

FCC REPORT (WIFI)

Applicant: GNJ Manufacturing Inc.
Address of Applicant: 205 Ansin Blvd, Hallandale Beach, FL 33009,USA
Equipment Under Test (EUT)
Product Name: Mobile Phone-Style Series
Model No.: CAPHG16-01
FCC ID: 2AAE9CAPHG16-01
Applicable standards: FCC CFR Title 47 Part 15 Subpart C Section 15.247
Date of sample receipt: 29 May., 2013
Date of Test: 30 May to 08 Jun.,2013
Date of report issued: 09 Jun.,2013
Test Result : PASS *

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



Bruce Zhang
Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the CCIS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

2 Version

Version No.	Date	Description
00	09 Jun.,2013	Original

Prepared by: Sera **Date:** 09 Jun., 2013
Report Clerk

Reviewed by: Vincent chen **Date:** 09 Jun., 2013
Project Engineer

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4 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203/15.247 (c)	Pass
AC Power Line Conducted Emission	15.207	Pass
Conducted Peak Output Power	15.247 (b)(3)	Pass
26/6dB Emission Bandwidth	15.247 (a)(2)	Pass
Power Spectral Density	15.247 (e)	Pass
Band Edge	15.247(d)	Pass
Spurious Emission	15.205/15.209	Pass

Pass: The EUT complies with the essential requirements in the standard.

5 General Information

5.1 Client Information

Applicant:	GNJ Manufacturing Inc.
Address of Applicant:	205 Ansin Blvd, Hallandale Beach, FL 33009,USA
Manufacturer/Factory:	GNJ Manufacturing Inc.
Address Manufacturer/Factory:	205 Ansin Blvd, Hallandale Beach, FL 33009,USA

5.2 General Description of E.U.T.

Product Name:	Mobile Phone-Style Series
Model No.:	CAPHG16-01
Operation Frequency:	2412MHz~2462MHz (802.11b/802.11g/802.11n(H20)) 2422MHz~2452MHz (802.11n(H40))
Channel numbers:	11 for 802.11b/802.11g/802.11(H20) 7 for 802.11n(H40)
Channel separation:	5MHz
Modulation technology: (IEEE 802.11b)	Direct Sequence Spread Spectrum (DSSS)
Modulation technology: (IEEE 802.11g/802.11n)	Orthogonal Frequency Division Multiplexing(OFDM)
Data speed (IEEE 802.11b):	1Mbps, 2Mbps, 5.5Mbps, 11Mbps
Data speed (IEEE 802.11g):	6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps,54Mbps
Data speed (IEEE 802.11n):	Up to 150Mbps
Antenna Type:	Internal Antenna
Antenna gain:	-0.6 dBi
AC adapter :	Input:100-240V AC,50/60Hz 0.2A Output:5.0V DC MAX1A
Power supply:	Rechargeable Li-ion Battery DC3.7V

Operation Frequency each of channel For 802.11b/g/n(H20)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2412MHz	4	2427MHz	7	2442MHz	10	2457MHz
2	2417MHz	5	2432MHz	8	2447MHz	11	2462MHz
3	2422MHz	6	2437MHz	9	2452MHz		

Operation Frequency each of channel For 802.11n(H40)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
		4	2427MHz	7	2442MHz		
		5	2432MHz	8	2447MHz		
3	2422MHz	6	2437MHz	9	2452MHz		

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

802.11b/802.11g/802.11n (H20)

Channel	Frequency
The lowest channel	2412MHz
The middle channel	2437MHz
The Highest channel	2462MHz

802.11n (H40)

Channel	Frequency
The lowest channel	2422MHz
The middle channel	2437MHz
The Highest channel	2452MHz

5.3 Test environment and mode

Operating Environment:	
Temperature:	24.0 °C
Humidity:	54 % RH
Atmospheric Pressure:	1010 mbar
Test mode:	
Operation mode	Keep the EUT in continuous transmitting with modulation
<p>The sample was placed 0.8m above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.</p>	

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Per-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.

Mode	Data rate
802.11b	1Mbps
802.11g	6Mbps
802.11n(H20)	6.5Mbps
802.11n(H40)	13.5Mbps

Final Test Mode:

According to ANSI C63.4 standards, the test results are both the “worst case” and “worst setup” 1Mbps for 802.11b, 6Mbps for 802.11g, 6.5Mbps for 802.11n(H20) and 13.5 Mbps for 802.11n(H40). Duty cycle setting during the transmission is 100% with maximum power setting for all modulations.

5.4 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations:

● **FCC - Registration No.: 817957**

Shenzhen Zhongjian Nanfang Testing Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 817957, February 27, 2012.

● **IC - Registration No.: 10106A-1**

The 3m Semi-anechoic chamber of Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

● **CNAS - Registration No.: CNAS L6048**

Shenzhen Zhongjian Nanfang Testing Co., Ltd. is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L6048.

5.5 Laboratory Location

Shenzhen Zhongjian Nanfang Testing Co., Ltd.

Address: No.B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road,
Bao'an District, Shenzhen, Guangdong, China

Tel: 0755-23118282

Fax: 0755-23116366



5.6 Test Instruments list

Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
1	3m Semi- Anechoic Chamber	SAEMC	9(L)*6(W)* 6(H)	CCIS0001	June 09 2012	June 08 2013
2	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	CCIS0005	May 25 2013	May 24 2014
3	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	CCIS0006	May 25 2013	May 24 2014
4	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
5	Coaxial Cable	CCIS	N/A	CCIS0016	Apr. 01 2013	Mar. 31 2014
6	Coaxial Cable	CCIS	N/A	CCIS0017	Apr. 01 2013	Mar. 31 2014
7	Coaxial cable	CCIS	N/A	CCIS0018	Apr. 01 2013	Mar. 31 2014
8	Coaxial Cable	CCIS	N/A	CCIS0019	Apr. 01 2013	Mar. 31 2014
9	Coaxial Cable	CCIS	N/A	CCIS0087	Apr. 01 2013	Mar. 31 2014
10	Amplifier(10kHz-1.3GHz)	HP	8447D	CCIS0003	Apr. 01 2013	Mar. 31 2014
11	Amplifier(1GHz-18GHz)	Compliance Direction Systems Inc.	PAP-1G18	CCIS0011	June 09 2012	June 08 2013
12	Pre-amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	Apr. 01 2013	Mar. 31 2014
13	Horn Antenna	ETS-LINDGREN	3160	GTS217	Mar. 30 2013	Mar. 29 2014
14	Printer	HP	HP LaserJet P1007	N/A	N/A	N/A
15	Positioning Controller	UC	UC3000	CCIS0015	N/A	N/A
16	Spectrum analyzer 9k-30GHz	Rohde & Schwarz	FSP	CCIS0023	May. 25 2013	May. 24 2014
17	EMI Test Receiver	Rohde & Schwarz	ESPI	CCIS0022	Apr 01 2013	Mar. 31 2014
18	Loop antenna	Laplace instrument	RF300	EMC0701	Aug. 12 2012	Aug. 11 2013
19	Universal radio communication tester	Rhode & Schwarz	CMU200	CCIS0069	May. 25 2013	May. 24 2014
20	Signal Analyzer	Rohde & Schwarz	FSIQ3	CCIS0088	May. 25 2013	May. 24 2014

Conducted Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
1	Shielding Room	ZhongShuo Electron	11.0(L)x4.0(W)x3.0(H)	CCIS0061	June 09 2012	June 08 2013
2	EMI Test Receiver	Rohde & Schwarz	ESCI	CCIS0002	May 25 2013	May 24 2014
3	LISN	CHASE	MN2050D	CCIS0074	Apr 01 2013	Mar. 31 2014
4	Coaxial Cable	CCIS	N/A	CCIS0086	Apr. 01 2013	Mar. 31 2014
5	EMI Test Software	AUDIX	E3	N/A	N/A	N/A

6 Test results and Measurement Data

6.1 Antenna requirement:

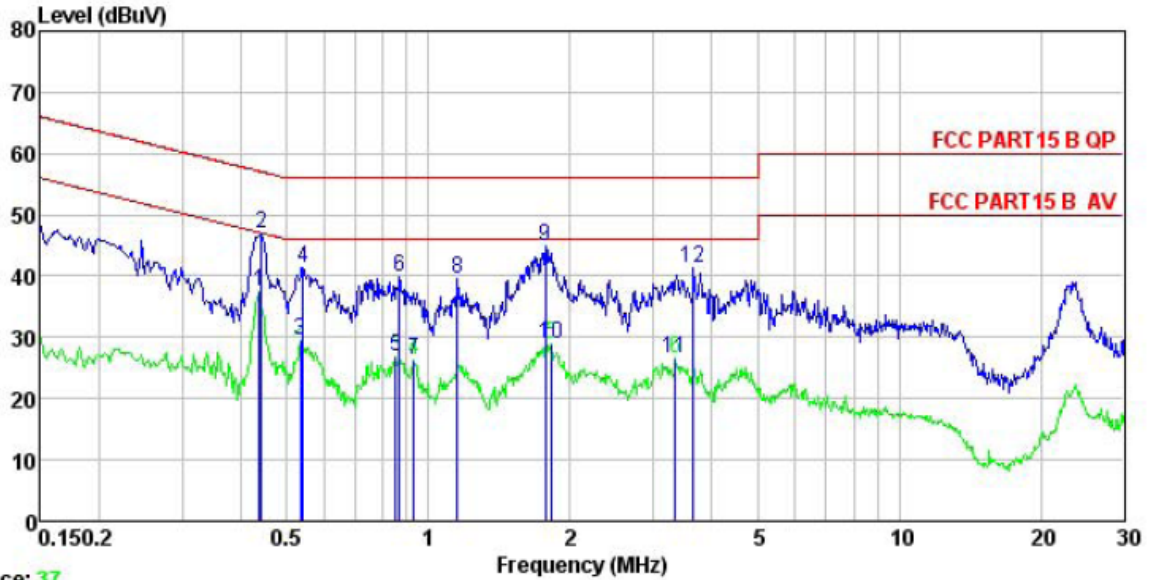
Standard requirement:	FCC Part15 C Section 15.203 /247(c)
<p><i>15.203 requirement:</i> <i>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.</i></p> <p><i>15.247(c) (1)(i) requirement:</i> <i>(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.</i></p>	
E.U.T Antenna:	
<p><i>The antenna is an internal antenna which cannot replace by end-user, the best case gain of the antenna is -0.6 dBi.</i></p>	
<div style="display: flex; align-items: center;"> <div style="margin-right: 20px;"> <p>BT/WIFI Antenna</p>  </div>  </div>	

6.2 Conducted Emission

Test Requirement:	FCC Part15 C Section 15.207														
Test Method:	ANSI C63.4: 2003														
Test Frequency Range:	150 kHz to 30 MHz														
Class / Severity:	Class B														
Receiver setup:	RBW=9kHz, VBW=30kHz														
Limit:	<table border="1"> <thead> <tr> <th rowspan="2">Frequency range (MHz)</th> <th colspan="2">Limit (dBuV)</th> </tr> <tr> <th>Quasi-peak</th> <th>Average</th> </tr> </thead> <tbody> <tr> <td>0.15-0.5</td> <td>66 to 56*</td> <td>56 to 46*</td> </tr> <tr> <td>0.5-5</td> <td>56</td> <td>46</td> </tr> <tr> <td>5-30</td> <td>60</td> <td>50</td> </tr> </tbody> </table> <p>* Decreases with the logarithm of the frequency.</p>	Frequency range (MHz)	Limit (dBuV)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	5-30	60	50
Frequency range (MHz)	Limit (dBuV)														
	Quasi-peak	Average													
0.15-0.5	66 to 56*	56 to 46*													
0.5-5	56	46													
5-30	60	50													
Test procedure	<ol style="list-style-type: none"> The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.), which provides a 50ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2003 on conducted measurement. 														
Test setup:	<p><i>Remark:</i> <i>E.U.T: Equipment Under Test</i> <i>LISN: Line Impedance Stabilization Network</i> <i>Test table height=0.8m</i></p>														
Test Instruments:	Refer to section 5.6 for details														
Test mode:	Refer to section 5.3 for details														
Test results:	Passed														

Measurement Data

Neutral:

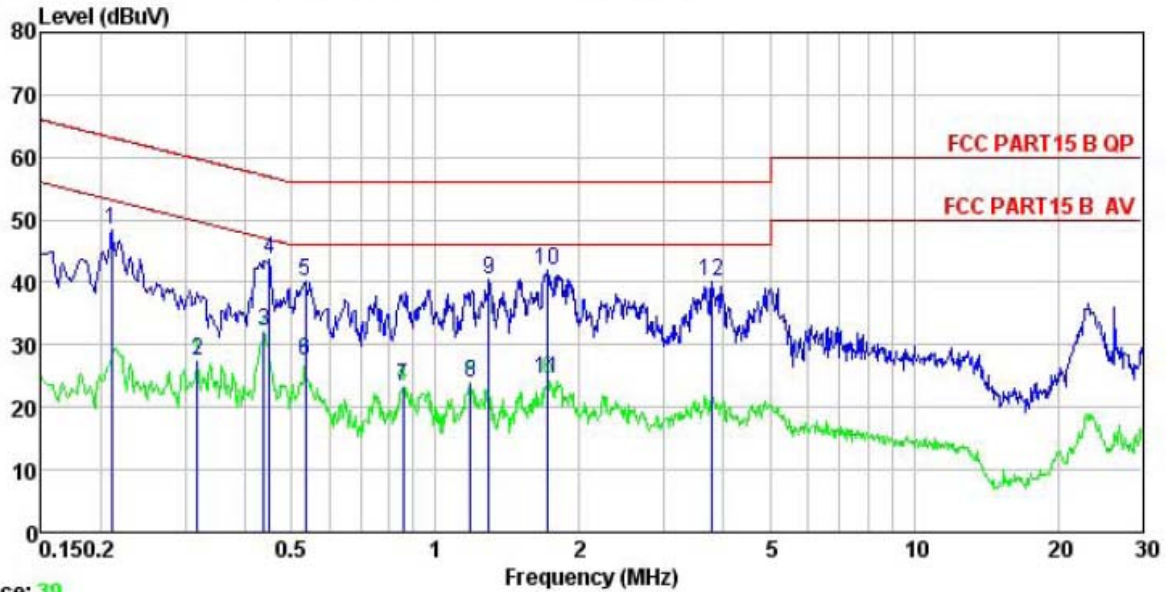


Trace: 37

Site : CCIS Conducted test Site
 Condition : FCC PART15 B QP LISN NEUTRAL
 Job No. : 157RF
 EUT : Mobil phone
 Test Mode : WIFI mode
 Power Rating : AC 120V/60Hz
 Environment : Temp: 23 °C Humi:56% Atmos:101KPa
 Test Engineer: Vincent

	Read	LISN	Cable	Limit	Over		
Freq	Level	Factor	Loss	Line	Limit	Remark	
MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.437	26.37	10.28	0.74	37.39	47.11	-9.72 Average
2	0.442	35.78	10.27	0.74	46.79	57.02	-10.23 QP
3	0.535	18.47	10.25	0.76	29.48	46.00	-16.52 Average
4	0.541	30.44	10.25	0.76	41.45	56.00	-14.55 QP
5	0.853	15.98	10.20	0.82	27.00	46.00	-19.00 Average
6	0.866	28.82	10.18	0.83	39.83	56.00	-16.17 QP
7	0.933	15.23	10.20	0.85	26.28	46.00	-19.72 Average
8	1.153	28.48	10.21	0.89	39.58	56.00	-16.42 QP
9	1.772	33.60	10.26	0.94	44.80	56.00	-11.20 QP
10	1.819	17.78	10.27	0.95	29.00	46.00	-17.00 Average
11	3.346	15.23	10.29	0.91	26.43	46.00	-19.57 Average
12	3.661	30.09	10.28	0.90	41.27	56.00	-14.73 QP

Line:



Trace: 39

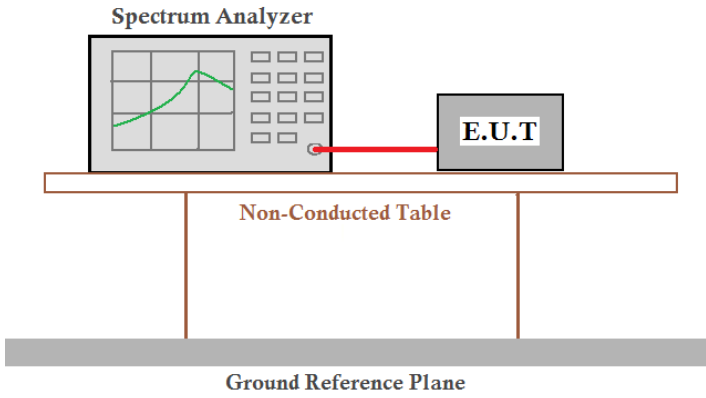
Site : CCIS Conducted test Site
 Condition : FCC PART15 B QP LISN LINE
 Job No. : 157RF
 EUT : Mobil phone
 Test Mode : WIFI mode
 Power Rating : AC 120V/60Hz
 Environment : Temp: 23 °C Humi:56% Atmos:101KPa
 Test Engineer: Vincent

	Read	LISN	Cable	Limit	Over		
Freq	Level	Factor	Loss	Line	Limit	Remark	
MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.211	37.57	10.22	0.76	48.55	63.18	-14.63 QP
2	0.318	16.32	10.26	0.74	27.32	49.75	-22.43 Average
3	0.437	21.17	10.28	0.74	32.19	47.11	-14.92 Average
4	0.449	32.61	10.27	0.74	43.62	56.89	-13.27 QP
5	0.535	29.01	10.25	0.76	40.02	56.00	-15.98 QP
6	0.535	16.40	10.25	0.76	27.41	46.00	-18.59 Average
7	0.857	12.29	10.20	0.83	23.32	46.00	-22.68 Average
8	1.184	12.72	10.23	0.89	23.84	46.00	-22.16 Average
9	1.296	29.31	10.24	0.90	40.45	56.00	-15.55 QP
10	1.707	30.73	10.26	0.94	41.93	56.00	-14.07 QP
11	1.716	13.32	10.26	0.94	24.52	46.00	-21.48 Average
12	3.779	28.95	10.29	0.90	40.14	56.00	-15.86 QP

Notes:

1. An initial pre-scan was performed on the live and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss

6.3 Conducted Output Power

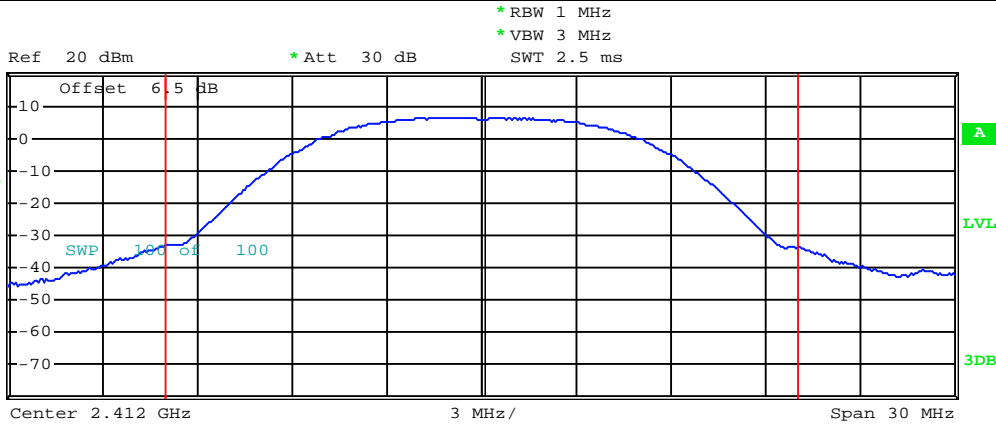
Test Requirement:	FCC Part15 C Section 15.247 (b)(3)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	30dBm
Test setup:	
Test Instruments:	Refer to section 5.6 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Remark:	Test method refer to KDB558074 v03r01 (DTS Measure Guidance) section 9.2.2.2

Measurement Data

Test CH	Maximum Conducted Output Power (dBm)				Limit(dBm)	Result
	802.11b	802.11g	802.11n(H20)	802.11n(H40)		
Lowest	14.53	12.67	12.54	12.19	30.00	Pass
Middle	14.65	12.84	12.14	12.40		
Highest	14.43	12.24	12.68	12.16		

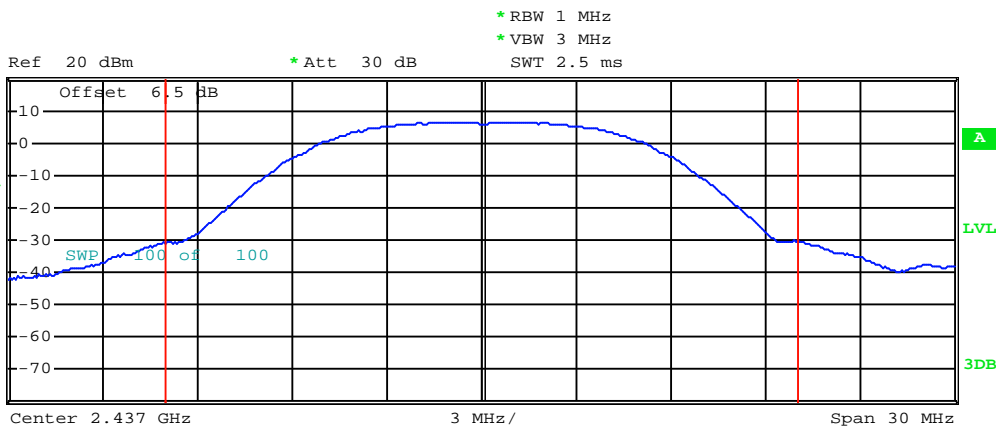
Test plot as follows:

Test mode: 802.11b



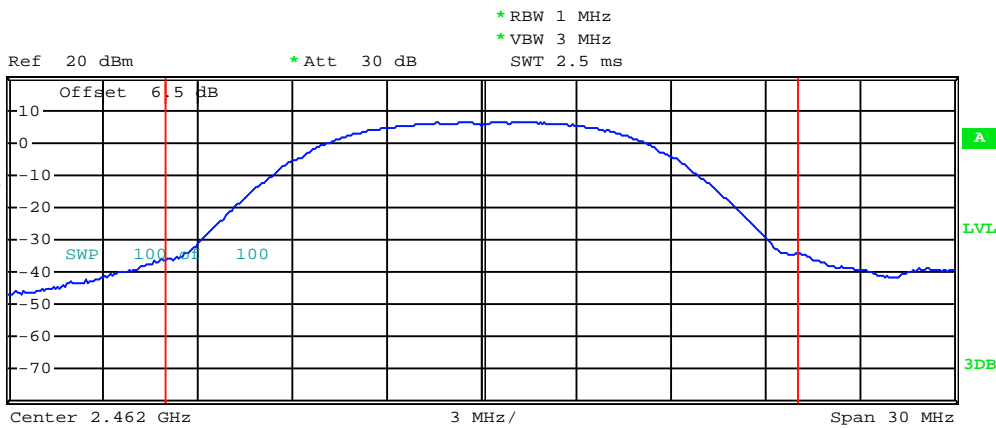
Tx Channel
 Bandwidth 20 MHz Power 14.53 dBm

Lowest channel



Tx Channel
 Bandwidth 20 MHz Power 14.65 dBm

Middle channel



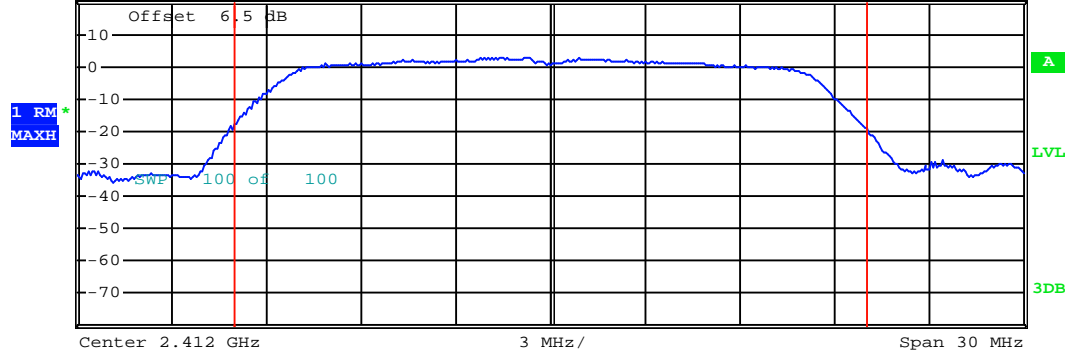
Tx Channel
 Bandwidth 20 MHz Power 14.43 dBm

Highest channel

Test mode: 802.11g



Ref 20 dBm * Att 30 dB * RBW 1 MHz * VBW 3 MHz SWT 2.5 ms

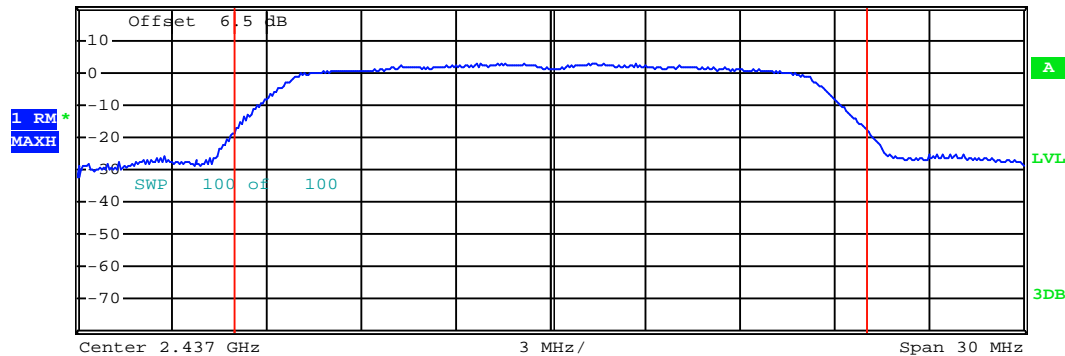


Tx Channel
Bandwidth 20 MHz Power 12.67 dBm

Lowest channel



Ref 20 dBm * Att 30 dB * RBW 1 MHz * VBW 3 MHz SWT 2.5 ms

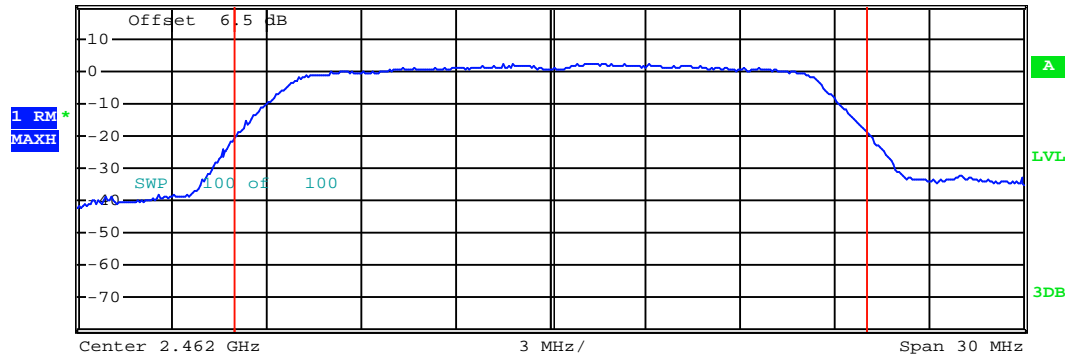


Tx Channel
Bandwidth 20 MHz Power 12.84 dBm

Middle channel



Ref 20 dBm * Att 30 dB * RBW 1 MHz * VBW 3 MHz SWT 2.5 ms



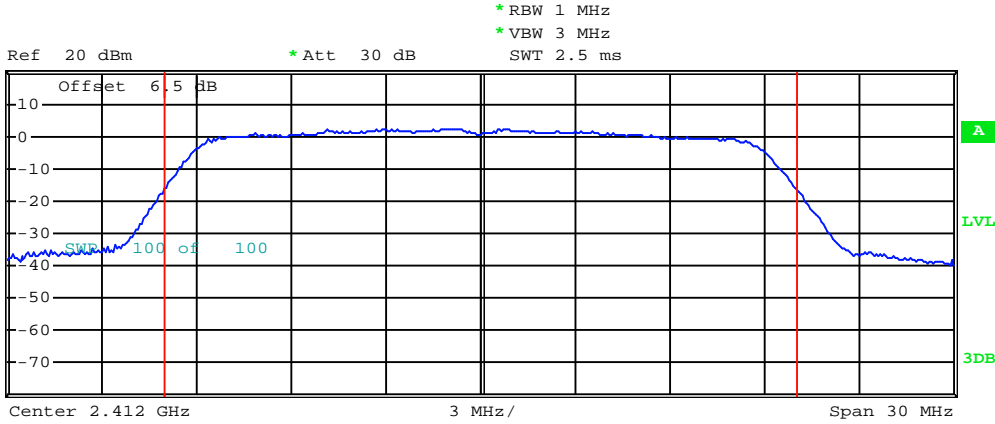
Tx Channel
Bandwidth 20 MHz Power 12.24 dBm

Highest channel

Test mode: 802.11n(H20)



1 RM
MAXH

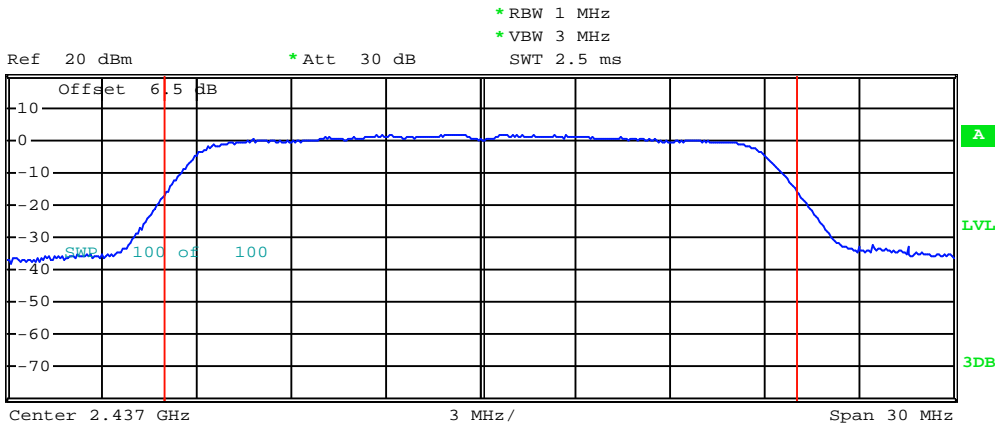


Tx Channel
Bandwidth 20 MHz Power 12.54 dBm

Lowest channel



1 RM
MAXH

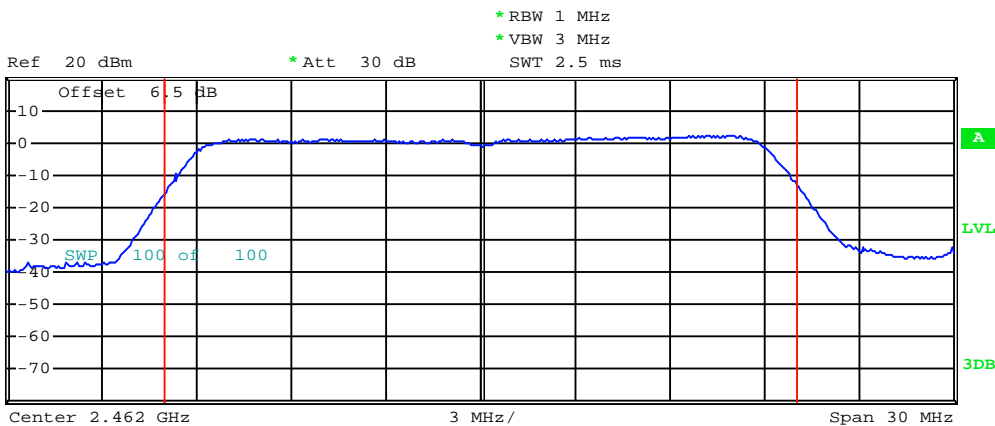


Tx Channel
Bandwidth 20 MHz Power 12.14 dBm

Middle channel



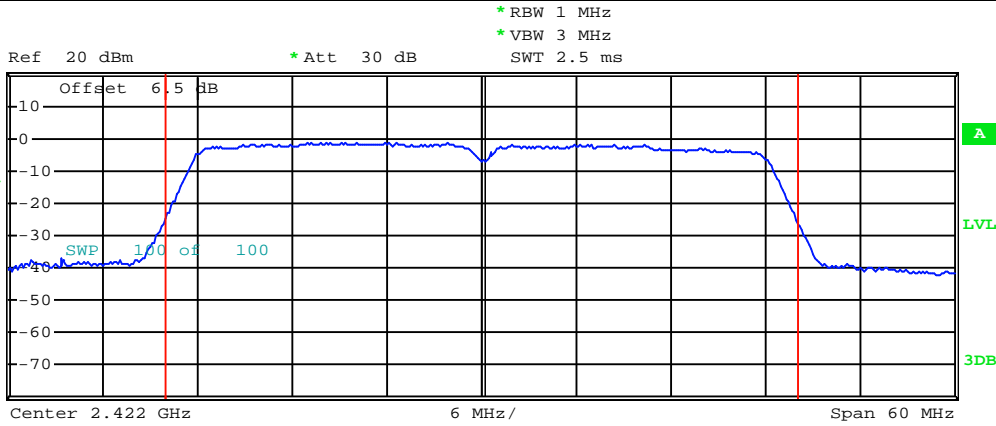
1 RM
MAXH



Tx Channel
Bandwidth 20 MHz Power 12.68 dBm

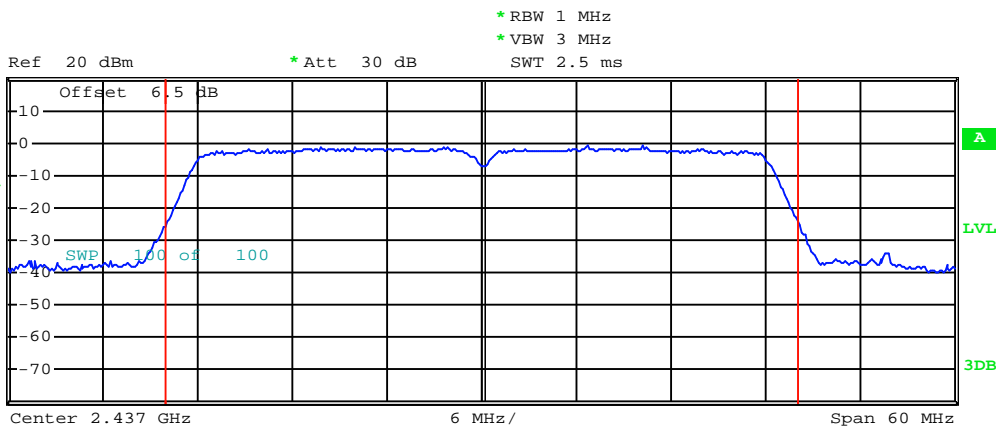
Highest channel

Test mode: 802.11n(H40)



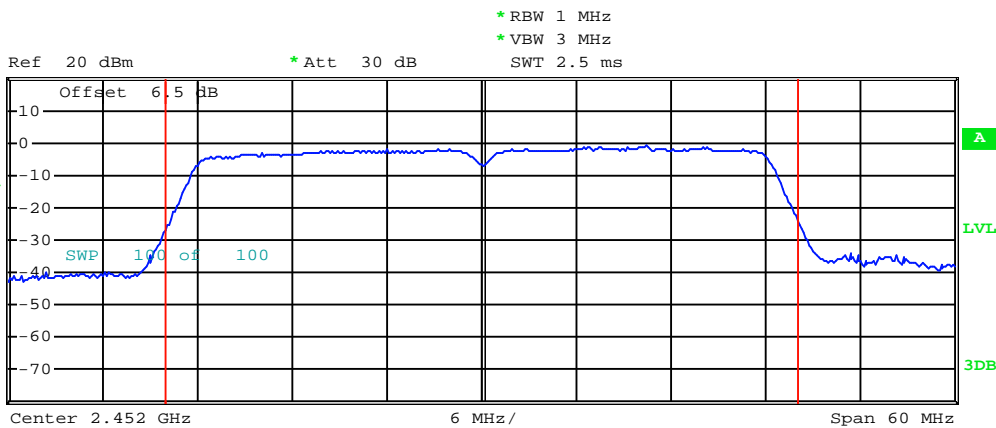
Tx Channel
 Bandwidth 40 MHz Power 12.19 dBm

Lowest channel



Tx Channel
 Bandwidth 40 MHz Power 12.40 dBm

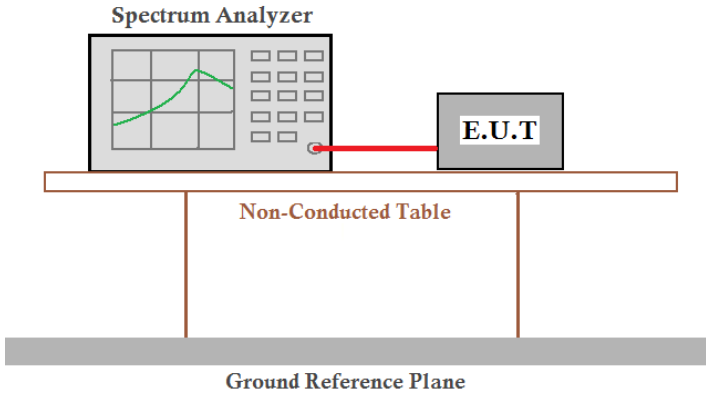
Middle channel



Tx Channel
 Bandwidth 40 MHz Power 12.16 dBm

Highest channel

6.4 Occupy Bandwidth

Test Requirement:	FCC Part15 C Section 15.247 (a)(2)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	>500kHz
Test setup:	
Test Instruments:	Refer to section 5.6 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

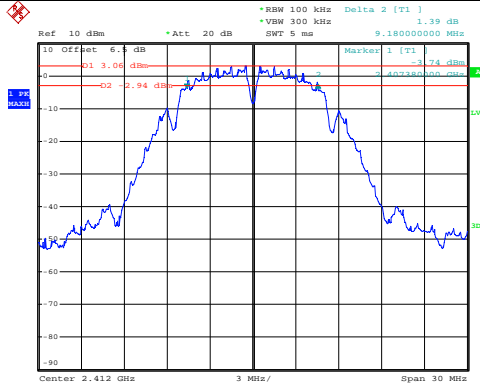
Measurement Data

Test CH	6dB Occupy Bandwidth (MHz)				Limit(kHz)	Result
	802.11b	802.11g	802.11n(H20)	802.11n(H40)		
Lowest	9.18	16.56	17.70	36.48	>500	Pass
Middle	9.18	16.56	17.76	36.60		
Highest	9.24	17.76	17.76	36.60		

Test CH	99dB Occupy Bandwidth (MHz)				Limit(kHz)	Result
	802.11b	802.11g	802.11n(H20)	802.11n(H40)		
Lowest	12.12	16.50	17.64	36.12	N/A	N/A
Middle	12.24	16.44	17.64	36.24		
Highest	12.06	17.70	17.64	36.12		

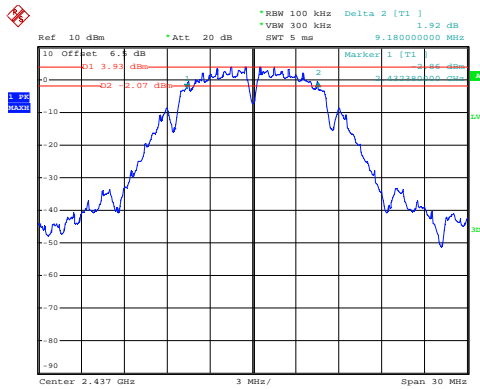
Test plot as follows:

Test mode:6dB BW 802.11b



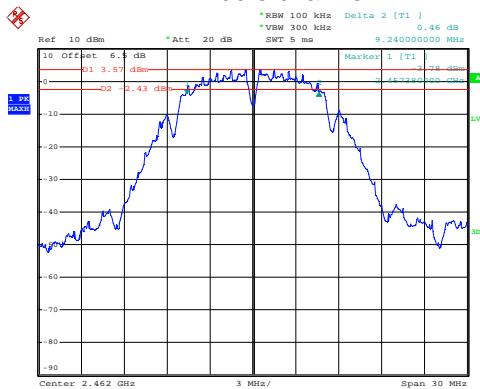
REMOTE HIGH
 Date: 5.JUN.2013 09:17:53

Lowest channel



REMOTE HIGH
 Date: 5.JUN.2013 09:22:27

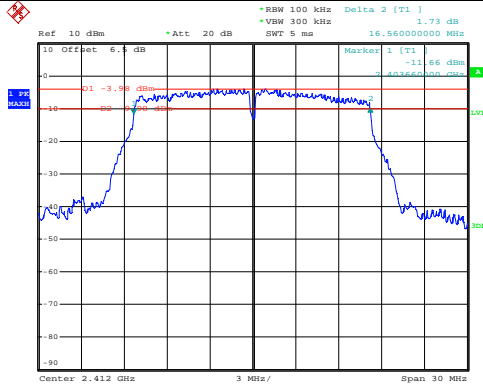
Middle channel



REMOTE HIGH
 Date: 5.JUN.2013 09:25:35

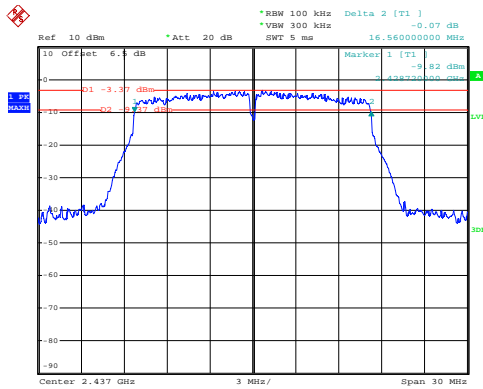
Highest channel

Test mode:6dB BW 802.11g



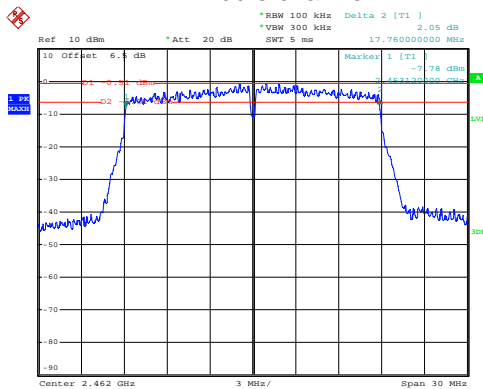
REMOTE HIGH
 Date: 5.JUN.2013 09:13:05

Lowest channel



REMOTE HIGH
 Date: 5.JUN.2013 09:07:06

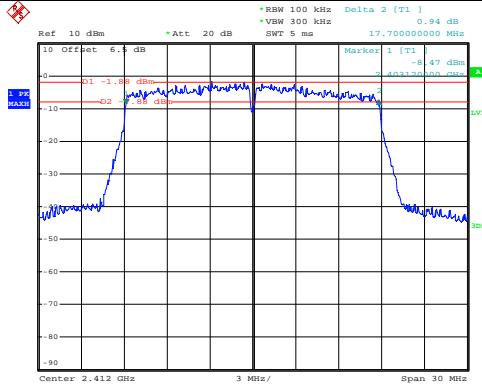
Middle channel



REMOTE HIGH
 Date: 4.JUN.2013 18:30:03

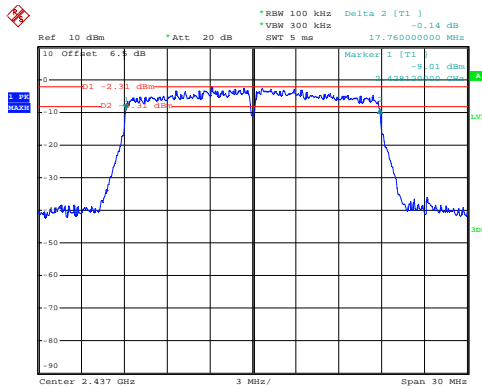
Highest channel

Test mode:6dB BW 802.11n(H20)



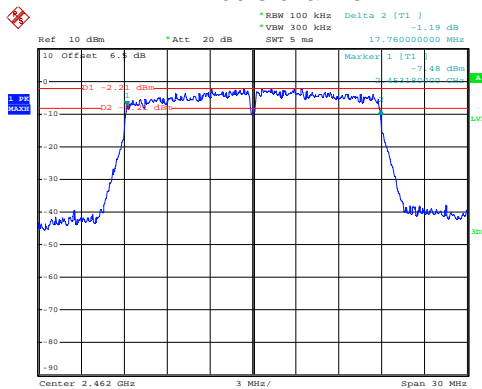
REMOTE HIGH
 Date: 4.JUN.2013 17:57:18

Lowest channel



REMOTE HIGH
 Date: 4.JUN.2013 18:21:10

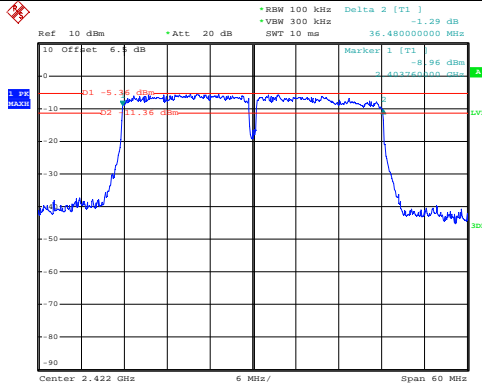
Middle channel



REMOTE HIGH
 Date: 4.JUN.2013 18:25:20

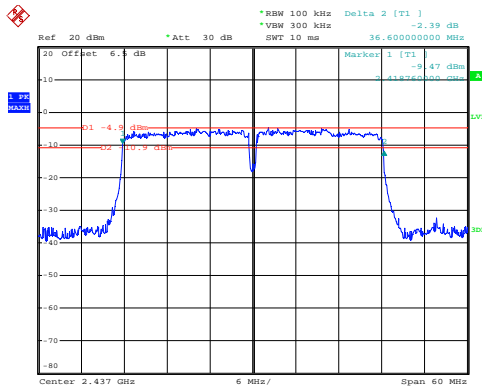
Highest channel

Test mode:6dB BW 802.11n(H40)



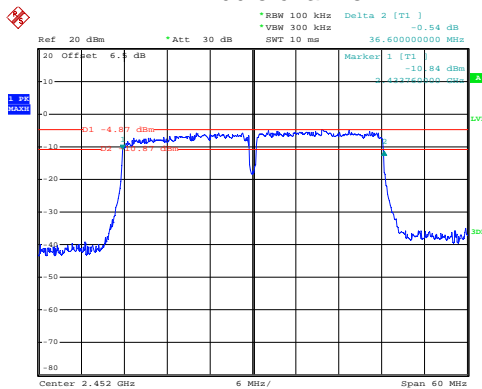
REMOTE HIGH
 Date: 4.JUN.2013 17:45:39

Lowest channel



REMOTE HIGH
 Date: 4.JUN.2013 17:05:08

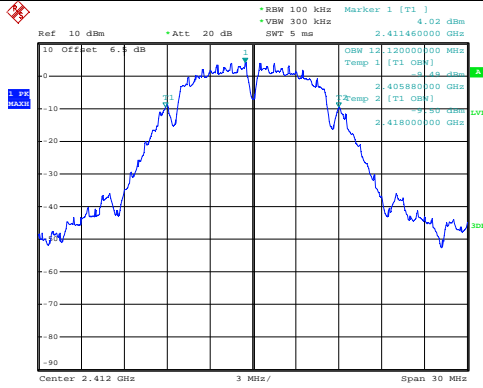
Middle channel



REMOTE HIGH
 Date: 4.JUN.2013 16:59:31

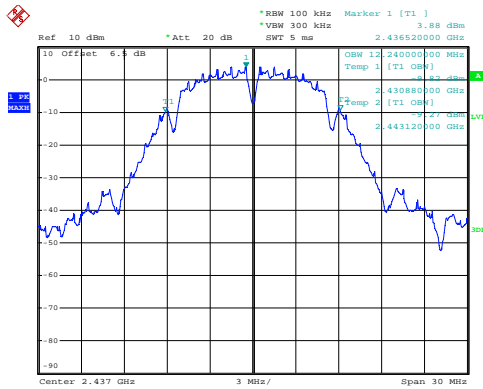
Highest channel

Test mode:99dB BW 802.11b



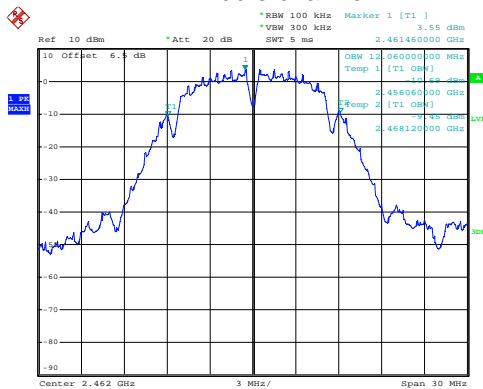
REMOTE HIGH
 Date: 5.JUN.2013 09:19:37

Lowest channel



REMOTE HIGH
 Date: 5.JUN.2013 09:22:56

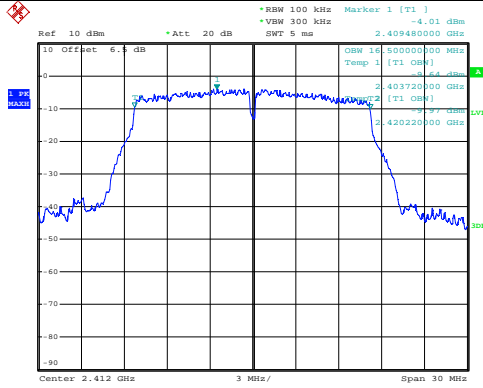
Middle channel



REMOTE HIGH
 Date: 5.JUN.2013 09:25:53

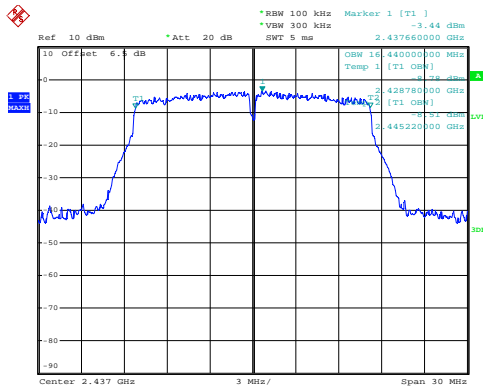
Highest channel

Test mode: 99dB BW 802.11g



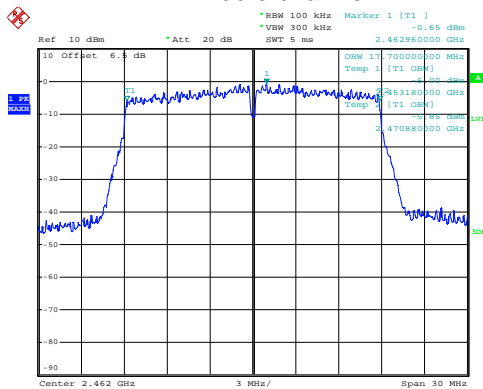
REMOTE HIGH
 Date: 5.JUN.2013 09:13:40

Lowest channel



REMOTE HIGH
 Date: 5.JUN.2013 09:07:56

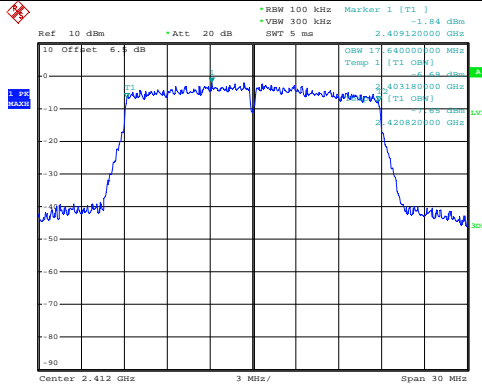
Middle channel



REMOTE HIGH
 Date: 4.JUN.2013 18:30:26

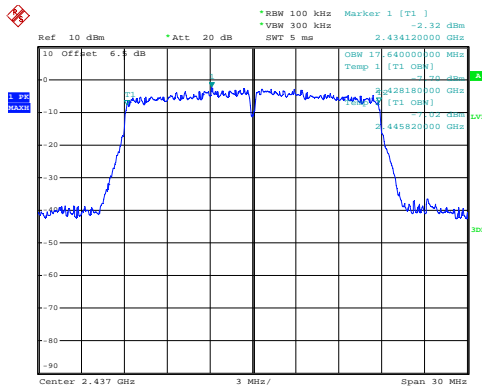
Highest channel

Test mode: 99dB BW 802.11n(H20)



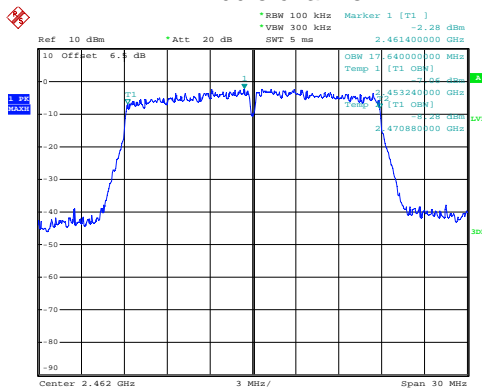
REMOTE HIGH
 Date: 4.JUN.2013 17:58:04

Lowest channel



REMOTE HIGH
 Date: 4.JUN.2013 18:22:16

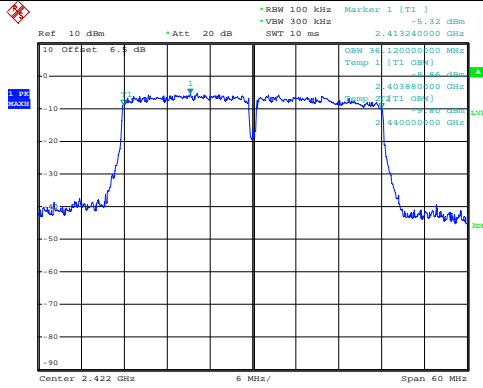
Middle channel



REMOTE HIGH
 Date: 4.JUN.2013 18:25:46

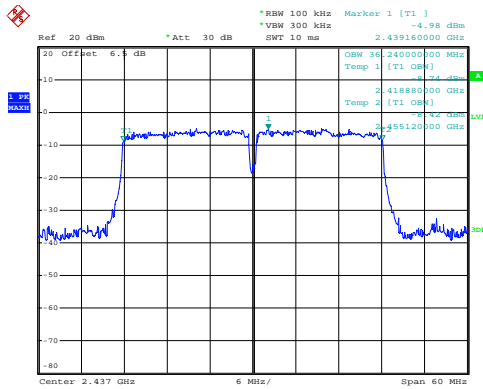
Highest channel

Test mode: 99dB BW 802.11n(H40)



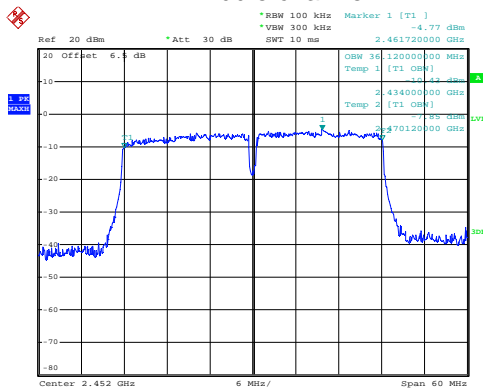
REMOTE HIGH
 Date: 4.JUN.2013 17:46:09

Lowest channel



REMOTE HIGH
 Date: 4.JUN.2013 17:05:44

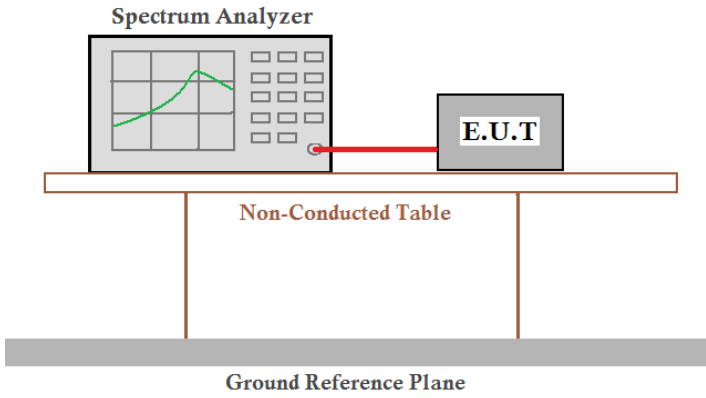
Middle channel



REMOTE HIGH
 Date: 4.JUN.2013 17:00:14

Highest channel

6.5 Power Spectral Density

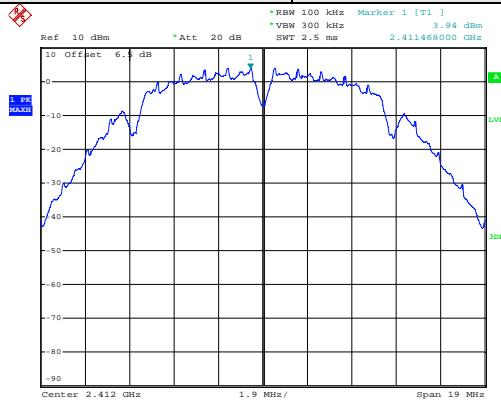
Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	8dBm
Test setup:	
Test Instruments:	Refer to section 5.6 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

Test CH	Power Spectral Density (dBm)				Limit(dBm)	Result
	802.11b	802.11g	802.11n(H20)	802.11n(H40)		
Lowest	3.94	-3.85	-1.83	-5.41	8.00	Pass
Middle	3.86	-3.40	-2.34	-4.97		
Highest	3.56	-3.99	-2.21	-4.86		

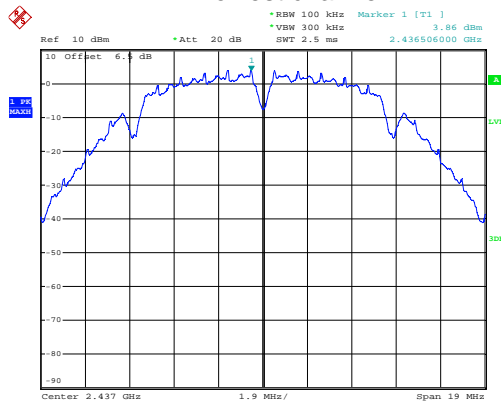
Test plots as follow:

Test mode:	802.11b
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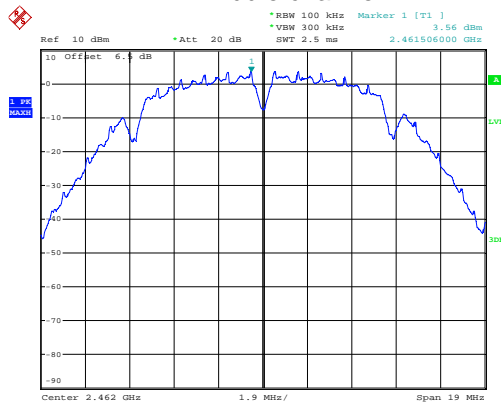
REMOTE HIGH
 Date: 5.JUN.2013 09:20:10

Lowest channel



REMOTE HIGH
 Date: 5.JUN.2013 09:23:46

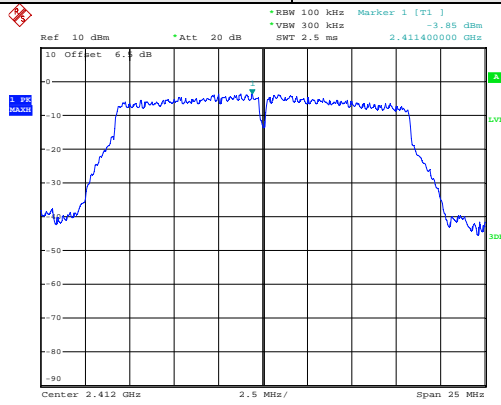
Middle channel



REMOTE HIGH
 Date: 5.JUN.2013 09:26:18

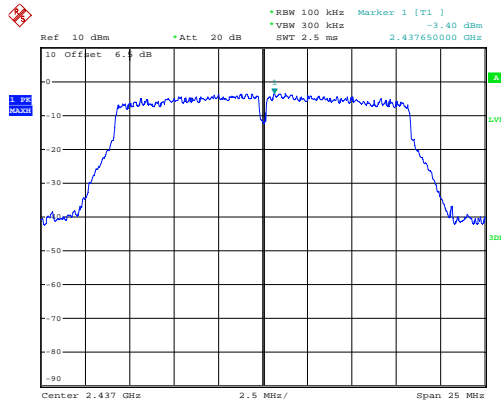
Highest channel

Test mode:	802.11g
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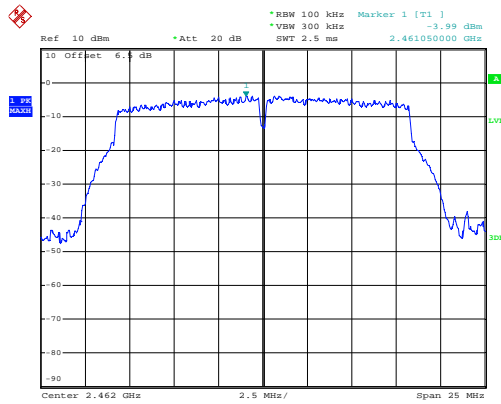
REMOTE HIGH
 Date: 5.JUN.2013 09:14:31

Lowest channel



REMOTE HIGH
 Date: 5.JUN.2013 09:08:53

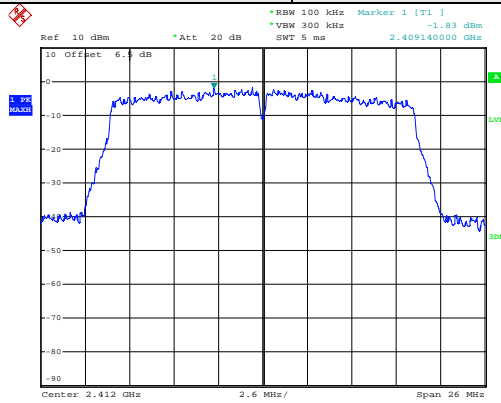
Middle channel



REMOTE HIGH
 Date: 5.JUN.2013 09:04:00

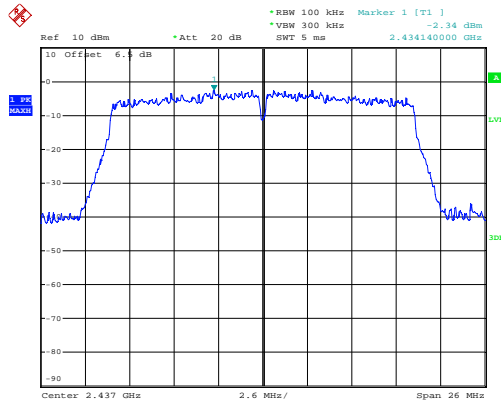
Highest channel

Test mode:	802.11n(H20)
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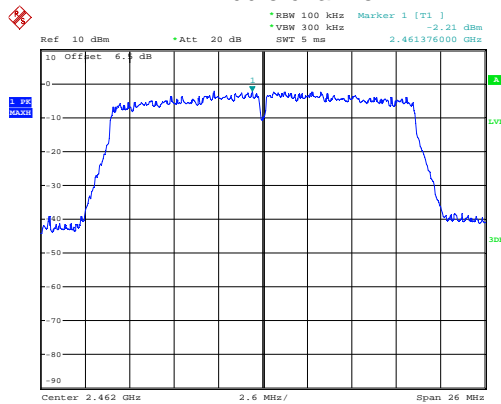
REMOTE HIGH
 Date: 4.JUN.2013 17:59:07

Lowest channel



REMOTE HIGH
 Date: 4.JUN.2013 18:22:53

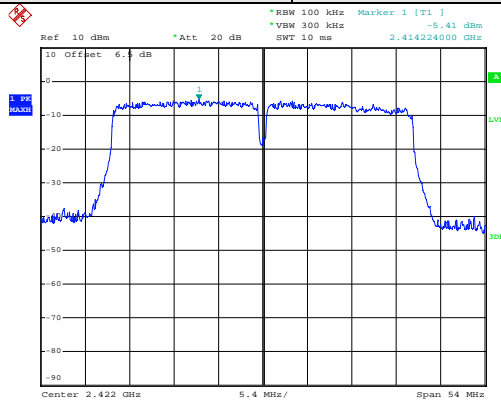
Middle channel



REMOTE HIGH
 Date: 4.JUN.2013 18:26:50

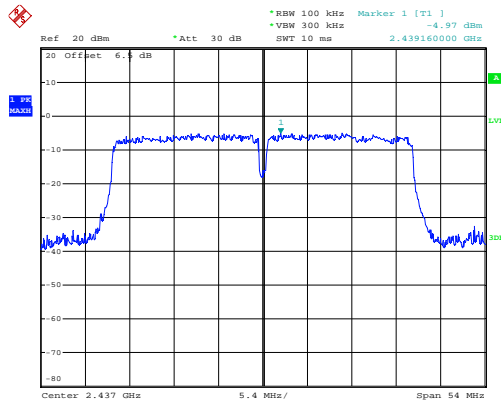
Highest channel

Test mode:	802.11n(H40)
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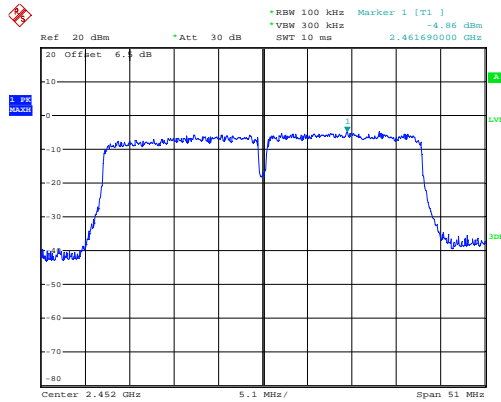
REMOTE HIGH
 Date: 4.JUN.2013 17:53:50

Lowest channel



REMOTE HIGH
 Date: 4.JUN.2013 17:06:20

Middle channel

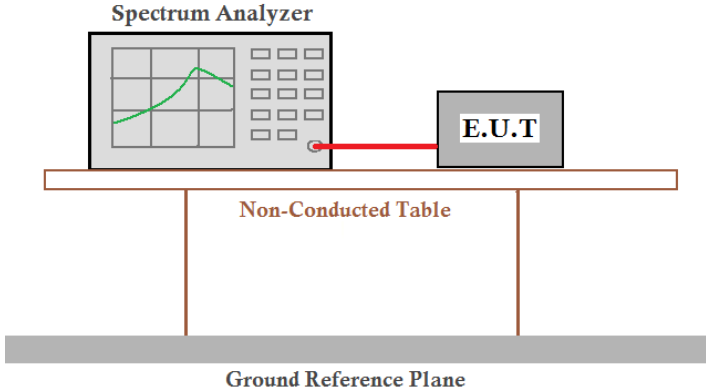


REMOTE HIGH
 Date: 4.JUN.2013 17:00:48

Highest channel

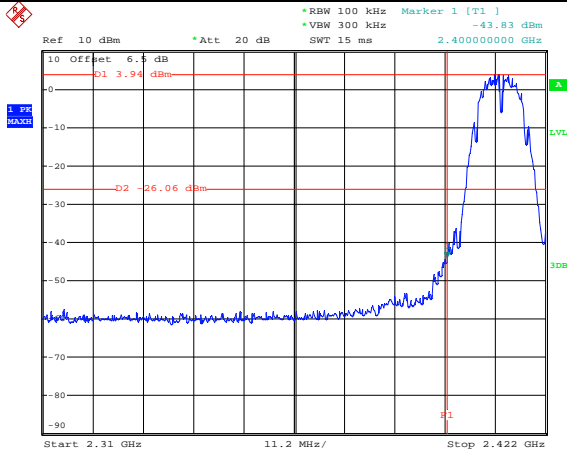
6.6 Band Edge

6.6.1 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both are placed on a Non-Conducted Table, which is supported by a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.6 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

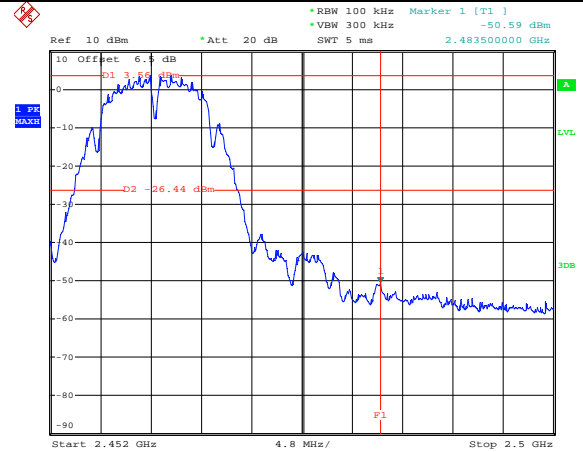
Test plots as follow:

Test mode: 802.11b



REMOTE HIGH
 Date: 5.JUN.2013 09:20:44

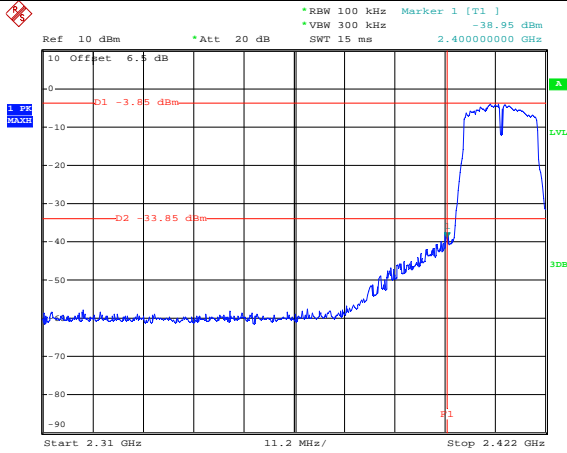
Lowest channel



REMOTE HIGH
 Date: 5.JUN.2013 09:26:57

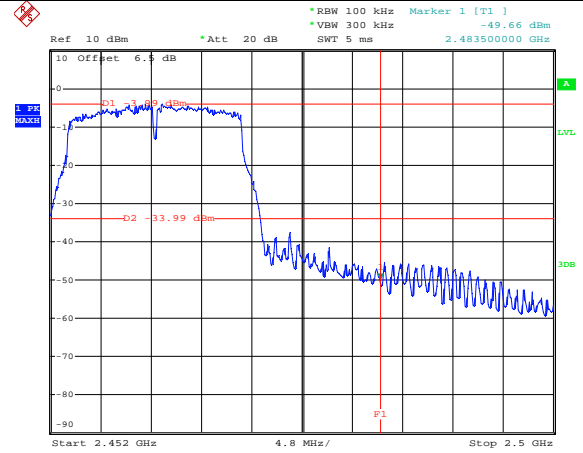
Highest channel

Test mode: 802.11g



REMOTE HIGH
 Date: 5.JUN.2013 09:15:01

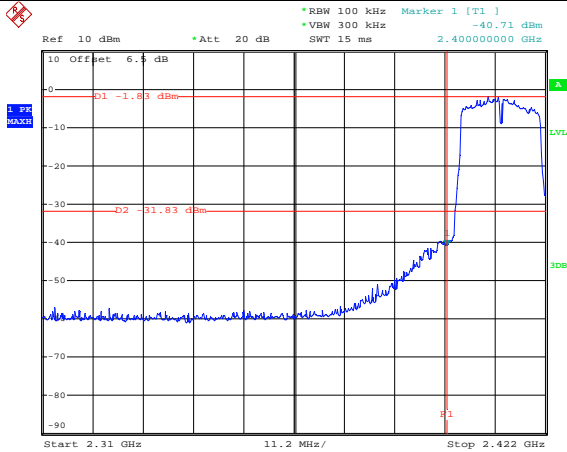
Lowest channel



REMOTE HIGH
 Date: 5.JUN.2013 09:04:47

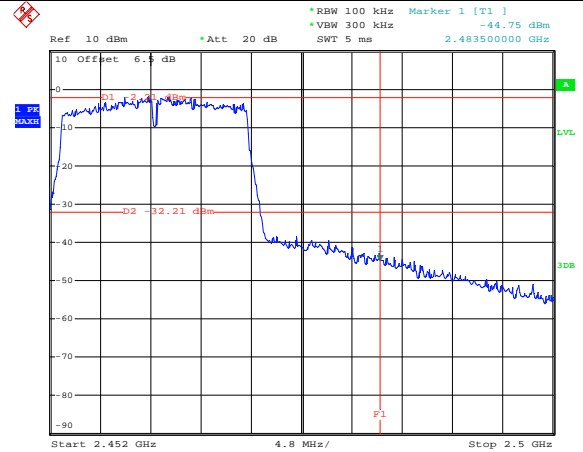
Highest channel

Test mode: 802.11n(H20)



REMOTE HIGH
Date: 4.JUN.2013 18:00:18

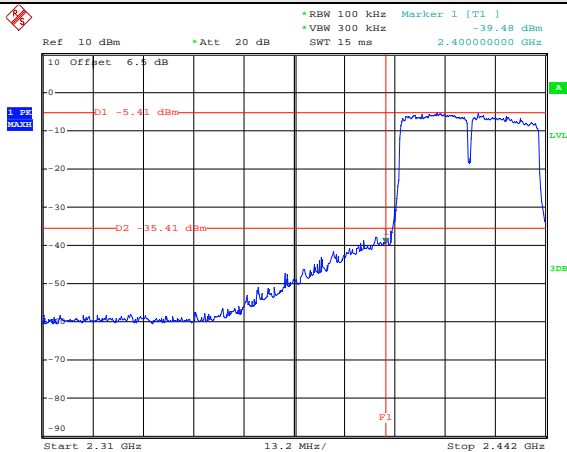
Lowest channel



REMOTE HIGH
Date: 4.JUN.2013 18:27:40

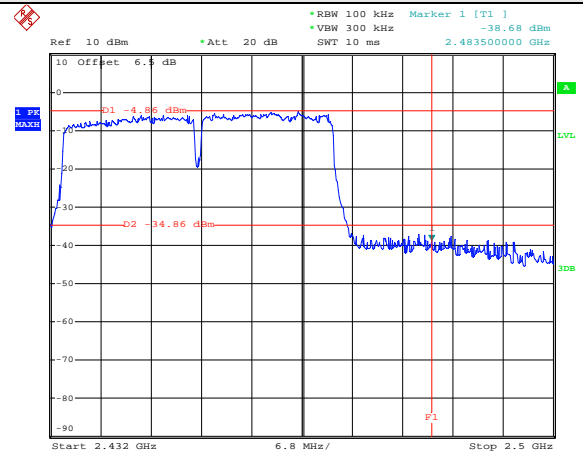
Highest channel

Test mode: 802.11n(H40)



REMOTE HIGH
Date: 4.JUN.2013 17:54:57

Lowest channel



REMOTE HIGH
Date: 4.JUN.2013 17:38:12

Highest channel

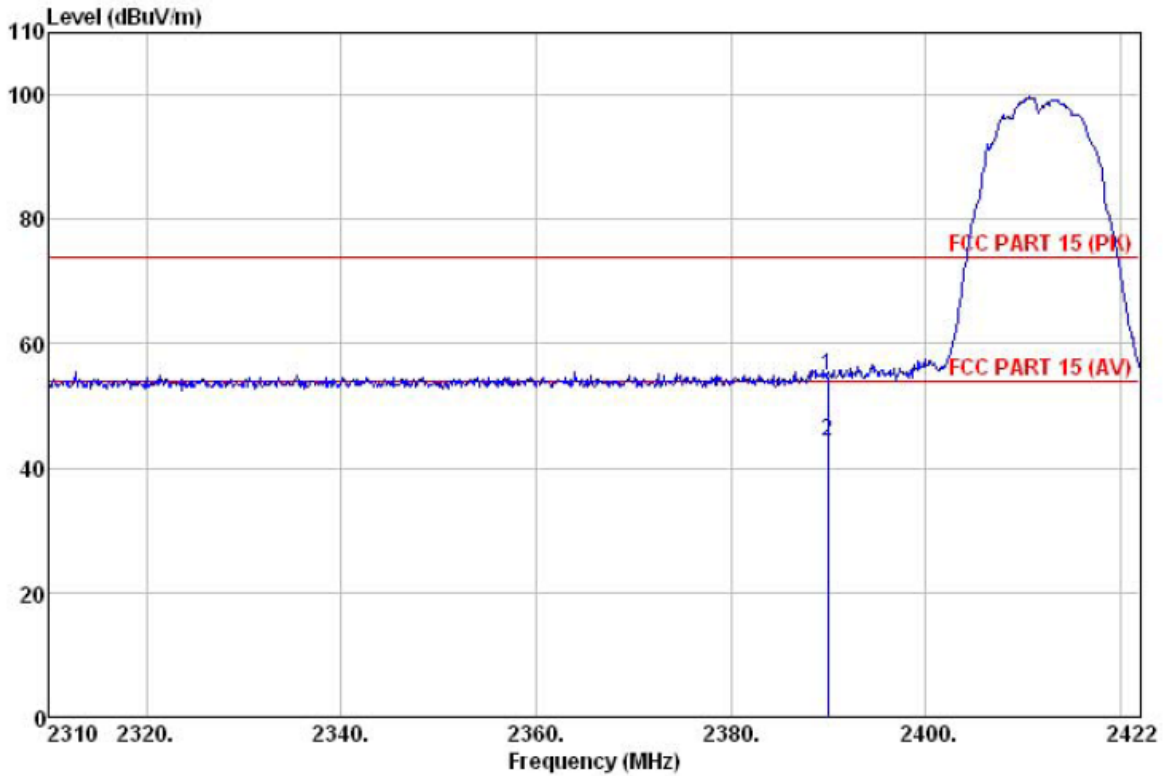
6.6.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209 and 15.205														
Test Method:	ANSI C63.4: 2003														
Test Frequency Range:	2.3GHz to 2.5GHz														
Test site:	Measurement Distance: 3m														
Receiver setup:	<table border="1"> <thead> <tr> <th>Frequency</th> <th>Detector</th> <th>RBW</th> <th>VBW</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Above 1GHz</td> <td>Peak</td> <td>1MHz</td> <td>3MHz</td> <td>Peak Value</td> </tr> <tr> <td>Peak</td> <td>1MHz</td> <td>10Hz</td> <td>Average Value</td> </tr> </tbody> </table>	Frequency	Detector	RBW	VBW	Remark	Above 1GHz	Peak	1MHz	3MHz	Peak Value	Peak	1MHz	10Hz	Average Value
Frequency	Detector	RBW	VBW	Remark											
Above 1GHz	Peak	1MHz	3MHz	Peak Value											
	Peak	1MHz	10Hz	Average Value											
Limit:	<table border="1"> <thead> <tr> <th>Frequency</th> <th>Limit (dBuV/m @3m)</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Above 1GHz</td> <td>54.00</td> <td>Average Value</td> </tr> <tr> <td>74.00</td> <td>Peak Value</td> </tr> </tbody> </table>	Frequency	Limit (dBuV/m @3m)	Remark	Above 1GHz	54.00	Average Value	74.00	Peak Value						
Frequency	Limit (dBuV/m @3m)	Remark													
Above 1GHz	54.00	Average Value													
	74.00	Peak Value													
Test Procedure:	<ol style="list-style-type: none"> The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. 														
Test setup:															
Test Instruments:	Refer to section 5.7 for details														
Test mode:	Refer to section 5.3 for details														
Test results:	Passed														

802.11b

Test channel: Lowest

Horizontal:



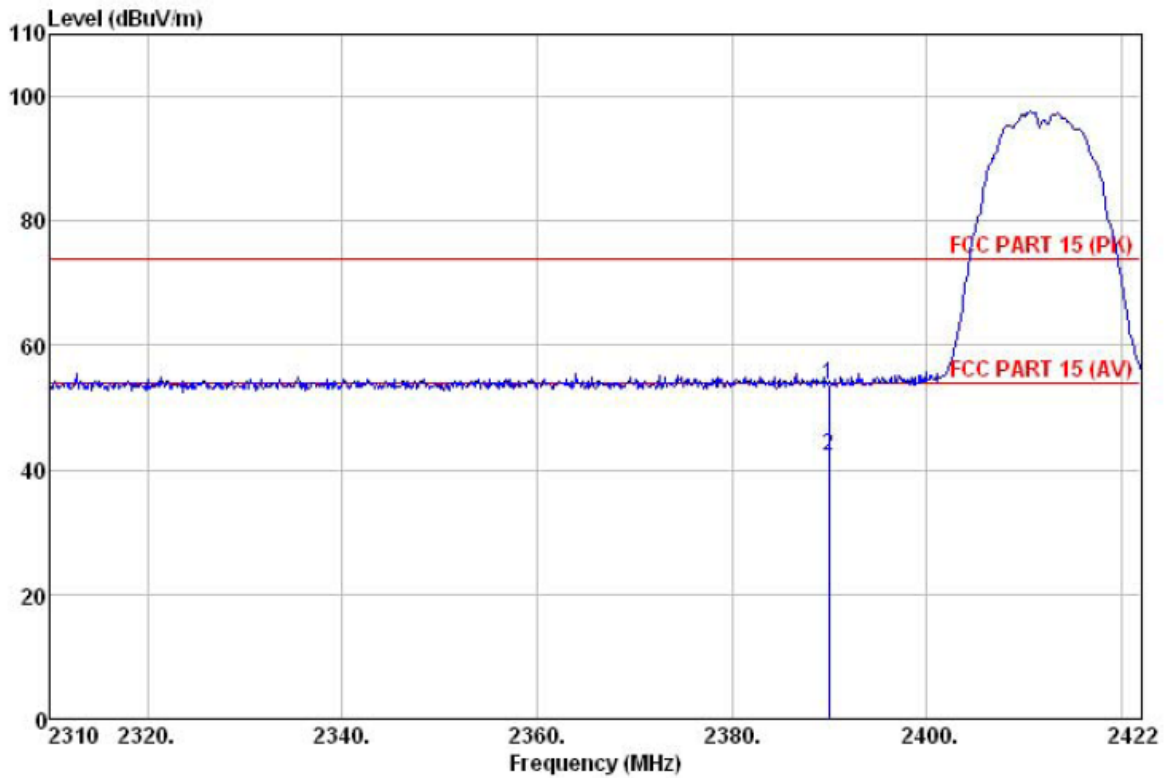
Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
 EUT : Mobile phone
 Job NO. : 157RF
 Test mode : Wifi B-L mode
 Power Rating : AC 120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Vincent

	Read	Antenna	Cable	Preamp	Limit	Over		
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	21.46	27.58	5.67	0.00	54.71	74.00	-19.29 Peak
2	2390.000	11.04	27.58	5.67	0.00	44.29	54.00	-9.71 Average

802.11b

Test channel: Lowest

Vertical:



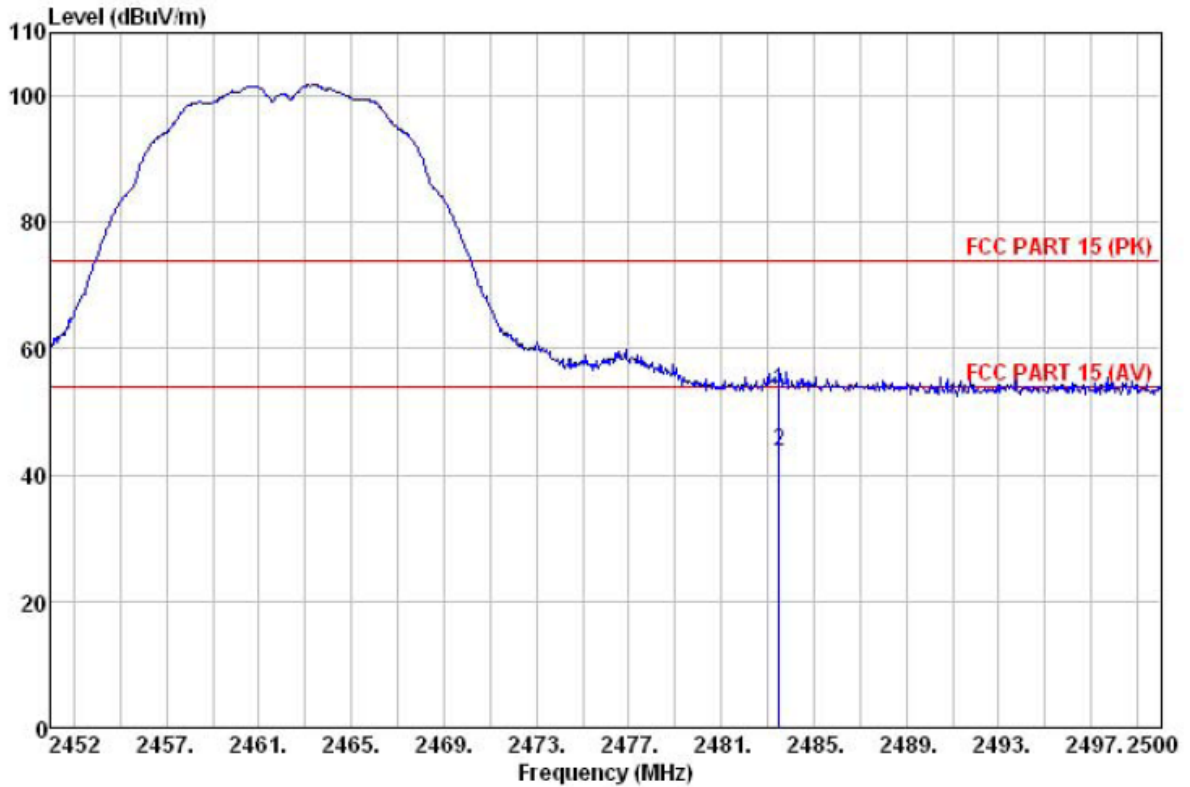
Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
 EUT : Mobile phone
 Job NO. : 157RF
 Test mode : Wifi B-L mode
 Power Rating : AC 120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Vincent

	Read	Antenna	Cable	Preamp	Limit	Over	
Freq	Level	Factor	Loss	Factor	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2390.000	20.46	27.58	5.67	0.00	53.71	74.00 -20.29 Peak
2	2390.000	9.04	27.58	5.67	0.00	42.29	54.00 -11.71 Average

802.11b

Test channel: Highest

Horizontal:



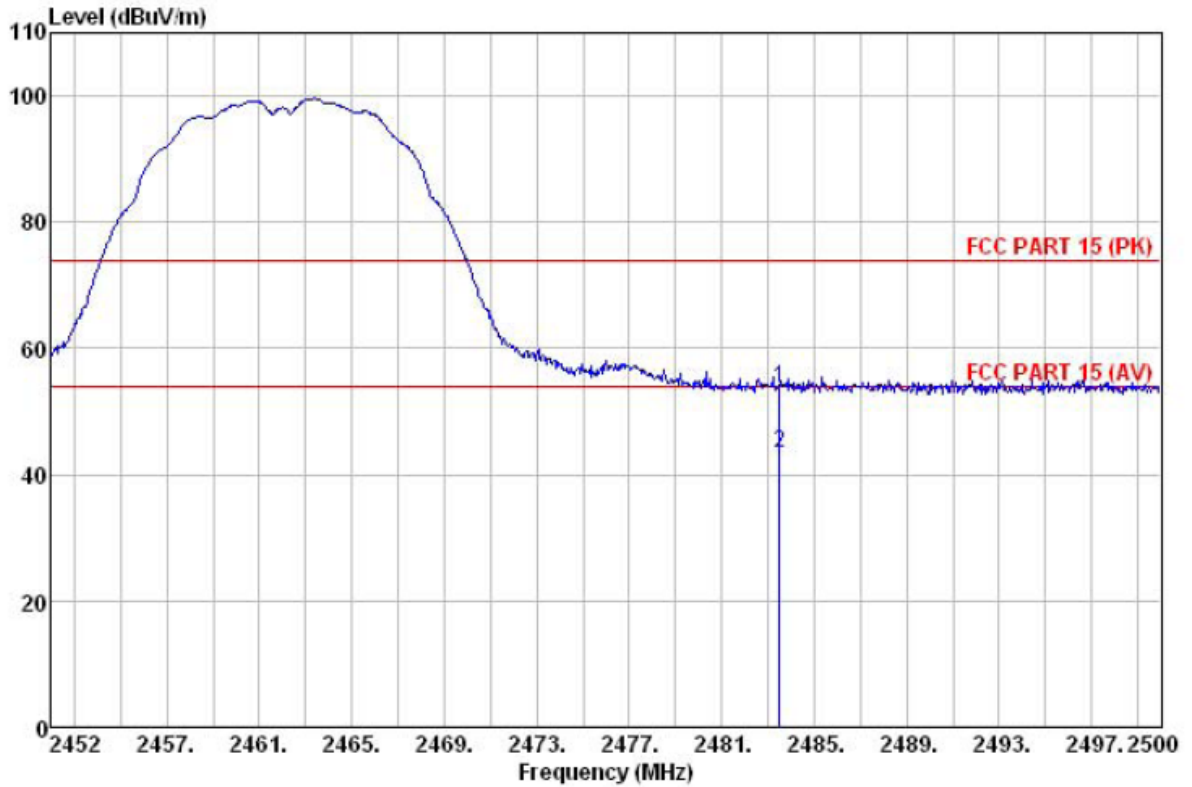
Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
 EUT : Mobile phone
 Job NO. : 157RF
 Test mode : Wifi B-H mode
 Power Rating : AC 120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Vincent

	Read	Antenna	Cable	Preamp		Limit	Over	
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.488	20.17	27.52	5.70	0.00	53.39	74.00	-20.61 Peak
2	2483.488	10.53	27.52	5.70	0.00	43.75	54.00	-10.25 Average

802.11b

Test channel: Highest

Vertical:



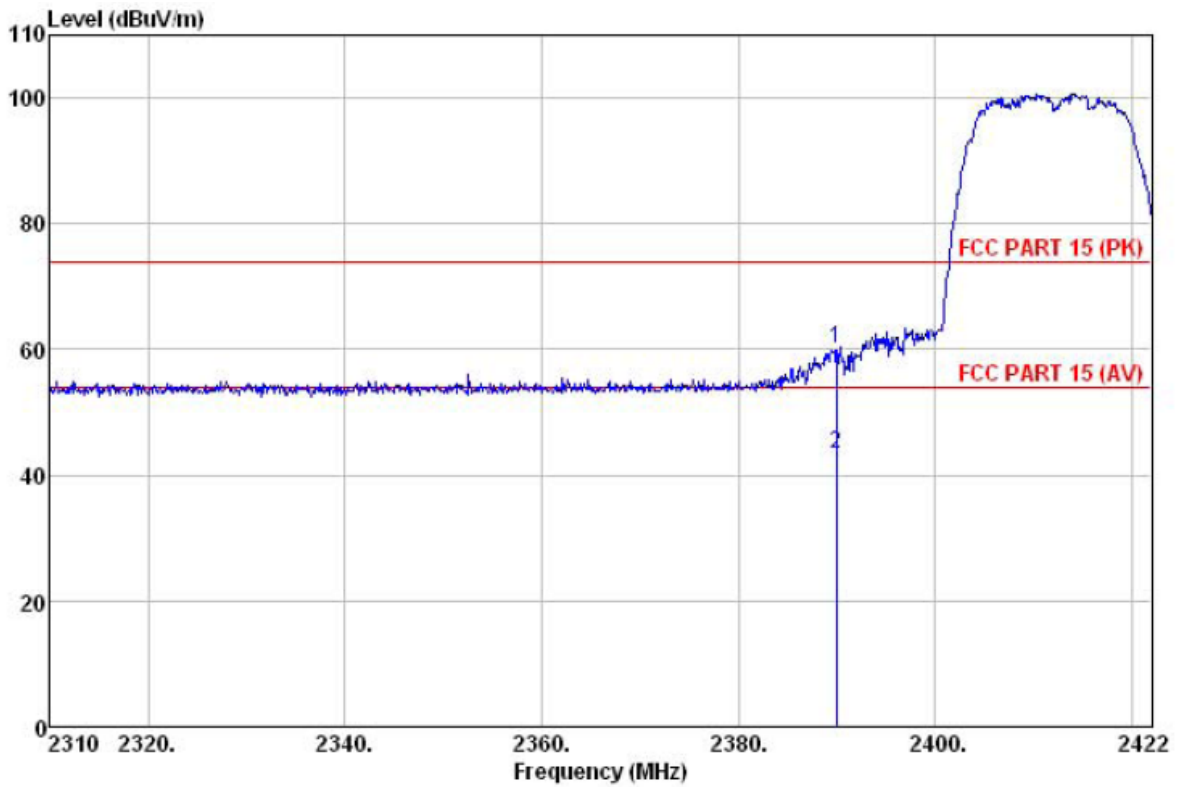
Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
 EUT : Mobile phone
 Job NO. : 157RF
 Test mode : Wifi B-H mode
 Power Rating : AC 120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Vincent

	Read	Antenna	Cable	Preamp	Limit	Over		
Freq	Level	Factor	Loss	Factor	Line	Limit	Remark	
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.488	20.53	27.52	5.70	0.00	53.75	74.00	-20.25 Peak
2	2483.488	10.05	27.52	5.70	0.00	43.27	54.00	-10.73 Average

802.11g

Test channel: Lowest

Horizontal:



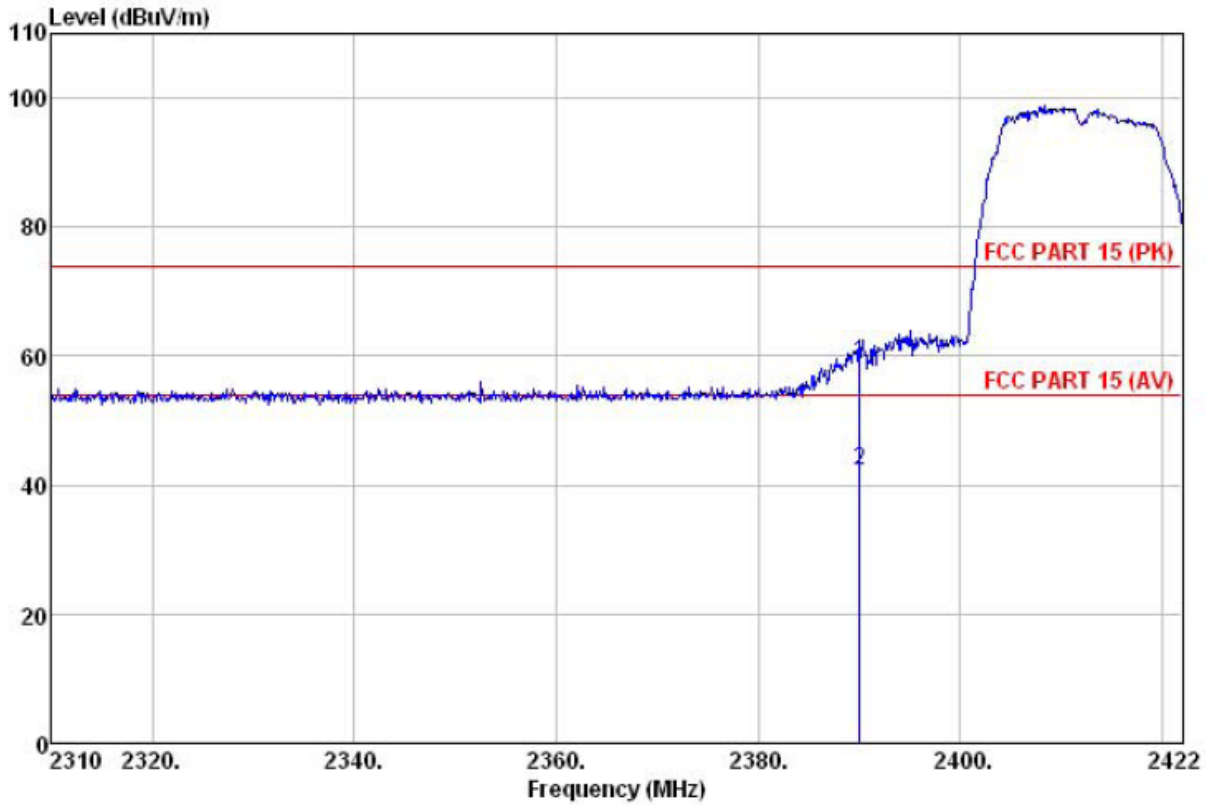
Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
 EUT : Mobile phone
 Job NO. : 157RF
 Test mode : Wifi G-L mode
 Power Rating : AC 120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Vincent

	Read	Antenna	Cable	Preamp	Level	Limit	Over	
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	26.84	27.58	5.67	0.00	60.09	74.00	-13.91 Peak
2	2390.000	10.11	27.58	5.67	0.00	43.36	54.00	-10.64 Average

802.11g

Test channel: Lowest

Vertical:



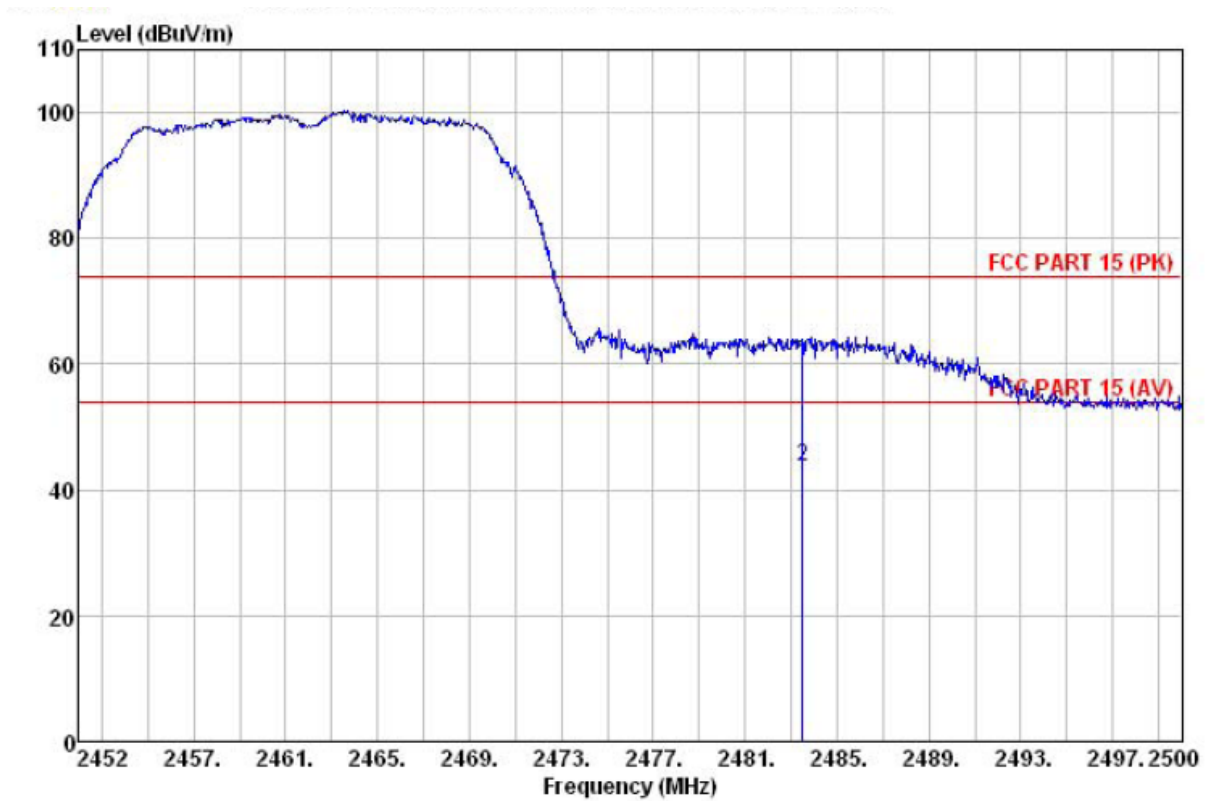
Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
 EUT : Mobile phone
 Job NO. : 157RF
 Test mode : Wifi G-L mode
 Power Rating : AC 120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Vincent

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp	Level	Limit	Over	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.080	25.84	27.58	5.67	0.00	59.09	74.00	-14.91	Peak
2	2390.080	9.11	27.58	5.67	0.00	42.36	54.00	-11.64	Average

802.11g

Test channel: Highest

Horizontal:



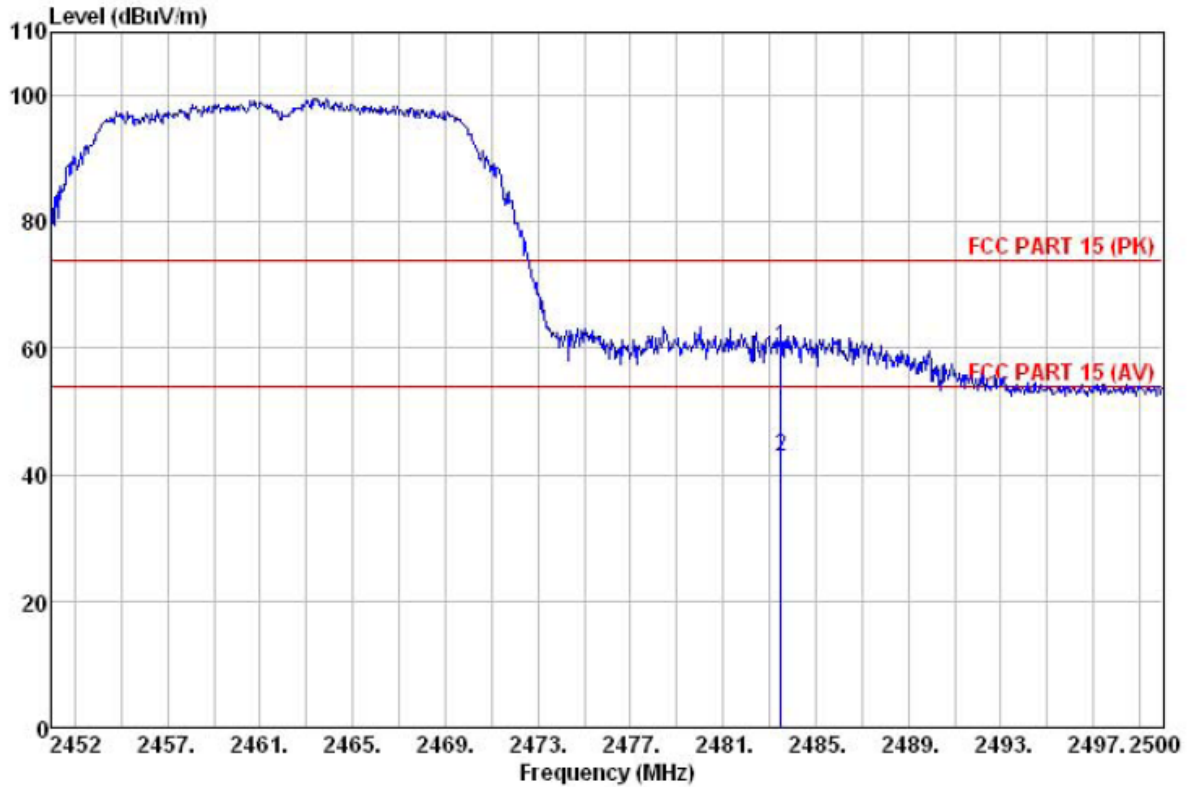
Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
 EUT : Mobile phone
 Job NO. : 157RF
 Test mode : Wifi G-H mode
 Power Rating : AC 120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Vincent

	Freq	ReadAntenna	Cable	Preamp	Limit	Over			
	MHz	Level	Factor	Loss	Factor	Line	Limit		
		dBuV	dB/m	dB	dB	dBuV/m	dBuV/m		
1	2483.488	27.34	27.52	5.70	0.00	60.56	74.00	-13.44	Peak
2	2483.488	10.59	27.52	5.70	0.00	43.81	54.00	-10.19	Average

802.11g

Test channel: Highest

Vertical:



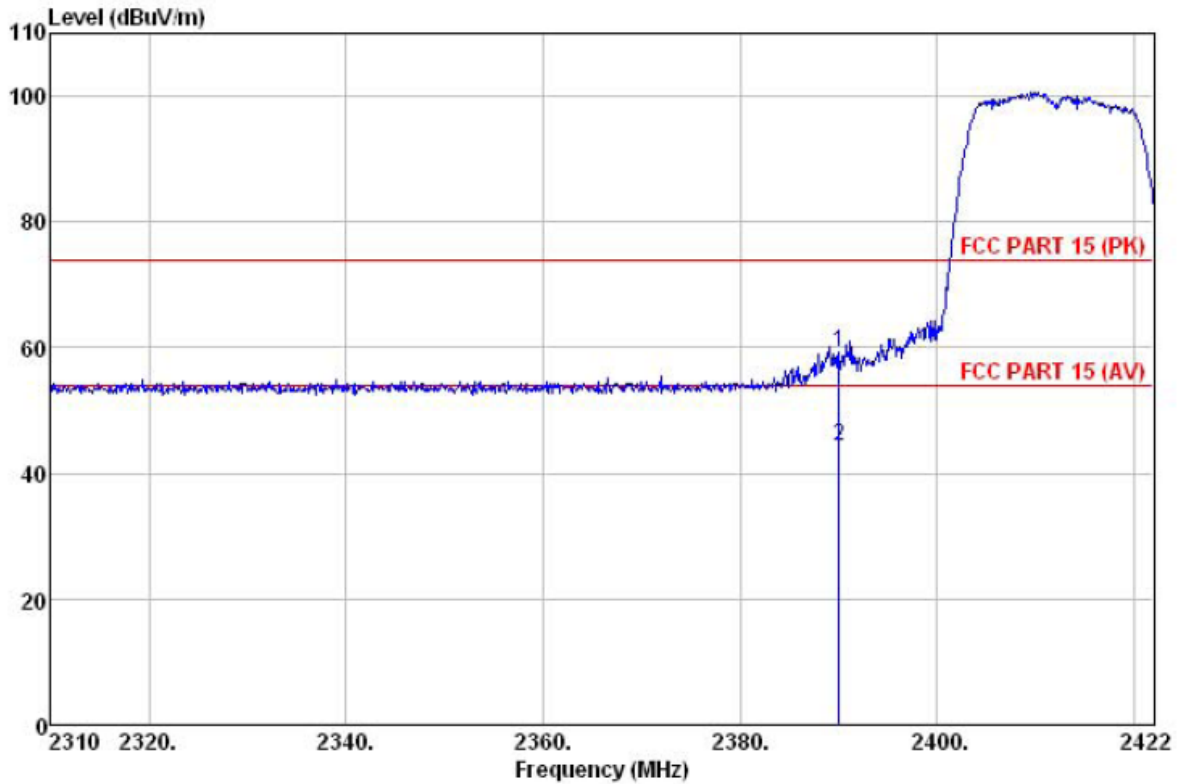
Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
 EUT : Mobile phone
 Job NO. : 157RF
 Test mode : Wifi G-H mode
 Power Rating : AC 120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Vincent

	Freq MHz	Read	Antenna	Cable	Preamp	Level	Limit	Over	Remark
		Level	Factor	Loss	Factor	Level	Line	Limit	
		dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.488	26.84	27.52	5.70	0.00	60.06	74.00	-13.94	Peak
2	2483.488	9.62	27.52	5.70	0.00	42.84	54.00	-11.16	Average

802.11n (H20)

Test channel: Lowest

Horizontal:



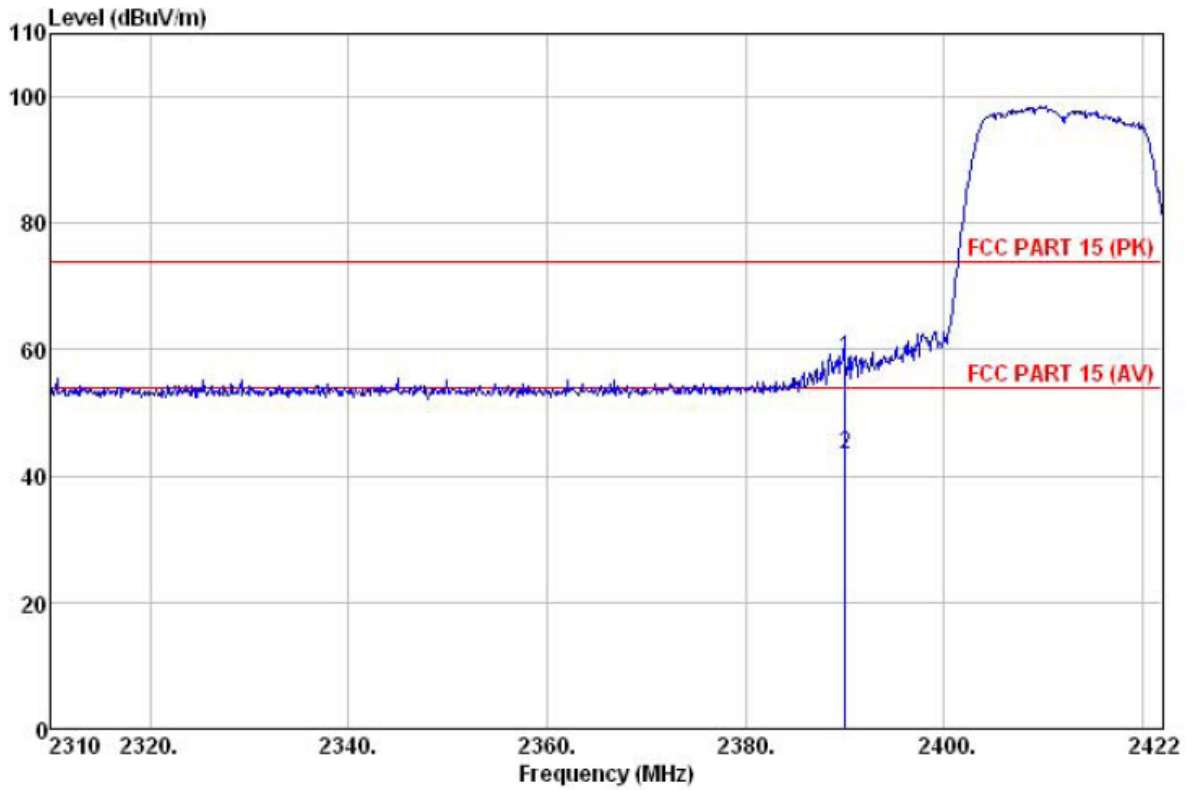
Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
 EUT : Mobile phone
 Job NO. : 157RF
 Test mode : Wifi N20-L mode
 Power Rating : AC 120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Vincent

	ReadAntenna	Cable	Preamp	Level	Limit	Over	
Freq	Level	Factor	Loss	Factor	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2390.080	26.03	27.58	5.67	0.00	59.28	74.00 -14.72 Peak
2	2390.080	11.00	27.58	5.67	0.00	44.25	54.00 -9.75 Average

802.11n (H20)

Test channel: Lowest

Vertical:



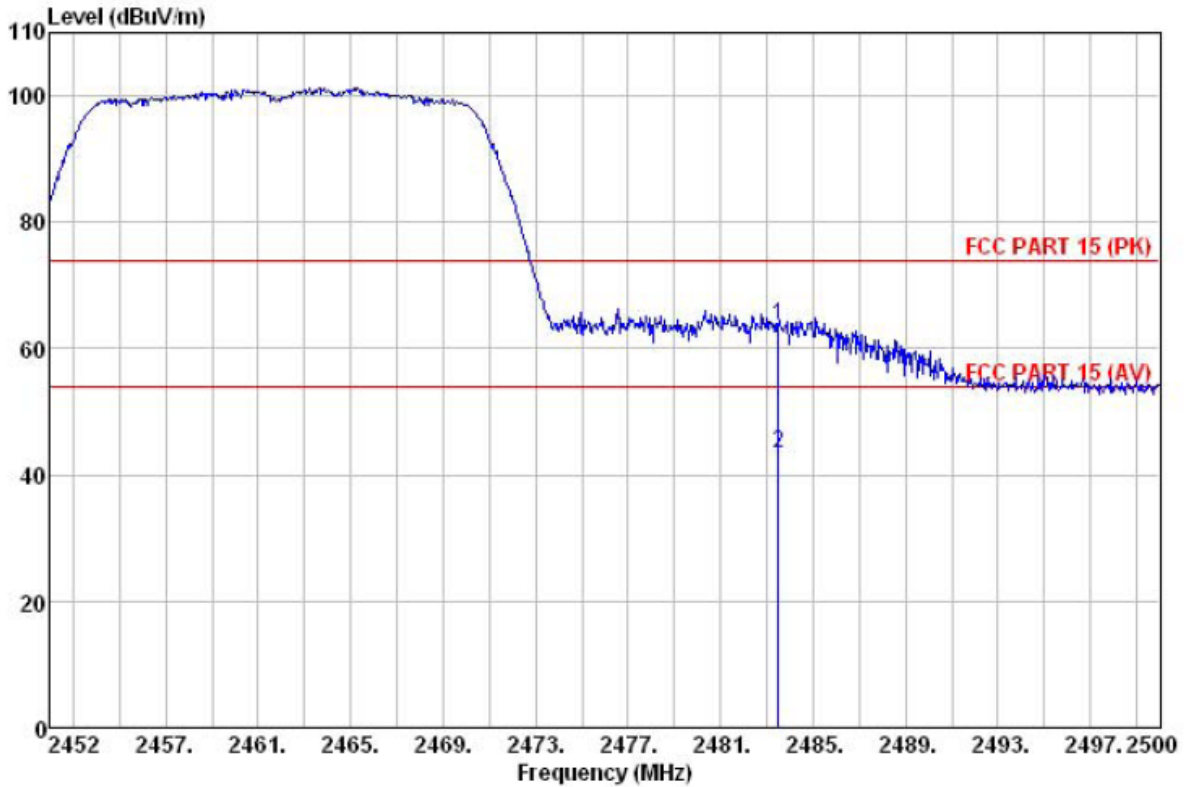
Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
 EUT : Mobile phone
 Job NO. : 157RF
 Test mode : Wifi N20-L mode
 Power Rating : AC 120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Vincent

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.080	25.56	27.58	5.67	0.00	58.81	74.00	-15.19	Peak
2	2390.080	10.23	27.58	5.67	0.00	43.48	54.00	-10.52	Average

802.11n (H20)

Test channel: Highest

Horizontal:



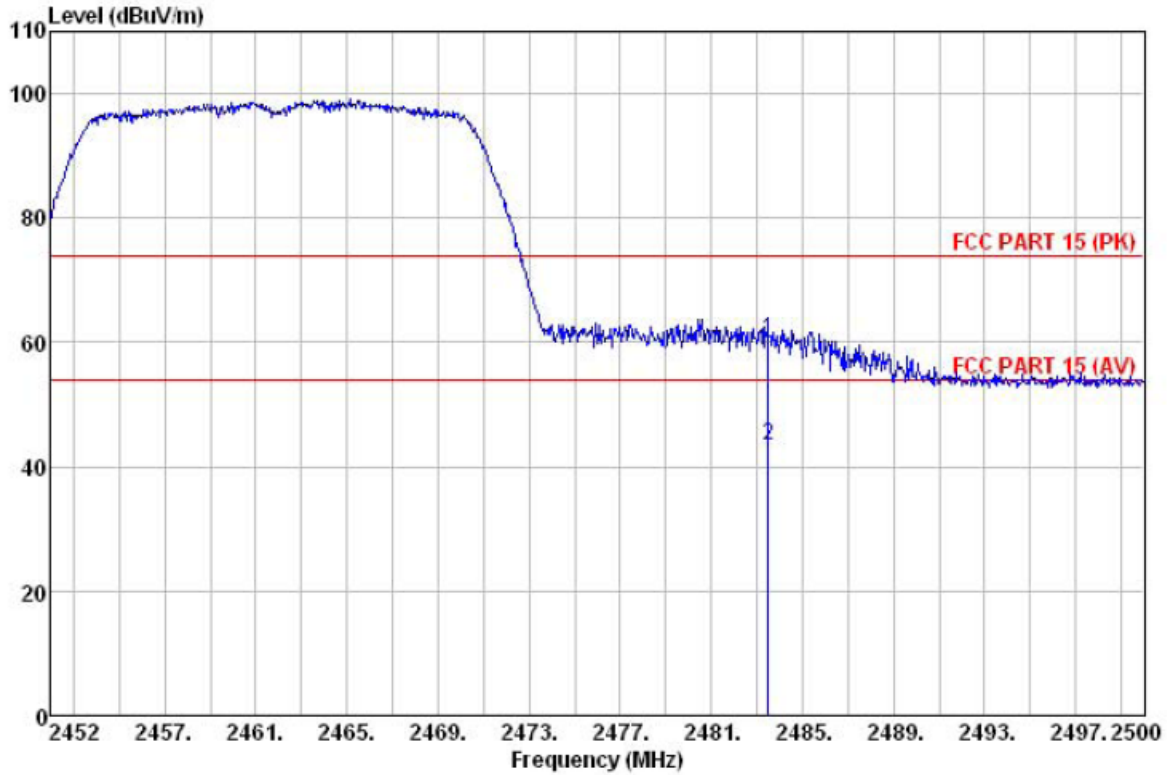
Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
 EUT : Mobile phone
 Job NO. : 157RF
 Test mode : Wifi N20-H mode
 Power Rating : AC 120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Vincent

	Read	Antenna	Cable	Preamp	Level	Limit	Over	
Freq	Level	Factor	Loss	Factor	Line	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.488	30.54	27.52	5.70	0.00	63.76	74.00	-10.24 Peak
2	2483.488	10.15	27.52	5.70	0.00	43.37	54.00	-10.63 Average

802.11n (H20)

Test channel: Highest

Vertical:



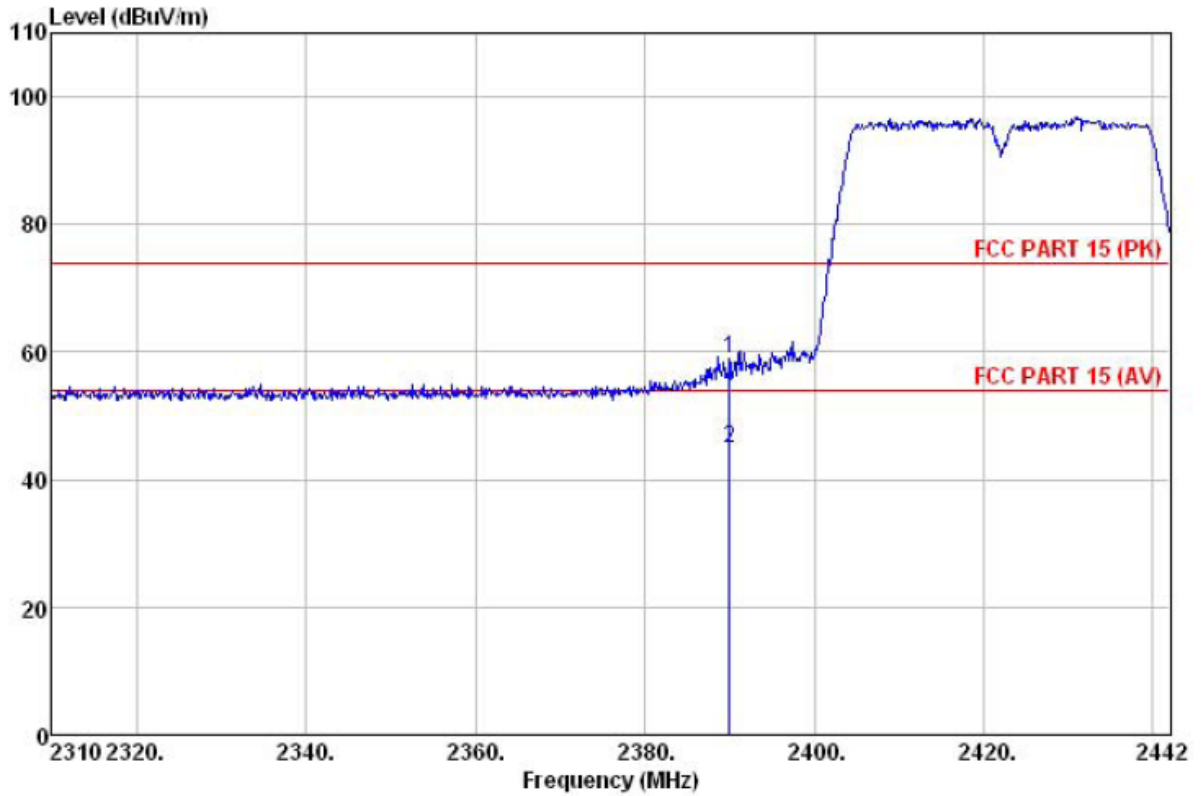
Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
 EUT : Mobile phone
 Job NO. : 157RF
 Test mode : Wifi N20-H mode
 Power Rating : AC 120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Vincent

	Freq	ReadAntenna	Cable	Preamp	Limit	Over			
	MHz	Level	Factor	Loss	Factor	Level	Line	Limit	Remark
		dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.488	27.20	27.52	5.70	0.00	60.42	74.00	-13.58	Peak
2	2483.488	10.33	27.52	5.70	0.00	43.55	54.00	-10.45	Average

802.11n (H40)

Test channel: Lowest

Horizontal:



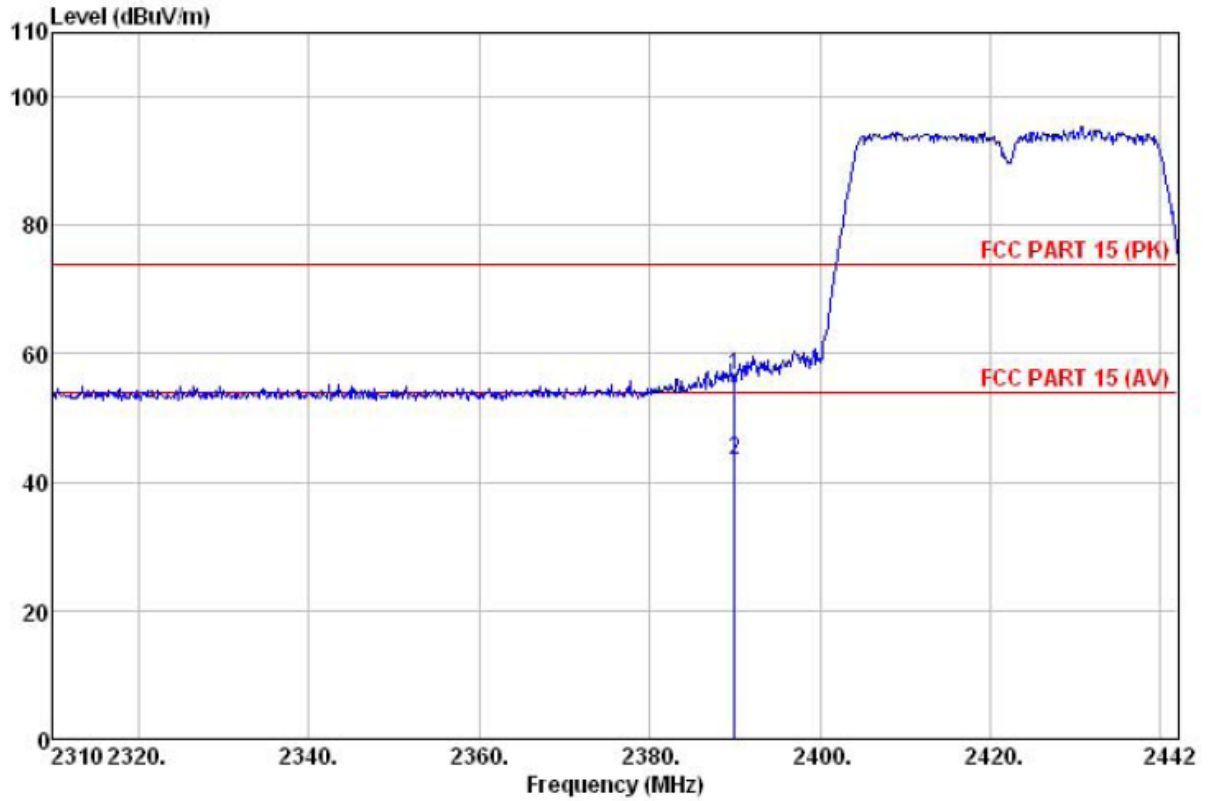
Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
 EUT : Mobile phone
 Job NO. : 157RF
 Test mode : Wifi N40-L mode
 Power Rating : AC 120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Vincent

	Freq	ReadAntenna	Cable	Preamp	Limit	Over	
	MHz	Level	Factor	Loss	Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dB
1	2389.992	25.65	27.58	5.67	0.00	58.90	74.00 -15.10 Peak
2	2389.992	11.64	27.58	5.67	0.00	44.89	54.00 -9.11 Average

802.11n (H40)

Test channel: Lowest

Vertical:

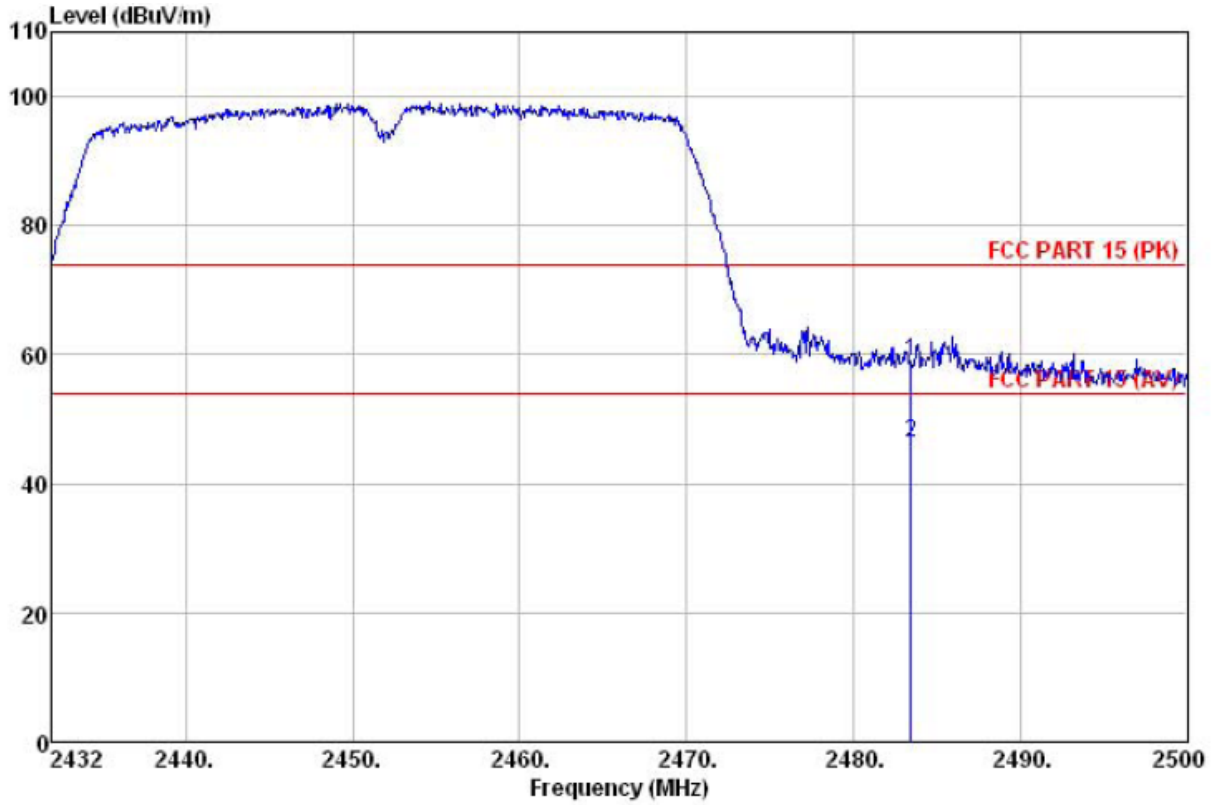


Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
 EUT : Mobile phone
 Job NO. : 157RF
 Test mode : Wifi N40-L mode
 Power Rating : AC 120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Vincent

	Read	Antenna	Cable	Preamp	Limit	Over	
Freq	Level	Factor	Loss	Factor	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2389.992	23.26	27.58	5.67	0.00	56.51	74.00 -17.49 Peak
2	2389.992	10.12	27.58	5.67	0.00	43.37	54.00 -10.63 Average

802.11n (H40)

Test channel: Highest
Horizontal:



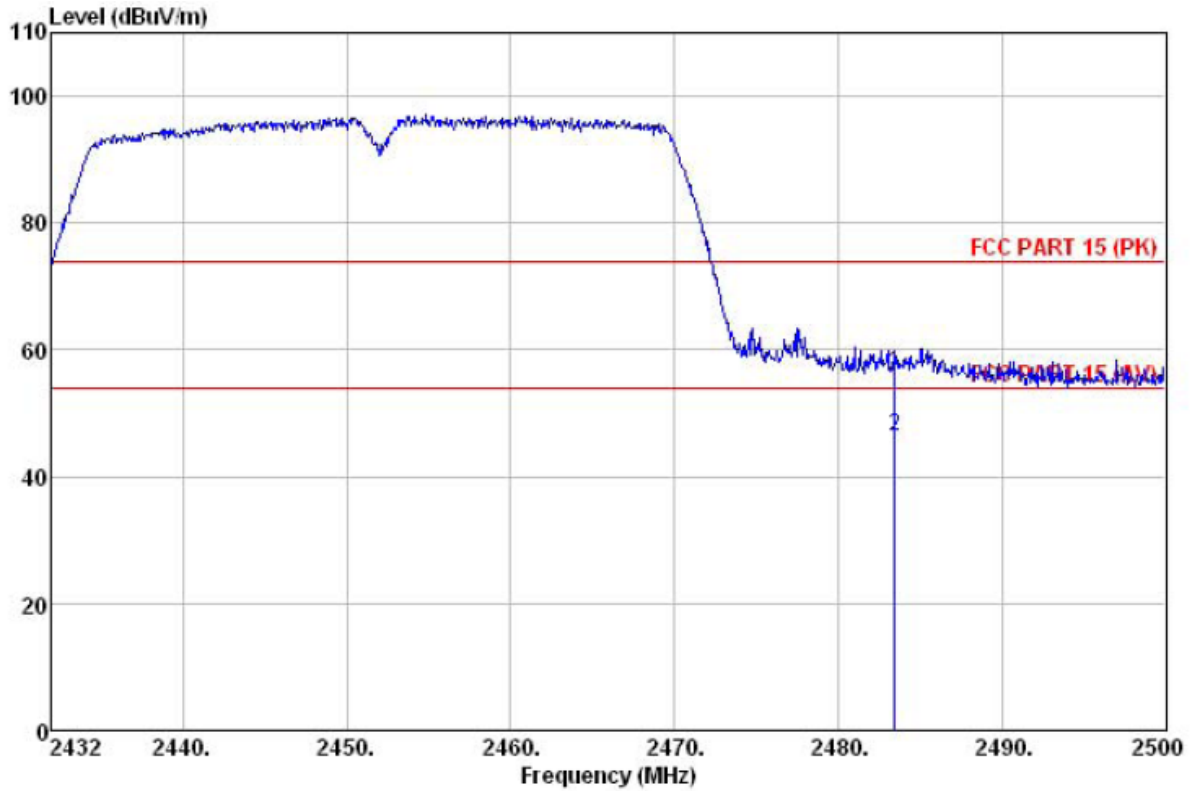
Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
 EUT : Mobile phone
 Job NO. : 157RF
 Test mode : Wifi N40-H mode
 Power Rating : AC 120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Vincent

	Read	Antenna	Cable	Preamp	Limit	Over	
Freq	Level	Factor	Loss	Factor	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2483.476	25.72	27.52	5.70	0.00	58.94	74.00 -15.06 Peak
2	2483.476	13.00	27.52	5.70	0.00	46.22	54.00 -7.78 Average

802.11n (H40)

Test channel: Highest

Vertical:

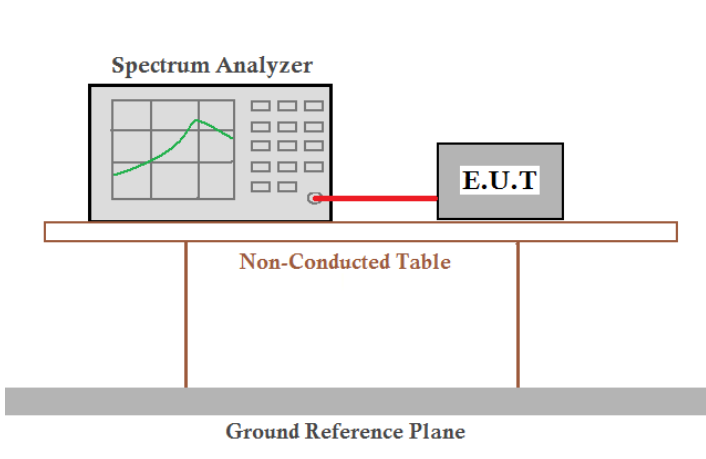


Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
 EUT : Mobile phone
 Job NO. : 157RF
 Test mode : Wifi N40-H mode
 Power Rating : AC 120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Vincent

	Freq	Read	Antenna	Cable	Preamp	Level	Limit	Over	Remark
	MHz	dBuV	dB/m	Loss	Factor	dB	dBuV/m	dBuV/m	dB
1	2483.476	23.21	27.52	5.70	0.00	56.43	74.00	-17.57	Peak
2	2483.476	13.21	27.52	5.70	0.00	46.43	54.00	-7.57	Average

6.7 Spurious Emission

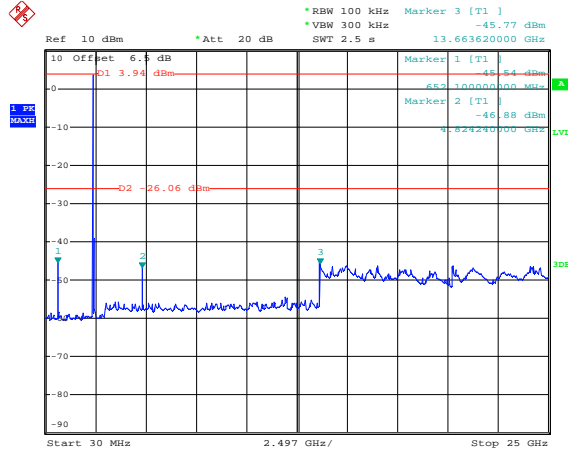
6.7.1 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both are placed on a Non-Conducted Table, which is supported by a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.6 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Test plot as follows:

Test mode:	802.11b
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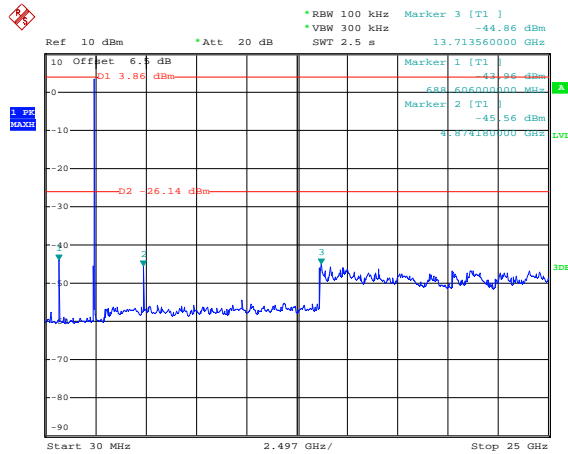
Lowest channel



REMOTE HIGH
Date: 5.JUN.2013 09:21:12

30MHz~25GHz

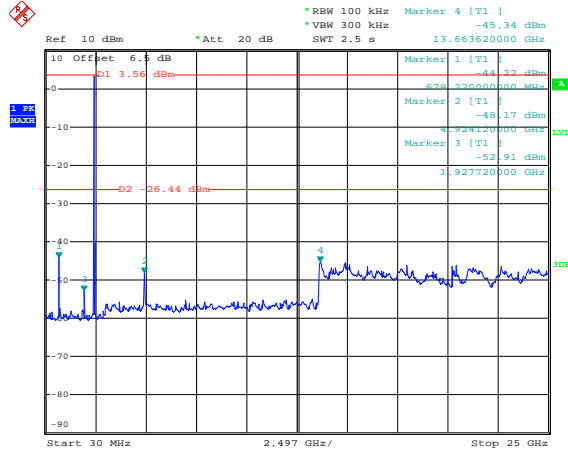
Middle channel



REMOTE HIGH
Date: 5.JUN.2013 09:24:30

30MHz~25GHz

Highest channel

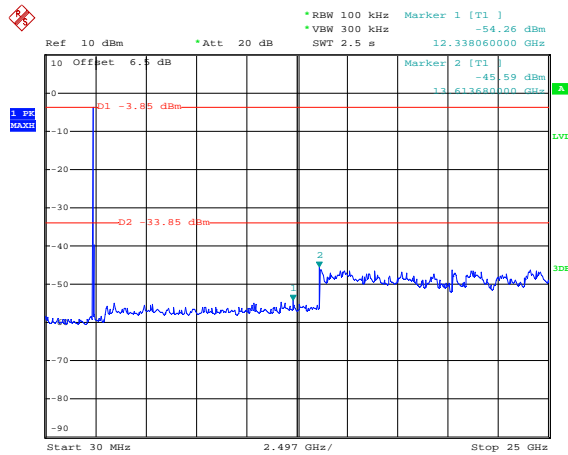


REMOTE HIGH
Date: 5.JUN.2013 09:27:39

30MHz~25GHz

Test mode:	802.11g
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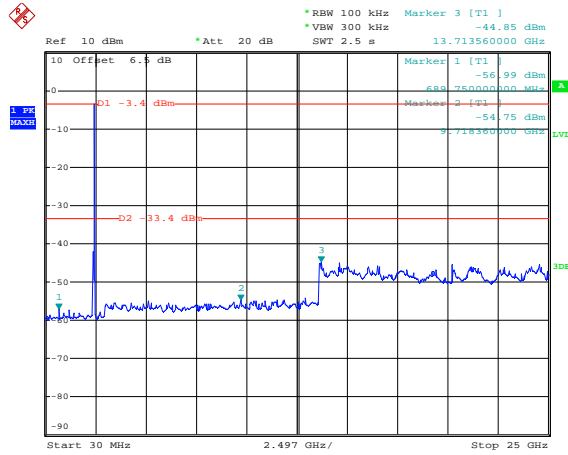
Lowest channel



REMOTE HIGH
Date: 5.JUN.2013 09:15:37

30MHz~25GHz

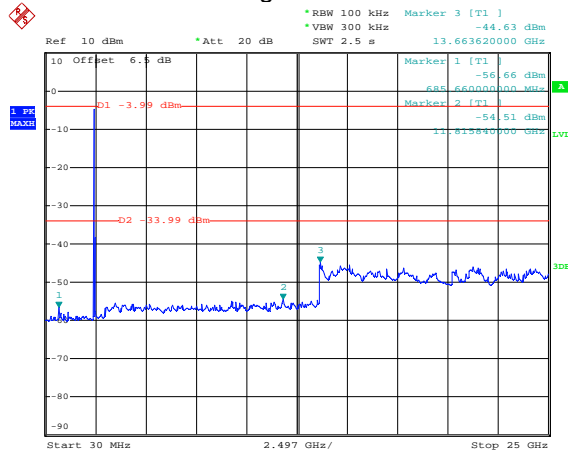
Middle channel



REMOTE HIGH
Date: 5.JUN.2013 09:10:37

30MHz~25GHz

Highest channel

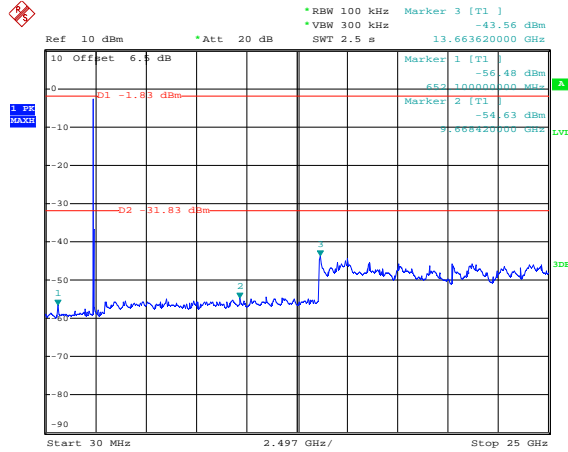


REMOTE HIGH
Date: 5.JUN.2013 09:05:49

30MHz~25GHz

Test mode:	802.11n(H20)
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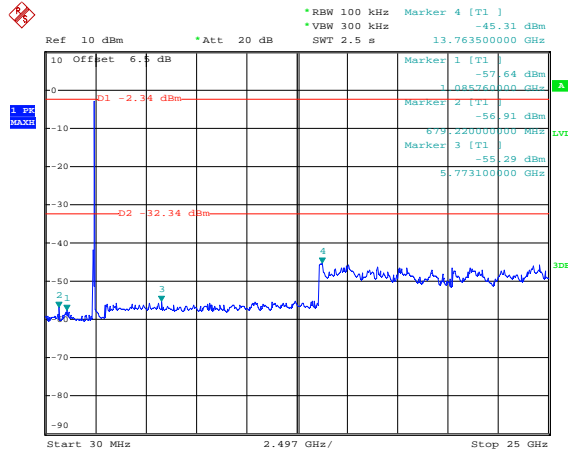
Lowest channel



REMOTE HIGH
Date: 4.JUN.2013 18:02:40

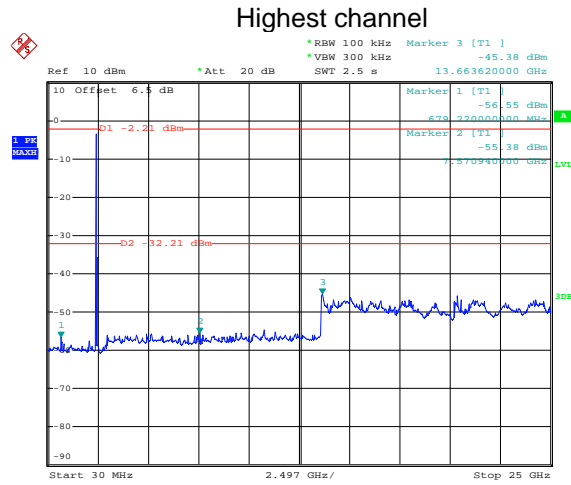
30MHz~25GHz

Middle channel



REMOTE HIGH
Date: 4.JUN.2013 18:23:57

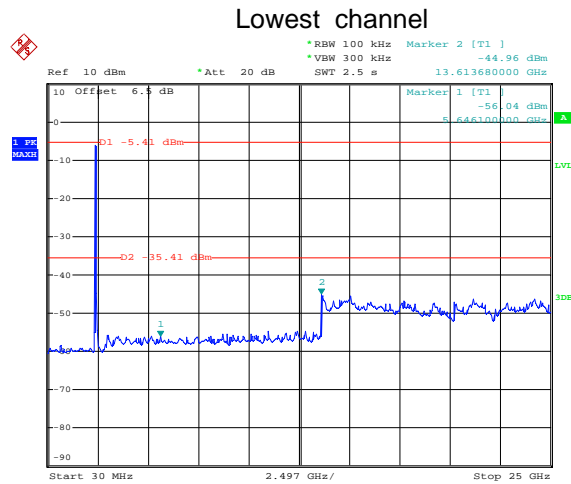
30MHz~25GHz



REMOTE HIGH
Date: 4.JUN.2013 18:28:13

30MHz~25GHz

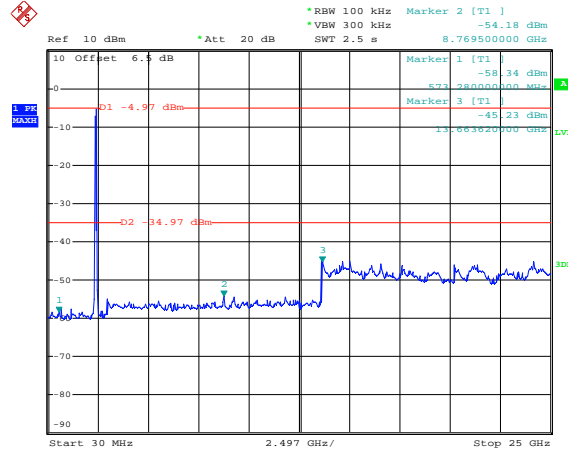
Test mode:	802.11n(H40)
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REMOTE HIGH
Date: 4.JUN.2013 17:55:35

30MHz~25GHz

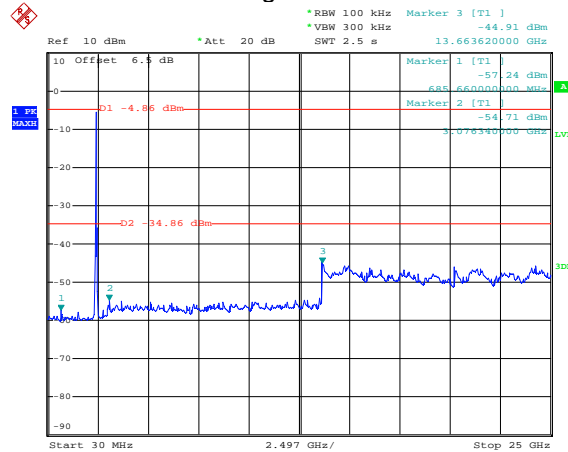
Middle channel



REMOTE HIGH
Date: 4.JUN.2013 17:43:51

30MHz~25GHz

Highest channel

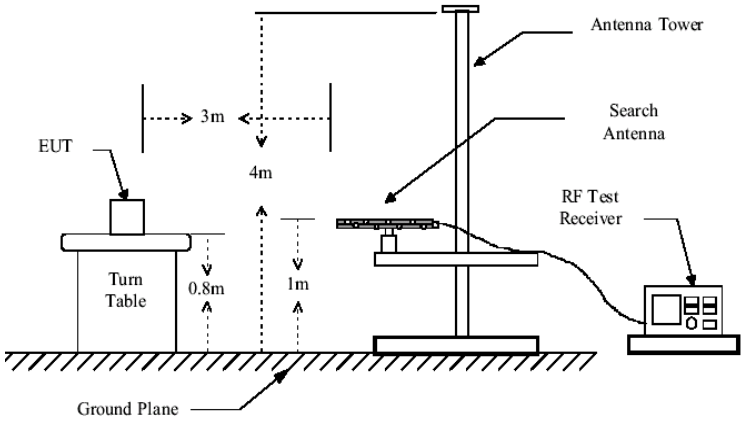
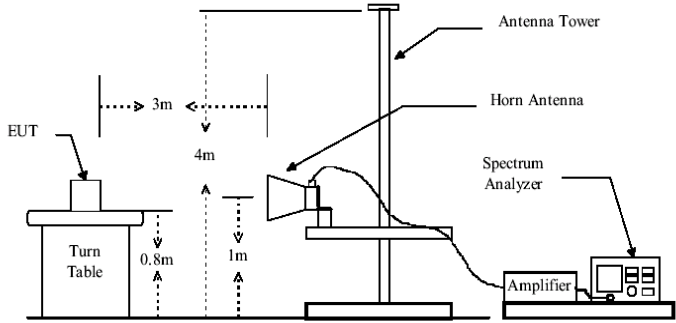


REMOTE HIGH
Date: 4.JUN.2013 17:13:59

30MHz~25GHz

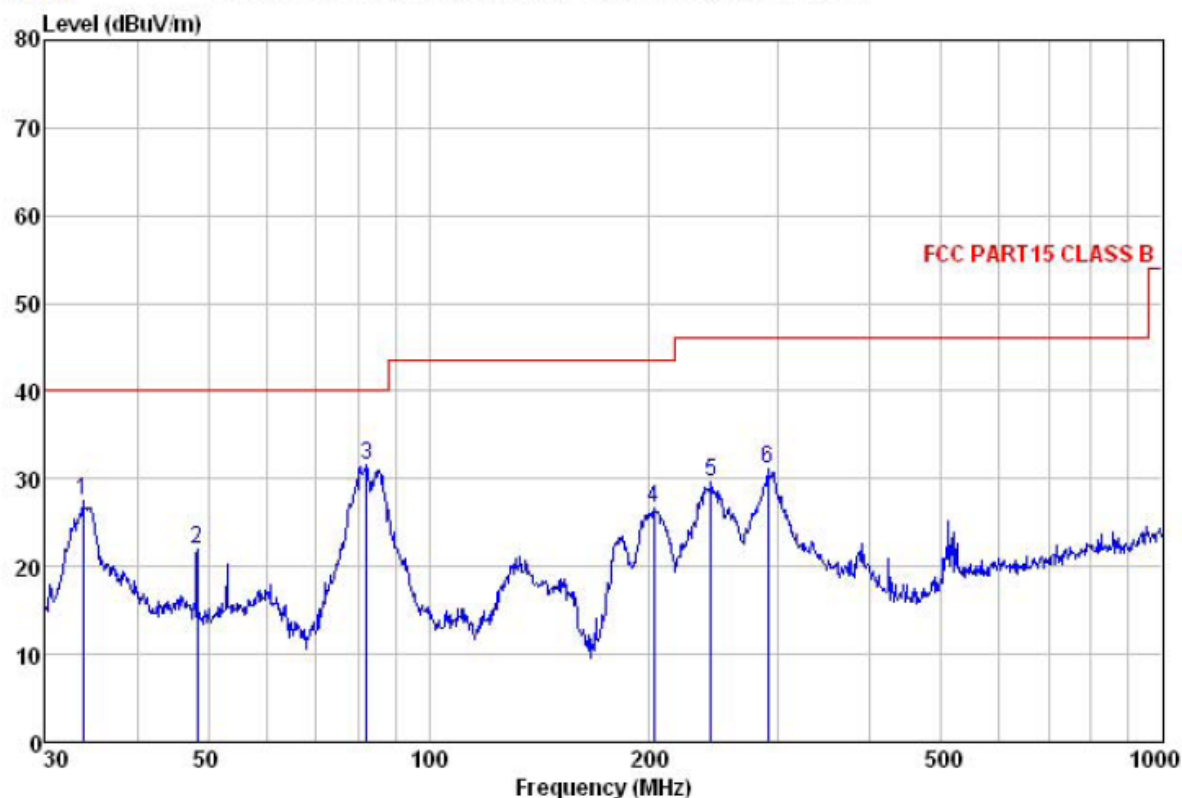
6.7.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209 and 15.205				
Test Method:	ANSI C63.4:2003				
Test Frequency Range:	9KHz to 25GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		Peak	1MHz	10Hz	Average Value
Limit:	Frequency	Limit (dBuV/m @3m)		Remark	
	30MHz-88MHz	40.0		Quasi-peak Value	
	88MHz-216MHz	43.5		Quasi-peak Value	
	216MHz-960MHz	46.0		Quasi-peak Value	
	960MHz-1GHz	54.0		Quasi-peak Value	
	Above 1GHz	54.0		Average Value	
		74.0		Peak Value	
Test Procedure:	<ol style="list-style-type: none"> 1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. 				

<p>Test setup:</p>	<p>Below 1GHz</p>  <p>Above 1GHz</p> 
<p>Test Instruments:</p>	<p>Refer to section 5.6 for details</p>
<p>Test mode:</p>	<p>Refer to section 5.3 for details</p>
<p>Test results:</p>	<p>Passed</p>
<p>Remark:</p>	<ol style="list-style-type: none"> 1. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis is the worst case. 2. 9 kHz to 30MHz is too low, so only shows the data of above 30MHz in this report.

Below 1GHz

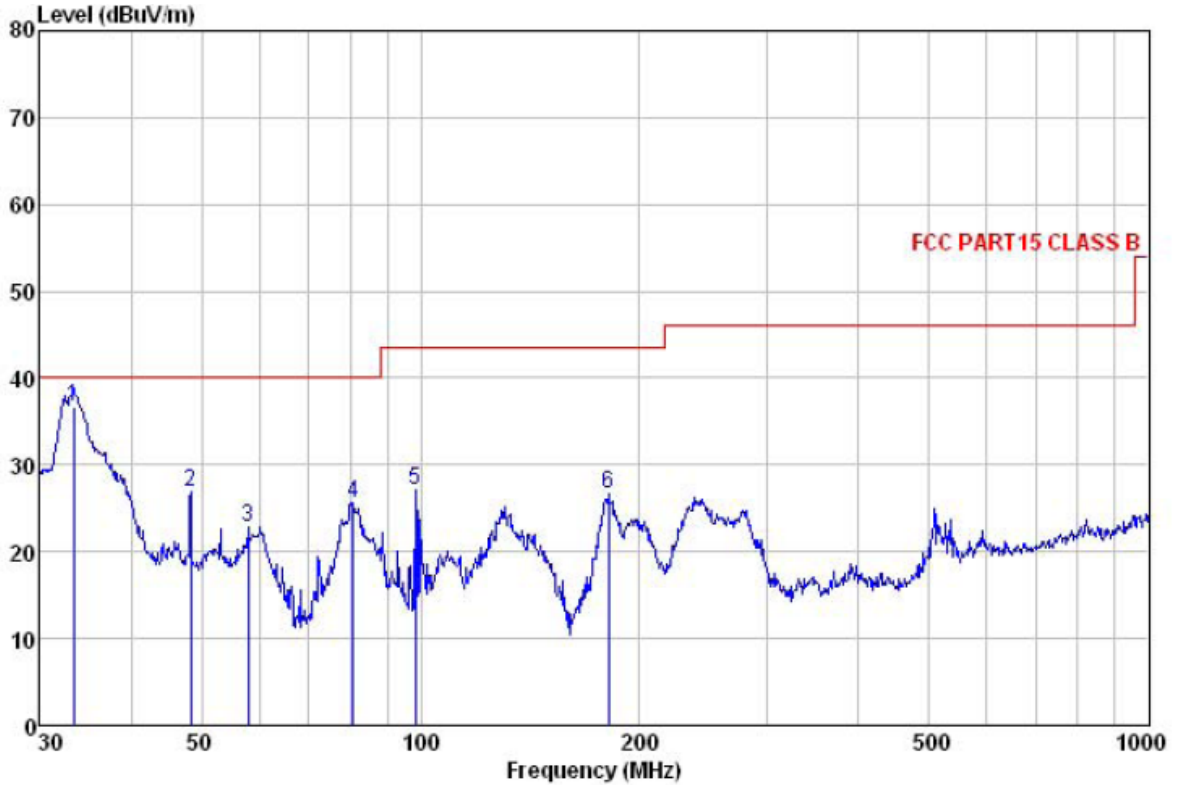
Horizontal :



Site : 3m chamber
 Condition : FCC PART15 CLASS B 3m VULB9163(30M1G) HORIZONTAL
 EUT : Mobile phone
 Job NO. : 157RF
 Test mode : Wifi mode
 Power Rating : AC 120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Vincent

	Read	Antenna	Cable	Preamp	Limit	Over	
Freq	Level	Factor	Loss	Factor	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	33.799	40.80	12.31	0.98	26.67	27.42	40.00 -12.58 QP
2	48.332	35.44	13.35	1.27	28.14	21.92	40.00 -18.08 QP
3	82.359	50.57	9.43	1.76	30.11	31.65	40.00 -8.35 QP
4	202.810	43.05	10.64	2.87	29.80	26.76	43.50 -16.74 QP
5	242.525	44.39	12.08	2.82	29.63	29.66	46.00 -16.34 QP
6	290.017	44.92	12.86	2.91	29.46	31.23	46.00 -14.77 QP

Vertical :



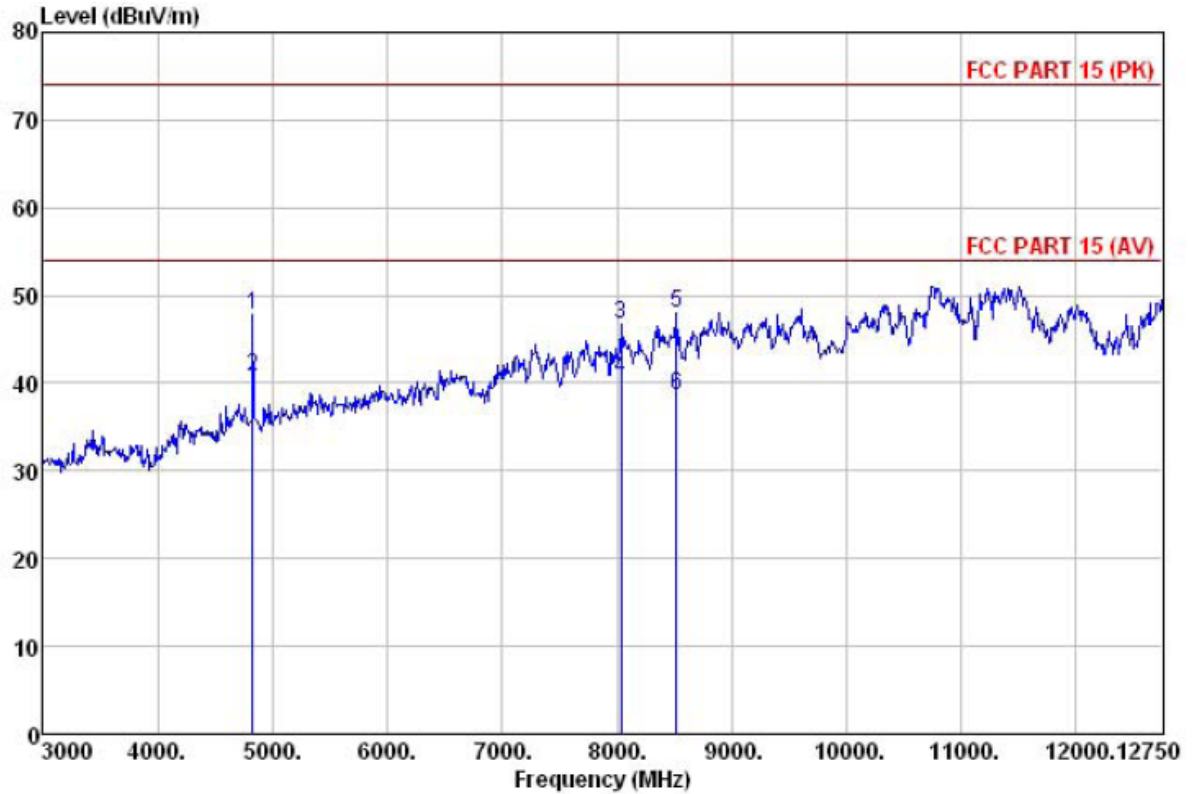
Site : 3m chamber
 Condition : FCC PART15 CLASS B 3m VULB9163(30M1G) VERTICAL
 EUT : Mobile phone
 Job NO. : 157RF
 Test mode : Wifi mode
 Power Rating : AC 120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Vincent

	Read	Antenna	Cable	Preamp	Limit	Over	
Freq	Level	Factor	Loss	Factor	Level	Line	Limit Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	33.328	50.10	12.31	0.98	26.63	36.76	40.00 -3.24 QP
2	48.332	40.42	13.35	1.27	28.14	26.90	40.00 -13.10 QP
3	57.999	37.73	12.83	1.37	29.03	22.90	40.00 -17.10 QP
4	80.927	45.17	8.84	1.69	30.12	25.58	40.00 -14.42 QP
5	98.487	42.25	13.06	1.97	30.09	27.19	43.50 -16.31 QP
6	181.283	40.86	9.76	2.74	26.77	26.59	43.50 -16.91 QP

Above 1GHz

Test mode: 802.11b Lowest

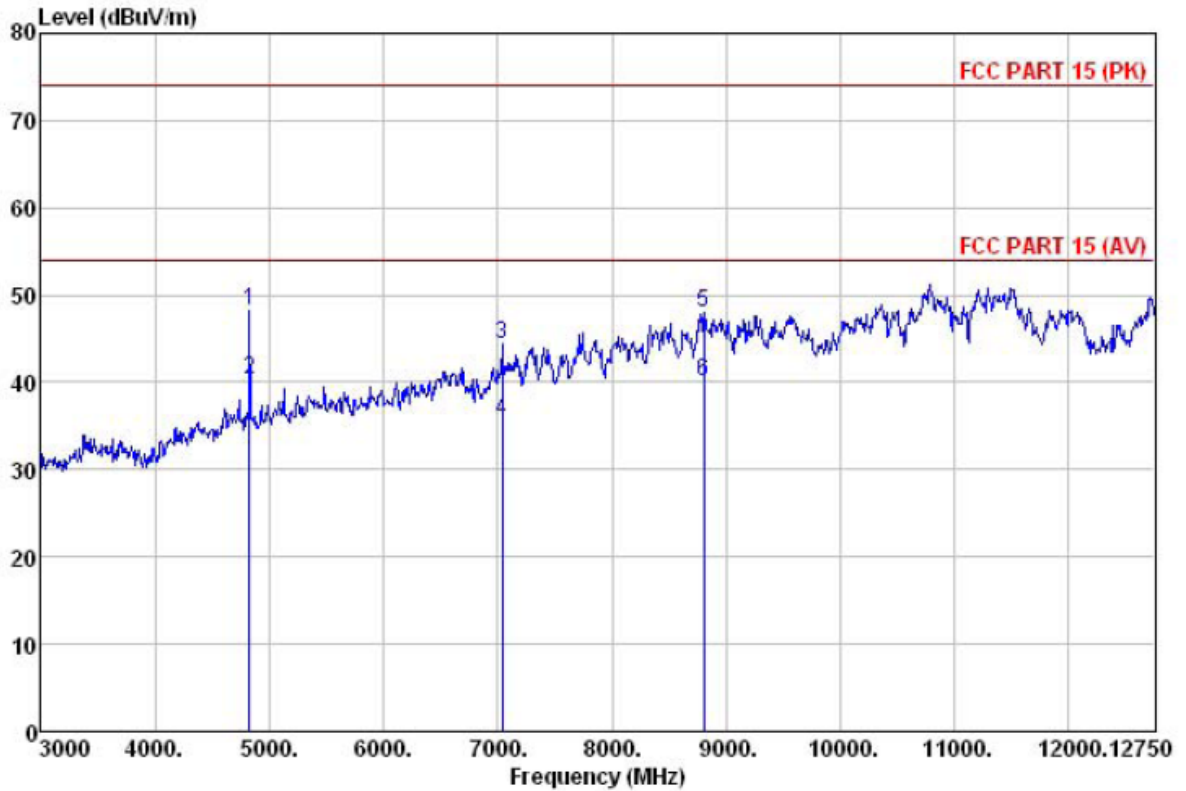
Horizontal:



Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
 EUT : Mobile phone
 Job NO. : 157RF
 Test mode : Wifi B-L mode
 Power Rating : AC 120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Vincent

	ReadAntenna	Cable Preamp		Limit	Over				
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Remark	
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB		
1	4823.250	47.62	31.54	8.92	40.22	47.86	74.00	-26.14	Peak
2	4823.250	40.61	31.54	8.92	40.22	40.85	54.00	-13.15	Average
3	8031.000	39.24	37.27	11.18	41.02	46.67	74.00	-27.33	Peak
4	8031.000	33.20	37.27	11.18	41.02	40.63	54.00	-13.37	Average
5	8518.500	39.32	36.67	13.41	41.46	47.94	74.00	-26.06	Peak
6	8518.500	29.95	36.67	13.41	41.46	38.57	54.00	-15.43	Average

Vertical :

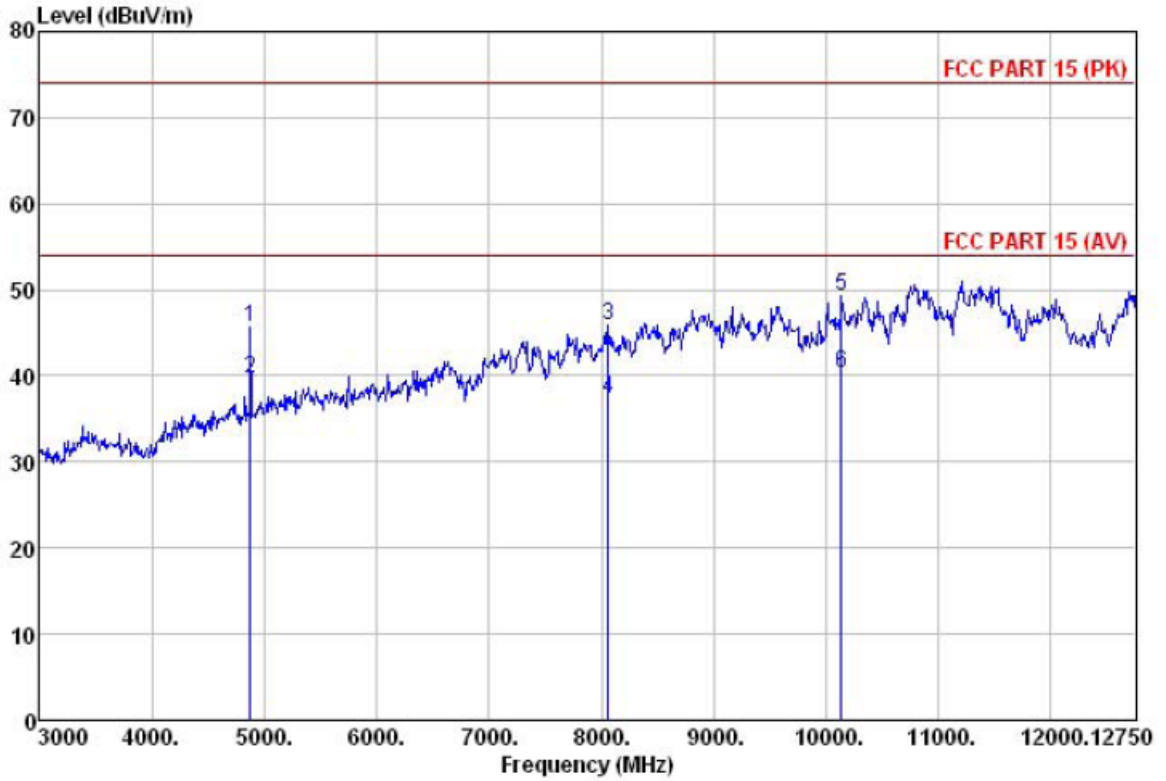


Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
 EUT : Mobile phone
 Job NO. : 157RF
 Test mode : Wifi B-L mode
 Power Rating : AC 120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Vincent

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit	Over	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	4823.250	47.96	31.54	8.92	40.22	48.20	74.00	-25.80	Peak
2	4823.250	40.08	31.54	8.92	40.22	40.32	54.00	-13.68	Average
3	7036.500	39.76	35.66	10.44	41.38	44.48	74.00	-29.52	Peak
4	7036.500	30.90	35.66	10.44	41.38	35.62	54.00	-18.38	Average
5	8801.250	38.75	36.96	13.63	41.32	48.02	74.00	-25.98	Peak
6	8801.250	30.85	36.96	13.63	41.32	40.12	54.00	-13.88	Average

Test mode: 802.11b Middle

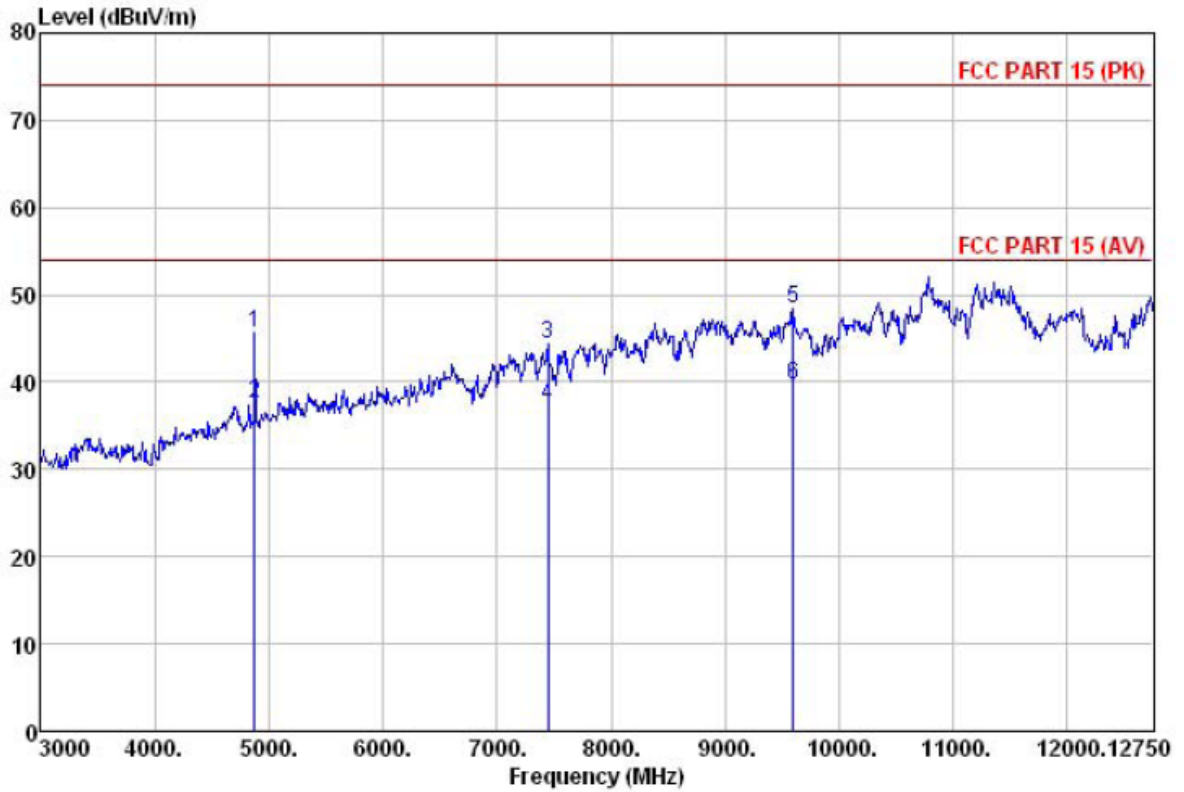
Horizontal :



Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
 EUT : Mobile phone
 Job NO. : 157RF
 Test mode : Wifi B-M mode
 Power Rating : AC 120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Vincent

	Read	Antenna	Cable	Preamp	Limit	Over	
Freq	Level	Factor	Loss	Factor	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	4872.000	45.24	31.57	8.98	40.15	45.64	74.00 -28.36 Peak
2	4872.000	39.23	31.57	8.98	40.15	39.63	54.00 -14.37 Average
3	8060.250	38.28	37.28	11.27	41.04	45.79	74.00 -28.21 Peak
4	8060.250	29.84	37.28	11.27	41.04	37.35	54.00 -16.65 Average
5	10137.000	38.66	38.78	13.70	41.83	49.31	74.00 -24.69 Peak
6	10137.000	29.59	38.78	13.70	41.83	40.24	54.00 -13.76 Average

Vertical :



Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
 EUT : Mobile phone
 Job NO. : 157RF
 Test mode : Wifi B-M mode
 Power Rating : AC 120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Vincent

	Freq	Read	Antenna	Cable	Preamp	Level	Limit	Over	Remark
	MHz	Level	Factor	Loss	Factor	dB	Line	Limit	
		dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	4872.000	45.16	31.57	8.98	40.15	45.56	74.00	-28.44	Peak
2	4872.000	37.12	31.57	8.98	40.15	37.52	54.00	-16.48	Average
3	7446.000	37.99	36.60	10.80	41.05	44.34	74.00	-29.66	Peak
4	7446.000	30.90	36.60	10.80	41.05	37.25	54.00	-16.75	Average
5	9591.000	38.50	38.08	13.14	41.37	48.35	74.00	-25.65	Peak
6	9591.000	29.83	38.08	13.14	41.37	39.68	54.00	-14.32	Average