Report No: CCIS13100041403

FCC REPORT （WIFI）

Applicant:	SENWA MEXICO,S.A.DE C.V
Address of Applicant:	Av. Javier Barros Sierra 540,Torre I, Planta 5; COL. LOMAS DE SANTA FE DELEGACION ALVARO OBREGON C.P. 01210 MEXICO,DISTRITO FEDERAL

Equipment Under Test (EUT)

Product Name:	Smart Phone
Model No.:	S715
Trade Mark:	SENWA
FCC ID:	2AAA6-S715
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.247
Date of sample receipt:	15 Oct., 2013
Date of Test:	16 Oct., 2013 to 22 Oct., 2013
Date of report issued:	23 Oct., 2013
Test Result :	PASS *

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.

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

2 Version

Version No.	Date	Description
00	*23 Oct., 2013*	*Original*

Prepared By: Lisa chen ***Date:*** *23 Oct., 2013*

Report Clerk

Check By: Wimer zhang ***Date:*** *23 Oct., 2013*

Project Engineer

3 Contents

Page

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
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:	SENWA MEXICO,S.A.DE C.V
Address of Applicant:	Av. Javier Barros Sierra 540,Torre I, Planta 5; COL. LOMAS DE SANTA FE DELEGACION ALVARO OBREGON C.P. 01210 MEXICO,DISTRITO FEDERAL
Manufacturer:	Shenzhen Gold Star Group Co., LTD
Address of Manufacturer:	307-308, building B, High-Tech Plaza Phase I,Tian An Cyber Park, Futian Shenzhen, china

5.2 General Description of E.U.T.

Product Name:	Smart Phone
Model No.:	S715
Operation Frequency:	2412MHz~2462MHz (802.11b/802.11g/802.11n(H20)) 2422MHz~2452MHz (802.11n(H40))
Channel numbers:	11 for 802.11b/802.11g/802.11n(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:	-1dBi
AC adapter:	Input:100-240V AC,50/60Hz 0.15A Output:5.0V DC 500mA
Power supply:	Rechargeable Li-ion Battery DC3.7V/1200mAh

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
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.	

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). Duty cycle setting during the transmission is 100% with maximum power setting for all modulations.

5.4 Description of Support Units

N/A

5.5 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 out 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.

5.6 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

5.7 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 2013	June 08 2014
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	CCIS0002	N/A	N/A
3	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	CCIS0005	June 04 2013	June 03 2014
4	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	CCIS0006	May 30 2013	May 29 2014
5	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
6	Coaxial Cable	CCIS	N/A	CCIS0016	Apr. 01 2013	Mar. 31 2014
7	Coaxial Cable	CCIS	N/A	CCIS0017	Apr. 01 2013	Mar. 31 2014
8	Coaxial cable	CCIS	N/A	CCIS0018	Apr. 01 2013	Mar. 31 2014
9	Coaxial Cable	CCIS	N/A	CCIS0019	Apr. 01 2013	Mar. 31 2014
10	Coaxial Cable	CCIS	N/A	CCIS0087	Apr. 01 2013	Mar. 31 2014
11	Amplifier(10kHz-1.3GHz)	HP	8447D	CCIS0003	Apr. 01 2013	Mar. 31 2014
12	Amplifier(1GHz-18GHz)	Compliance Direction Systems Inc.	PAP-1G18	CCIS0011	June 09 2013	June 08 2014
13	Pre-amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	Apr. 01 2013	Mar. 31 2014
14	Horn Antenna	ETS-LINDGREN	3160	GTS217	Mar. 30 2013	Mar. 29 2014
15	Printer	HP	HP LaserJet P1007	N/A	N/A	N/A
16	Positioning Controller	UC	UC3000	CCIS0015	N/A	N/A
17	Spectrum analyzer 9k-30GHz	Rohde & Schwarz	FSP	CCIS0023	May. 29 2013	May. 28 2014
18	Loop antenna	Laplace instrument	RF300	EMC0701	Aug. 12 2013	Aug. 11 2014
19	EMI Test Receiver	Rohde & Schwarz	ESCI	CCIS0002	May 25 2013	May 24 2014
20	Signal Analyzer	Rohde & Schwarz	FSIQ3	CCIS0088	May 29 2013	May 28 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 2013	June 08 2014
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

6 Test results and Measurement Data

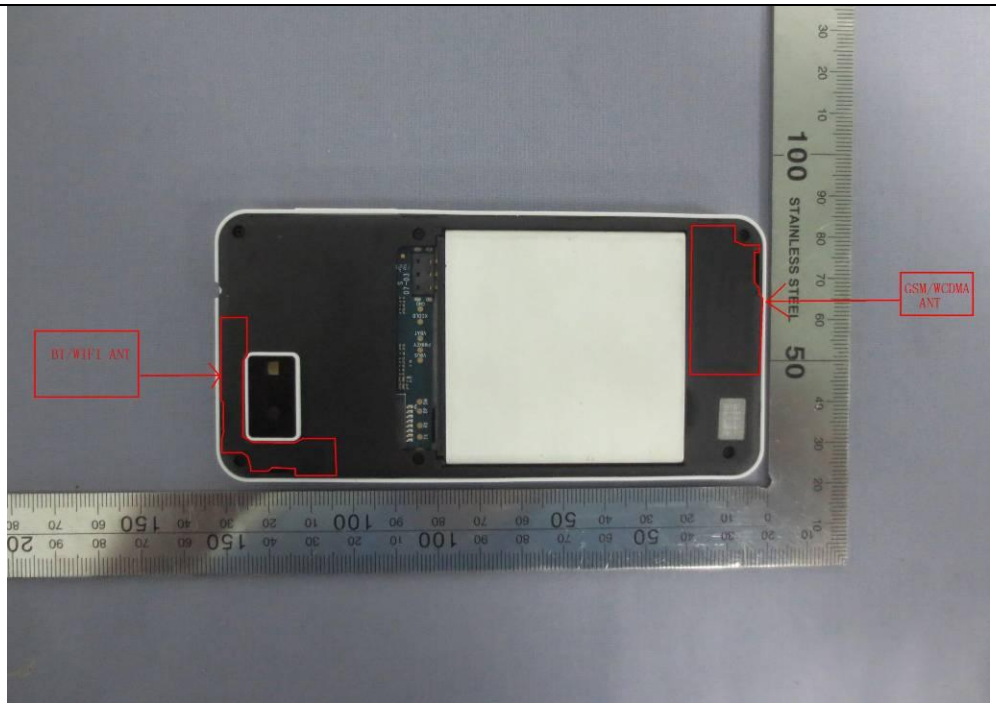
6.1 Antenna requirement:

Standard requirement:	FCC Part15 C Section 15.203 /247(c)

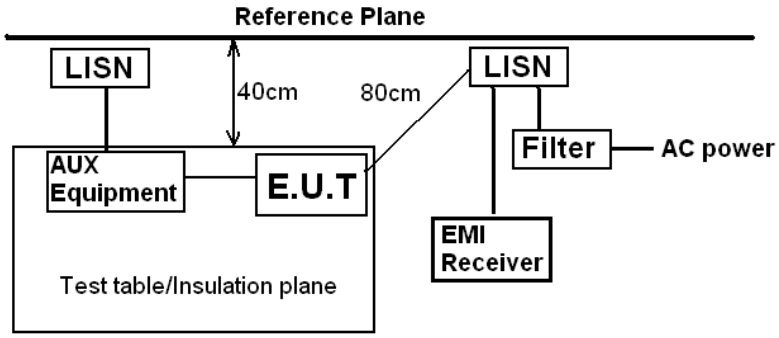
15.203 requirement:
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer 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.
15.247(c) (1)(i) requirement:
(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.

E.U.T Antenna:	

*The antenna is an internal antenna which cannot replace by end-user, the best case gain of the WiFi antenna is -1*dBi.

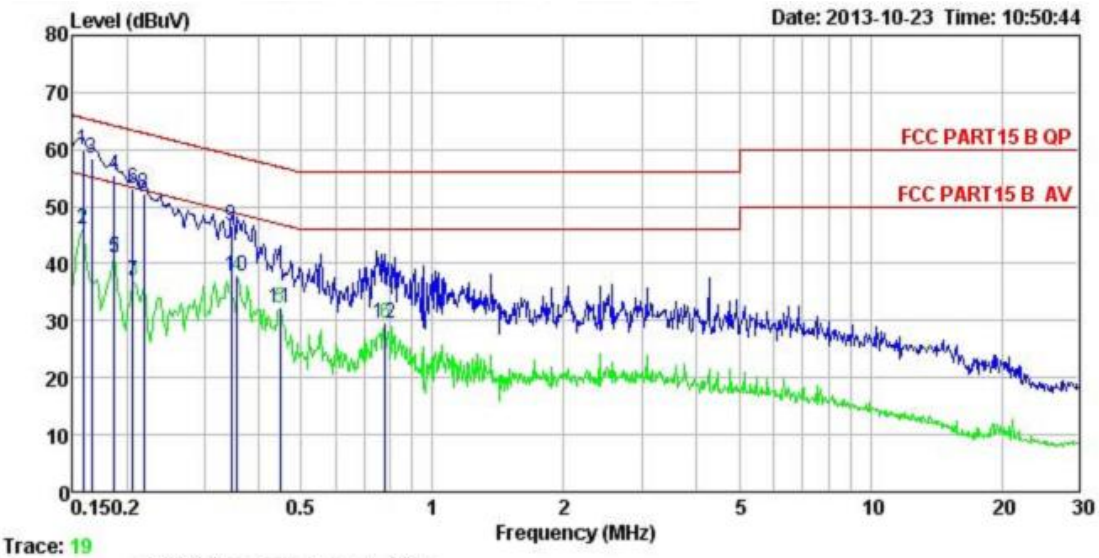


6.2 Conducted Emissions

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=9kHz, VBW=30kHz
Limit:	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 * Decreases with the logarithm of the frequency.
Test procedure	1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). The provide a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs). 3. 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:	 *Remark:* *E.U.T: Equipment Under Test* *LISN: Line Impedence Stabilization Network* *Test table height=0.8m*
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

Neutral:

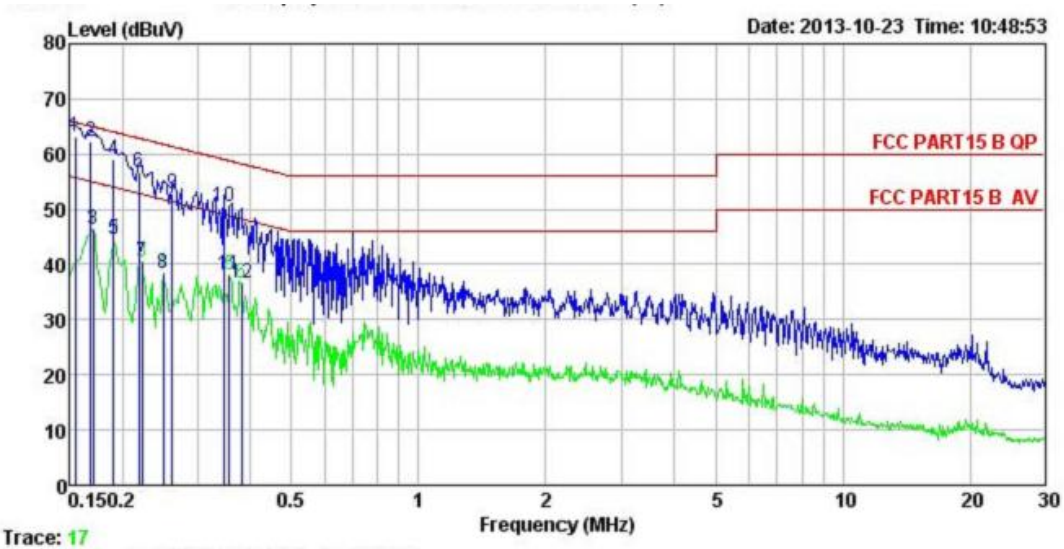


Trace: 19

Site : CCIS Conducted test Site
Condition : FCC PART15 B QP LISN NEUTRAL
Job No. : 414RF
EUT : Mobile phone
Model : S715
Test Mode : WIFI mode
Power Rating : AC 120V/ 60 Hz
Environment : Temp: 23 ℃ Huni:56% Atmos:101KPa
Test Engineer: A-bomb

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.158	48.99	10.26	0.78	60.03	65.56	-5.53	QP
2	0.158	35.03	10.26	0.78	46.07	55.56	-9.49	Average
3	0.166	47.30	10.26	0.78	58.34	65.16	-6.82	QP
4	0.186	44.42	10.24	0.77	55.43	64.20	-8.77	QP
5	0.186	30.01	10.24	0.77	41.02	54.20	-13.18	Average
6	0.206	42.18	10.23	0.76	53.17	63.36	-10.19	QP
7	0.206	25.77	10.23	0.76	36.76	53.36	-16.60	Average
8	0.219	41.21	10.23	0.76	52.20	62.88	-10.68	QP
9	0.346	35.56	10.25	0.73	46.54	59.05	-12.51	QP
10	0.358	26.72	10.25	0.73	37.70	48.78	-11.08	Average
11	0.447	21.30	10.27	0.74	32.31	46.93	-14.62	Average
12	0.779	18.44	10.17	0.80	29.41	46.00	-16.59	Average

Line:



Trace: 17

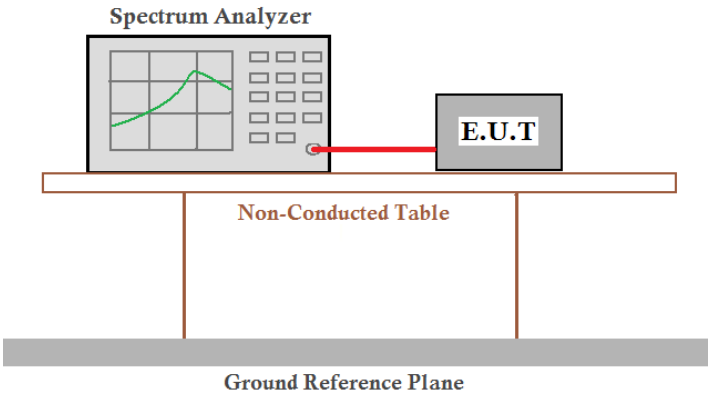
Site : CCIS Conducted test Site
Condition : FCC PART15 B QP LISN LINE
Job No. : 414RF
EUT : Mobile phone
Model : S715
Test Mode : WIFI mode
Power Rating : AC 120V/ 60 Hz
Environment : Temp: 23 'C Huni:56% Atmos:101KPa
Test Engineer: A-bomb

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.154	52.23	10.25	0.79	63.27	65.78	-2.51	QP
2	0.168	51.24	10.23	0.78	62.25	65.08	-2.83	QP
3	0.170	35.48	10.23	0.78	46.49	54.94	-8.45	Average
4	0.190	47.91	10.22	0.77	58.90	64.02	-5.12	QP
5	0.190	33.69	10.22	0.77	44.68	54.02	-9.34	Average
6	0.219	45.58	10.22	0.76	56.56	62.88	-6.32	QP
7	0.222	29.61	10.22	0.75	40.58	52.74	-12.16	Average
8	0.249	27.35	10.24	0.75	38.34	51.78	-13.44	Average
9	0.262	41.92	10.24	0.75	52.91	61.38	-8.47	QP
10	0.346	39.56	10.27	0.73	50.56	59.05	-8.49	QP
11	0.358	27.00	10.27	0.73	38.00	48.78	-10.78	Average
12	0.381	25.46	10.28	0.72	36.46	48.25	-11.79	Average

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

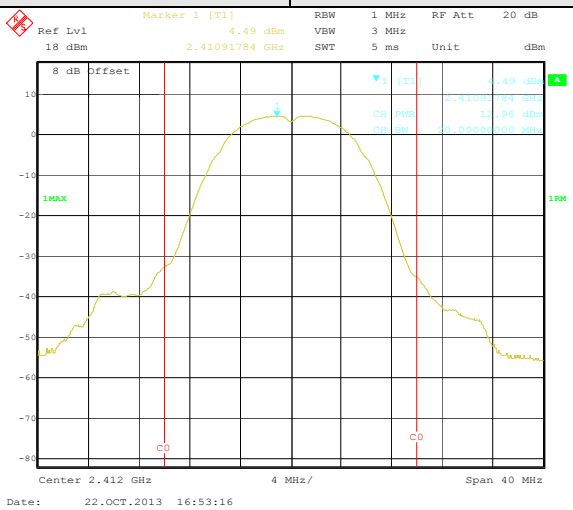
Test Requirement:	FCC Part15 C Section 15.247 (b)(3)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	30dBm
Test setup:	
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Remark:	Test method refers to KDB558074 (DTS Measure Guidance). AVGSA-1 method was used.

Measurement Data

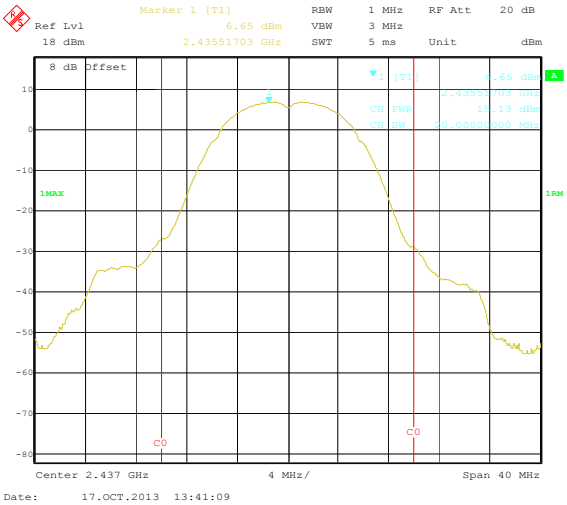
Test CH	Maximum Conducted Output Power (dBm)				Limit(dBm)	Result
	802.11b	802.11g	802.11n(H20)	802.11n(H40)		
Lowest	12.96	10.18	8.57	11.11	30.00	Pass
Middle	15.19	13.06	12.20	11.77		
Highest	14.43	12.44	12.33	12.21		

Test plot as follows:

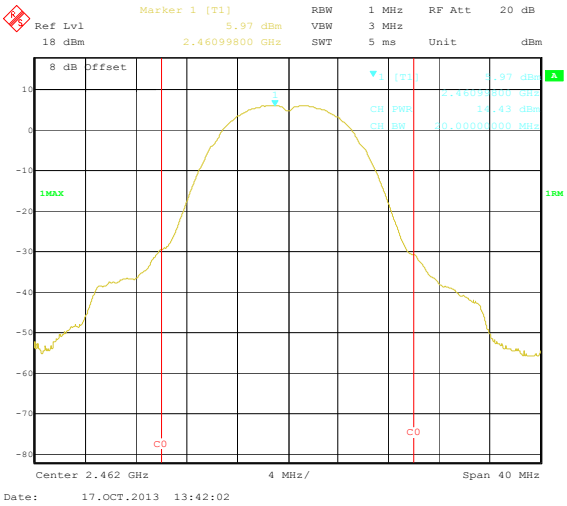
Test mode:	802.11b



Lowest channel

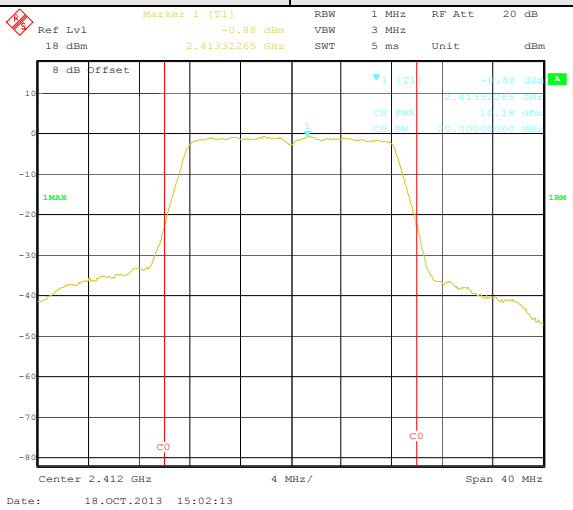


Middle channel

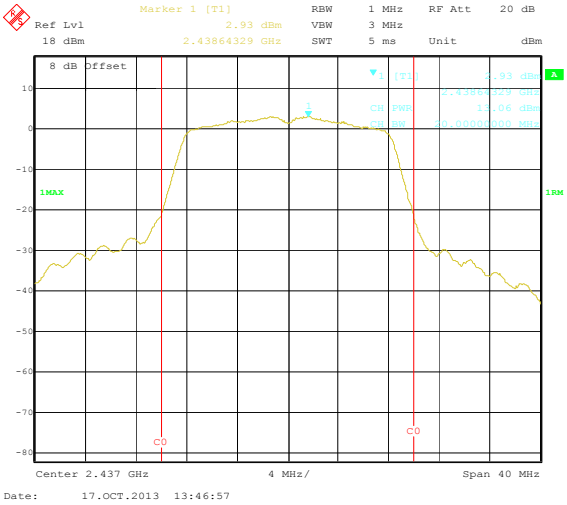


Highest channel

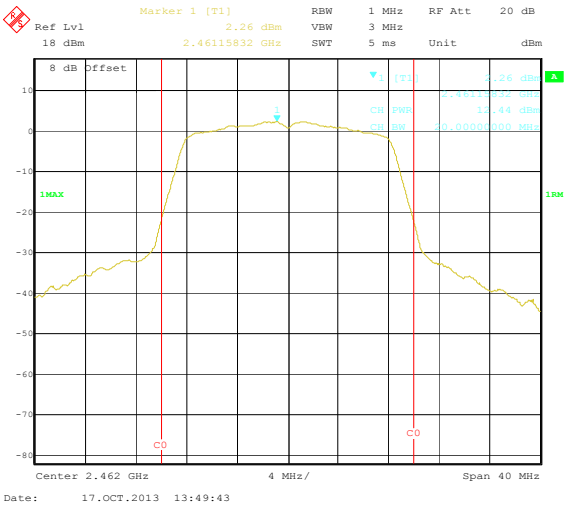
Test mode:	802.11g



Lowest channel

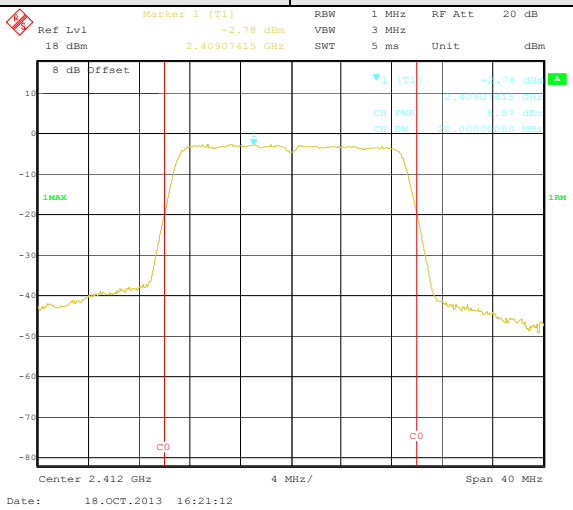


Middle channel

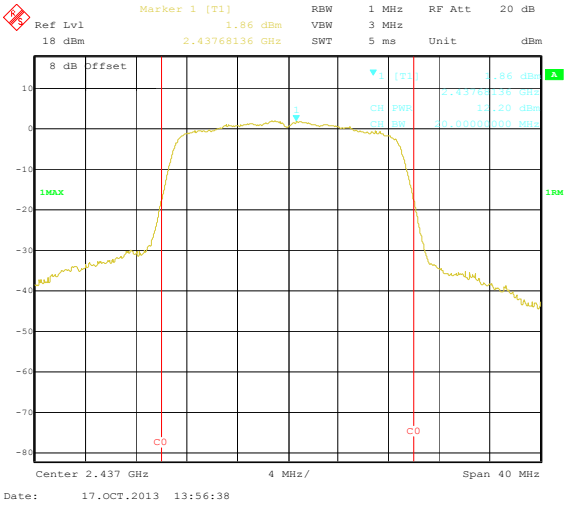


Highest channel

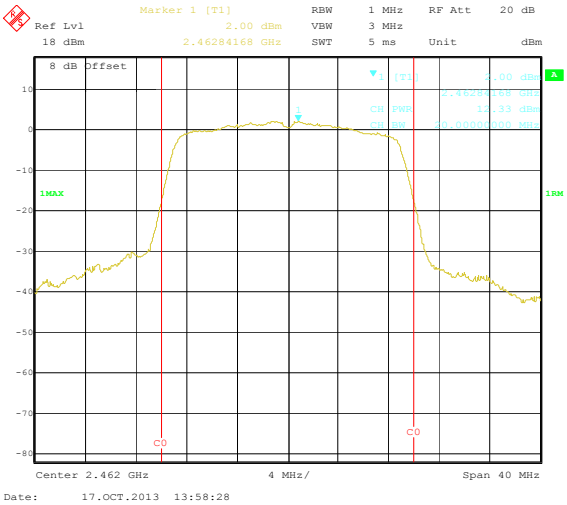
Test mode:	802.11n(H20)



Lowest channel

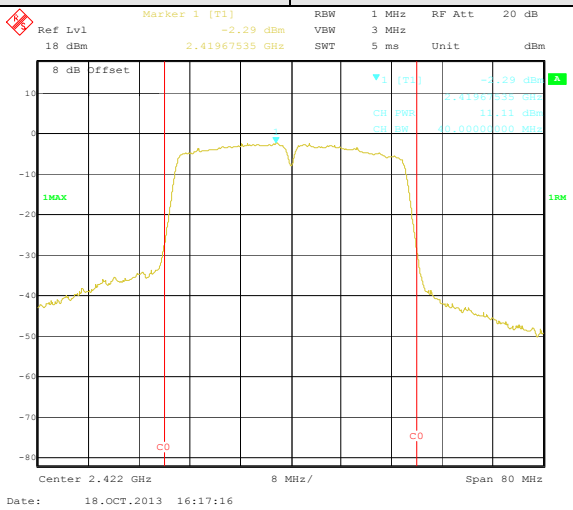


Middle channel

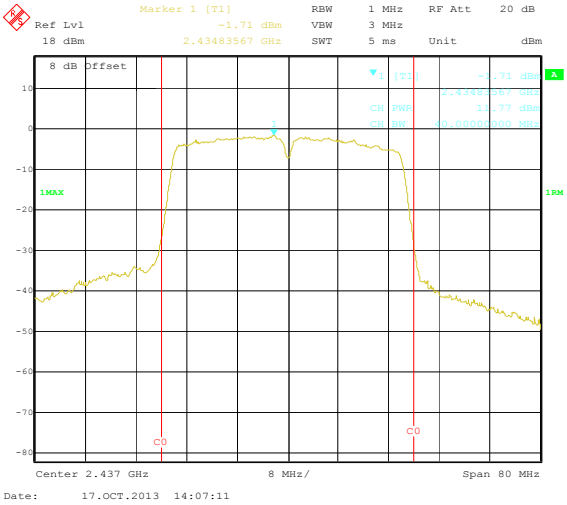


Highest channel

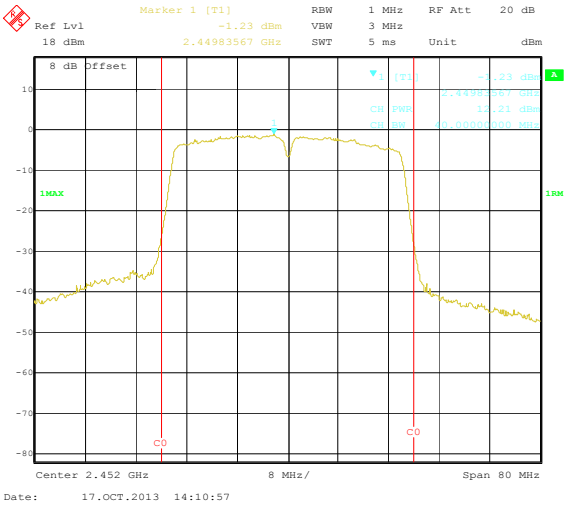
Test mode:	802.11n(H40)



Lowest channel

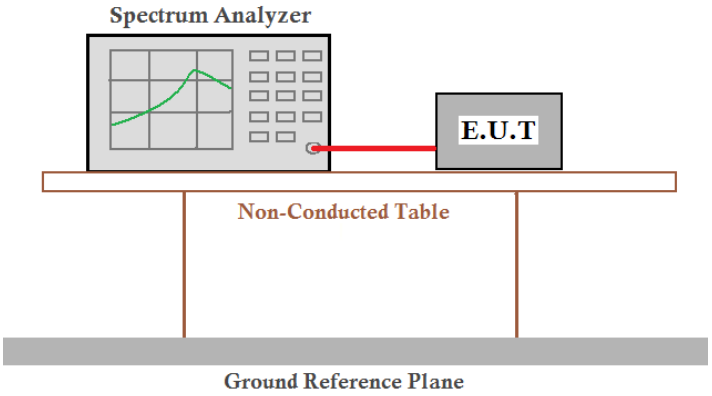


Middle channel



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 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

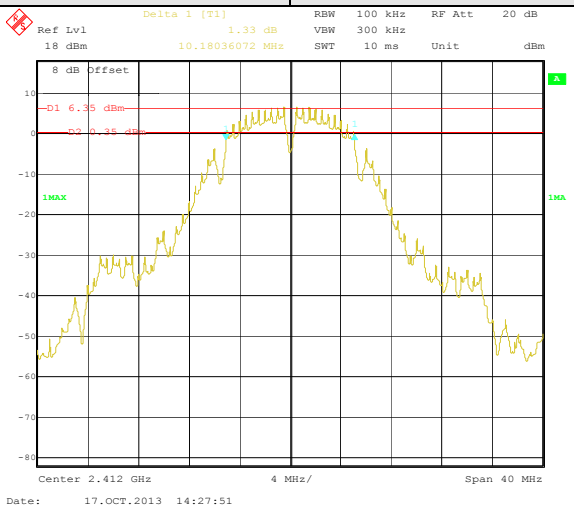
Measurement Data

Test CH	6dB Occupy Bandwidth (MHz)				Limit(kHz)	Result
	802.11b	802.11g	802.11 n(H20)	802.11n(H40)		
Lowest	10.18	16.51	17.88	36.71	>500	Pass
Middle	9.94	16.59	17.88	36.71		
Highest	9.86	16.67	17.88	36.71		

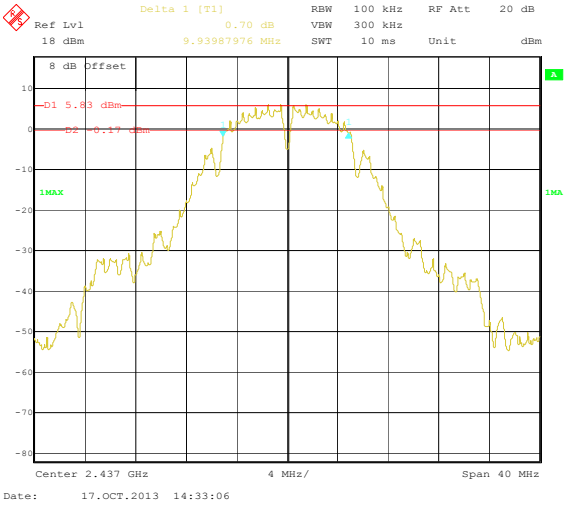
Test CH	99%dB Occupy Bandwidth (MHz)				Limit(kHz)	Result
	802.11b	802.11g	802.11 n(H20)	802.11n(H40)		
Lowest	13.31	16.51	17.56	36.07	N/A	N/A
Middle	13.23	16.43	17.64	36.07		
Highest	12.83	16.43	17.56	35.91		

Test plot as follows:

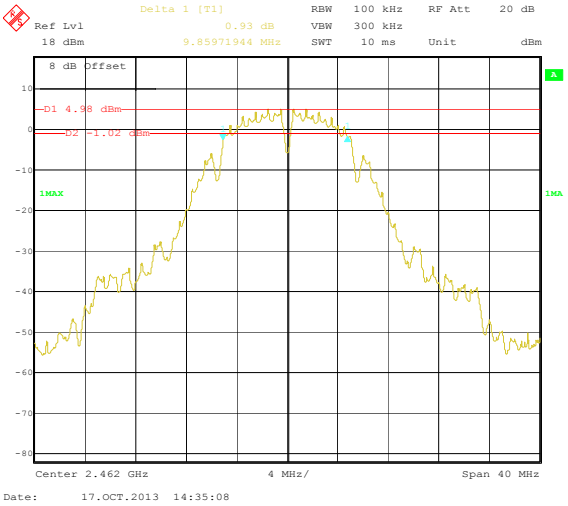
Test mode:6dB BW	802.11b



Lowest channel

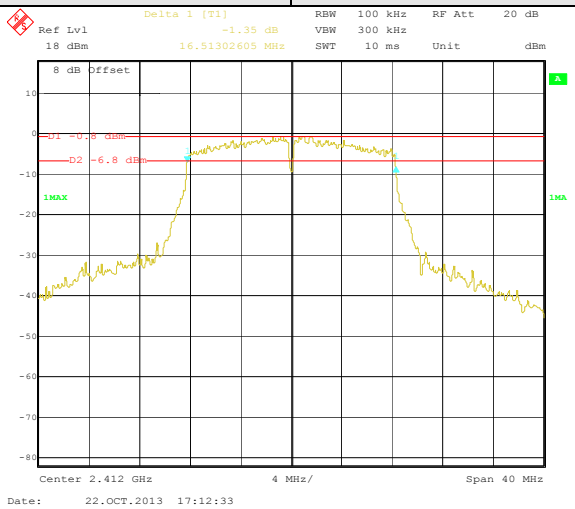


Middle channel

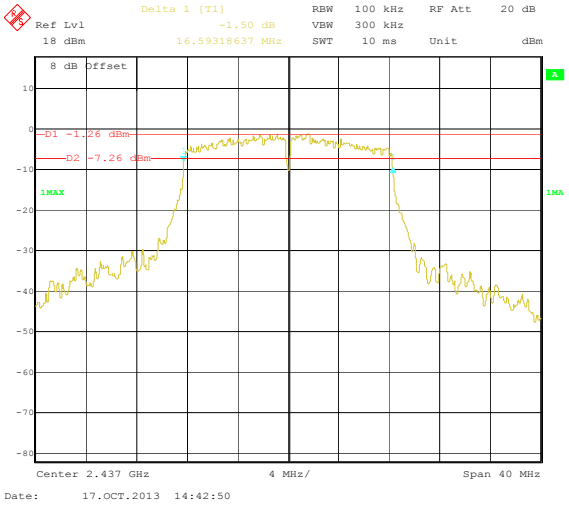


Highest channel

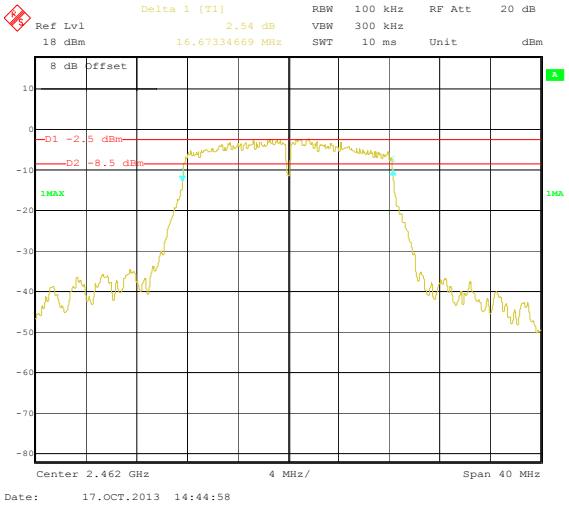
Test mode:6dB BW	802.11g



Lowest channel

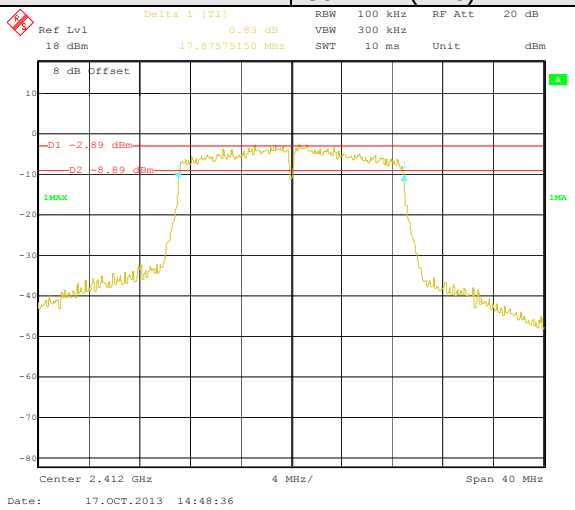


Middle channel

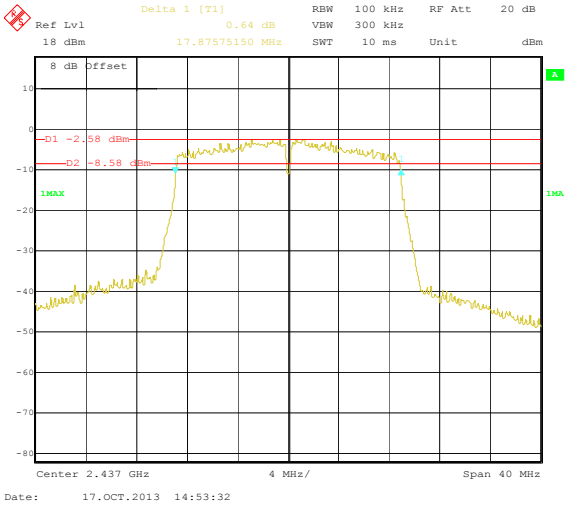


Highest channel

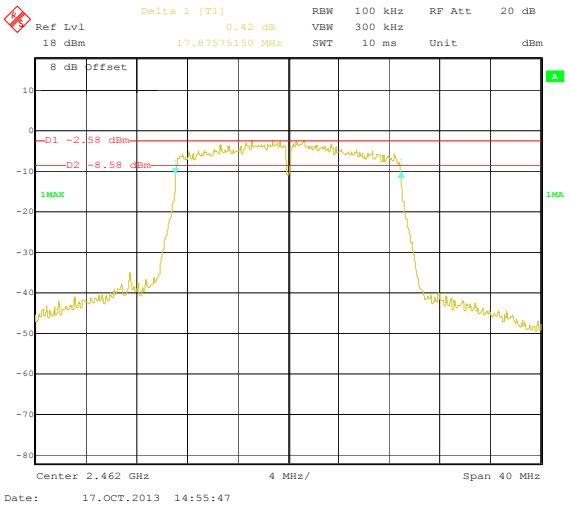
Test mode:6dB BW	802.11 n(H20)



Lowest channel

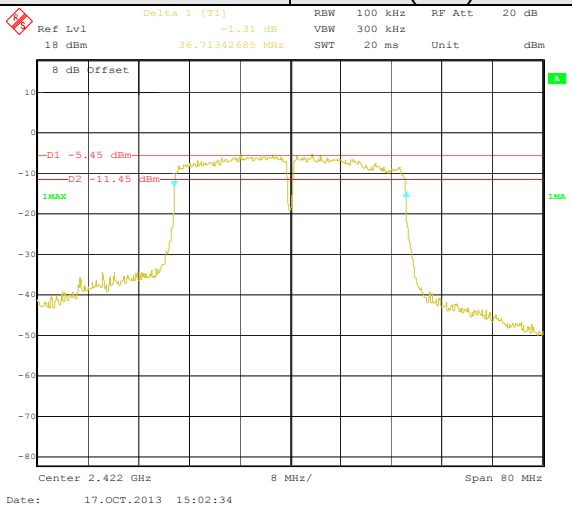


Middle channel

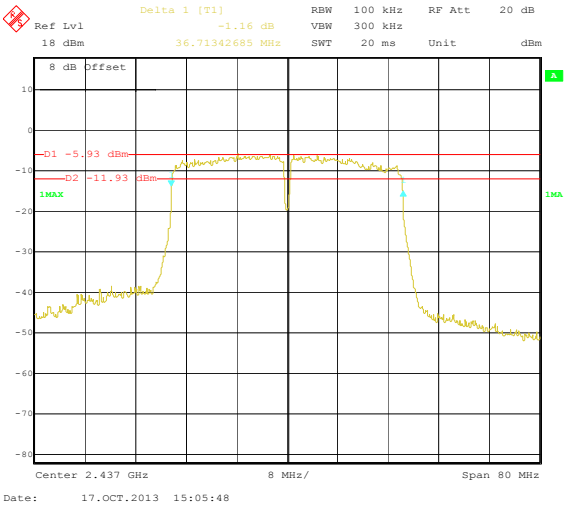


Highest channel

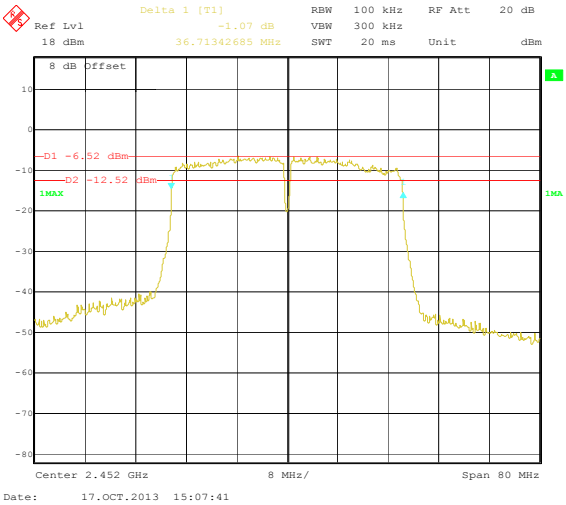
Test mode:6dB BW	802.11 n(H40)



Lowest channel

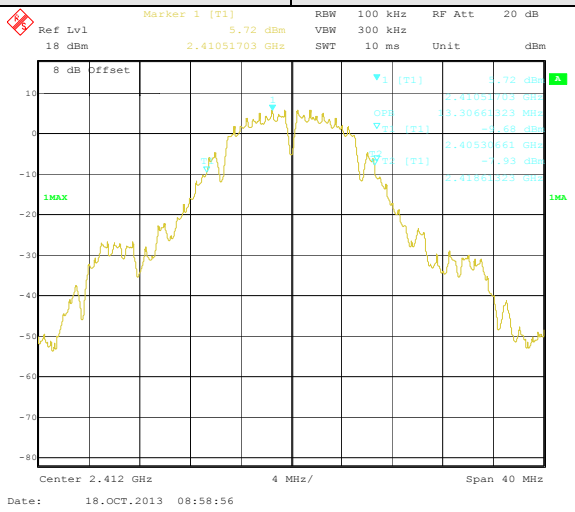


Middle channel

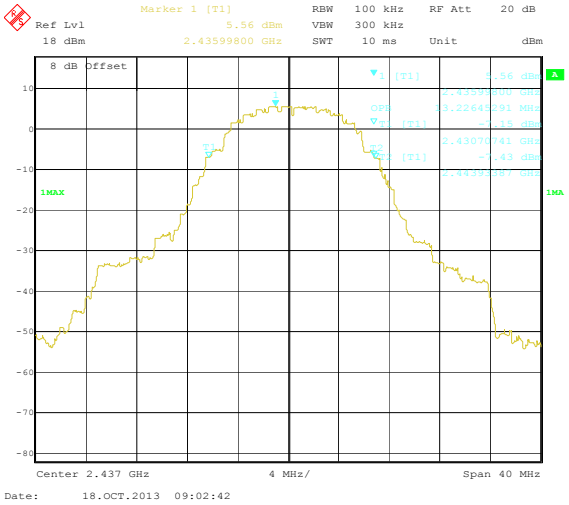


Highest channel

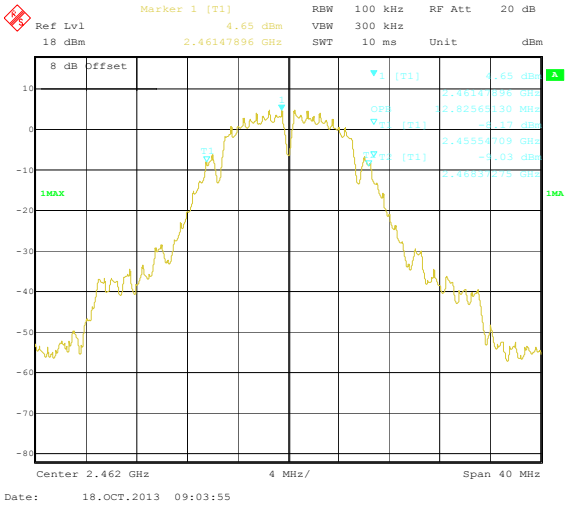
Test mode: 99%dB Occupy Bandwidth	802.11b



Lowest channel

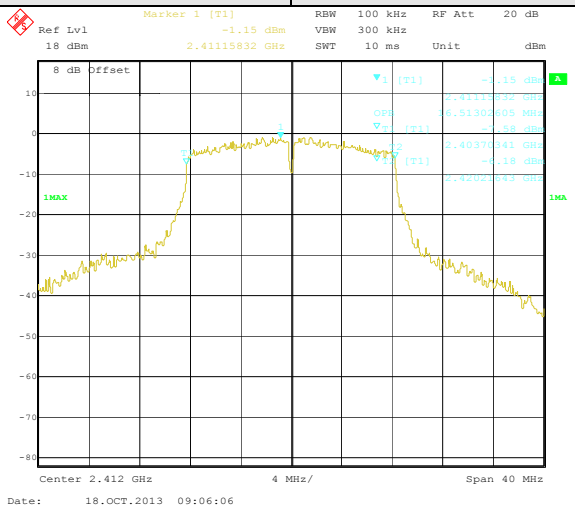


Middle channel

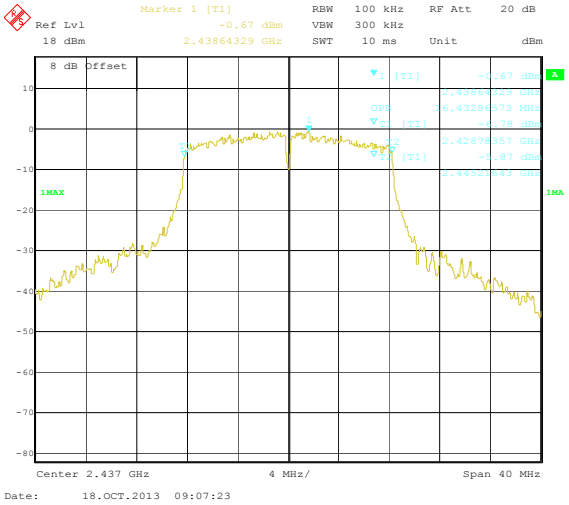


Highest channel

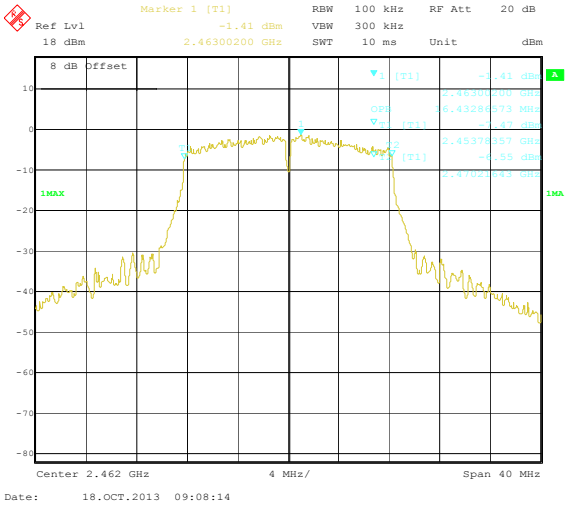
Test mode: 99%dB Occupy Bandwidth	802.11g



Lowest channel

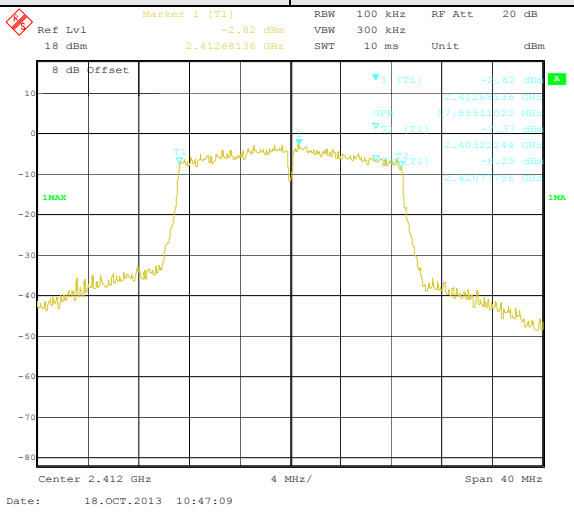


Middle channel

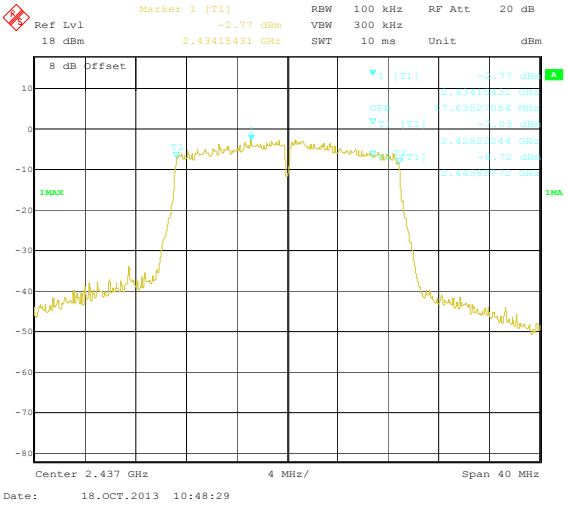


Highest channel

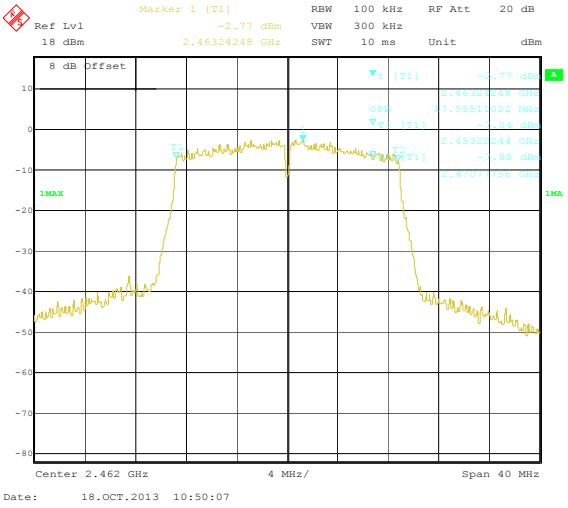
Test mode: 99%dB Occupy Bandwidth	802.11n(H20)



Lowest channel

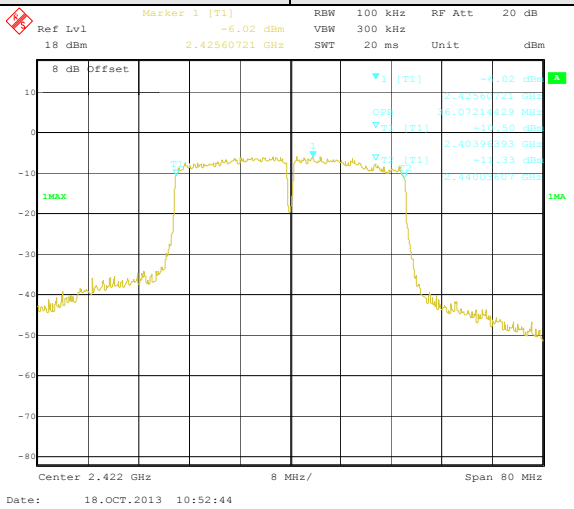


Middle channel

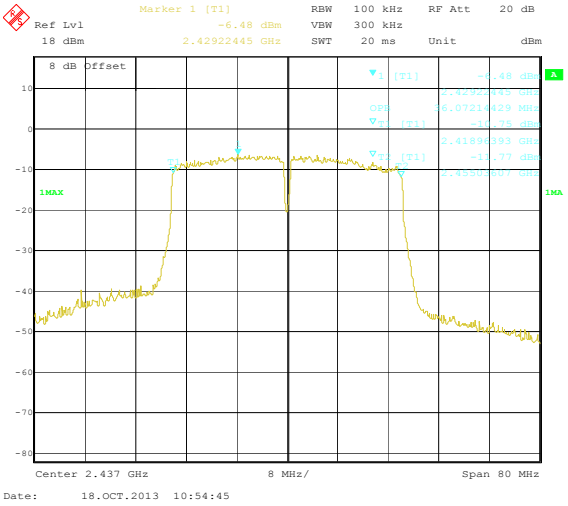


Highest channel

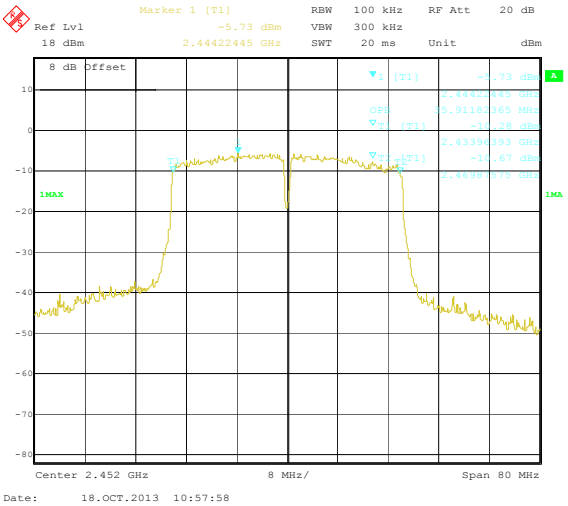
Test mode: 99%dB Occupy Bandwidth	802.11n(H40)



Lowest channel

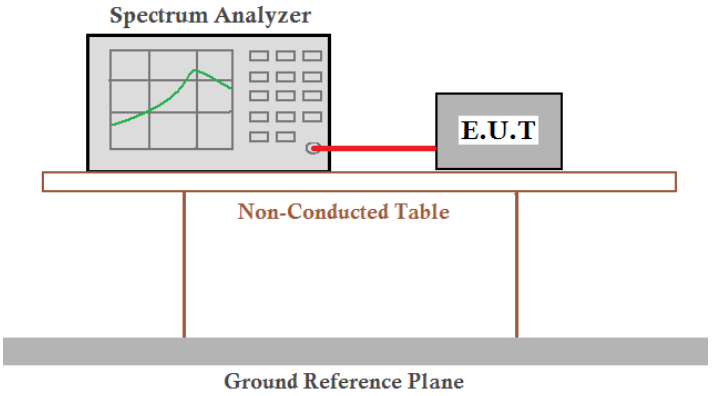


Middle channel



Highest channel

6.5 Power Spectral Density

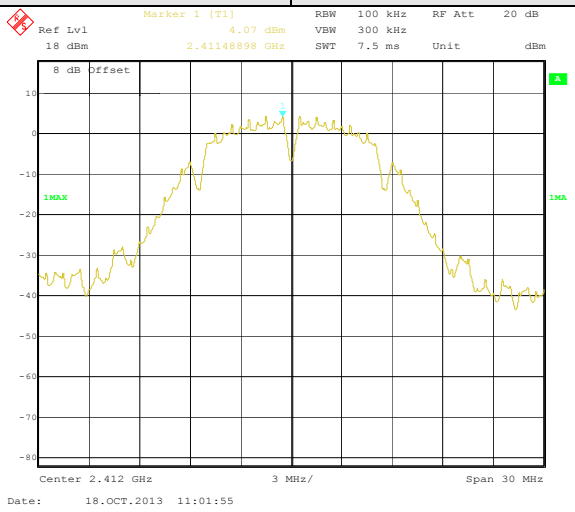
Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	8dBm
Test setup:	
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

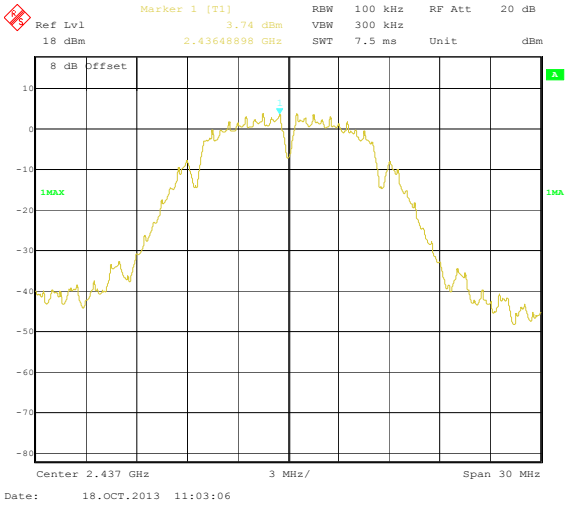
Test CH	Power Spectral Density (dBm)				Limit(dBm)	Result
	802.11a	802.11g	802.11n(H20)	802.11n(H40)		
Lowest	4.07	-1.91	-1.29	-6.56	8.00	Pass
Middle	3.74	-1.68	-1.72	-5.92		
Highest	4.74	-1.96	-2.27	-6.77		

Test plot as follows:

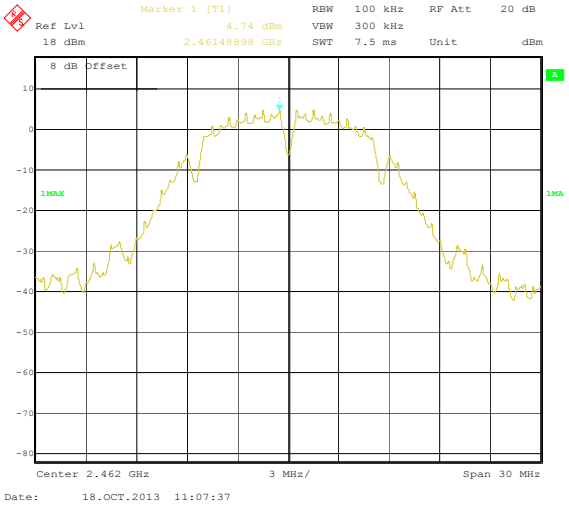
Test mode:	802.11b



Lowest channel

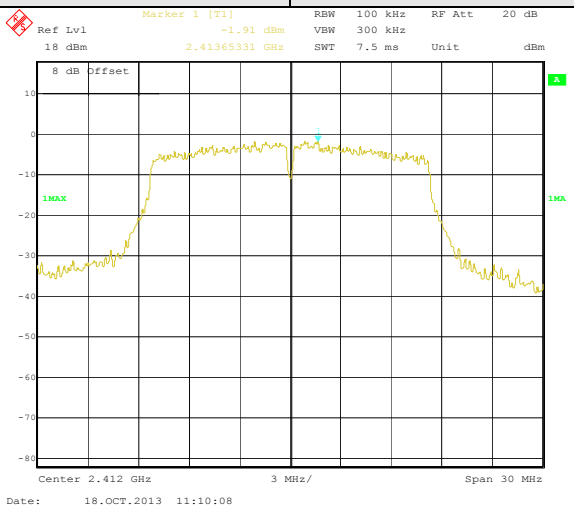


Middle channel

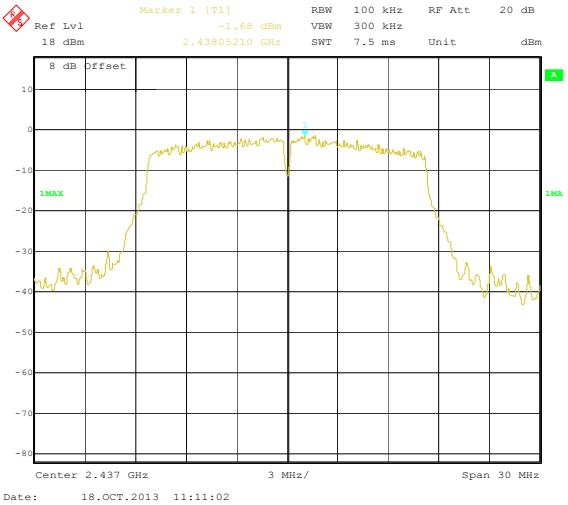


Highest channel

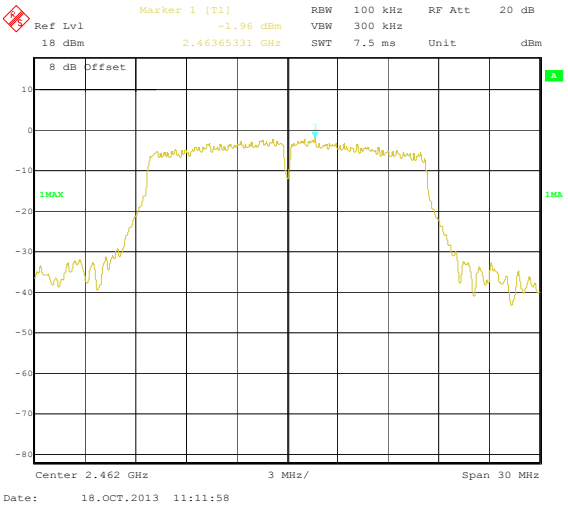
Test mode:	802.11g



Lowest channel

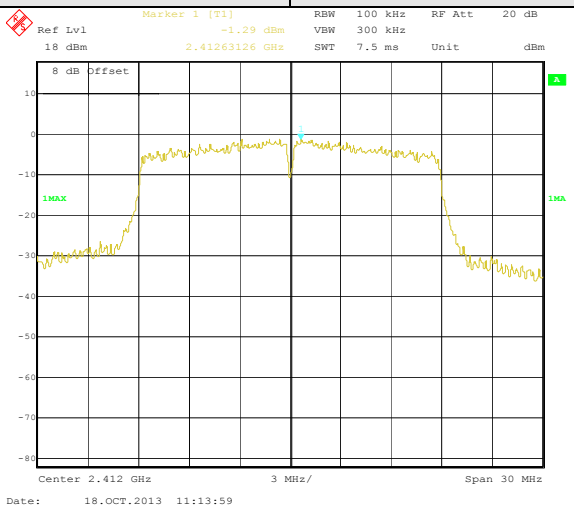


Middle channel

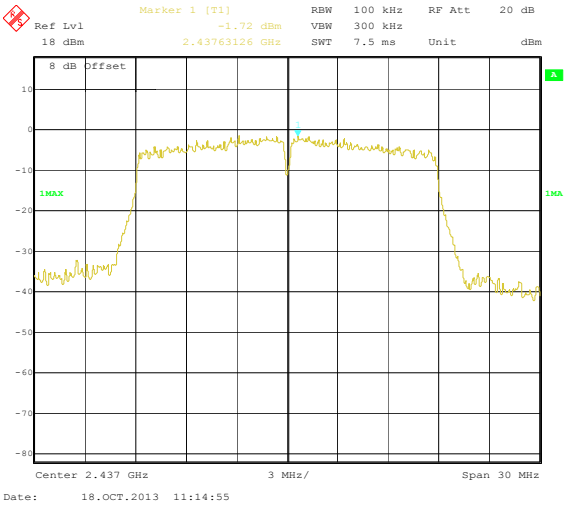


Highest channel

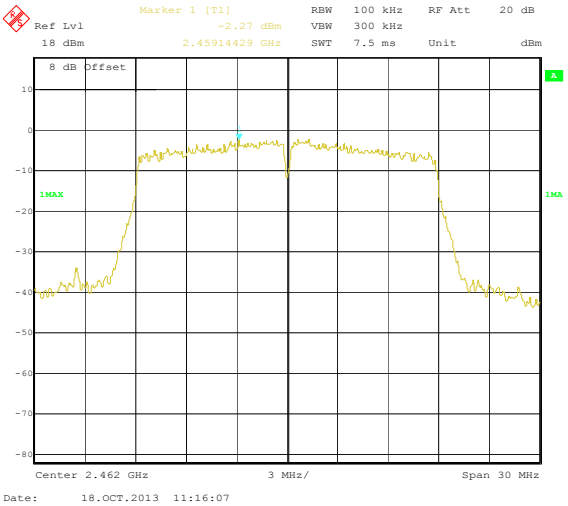
Test mode:	802.11n(H20)



Lowest channel

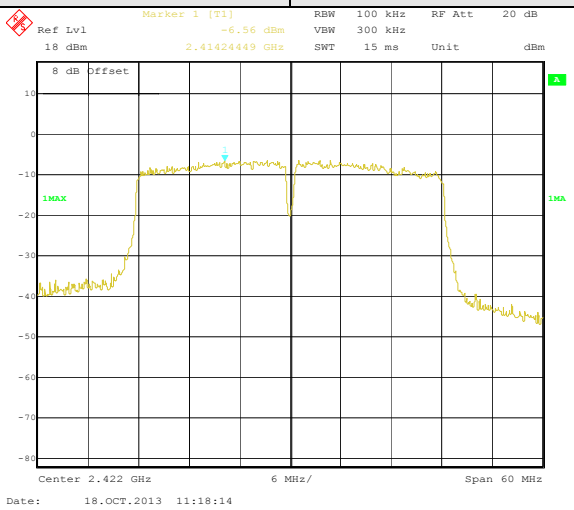


Middle channel

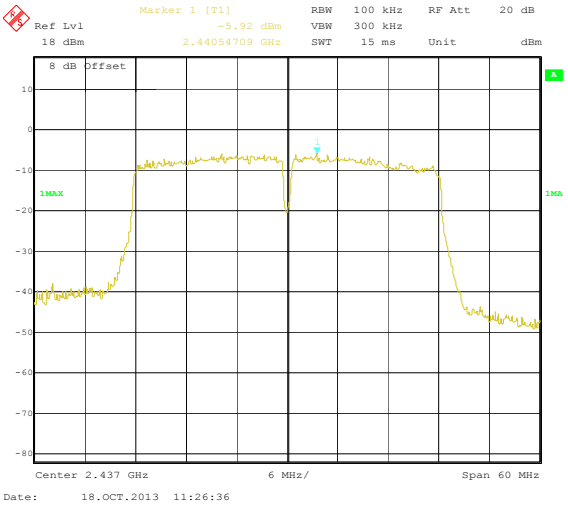


Highest channel

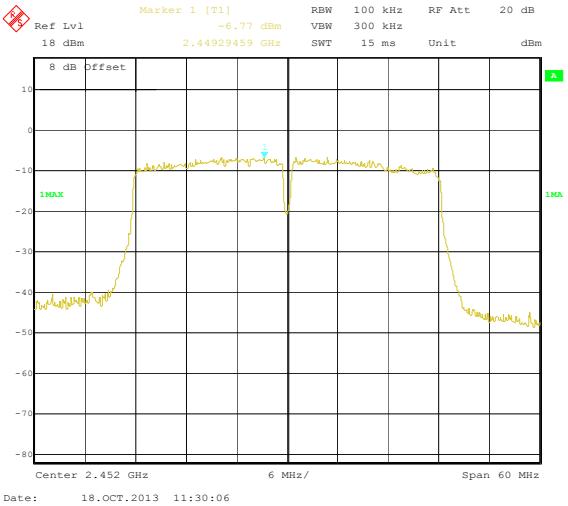
Test mode:	802.11n(H40)



Lowest channel



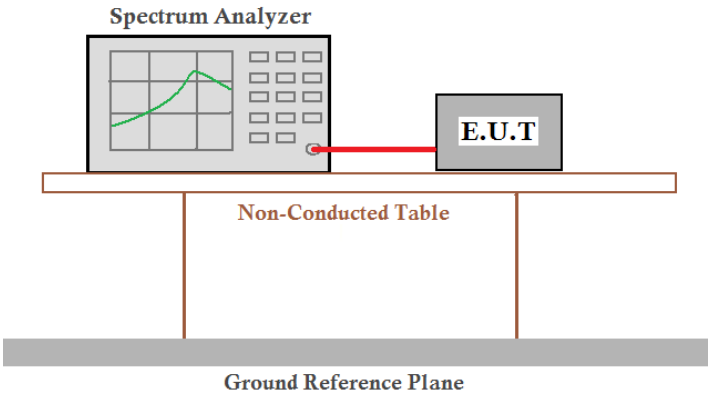
Middle channel



Highest channel

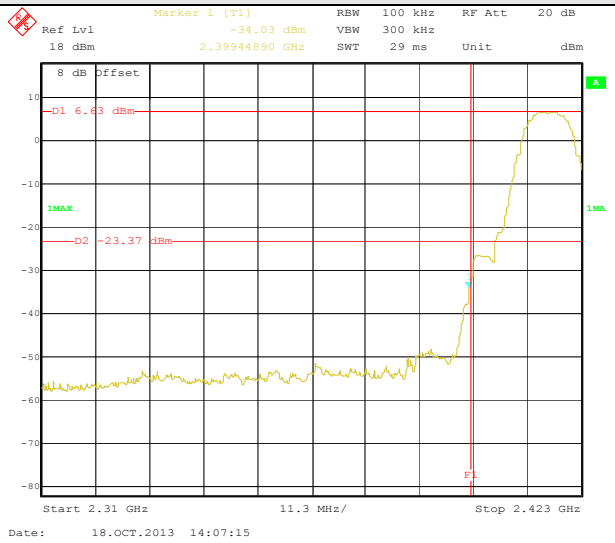
6.6 Band Edge

6.6.1 Conducted Emission Method

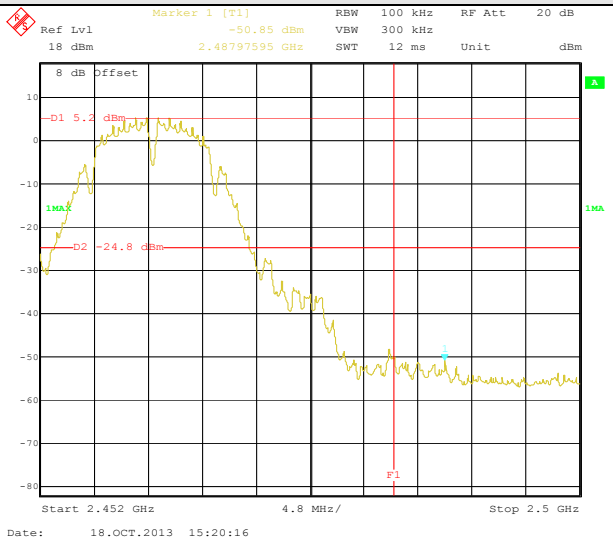
Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 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:	
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Test plot as follows:

Test mode:	802.11b

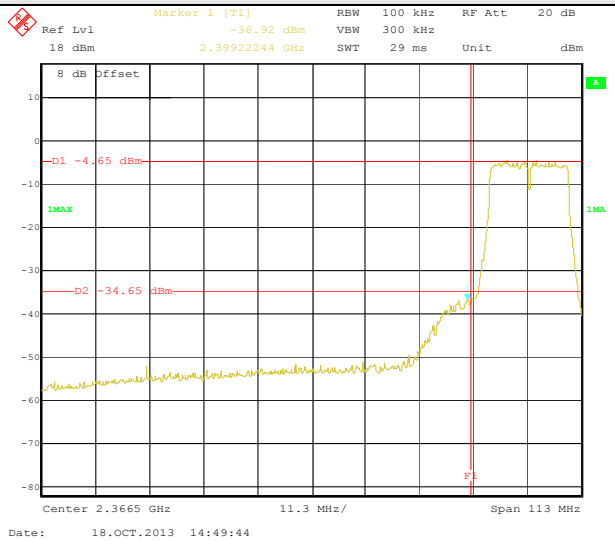


Lowest channel

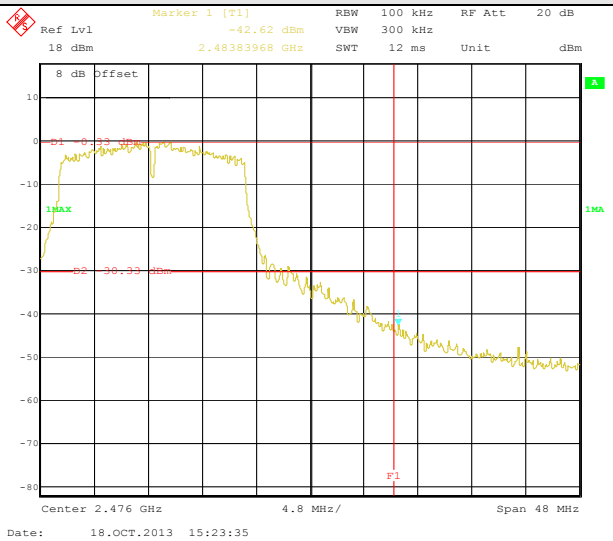


Highest channel

Test mode:	802.11g

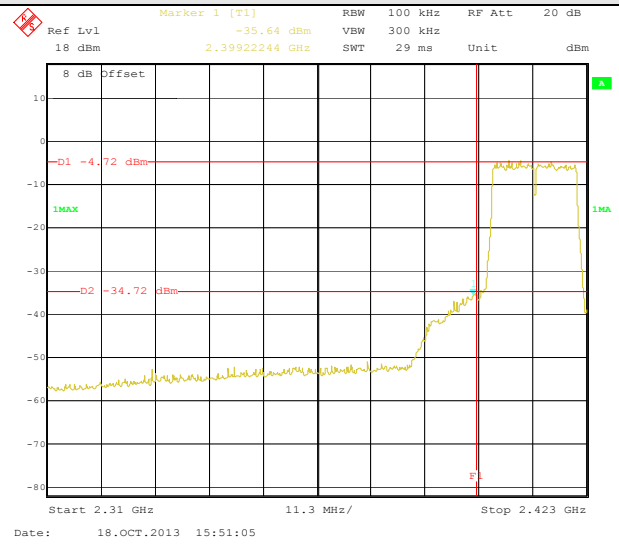


Lowest channel

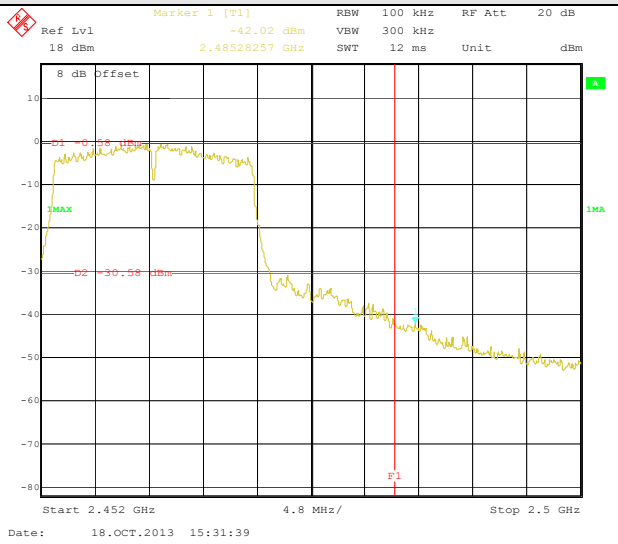


Highest channel

Test mode:	802.11n(H20)

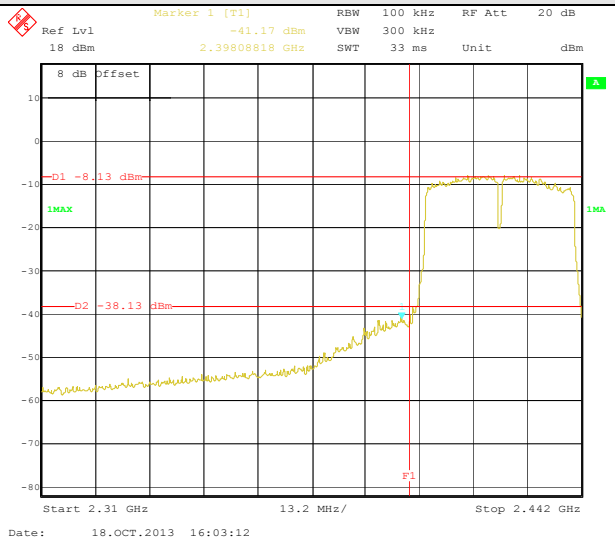


Lowest channel

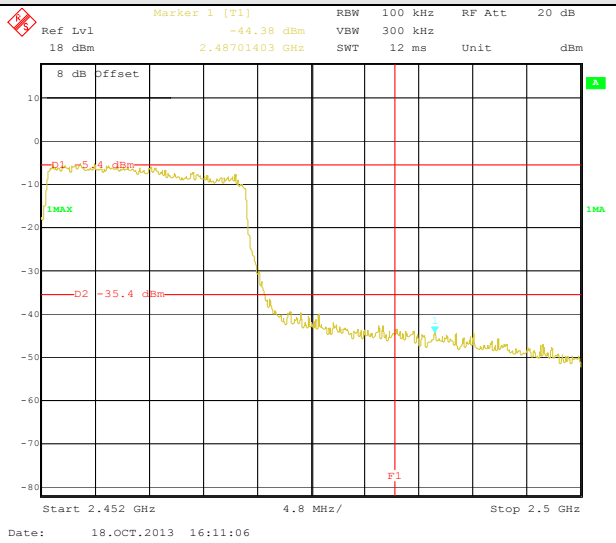


Highest channel

Test mode:	802.11 n(H40)

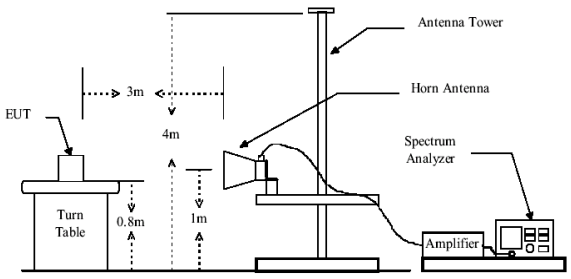


Lowest channel



Highest channel

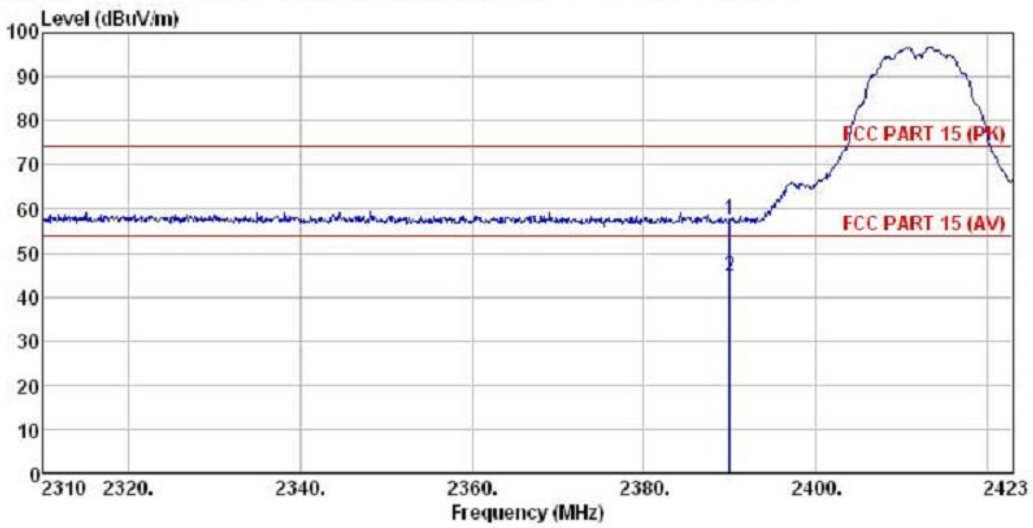
6.6.2 Radiated Emission Method

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.209 and 15.205</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.4: 2003</td></tr>
<tr><td>Test Frequency Range:</td><td>2.3GHz to 2.5GHz</td></tr>
<tr><td>Test site:</td><td>Measurement Distance: 3m</td></tr>
<tr><td>Receiver setup:</td><td>
<table>
<tr><th>Frequency</th><th>Detector</th><th>RBW</th><th>VBW</th><th>Remark</th></tr>
<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>
</table>
</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><th>Frequency</th><th>Limit (dBuV/m @3m)</th><th>Remark</th></tr>
<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>
</table>
</td></tr>
<tr><td>Test Procedure:</td><td>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.</td></tr>
<tr><td>Test setup:</td><td> 
</td></tr>
<tr><td>Test Instruments:</td><td>Refer to section 5.7 for details</td></tr>
<tr><td>Test mode:</td><td>Refer to section 5.3 for details</td></tr>
<tr><td>Test results:</td><td>Passed</td></tr>
</table>

802.11b

Test channel: Lowest

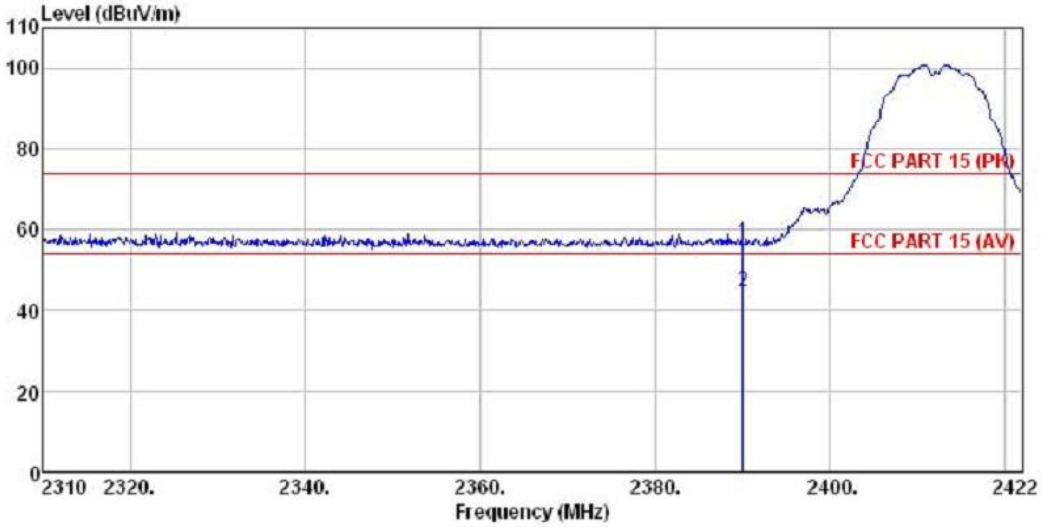
Horizontal:



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode BE-B-L
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna 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	2390.004	24.43	27.58	5.67	0.00	57.68	74.00	-16.32	Peak
2	2390.004	11.38	27.58	5.67	0.00	44.63	54.00	-9.37	Average

Vertical:

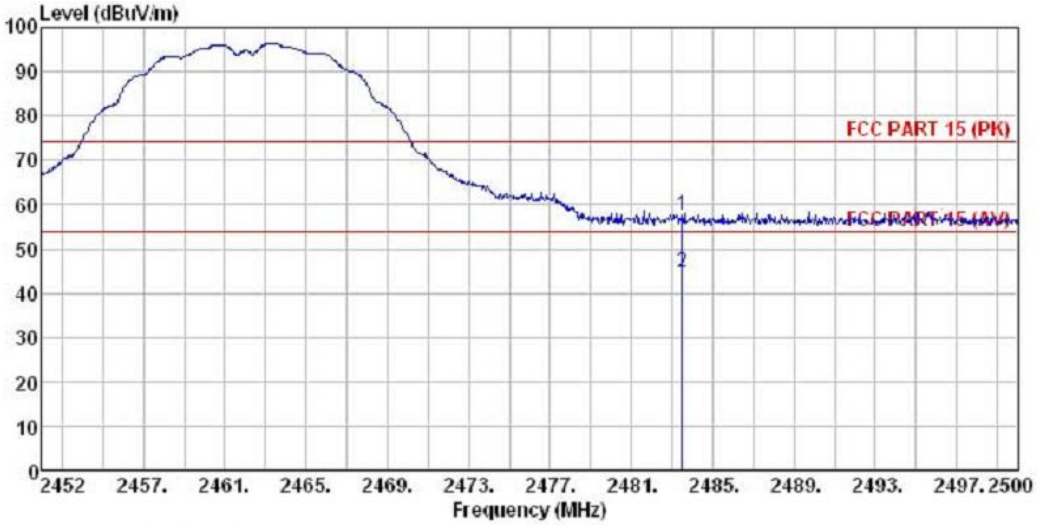


Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode BE-B-L
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.080	23.68	27.58	5.67	0.00	56.93	74.00	-17.07	Peak
2	2390.080	11.52	27.58	5.67	0.00	44.77	54.00	-9.23	Average

Test channel: Highest

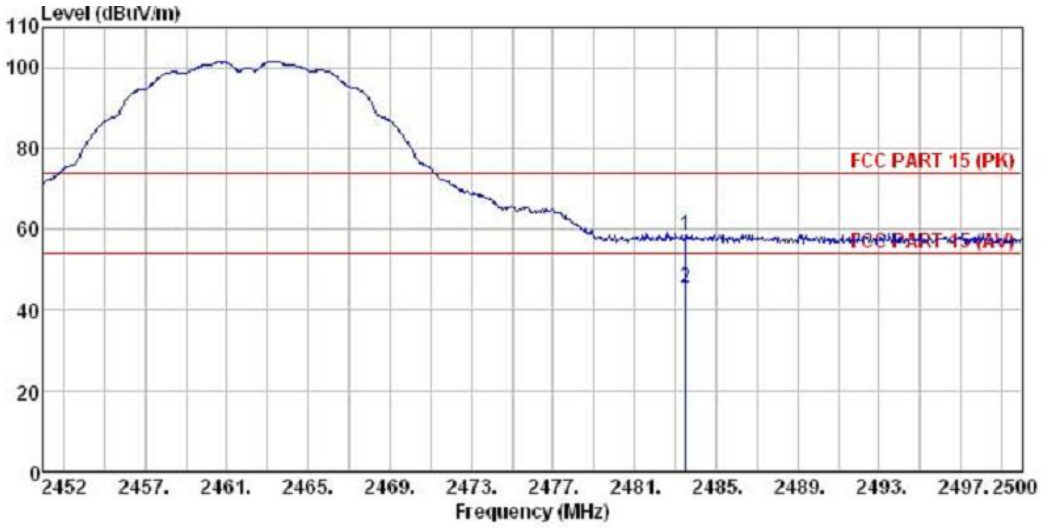
Horizontal:




```
Site          : 3m chamber
Condition     : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
Job NO.       : 414RF
EUT           : Mobile phone
Model         : S715
Test mode     : WIFI mode BE-B-H
Power Rating  : AC120V/60Hz
Environment   : Temp:25.5'C  Huni:55%
Test Engineer: A-bomb
```

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.488	24.21	27.52	5.70	0.00	57.43	74.00	-16.57	Peak
2	2483.488	11.53	27.52	5.70	0.00	44.75	54.00	-9.25	Average

Vertical:



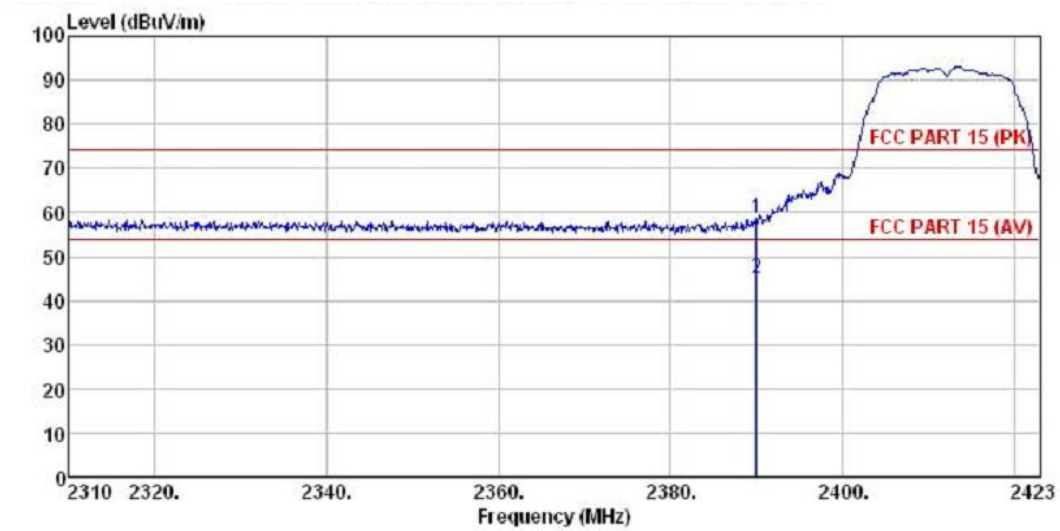
Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode BE-B-H
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.488	25.03	27.52	5.70	0.00	58.25	74.00	-15.75	Peak
2	2483.488	12.28	27.52	5.70	0.00	45.50	54.00	-8.50	Average

802.11g

Test channel: Lowest

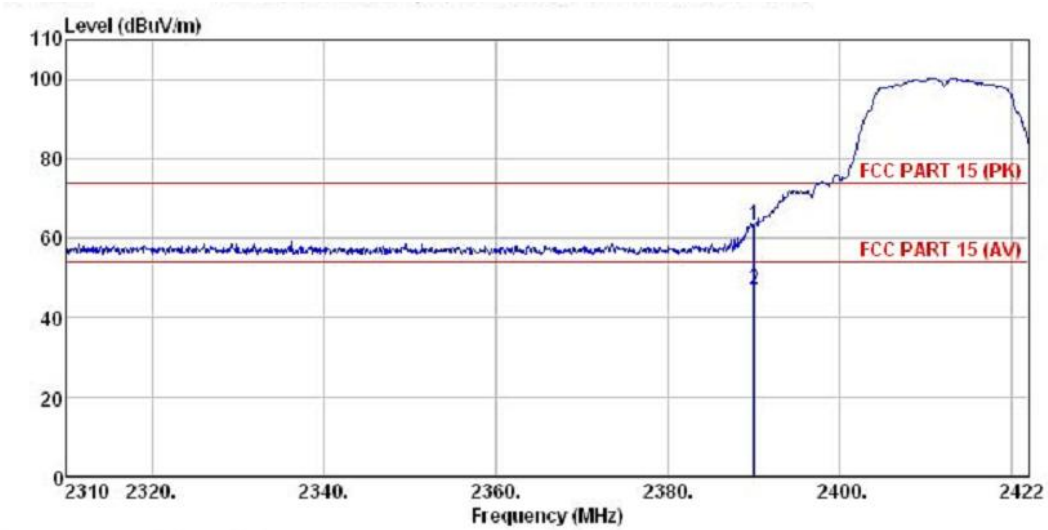
Horizontal:




```
Site          : 3m chamber
Condition     : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
Job NO.       : 414RF
EUT           : Mobile phone
Model         : S715
Test mode     : WIFI mode BE-G-L
Power Rating  : AC120V/60Hz
Environment   : Temp:25.5'C  Huni:55%
Test Engineer: A-bomb
                 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   2390.004  25.47  27.58   5.67   0.00  58.72  74.00 -15.28 Peak
  2   2390.004  11.90  27.58   5.67   0.00  45.15  54.00  -8.85 Average
```

Vertical:

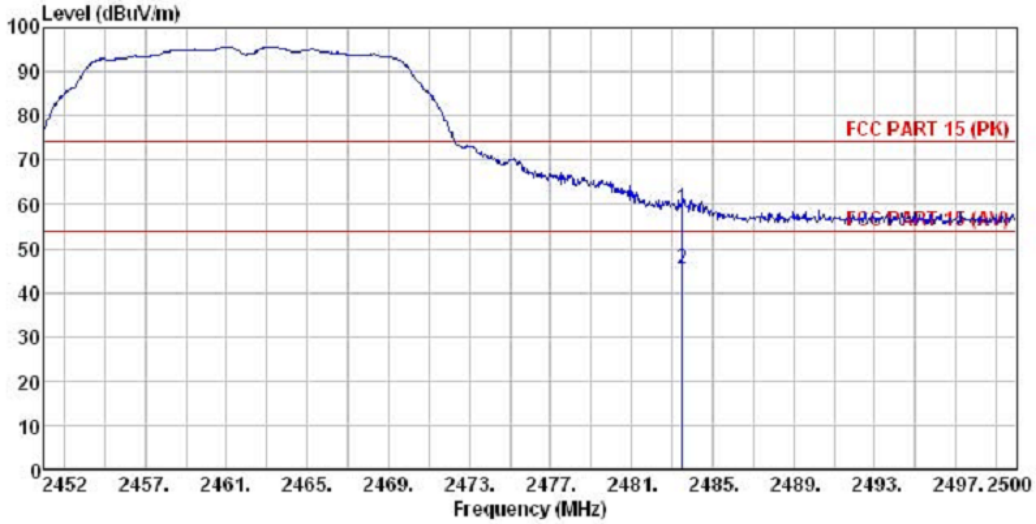


Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode BE-G-L
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna 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	2390.080	30.06	27.58	5.67	0.00	63.31	74.00	-10.69	Peak
2	2390.080	13.86	27.58	5.67	0.00	47.11	54.00	-6.89	Average

Test channel: Highest

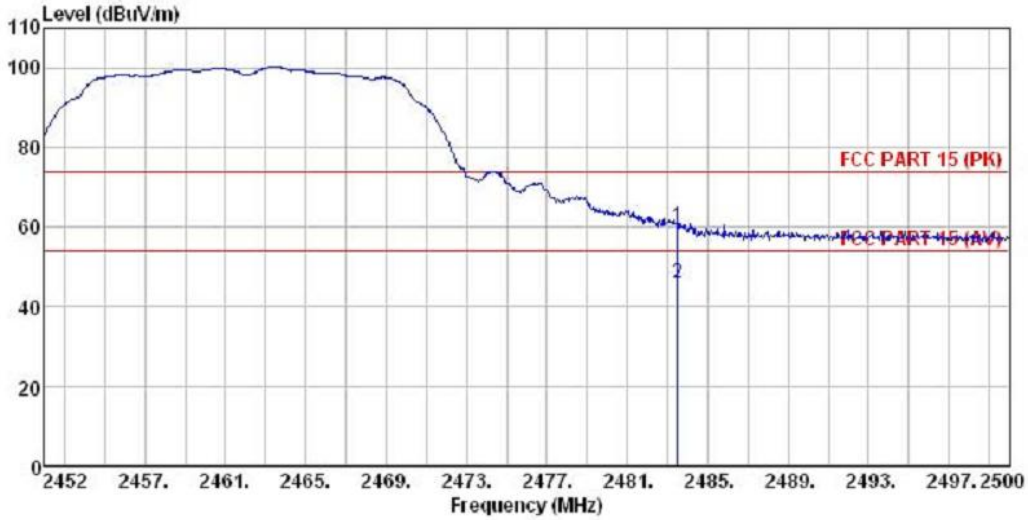
Horizontal:



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode BE-G-H
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna 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	2483.488	25.67	27.52	5.70	0.00	58.89	74.00	-15.11	Peak
2	2483.488	12.29	27.52	5.70	0.00	45.51	54.00	-8.49	Average

Vertical;



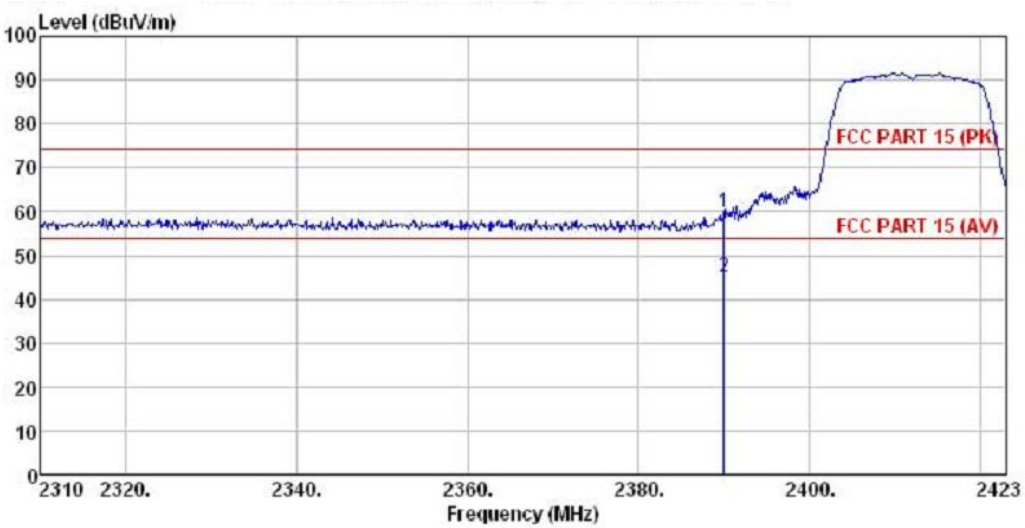
Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode BE-G-H
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.488	27.04	27.52	5.70	0.00	60.26	74.00	-13.74	Peak
2	2483.488	12.59	27.52	5.70	0.00	45.81	54.00	-8.19	Average

802.11n (H20)

Test channel: Lowest

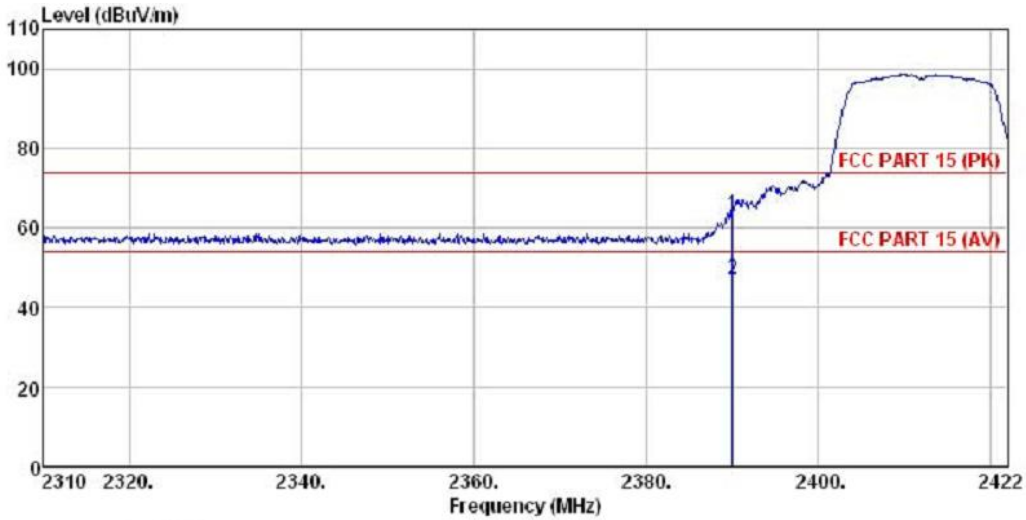
Horizontal:



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode BE-N20-L
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.004	26.53	27.58	5.67	0.00	59.78	74.00	-14.22	Peak
2	2390.004	11.90	27.58	5.67	0.00	45.15	54.00	-8.85	Average

Vertical:

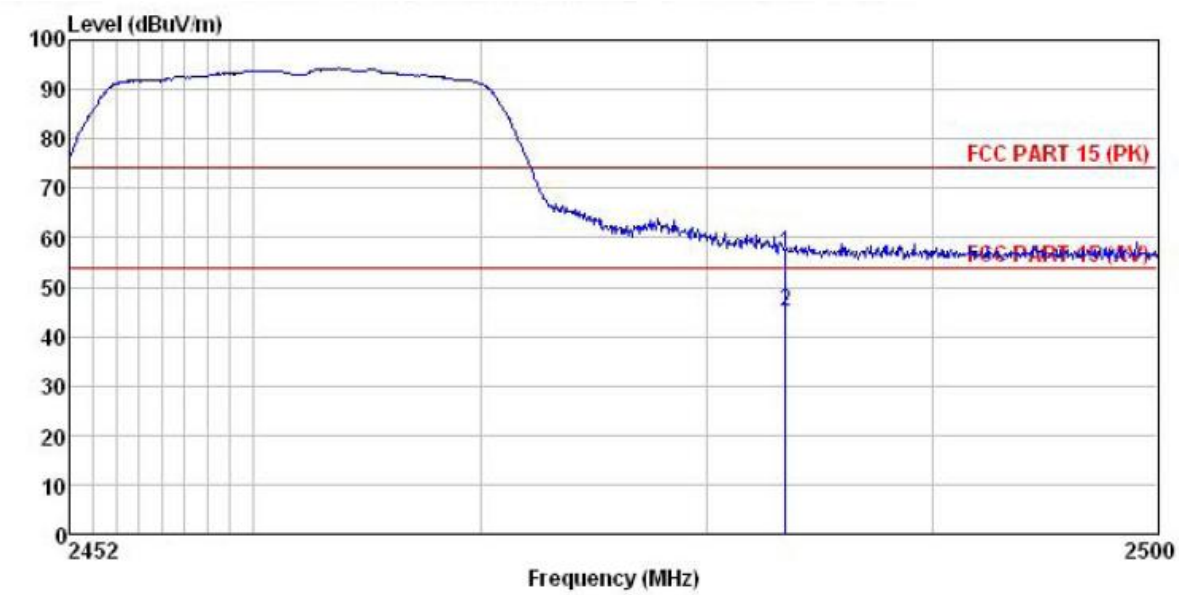


Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode BE-N20-L
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.080	30.11	27.58	5.67	0.00	63.36	74.00	-10.64	Peak
2	2390.080	13.76	27.58	5.67	0.00	47.01	54.00	-6.99	Average

Test channel: Highest

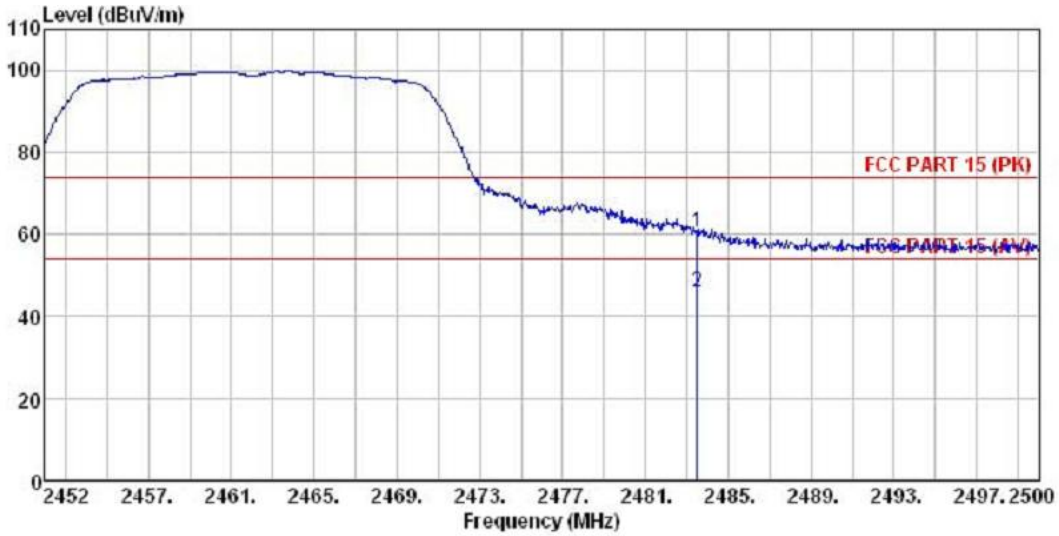
Horizontal:



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode BE-N20-H
Power Rating : AC120V/60Hz
Environment : Temp:25.5℃ Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.488	23.58	27.52	5.70	0.00	56.80	74.00	-17.20	Peak
2	2483.488	11.76	27.52	5.70	0.00	44.98	54.00	-9.02	Average

Vertical:



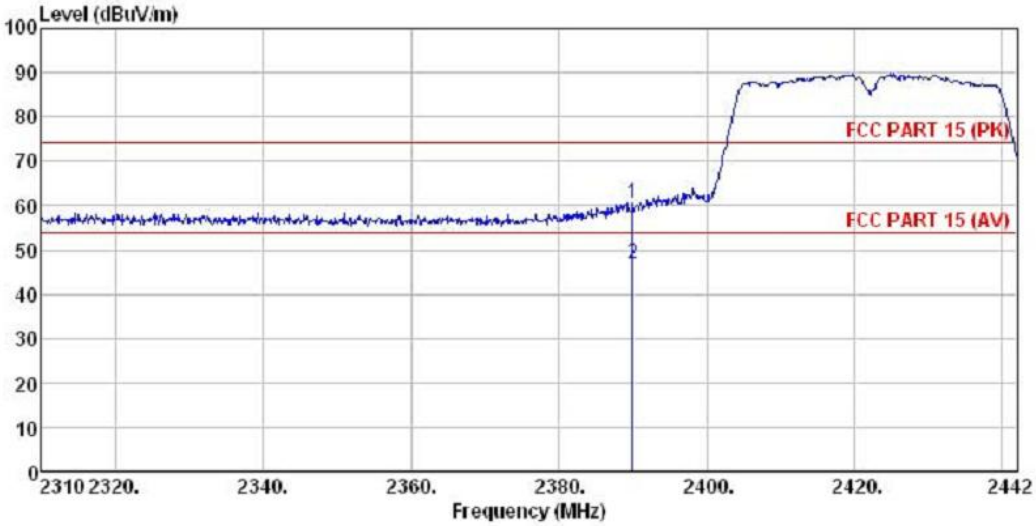
Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode BE-N20-H
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.488	27.10	27.52	5.70	0.00	60.32	74.00	-13.68	Peak
2	2483.488	12.84	27.52	5.70	0.00	46.06	54.00	-7.94	Average

802.11n (H40)

Test channel: Lowest

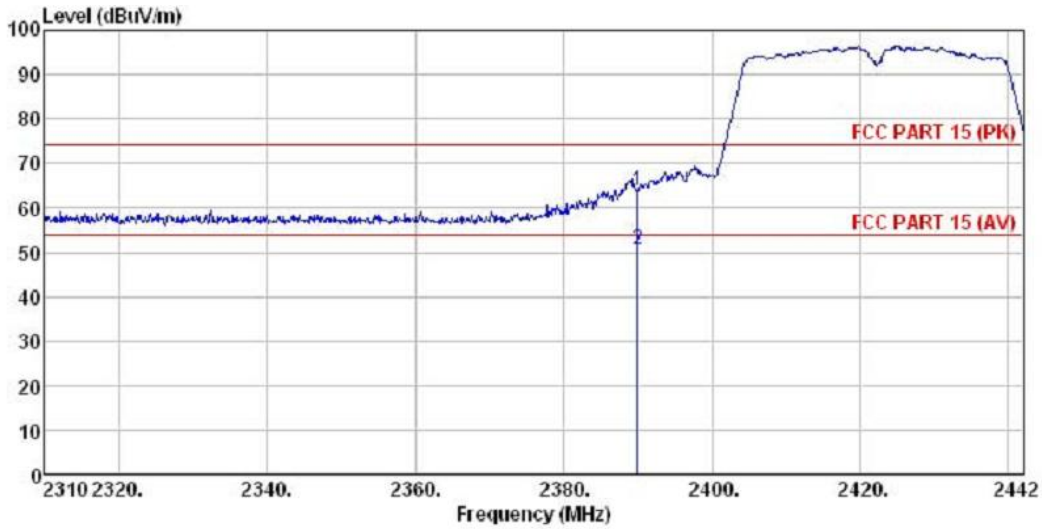
Horizontal:



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode BE-N40-L
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2389.992	27.09	27.58	5.67	0.00	60.34	74.00	-13.66	Peak
2	2389.992	13.77	27.58	5.67	0.00	47.02	54.00	-6.98	Average

Vertical:

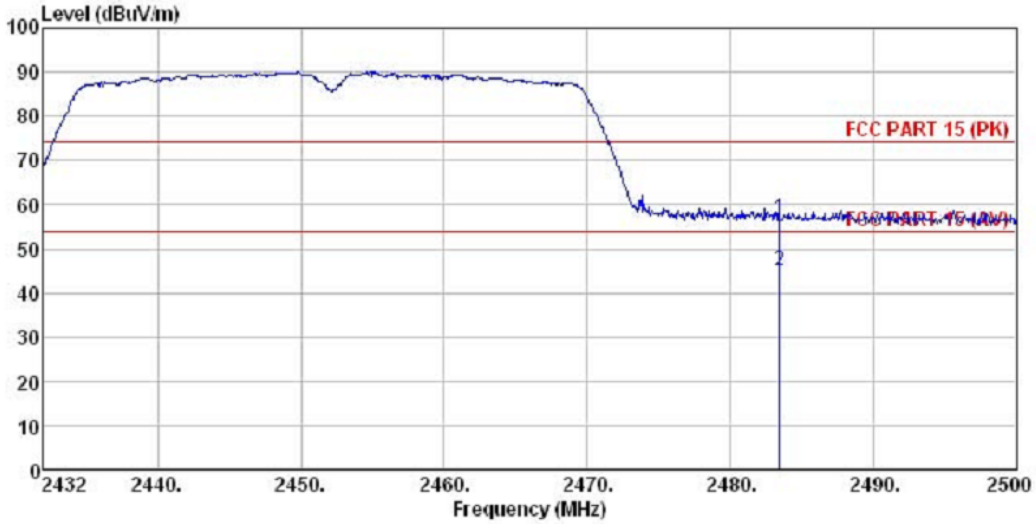


Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode BE-N40-L
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2389.992	30.74	27.58	5.67	0.00	63.99	74.00	-10.01	Peak
2	2389.992	17.15	27.58	5.67	0.00	50.40	54.00	-3.60	Average

Test channel: Highest

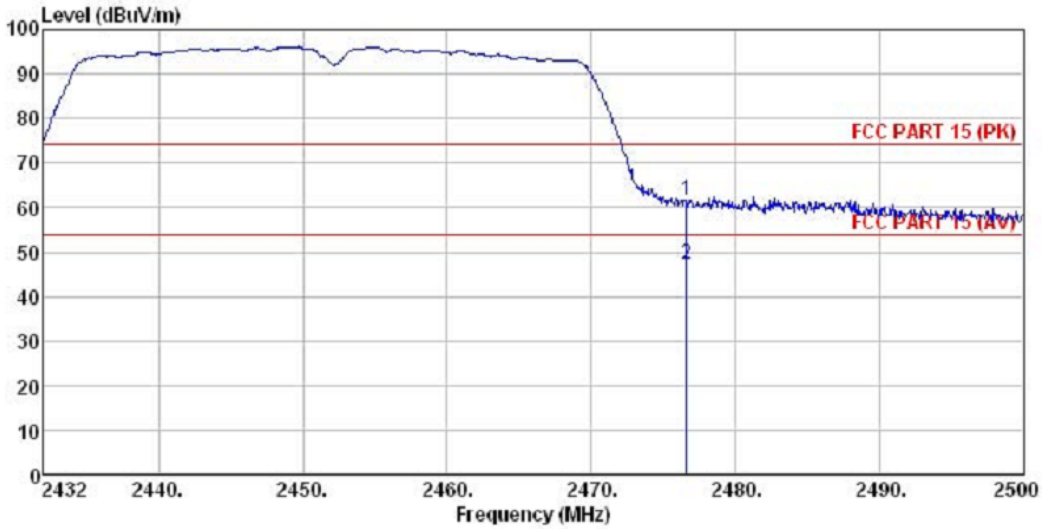
Horizontal:



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode BE-N40-H
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.476	23.73	27.52	5.70	0.00	56.95	74.00	-17.05	Peak
2	2483.476	11.93	27.52	5.70	0.00	45.15	54.00	-8.85	Average

Vertical:

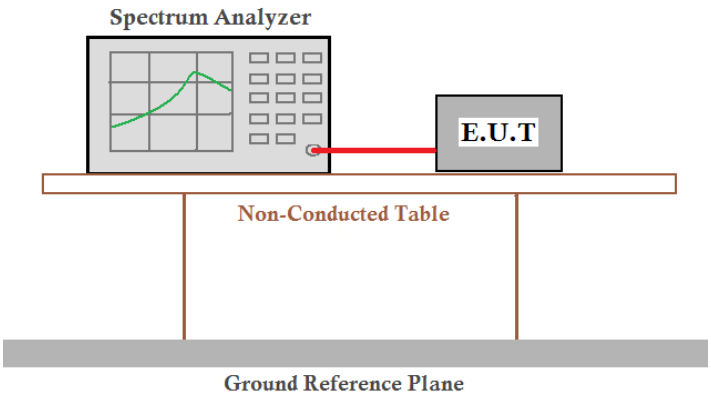


Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode BE-N40-H
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna 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	2476.608	28.33	27.52	5.70	0.00	61.55	74.00	-12.45	Peak
2	2476.608	13.98	27.52	5.70	0.00	47.20	54.00	-6.80	Average

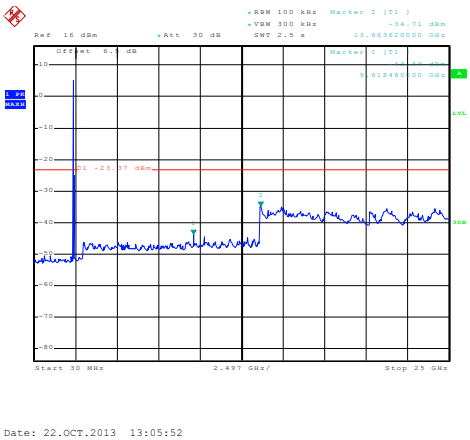
6.7 Spurious Emission

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:	
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

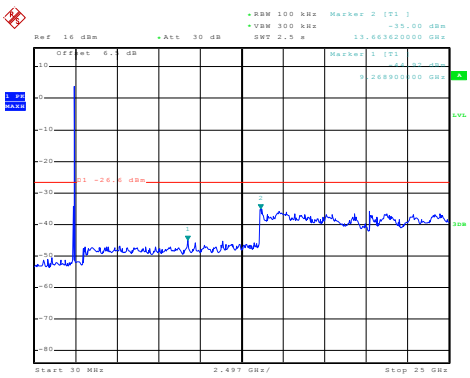
Test plot as follows:

Test mode:	802.11b



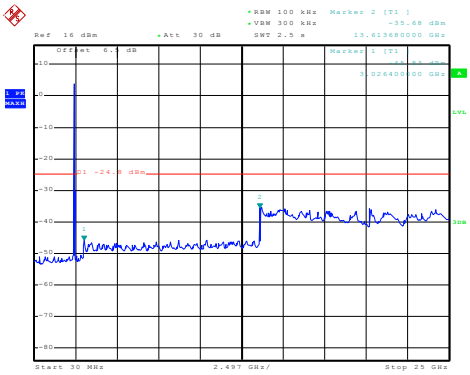
Date: 22.OCT.2013 13:05:52

Lowest channel (30MHz~25GHz)



Date: 22.OCT.2013 13:07:04

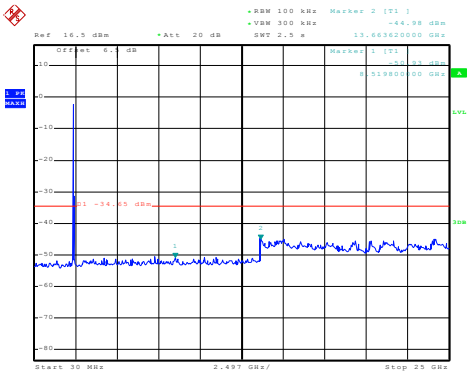
Middle channel (30MHz~25GHz)



Date: 22.OCT.2013 13:08:35

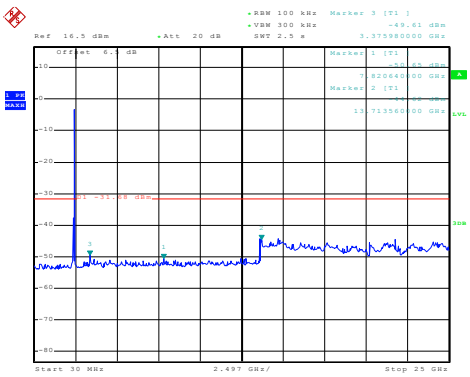
Highest channel (30MHz~25GHz)

Test mode:	802.11g



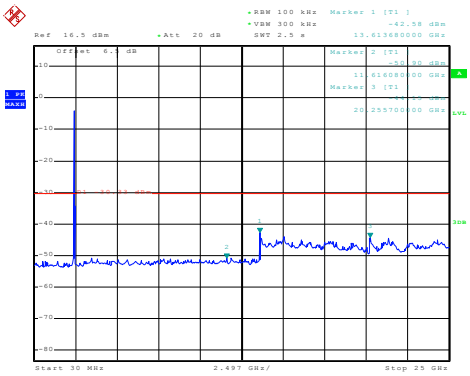
Date: 22.OCT.2013 13:12:34

Lowest channel (30MHz~25GHz)



Date: 22.OCT.2013 13:14:50

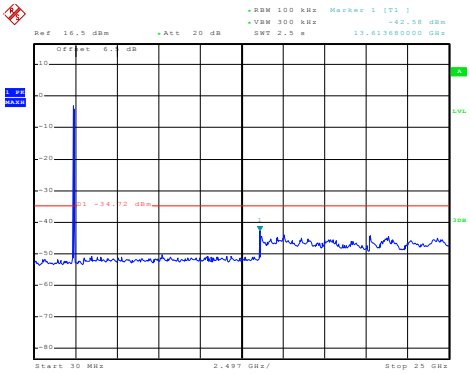
Middle channel (30MHz~25GHz)



Date: 22.OCT.2013 13:17:36

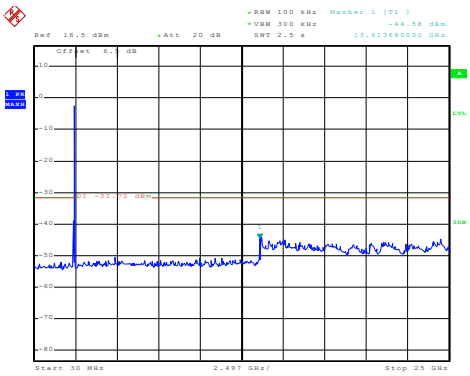
Highest channel (30MHz~25GHz)

Test mode:	802.11n(H20)



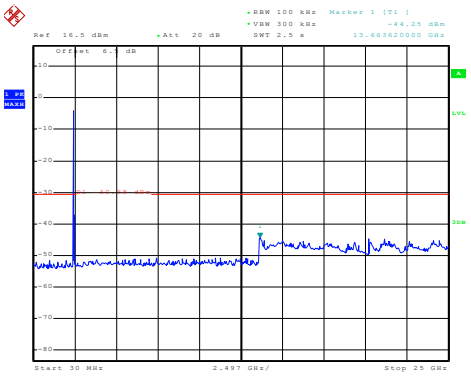
Date: 22.OCT.2013 13:19:07

Lowest channel (30MHz~25GHz)



Date: 22.OCT.2013 13:20:20

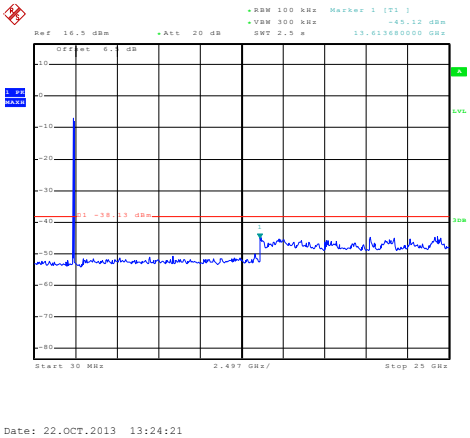
Middle channel(30MHz~25GHz)



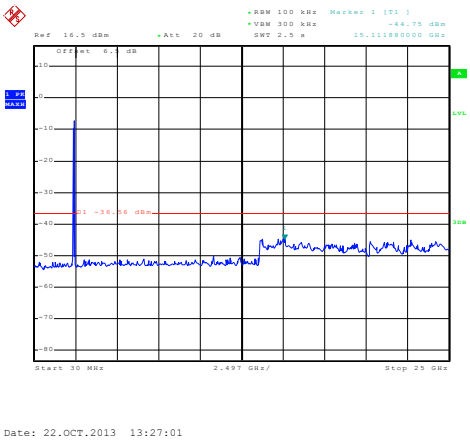
Date: 22.OCT.2013 13:22:04

Highest channel (30MHz~25GHz)

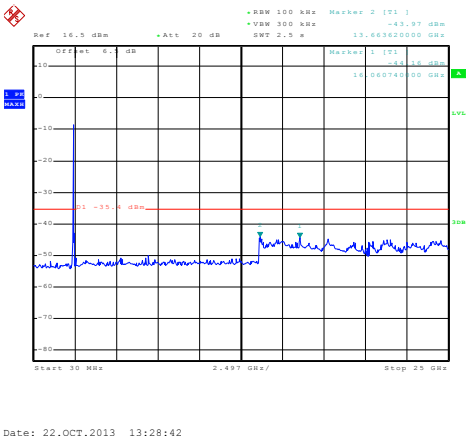
Test mode:	802.11n(H40)



Lowest channel (30MHz~25GHz)



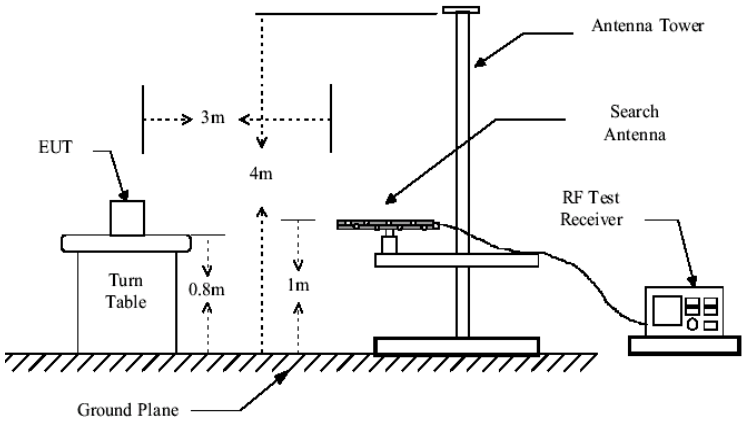
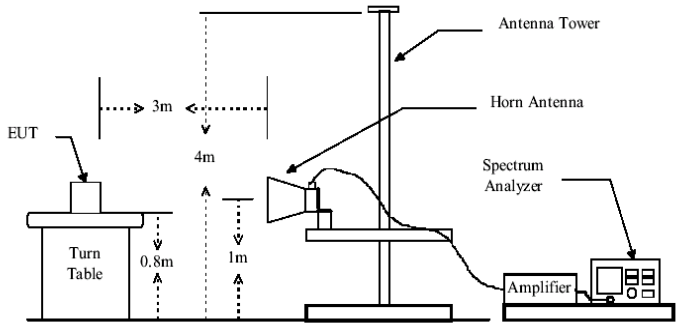
Middle channel (30MHz~25GHz)



Highest channel (30MHz~25GHz)

6.7.2 Radiated Emission Method

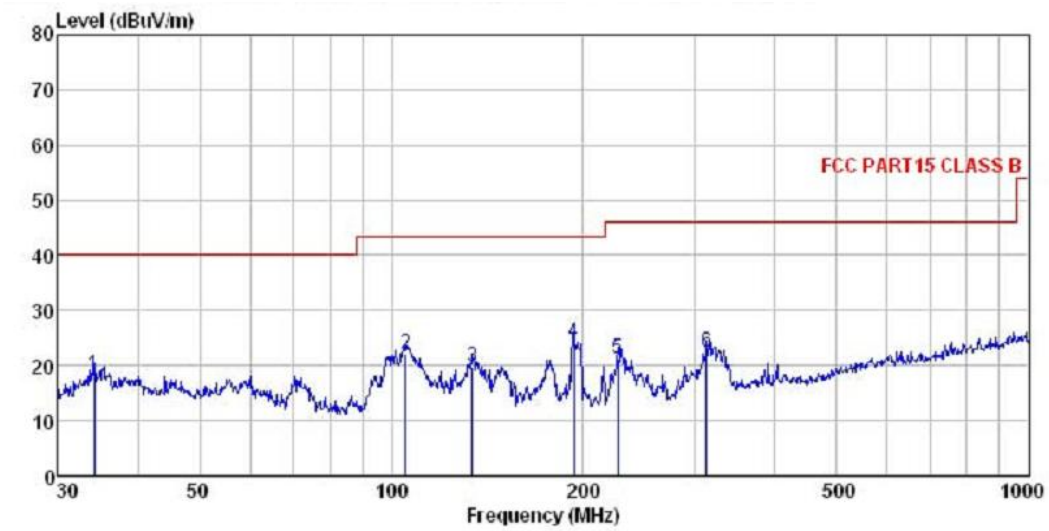
<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.209 and 15.205</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.4:2003</td></tr>
<tr><td>Test Frequency Range:</td><td>9kHz to 25GHz</td></tr>
<tr><td>Test site:</td><td>Measurement Distance: 3m</td></tr>
<tr><td>Receiver setup:</td><td>
<table>
<tr><th>Frequency</th><th>Detector</th><th>RBW</th><th>VBW</th><th>Remark</th></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>100KHz</td><td>300KHz</td><td>Quasi-peak Value</td></tr>
<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>
</table>
</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><th>Frequency</th><th>Limit (dBuV/m @3m)</th><th>Remark</th></tr>
<tr><td>30MHz-88MHz</td><td>40.0</td><td>Quasi-peak Value</td></tr>
<tr><td>88MHz-216MHz</td><td>43.5</td><td>Quasi-peak Value</td></tr>
<tr><td>216MHz-960MHz</td><td>46.0</td><td>Quasi-peak Value</td></tr>
<tr><td>960MHz-1GHz</td><td>54.0</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>54.0</td><td>Average Value</td></tr>
<tr><td>74.0</td><td>Peak Value</td></tr>
</table>
</td></tr>
<tr><td>Test Procedure:</td><td>
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.
</td></tr>
</table>

Test setup:	Below 1GHz  Above 1GHz 
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Remark:	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

Measurement Data

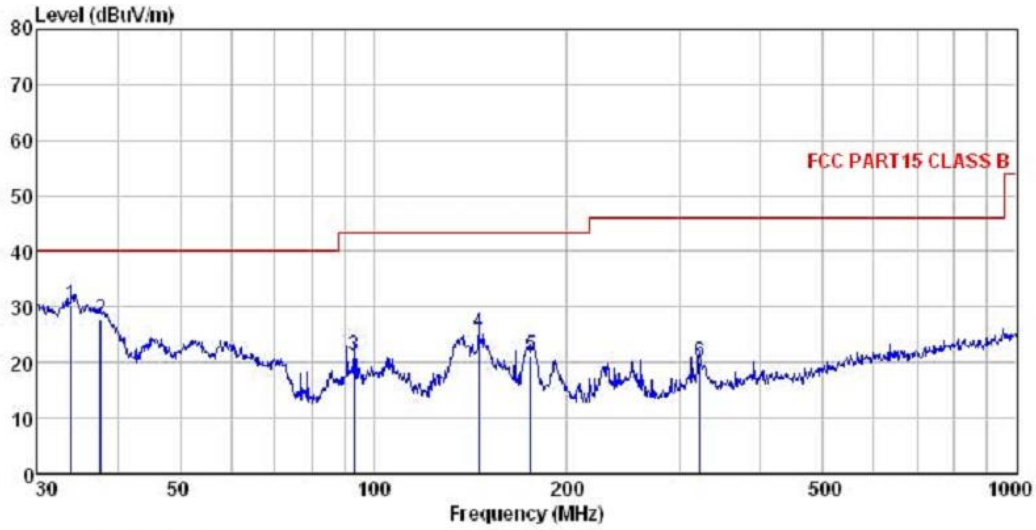
Horizontal:



Site : 3m chamber
Condition : FCC PART15 CLASS B 3m VULB9163(30M1G) HORIZONTAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode B-M
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBm	dB/m	dB	dB	dBm/m	dBm/m	dB	
1	34.156	31.82	12.31	0.98	26.71	18.40	40.00	-21.60	QP
2	105.272	37.29	12.68	2.00	29.97	22.00	43.50	-21.50	QP
3	134.088	38.35	8.61	2.33	29.47	19.82	43.50	-23.68	QP
4	193.095	40.70	10.56	2.82	29.82	24.26	43.50	-19.24	QP
5	226.894	36.59	11.51	2.84	29.69	21.25	46.00	-24.75	QP
6	312.179	35.80	13.22	2.98	29.49	22.51	46.00	-23.49	QP

Vertical:



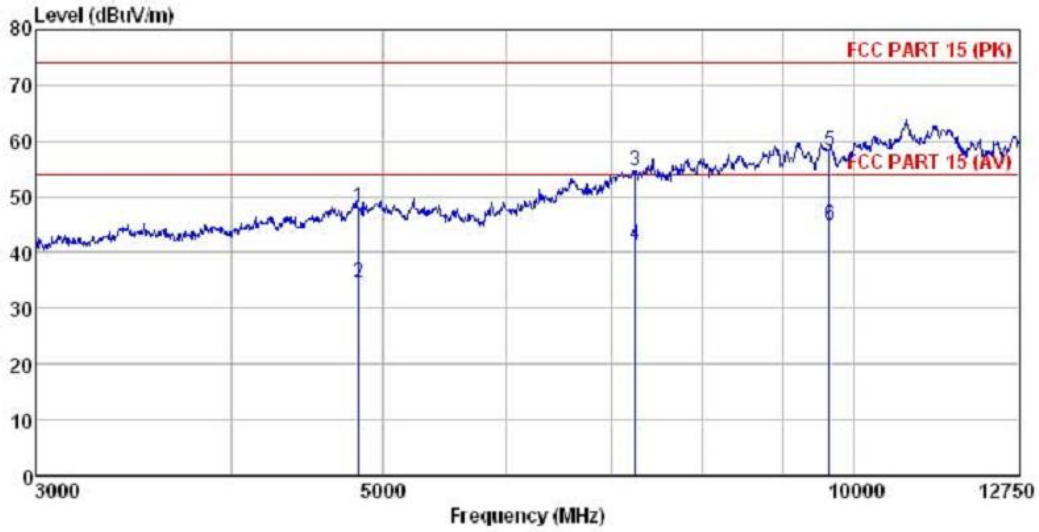
Site : 3m chamber
Condition : FCC PART15 CLASS B 3m VULB9163(30M1G) VERTICAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode B-M
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBm	dB/m	dB	dB	dBm/m	dBm/m	dB	
1	33.917	43.70	12.31	0.98	26.69	30.30	40.00	-9.70	QP
2	37.680	40.76	13.01	1.14	27.05	27.86	40.00	-12.14	QP
3	93.440	36.66	12.58	2.02	30.08	21.18	43.50	-22.32	QP
4	145.861	43.84	8.23	2.46	29.29	25.24	43.50	-18.26	QP
5	175.652	36.81	9.36	2.70	27.57	21.30	43.50	-22.20	QP
6	321.061	33.35	13.40	3.01	29.54	20.22	46.00	-25.78	QP

Above 1GHz

802.11b The lowest channel

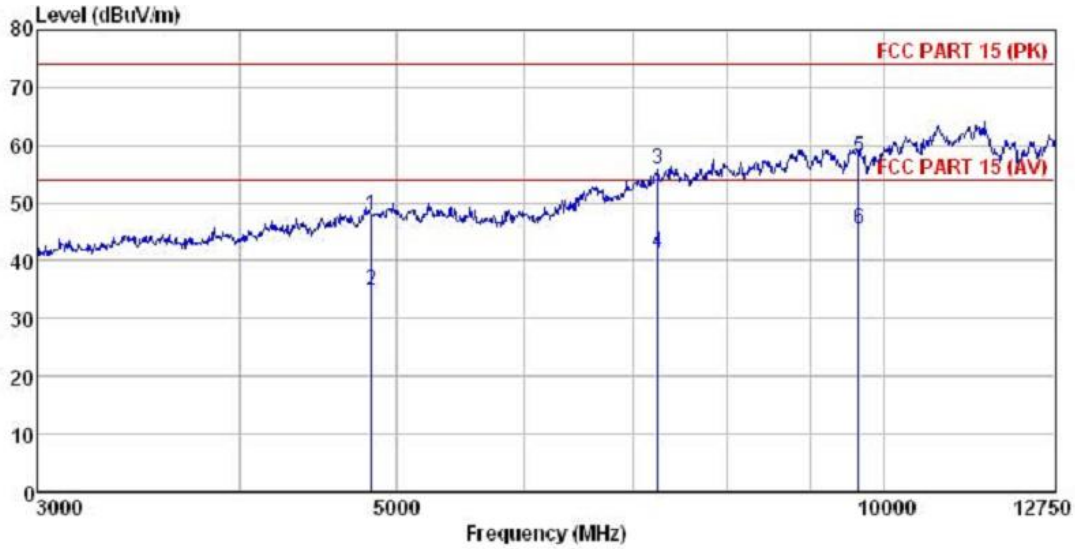
Horizontal:



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode B-L
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBm	dB/m	dB	dB	dBm/m	dBm/m	dB	
1	4822.063	47.81	31.54	8.92	40.22	48.05	74.00	-25.95	Peak
2	4822.063	34.28	31.54	8.92	40.22	34.52	54.00	-19.48	Average
3	7241.193	48.74	36.50	10.62	41.22	54.64	74.00	-19.36	Peak
4	7241.193	35.54	36.50	10.62	41.22	41.44	54.00	-12.56	Average
5	9643.421	48.31	38.14	13.20	41.47	58.18	74.00	-15.82	Peak
6	9643.421	35.10	38.14	13.20	41.47	44.97	54.00	-9.03	Average

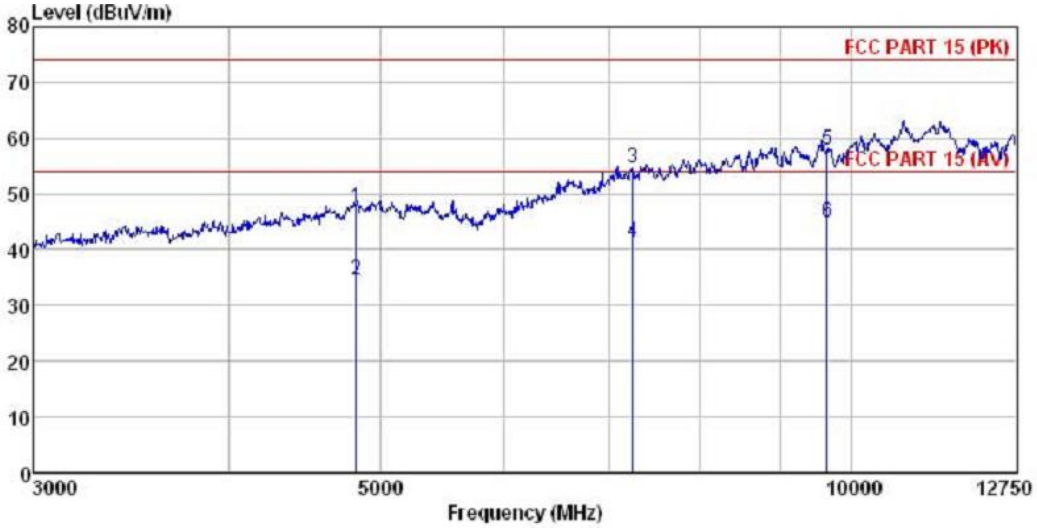
Vertical



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode B-L
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBm	dB/m	dB	dB	dBm/m	dBm/m	dB	
1	4822.063	47.68	31.54	8.92	40.22	47.92	74.00	-26.08	Peak
2	4822.063	34.68	31.54	8.92	40.22	34.92	54.00	-19.08	Average
3	7241.193	49.75	36.50	10.62	41.22	55.65	74.00	-18.35	Peak
4	7241.193	35.45	36.50	10.62	41.22	41.35	54.00	-12.65	Average
5	9643.421	48.08	38.14	13.20	41.47	57.95	74.00	-16.05	Peak
6	9643.421	35.45	38.14	13.20	41.47	45.32	54.00	-8.68	Average

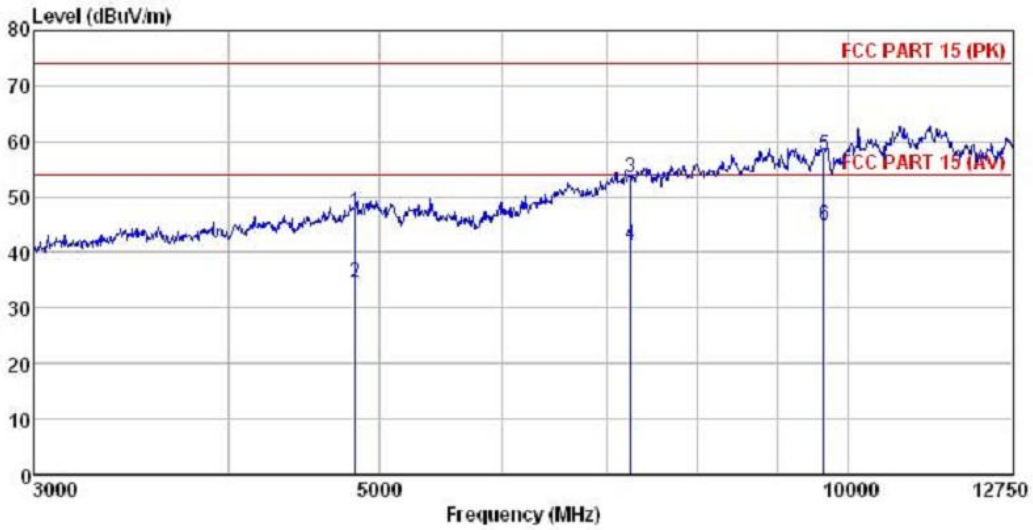
The middle channel:
Horizontal



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode B-M
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBm	dB/m	dB	dB	dBm/m	dBm/m	dB	
1	4822.063	47.19	31.54	8.92	40.22	47.43	74.00	-26.57	Peak
2	4822.063	34.24	31.54	8.92	40.22	34.48	54.00	-19.52	Average
3	7241.193	48.79	36.50	10.62	41.22	54.69	74.00	-19.31	Peak
4	7241.193	35.53	36.50	10.62	41.22	41.43	54.00	-12.57	Average
5	9643.421	48.10	38.14	13.20	41.47	57.97	74.00	-16.03	Peak
6	9643.421	35.08	38.14	13.20	41.47	44.95	54.00	-9.05	Average

Vertical

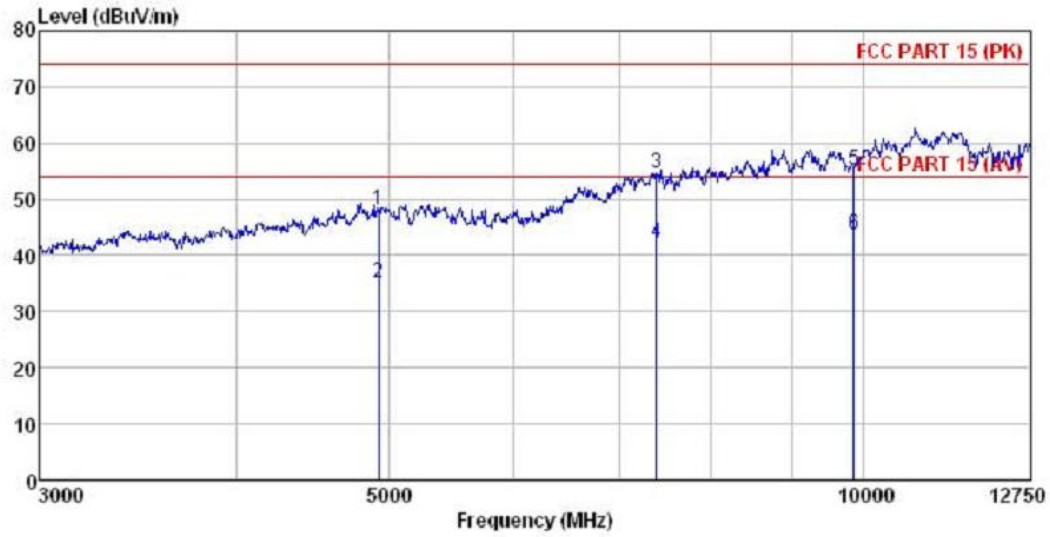


Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode B-M
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBm	dB/m	dB	dB	dBm/m	dBm/m	dB	
1	4822.063	46.97	31.54	8.92	40.22	47.21	74.00	-26.79	Peak
2	4822.063	34.32	31.54	8.92	40.22	34.56	54.00	-19.44	Average
3	7241.193	47.48	36.50	10.62	41.22	53.38	74.00	-20.62	Peak
4	7241.193	35.50	36.50	10.62	41.22	41.40	54.00	-12.60	Average
5	9643.421	47.74	38.14	13.20	41.47	57.61	74.00	-16.39	Peak
6	9643.421	35.07	38.14	13.20	41.47	44.94	54.00	-9.06	Average

The highest channel:

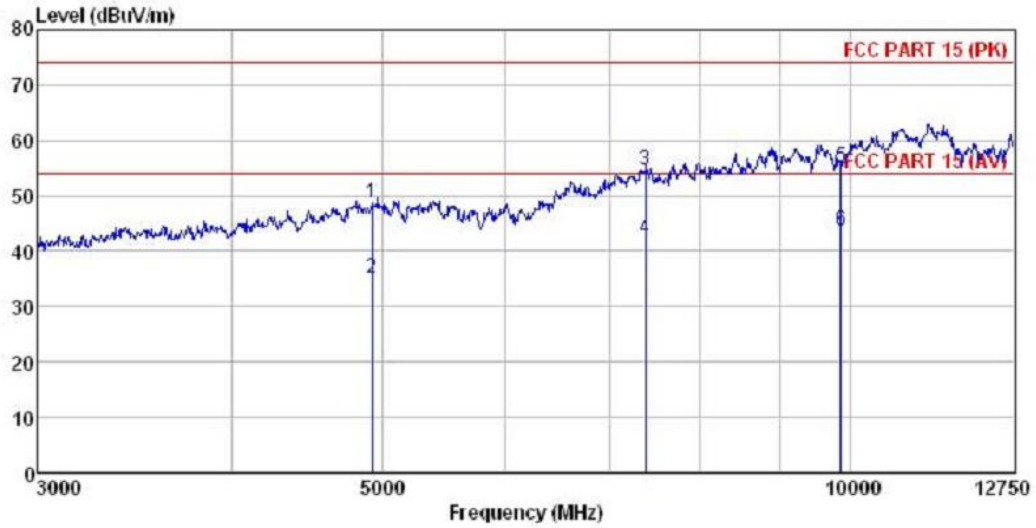
Horizontal



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode B-H
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBm	dB/m	dB	dB	dBm/m	dBm/m	dB	
1	4920.738	47.66	31.61	9.04	40.08	48.23	74.00	-25.77	Peak
2	4920.738	34.60	31.61	9.04	40.08	35.17	54.00	-18.83	Average
3	7389.373	48.42	36.52	10.75	41.09	54.60	74.00	-19.40	Peak
4	7389.373	36.04	36.52	10.75	41.09	42.22	54.00	-11.78	Average
5	9855.008	44.98	38.69	13.47	41.86	55.28	74.00	-18.72	Peak
6	9855.008	33.46	38.69	13.47	41.86	43.76	54.00	-10.24	Average

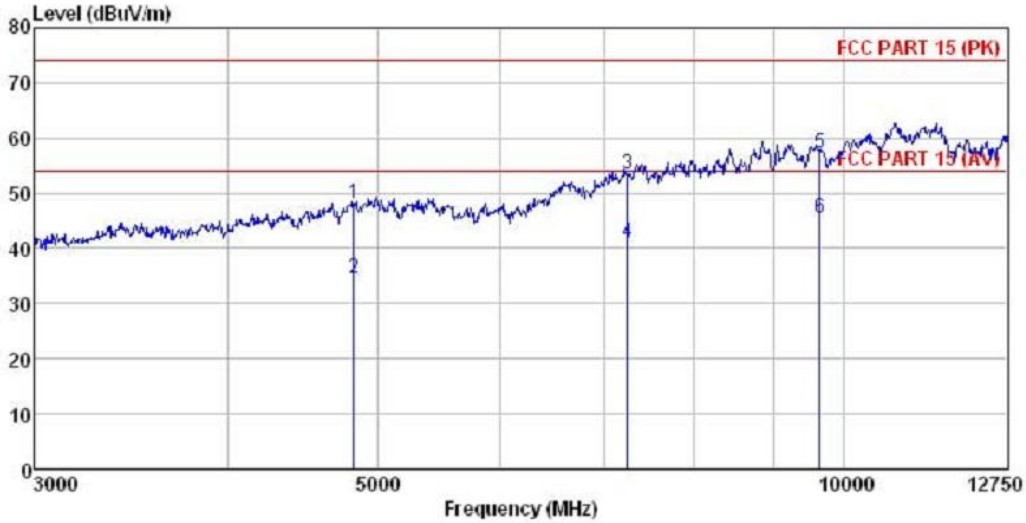
Vertical



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode B-H
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBm	dB/m	dB	dB	dBm/m	dBm/m	dB	
1	4920.738	48.06	31.61	9.04	40.08	48.63	74.00	-25.37	Peak
2	4920.738	34.63	31.61	9.04	40.08	35.20	54.00	-18.80	Average
3	7378.688	48.37	36.52	10.74	41.11	54.52	74.00	-19.48	Peak
4	7378.688	36.07	36.52	10.74	41.11	42.22	54.00	-11.78	Average
5	9855.008	44.94	38.69	13.47	41.86	55.24	74.00	-18.76	Peak
6	9855.008	33.34	38.69	13.47	41.86	43.64	54.00	-10.36	Average

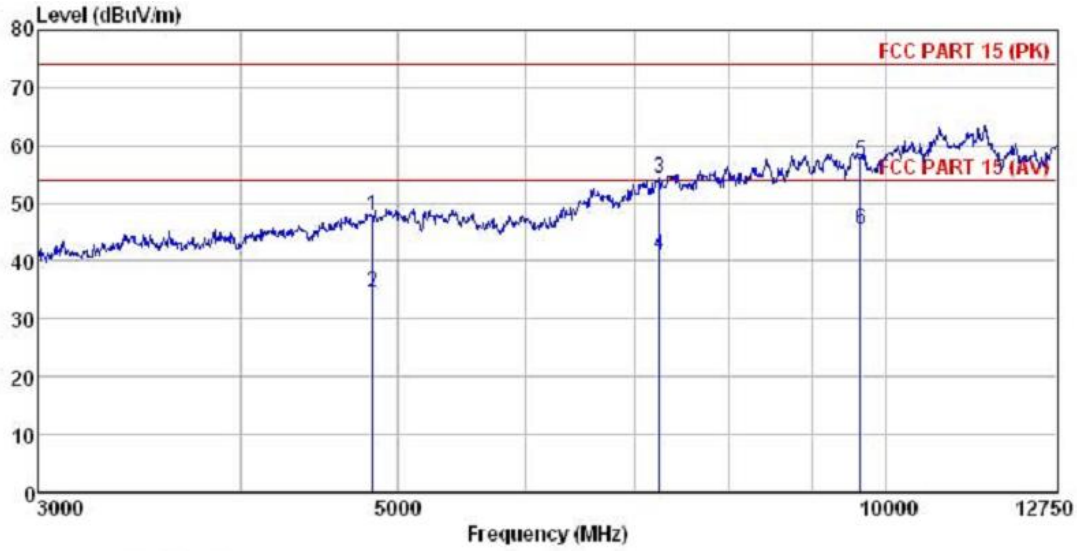
802.11g The lowest channel:
Horizontal



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode G-L
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBm	dB/m	dB	dB	dBm/m	dBm/m	dB	
1	4822.063	47.74	31.54	8.92	40.22	47.98	74.00	-26.02	Peak
2	4822.063	34.37	31.54	8.92	40.22	34.61	54.00	-19.39	Average
3	7241.193	47.42	36.50	10.62	41.22	53.32	74.00	-20.68	Peak
4	7241.193	35.24	36.50	10.62	41.22	41.14	54.00	-12.86	Average
5	9643.421	47.48	38.14	13.20	41.47	57.35	74.00	-16.65	Peak
6	9643.421	35.52	38.14	13.20	41.47	45.39	54.00	-8.61	Average

Vertical

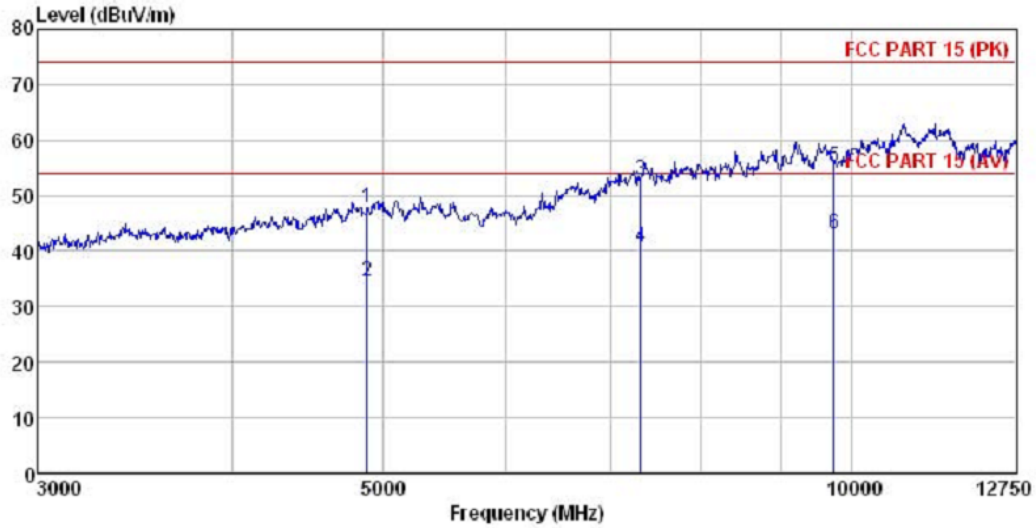


Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode G-L
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBm	dB/m	dB	dB	dBm/m	dBm/m	dB	
1	4822.063	47.68	31.54	8.92	40.22	47.92	74.00	-26.08	Peak
2	4822.063	34.32	31.54	8.92	40.22	34.56	54.00	-19.44	Average
3	7241.193	48.31	36.50	10.62	41.22	54.21	74.00	-19.79	Peak
4	7241.193	35.26	36.50	10.62	41.22	41.16	54.00	-12.84	Average
5	9643.421	47.38	38.14	13.20	41.47	57.25	74.00	-16.75	Peak
6	9643.421	35.51	38.14	13.20	41.47	45.38	54.00	-8.62	Average

802.11g The middle channel:

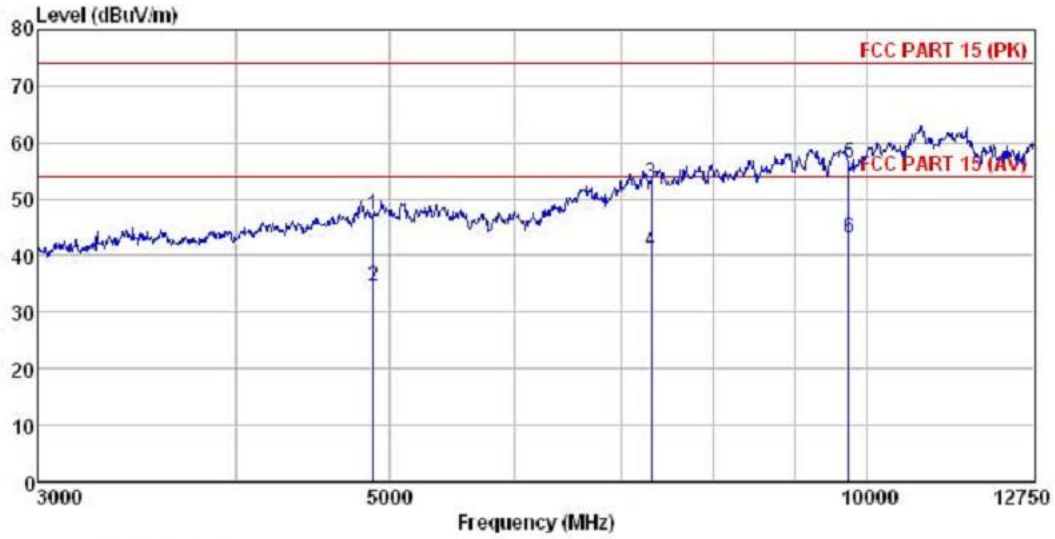
Horizontal



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode G-M
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBm	dB/m	dB	dB	dBm/m	dBm/m	dB	
1	4878.204	47.41	31.57	8.98	40.15	47.81	74.00	-26.19	Peak
2	4878.204	34.07	31.57	8.98	40.15	34.47	54.00	-19.53	Average
3	7314.907	46.96	36.48	10.68	41.16	52.96	74.00	-21.04	Peak
4	7314.907	34.87	36.48	10.68	41.16	40.87	54.00	-13.13	Average
5	9741.590	45.24	38.40	13.32	41.65	55.31	74.00	-18.69	Peak
6	9741.590	33.02	38.40	13.32	41.65	43.09	54.00	-10.91	Average

Vertical

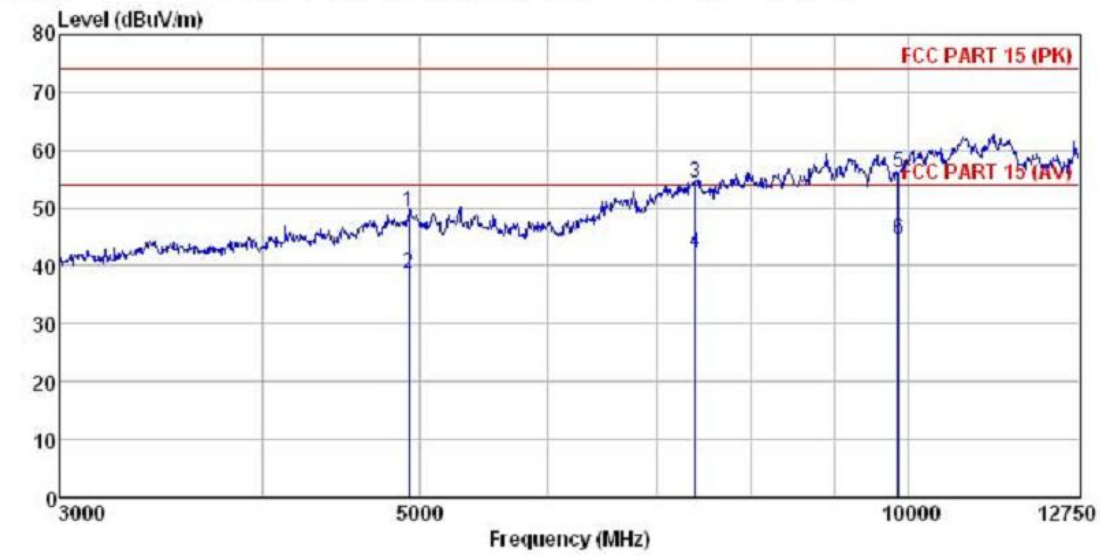


Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode G-M
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBm	dB/m	dB	dB	dBm/m	dBm/m	dB	
1	4878.204	46.69	31.57	8.98	40.15	47.09	74.00	-26.91	Peak
2	4878.204	34.03	31.57	8.98	40.15	34.43	54.00	-19.57	Average
3	7304.331	46.94	36.48	10.68	41.16	52.94	74.00	-21.06	Peak
4	7304.331	34.67	36.48	10.68	41.16	40.67	54.00	-13.33	Average
5	9741.590	46.29	38.40	13.32	41.65	56.36	74.00	-17.64	Peak
6	9741.590	33.01	38.40	13.32	41.65	43.08	54.00	-10.92	Average

The highest channel:

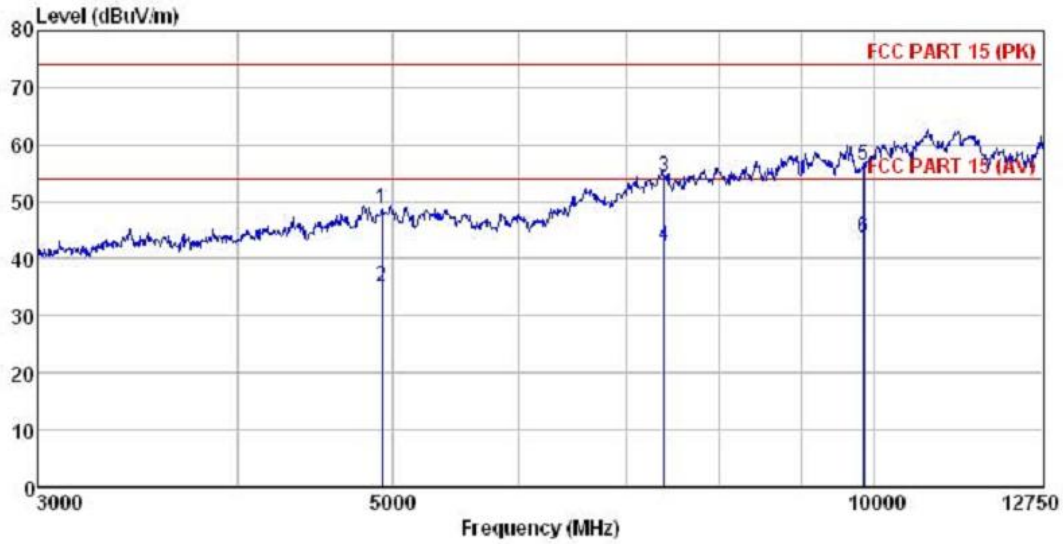
Horizontal



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode G-H
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBm	dB/m	dB	dB	dBm/m	dBm/m	dB	
1	4920.738	48.70	31.61	9.04	40.08	49.27	74.00	-24.73	Peak
2	4920.738	38.01	31.61	9.04	40.08	38.58	54.00	-15.42	Average
3	7389.373	48.04	36.52	10.75	41.09	54.22	74.00	-19.78	Peak
4	7389.373	36.09	36.52	10.75	41.09	42.27	54.00	-11.73	Average
5	9855.008	45.78	38.69	13.47	41.86	56.08	74.00	-17.92	Peak
6	9855.008	34.30	38.69	13.47	41.86	44.60	54.00	-9.40	Average

Vertical

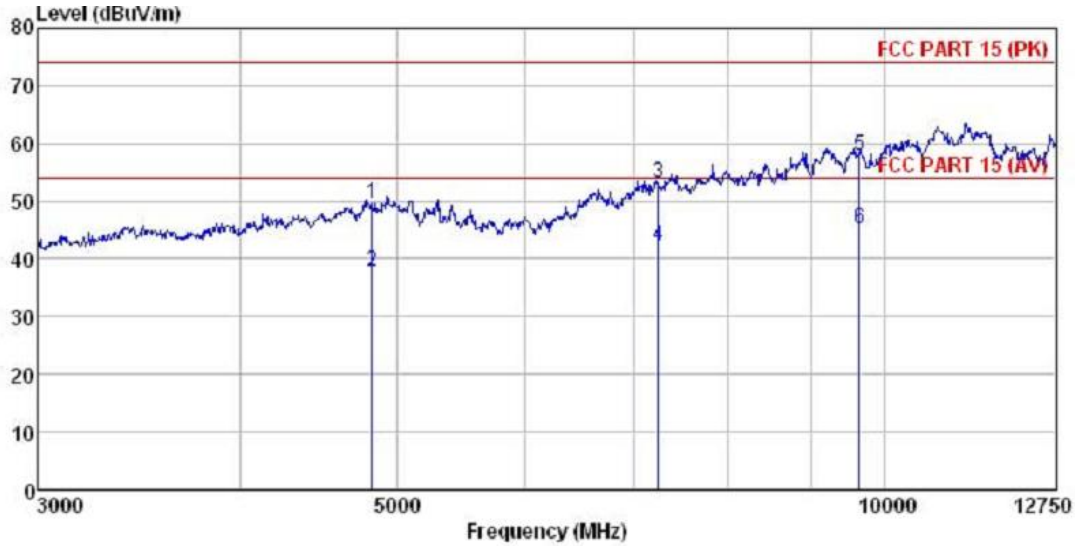


Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode G-H
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBm	dB/m	dB	dB	dBm/m	dBm/m	dB	
1	4920.738	48.28	31.61	9.04	40.08	48.85	74.00	-25.15	Peak
2	4920.738	34.56	31.61	9.04	40.08	35.13	54.00	-18.87	Average
3	7389.373	48.24	36.52	10.75	41.09	54.42	74.00	-19.58	Peak
4	7389.373	36.10	36.52	10.75	41.09	42.28	54.00	-11.72	Average
5	9840.759	46.05	38.70	13.45	41.83	56.37	74.00	-17.63	Peak
6	9840.759	33.50	38.70	13.45	41.83	43.82	54.00	-10.18	Average

802.11n(H20) The lowest channel

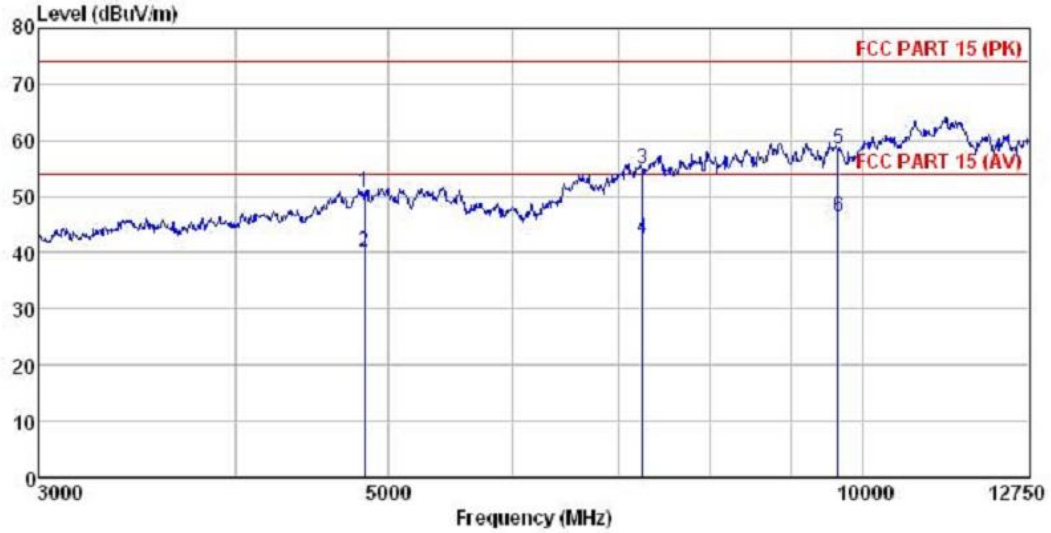
Horizontal



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode N20-L
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBm	dB/m	dB	dB	dBm/m	dBm/m	dB	
1	4822.063	49.34	31.54	8.92	40.22	49.58	74.00	-24.42	Peak
2	4822.063	37.50	31.54	8.92	40.22	37.74	54.00	-16.26	Average
3	7241.193	47.31	36.50	10.62	41.22	53.21	74.00	-20.79	Peak
4	7241.193	36.20	36.50	10.62	41.22	42.10	54.00	-11.90	Average
5	9643.421	47.86	38.14	13.20	41.47	57.73	74.00	-16.27	Peak
6	9643.421	35.31	38.14	13.20	41.47	45.18	54.00	-8.82	Average

Vertical

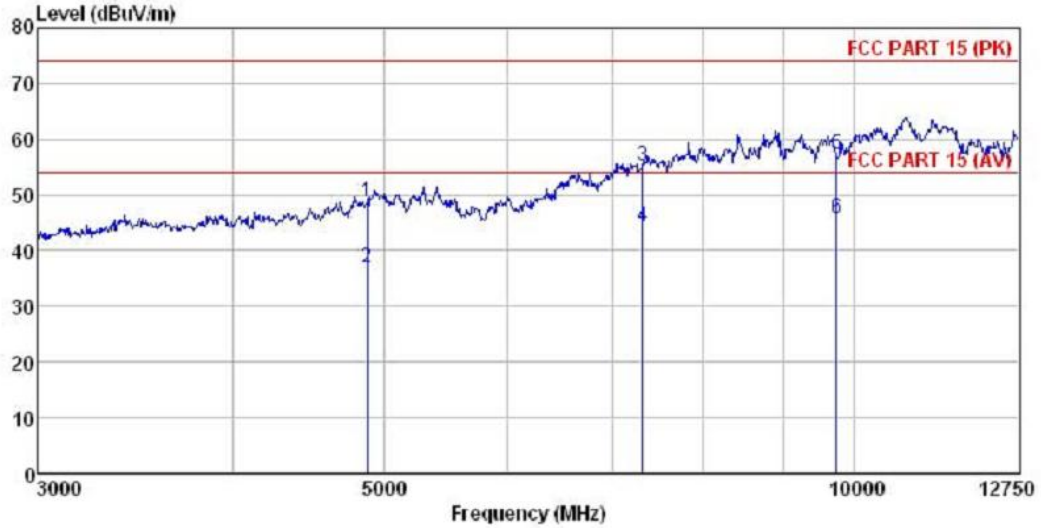


Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode N20-L
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBm	dB/m	dB	dB	dBm/m	dBm/m	dB	
1	4829.044	50.49	31.55	8.92	40.22	50.74	74.00	-23.26	Peak
2	4829.044	39.89	31.55	8.92	40.22	40.14	54.00	-13.86	Average
3	7241.193	48.92	36.50	10.62	41.22	54.82	74.00	-19.18	Peak
4	7241.193	36.52	36.50	10.62	41.22	42.42	54.00	-11.58	Average
5	9643.421	48.72	38.14	13.20	41.47	58.59	74.00	-15.41	Peak
6	9643.421	36.46	38.14	13.20	41.47	46.33	54.00	-7.67	Average

The middle channel

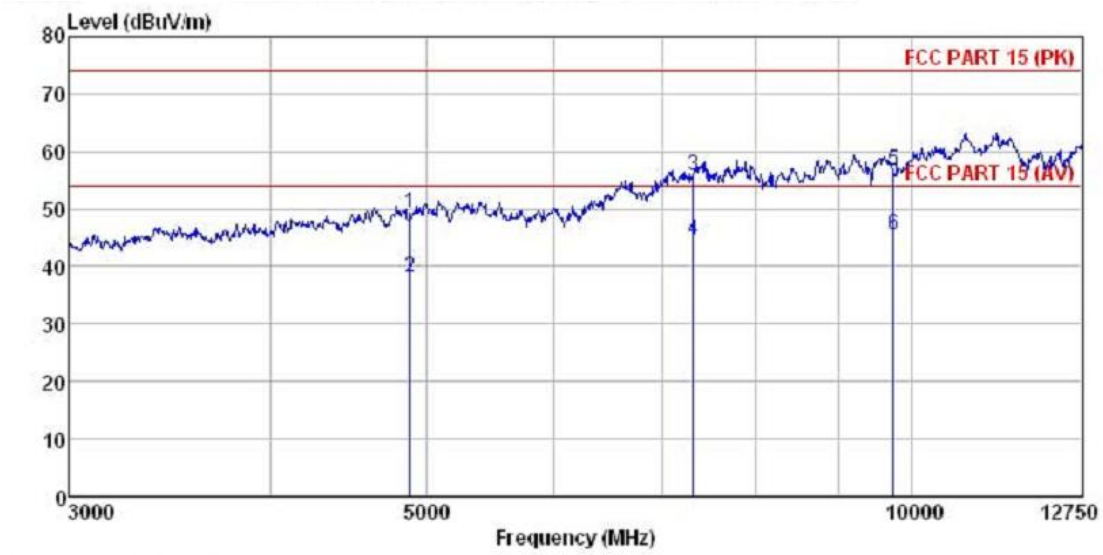
Horizontal



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode N20-M
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBm	dB/m	dB	dB	dBm/m	dBm/m	dB	
1	4871.150	48.38	31.57	8.98	40.15	48.78	74.00	-25.22	Peak
2	4871.150	36.50	31.57	8.98	40.15	36.90	54.00	-17.10	Average
3	7314.907	49.29	36.48	10.68	41.16	55.29	74.00	-18.71	Peak
4	7314.907	38.39	36.48	10.68	41.16	44.39	54.00	-9.61	Average
5	9741.590	47.07	38.40	13.32	41.65	57.14	74.00	-16.86	Peak
6	9741.590	35.71	38.40	13.32	41.65	45.78	54.00	-8.22	Average

Vertical

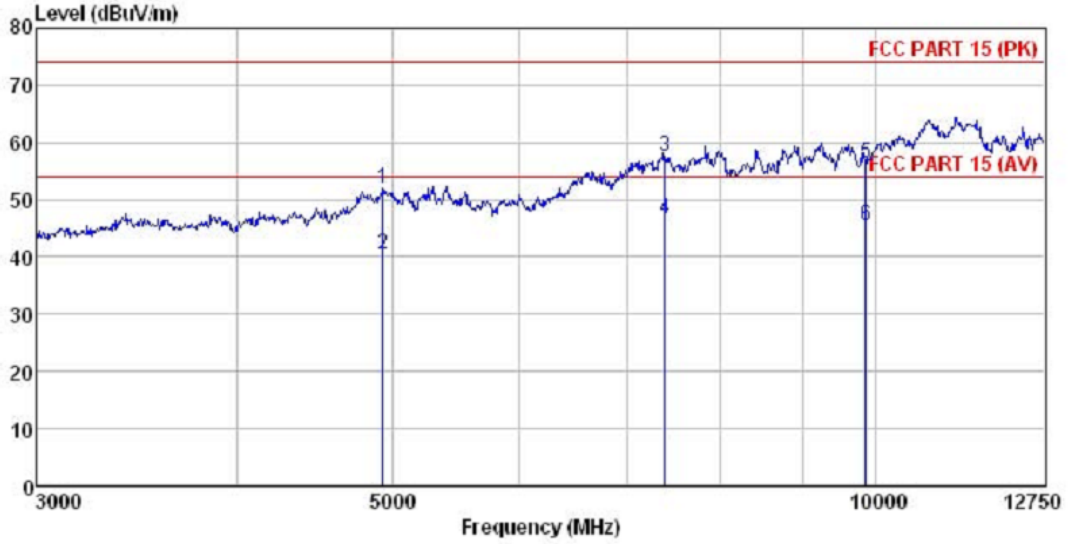


Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode N20-M
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBm	dB/m	dB	dB	dBm/m	dBm/m	dB	
1	4878.204	48.87	31.57	8.98	40.15	49.27	74.00	-24.73	Peak
2	4878.204	37.60	31.57	8.98	40.15	38.00	54.00	-16.00	Average
3	7314.907	49.81	36.48	10.68	41.16	55.81	74.00	-18.19	Peak
4	7314.907	38.46	36.48	10.68	41.16	44.46	54.00	-9.54	Average
5	9741.590	46.50	38.40	13.32	41.65	56.57	74.00	-17.43	Peak
6	9741.590	35.47	38.40	13.32	41.65	45.54	54.00	-8.46	Average

The highest channel

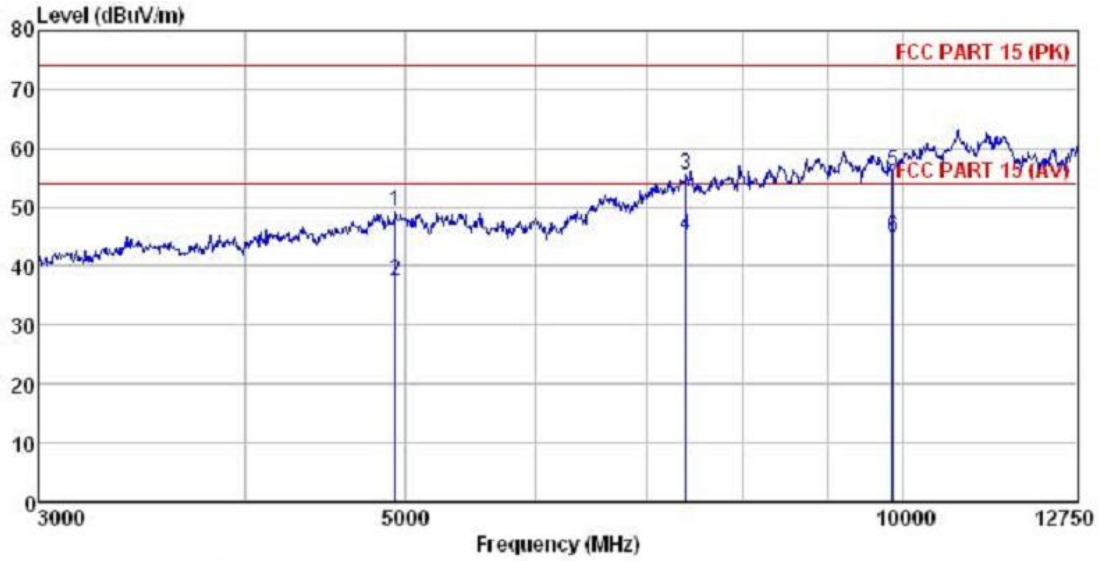
Horizontal



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode N20-H
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBm	dB/m	dB	dB	dBm/m	dBm/m	dB	
1	4927.863	51.30	31.61	9.04	40.08	51.87	74.00	-22.13	Peak
2	4927.863	39.77	31.61	9.04	40.08	40.34	54.00	-13.66	Average
3	7389.373	51.47	36.52	10.75	41.09	57.65	74.00	-16.35	Peak
4	7389.373	40.46	36.52	10.75	41.09	46.64	54.00	-7.36	Average
5	9855.008	46.06	38.69	13.47	41.86	56.36	74.00	-17.64	Peak
6	9855.008	35.24	38.69	13.47	41.86	45.54	54.00	-8.46	Average

Vertical

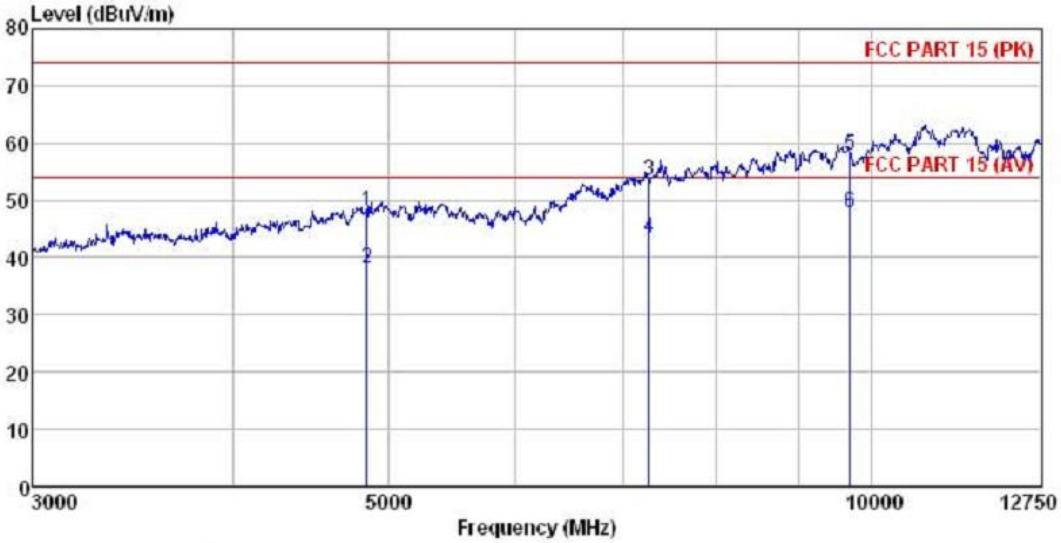



```
Site          : 3m chamber
Condition     : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
Job NO.       : 414RF
EUT           : Mobile phone
Model         : S715
Test mode     : WIFI mode   N20-H
Power Rating  : AC120V/60Hz
Environment   : Temp:25.5'C  Huni:55%
Test Engineer: A-bomb
```

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBm	dB/m	dB	dB	dBm/m	dBm/m	dB	
1	4927.863	48.84	31.61	9.04	40.08	49.41	74.00	-24.59	Peak
2	4927.863	36.81	31.61	9.04	40.08	37.38	54.00	-16.62	Average
3	7389.373	49.20	36.52	10.75	41.09	55.38	74.00	-18.62	Peak
4	7389.373	39.09	36.52	10.75	41.09	45.27	54.00	-8.73	Average
5	9855.008	45.79	38.69	13.47	41.86	56.09	74.00	-17.91	Peak
6	9855.008	34.60	38.69	13.47	41.86	44.90	54.00	-9.10	Average

802.11n(H40) The lowest channel

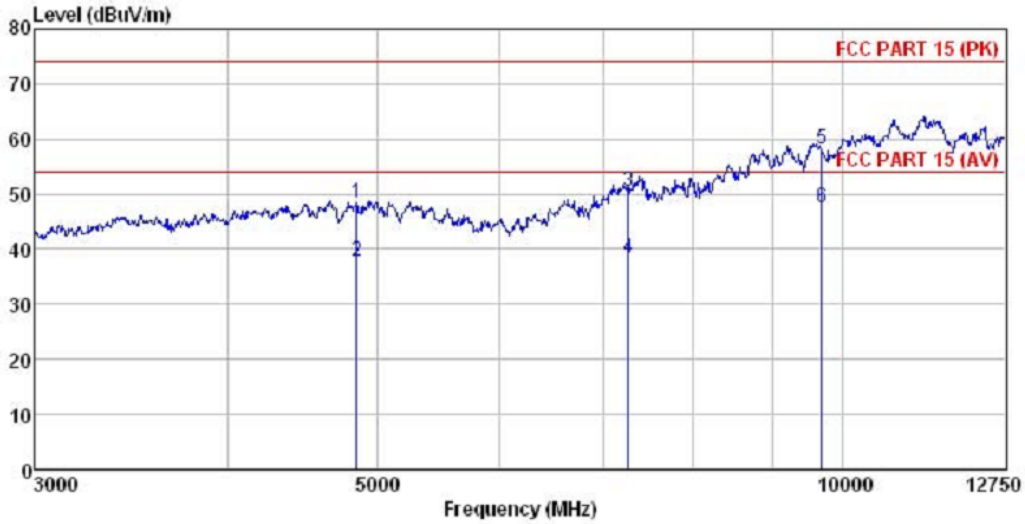
Horizontal



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode N40-L
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBm	dB/m	dB	dB	dBm/m	dBm/m	dB	
1	4843.039	47.93	31.55	8.94	40.19	48.23	74.00	-25.77	Peak
2	4843.039	37.93	31.55	8.94	40.19	38.23	54.00	-15.77	Average
3	7262.178	47.45	36.49	10.63	41.20	53.37	74.00	-20.63	Peak
4	7262.178	37.44	36.49	10.63	41.20	43.36	54.00	-10.64	Average
5	9685.372	48.01	38.25	13.26	41.56	57.96	74.00	-16.04	Peak
6	9685.372	38.00	38.25	13.26	41.56	47.95	54.00	-6.05	Average

Vertical

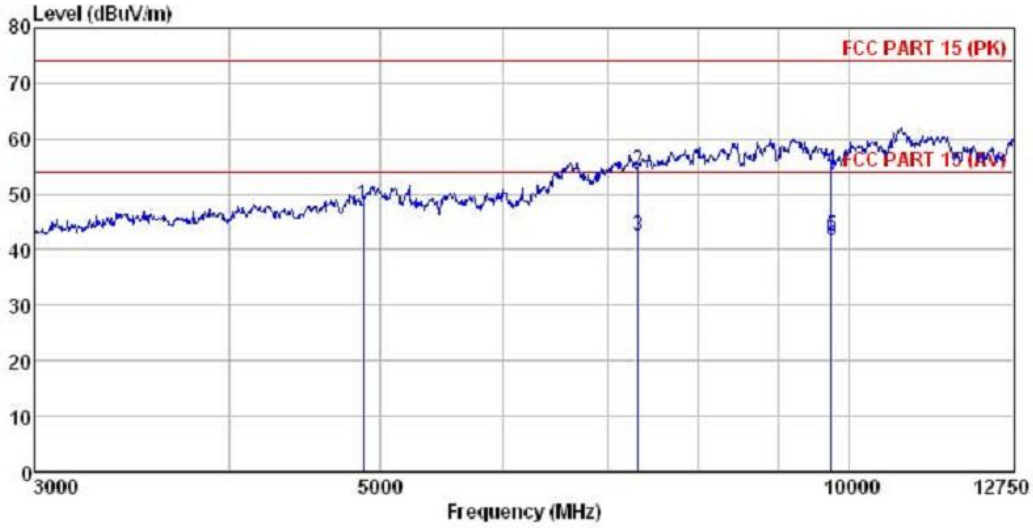


Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode N40-L
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBm	dB/m	dB	dB	dBm/m	dBm/m	dB	
1	4843.039	48.00	31.55	8.94	40.19	48.30	74.00	-25.70	Peak
2	4843.039	37.60	31.55	8.94	40.19	37.90	54.00	-16.10	Average
3	7262.178	44.45	36.49	10.63	41.20	50.37	74.00	-23.63	Peak
4	7262.178	32.56	36.49	10.63	41.20	38.48	54.00	-15.52	Average
5	9685.372	48.13	38.25	13.26	41.56	58.08	74.00	-15.92	Peak
6	9685.372	37.56	38.25	13.26	41.56	47.51	54.00	-6.49	Average

The middle channel

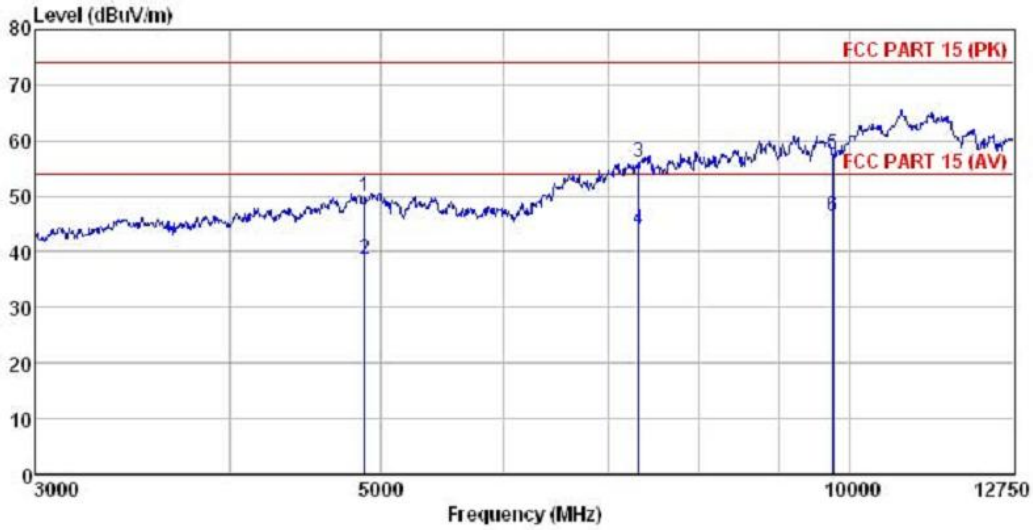
Horizontal



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode N40-M
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBm	dB/m	dB	dB	dBm/m	dBm/m	dB	
1	4871.150	47.84	31.57	8.98	40.15	48.24	74.00	-25.76	Peak
2	7314.907	48.44	36.48	10.68	41.16	54.44	74.00	-19.56	Peak
3	7314.907	36.51	36.48	10.68	41.16	42.51	54.00	-11.49	Average
4	9741.590	44.38	38.40	13.32	41.65	54.45	74.00	-19.55	Peak
5	9741.590	32.49	38.40	13.32	41.65	42.56	54.00	-11.44	Average
6	9741.590	31.60	38.40	13.32	41.65	41.67	54.00	-12.33	Average

Vertical

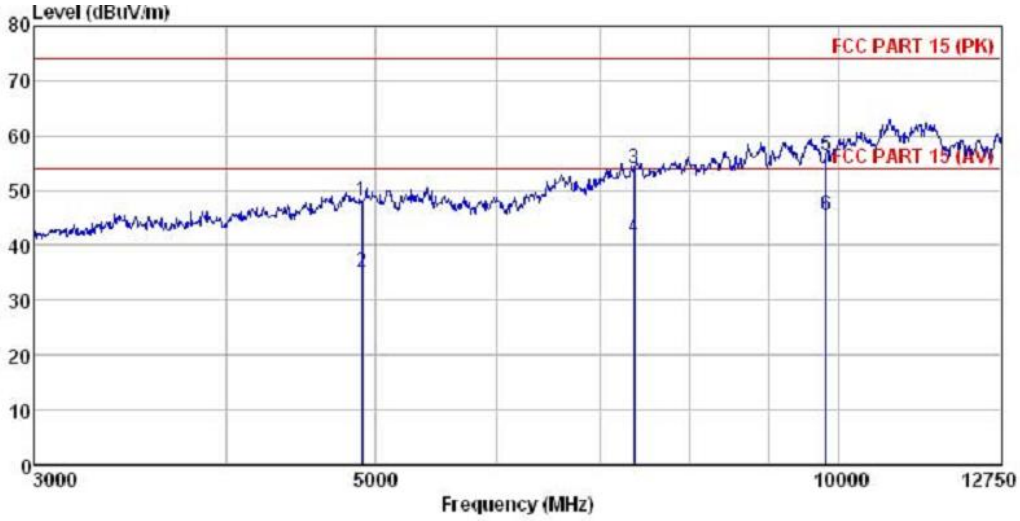


Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode N40-M
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBm	dB/m	dB	dB	dBm/m	dBm/m	dB	
1	4878.204	49.51	31.57	8.98	40.15	49.91	74.00	-24.09	Peak
2	4878.204	38.32	31.57	8.98	40.15	38.72	54.00	-15.28	Average
3	7314.907	50.00	36.48	10.68	41.16	56.00	74.00	-18.00	Peak
4	7314.907	37.84	36.48	10.68	41.16	43.84	54.00	-10.16	Average
5	9755.695	47.35	38.45	13.35	41.68	57.47	74.00	-16.53	Peak
6	9755.695	36.23	38.45	13.35	41.68	46.35	54.00	-7.65	Average

The middle channel

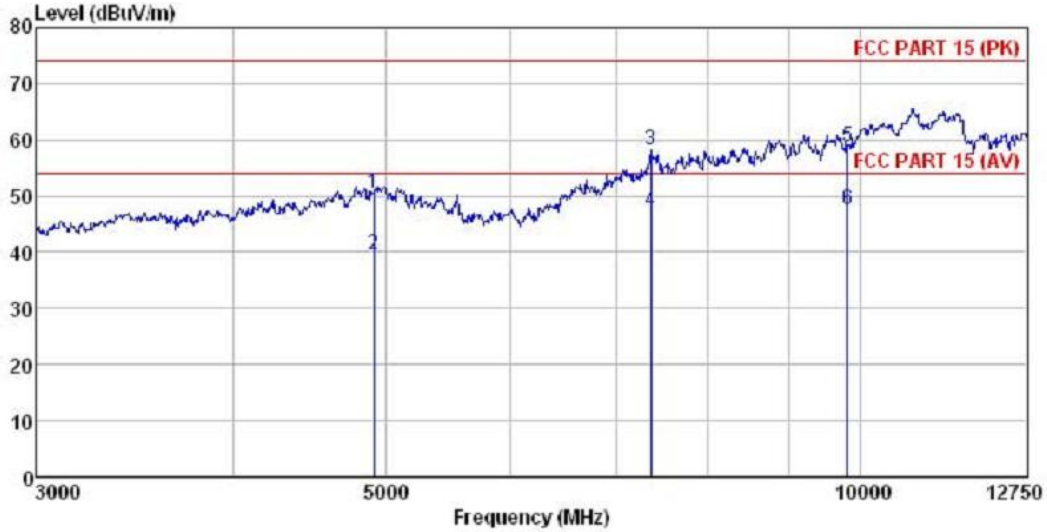
Horizontal



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode N40-H
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBm	dB/m	dB	dB	dBm/m	dBm/m	dB	
1	4899.425	47.51	31.59	9.00	40.12	47.98	74.00	-26.02	Peak
2	4899.425	34.58	31.59	9.00	40.12	35.05	54.00	-18.95	Average
3	7357.367	47.95	36.47	10.72	41.12	54.02	74.00	-19.98	Peak
4	7357.367	35.26	36.47	10.72	41.12	41.33	54.00	-12.67	Average
5	9812.322	46.10	38.64	13.41	41.77	56.38	74.00	-17.62	Peak
6	9812.322	35.20	38.64	13.41	41.77	45.48	54.00	-8.52	Average

Vertical



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
Job NO. : 414RF
EUT : Mobile phone
Model : S715
Test mode : WIFI mode N40-H
Power Rating : AC120V/60Hz
Environment : Temp:25.5'C Huni:55%
Test Engineer: A-bomb

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBm	dB/m	dB	dB	dBm/m	dBm/m	dB	
1	4906.519	49.97	31.59	9.02	40.10	50.48	74.00	-23.52	Peak
2	4906.519	38.97	31.59	9.02	40.10	39.48	54.00	-14.52	Average
3	7357.367	52.05	36.47	10.72	41.12	58.12	74.00	-15.88	Peak
4	7357.367	41.05	36.47	10.72	41.12	47.12	54.00	-6.88	Average
5	9812.322	48.41	38.64	13.41	41.77	58.69	74.00	-15.31	Peak
6	9812.322	37.17	38.64	13.41	41.77	47.45	54.00	-6.55	Average