DTS channel bandwidth.

- Average Power (Procedure 8.2.1 Option1 in KDB 558074, issued10/04/2012)

  RBW = 1 MHz

  VBW ≥ 3 MHz

  SPAN = Set the analyzer span to a minimum of 1.5 times the EBW

  Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW

  Detector Mode = Power average (RMS) or sample detector when RMS not available

  Sweep = auto couple

  Trace average at least 100 traces in power averaging(RMS) mode

  Use the spectrum analyzer's band power measurement function with band limits set equal to the EBW band edges.

▣ Sample Calculation

Output Power = Reading Value + ATT loss + Cable loss(1 ea)

= 10 dBm + 10 dB + 0.8 dB = 20.8 dBm

Note :

1. Spectrum reading values are not plot data. The power results in plot is already including the actual values of loss for the attenuator and cable combination.
2. Spectrum offset = Attenuator loss + Cable loss
3. We apply to the offset in the 2.4 GHz range that was rounded off to the closest tenth dB. Actual value of loss for the attenuator and cable combination is below table.
   So, 10.1 dB is offset. And the offset gap in the 2.4 GHz range do not affect the conducted peak power final result.

Band	Frequency(MHz)	Loss(dB)
2.4 GHz	2412	10.11
	2437	10.10
	2462	10.12

(Actual value of loss for the attenuator and cable combination)

▣ Duty Cycle Factor

Mode	Data Rate	T_{on} (ms)	T_{total} (ms)	Duty Cycle	Duty Cycle Factor (dB)
b	1 Mbps	8.385	8.49	0.98763251	0.054
	2 Mbps	4.275	4.395	0.97269625	0.120
	5.5 Mbps	1.68	1.785	0.94117647	0.263
	11 Mbps	0.915	1.035	0.88405797	0.535
g	6 Mbs	1.39	1.5	0.92666667	0.331
	9 Mbs	0.93	1.05	0.88571429	0.527
	12 Mbs	0.7	0.81	0.86419753	0.634
	18 Mbs	0.47	0.59	0.79661017	0.988
	24 Mbs	0.35	0.47	0.74468085	1.280
	36 Mbs	0.24	0.36	0.66666667	1.761
	48 Mbs	0.19	0.3	0.63333333	1.984
	54 Mbs	0.17	0.29	0.5862069	2.319
n_20 MHz BW	6.5 Mbs	1.29	1.41	0.91489362	0.386
	13 Mbs	0.66	0.77	0.85714286	0.669
	19.5 Mbs	0.45	0.56	0.80357143	0.950
	26 Mbs	0.34	0.46	0.73913043	1.313
	39 Mbs	0.24	0.35	0.68571429	1.639
	52 Mbs	0.18	0.3	0.6	2.218
	58.5 Mbs	0.17	0.29	0.5862069	2.319
	65 Mbs	0.15	0.27	0.55555556	2.553
n_40 MHz BW	13.5 Mbps	0.61	0.75	0.81333333	0.897
	27 Mbps	0.31	0.45	0.68888889	1.619
	40.5 Mbps	0.21	0.35	0.6	2.218
	54 Mbps	0.16	0.3	0.53333333	2.730
	81 Mbps	0.1	0.24	0.41666667	3.802
	108 Mbps	0.08	0.22	0.36363636	4.393
	121.5 Mbps	0.07	0.21	0.33333333	4.771
	135 Mbps	0.06	0.2	0.3	5.229

Note : Duty Cycle Factor = 10*log(1/Duty Cycle). where, Duty Cycle = T_{on} / T_{total}

▣ TEST RESULTS-Peak

Conducted Output Power Measurements (802.11b Mode)

802.11b Mode		Rate	Measured	Limit
Frequency[MHz]	Channel No.	(Mbps)	Power(dBm)	(dBm)
2412	1	1 Mbps	18.46	30
		2 Mbps	20.00	30
		5.5 Mbps	19.61	30
		11 Mbps	19.58	30
2437	6	1 Mbps	19.99	30
		2 Mbps	19.87	30
		5.5 Mbps	20.12	30
		11 Mbps	20.52	30
2462	11	1 Mbps	20.59	30
		2 Mbps	21.31	30
		5.5 Mbps	21.13	30
		11 Mbps	19.17	30

Conducted Output Power Measurements (802.11g Mode)

802.11g Mode		Rate	Measured	Limit
Frequency[MHz]	Channel No.	(Mbps)	Power(dBm)	(dBm)
2412	1	6 Mbps	19.84	30
		9 Mbps	20.26	30
		12 Mbps	19.84	30
		18 Mbps	19.43	30
		24 Mbps	19.48	30
		36 Mbps	19.64	30
		48 Mbps	19.36	30
		54 Mbps	20.18	30
2437	6	6 Mbps	22.03	30
		9 Mbps	21.63	30
		12 Mbps	20.93	30
		18 Mbps	21.05	30
		24 Mbps	21.17	30
		36 Mbps	21.63	30
		48 Mbps	21.15	30
		54 Mbps	21.11	30
2462	11	6 Mbps	21.13	30
		9 Mbps	21.56	30
		12 Mbps	21.07	30
		18 Mbps	21.04	30
		24 Mbps	21.25	30
		36 Mbps	21.19	30
		48 Mbps	21.28	30
		54 Mbps	21.43	30

Conducted Output Power Measurements (802.11n Mode)_20 MHz BW

802.11n Mode		Rate	Measured	Limit
Frequency[MHz]	Channel No.	(Mbps)	Power(dBm)	(dBm)
2412	1	6.5 Mbps	18.15	30
		13 Mbps	17.64	30
		19.5 Mbps	17.68	30
		26 Mbps	17.27	30
		39 Mbps	17.59	30
		52 Mbps	17.76	30
		58.5 Mbps	17.91	30
		65 Mbps	17.63	30
2437	6	6.5 Mbps	19.75	30
		13 Mbps	19.18	30
		19.5 Mbps	19.25	30
		26 Mbps	19.32	30
		39 Mbps	19.34	30
		52 Mbps	19.46	30
		58.5 Mbps	19.47	30
		65 Mbps	19.27	30
2462	11	6.5 Mbps	19.75	30
		13 Mbps	18.76	30
		19.5 Mbps	19.23	30
		26 Mbps	18.89	30
		39 Mbps	19.03	30
		52 Mbps	19.09	30
		58.5 Mbps	19.56	30
		65 Mbps	19.28	30

▣ TEST RESULTS

Conducted Output Power Measurements (802.11n Mode)_40 MHz BW

802.11n Mode		Rate	Measured	Limit
Frequency[MHz]	Channel No.	(Mbps)	Power(dBm)	(dBm)
2422	3	13.5 Mbps	17.73	30
		27 Mbps	17.54	30
		40.5 Mbps	17.38	30
		54 Mbps	17.10	30
		81 Mbps	17.06	30
		108 Mbps	17.68	30
		121.5 Mbps	17.54	30
		135 Mbps	17.44	30
2437	6	13.5 Mbps	18.47	30
		27 Mbps	18.22	30
		40.5 Mbps	18.30	30
		54 Mbps	18.53	30
		81 Mbps	18.41	30
		108 Mbps	18.48	30
		121.5 Mbps	18.35	30
		135 Mbps	18.83	30
2452	9	13.5 Mbps	19.42	30
		27 Mbps	18.43	30
		40.5 Mbps	18.98	30
		54 Mbps	18.46	30
		81 Mbps	18.52	30
		108 Mbps	18.83	30
		121.5 Mbps	18.54	30
		135 Mbps	19.06	30

☑ TEST RESULTS-Average

Conducted Output Power Measurements (802.11b Mode)

802.11b Mode		Rate (Mbps)	Measured Power(dBm)	Duty Cycle Factor	Measured Power(dBm) + Duty Cycle Factor	Limit (dBm)
Frequency [MHz]	Channel No.					
2412	1	1 Mbps	15.01	0.054	15.064	30
		2 Mbps	14.36	0.120	14.480	30
		5.5 Mbps	14.28	0.263	14.543	30
		11 Mbps	14.14	0.535	14.675	30
2437	6	1 Mbps	15.77	0.054	15.824	30
		2 Mbps	15.46	0.120	15.580	30
		5.5 Mbps	14.75	0.263	15.013	30
		11 Mbps	14.60	0.535	15.135	30
2462	11	1 Mbps	14.30	0.054	14.354	30
		2 Mbps	13.40	0.120	13.520	30
		5.5 Mbps	12.87	0.263	13.133	30
		11 Mbps	13.20	0.535	13.735	30

Conducted Output Power Measurements (802.11g Mode)

802.11g Mode		Rate (Mbps)	Measured Power(dBm)	Duty Cycle Factor	Measured Power(dBm) + Duty Cycle Factor	Limit (dBm)
Frequency [MHz]	Channel No.					
2412	1	6 Mbps	9.13	0.331	9.461	30
		9 Mbps	8.60	0.527	9.127	30
		12 Mbps	8.95	0.634	9.584	30
		18 Mbps	8.73	0.988	9.718	30
		24 Mbps	8.50	1.280	9.780	30
		36 Mbps	7.65	1.761	9.411	30
		48 Mbps	7.32	1.984	9.304	30
		54 Mbps	7.75	2.319	10.069	30
2437	6	6 Mbps	10.80	0.331	11.131	30
		9 Mbps	10.68	0.527	11.207	30
		12 Mbps	10.10	0.634	10.734	30
		18 Mbps	9.91	0.988	10.898	30
		24 Mbps	9.66	1.280	10.940	30
		36 Mbps	9.35	1.761	11.111	30
		48 Mbps	9.07	1.984	11.054	30
		54 Mbps	8.91	2.319	11.229	30
2462	11	6 Mbps	9.83	0.331	10.161	30
		9 Mbps	10.25	0.527	10.777	30
		12 Mbps	10.16	0.634	10.794	30
		18 Mbps	9.92	0.988	10.908	30
		24 Mbps	9.20	1.280	10.480	30
		36 Mbps	9.36	1.761	11.121	30
		48 Mbps	9.03	1.984	11.014	30
		54 Mbps	8.92	2.319	11.239	30

Conducted Output Power Measurements (802.11n Mode) _20 MHz BW

802.11n Mode		Rate (Mbps)	Measured Power(dBm)	Duty Cycle Factor	Measured Power(dBm) + Duty Cycle Factor	Limit (dBm)
Frequency [MHz]	Channel No.					
2412	1	6.5 Mbps	6.54	0.386	6.926	30
		13 Mbps	6.86	0.669	7.529	30
		19.5 Mbps	6.13	0.950	7.080	30
		26 Mbps	5.95	1.313	7.263	30
		39 Mbps	6.16	1.639	7.799	30
		52 Mbps	5.22	2.218	7.438	30
		58.5 Mbps	5.35	2.319	7.669	30
		65 Mbps	5.26	2.553	7.813	30
2437	6	6.5 Mbps	8.49	0.386	8.876	30
		13 Mbps	8.24	0.669	8.909	30
		19.5 Mbps	8.05	0.950	9.000	30
		26 Mbps	7.79	1.313	9.103	30
		39 Mbps	7.48	1.639	9.119	30
		52 Mbps	7.09	2.218	9.308	30
		58.5 Mbps	7.01	2.319	9.329	30
		65 Mbps	6.86	2.553	9.413	30
2462	11	6.5 Mbps	7.87	0.386	8.256	30
		13 Mbps	8.18	0.669	8.849	30
		19.5 Mbps	7.46	0.950	8.410	30
		26 Mbps	7.78	1.313	9.093	30
		39 Mbps	6.95	1.639	8.589	30
		52 Mbps	7.11	2.218	9.328	30
		58.5 Mbps	6.49	2.319	8.809	30
		65 Mbps	6.35	2.553	8.903	30

▣ TEST RESULTS

Conducted Output Power Measurements (802.11n Mode)_40 MHz BW

802.11n Mode		Rate (Mbps)	Measured Power(dBm)	Duty Cycle Factor	Measured Power(dBm) + Duty Cycle Factor	Limit (dBm)
Frequency [MHz]	Channel No.					
2422	3	13.5 Mbps	5.54	0.897	6.437	30
		27 Mbps	5.12	1.619	6.739	30
		40.5 Mbps	4.79	2.218	7.008	30
		54 Mbps	4.98	2.730	7.710	30
		81 Mbps	4.01	3.802	7.812	30
		108 Mbps	3.65	4.393	8.043	30
		121.5 Mbps	3.47	4.771	8.241	30
		135 Mbps	3.89	5.229	9.119	30
2437	6	13.5 Mbps	6.72	0.897	7.617	30
		27 Mbps	6.35	1.619	7.969	30
		40.5 Mbps	5.98	2.218	8.198	30
		54 Mbps	5.68	2.730	8.410	30
		81 Mbps	5.72	3.802	9.522	30
		108 Mbps	5.35	4.393	9.743	30
		121.5 Mbps	4.65	4.771	9.421	30
		135 Mbps	5.12	5.229	10.349	30
2452	9	13.5 Mbps	6.95	0.897	7.847	30
		27 Mbps	7.14	1.619	8.759	30
		40.5 Mbps	6.77	2.218	8.988	30
		54 Mbps	6.51	2.730	9.240	30
		81 Mbps	6.03	3.802	9.832	30
		108 Mbps	5.62	4.393	10.013	30
		121.5 Mbps	5.47	4.771	10.241	30
		135 Mbps	5.44	5.229	10.669	30

▣ RESULT PLOTS-Peak

Conducted Output Power (802.11b-CH 1) 1Mbps

Conducted Output Power (802.11b-CH 1) 2Mbps

Conducted Output Power (802.11b-CH 1) 5.5Mbps

Conducted Output Power (802.11b-CH 1) 11Mbps

Conducted Output Power (802.11b-CH 6) 1Mbps

Conducted Output Power (802.11b-CH 6) 2Mbps

Conducted Output Power (802.11b-CH 6) 5.5Mbps

Conducted Output Power (802.11b-CH 6) 11Mbps

Conducted Output Power (802.11b-CH 11) 1Mbps

Conducted Output Power (802.11b-CH 11) 2Mbps

Conducted Output Power (802.11b-CH 11) 5.5Mbps

Conducted Output Power (802.11b-CH 11) 11Mbps

Conducted Output Power (802.11g-CH 1) 6Mbps

Conducted Output Power (802.11g-CH 1) 9Mbps

Conducted Output Power (802.11g-CH 1) 12Mbps

Conducted Output Power (802.11g-CH 1) 18Mbps

Conducted Output Power (802.11g-CH 1) 24Mbps

Conducted Output Power (802.11g-CH 1) 36Mbps

Conducted Output Power (802.11g-CH 1) 48Mbps

Conducted Output Power (802.11g-CH 1) 54Mbps

Conducted Output Power (802.11g-CH 6) 6Mbps

Conducted Output Power (802.11g-CH 6) 9Mbps

Conducted Output Power (802.11g-CH 6) 12Mbps

Conducted Output Power (802.11g-CH 6) 18Mbps

Conducted Output Power (802.11g-CH 6) 24Mbps

Conducted Output Power (802.11g-CH 6) 36Mbps

Conducted Output Power (802.11g-CH 6) 48Mbps

Conducted Output Power (802.11g-CH 6) 54Mbps

Conducted Output Power (802.11g-CH 11) 6Mbps

Conducted Output Power (802.11g-CH 11) 9Mbps

Conducted Output Power (802.11g-CH 11) 12Mbps

Conducted Output Power (802.11g-CH 11) 18Mbps

Conducted Output Power (802.11g-CH 11) 24Mbps

Conducted Output Power (802.11g-CH 11) 36Mbps

Conducted Output Power (802.11g-CH 11) 48Mbps

Conducted Output Power (802.11g-CH 11) 54Mbps

▣ RESULT PLOTS:_20 MHz BW

Conducted Output Power (802.11n-CH 1) 6.5Mbps

Conducted Output Power (802.11n-CH 1) 13Mbps

Conducted Output Power (802.11n-CH 1) 19.5Mbps

Conducted Output Power (802.11n-CH 1) 26Mbps

Conducted Output Power (802.11n-CH 1) 39Mbps

Conducted Output Power (802.11n-CH 1) 52Mbps

Conducted Output Power (802.11n-CH 1) 58.5Mbps

Conducted Output Power (802.11n-CH 1) 65Mbps

Conducted Output Power (802.11n-CH 6) 6.5Mbps

Conducted Output Power (802.11n-CH 6) 13Mbps

Conducted Output Power (802.11n-CH 6) 19.5Mbps

Conducted Output Power (802.11n-CH 6) 26Mbps

Conducted Output Power (802.11n-CH 6) 39Mbps

Conducted Output Power (802.11n-CH 6) 52Mbps

Conducted Output Power (802.11n-CH 6) 58.5Mbps

Conducted Output Power (802.11n-CH 6) 65Mbps

Conducted Output Power (802.11n-CH 11) 6.5Mbps

Conducted Output Power (802.11n-CH 11) 13Mbps

Conducted Output Power (802.11n-CH 11) 19.5Mbps

Conducted Output Power (802.11n-CH 11) 26Mbps

Conducted Output Power (802.11n-CH 11) 39Mbps

Conducted Output Power (802.11n-CH 11) 52Mbps

Conducted Output Power (802.11n-CH 11) 58.5Mbps

Conducted Output Power (802.11n-CH 11) 65Mbps

▣ RESULT PLOTS:_40 MHz BW

Conducted Output Power (802.11n-CH 3) 13.5 Mbps

Conducted Output Power (802.11n-CH 3) 27 Mbps

Conducted Output Power (802.11n-CH 3) 40.5 Mbps

Conducted Output Power (802.11n-CH 3) 54 Mbps

Conducted Output Power (802.11n-CH 3) 81 Mbps

Conducted Output Power (802.11n-CH 3) 108 Mbps