

# FCC REPORT (WIFI)

**Applicant:** Shenzhen GOTRON Electronic CO.,LTD

**Address of Applicant:** Room 24B,Block C of Electronic & Technology Building,2070 Shennan Middle Road, Shenzhen 518000 P.R.China

**Equipment Under Test (EUT)**

Product Name: Mobile phone

Model No.: N920e,u920,u9500

**FCC ID:** SW9-N920E

**Applicable standards:** FCC CFR Title 47 Part 15 Subpart C Section 15.247

**Date of sample receipt:** 23 May., 2013

**Date of Test:** 24 May to 8 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.

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## 2 Version

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

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

**Reviewed by:** Wenxian 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:	Shenzhen GOTRON Electronic CO.,LTD
Address of Applicant:	Room 24B,Block C of Electronic&Technology Building,2070 Shennan Middle Road,Shenzhen 518000 P.R.China
Manufacturer:	Shenzhen GOTRON Electronic CO.,LTD
Address of Manufacturer:	Room 24B,Block C of Electronic&Technology Building,2070 Shennan Middle Road,Shenzhen 518000 P.R.China

### 5.2 General Description of E.U.T.

Product Name:	Mobile phone
Model No.:	N920e,u920,u9500
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:	-1.1 dBi
AC adapter :	Input:100-240V AC,50/60Hz 150mA Output:5.0V DC MAX 800mA
Power supply:	Rechargeable Li-ion Battery DC3.7V
Remarks:	The model No. N920e, u920, u9500 were identical inside, the electrical circuit design, layout, components used and internal wiring, with only difference being model name and appearance of colour.

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

<b>Operating Environment:</b>	
Temperature:	24.0 °C
Humidity:	54 % RH
Atmospheric Pressure:	1010 mbar
<b>Test mode:</b>	
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 &amp; 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:

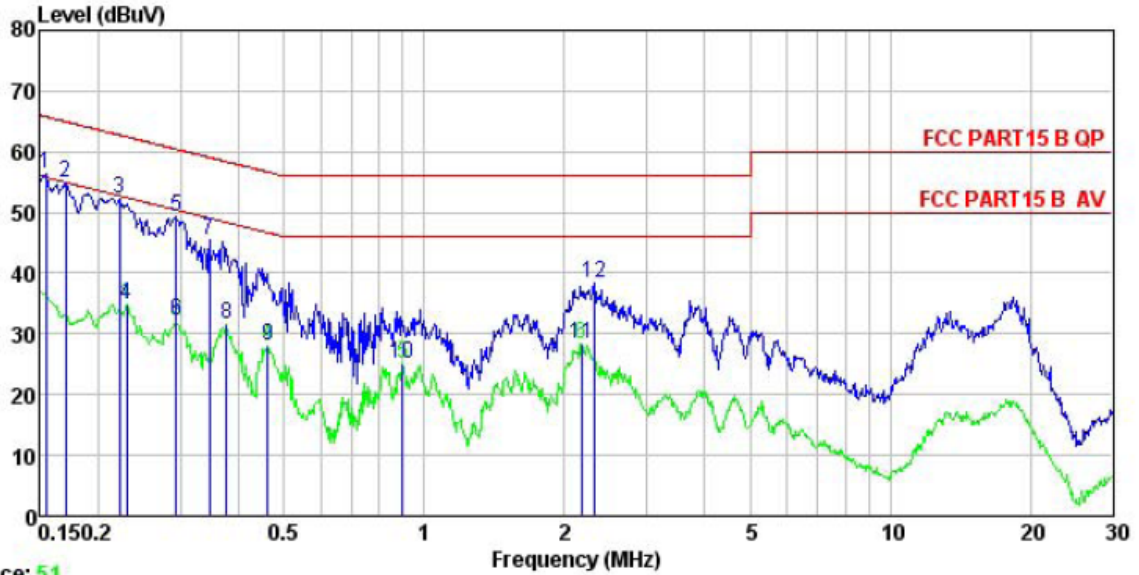
<b>Standard requirement:</b>	FCC Part15 C Section 15.203 /247(c)
<p><i>15.203 requirement:</i>  <i>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna 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>	
<b>E.U.T Antenna:</b>	
<p><i>The antenna is an internal antenna which cannot replace by end-user, the best case gain of the antenna is -1.1 dBi.</i></p>	
<p>BT/WiFi Antenna</p> 	

## 6.2 Conducted Emission

Test Requirement:	FCC Part15 C Section 15.207														
Test Method:	ANSI C63.4: 2003														
Test Frequency Range:	150kHz to 30MHz														
Class / Severity:	Class B														
Receiver setup:	RBW=9 kHz, VBW=30 kHz														
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"> <li>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.</li> <li>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).</li> <li>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.</li> </ol>														
Test setup:	<p><i>Remark:</i>  E.U.T: Equipment Under Test  LISN: Line Impedance Stabilization Network  Test table height=0.8m</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:

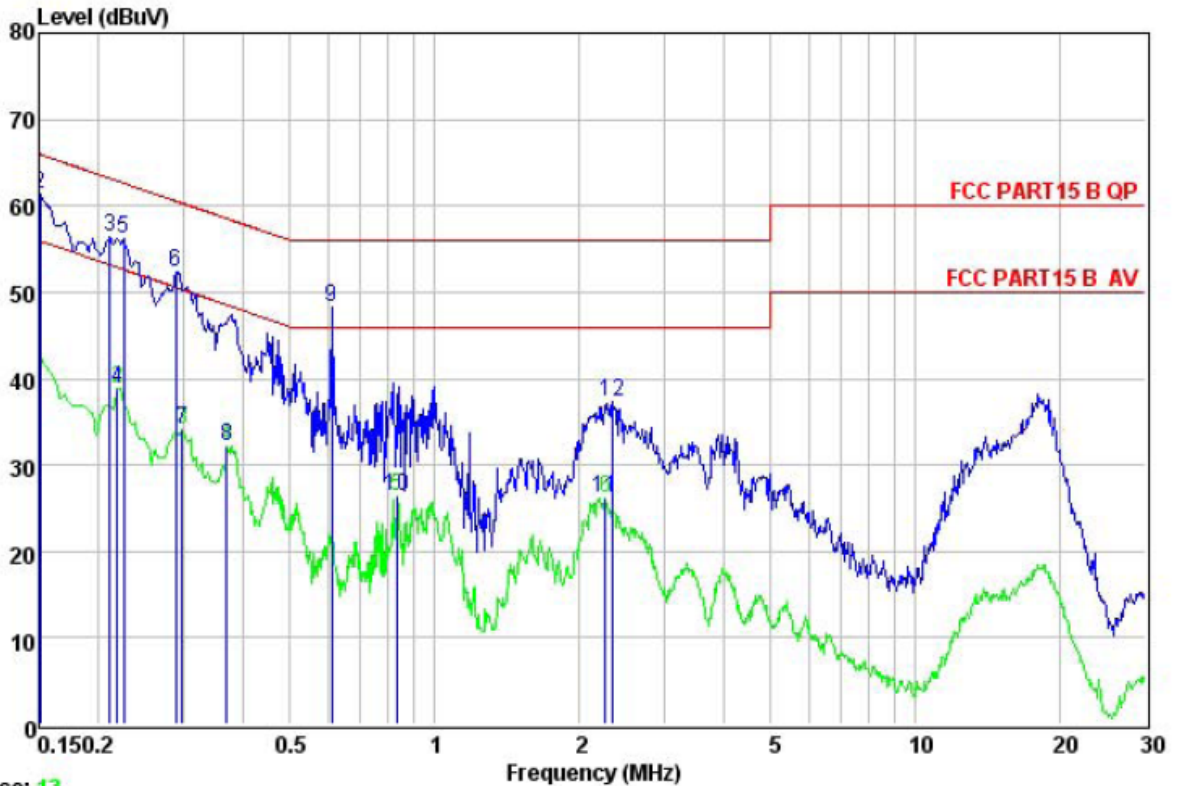


Trace: 51

Site : CCIS Conducted Test Site  
 Condition : FCC PART15 B QP LISN NEUTRAL  
 Job No. : 151RF  
 EUT : Mobile phone  
 Model : N920E  
 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	0.154	45.43	10.27	0.79	56.49	65.78	-9.29 QP
2	0.170	43.86	10.25	0.78	54.89	64.94	-10.05 QP
3	0.222	41.39	10.23	0.75	52.37	62.74	-10.37 QP
4	0.230	23.98	10.23	0.75	34.96	52.44	-17.48 Average
5	0.294	38.28	10.24	0.74	49.26	60.41	-11.15 QP
6	0.294	21.21	10.24	0.74	32.19	50.41	-18.22 Average
7	0.346	34.39	10.25	0.73	45.37	59.05	-13.68 QP
8	0.377	20.60	10.26	0.72	31.58	48.34	-16.76 Average
9	0.461	16.91	10.27	0.75	27.93	46.67	-18.74 Average
10	0.899	13.95	10.19	0.84	24.98	46.00	-21.02 Average
11	2.178	17.18	10.27	0.95	28.40	46.00	-17.60 Average
12	2.309	27.01	10.27	0.95	38.23	56.00	-17.77 QP

Line:



Trace: 13

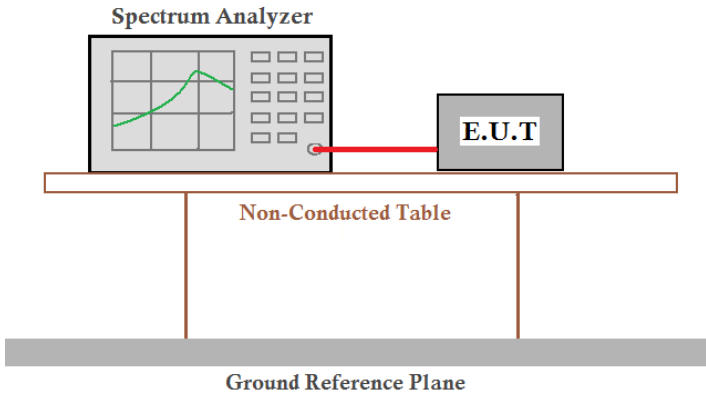
Site : CCIS Conducted Test Site  
 Condition : FCC PART15 B QP LISN LINE  
 Job No. : 151RF  
 EUT : Mobile phone  
 Model : N920E  
 Test Mode : Wifi mode  
 Power Rating : AC 120V/60Hz  
 Environment : Temp: 23 °C Humi:56% Atmos:101KPa  
 Test Engineer: Vincent

	Read	LISN	Cable	Limit	Over		
Freq	Level	Factor	Loss	Line	Limit	Remark	
MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.150	32.13	10.25	0.79	43.17	56.00	-12.83 Average
2	0.151	50.19	10.25	0.79	61.23	65.96	-4.73 QP
3	0.211	45.52	10.22	0.76	56.50	63.18	-6.68 QP
4	0.219	27.91	10.22	0.76	38.89	52.88	-13.99 Average
5	0.226	45.15	10.23	0.76	56.14	62.61	-6.47 QP
6	0.289	41.34	10.26	0.74	52.34	60.54	-8.20 QP
7	0.299	23.02	10.26	0.74	34.02	50.28	-16.26 Average
8	0.369	21.24	10.27	0.72	32.23	48.52	-16.29 Average
9	0.611	37.36	10.22	0.77	48.35	56.00	-7.65 QP
10	0.830	15.43	10.19	0.82	26.44	46.00	-19.56 Average
11	2.261	14.95	10.28	0.95	26.18	46.00	-19.82 Average
12	2.334	26.08	10.28	0.95	37.31	56.00	-18.69 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

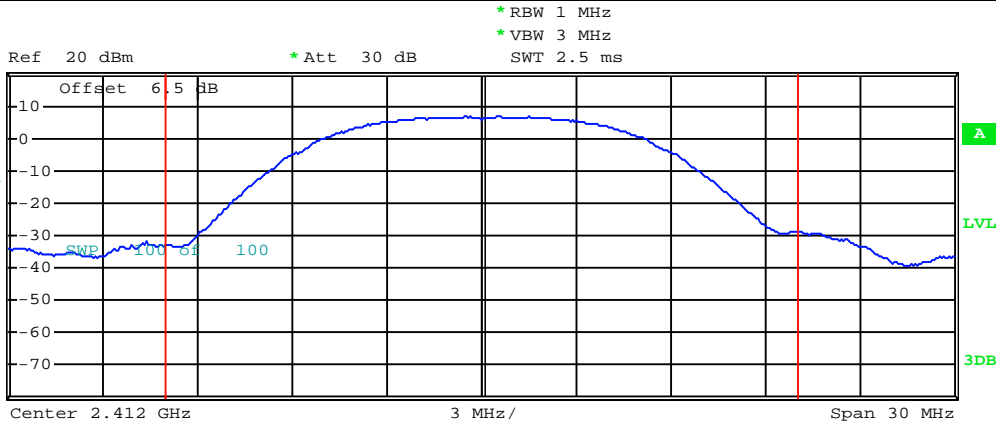
Test Requirement:	FCC Part15 C Section 15.247 (b)(3)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	30dBm
Test setup:	
Test Instruments:	Refer to section 5.6 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Remark:	Test method refer to KDB558074 (DTS Measure Guidance) section 8.2, option 1.

### Measurement Data

Test CH	Maximum Conducted Output Power (dBm)				Limit(dBm)	Result
	802.11b	802.11g	802.11n(H20)	802.11n(H40)		
Lowest	14.71	12.87	12.92	12.26	30.00	Pass
Middle	14.20	12.55	12.57	12.62		
Highest	14.09	12.61	12.65	12.36		

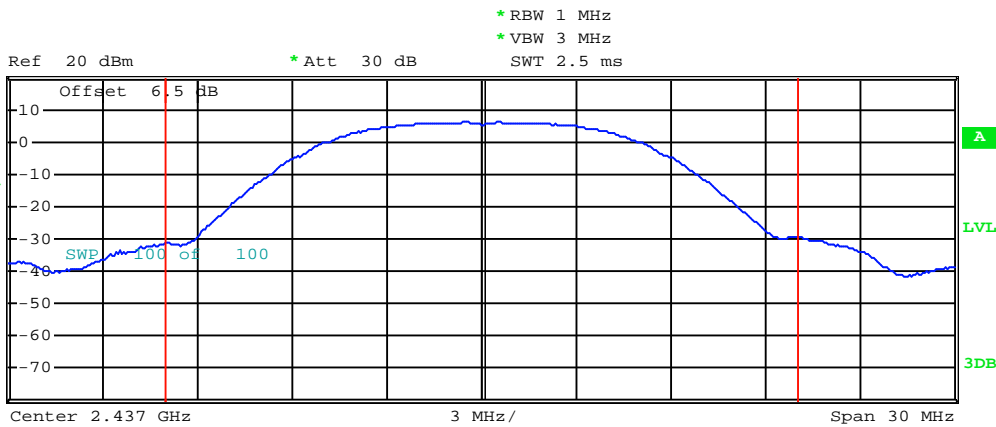
Test plots as follow:

Test mode: 802.11b



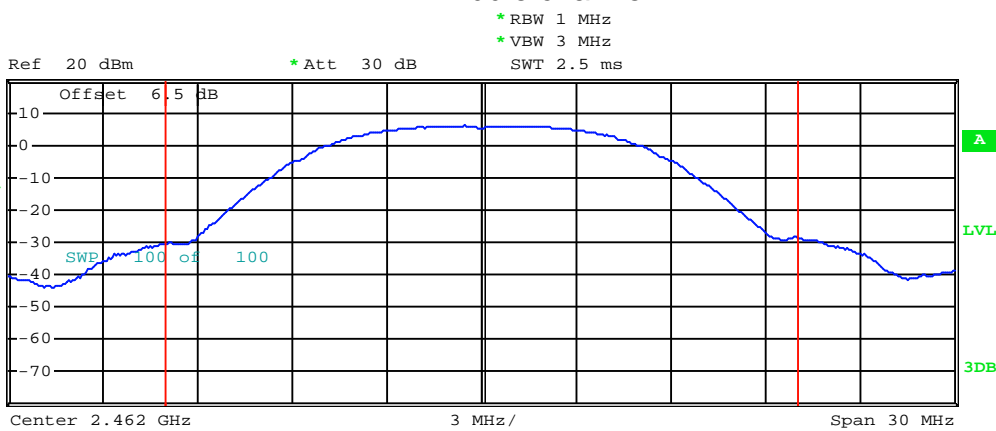
**Tx Channel**  
 Bandwidth 20 MHz Power 14.71 dBm

### Lowest channel



**Tx Channel**  
 Bandwidth 20 MHz Power 14.20 dBm

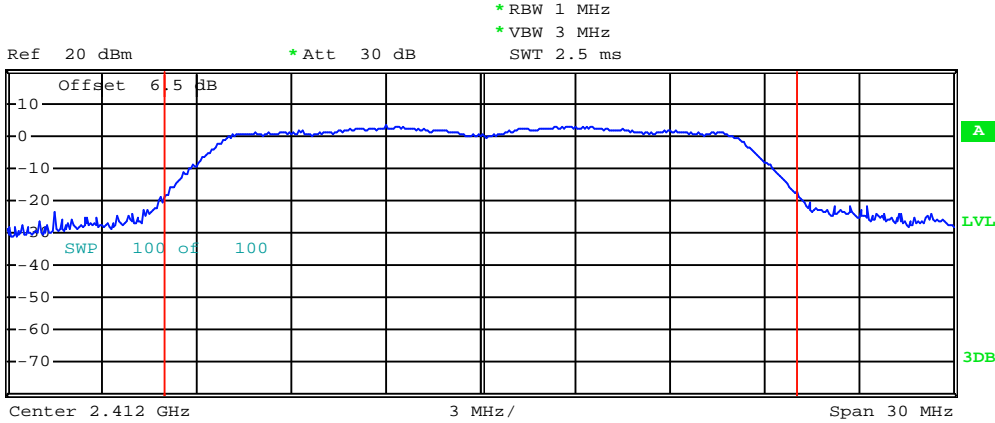
### Middle channel



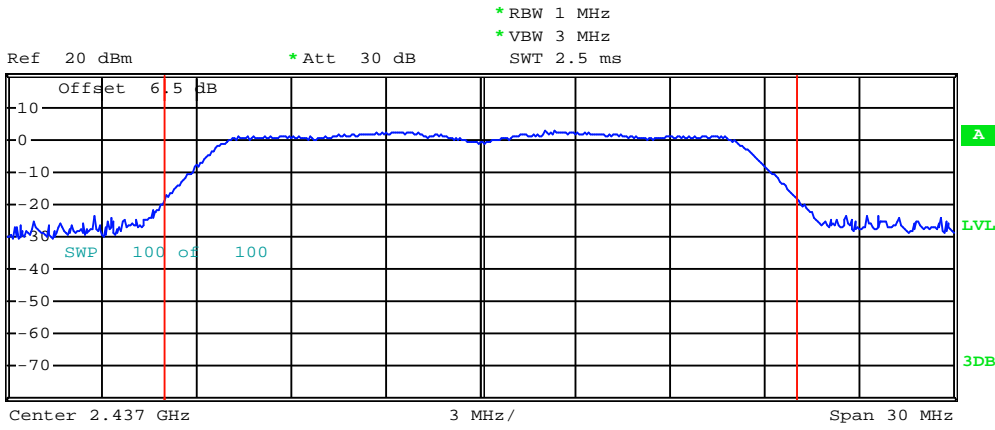
**Tx Channel**  
 Bandwidth 20 MHz Power 14.09 dBm

### Highest channel

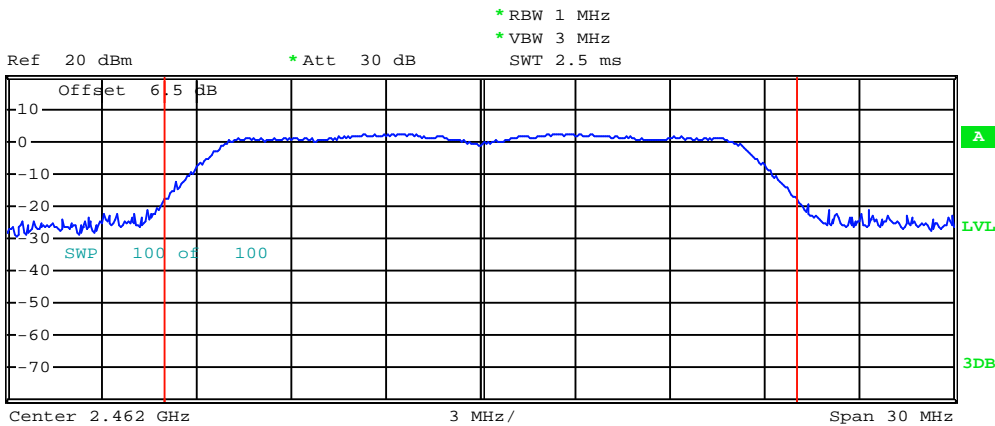
Test mode: 802.11g



### Lowest channel



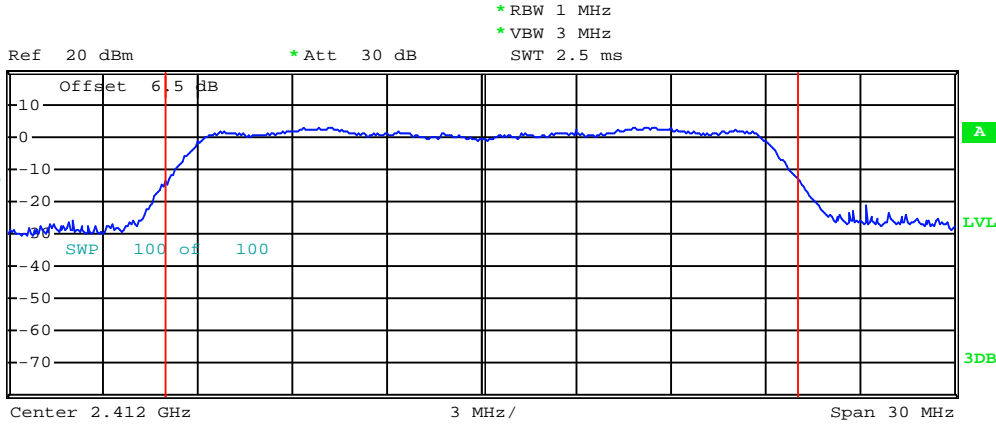
### Middle channel



### Highest channel

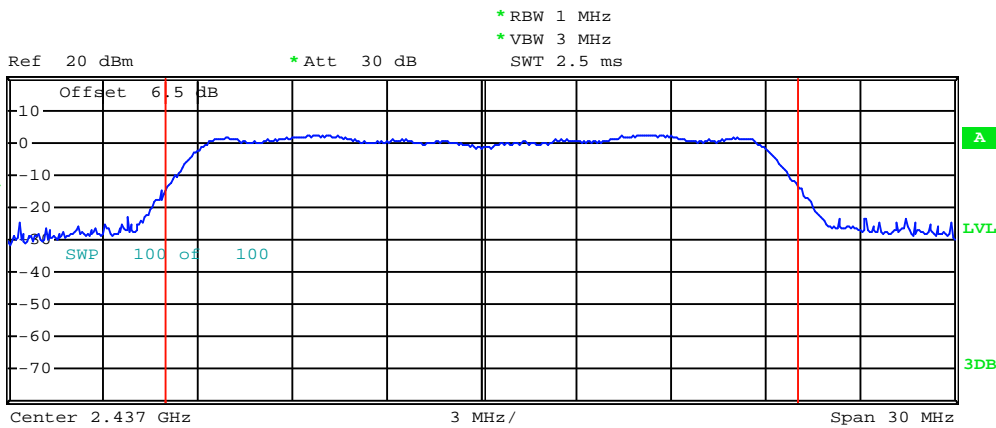


Test mode: 802.11n(H20)



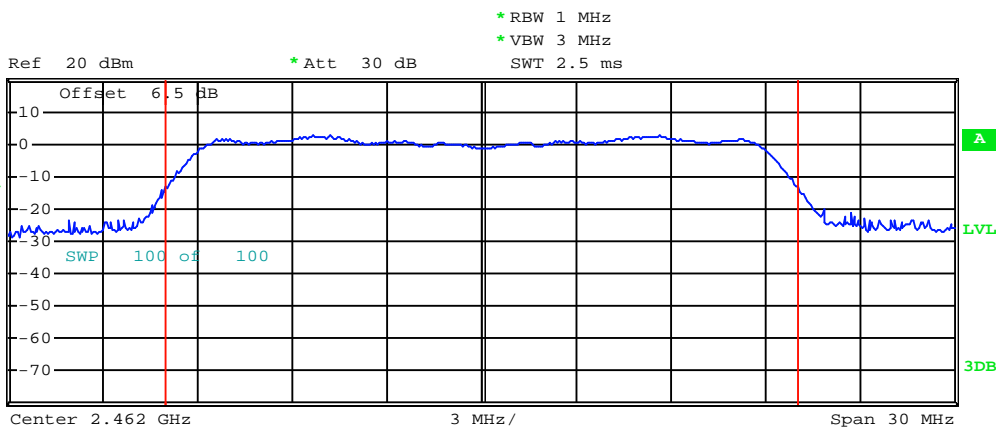
**Tx Channel**  
 Bandwidth 20 MHz Power 12.92 dBm

### Lowest channel



**Tx Channel**  
 Bandwidth 20 MHz Power 12.57 dBm

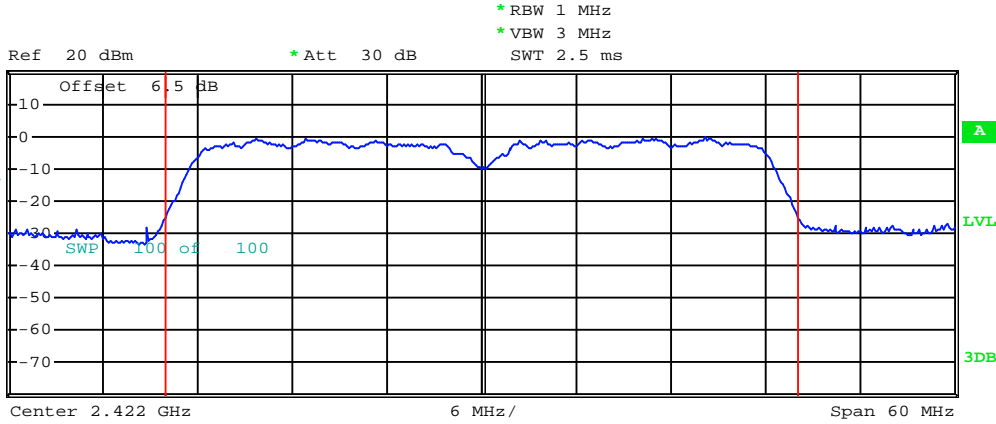
### Middle channel



**Tx Channel**  
 Bandwidth 20 MHz Power 12.65 dBm

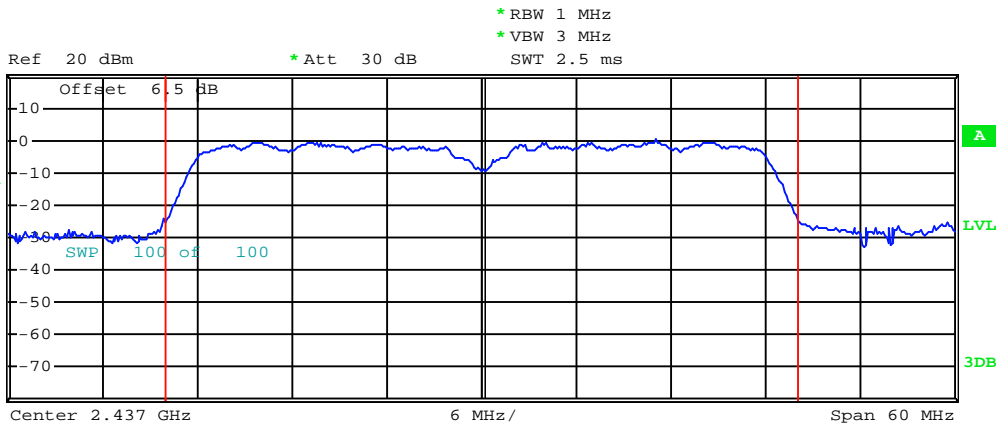
### Highest channel

Test mode: 802.11n(H40)



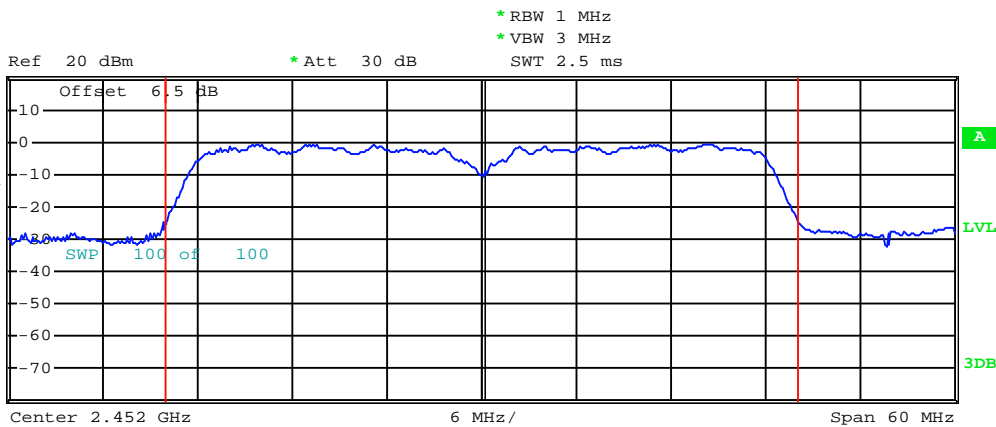
**Tx Channel**  
 Bandwidth 40 MHz Power 12.26 dBm

### Lowest channel



**Tx Channel**  
 Bandwidth 40 MHz Power 12.62 dBm

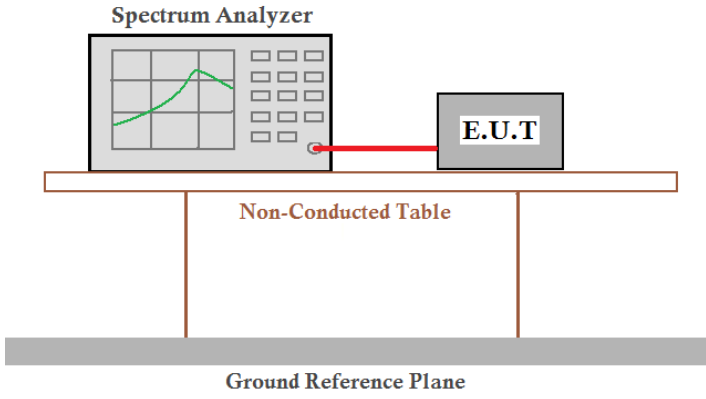
### Middle channel



**Tx Channel**  
 Bandwidth 40 MHz Power 12.36 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

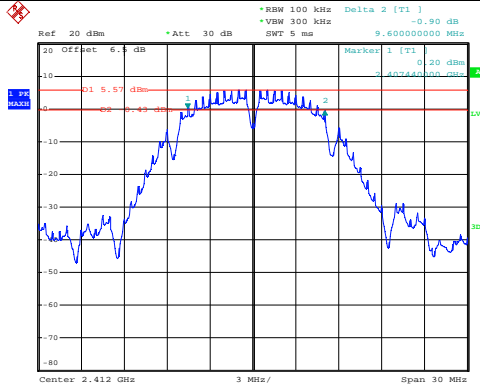
### Measurement Data

Test CH	6dB Occupy Bandwidth (MHz)				Limit(kHz)	Result
	802.11b	802.11g	802.11n(H20)	802.11n(H40)		
Lowest	9.60	16.62	17.82	36.48	>500	Pass
Middle	9.12	16.68	17.76	36.60		
Highest	9.60	16.68	17.76	36.48		

Test CH	99dB Occupy Bandwidth (MHz)				Limit(kHz)	Result
	802.11b	802.11g	802.11n(H20)	802.11n(H40)		
Lowest	12.12	16.74	17.82	35.95	N/A	N/A
Middle	12.18	16.80	17.76	35.95		
Highest	12.18	16.80	17.76	36.24		

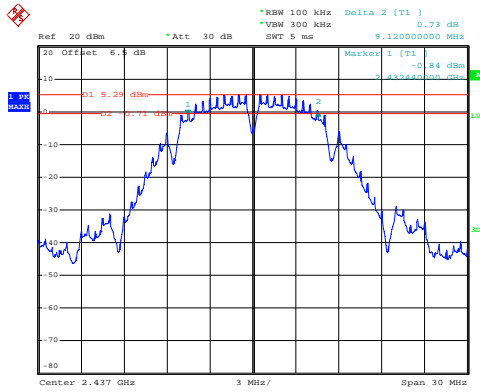
Test plot as follows:

Test mode:6dB BW 802.11b



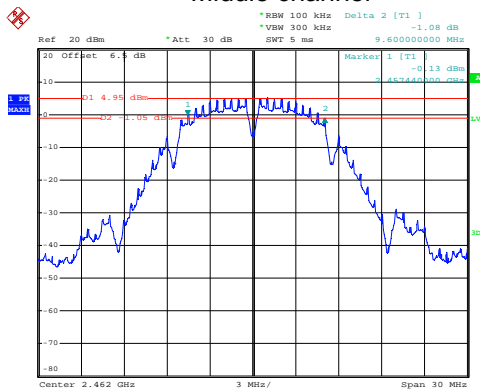
REMOTE HIGH  
 Date: 3.JUN.2013 16:50:59

### Lowest channel



REMOTE HIGH  
 Date: 3.JUN.2013 16:56:24

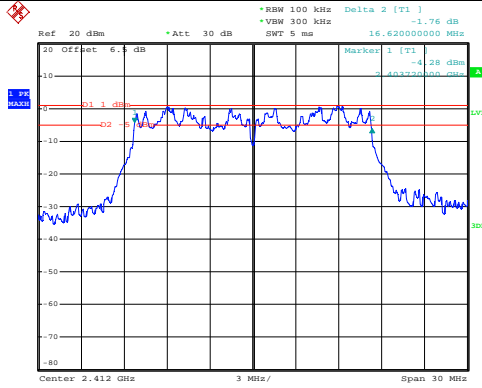
### Middle channel



REMOTE HIGH  
 Date: 3.JUN.2013 17:00:49

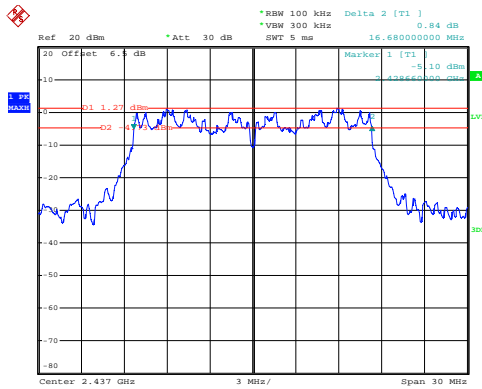
### Highest channel

Test mode:6dB BW 802.11g



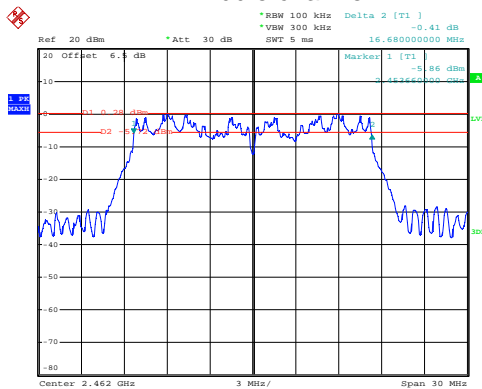
REMOTE HIGH  
 Date: 4.JUN.2013 11:15:16

### Lowest channel



REMOTE HIGH  
 Date: 4.JUN.2013 11:22:05

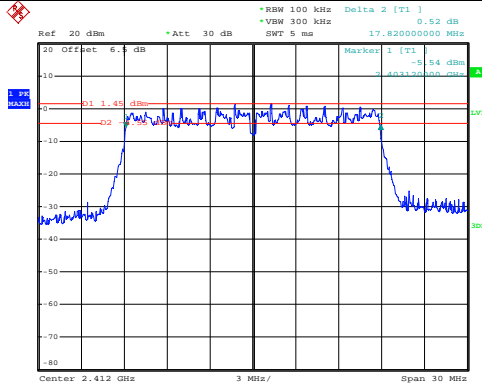
### Middle channel



REMOTE HIGH  
 Date: 4.JUN.2013 13:43:41

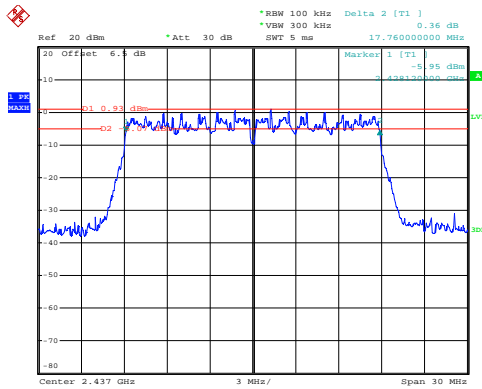
### Highest channel

Test mode: 6dB BW 802.11n(H20)



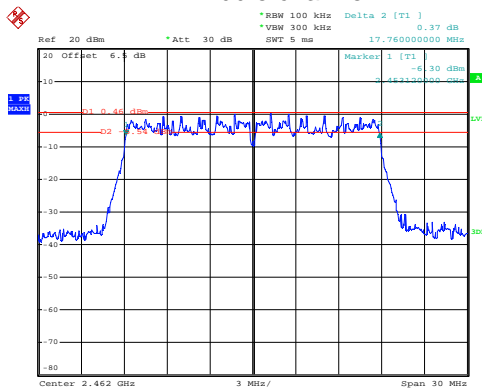
REMOTE HIGH  
 Date: 4.JUN.2013 13:52:25

### Lowest channel



REMOTE HIGH  
 Date: 4.JUN.2013 13:55:58

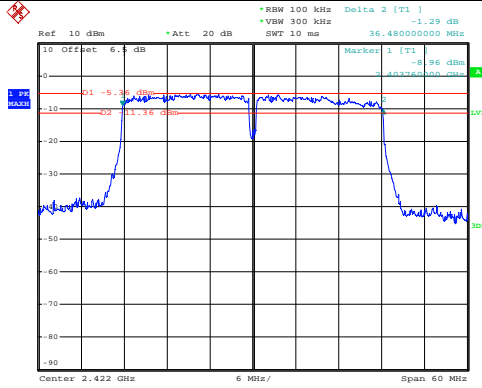
### Middle channel



REMOTE HIGH  
 Date: 4.JUN.2013 13:59:16

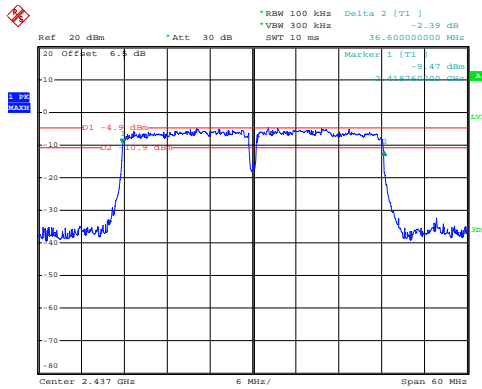
### Highest channel

Test mode:6dB BW 802.11n(H40)



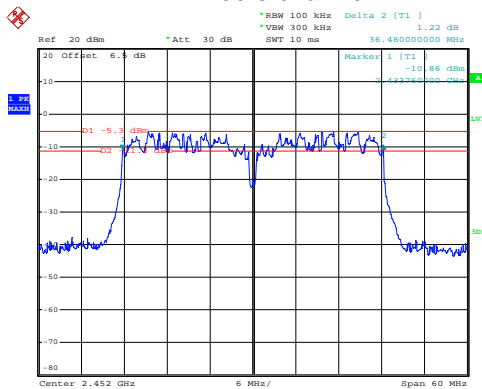
REMOTE HIGH  
 Date: 4.JUN.2013 17:45:39

### Lowest channel



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

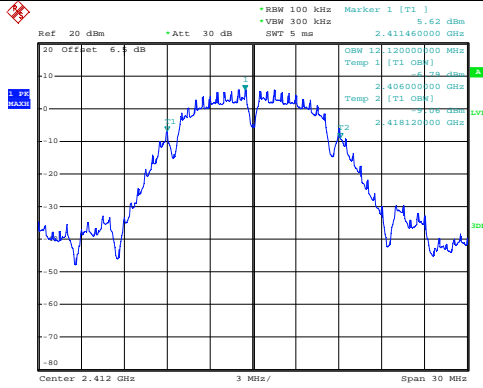
### Middle channel



REMOTE HIGH  
 Date: 3.JUN.2013 17:28:13

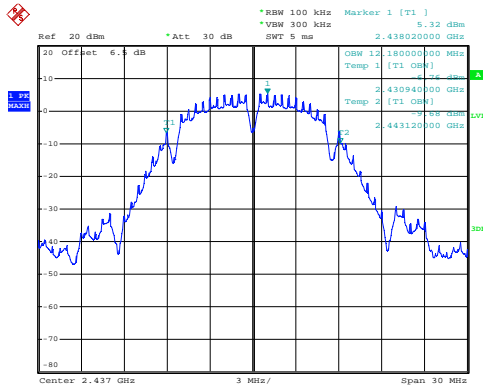
### Highest channel

Test mode: 99dB BW 802.11b



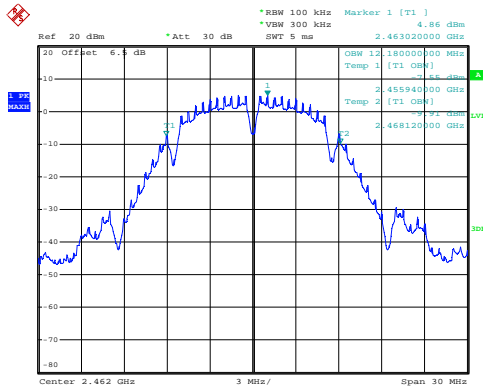
REMOTE HIGH  
 Date: 3.JUN.2013 16:51:37

### Lowest channel



REMOTE HIGH  
 Date: 3.JUN.2013 16:57:02

### Middle channel

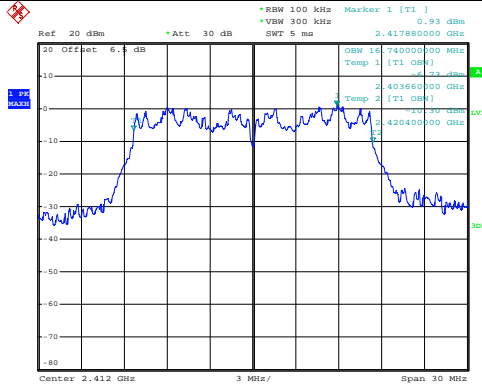


REMOTE HIGH  
 Date: 3.JUN.2013 17:01:32

### Highest channel

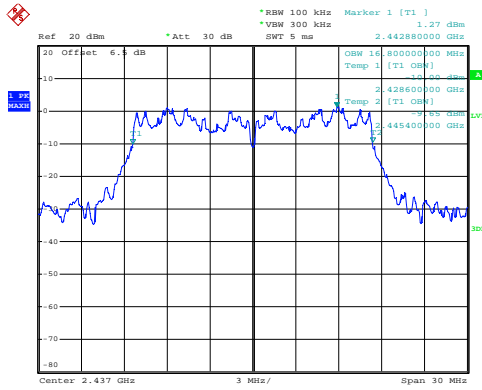


Test mode: 99dB BW 802.11g



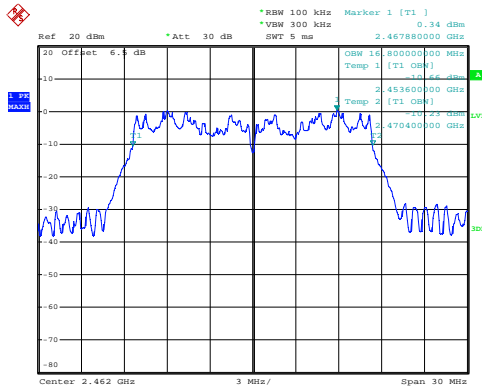
REMOTE HIGH  
Date: 4.JUN.2013 11:15:53

### Lowest channel



REMOTE HIGH  
Date: 4.JUN.2013 11:22:34

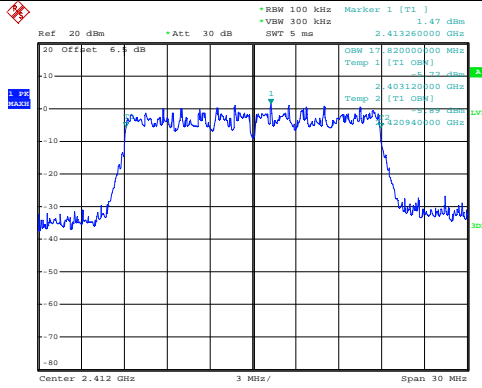
### Middle channel



REMOTE HIGH  
Date: 4.JUN.2013 13:44:23

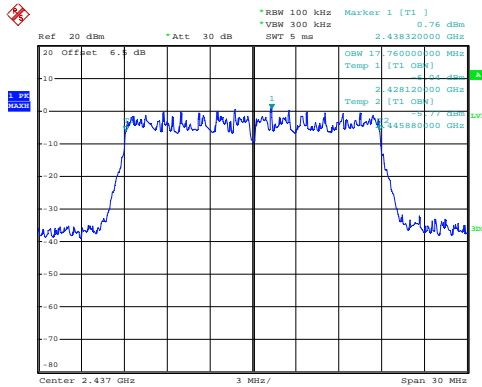
### Highest channel

Test mode: 99dB BW 802.11n(H20)



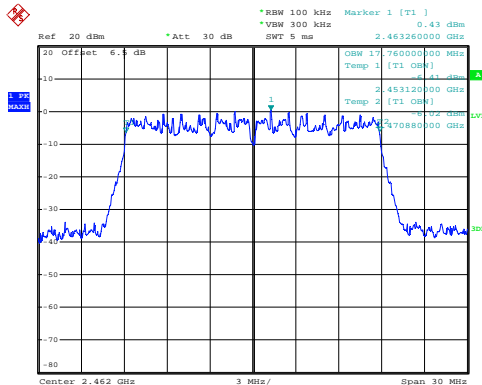
REMOTE HIGH  
Date: 4.JUN.2013 13:52:52

### Lowest channel



REMOTE HIGH  
Date: 4.JUN.2013 13:56:27

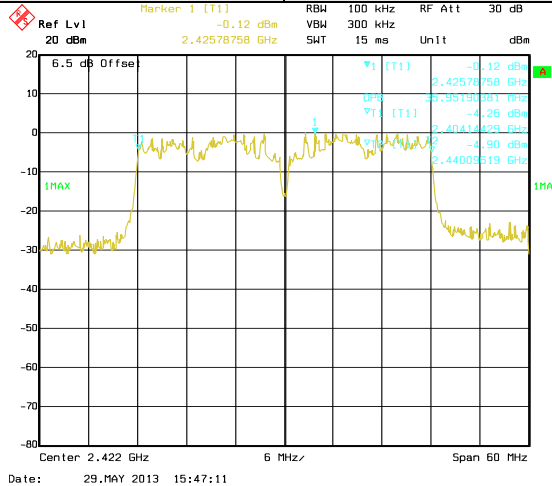
### Middle channel



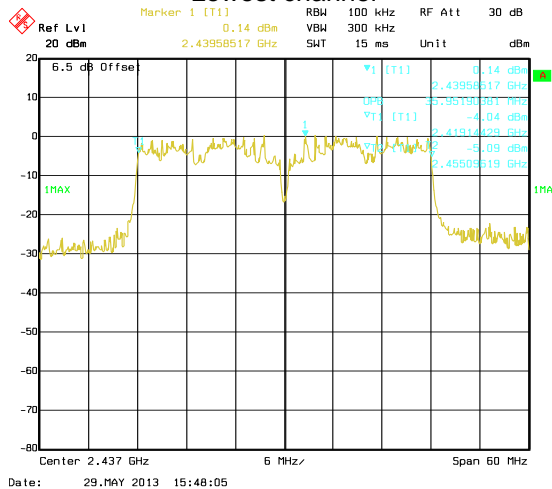
REMOTE HIGH  
Date: 4.JUN.2013 13:59:48

### Highest channel

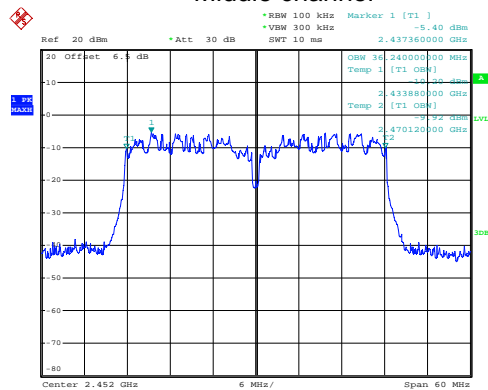
Test mode: 99dB BW 802.11n(H40)



Lowest channel



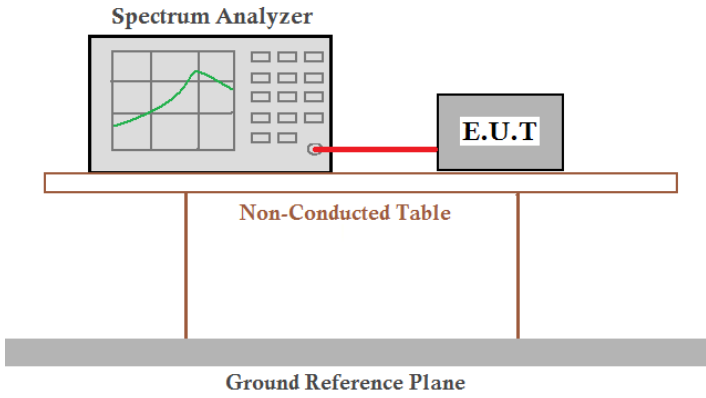
Middle channel



Highest channel

REMOTE HIGH  
 Date: 3.JUN.2013 17:28:35

## 6.5 Power Spectral Density

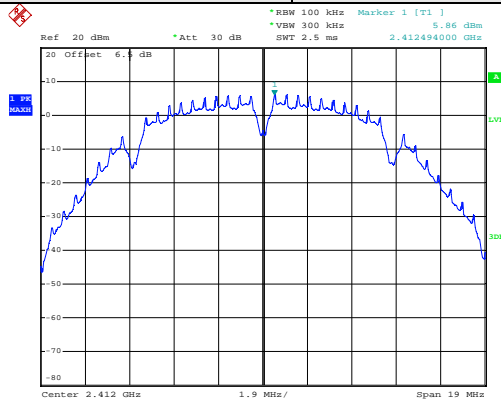
Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	8dBm
Test setup:	
Test Instruments:	Refer to section 5.6 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

### Measurement Data

Test CH	Power Spectral Density (dBm)				Limit(dBm)	Result
	802.11b	802.11g	802.11n(H20)	802.11n(H40)		
Lowest	5.86	1.03	1.48	- 3.83	8.00	Pass
Middle	5.46	1.07	0.90	- 3.38		
Highest	4.97	0.49	0.44	- 3.73		

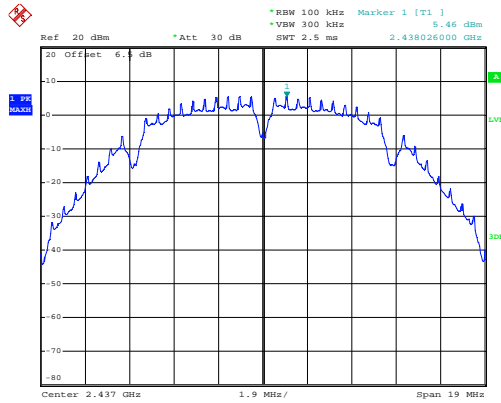
Test plot as follows:

Test mode:	802.11b
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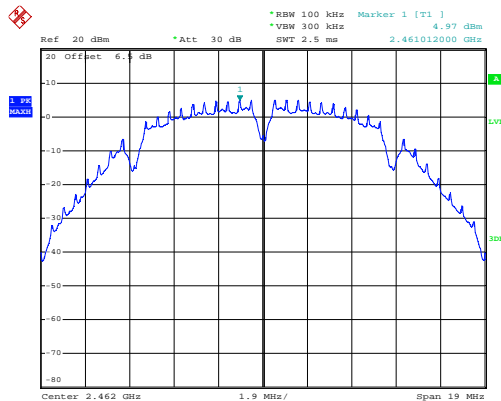
REMOTE HIGH  
 Date: 3.JUN.2013 16:53:00

### Lowest channel



REMOTE HIGH  
 Date: 3.JUN.2013 16:57:51

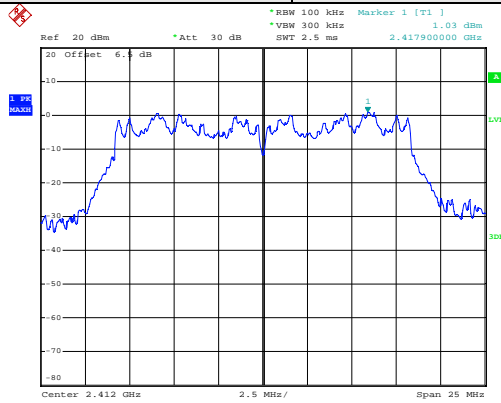
### Middle channel



REMOTE HIGH  
 Date: 3.JUN.2013 17:02:21

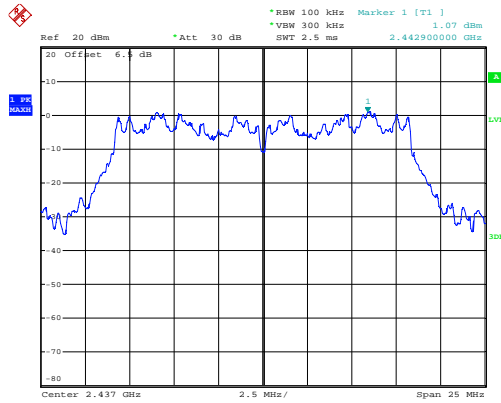
### Highest channel

Test mode:	802.11g
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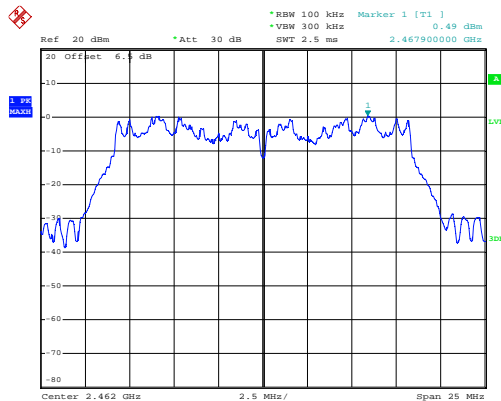
REMOTE HIGH  
 Date: 4.JUN.2013 11:16:32

### Lowest channel



REMOTE HIGH  
 Date: 4.JUN.2013 13:41:13

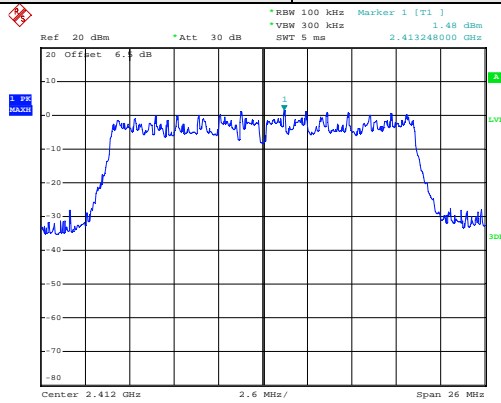
### Middle channel



REMOTE HIGH  
 Date: 4.JUN.2013 13:45:00

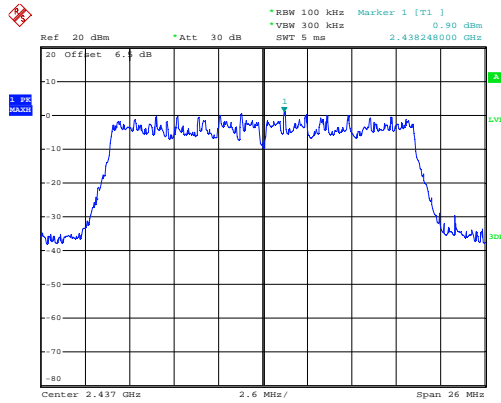
### Highest channel

Test mode:	802.11n(H20)
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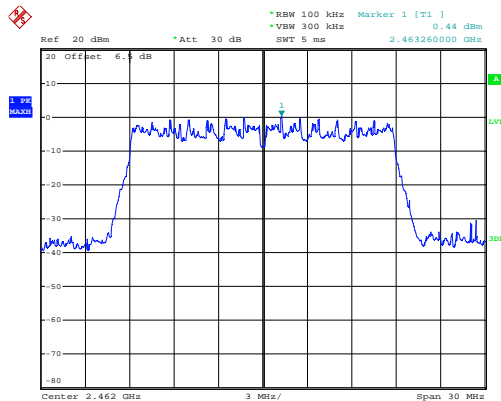
REMOTE HIGH  
 Date: 4.JUN.2013 13:53:27

### Lowest channel



REMOTE HIGH  
 Date: 4.JUN.2013 13:56:52

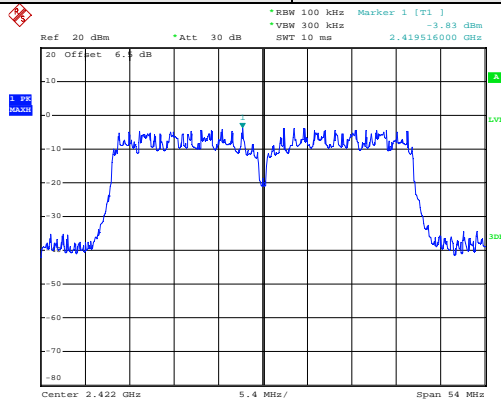
### Middle channel



REMOTE HIGH  
 Date: 4.JUN.2013 14:00:50

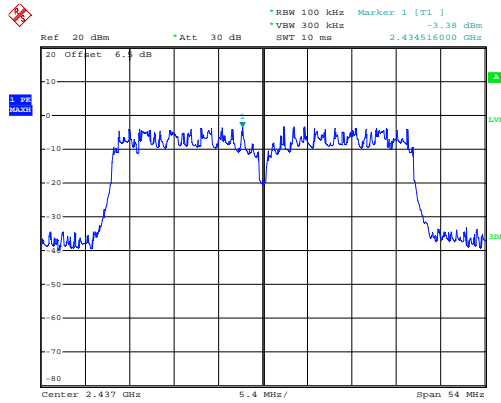
### Highest channel

Test mode:	802.11n(H40)
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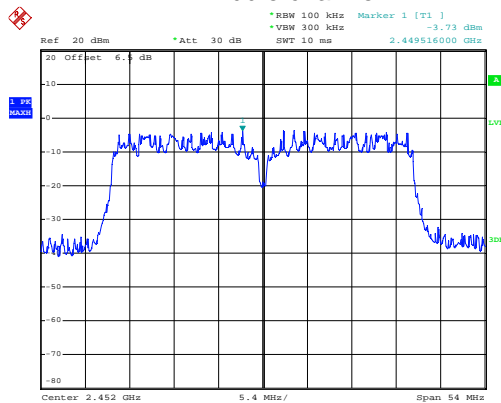
REMOTE HIGH  
Date: 3.JUN.2013 17:40:46

### Lowest channel



REMOTE HIGH  
Date: 3.JUN.2013 17:37:32

### Middle channel



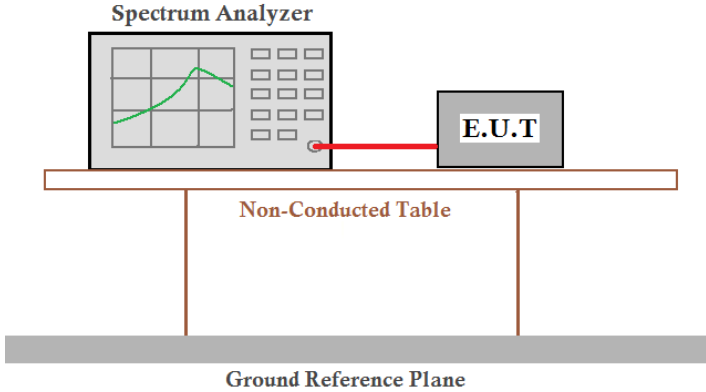
REMOTE HIGH  
Date: 3.JUN.2013 17:33:59

### Highest channel



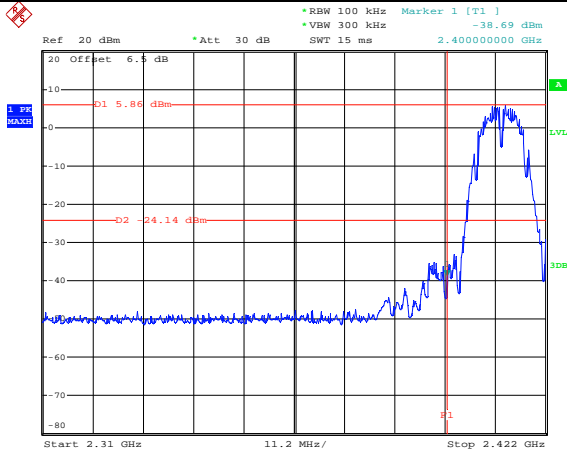
## 6.6 Band Edge

### 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

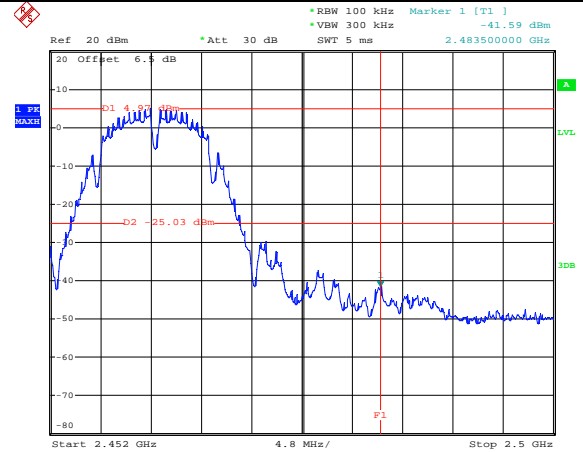
Test plot as follows:

Test mode: 802.11b



REMOTE HIGH  
Date: 3.JUN.2013 16:53:48

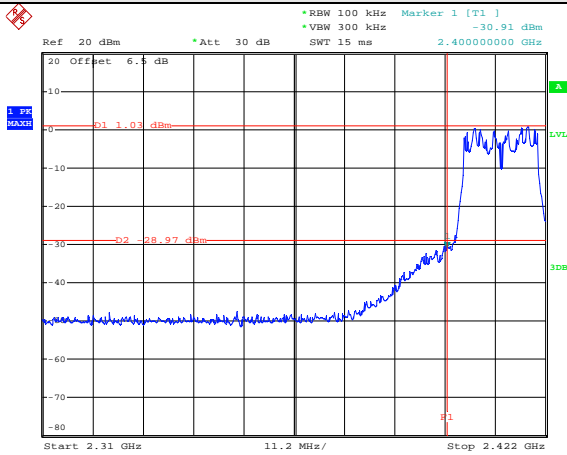
Lowest channel



REMOTE HIGH  
Date: 3.JUN.2013 17:02:56

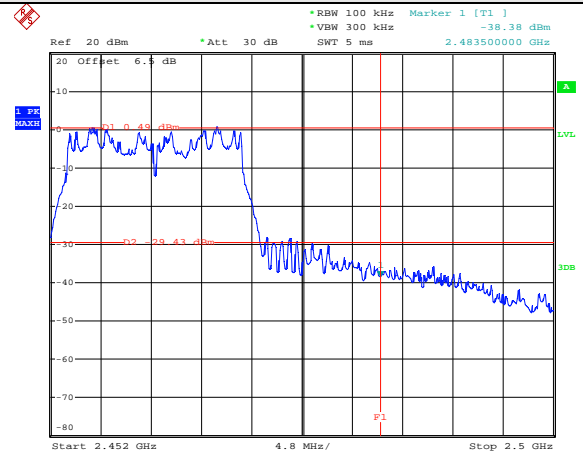
Highest channel

Test mode: 802.11g



REMOTE HIGH  
Date: 4.JUN.2013 11:18:20

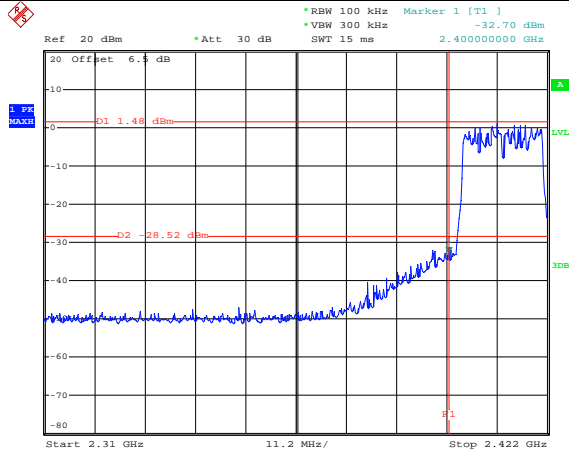
Lowest channel



REMOTE HIGH  
Date: 4.JUN.2013 13:45:45

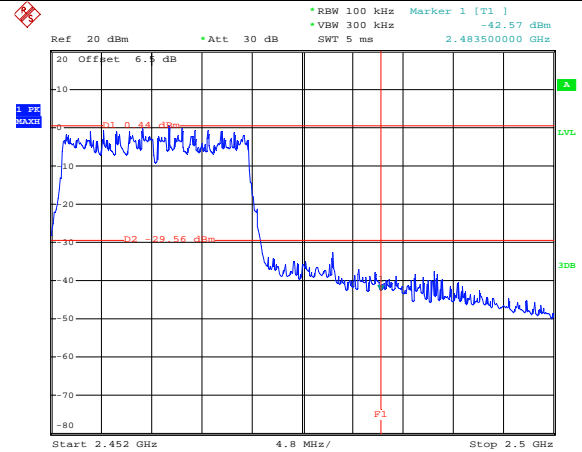
Highest channel

Test mode: 802.11n(H20)



REMOTE HIGH  
Date: 4.JUN.2013 13:54:06

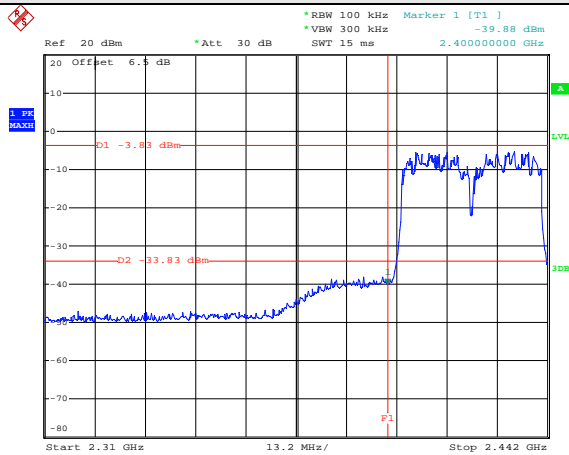
Lowest channel



REMOTE HIGH  
Date: 4.JUN.2013 14:01:36

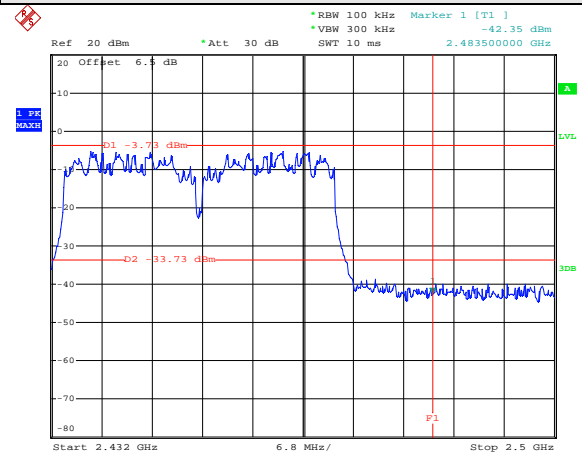
Highest channel

Test mode: 802.11n(H40)



REMOTE HIGH  
Date: 3.JUN.2013 17:51:04

Lowest channel



REMOTE HIGH  
Date: 3.JUN.2013 17:35:01

Highest channel

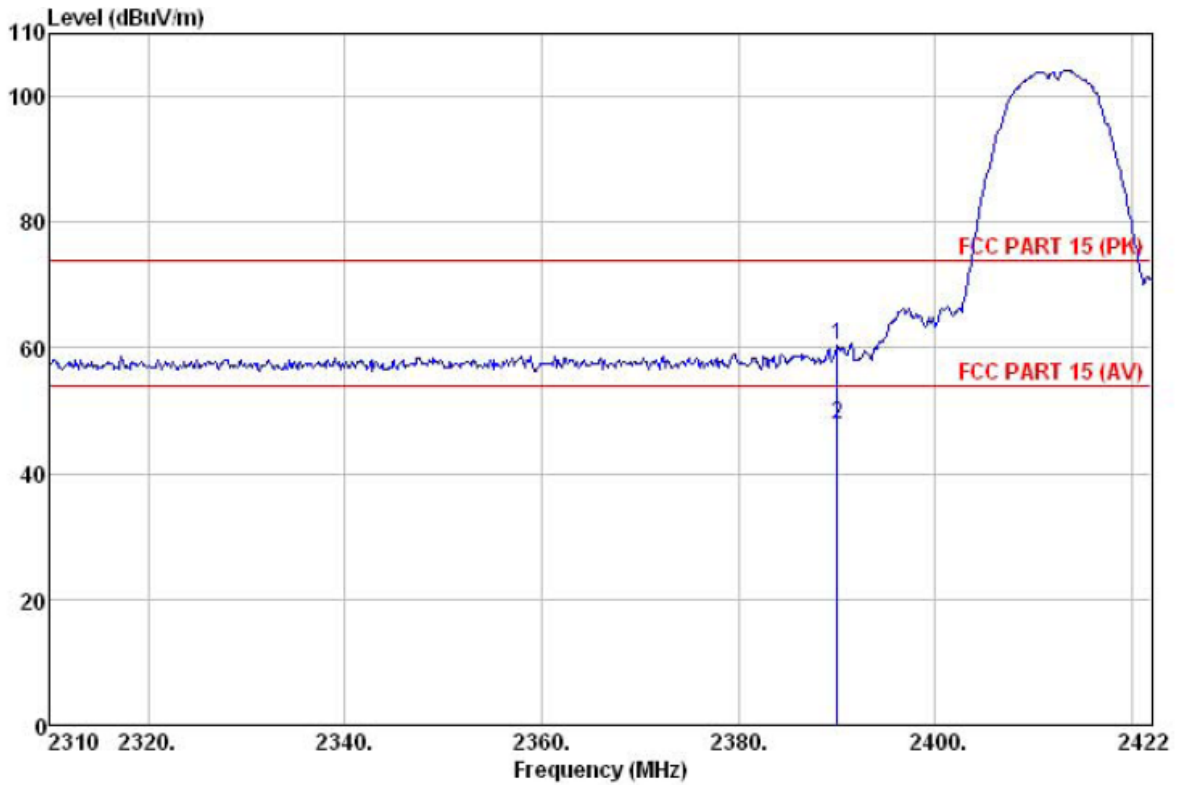
## 6.6.2 Radiated Emission Method

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"> <li>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.</li> <li>The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</li> <li>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.</li> <li>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.</li> <li>The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li> <li>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.</li> </ol>														
Test setup:	<p>The diagram illustrates the test setup. On the left, an EUT is placed on a Turn Table at a height of 0.8m. The Turn Table is positioned 3m away from an Antenna Tower. The Antenna Tower has a Horn Antenna at a height of 4m. A Spectrum Analyzer and Amplifier are connected to the Antenna Tower.</p>														
Test Instruments:	Refer to section 5.6 for details														
Test mode:	Refer to section 5.3 for details														
Test results:	Passed														

802.11b

Test channel: Lowest

Horizontal:



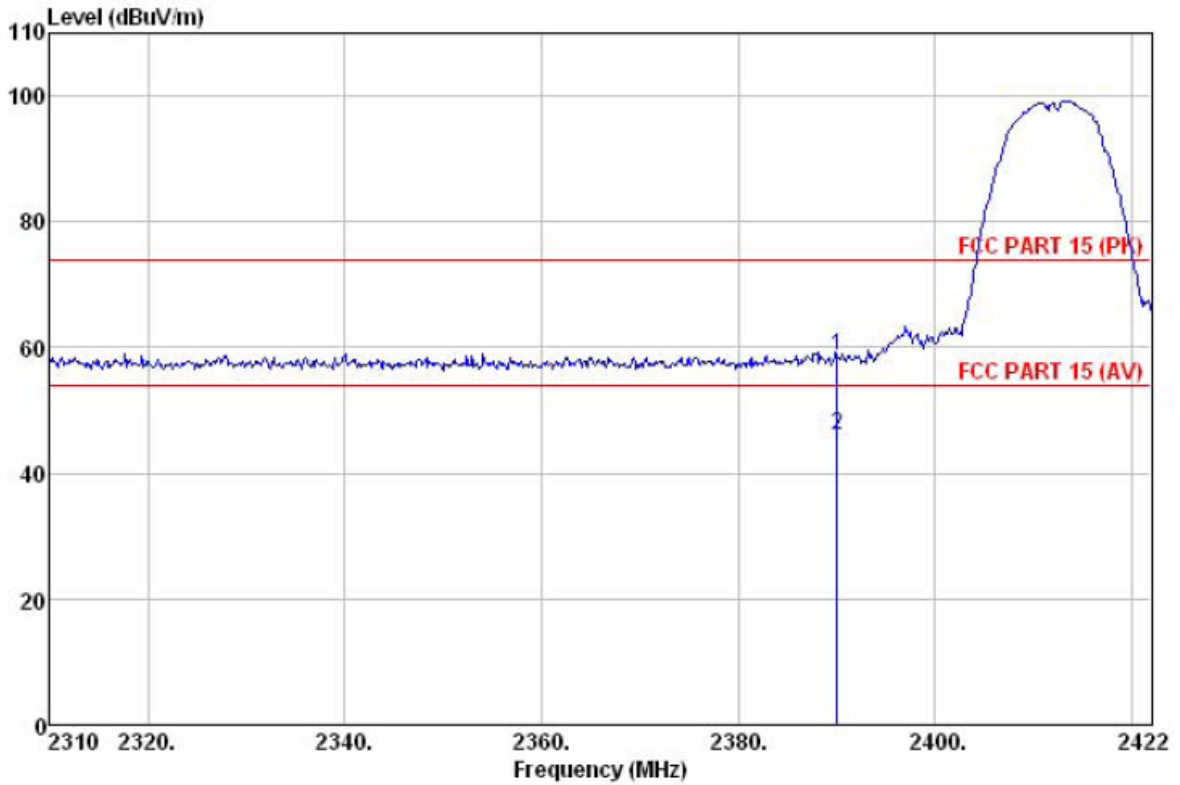
Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL  
 EUT : Mobile phone  
 Job NO. : 151RF  
 Test mode : WIFI B-L  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5'C Humi:55%  
 Test Engineer: Vincent

	Read	Antenna	Cable	Preamp	Level	Limit	Over	
	Level	Factor	Loss	Factor	Level	Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2390.080	27.25	27.58	5.67	0.00	60.50	74.00	-13.50 Peak
2	2390.080	14.62	27.58	5.67	0.00	47.87	54.00	-6.13 Average

802.11b

Test channel: Lowest

Vertical:



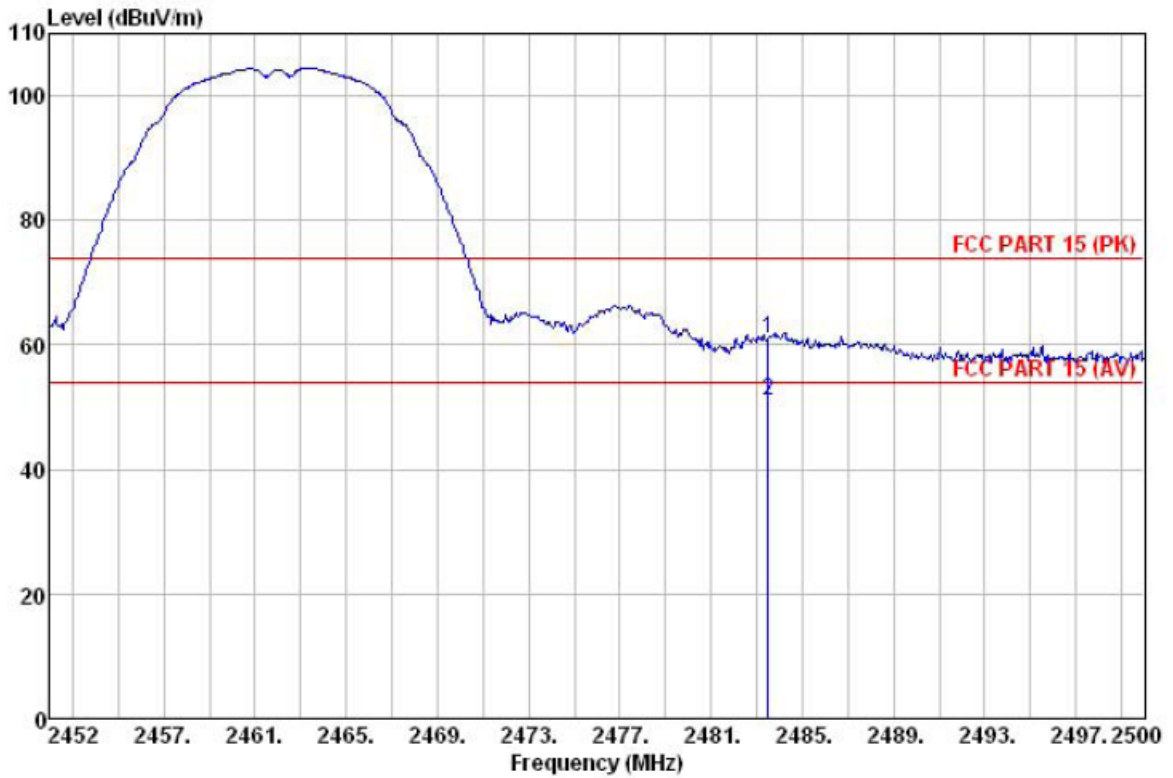
Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL  
 EUT : Mobile phone  
 Job NO. : 151RF  
 Test mode : WIFI B-L  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%  
 Test Engineer: Vincent

	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	25.34	27.58	5.67	0.00	58.59	74.00	-15.41	Peak
2	2390.080	12.94	27.58	5.67	0.00	46.19	54.00	-7.81	Average

802.11b

Test channel: Highest

Horizontal:



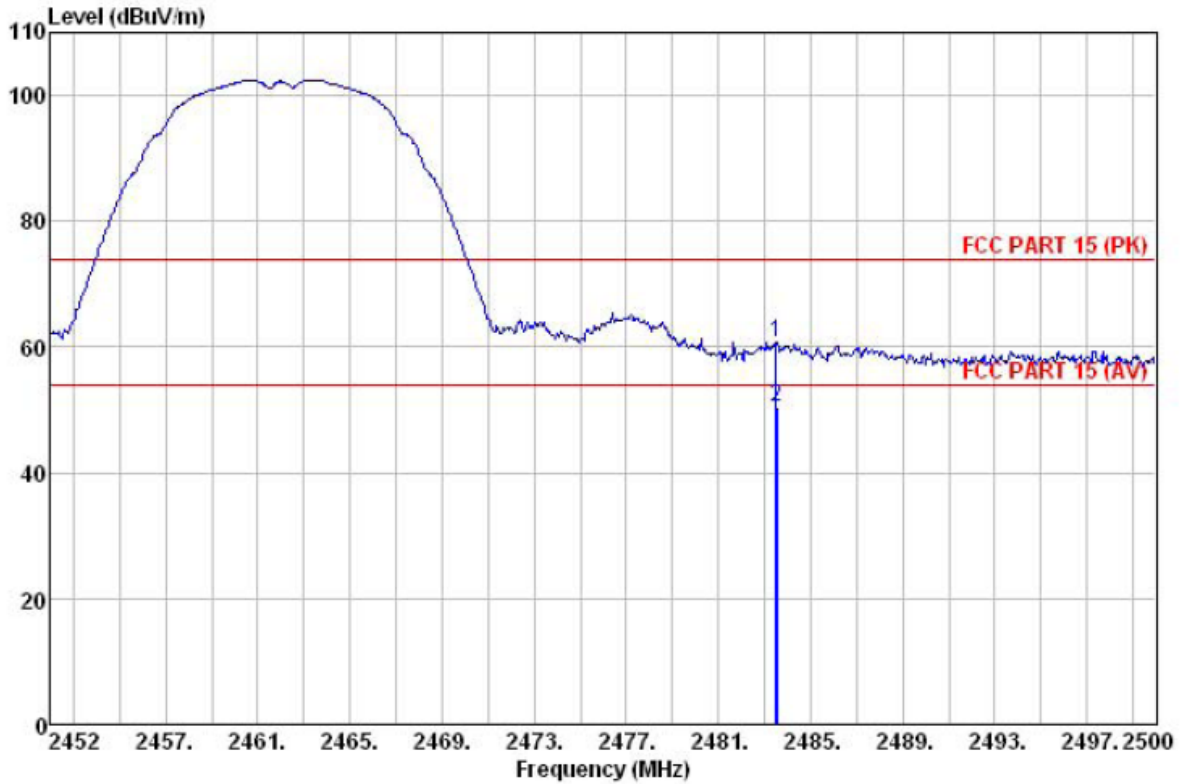
Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL  
 EUT : Mobile phone  
 Job NO. : 151RF  
 Test mode : WIFI B-H  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%  
 Test Engineer: Vincent

	Freq	Read	Antenna	Cable	Preamp	Level	Limit	Over	
	MHz	Level	Factor	Loss	Factor	dB	Line	Limit	Remark
		dBuV	dB/m	dB		dBuV/m	dBuV/m	dB	
1	2483.488	27.76	27.52	5.70	0.00	60.98	74.00	-13.02	Peak
2	2483.488	17.80	27.52	5.70	0.00	51.02	54.00	-2.98	Average

802.11b

Test channel: Highest

Vertical:



```

Site       : 3m chamber
Condition  : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
EUT       : Mobile phone
Job NO.    : 151RF
Test mode  : WIFI B-H
Power Rating : AC 120V/60Hz
Environment : Temp:25.5°C Humi:55%
Test Engineer: Vincent
    
```

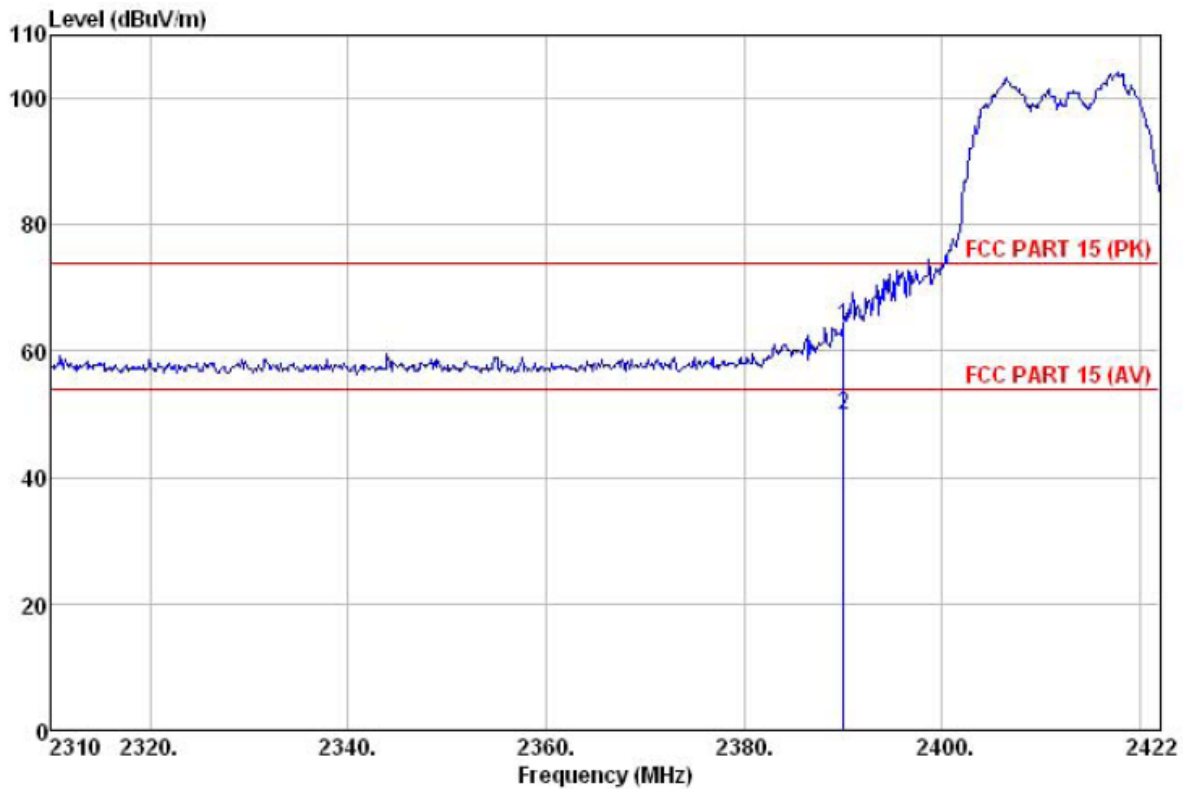
	ReadAntenna	Cable	Preamp		Limit	Over	
Freq	Level	Factor	Loss	Factor	Level	Line	Limit Remark
-----	-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2483.488	27.36	27.52	5.70	0.00	60.58	74.00 -13.42 Peak
2	2483.536	17.29	27.52	5.70	0.00	50.51	54.00 -3.49 Average



802.11g

Test channel: Lowest

Horizontal:



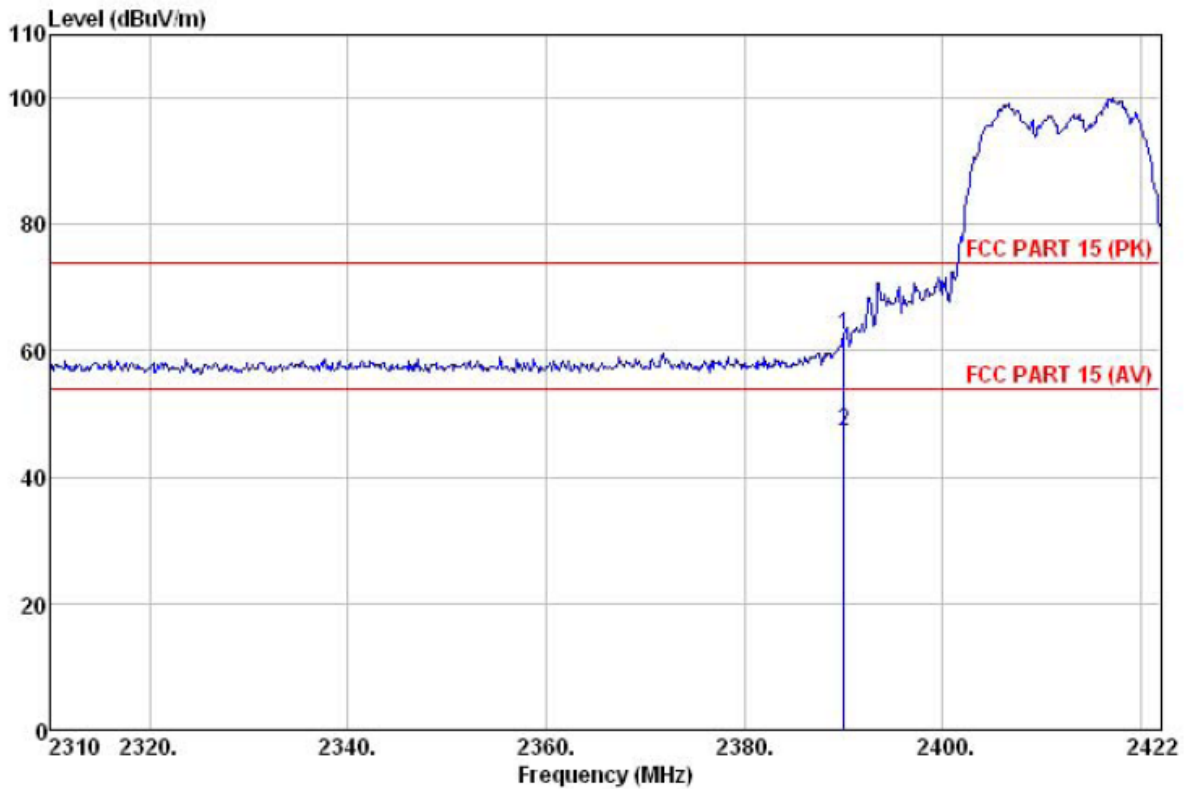
Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL  
 EUT : Mobile phone  
 Job NO. : 151RF  
 Test mode : WIFI G-L  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%  
 Test Engineer: Vincent

	Freq	Read	Antenna	Cable	Preamp	Limit	Over	
	MHz	Level	Factor	Loss	Factor	Line	Limit	Remark
		dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2390.080	30.67	27.58	5.67	0.00	63.92	74.00	-10.08 Peak
2	2390.080	16.73	27.58	5.67	0.00	49.98	54.00	-4.02 Average

802.11g

Test channel: Lowest

Vertical:



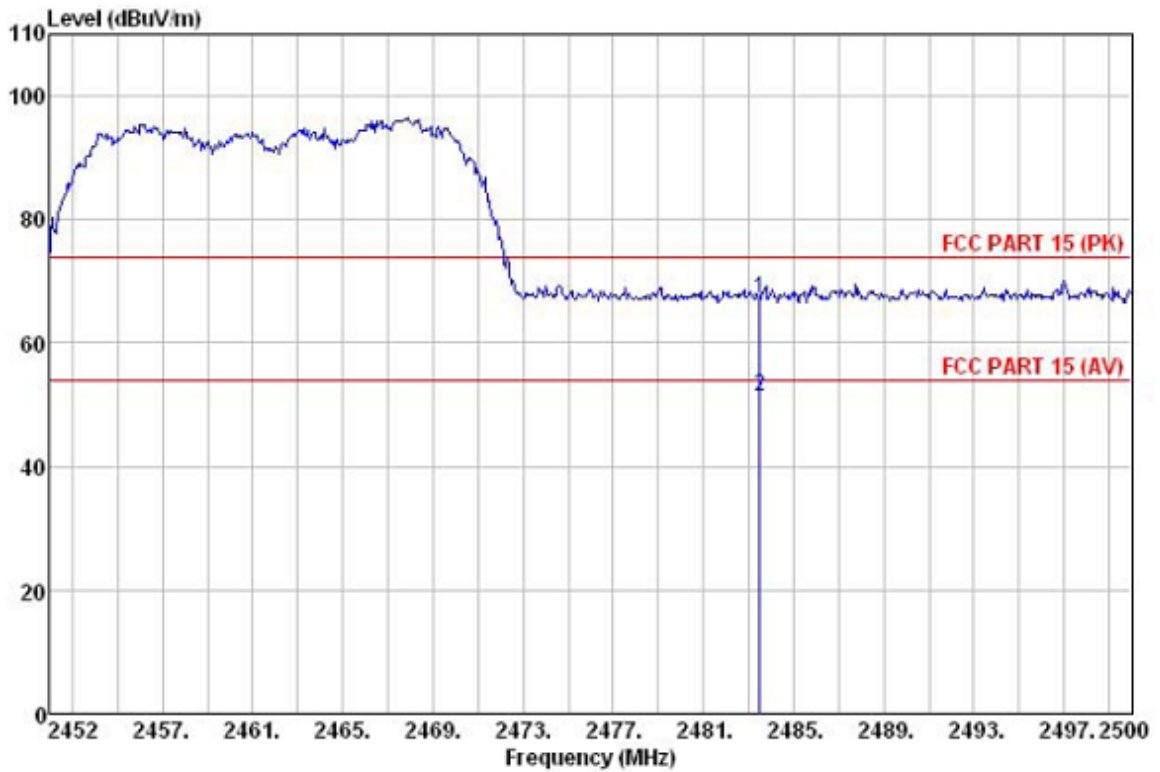
Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL  
 EUT : Mobile phone  
 Job NO. : 151RF  
 Test mode : WIFI G-L  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%  
 Test Engineer: Vincent

	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	2390.080	29.18	27.58	5.67	0.00	62.43	74.00	-11.57 Peak
2	2390.080	13.88	27.58	5.67	0.00	47.13	54.00	-6.87 Average

802.11g

Test channel: Highest

Horizontal:



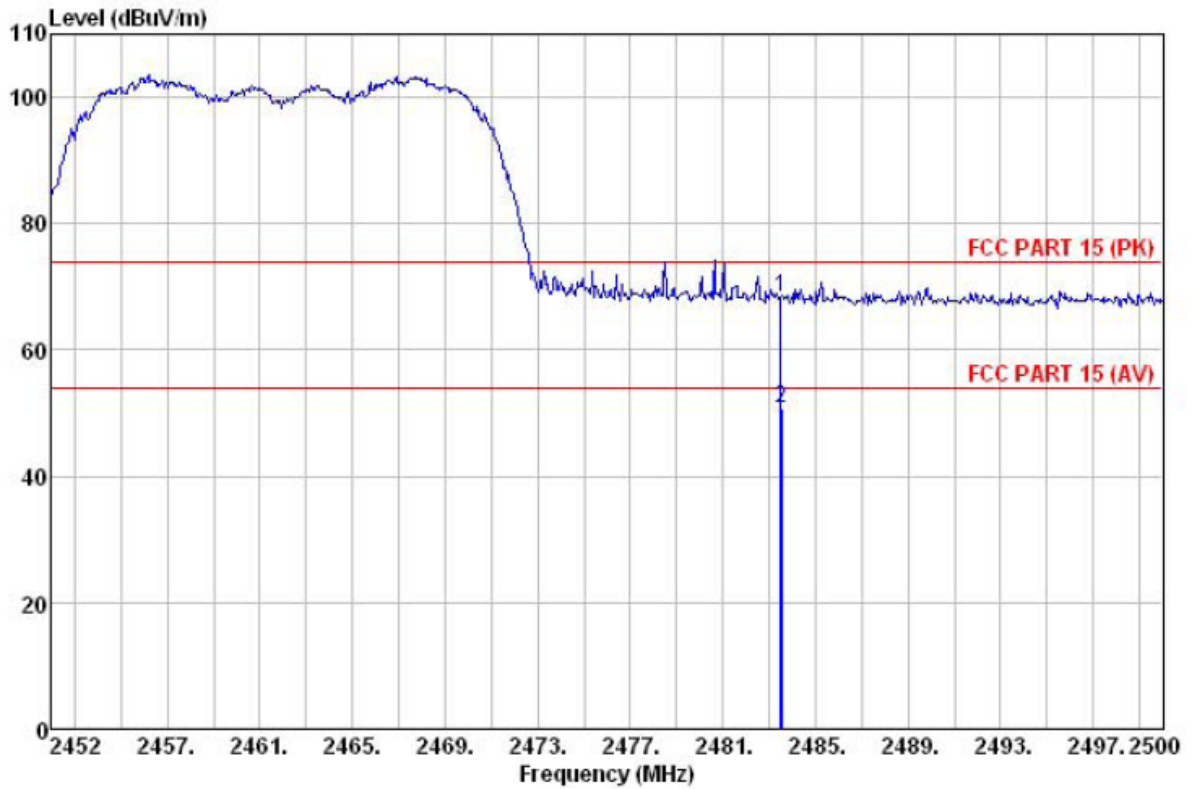
Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL  
 EUT : Mobile phone  
 Job NO. : 151RF  
 Test mode : WIFI G-H  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%  
 Test Engineer: Vincent

	Freq	ReadAntenna	Cable Preamp	Limit	Over	
	MHz	Level	Loss Factor	Line	Limit	Remark
		dBuV	dB	dBuV/m	dB	
1	2483.488	34.09	5.70	67.31	74.00	-6.69 Peak
2	2483.488	18.09	5.70	51.31	54.00	-2.69 Average

802.11g

Test channel: Highest

Vertical:



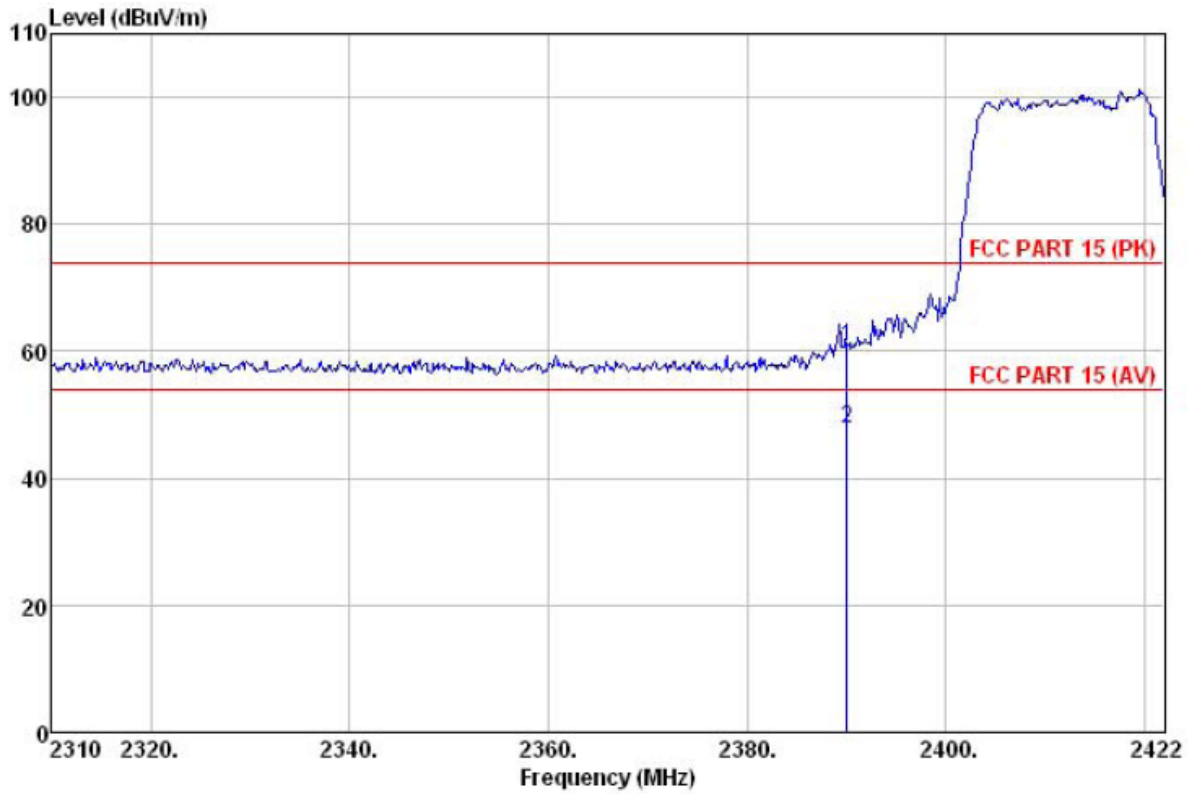
Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL  
 EUI : Mobile phone  
 Job NO. : 151RF  
 Test mode : WIFI G-H  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%  
 Test Engineer: Vincent

	Freq	ReadAntenna	Cable	Preamp	Level	Limit	Over		
	MHz	Level	Factor	Loss	Factor	Line	Limit	Remark	
		dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.488	34.99	27.52	5.70	0.00	68.21	74.00	-5.79	Peak
2	2483.536	17.41	27.52	5.70	0.00	50.63	54.00	-3.37	Average

802.11n (H20)

Test channel: Lowest

Horizontal:



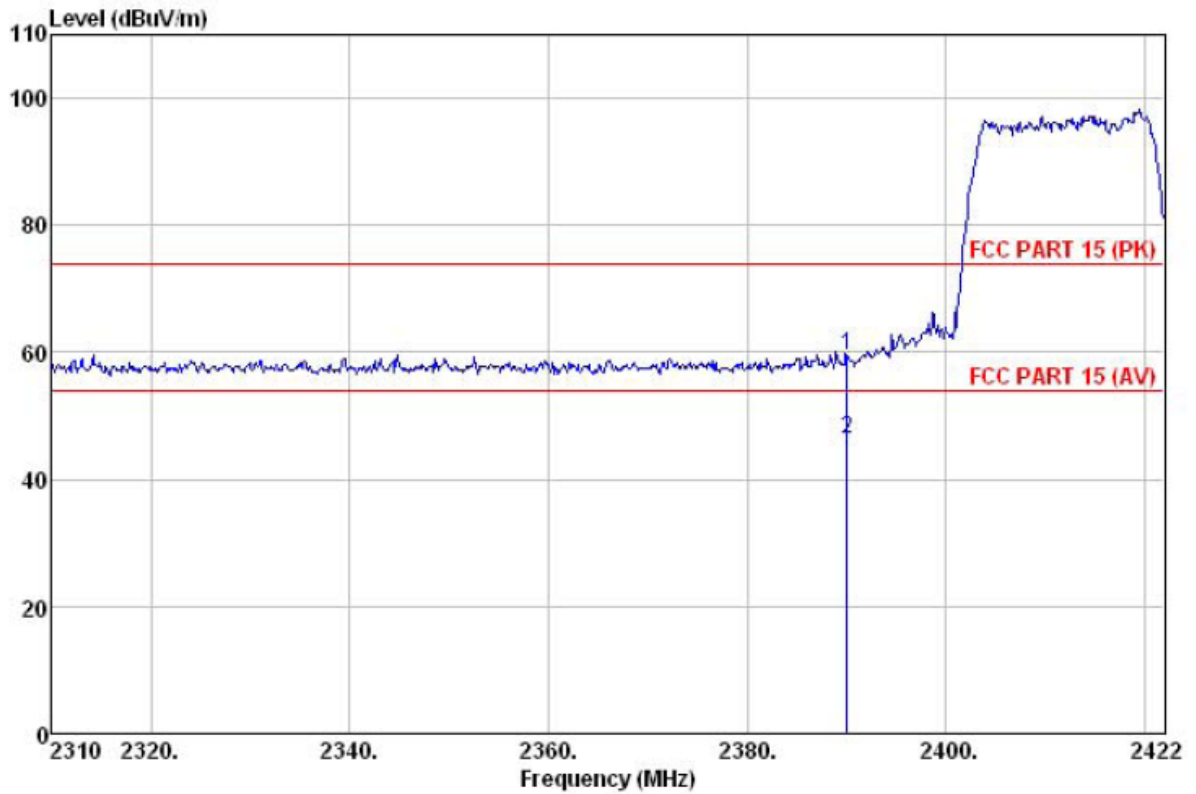
Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL  
 EUT : Mobile phone  
 Job NO. : 151RF  
 Test mode : WIFI N20-L  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%  
 Test Engineer: Vincent

	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	2390.080	27.41	27.58	5.67	0.00	60.66	74.00	-13.34 Peak
2	2390.080	14.54	27.58	5.67	0.00	47.79	54.00	-6.21 Average

802.11n (H20)

Test channel: Lowest

Vertical:



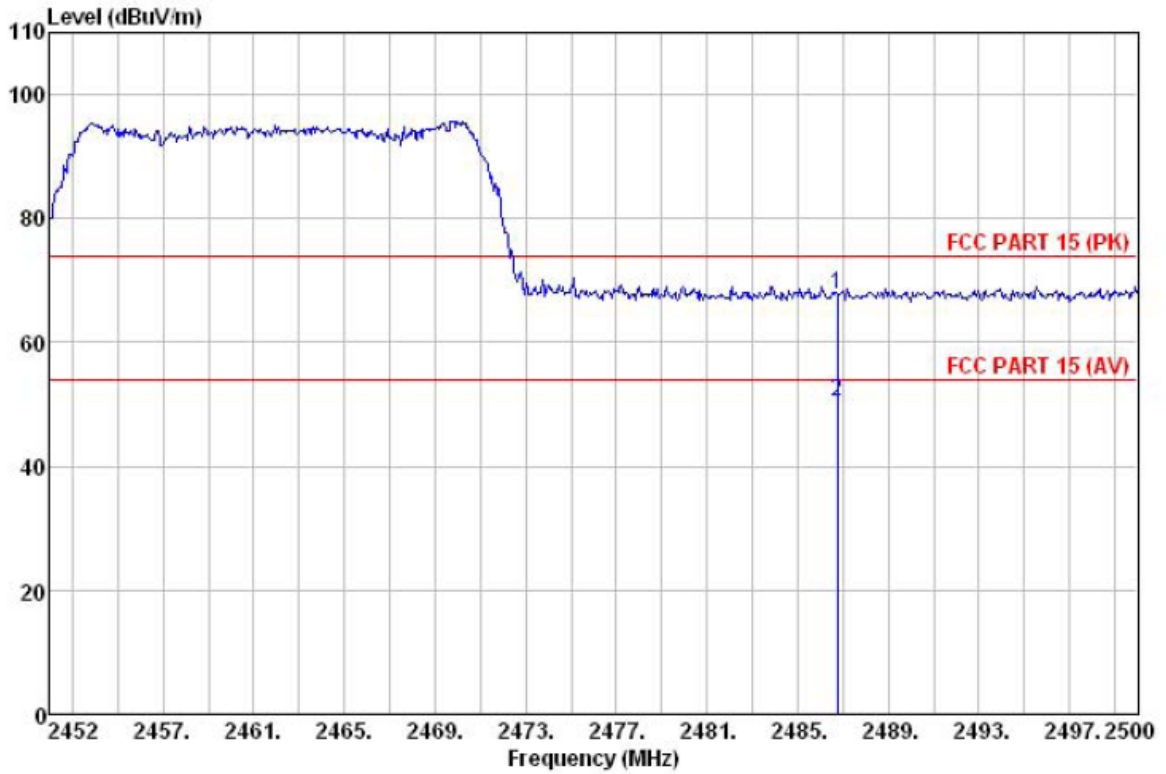
Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL  
 EUT : Mobile phone  
 Job NO. : 151RF  
 Test mode : WIFI N20-L  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%  
 Test Engineer: Vincent

	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	2390.080	26.37	27.58	5.67	0.00	59.62	74.00	-14.38	Peak
2	2390.080	13.08	27.58	5.67	0.00	46.33	54.00	-7.67	Average

802.11n (H20)

Test channel: Highest

Horizontal:



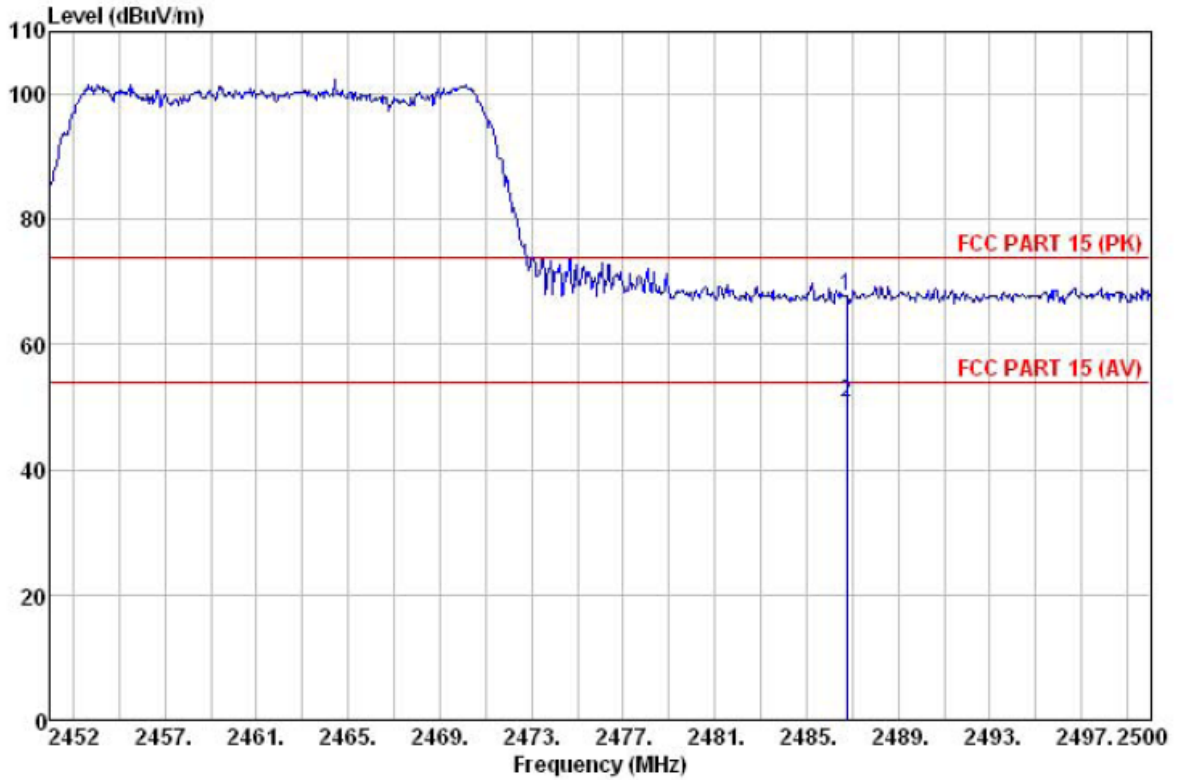
Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL  
 EUT : Mobile phone  
 Job NO. : 151RF  
 Test mode : WIFI N20-H  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%  
 Test Engineer: Vincent

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp	Level	Limit	Over	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2486.752	34.58	27.52	5.70	0.00	67.80	74.00	-6.20	Peak
2	2486.752	17.17	27.52	5.70	0.00	50.39	54.00	-3.61	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. : 151RF  
 Test mode : WIFI N20-H  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%  
 Test Engineer: Vincent

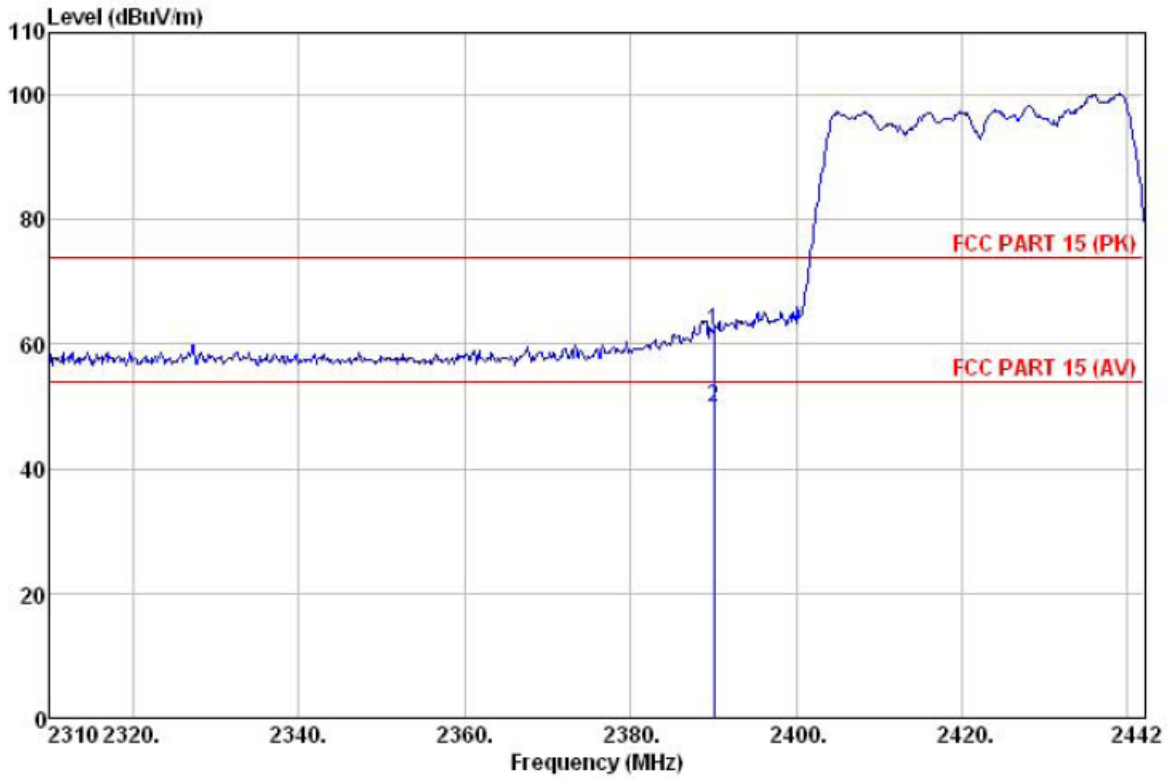
Freq	ReadAntenna		Cable Preamp		Level	Limit	Over	Remark
	Level	Factor	Loss	Factor				
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2486.752	34.45	27.52	5.70	0.00	67.67	74.00	-6.33 Peak
2	2486.752	17.45	27.52	5.70	0.00	50.67	54.00	-3.33 Average



802.11n (H40)

Test channel: Lowest

Horizontal:



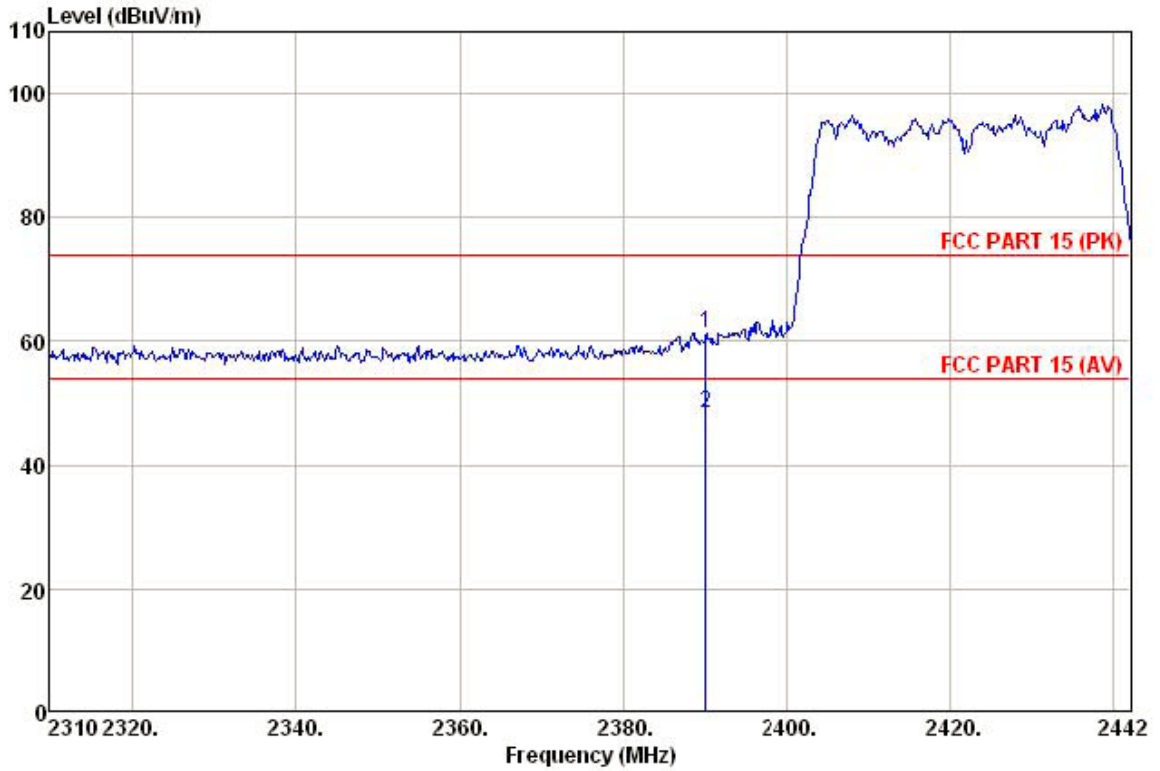
Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL  
 EUT : Mobile phone  
 Job NO. : 151RF  
 Test mode : WIFI N40-L  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%  
 Test Engineer: Vincent

	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	2390.124	29.04	27.58	5.67	0.00	62.29	74.00 -11.71 Peak
2	2390.124	16.62	27.58	5.67	0.00	49.87	54.00 -4.13 Average

802.11n (H40)

Test channel: Lowest

Vertical:

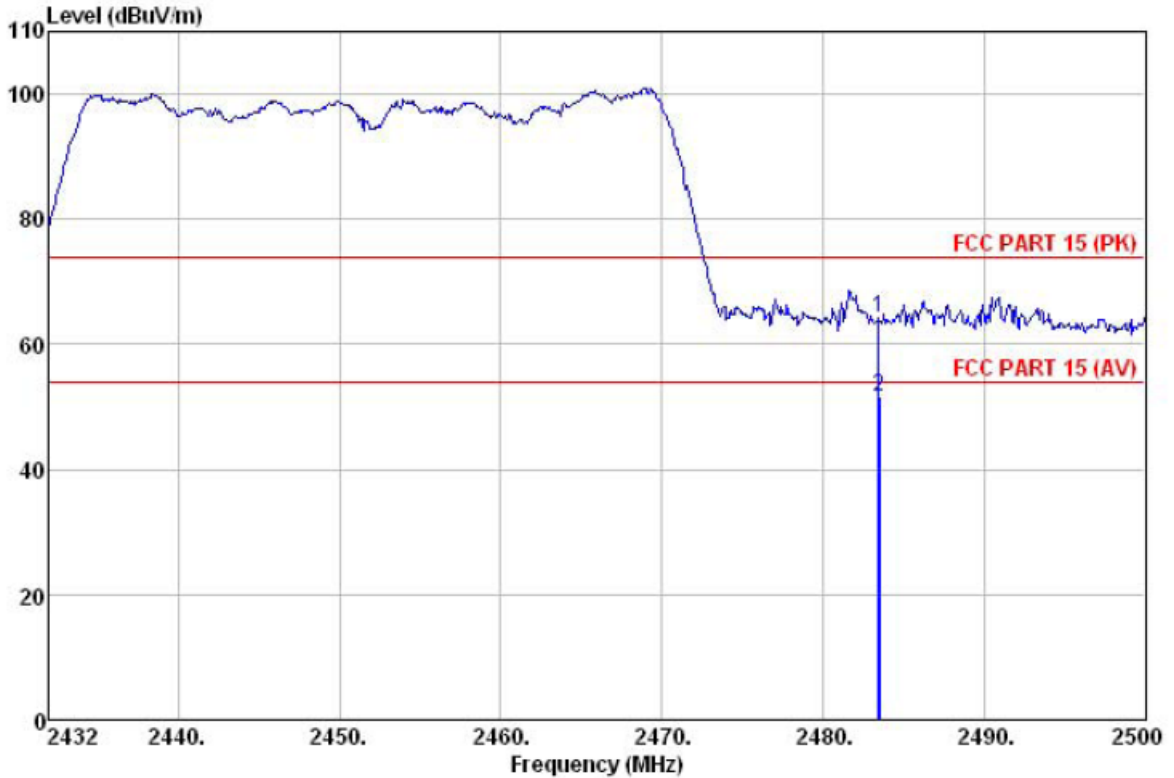


Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL  
 EUT : Mobile phone  
 Job NO. : 151RF  
 Test mode : WIFI N40-L  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%  
 Test Engineer: Vincent

	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	28.00	27.58	5.67	0.00	61.25	74.00 -12.75 Peak
2	2390.000	15.16	27.58	5.67	0.00	48.41	54.00 -5.59 Average

802.11n (H40)

Test channel: Highest  
Horizontal:



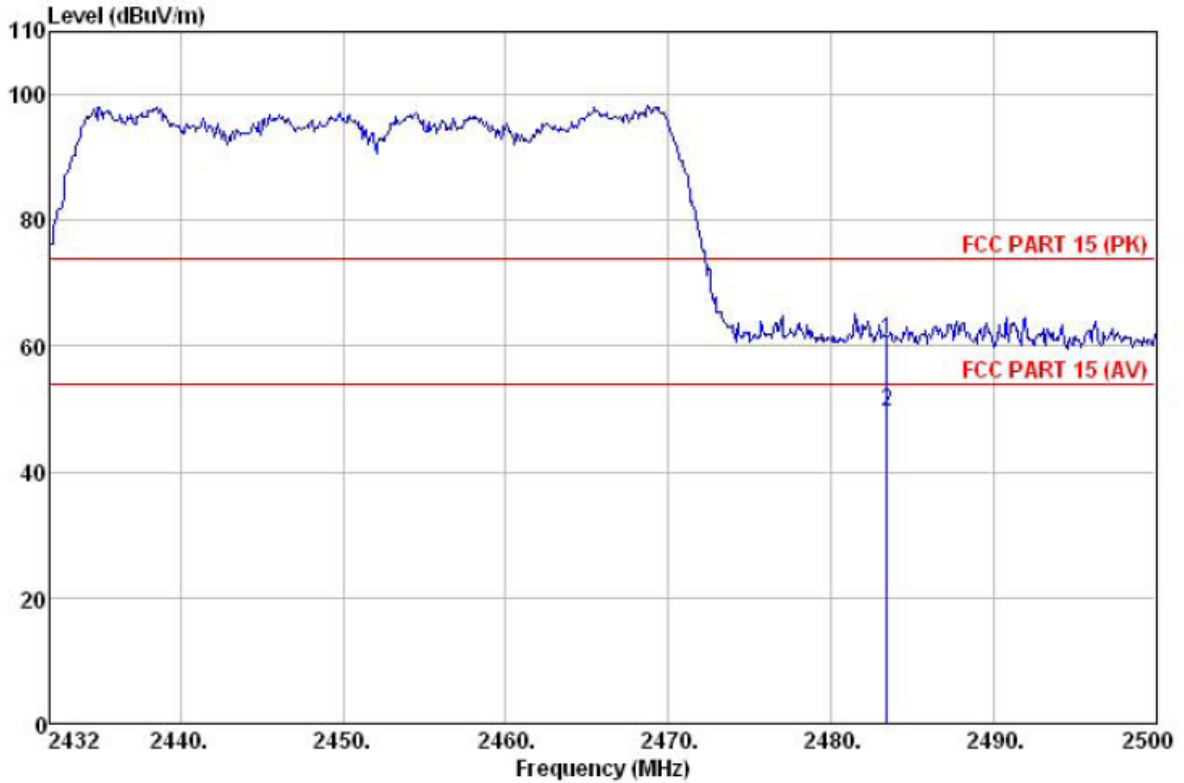
Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL  
 EUT : Mobile phone  
 Job NO. : 151RF  
 Test mode : WIFI N40-H  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%  
 Test Engineer: Vincent

	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	2483.476	31.14	27.52	5.70	0.00	64.36	74.00	-9.64 Peak
2	2483.500	18.45	27.52	5.70	0.00	51.67	54.00	-2.33 Average

802.11n (H40)

Test channel: Highest

Vertical:

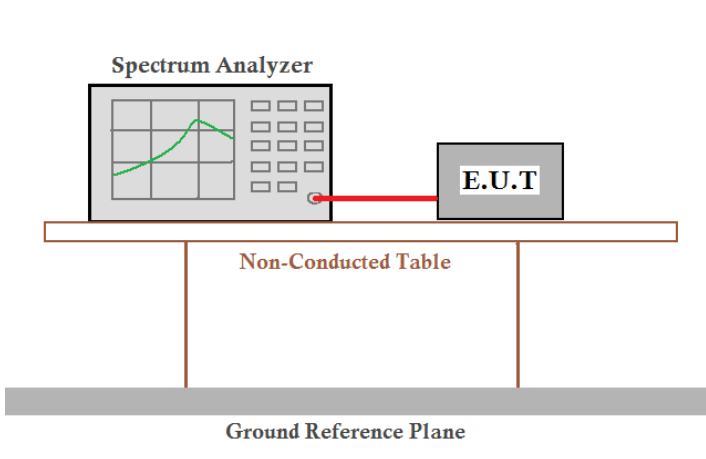


Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL  
 EUT : Mobile phone  
 Job NO. : 151RF  
 Test mode : WIFI N40-H  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%  
 Test Engineer: Vincent

Freq	ReadAntenna		Cable Preamp		Level	Limit	Over	Remark
	Level	Factor	Loss	Factor				
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1 2483.476	27.93	27.52	5.70	0.00	61.15	74.00	-12.85	Peak
2 2483.476	16.21	27.52	5.70	0.00	49.43	54.00	-4.57	Average

## 6.7 Spurious Emission

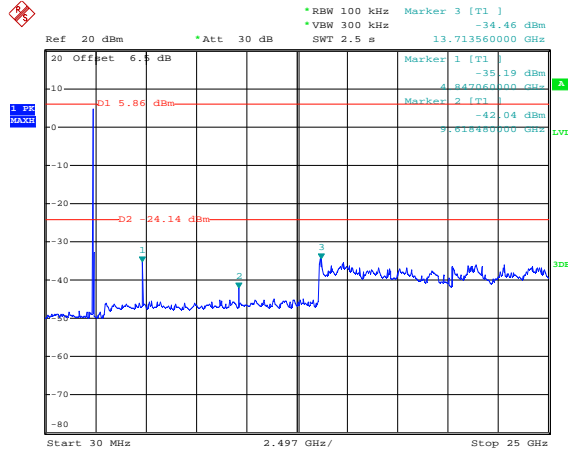
### 6.7.1 Conducted Emission Method

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 20 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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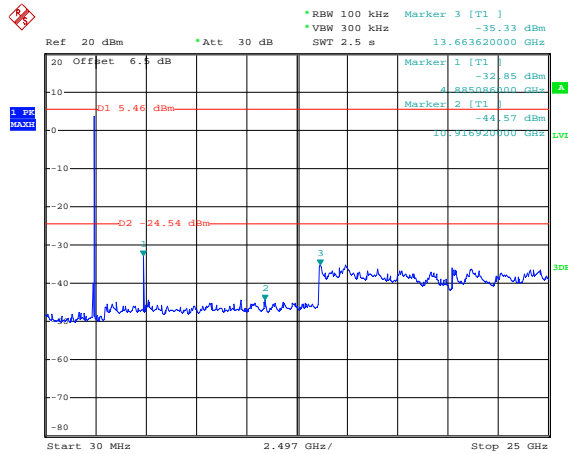
### Lowest channel



REMOTE HIGH  
Date: 3.JUN.2013 16:54:53

### 30MHz~25GHz

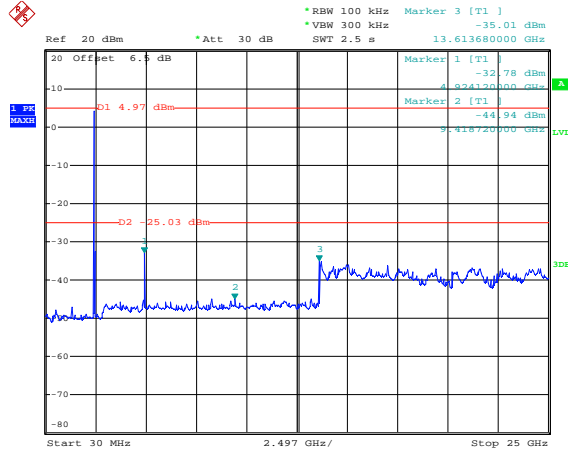
### Middle channel



REMOTE HIGH  
Date: 3.JUN.2013 16:59:23

### 30MHz~25GHz

### Highest channel

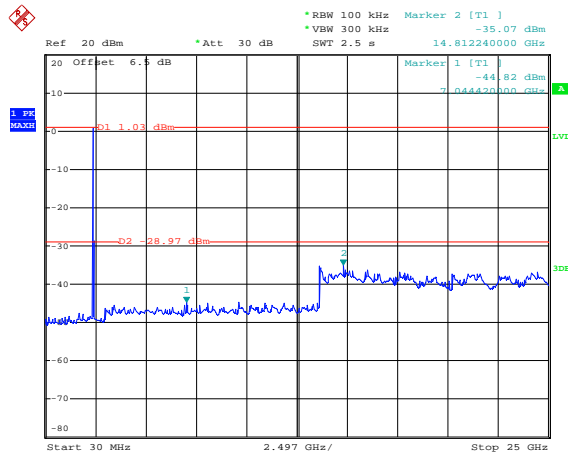


REMOTE HIGH  
Date: 3.JUN.2013 17:03:35

30MHz~25GHz

Test mode:	802.11g
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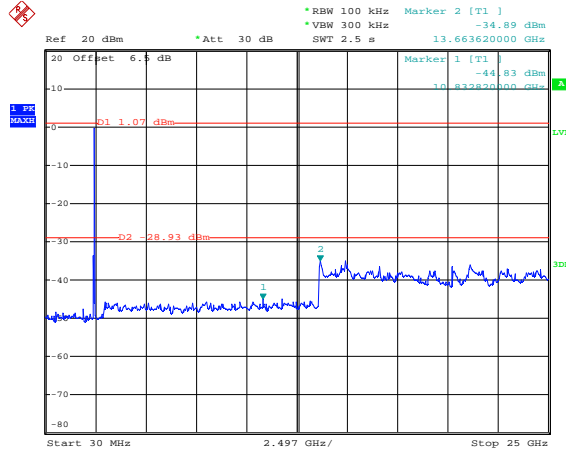
### Lowest channel



REMOTE HIGH  
Date: 4.JUN.2013 11:19:04

30MHz~25GHz

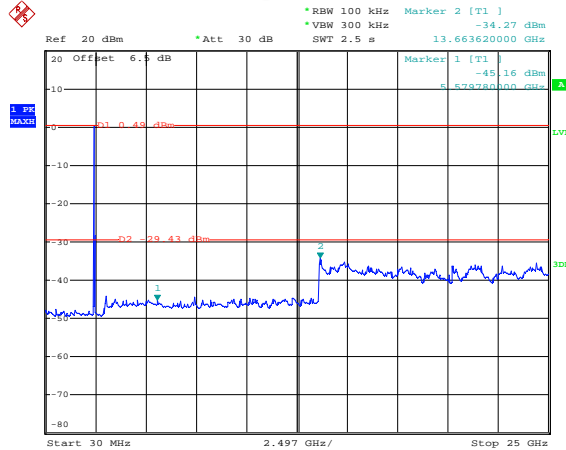
## Middle channel



REMOTE HIGH  
Date: 4.JUN.2013 13:42:09

## 30MHz~25GHz

## Highest channel



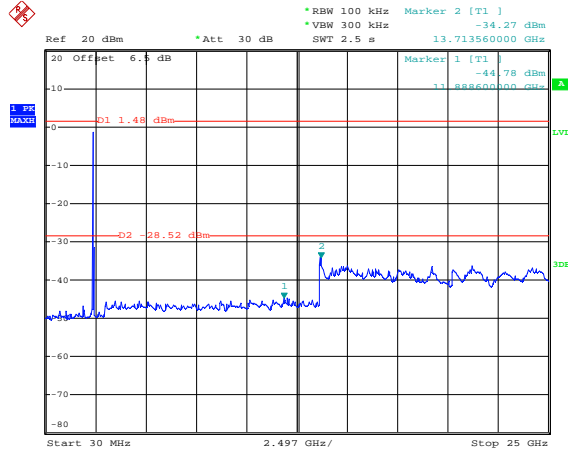
REMOTE HIGH  
Date: 4.JUN.2013 13:48:43

## 30MHz~25GHz



Test mode:	802.11n(H20)
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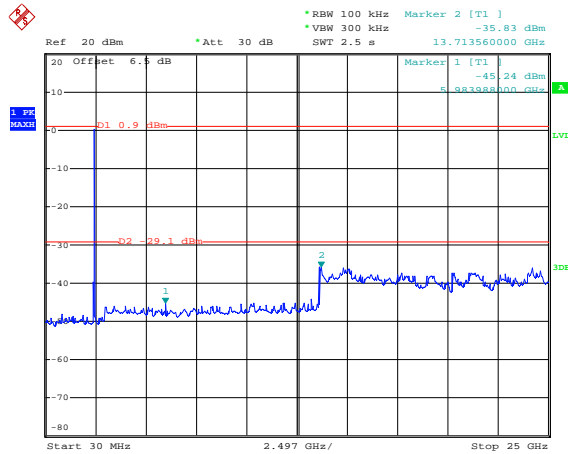
### Lowest channel



REMOTE HIGH  
 Date: 4.JUN.2013 13:54:53

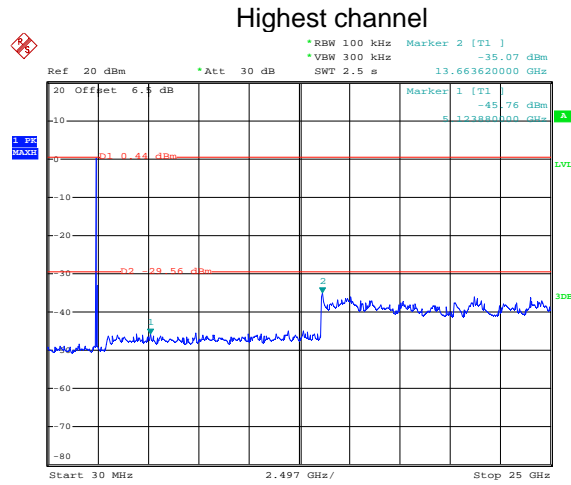
### 30MHz~25GHz

### Middle channel



REMOTE HIGH  
 Date: 4.JUN.2013 13:57:32

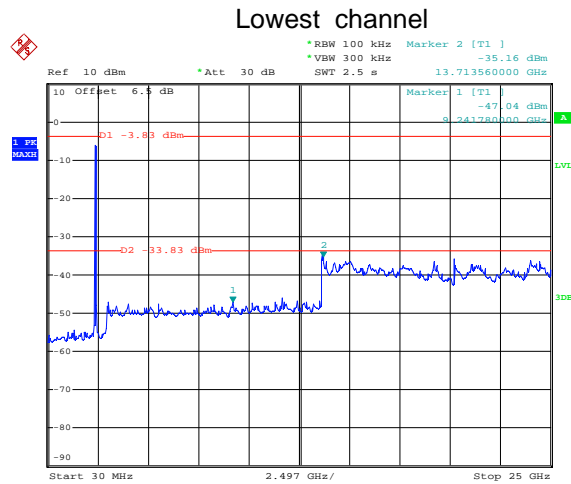
### 30MHz~25GHz



REMOTE HIGH  
Date: 4.JUN.2013 14:02:15

30MHz~25GHz

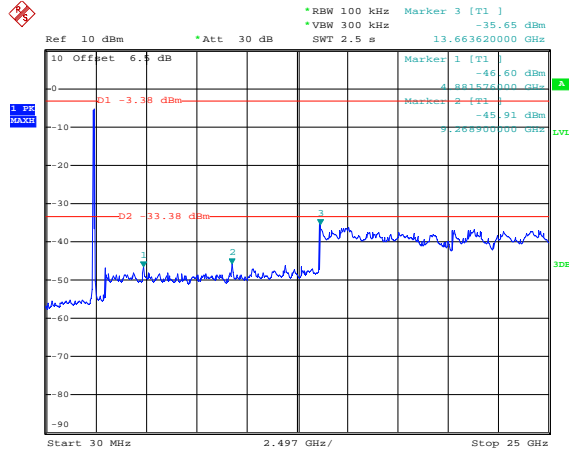
Test mode:	802.11n(H40)
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REMOTE HIGH  
Date: 3.JUN.2013 17:52:16

30MHz~25GHz

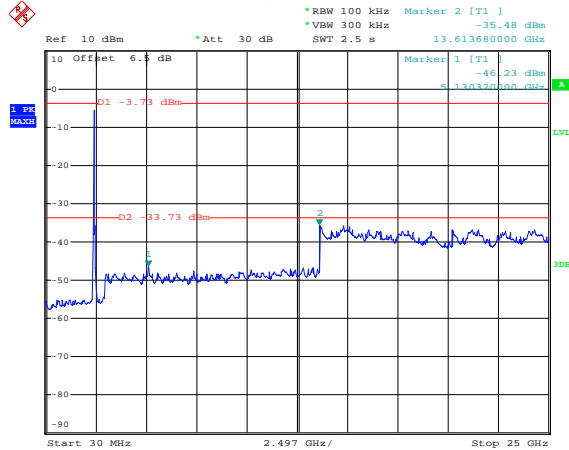
### Middle channel



REMOTE HIGH  
Date: 3.JUN.2013 17:38:40

### 30MHz~25GHz

### Highest channel

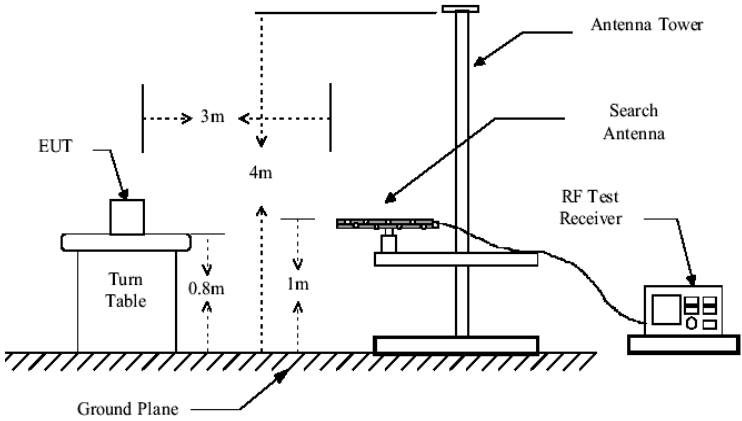
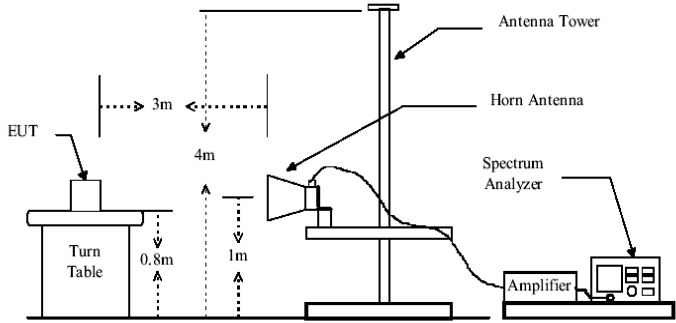


REMOTE HIGH  
Date: 3.JUN.2013 17:36:27

### 30MHz~25GHz

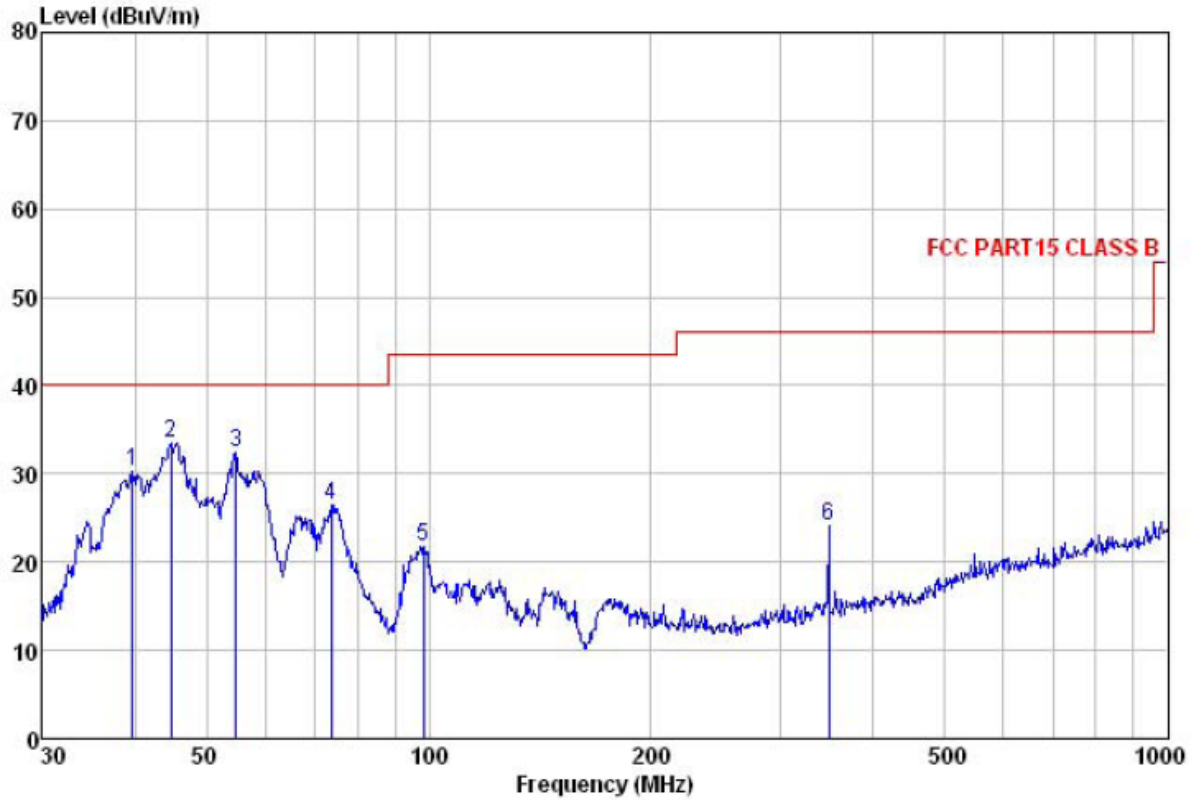
## 6.7.2 Radiated Emission Method

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"> <li>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.</li> <li>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.</li> <li>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.</li> <li>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.</li> <li>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li> <li>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.</li> </ol>				

<p>Test setup:</p>	<p><b>Below 1GHz</b></p>  <p><b>Above 1GHz</b></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"> <li>1. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis is the worst case.</li> <li>2. 9 kHz to 30MHz is too low, so only shows the data of above 30MHz in this report.</li> </ol>

**Below 1GHz**

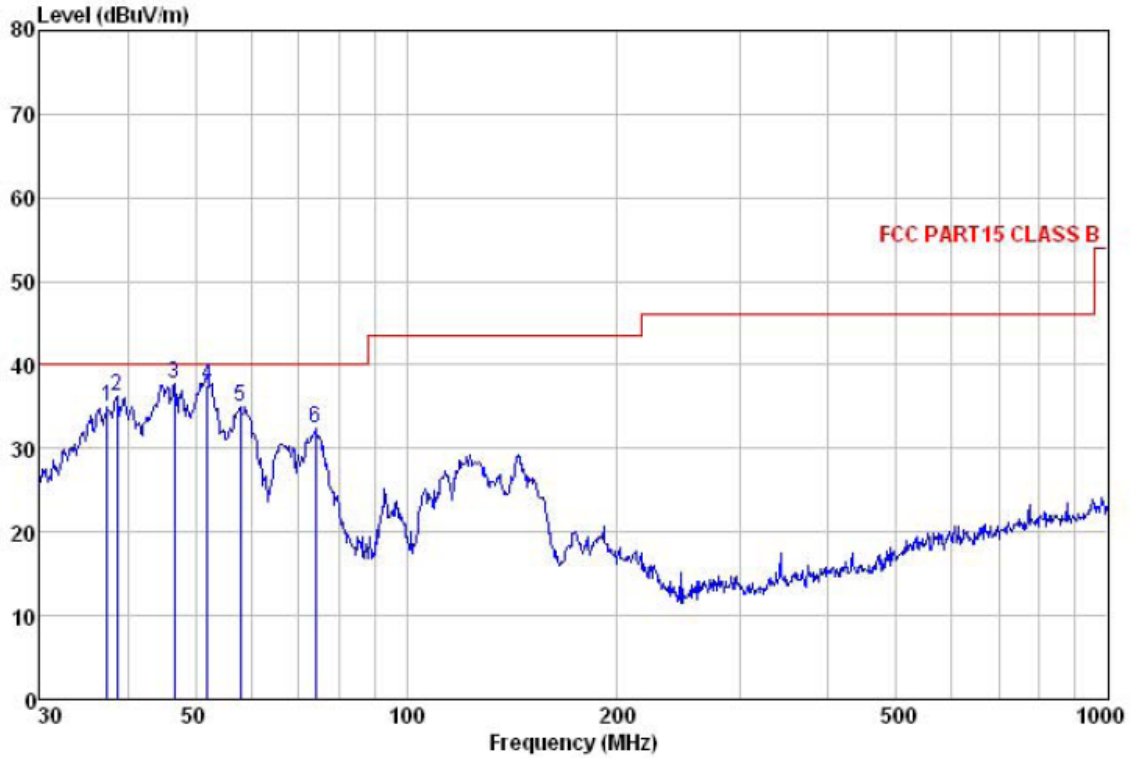
Horizontal :



Site : 3m chamber  
 Condition : FCC PART15 CLASS B 3m VULB9163(30M1G) HORIZONTAL  
 Job NO. : 151RF  
 Test mode : Wifi mode  
 Power Rating : AC 120V /60Hz  
 Environment : Temp:24'C Humi:65% Atmos:101Kpa  
 Test Engineer: Vincent

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	39.715	42.77	13.49	1.21	27.22	30.25	40.00	-9.75	QP
2	44.743	46.49	13.55	1.28	27.77	33.55	40.00	-6.45	QP
3	54.835	46.84	13.05	1.36	28.75	32.50	40.00	-7.50	QP
4	73.876	47.07	8.00	1.61	30.14	26.54	40.00	-13.46	QP
5	98.487	36.77	13.06	1.97	30.09	21.71	43.50	-21.79	QP
6	348.027	36.42	14.25	3.09	29.67	24.09	46.00	-21.91	QP

Vertical:



Site : 3m chamber  
 Condition : FCC PART15 CLASS B 3m VULB9163(30M1G) VERTICAL  
 Job NO. : 151RF  
 Test mode : Wifi mode  
 Power Rating : AC 120V /60Hz  
 Environment : Temp:24°C Humi:65% Atmos:101Kpa  
 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	37.416	47.96	12.92	1.14	27.02	35.00	40.00	-5.00	QP
2	38.616	49.06	13.25	1.18	27.13	36.36	40.00	-3.64	QP
3	46.666	50.99	13.45	1.28	27.97	37.75	40.00	-2.25	QP
4	52.025	51.58	13.17	1.29	28.48	37.56	40.00	-2.44	QP
5	57.999	49.81	12.83	1.37	29.03	34.98	40.00	-5.02	QP
6	74.135	52.92	7.93	1.61	30.14	32.32	40.00	-7.68	QP