

FCC REPORT

Applicant: Shenzhen Ogemray Technology Co., Ltd.

Address of Applicant: 3/F, No. 9 Bldg, Minxing Industrial Park, Minkang Rd,
Minzhi St, Longhua, Baoan District, Shenzhen, China

Equipment Under Test (EUT)

Product Name: Wireless USB Adapter

Model No.: GWF-1C04

FCC ID: YWTWF53721C

Applicable standards: FCC CFR Title 47 Part 15 Subpart C Section 15.247:2011

Date of sample receipt: 20 Nov., 2012

Date of Test: 23 Nov., 2012 to 08 Jan., 2013

Date of report issued: 08 Jan., 2013

Test Result : PASS *

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

Authorized Signature:

A circular blue stamp from China Certification & Inspection Services Co., Ltd. (CCIS) is visible. Overlaid on the stamp is a handwritten signature in black ink, which appears to read 'Bruce Zhang'. Below the signature, the date '2013-Jan' is handwritten.

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	08 Jan., 2013	Original

Prepared By:

Lisa chen

Report Clerk

Date:

08 Jan., 2013

Check By:

Joe. Zhou

Project Engineer

Date:

08 Jan., 2013

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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
6dB Occupied 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 Ogemray Technology Co., Ltd.
Address of Applicant:	3/F, No. 9 Bldg, Minxing Industrial Park, Minkang Rd, Minzhi St, Longhua, Baoan District, Shenzhen, China
Manufacturer/ Factory:	Shenzhen Ogemray Technology Co., Ltd.
Address of Manufacturer/ Factory:	3/F, No. 9 Bldg, Minxing Industrial Park, Minkang Rd, Minzhi St, Longhua, Baoan District, Shenzhen, China

5.2 General Description of E.U.T.

Product Name:	Wireless USB Adapter
Model No.:	GWF-1C04
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)	CCK/BPSK/QPSK
Modulation technology: (IEEE 802.11g/802.11n)	64QAM/16QAM/BPSK/QPSK
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 300Mbps
Antenna Type:	PCB Antenna
Antenna gain:	Ant 1:2 dBi; Ant 2:2 dBi
Power supply:	DC 5V from USB port

Operation Frequency each of channel							
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		

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

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 transmitting with modulation.

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). All test items for 802.11b/g/n were performed in MIMO mode.

5.3 Test Facility

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

● **FCC —Registration No.: 817957**

China Certification & Inspection Services Co., Ltd., Shenzhen 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

● **Industry Canada (IC)**

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

5.4 Test Location

All tests were performed at:

China Certification & Inspection Services Co., Ltd.

Address: 1st Floor, Block No.2, Laodong Industrial Zone, Xixiang Road Baoan District, Shenzhen, China

Tel: 0755-23118282

Fax: 0755-23116366

5.5 Other Information Requested by the Customer

None.

5.6 Test Instruments list

Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
1	3m Semi- Anechoic Chamber	SAEMC	9(L)*6(W)* 6(H)	CCIS0001	June 09 2012	June 08 2013
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 2012	June 03 2013
4	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	CCIS0006	May 30 2012	May 29 2013
5	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
6	Coaxial Cable	CCIS	N/A	CCIS0016	Apr. 01 2012	Mar. 31 2013
7	Coaxial Cable	CCIS	N/A	CCIS0017	Apr. 01 2012	Mar. 31 2013
8	Coaxial cable	CCIS	N/A	CCIS0018	Apr. 01 2012	Mar. 31 2013
9	Coaxial Cable	CCIS	N/A	CCIS0019	Apr. 01 2012	Mar. 31 2013
10	Coaxial Cable	CCIS	N/A	CCIS0087	Apr. 01 2012	Mar. 31 2013
11	Amplifier(10kHz-1.3GHz)	HP	8447D	CCIS0003	Apr. 01 2012	Mar. 31 2013
12	Amplifier(1GHz-18GHz)	Compliance Direction Systems Inc.	PAP-1G18	CCIS0011	June 09 2012	June 08 2013
13	Pre-amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	Apr. 01 2012	Mar. 31 2013
14	Horn Antenna	ETS-LINDGREN	3160	GTS217	Mar. 30 2012	Mar. 29 2013
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 2012	May. 28 2013
18	Loop antenna	Laplace instrument	RF300	EMC0701	Aug. 12 2012	Aug. 11 2013
19	EMI Test Receiver	Rohde & Schwarz	ESCI	CCIS0002	May 25 2012	May 24 2013

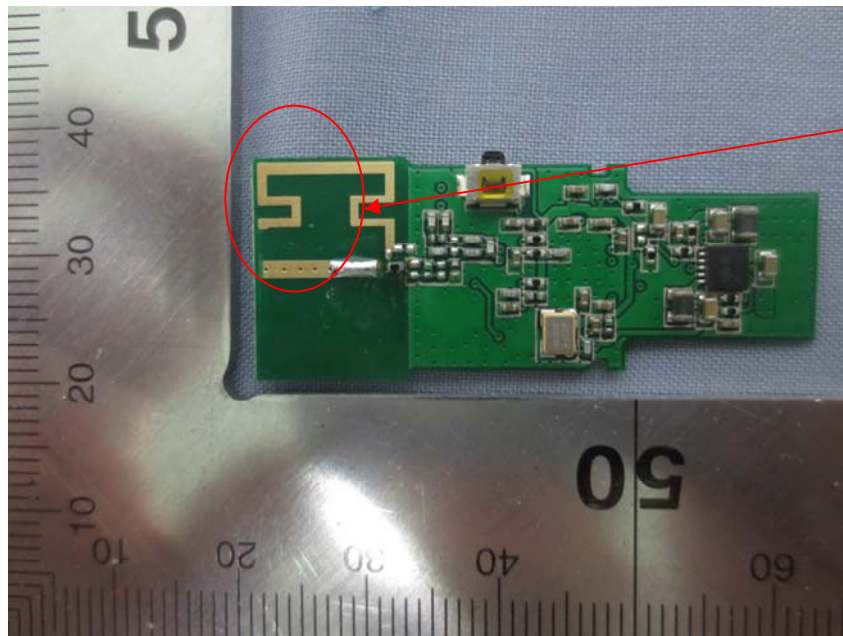
Conducted Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (dd-mm-yy)	Cal. Due date (dd-mm-yy)
1	Shielding Room	ZhongShuo Electron	11.0(L)x4.0(W)x3.0(H)	CCIS0061	June 09 2012	June 08 2013
2	EMI Test Receiver	Rohde & Schwarz	ESPI	CCIS0022	Apr 01 2012	Mar. 31 2013
3	LISN	CHASE	MN2050D	CCIS0074	Apr 01 2012	Mar. 31 2013
4	Coaxial Cable	CCIS	N/A	CCIS0086	Apr. 01 2012	Mar. 31 2013
5	EMI Test Software	AUDIX	E3	N/A	N/A	N/A

6 Test results and Measurement Data

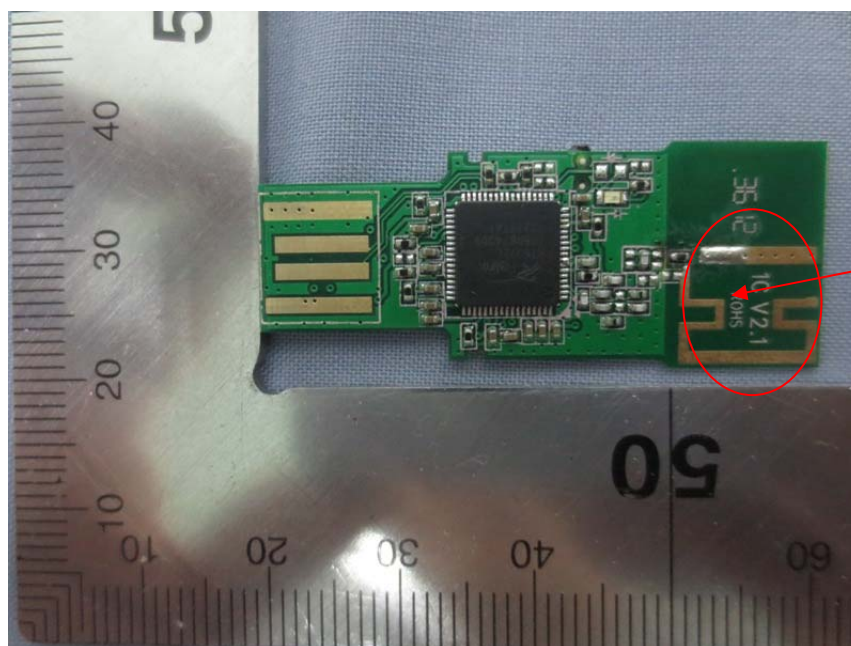
6.1 Antenna requirement:

Standard requirement:	FCC Part15 C Section 15.203 /247(c)
<p><i>15.203 requirement:</i> <i>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.</i></p> <p><i>15.247(c) (1)(i) requirement:</i> <i>(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.</i></p>	
E.U.T Antenna:	

The antenna port is 2 PCB antennas; the best case gain of each antenna is 2 dBi.

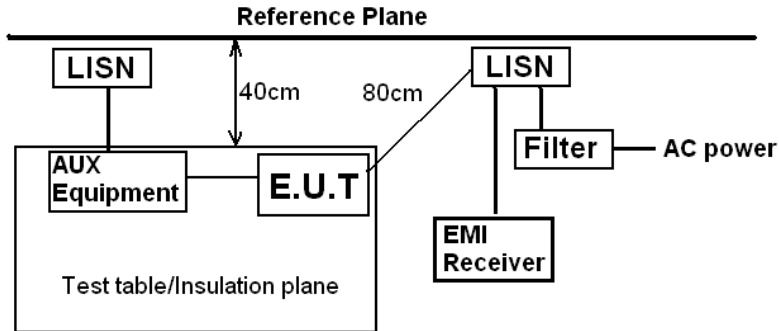


WIFI Antenna 1



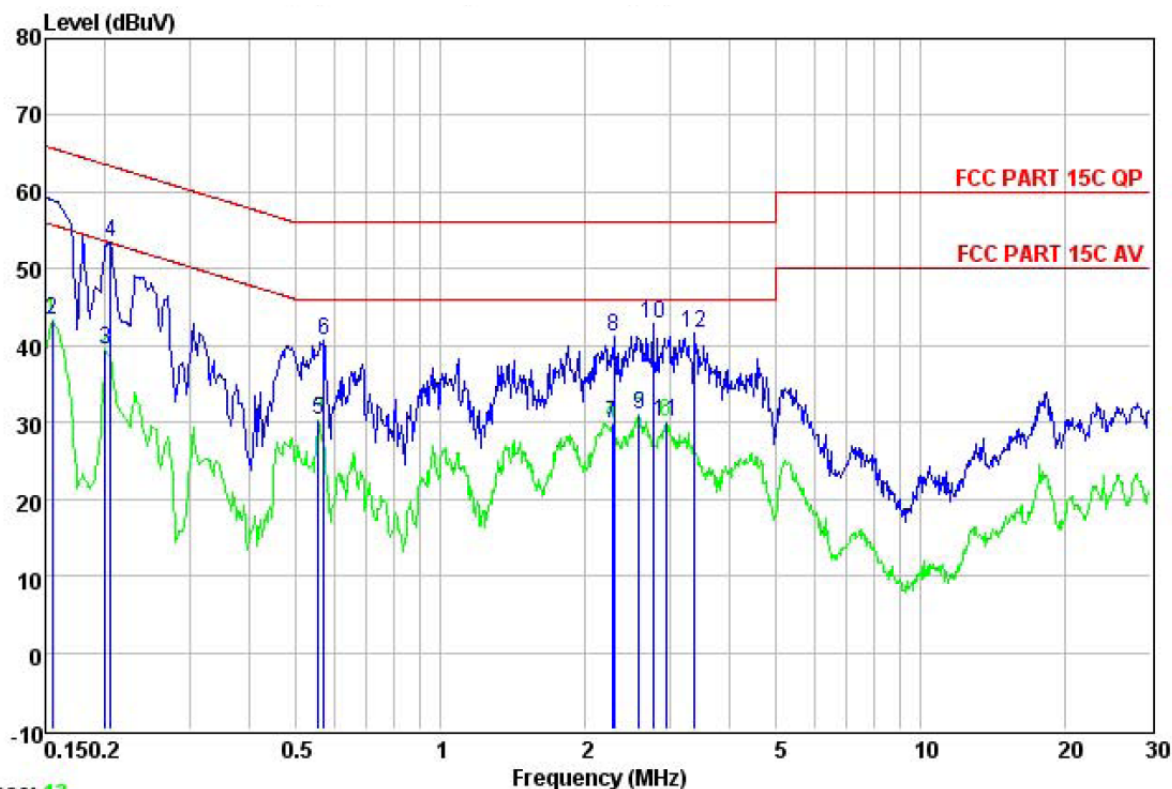
WIFI Antenna 2

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	<ol style="list-style-type: none"> 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:	 <p>Remark: E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</p>		
Test Instruments:	Refer to section 5.7 for details		
Test mode:	Refer to section 5.3 for details		
Test results:	Passed		

Measurement Data

Line:

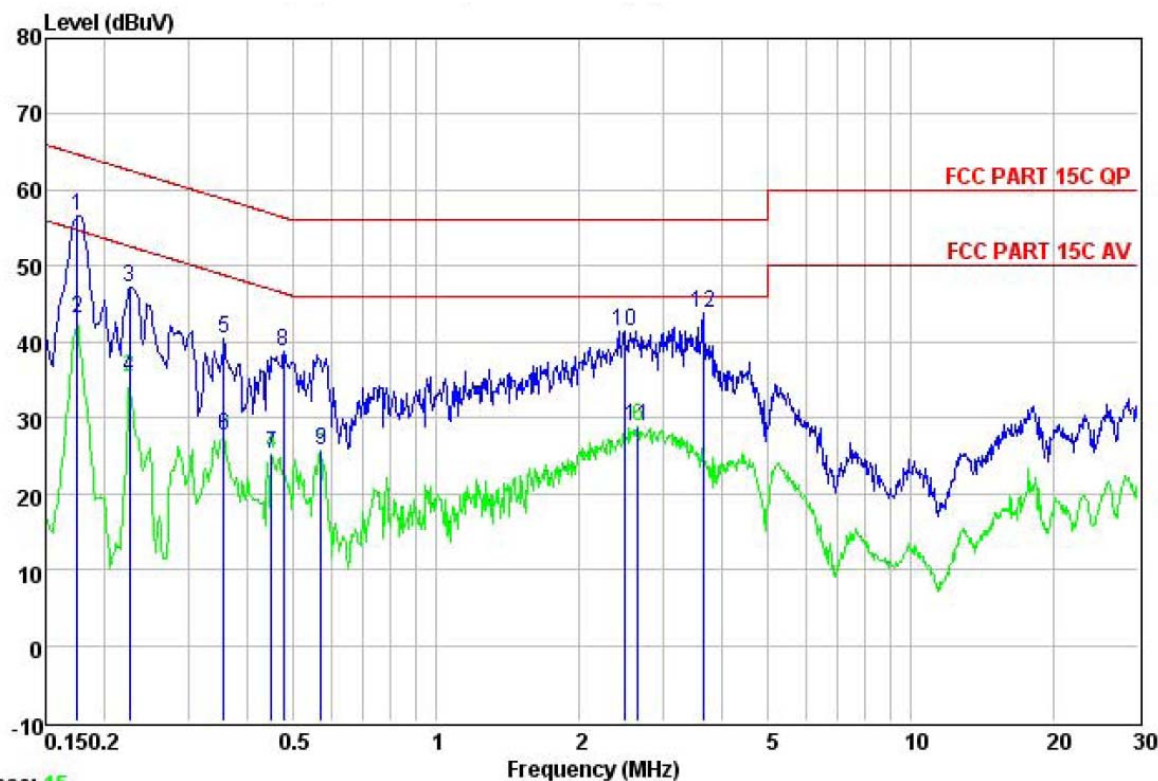


Trace: 13

Site : CCIS Conducted Test Site
 Condition : FCC PART 15C QP LISN LINE
 Job NO. : 269RF
 Test Mode : wifi mode
 Test engineer: FENG

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.150	48.29	10.25	0.79	59.33	66.00	-6.67	QP
2	0.155	32.29	10.25	0.79	43.33	55.74	-12.41	Average
3	0.200	28.43	10.21	0.76	39.40	53.62	-14.22	Average
4	0.205	42.52	10.21	0.76	53.49	63.40	-9.91	QP
5	0.555	19.28	10.24	0.76	30.28	46.00	-15.72	Average
6	0.570	29.72	10.24	0.76	40.72	56.00	-15.28	QP
7	2.273	18.58	10.28	0.95	29.81	46.00	-16.19	Average
8	2.297	29.98	10.28	0.95	41.21	56.00	-14.79	QP
9	2.581	19.70	10.28	0.94	30.92	46.00	-15.08	Average
10	2.765	31.52	10.28	0.93	42.73	56.00	-13.27	QP
11	2.946	18.77	10.29	0.92	29.98	46.00	-16.02	Average
12	3.381	30.49	10.29	0.90	41.68	56.00	-14.32	QP

Neutral:



Trace: 15

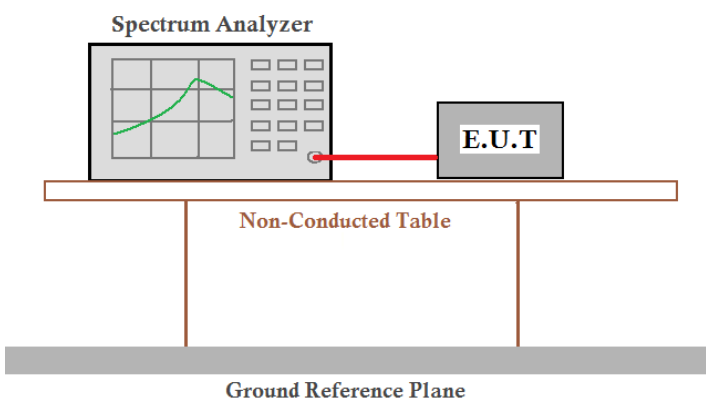
Site : CCIS Conducted Test Site
 Condition : FCC PART 15C QP LISN NEUTRAL
 Job NO. : 269RF
 Test Mode : wifi mode
 Test engineer: FENG

	Read	LISN	Cable		Limit	Over	
Freq	Level	Factor	Loss	Level	Line	Limit	Remark
MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.175	45.60	10.25	0.77	56.62	64.72	-8.10 QP
2	0.175	31.95	10.25	0.77	42.97	54.72	-11.75 Average
3	0.226	36.24	10.23	0.76	47.23	62.61	-15.38 QP
4	0.226	24.32	10.23	0.76	35.31	52.61	-17.30 Average
5	0.356	29.41	10.25	0.73	40.39	58.83	-18.44 QP
6	0.356	16.64	10.25	0.73	27.62	48.83	-21.21 Average
7	0.449	14.30	10.27	0.74	25.31	46.89	-21.58 Average
8	0.476	27.78	10.28	0.75	38.81	56.41	-17.60 QP
9	0.570	14.68	10.23	0.76	25.67	46.00	-20.33 Average
10	2.487	30.19	10.27	0.95	41.41	56.00	-14.59 QP
11	2.650	17.63	10.27	0.94	28.84	46.00	-17.16 Average
12	3.642	32.62	10.28	0.90	43.80	56.00	-12.20 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 Peak Output Power

Test Requirement:	FCC Part15 C Section 15.247 (b)(3)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	30dBm
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 the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The table is positioned above a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

Mode	Test CH	Ant. Port	Conducted Output power (dBm)	Total power (dBm)	Limit (dBm)	Result
802.11b	Lowest	ANT 1	18.80	22.06	30	Pass
		ANT 2	19.28			
	Middle	ANT 1	19.23	22.06	30	Pass
		ANT 2	18.86			
	Highest	ANT 1	19.45	22.02	30	Pass
		ANT 2	18.53			
802.11g	Lowest	ANT 1	15.60	18.40	30	Pass
		ANT 2	15.16			
	Middle	ANT 1	15.41	18.30	30	Pass
		ANT 2	15.16			
	Highest	ANT 1	15.17	18.22	30	Pass
		ANT 2	15.25			
802.11n (H20)	Lowest	ANT 1	14.14	17.32	30	Pass
		ANT 2	14.48			
	Middle	ANT 1	14.54	17.51	30	Pass
		ANT 2	14.46			
	Highest	ANT 1	14.24	17.32	30	Pass
		ANT 2	14.38			
802.11n (H40)	Lowest	ANT 1	14.02	17.07	30	Pass
		ANT 2	14.10			
	Middle	ANT 1	14.01	17.20	30	Pass
		ANT 2	14.37			
	Highest	ANT 1	14.04	17.06	30	Pass
		ANT 2	14.05			

Test plot as follows:

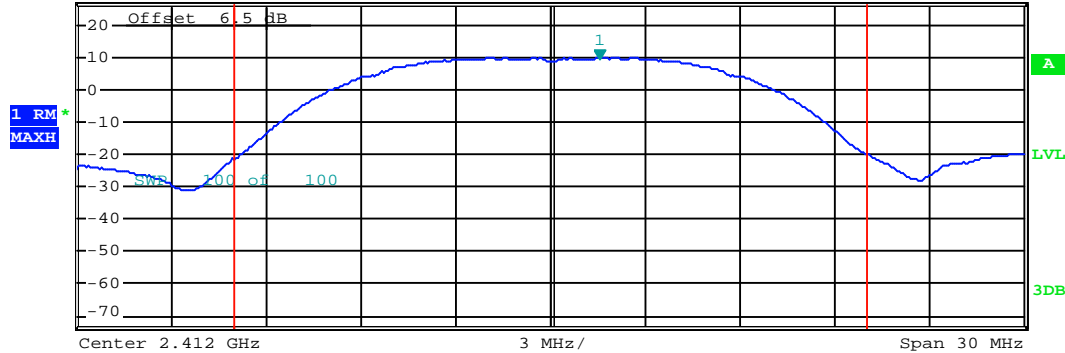
Ant 1:

Test mode:

802.11b



Ref 26.5 dBm * Att 30 dB RBW 1 MHz Marker 1 [T1] 9.82 dBm
VBW 3 MHz 2.413470000 GHz
SWT 5 ms



Tx Channel

Bandwidth

20 MHz

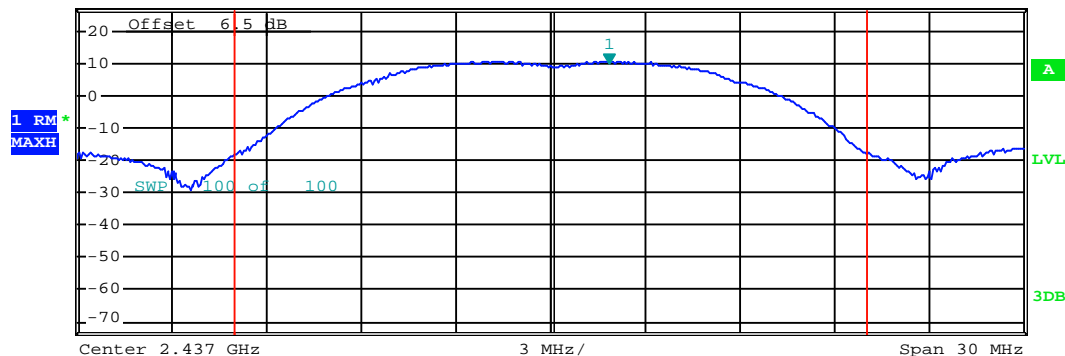
Power

18.80 dBm

Lowest channel



Ref 26.5 dBm * Att 30 dB RBW 1 MHz Marker 1 [T1] 10.61 dBm
VBW 3 MHz 2.438800000 GHz
SWT 5 ms



Tx Channel

Bandwidth

20 MHz

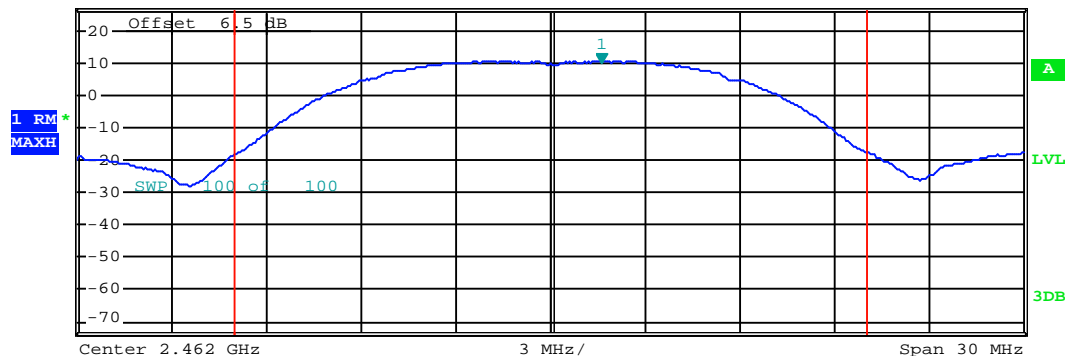
Power

19.23 dBm

Middle channel



Ref 26.5 dBm * Att 30 dB RBW 1 MHz Marker 1 [T1] 10.37 dBm
VBW 3 MHz 2.463530000 GHz
SWT 5 ms



Tx Channel

Bandwidth

20 MHz

Power

19.45 dBm

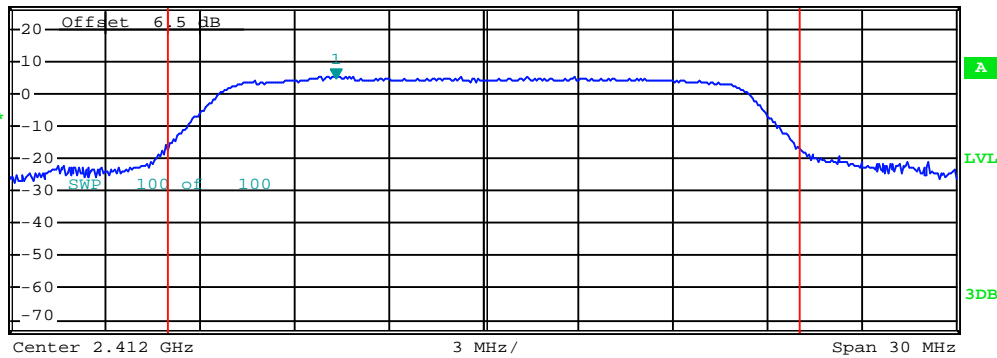
Highest channel

Test mode:	802.11g
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Ref 26.5 dBm * Att 30 dB * RBW 1 MHz * VBW 3 MHz * SWT 5 ms Marker 1 [T1] 5.31 dBm 2.407230000 GHz

1 RM*
MAXH



Tx Channel
Bandwidth

20 MHz

Power

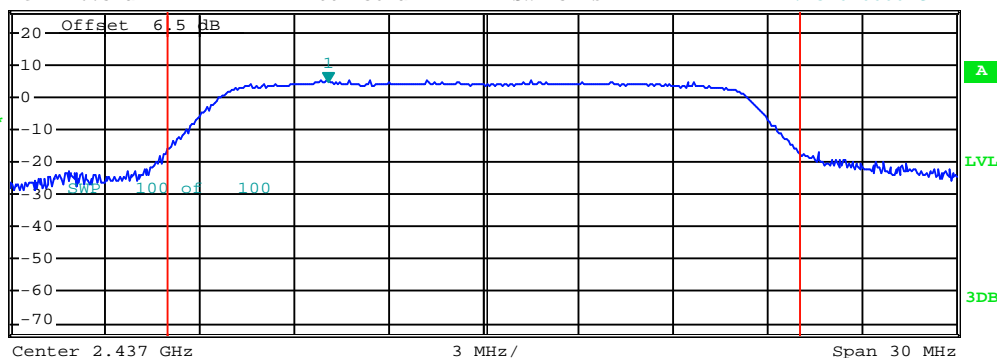
15.60 dBm

Lowest channel



Ref 26.5 dBm * Att 30 dB * RBW 1 MHz * VBW 3 MHz * SWT 5 ms Marker 1 [T1] 5.14 dBm 2.432020000 GHz

1 RM*
MAXH



Tx Channel
Bandwidth

20 MHz

Power

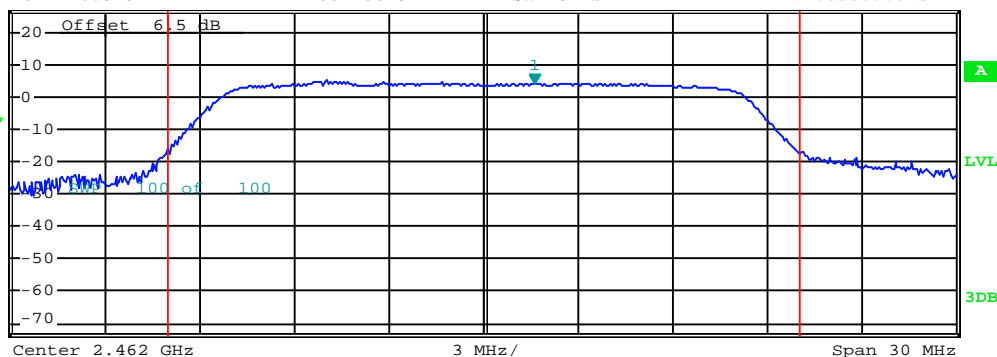
15.41 dBm

Middle channel



Ref 26.5 dBm * Att 30 dB * RBW 1 MHz * VBW 3 MHz * SWT 5 ms Marker 1 [T1] 4.80 dBm 2.463530000 GHz

1 RM*
MAXH



Tx Channel
Bandwidth

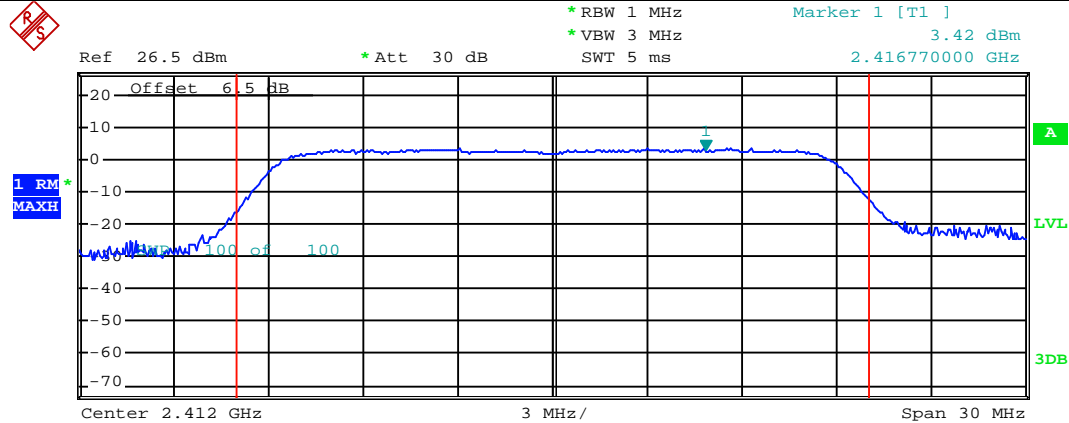
20 MHz

Power

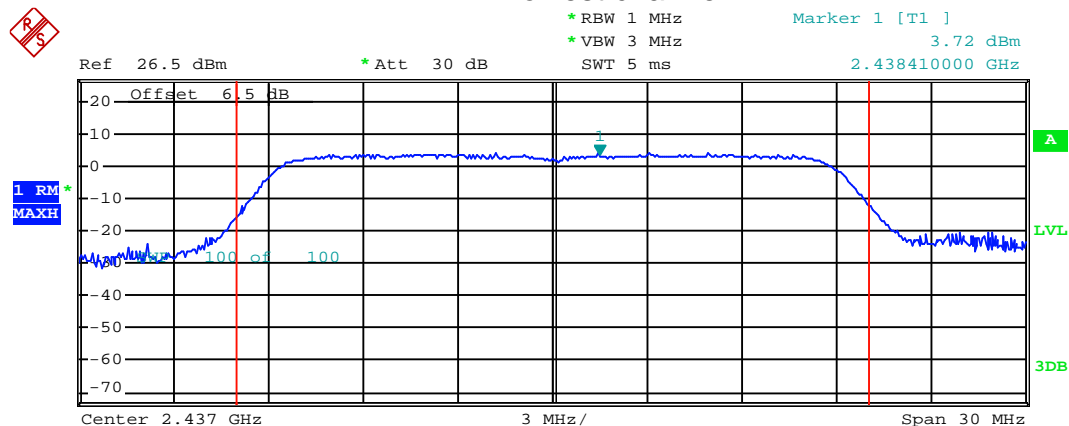
15.17 dBm

Highest channel

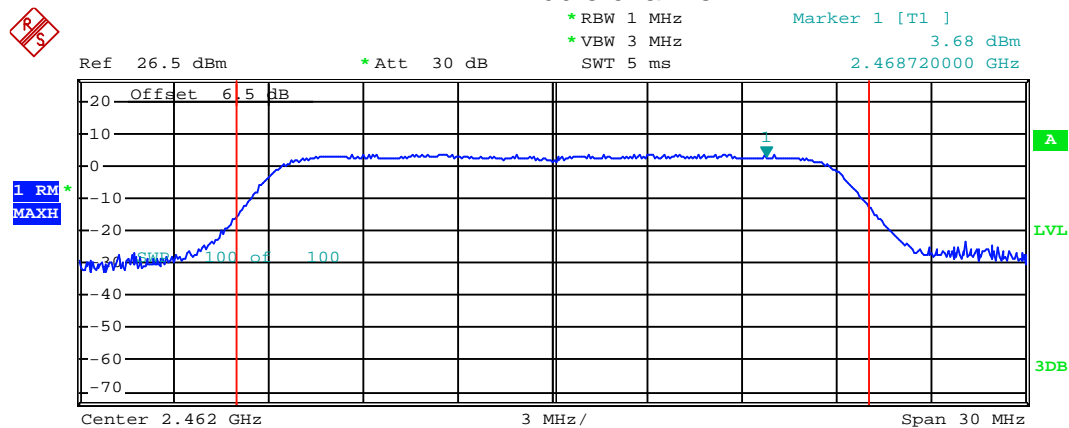
Test mode:	802.11n(H20)
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Lowest channel



Middle channel

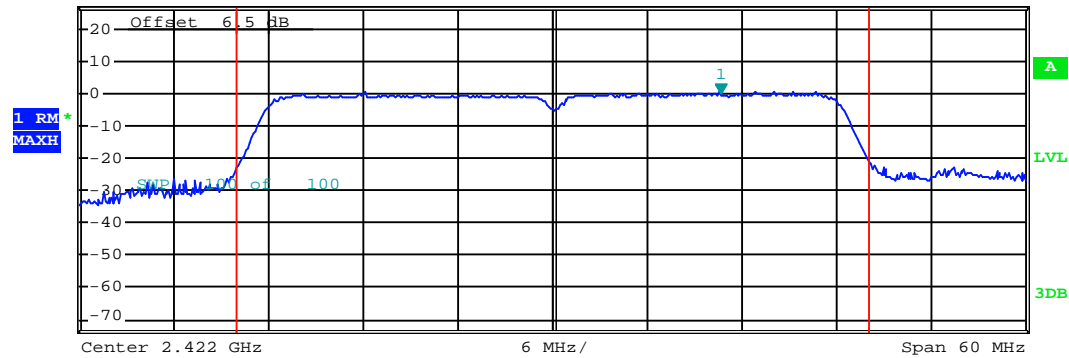


Highest channel

Test mode:	802.11n(H40)
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Ref 26.5 dBm * Att 30 dB * RBW 1 MHz * VBW 3 MHz * SWT 5 ms Marker 1 [T1] 0.48 dBm 2.432500000 GHz

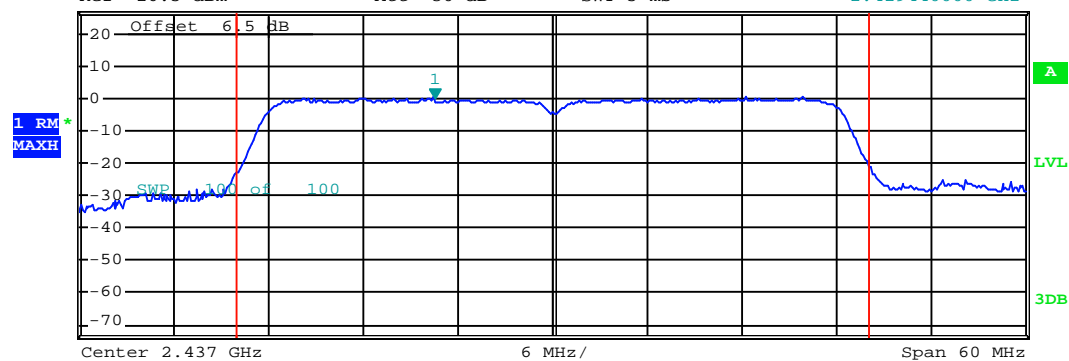


Tx Channel
Bandwidth 40 MHz Power 14.02 dBm

Lowest channel



Ref 26.5 dBm * Att 30 dB * RBW 1 MHz * VBW 3 MHz * SWT 5 ms Marker 1 [T1] 0.42 dBm 2.429440000 GHz

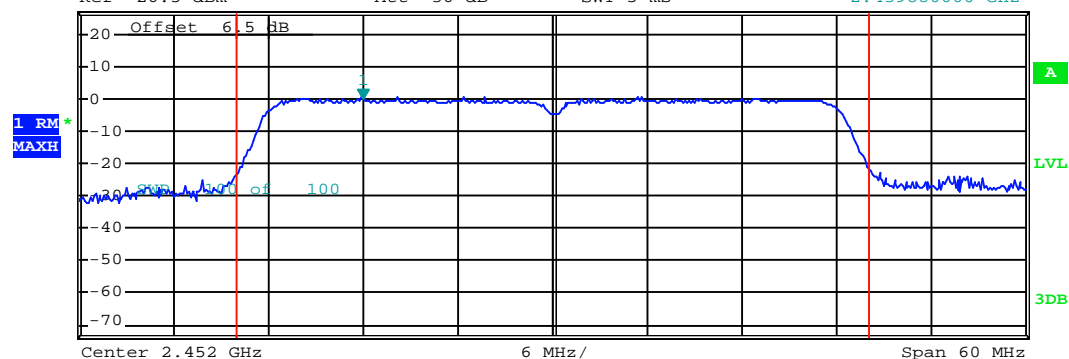


Tx Channel
Bandwidth 40 MHz Power 14.01 dBm

Middle channel



Ref 26.5 dBm * Att 30 dB * RBW 1 MHz * VBW 3 MHz * SWT 5 ms Marker 1 [T1] 0.45 dBm 2.439880000 GHz



Tx Channel
Bandwidth 40 MHz Power 14.04 dBm

Highest channel

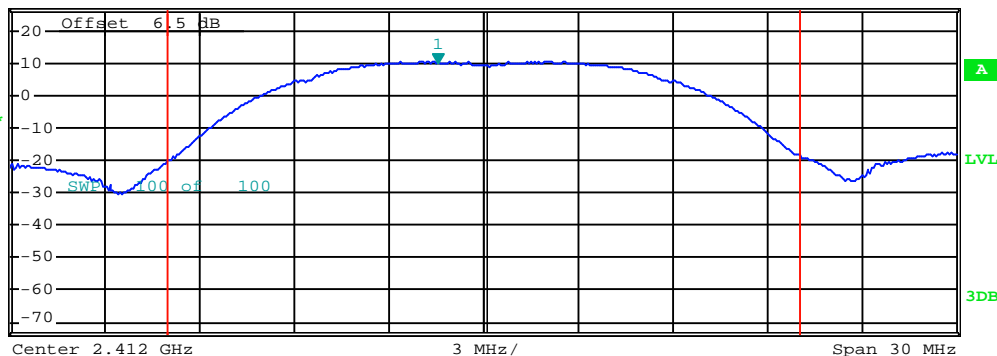
Ant 2:

Test mode:	802.11b
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Ref 26.5 dBm * Att 30 dB * RBW 1 MHz * VBW 3 MHz * SWT 5 ms Marker 1 [T1] 10.49 dBm 2.410470000 GHz

1 RM*
MAXH



Tx Channel
Bandwidth

20 MHz

Power

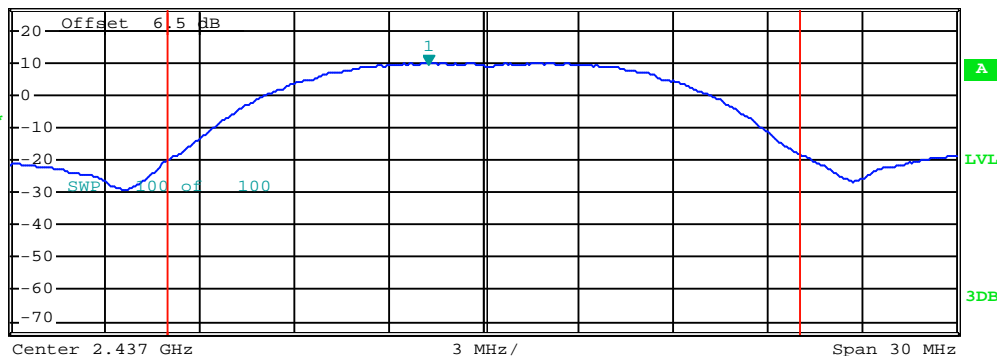
19.28 dBm

Lowest channel



Ref 26.5 dBm * Att 30 dB * RBW 1 MHz * VBW 3 MHz * SWT 5 ms Marker 1 [T1] 9.82 dBm 2.435200000 GHz

1 RM*
MAXH



Tx Channel
Bandwidth

20 MHz

Power

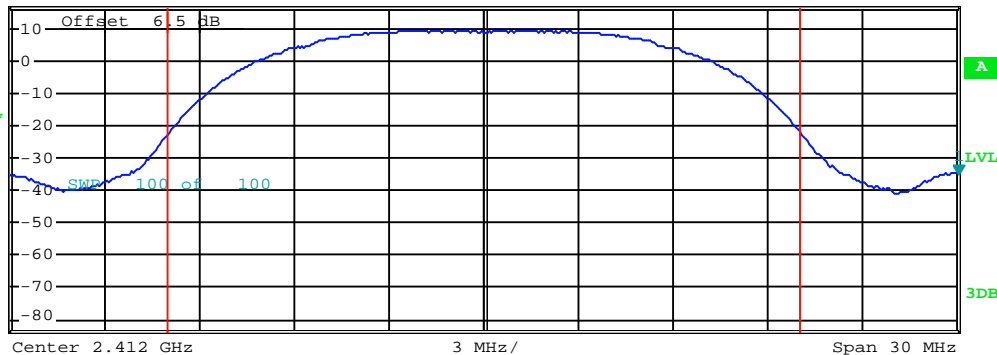
18.86 dBm

Middle channel



Ref 16.5 dBm * Att 20 dB * RBW 1 MHz * VBW 3 MHz * SWT 2.5 ms Marker 1 [T1] -34.92 dBm 2.427000000 GHz

1 RM*
MAXH



Tx Channel
Bandwidth

20 MHz

Power

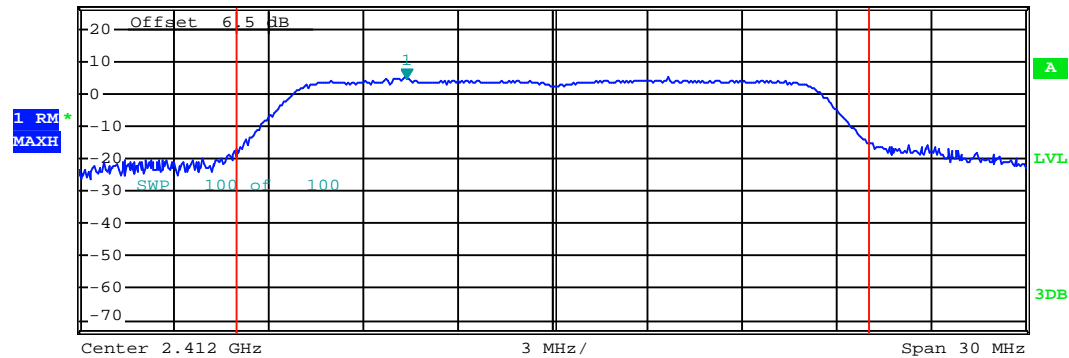
18.53 dBm

Highest channel

Test mode:	802.11g
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Ref 26.5 dBm * Att 30 dB * RBW 1 MHz Marker 1 [T1] 4.96 dBm
* VBW 3 MHz 2.407320000 GHz
SWT 5 ms

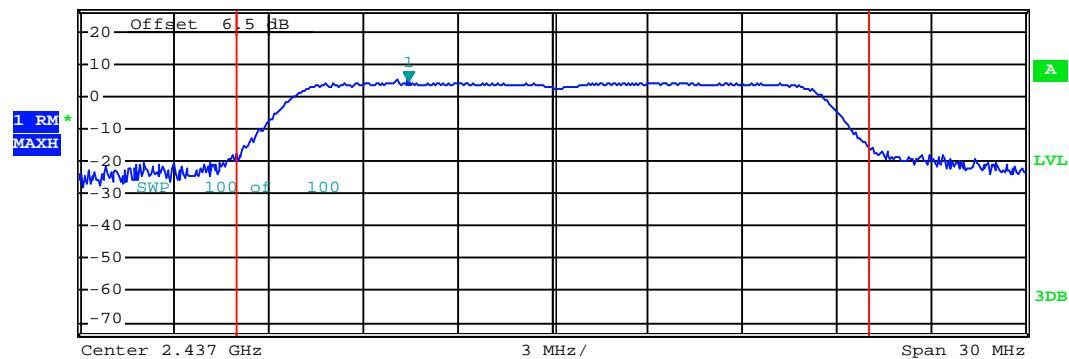


Tx Channel
Bandwidth 20 MHz Power 15.16 dBm

Lowest channel



Ref 26.5 dBm * Att 30 dB * RBW 1 MHz Marker 1 [T1] 4.94 dBm
* VBW 3 MHz 2.432380000 GHz
SWT 5 ms

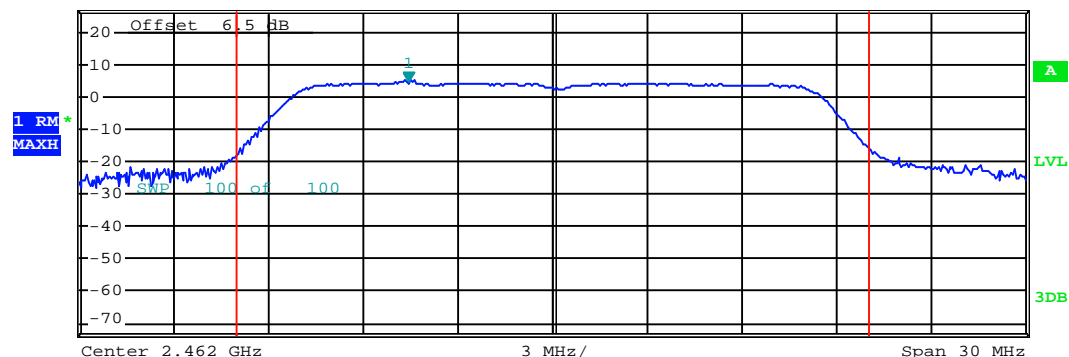


Tx Channel
Bandwidth 20 MHz Power 15.16 dBm

Middle channel



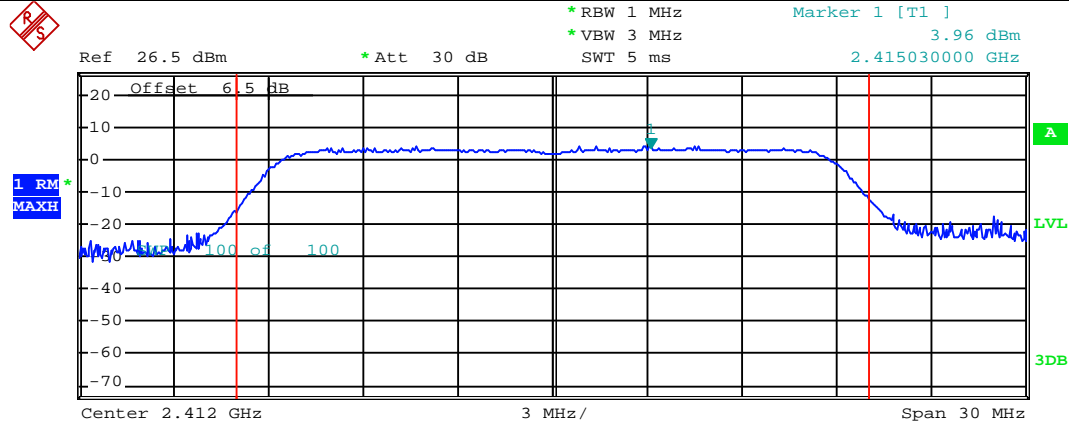
Ref 26.5 dBm * Att 30 dB * RBW 1 MHz Marker 1 [T1] 5.05 dBm
* VBW 3 MHz 2.457350000 GHz
SWT 5 ms



Tx Channel
Bandwidth 20 MHz Power 15.25 dBm

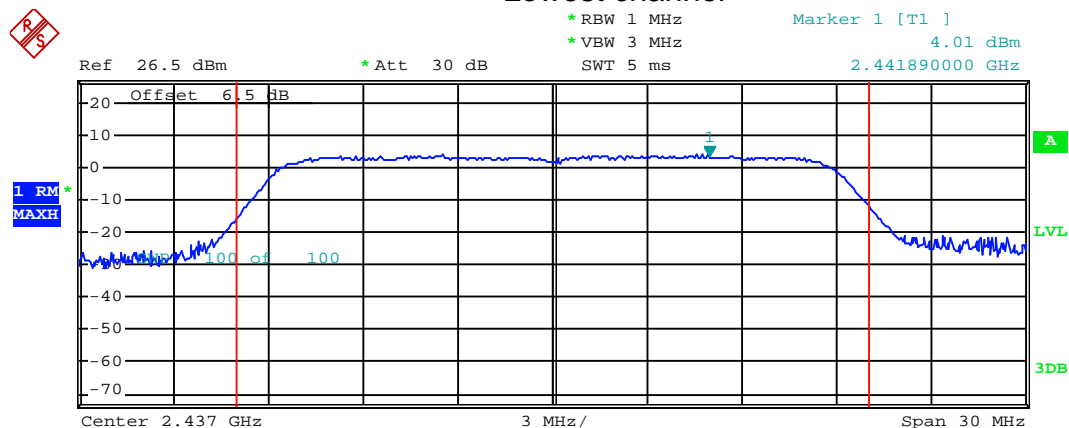
Highest channel

Test mode:	802.11n(H20)
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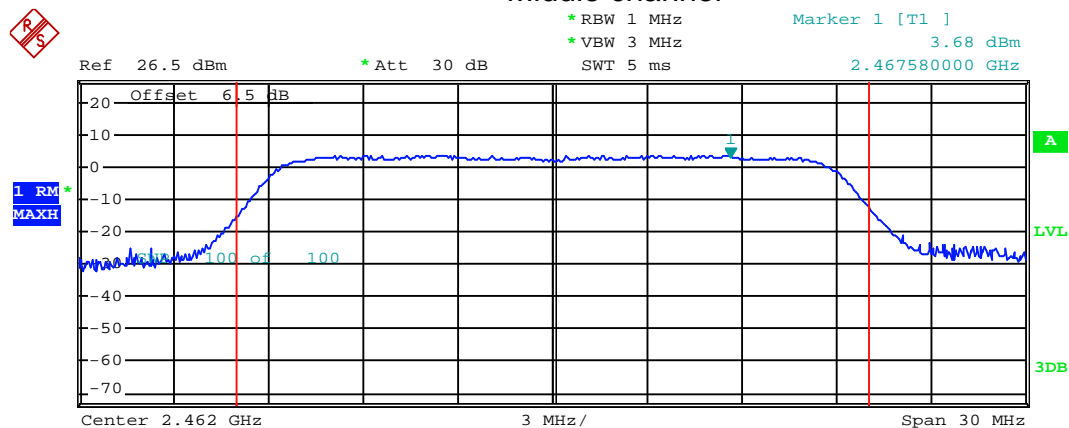
Tx Channel
Bandwidth 20 MHz Power 14.48 dBm

Lowest channel



Tx Channel
Bandwidth 20 MHz Power 14.46 dBm

Middle channel



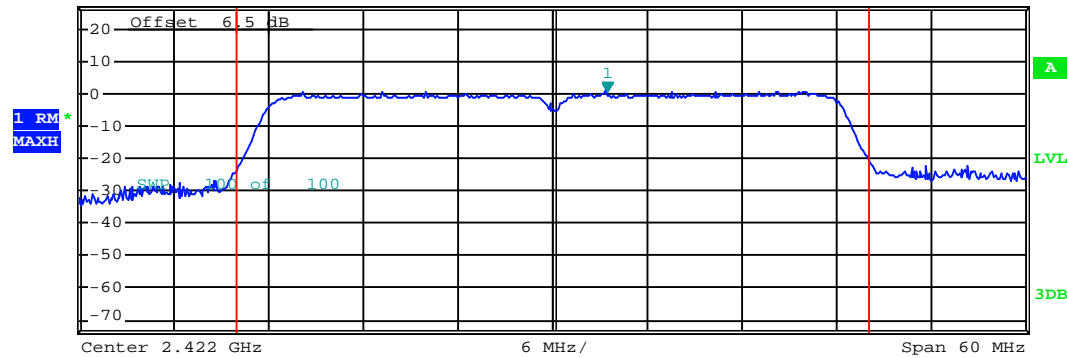
Tx Channel
Bandwidth 20 MHz Power 14.38 dBm

Highest channel

Test mode:	802.11n(H40)
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Ref 26.5 dBm * Att 30 dB * RBW 1 MHz Marker 1 [T1] 0.77 dBm
* VBW 3 MHz 2.425360000 GHz
SWT 5 ms

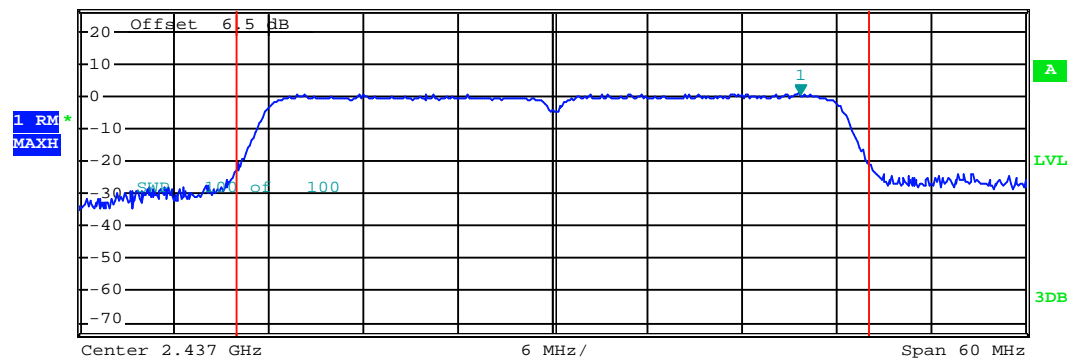


Tx Channel
Bandwidth 40 MHz Power 14.10 dBm

Lowest channel



Ref 26.5 dBm * Att 30 dB * RBW 1 MHz Marker 1 [T1] 0.84 dBm
* VBW 3 MHz 2.452540000 GHz
SWT 5 ms

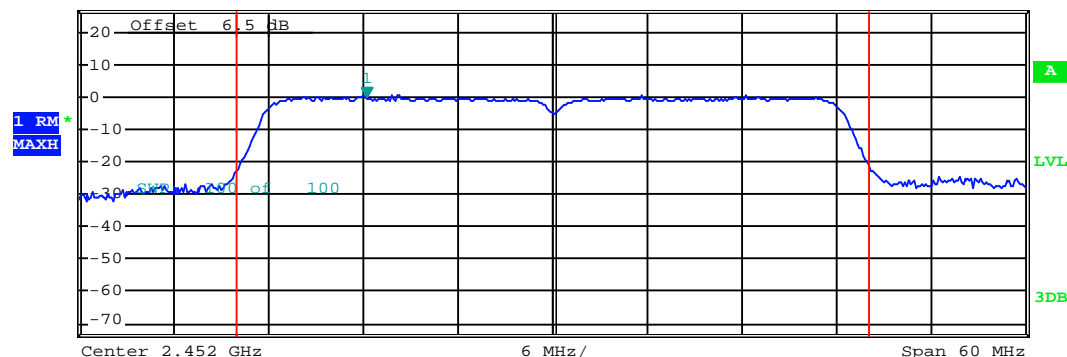


Tx Channel
Bandwidth 40 MHz Power 14.37 dBm

Middle channel



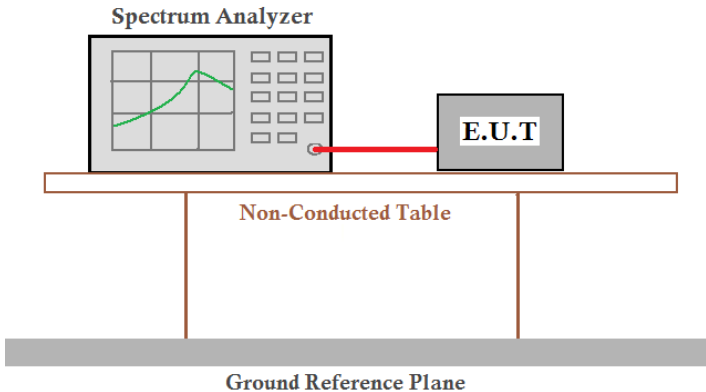
Ref 26.5 dBm * Att 30 dB * RBW 1 MHz Marker 1 [T1] 0.49 dBm
* VBW 3 MHz 2.440060000 GHz
SWT 5 ms



Tx Channel
Bandwidth 40 MHz Power 14.05 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:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer, shown with a grid and a green curve, is connected to an E.U.T. (Equipment Under Test) box by a red cable. Both the Spectrum Analyzer and the E.U.T. are positioned on a 'Non-Conducted Table', which is a rectangular platform supported by two vertical legs. Below this table is a 'Ground Reference Plane', represented by a thick grey horizontal bar.</p>
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

Ant 1

Test CH	6dB Occupy Bandwidth (MHz)				Limit(kHz)	Result
	802.11b	802.11g	802.11n(H20)	802.11n(H40)		
Lowest	12.06	16.29	17.52	36.00	>500	Pass
Middle	12.03	16.32	17.28	35.88		
Highest	12.06	16.32	17.34	35.00		

Test CH	26dB Emission Bandwidth (MHz)				Limit(kHz)	Result
	802.11b	802.11g	802.11n(H20)	802.11n(H40)		
Lowest	17.64	18.72	19.14	38.88	N/A	N/A
Middle	17.73	18.90	19.17	38.76		
Highest	17.64	18.63	19.26	38.52		

Ant 2

Test CH	6dB Occupy Bandwidth (MHz)				Limit(kHz)	Result
	802.11b	802.11g	802.11n(H20)	802.11n(H40)		
Lowest	12.06	16.38	17.52	36.12	>500	Pass
Middle	12.09	16.26	17.34	35.00		
Highest	12.09	16.32	17.10	35.00		

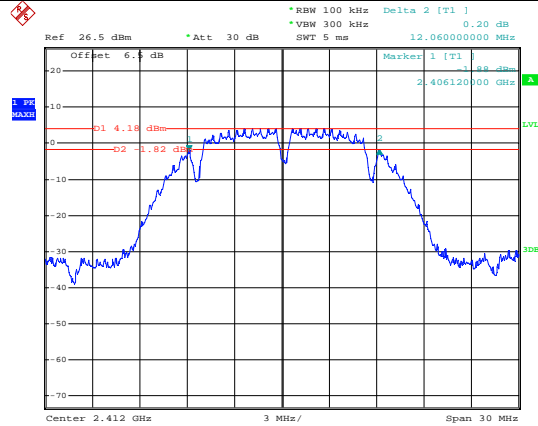
Test CH	26dB Emission Bandwidth (MHz)				Limit(kHz)	Result
	802.11b	802.11g	802.11n(H20)	802.11n(H40)		
Lowest	17.64	18.66	19.11	38.82	N/A	N/A
Middle	17.88	18.69	19.20	38.64		
Highest	17.64	18.72	19.11	38.88		

Test plot as follows:

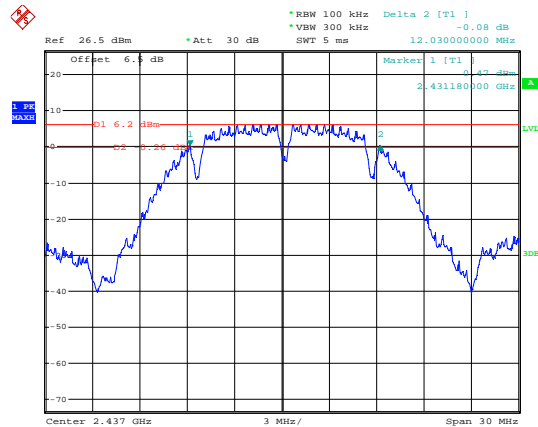
Ant 1

Test mode: 6dB BW

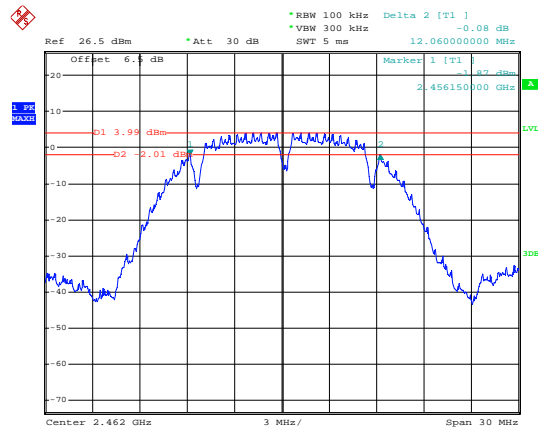
802.11b



Lowest channel



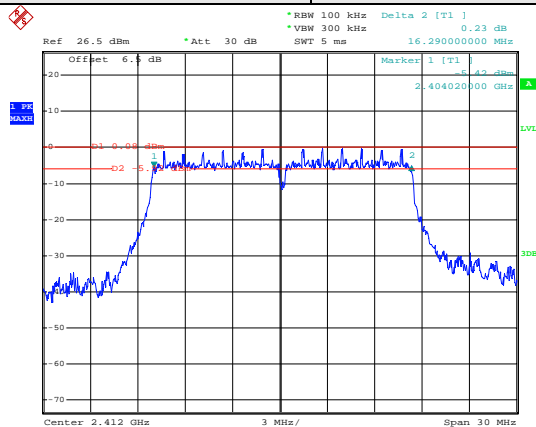
Middle channel



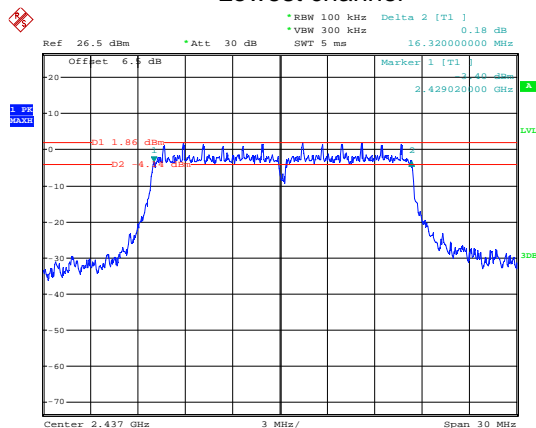
Highest channel

Test mode: 6dB BW

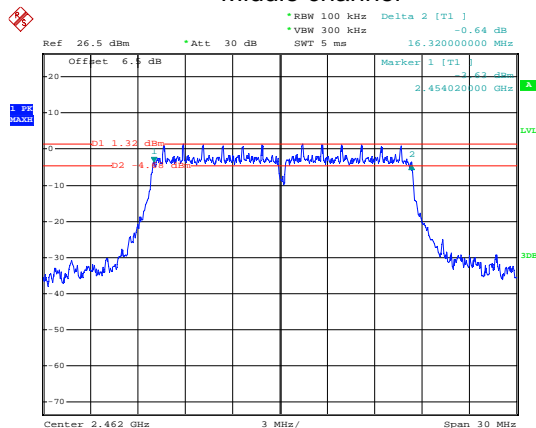
802.11g



Lowest channel



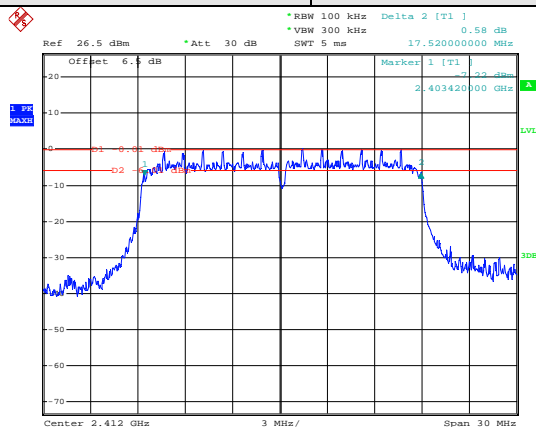
Middle channel



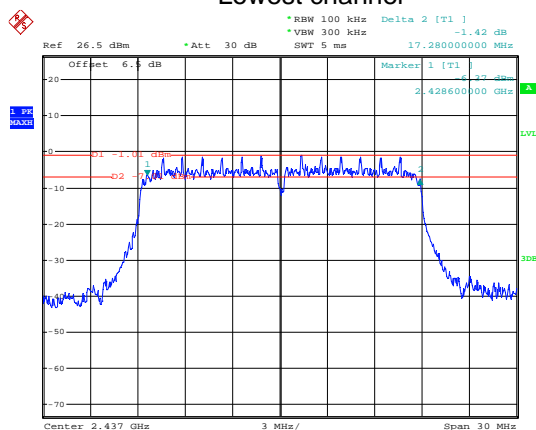
Highest channel

Test mode: 6dB BW

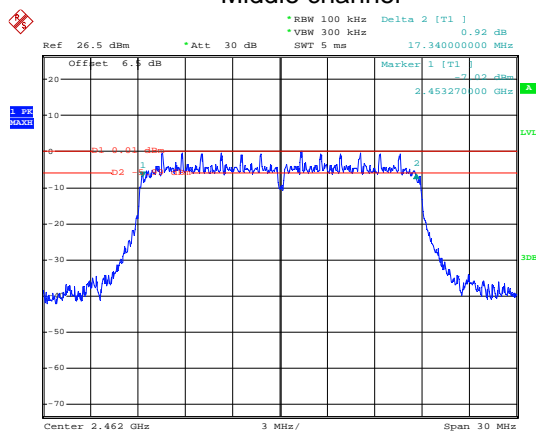
802.11n(H20)



Lowest channel



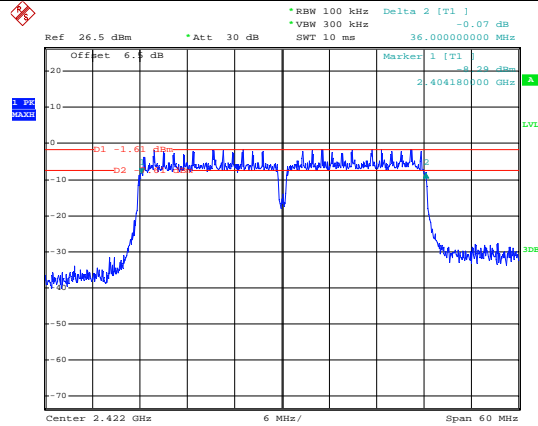
Middle channel



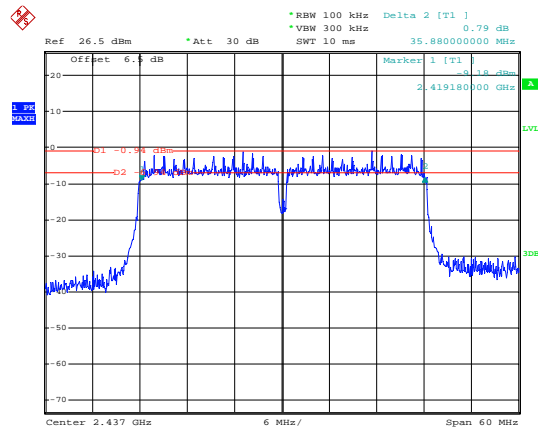
Highest channel

Test mode: 6dB BW

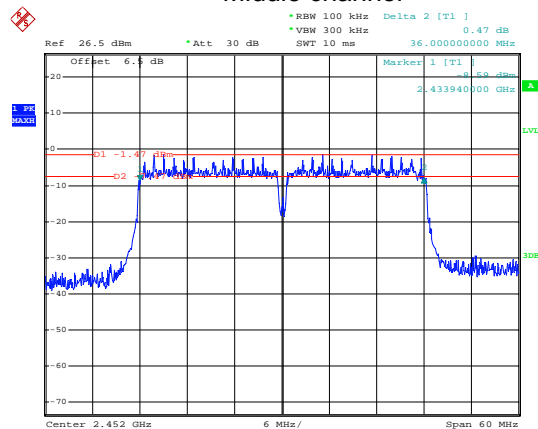
802.11n(H40)



Lowest channel



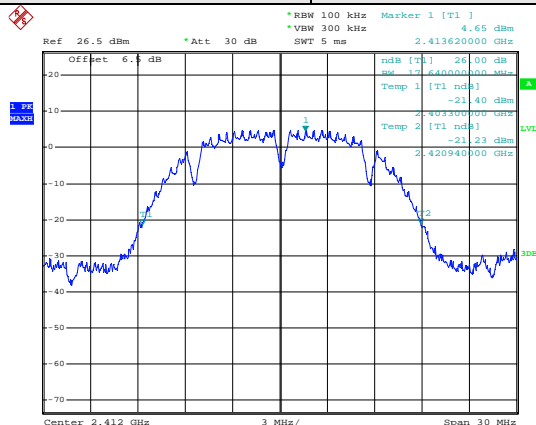
Middle channel



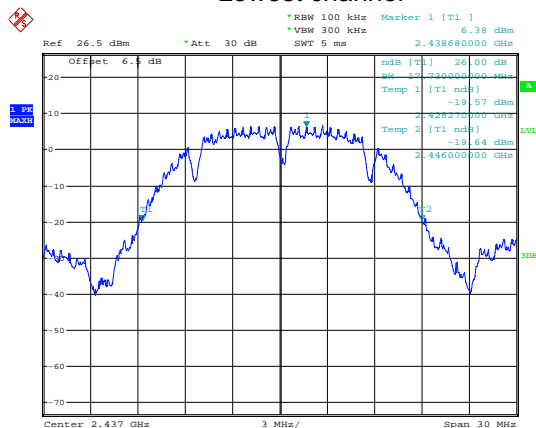
Highest channel

Test mode:26dB EBW

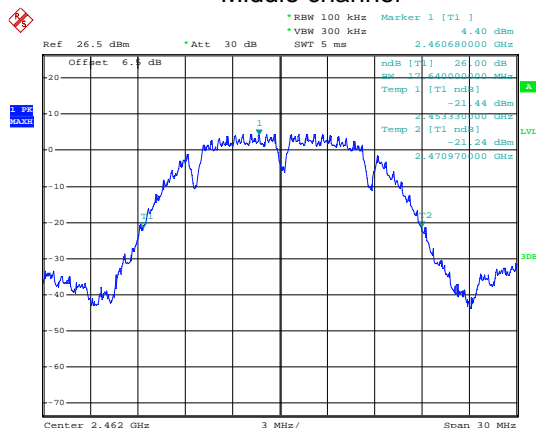
802.11b



Lowest channel



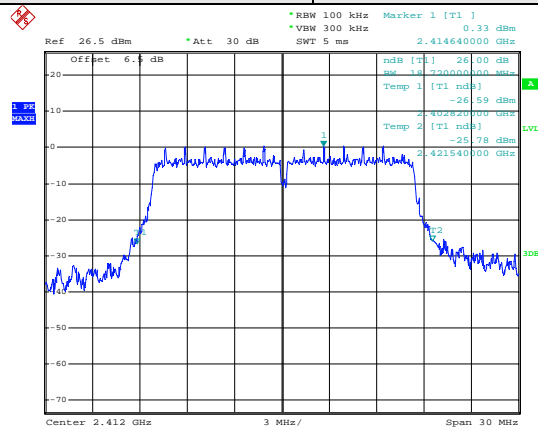
Middle channel



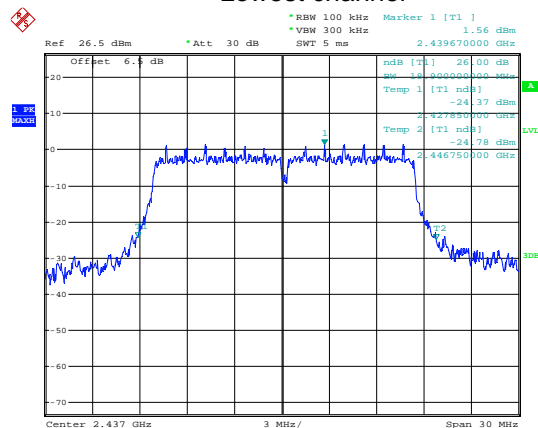
Highest channel

Test mode:26dB EBW

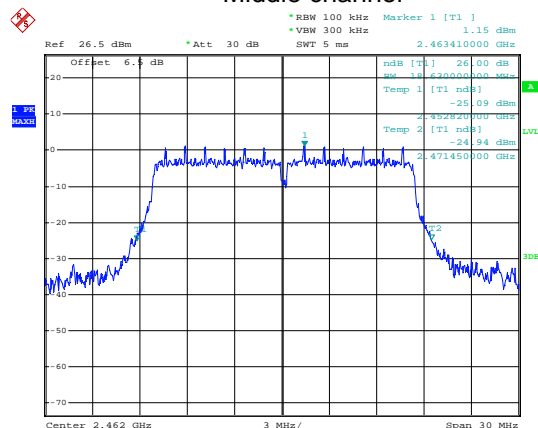
802.11g



Lowest channel



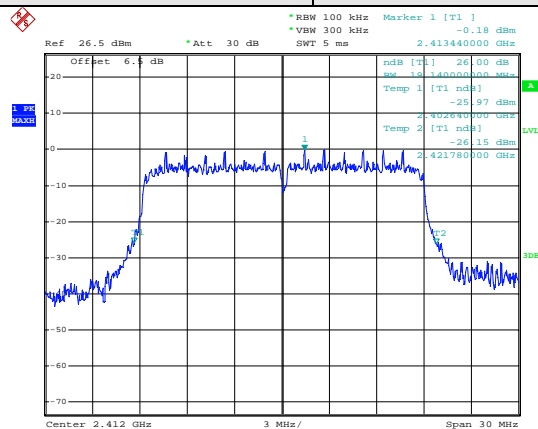
Middle channel



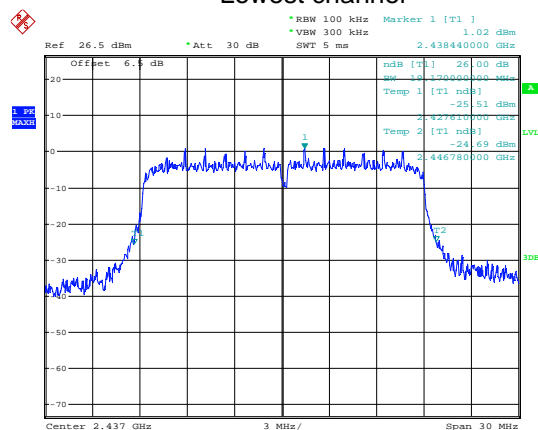
Highest channel

Test mode:26dB EBW

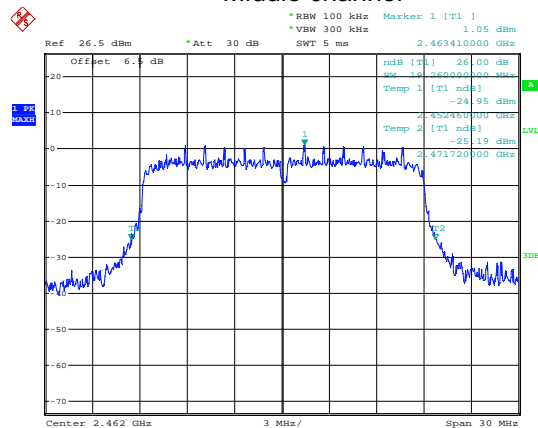
802.11n(H20)



Lowest channel



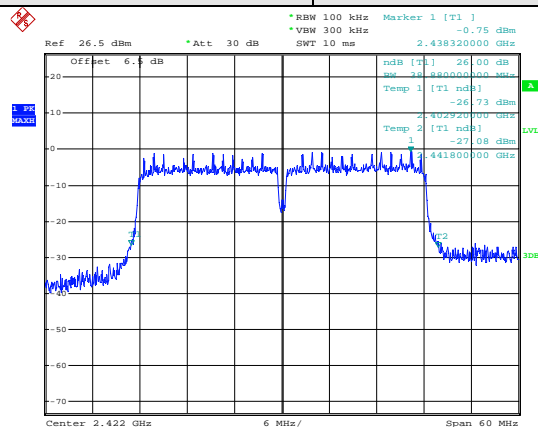
Middle channel



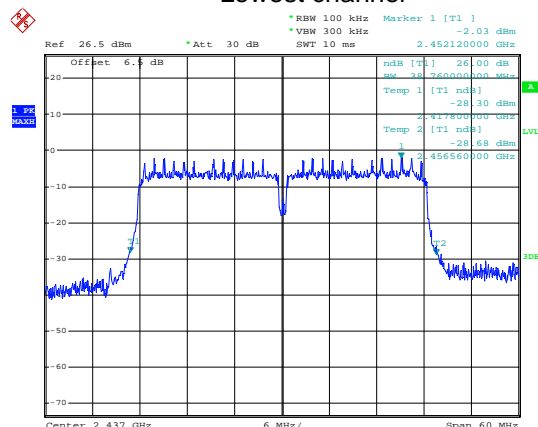
Highest channel

Test mode: 26dB EBW

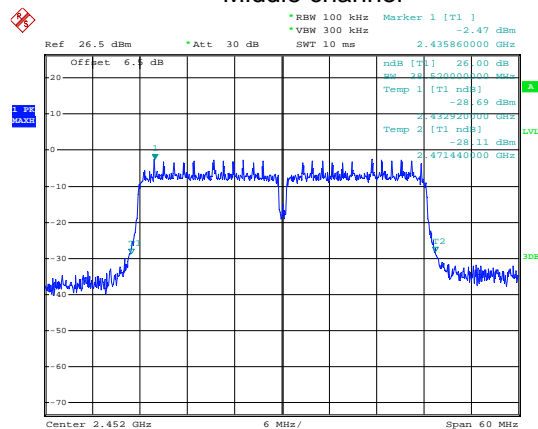
802.11n(H40)



Lowest channel



Middle channel

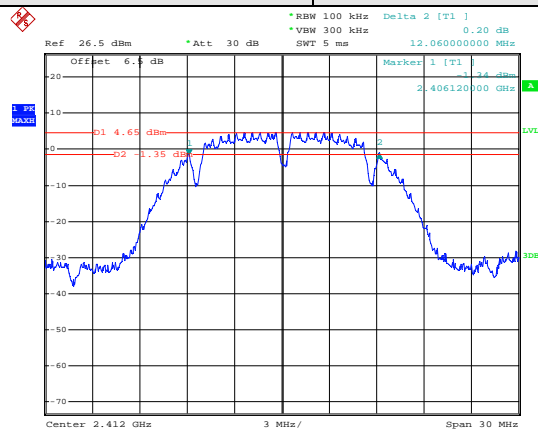


Highest channel

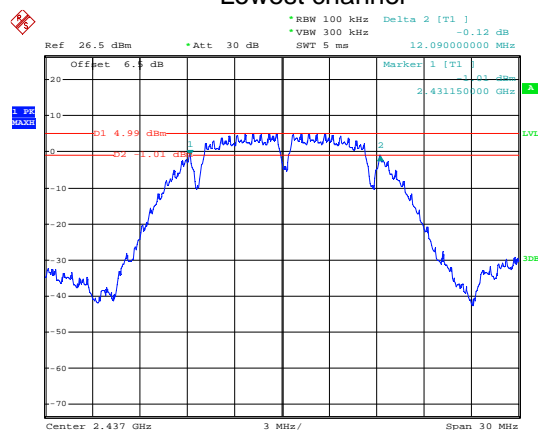
Ant 2

Test mode: 6dB BW

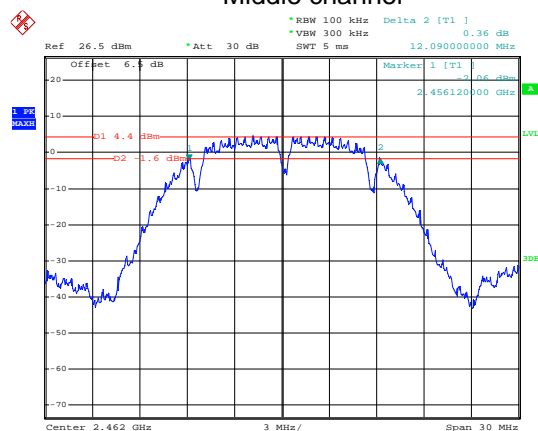
802.11b



Lowest channel



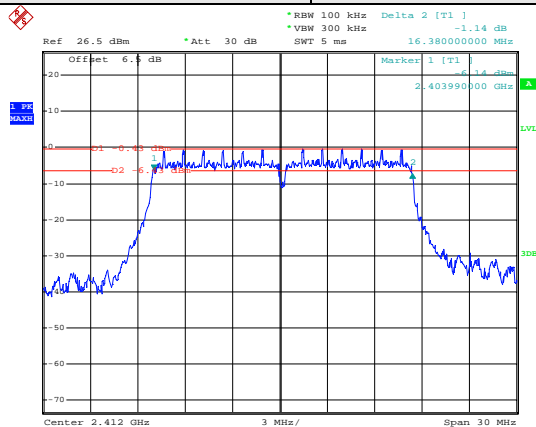
Middle channel



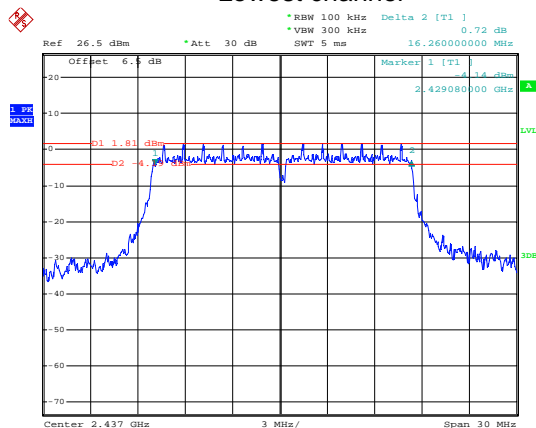
Highest channel

Test mode: 6dB BW

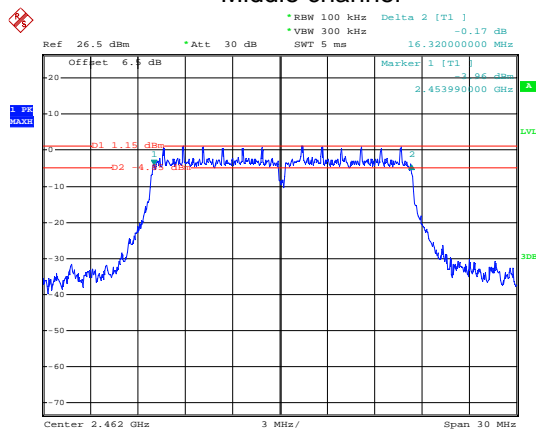
802.11g



Lowest channel



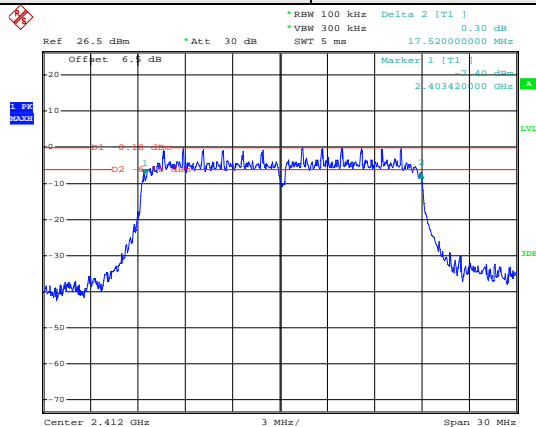
Middle channel



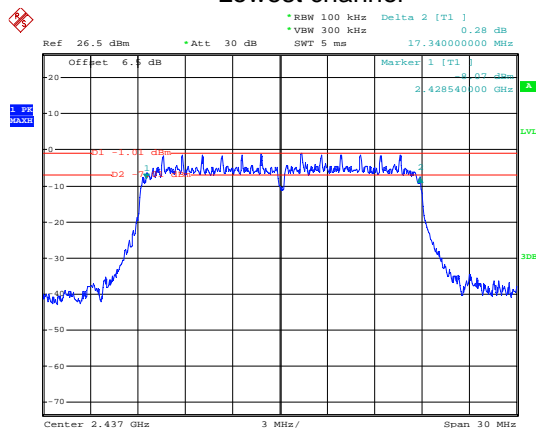
Highest channel

Test mode: 6dB BW

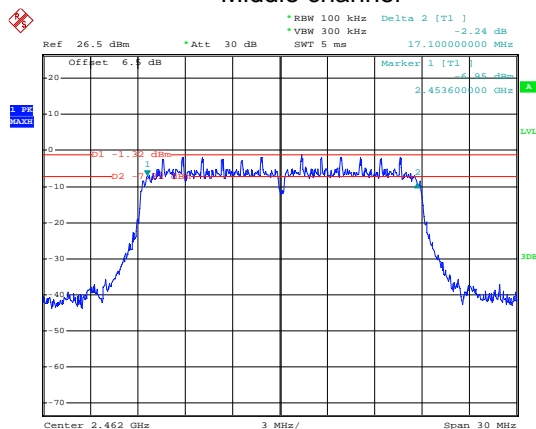
802.11n(H20)



Lowest channel



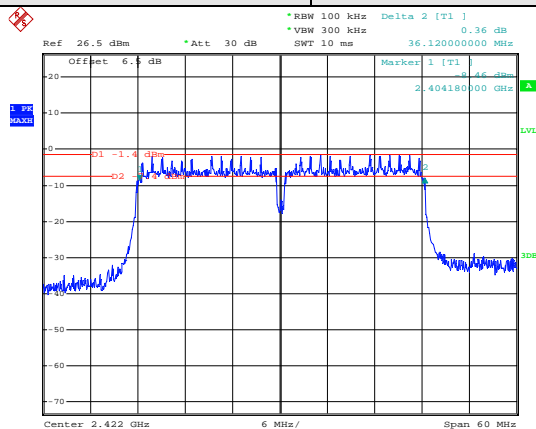
Middle channel



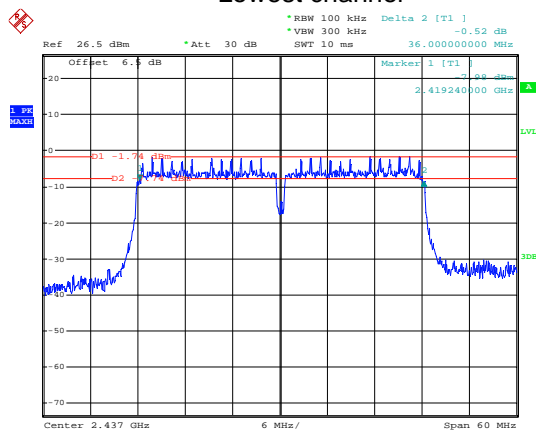
Highest channel

Test mode: 6dB BW

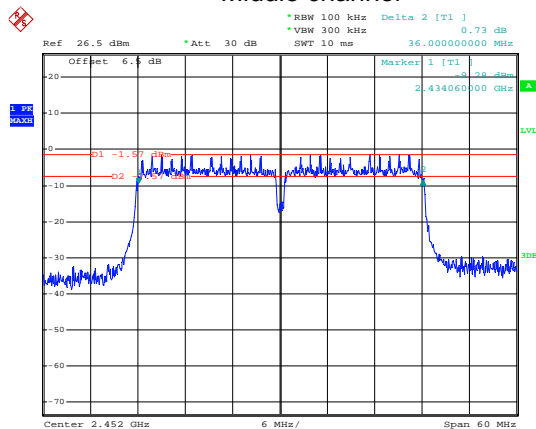
802.11n(H40)



Lowest channel



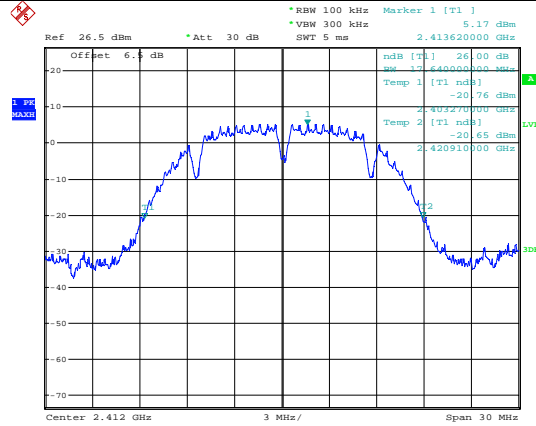
Middle channel



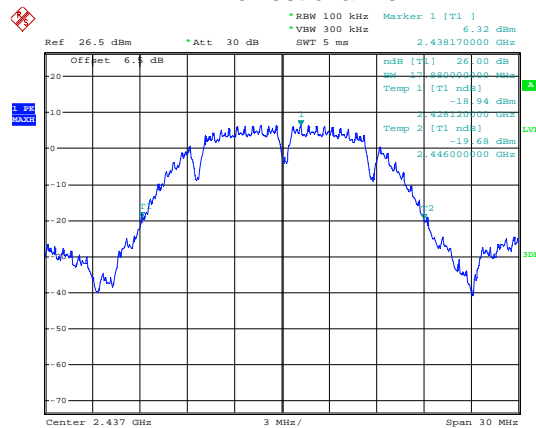
Highest channel

Test mode:26dB EBW

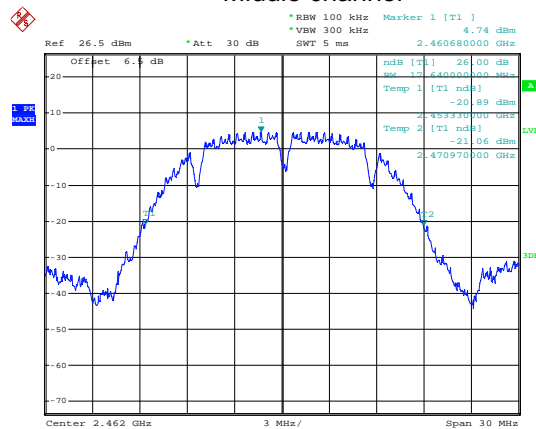
802.11b



Lowest channel



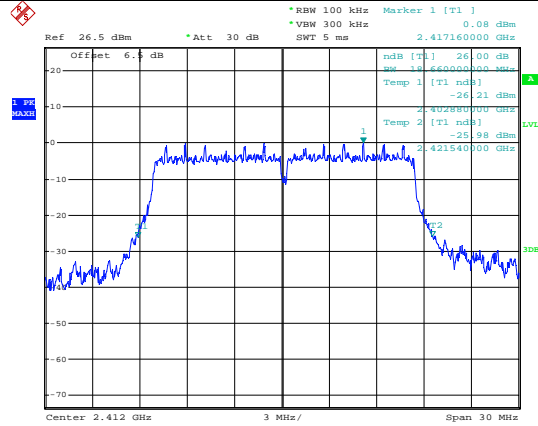
Middle channel



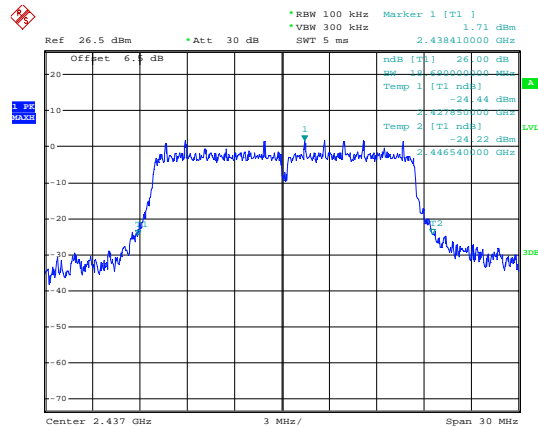
Highest channel

Test mode:26dB EBW

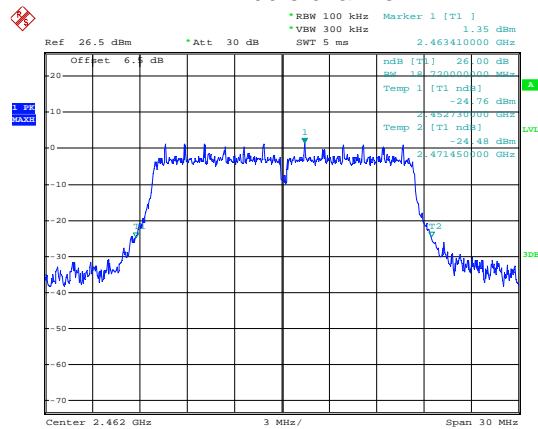
802.11g



Lowest channel



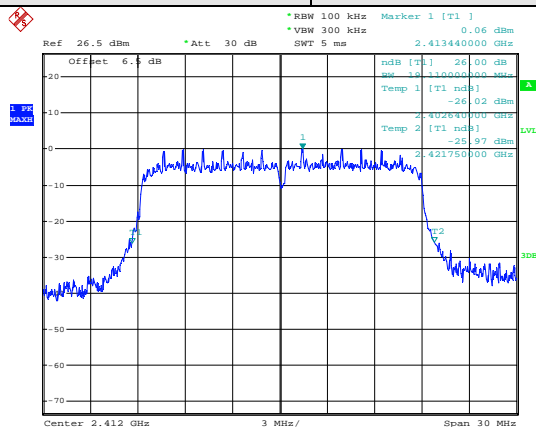
Middle channel



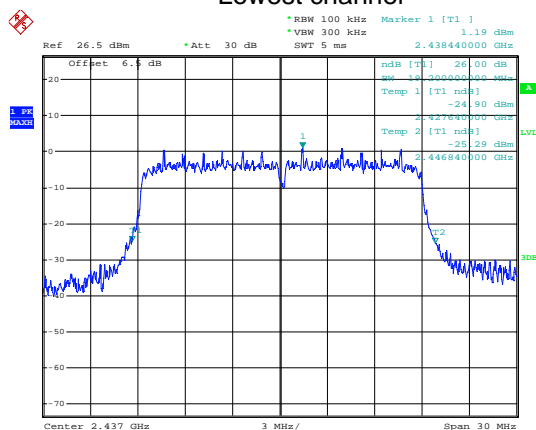
Highest channel

Test mode:26dB EBW

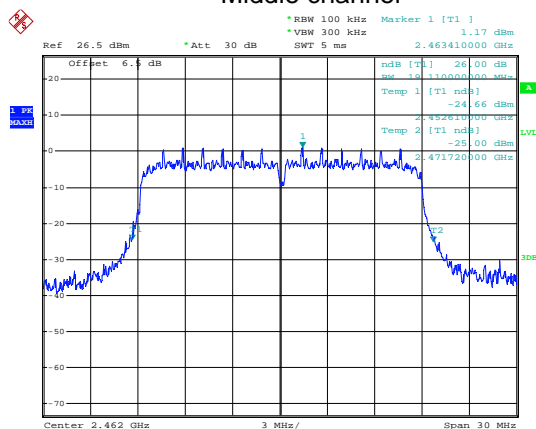
802.11n(H20)



Lowest channel



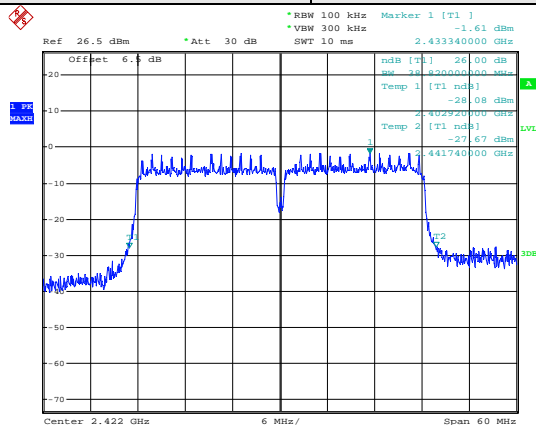
Middle channel



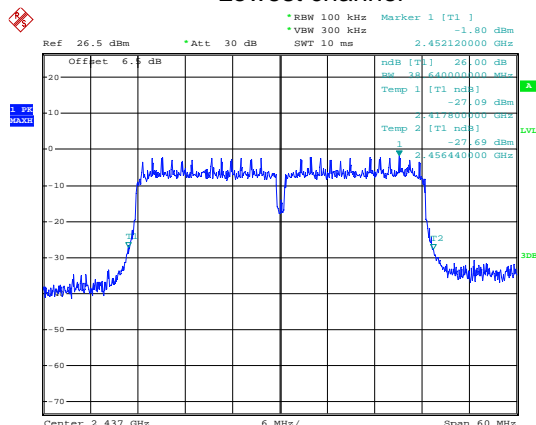
Highest channel

Test mode: 26dB EBW

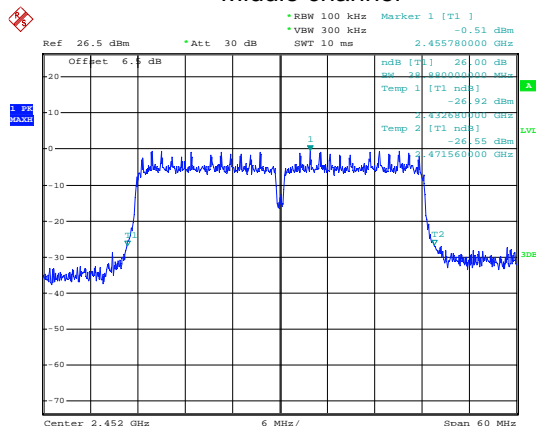
802.11n(H40)



Lowest channel

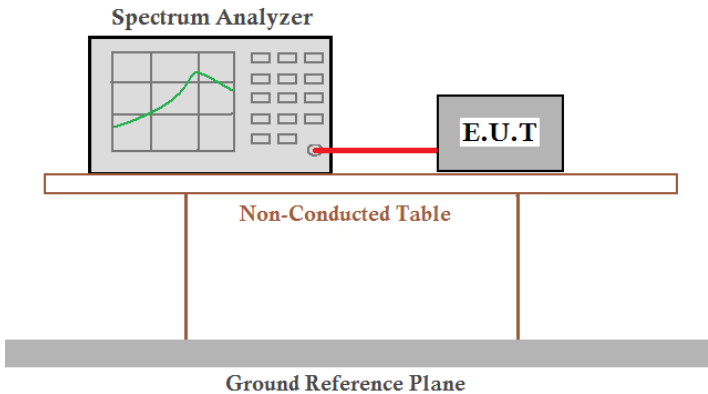


Middle channel



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:	 <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 the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. Below the table is a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

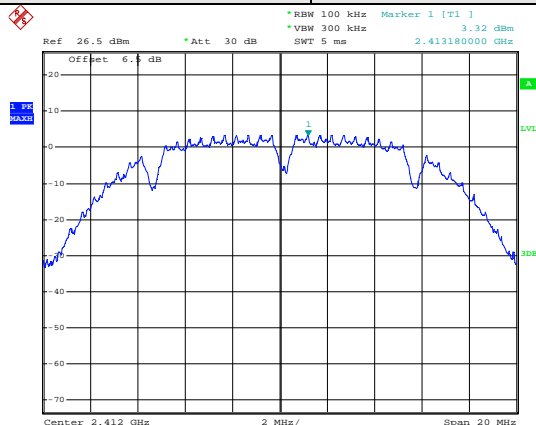
Mode	Test CH	Ant. Port	PSD (dBm)	Total PSD (dBm)	Limit (dBm)	Result
802.11b	Lowest	Ant 1	3.32	6.36	8	Pass
		Ant 2	3.77			
	Middle	Ant 1	4.75	7.05	8	Pass
		Ant 2	3.20			
	Highest	Ant 1	4.67	7.06	8	Pass
		Ant 2	3.32			
802.11g	Lowest	Ant 1	-0.61	2.39	8	Pass
		Ant 2	-0.63			
	Middle	Ant 1	1.64	3.55	8	Pass
		Ant 2	-0.95			
	Highest	Ant 1	1.27	3.46	8	Pass
		Ant 2	-0.55			
802.11n (H20)	Lowest	Ant 1	-0.46	2.75	8	Pass
		Ant 2	-0.07			
	Middle	Ant 1	0.97	3.16	8	Pass
		Ant 2	-0.87			
	Highest	Ant 1	0.46	3.06	8	Pass
		Ant 2	-0.40			
802.11n (H40)	Lowest	Ant 1	-1.85	1.41	8	Pass
		Ant 2	-1.36			
	Middle	Ant 1	-1.96	1.40	8	Pass
		Ant 2	-1.28			
	Highest	Ant 1	-1.17	1.55	8	Pass
		Ant 2	-1.78			

Test plot as follows:

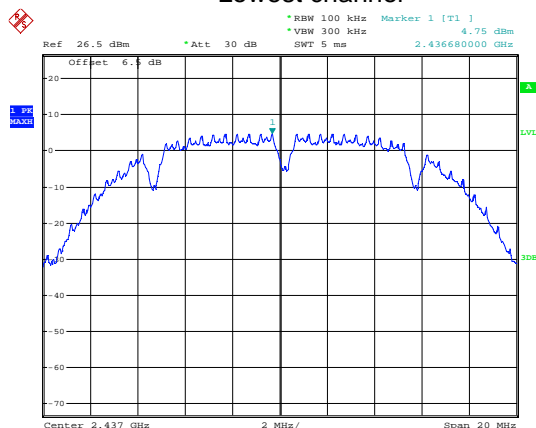
Ant 1

Test mode:

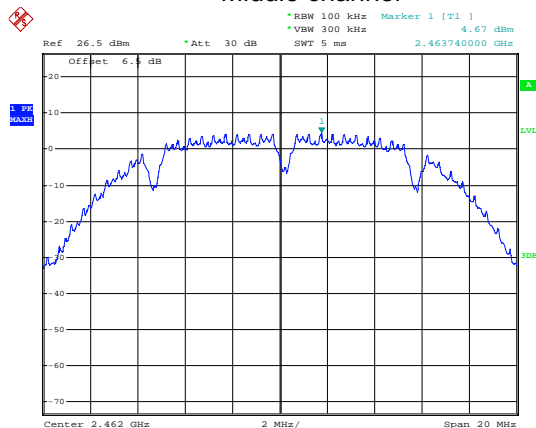
802.11b



Lowest channel



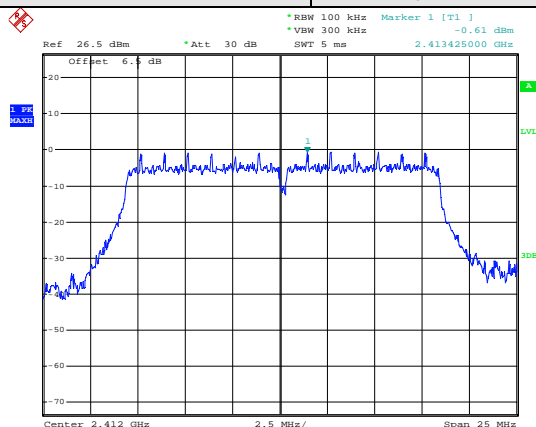
Middle channel



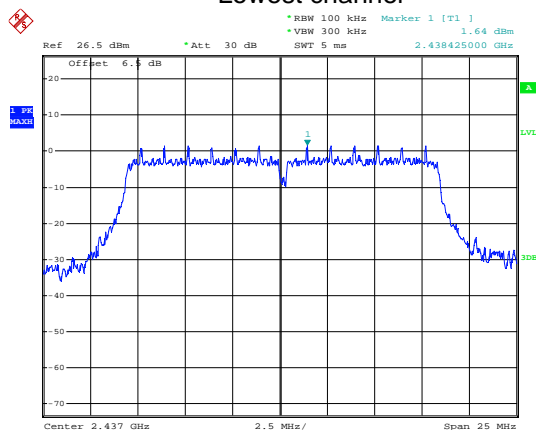
Highest channel

Test mode:

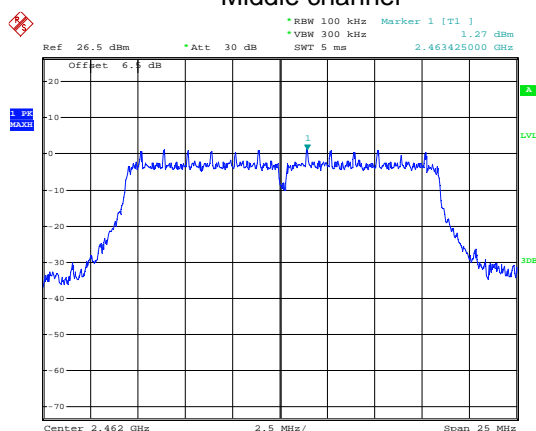
802.11g



Lowest channel



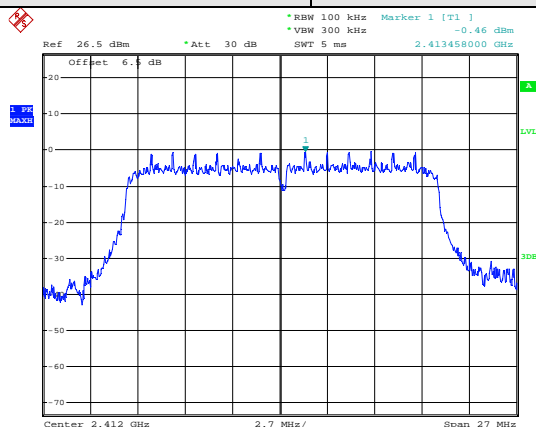
Middle channel



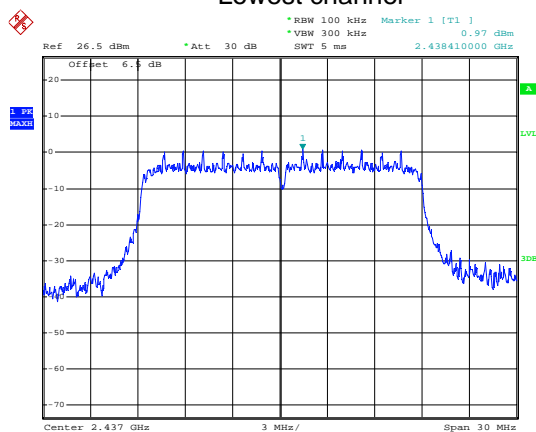
Highest channel

Test mode:

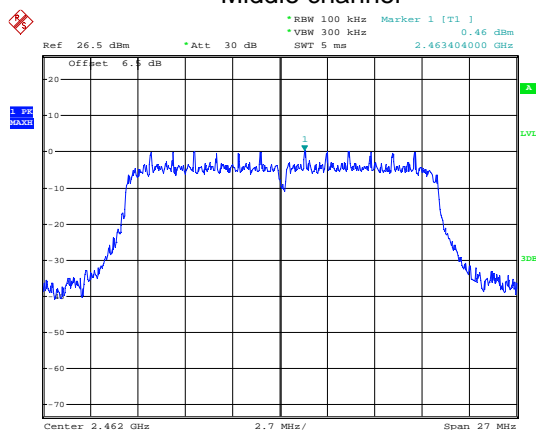
802.11n(H20)



Lowest channel



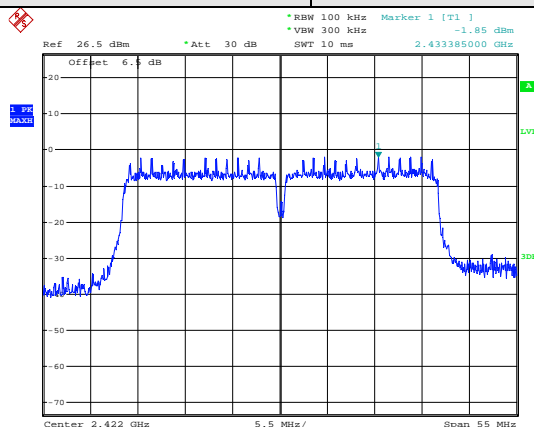
Middle channel



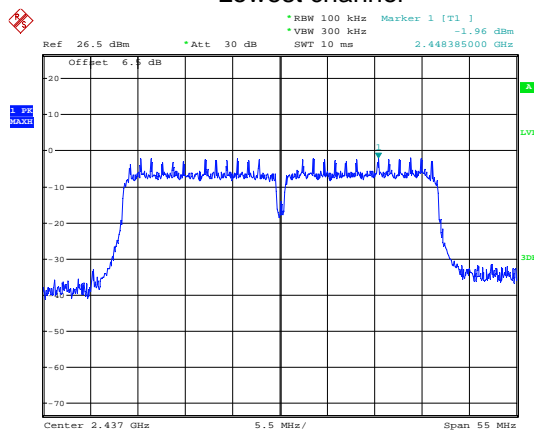
Highest channel

Test mode:

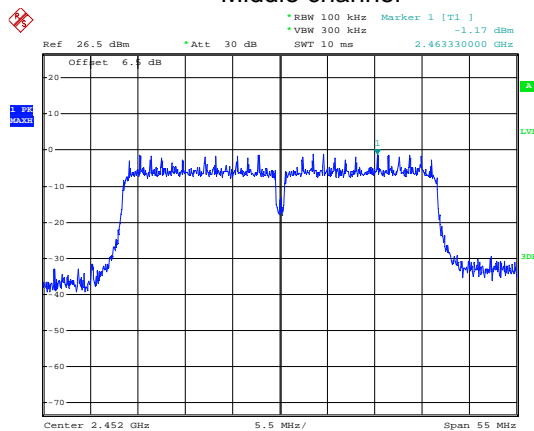
802.11n(H40)



Lowest channel



Middle channel

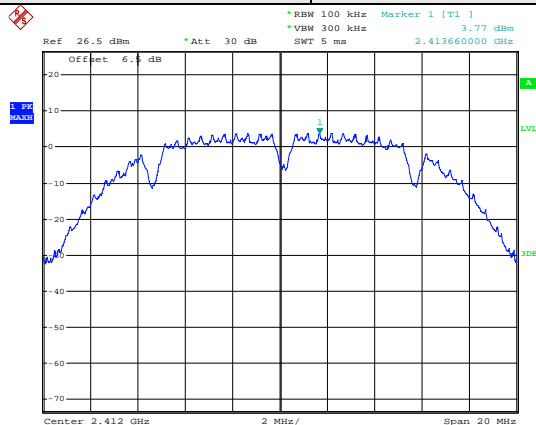


Highest channel

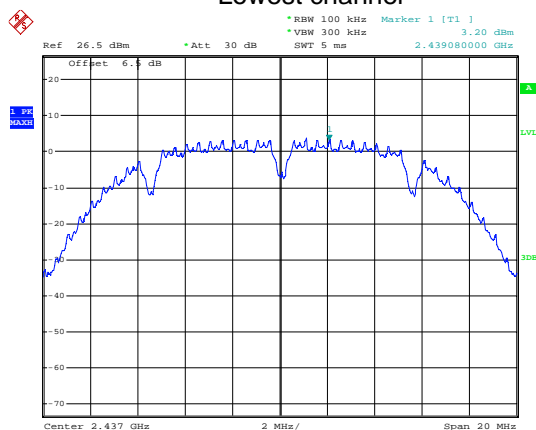
Ant 2

Test mode:

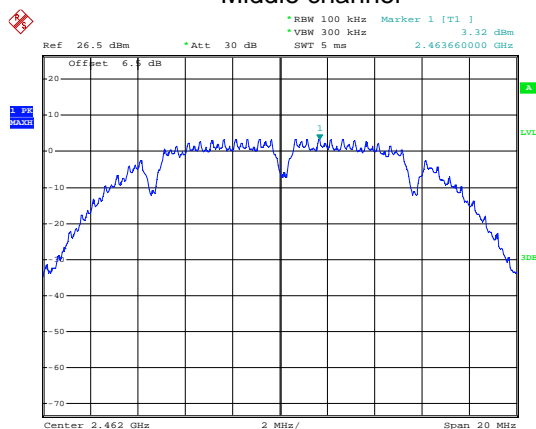
802.11b



Lowest channel



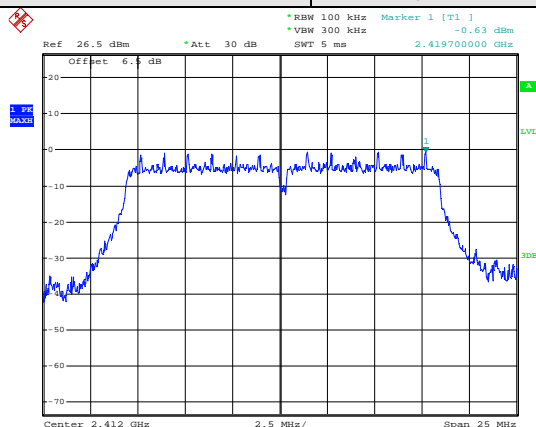
Middle channel



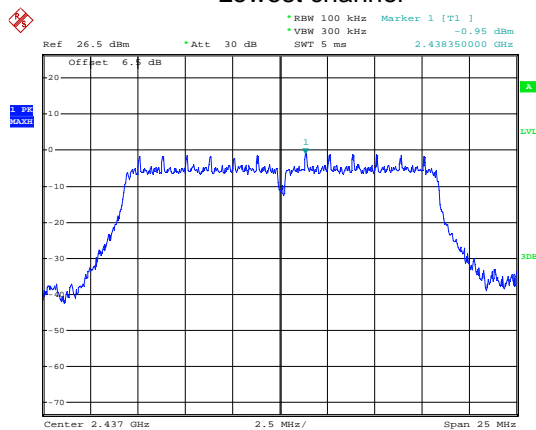
Highest channel

Test mode:

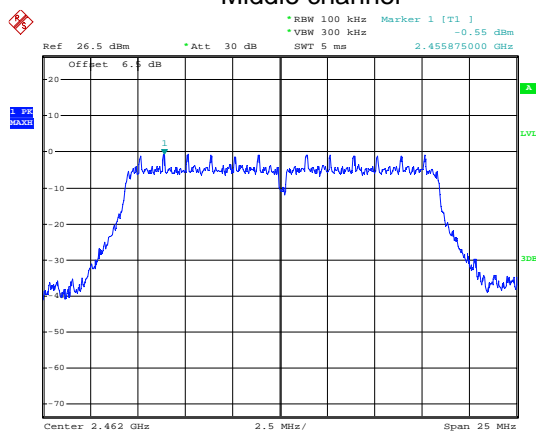
802.11g



Lowest channel



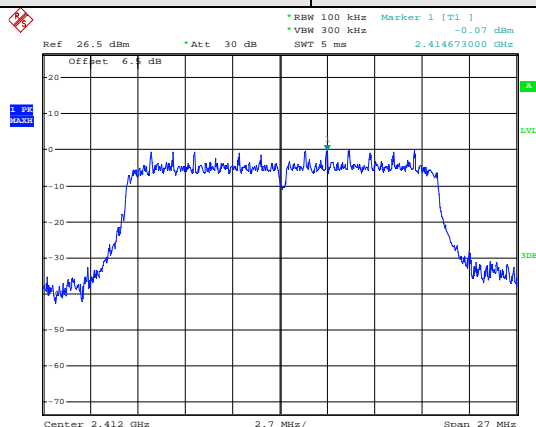
Middle channel



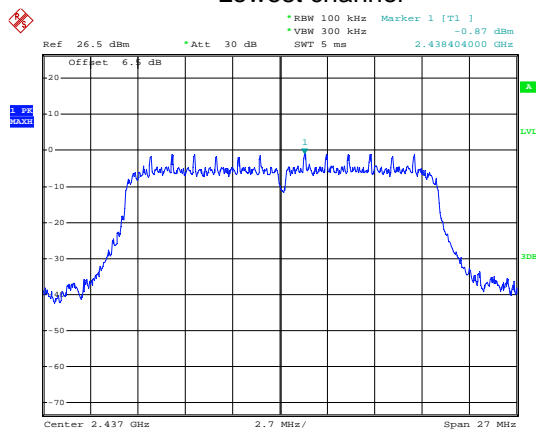
Highest channel

Test mode:

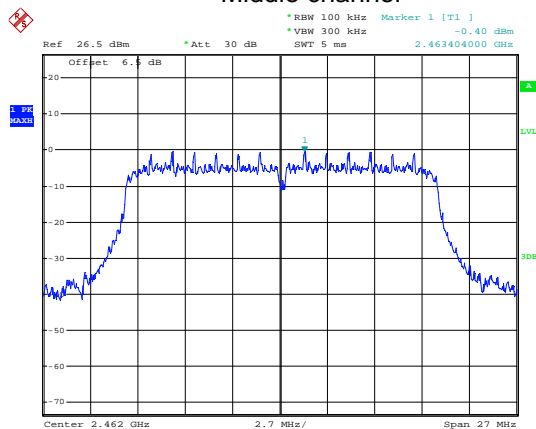
802.11n(H20)



Lowest channel



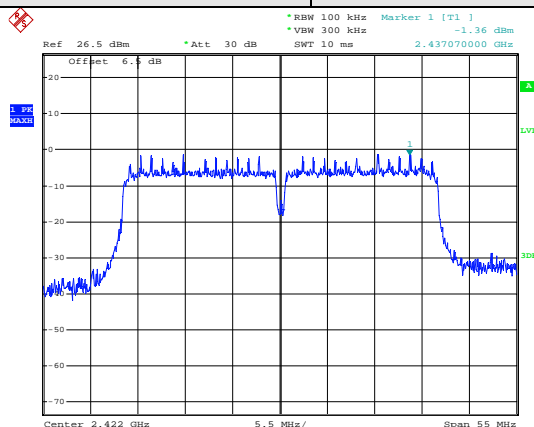
Middle channel



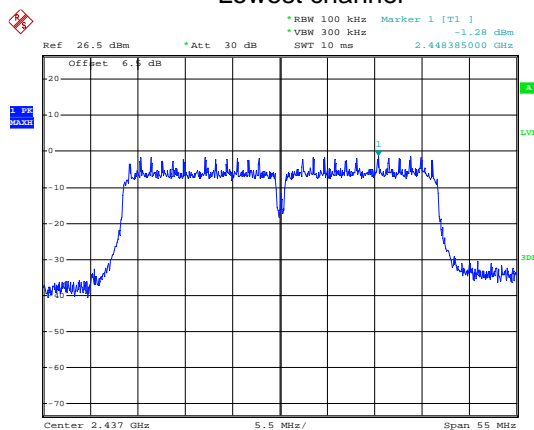
Highest channel

Test mode:

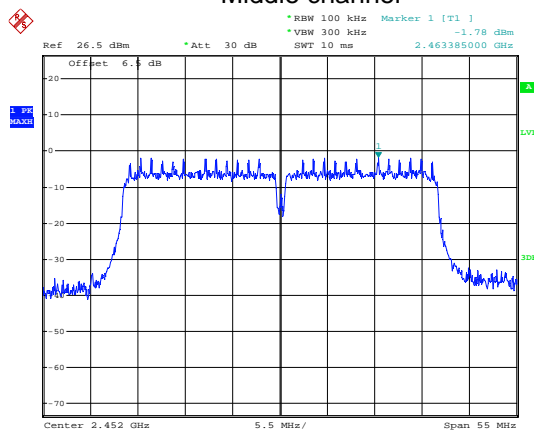
802.11n(H40)



Lowest channel



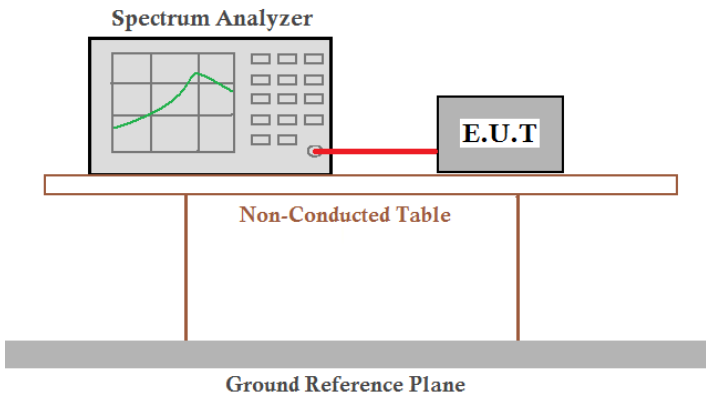
Middle channel



Highest channel

6.6 Band Edge

6.6.1 Conducted Emission Method

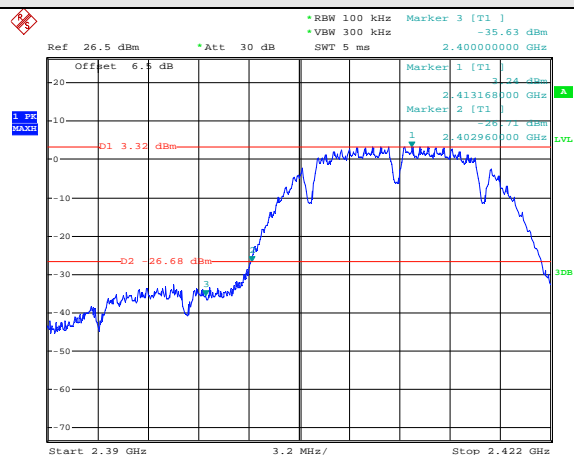
Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 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:	 <p>The diagram illustrates the test setup for conducted emission measurement. A Spectrum Analyzer is connected via a red cable to an E.U.T. (Equipment Under Test). Both are placed on a Non-Conducted Table, which is supported by two vertical legs. Below the table is a Ground Reference Plane.</p>
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:

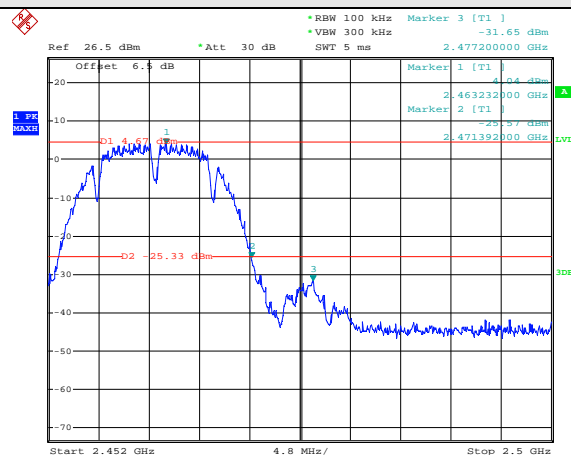
Ant 1

Test mode:

802.11b



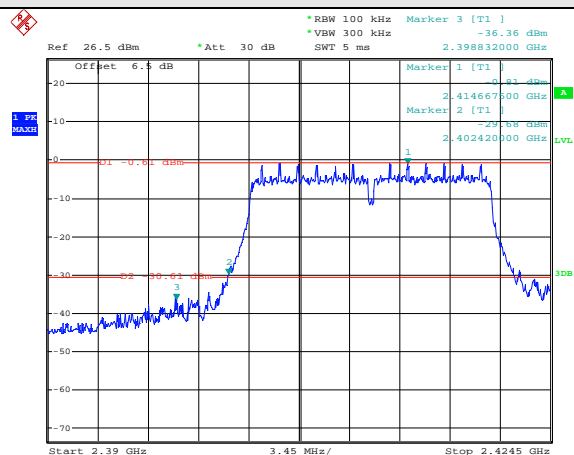
Lowest channel



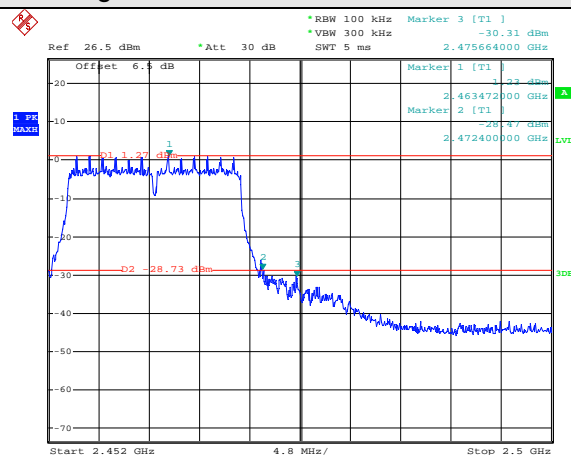
Highest channel

Test mode:

802.11g



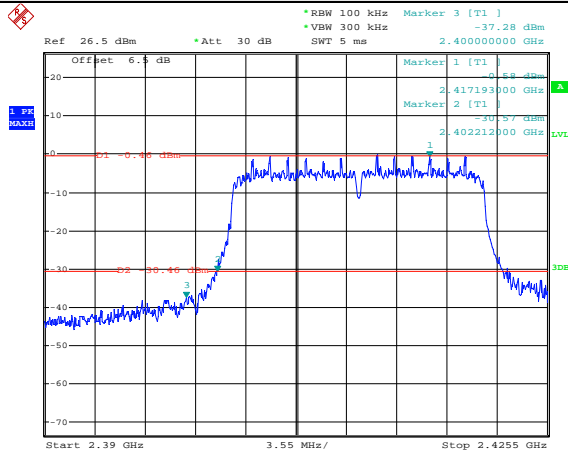
Lowest channel



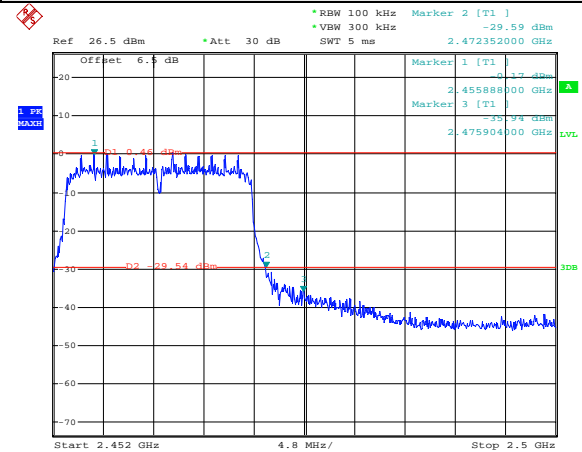
Highest channel

Test mode:

802.11n(H20)



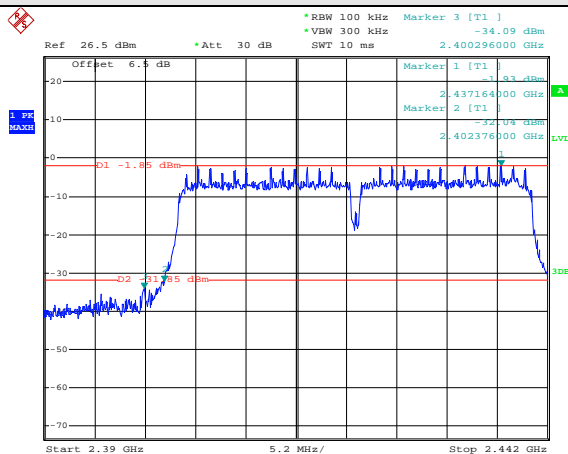
Lowest channel



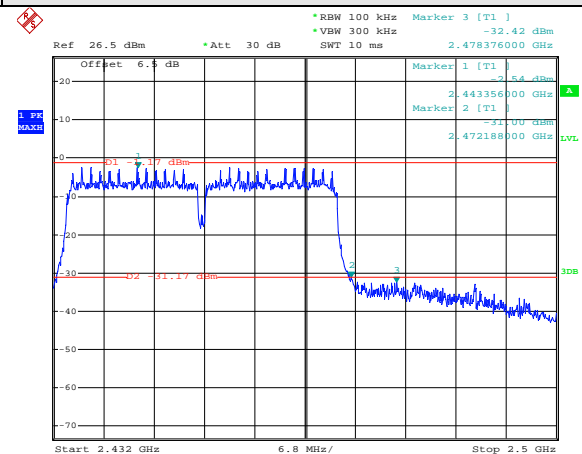
Highest channel

Test mode:

802.11n(H40)



Lowest channel

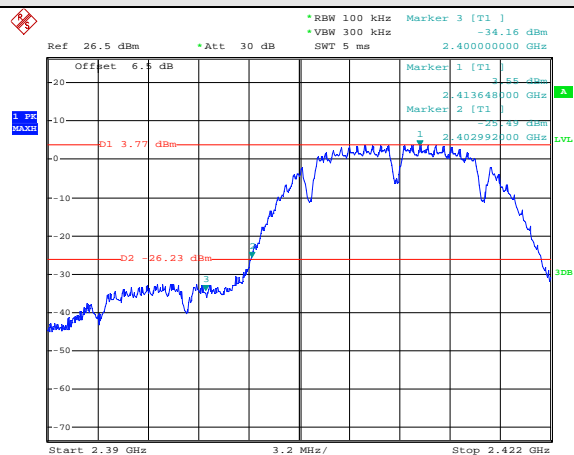


Highest channel

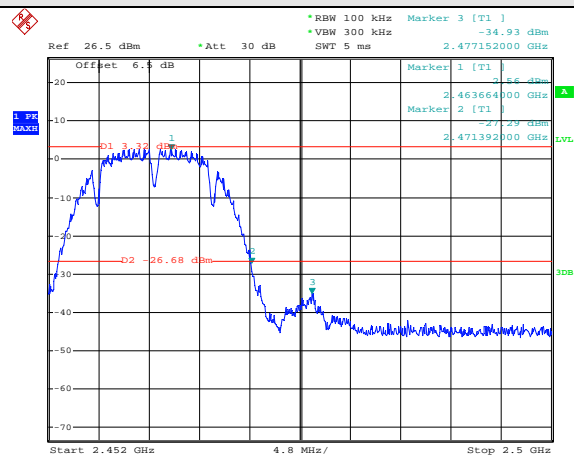
Ant 2

Test mode:

802.11b



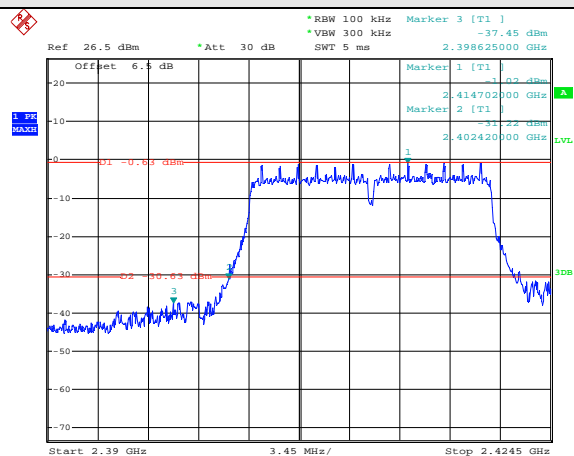
Lowest channel



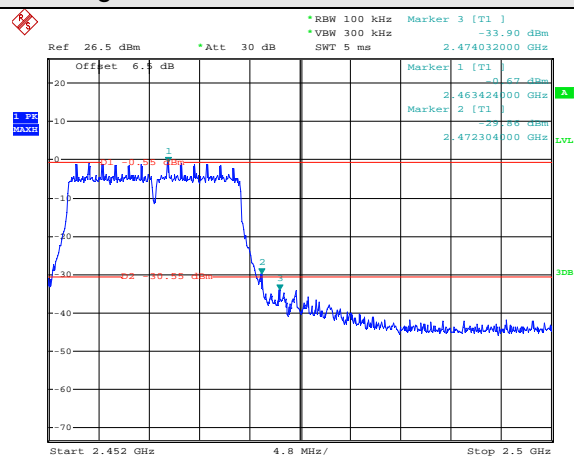
Highest channel

Test mode:

802.11g



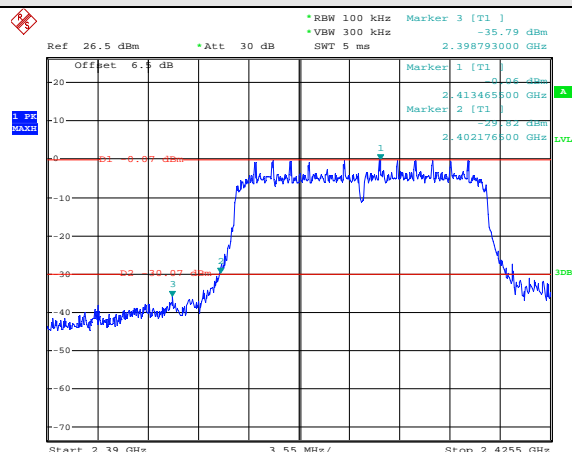
Lowest channel



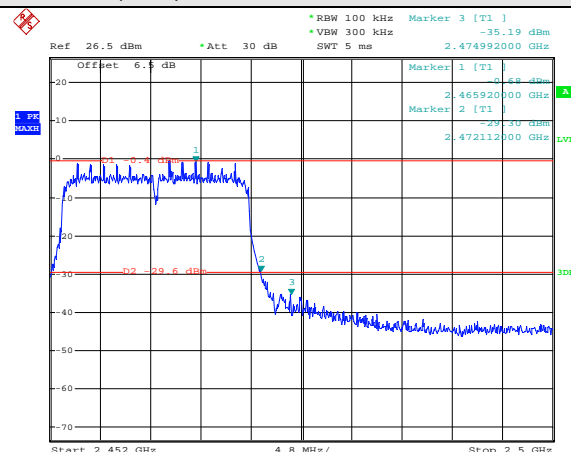
Highest channel

Test mode:

802.11n(H20)



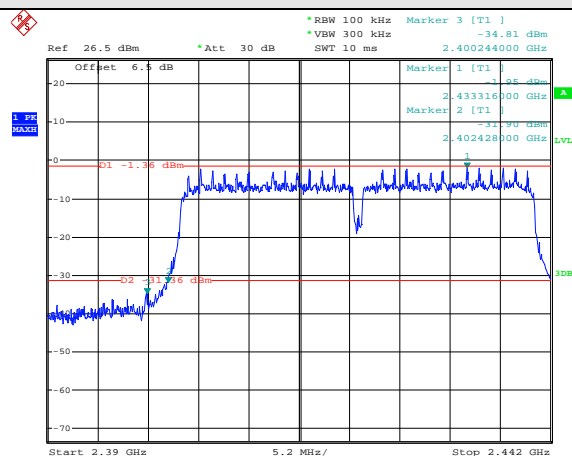
Lowest channel



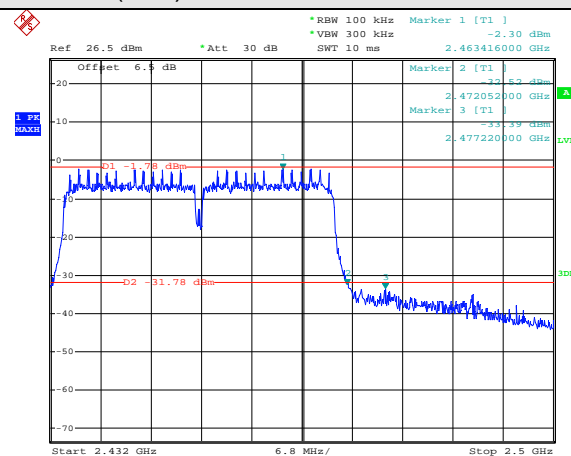
Highest channel

Test mode:

802.11n(H40)



Lowest channel



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><tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</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>					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><tr><td>Frequency</td><td>Limit (dBuV/m @3m)</td><td>Remark</td></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>					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:	<div><div>1.</div><div>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.</div></div> <div><div>2.</div><div>The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</div></div> <div><div>3.</div><div>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.</div></div> <div><div>4.</div><div>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.</div></div> <div><div>5.</div><div>The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</div></div> <div><div>6.</div><div>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.</div></div>																		
Test setup:	<div><div><div><div><div>EUT</div><div>Turn Table</div></div><div><div>0.8m</div><div>3m</div></div></div><div><div>4m</div><div>1m</div></div><div><div>Antenna Tower</div><div>Horn Antenna</div></div><div><div>Spectrum Analyzer</div><div>Amplifier</div></div></div></div>																		
Test Instruments:	Refer to section 5.7 for details																		
Test mode:	Refer to section 5.3 for details																		
Test results:	Passed																		

802.11b

Test channel:		Lowest			Level:		Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	58.31	27.58	3.81	34.83	54.87	74.00	-19.13	Horizontal
2400.00	48.32	27.58	3.83	34.83	44.90	74.00	-29.10	Horizontal
2390.00	52.36	27.58	3.81	34.83	48.92	74.00	-25.08	Vertical
2400.00	49.35	27.58	3.83	34.83	45.93	74.00	-28.07	Vertical

Test channel:		Lowest			Level:		Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	49.52	27.58	3.81	34.83	46.08	54.00	-7.92	Horizontal
2400.00	36.58	27.58	3.83	34.83	33.16	54.00	-20.84	Horizontal
2390.00	46.32	27.58	3.81	34.83	42.88	54.00	-11.12	Vertical
2400.00	38.32	27.58	3.83	34.83	34.90	54.00	-19.10	Vertical

Test channel:		Highest			Level:		Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	60.32	27.52	3.89	34.86	56.87	74.00	-17.13	Horizontal
2500.00	48.35	27.55	3.90	34.87	44.93	74.00	-29.07	Horizontal
2483.50	58.35	27.52	3.89	34.86	54.90	74.00	-19.10	Vertical
2500.00	49.68	27.55	3.90	34.87	46.26	74.00	-27.74	Vertical

Test channel:		Highest			Level:		Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	49.35	27.52	3.89	34.86	45.90	54.00	-8.10	Horizontal
2500.00	39.14	27.55	3.90	34.87	35.72	54.00	-18.28	Horizontal
2483.50	49.19	27.52	3.89	34.86	45.74	54.00	-8.26	Vertical
2500.00	35.26	27.55	3.90	34.87	31.84	54.00	-22.16	Vertical

802.11g

Test channel:		Lowest			Level:		Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	58.32	27.58	3.81	34.83	54.88	74.00	-19.12	Horizontal
2400.00	46.32	27.58	3.83	34.83	42.90	74.00	-31.10	Horizontal
2390.00	61.32	27.58	3.81	34.83	57.88	74.00	-16.12	Vertical
2400.00	49.30	27.58	3.83	34.83	45.88	74.00	-28.12	Vertical

Test channel:		Lowest			Level:		Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	49.26	27.58	3.81	34.83	45.82	54.00	-8.18	Horizontal
2400.00	38.15	27.58	3.83	34.83	34.73	54.00	-19.27	Horizontal
2390.00	53.26	27.58	3.81	34.83	49.82	54.00	-4.18	Vertical
2400.00	41.32	27.58	3.83	34.83	37.90	54.00	-16.10	Vertical

Test channel:		Highest			Level:		Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	59.16	27.52	3.89	34.86	55.71	74.00	-18.29	Horizontal
2500.00	50.32	27.55	3.90	34.87	46.90	74.00	-27.10	Horizontal
2483.50	59.16	27.52	3.89	34.86	55.71	74.00	-18.29	Vertical
2500.00	51.32	27.55	3.90	34.87	47.90	74.00	-26.10	Vertical

Test channel:		Highest			Level:		Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	49.04	27.52	3.89	34.86	45.59	54.00	-8.41	Horizontal
2500.00	37.19	27.55	3.90	34.87	33.77	54.00	-20.23	Horizontal
2483.50	47.39	27.52	3.89	34.86	43.94	54.00	-10.06	Vertical
2500.00	40.32	27.55	3.90	34.87	36.90	54.00	-17.10	Vertical

802.11n (H20)

Test channel:		Lowest			Level:		Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	62.03	27.58	3.81	34.83	58.59	74.00	-15.41	Horizontal
2400.00	50.35	27.58	3.83	34.83	46.93	74.00	-27.07	Horizontal
2390.00	63.15	27.58	3.81	34.83	59.71	74.00	-14.29	Vertical
2400.00	59.26	27.58	3.83	34.83	55.84	74.00	-18.16	Vertical

Test channel:		Lowest			Level:		Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	53.26	27.58	3.81	34.83	49.82	54.00	-4.18	Horizontal
2400.00	49.32	27.58	3.83	34.83	45.90	54.00	-8.10	Horizontal
2390.00	45.35	27.58	3.81	34.83	41.91	54.00	-12.09	Vertical
2400.00	43.26	27.58	3.83	34.83	39.84	54.00	-14.16	Vertical

Test channel:		Highest			Level:		Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	53.26	27.52	3.89	34.86	49.81	74.00	-24.19	Horizontal
2500.00	49.27	27.55	3.90	34.87	45.85	74.00	-28.15	Horizontal
2483.50	67.32	27.52	3.89	34.86	63.87	74.00	-10.13	Vertical
2500.00	56.35	27.55	3.90	34.87	52.93	74.00	-21.07	Vertical

Test channel:		Highest			Level:		Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	48.35	27.52	3.89	34.86	44.90	54.00	-9.10	Horizontal
2500.00	40.39	27.55	3.90	34.87	36.97	54.00	-17.03	Horizontal
2483.50	49.32	27.52	3.89	34.86	45.87	54.00	-8.13	Vertical
2500.00	43.26	27.55	3.90	34.87	39.84	54.00	-14.16	Vertical

802.11n (H40)

Test channel:		Lowest			Level:		Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	64.35	27.58	3.81	34.83	60.91	74.00	-13.09	Horizontal
2400.00	53.26	27.58	3.83	34.83	49.84	74.00	-24.16	Horizontal
2390.00	61.32	27.58	3.81	34.83	57.88	74.00	-16.12	Vertical
2400.00	59.35	27.58	3.83	34.83	55.93	74.00	-18.07	Vertical

Test channel:		Lowest			Level:		Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	53.21	27.58	3.81	34.83	49.77	54.00	-4.23	Horizontal
2400.00	49.37	27.58	3.83	34.83	45.95	54.00	-8.05	Horizontal
2390.00	50.36	27.58	3.81	34.83	46.92	54.00	-7.08	Vertical
2400.00	46.35	27.58	3.83	34.83	42.93	54.00	-11.07	Vertical

Test channel:		Highest			Level:		Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	60.10	27.52	3.89	34.86	56.65	74.00	-17.35	Horizontal
2500.00	53.26	27.55	3.90	34.87	49.84	74.00	-24.16	Horizontal
2483.50	62.32	27.52	3.89	34.86	58.87	74.00	-15.13	Vertical
2500.00	51.36	27.55	3.90	34.87	47.94	74.00	-26.06	Vertical

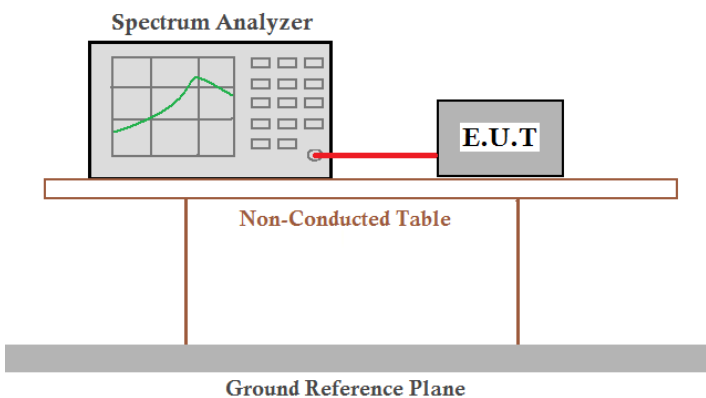
Test channel:		Highest			Level:		Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	50.32	27.52	3.89	34.86	46.87	54.00	-7.13	Horizontal
2500.00	49.75	27.55	3.90	34.87	46.33	54.00	-7.67	Horizontal
2483.50	50.26	27.52	3.89	34.86	46.81	54.00	-7.19	Vertical
2500.00	49.35	27.55	3.90	34.87	45.93	54.00	-8.07	Vertical

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

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 for conducted emission testing. A Spectrum Analyzer is connected to an Equipment Under Test (E.U.T.) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The table is supported by two vertical legs and sits on a Ground Reference Plane, which is represented by a thick grey bar at the bottom of the diagram.</p>
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

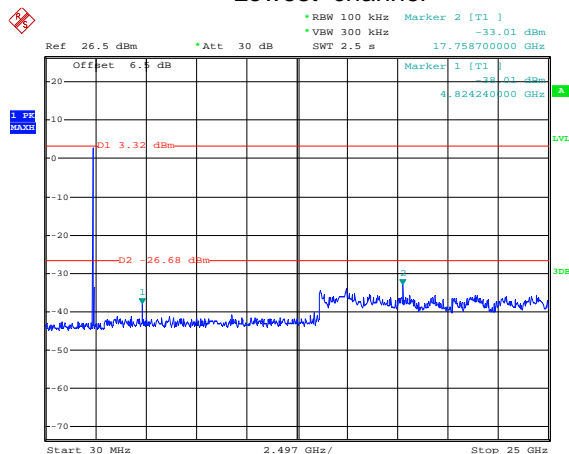
Test plot as follows:

Ant 1

Test mode:

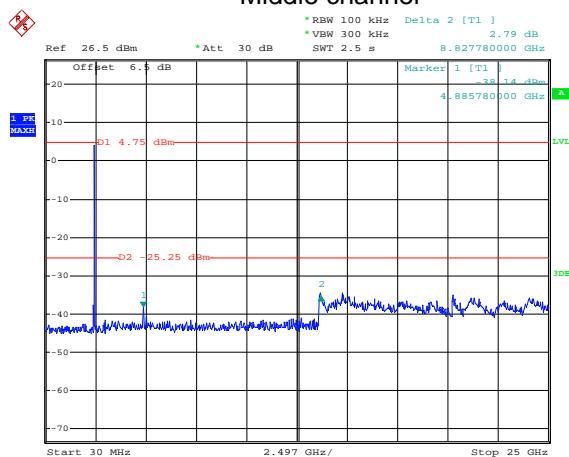
802.11b

Lowest channel

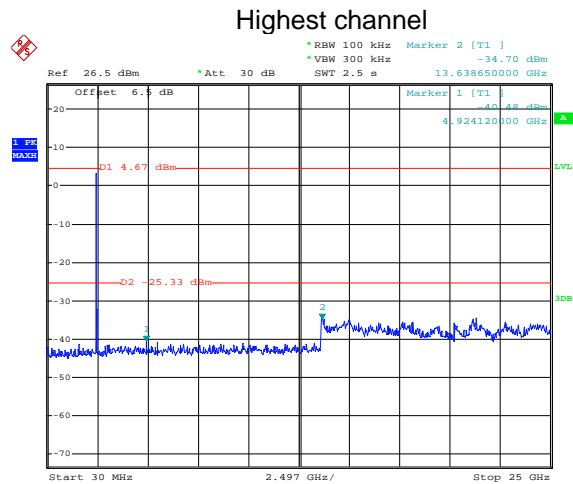


30MHz~25GHz

Middle channel

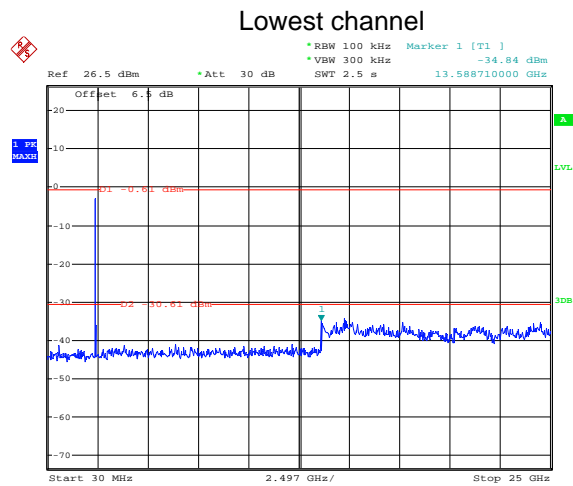


30MHz~25GHz



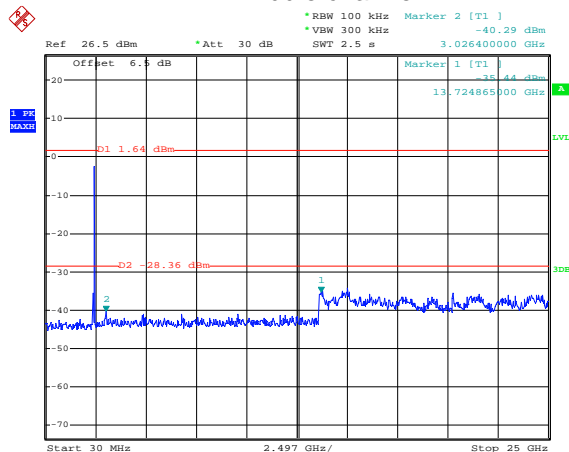
30MHz~25GHz

Test mode:	802.11g
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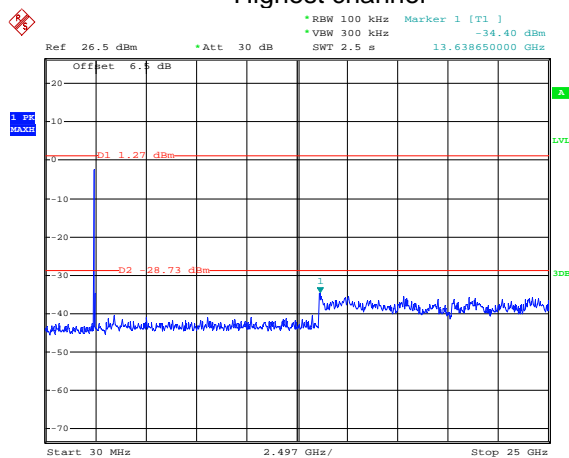
30MHz~25GHz

Middle channel



30MHz~25GHz

Highest channel

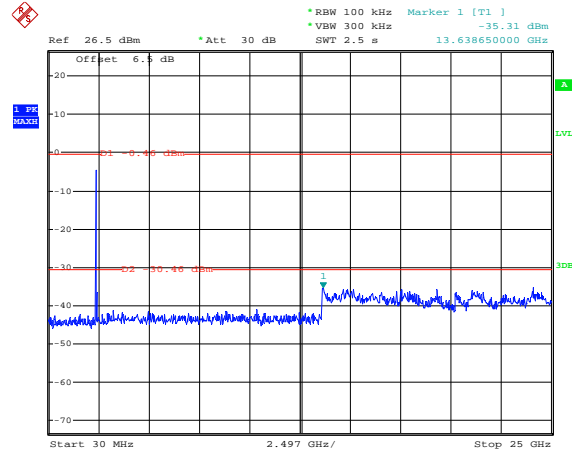


30MHz~25GHz

Test mode:

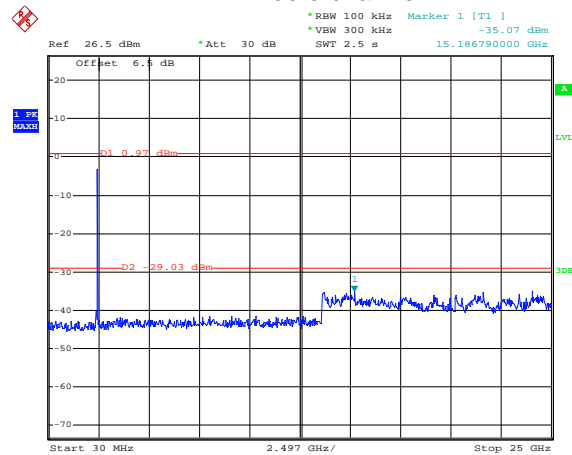
802.11n(H20)

Lowest channel

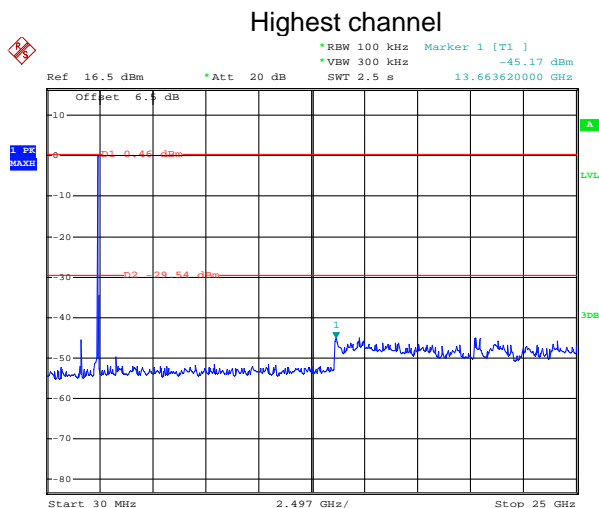


30MHz~25GHz

Middle channel



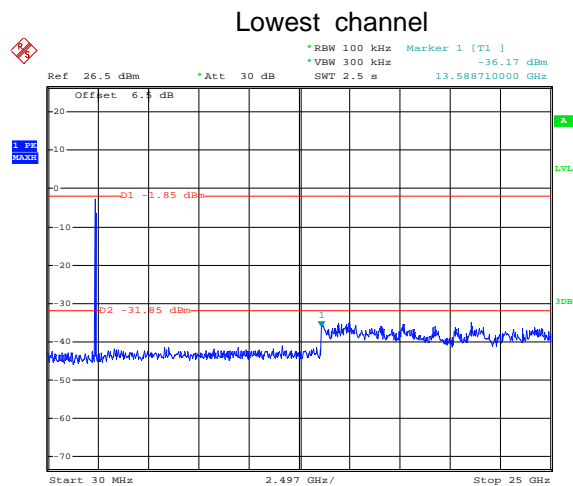
30MHz~25GHz



30MHz~25GHz

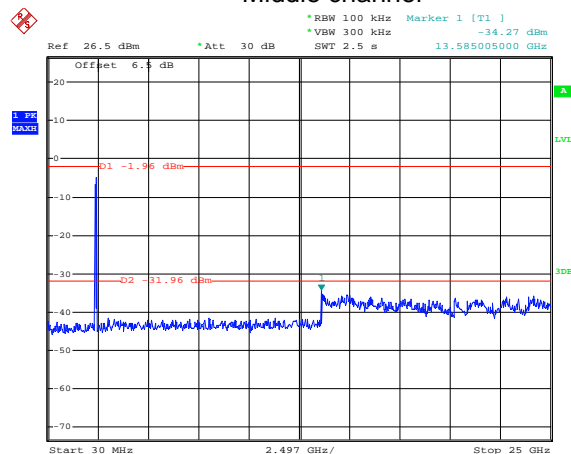
Test mode:

802.11n(H40)



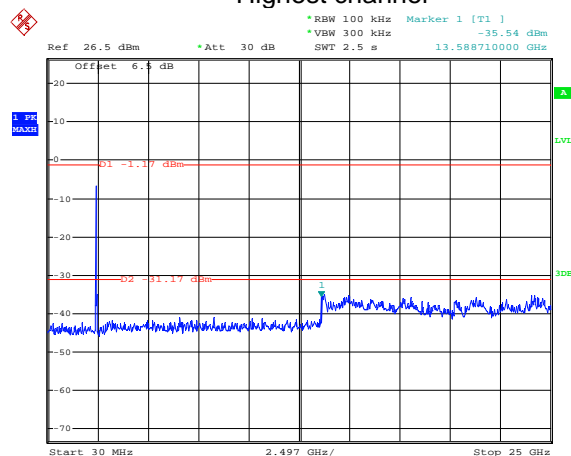
30MHz~25GHz

Middle channel



30MHz~25GHz

Highest channel



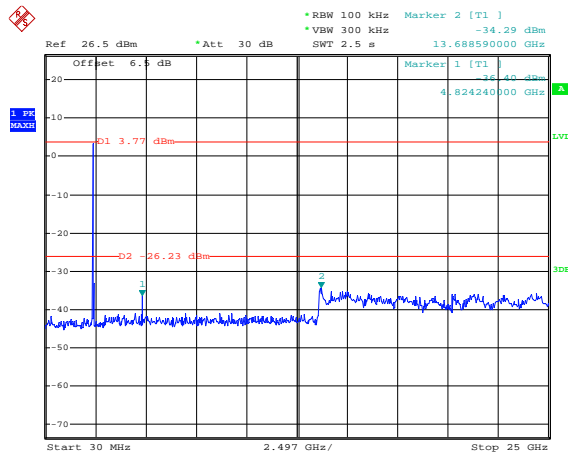
30MHz~25GHz

Ant 2

Test mode:

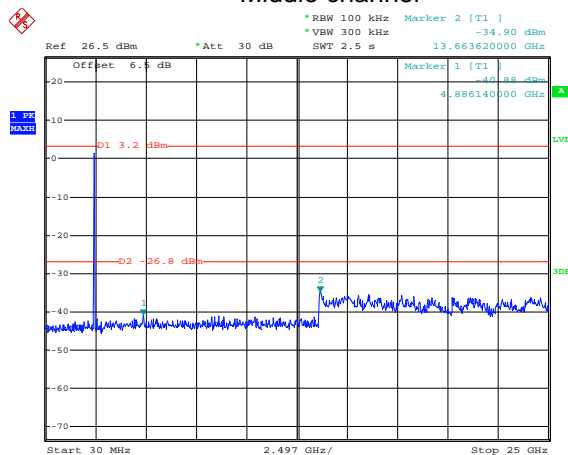
802.11b

Lowest channel

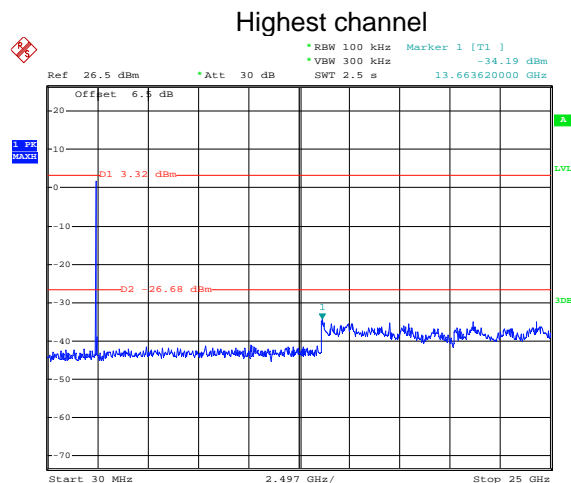


30MHz~25GHz

Middle channel



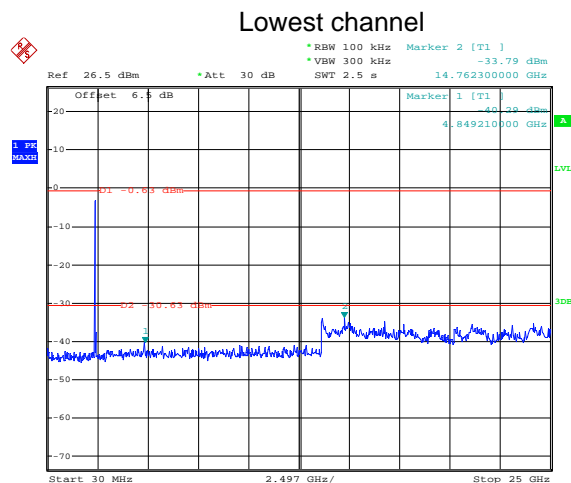
30MHz~25GHz



30MHz~25GHz

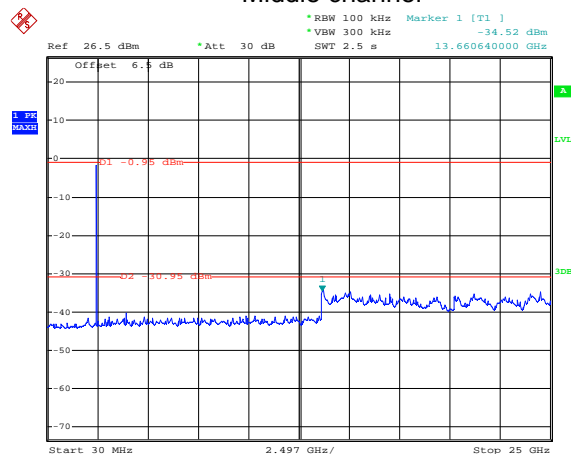
Test mode:

802.11g



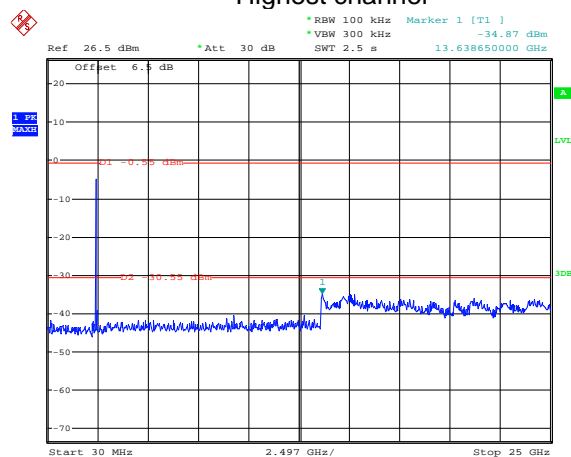
30MHz~25GHz

Middle channel



30MHz~25GHz

Highest channel

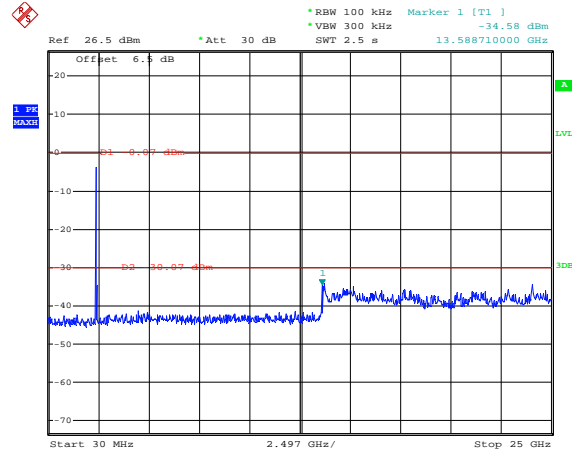


30MHz~25GHz

Test mode:

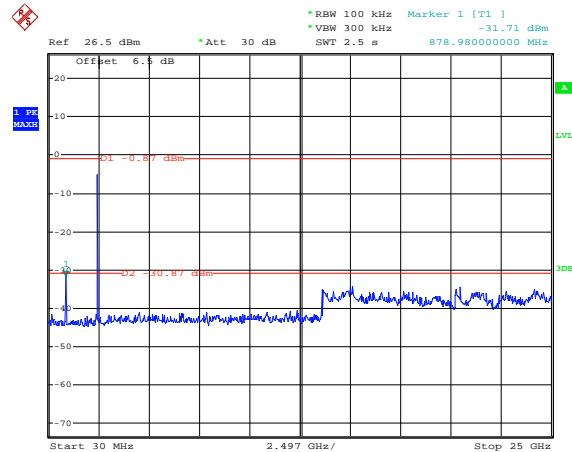
802.11n(H20)

Lowest channel

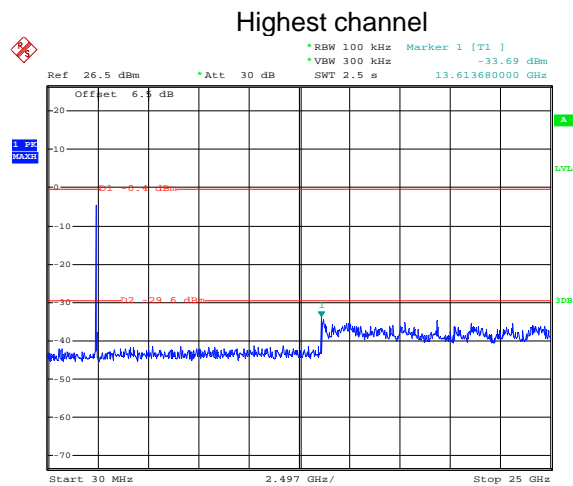


30MHz~25GHz

Middle channel



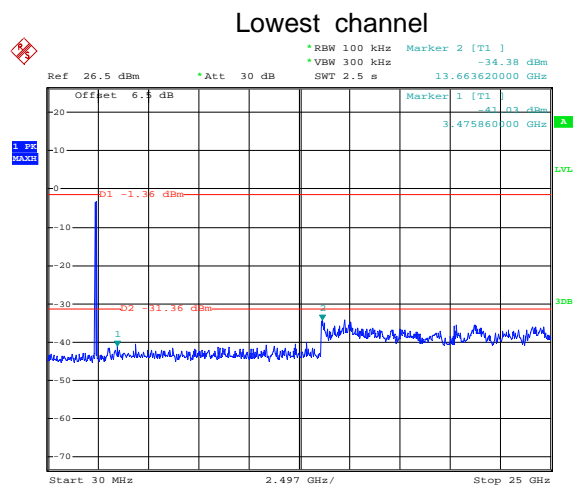
30MHz~25GHz



30MHz~25GHz

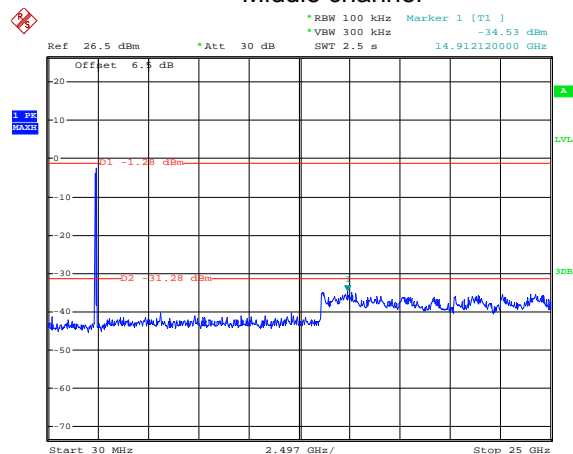
Test mode:

802.11n(H40)



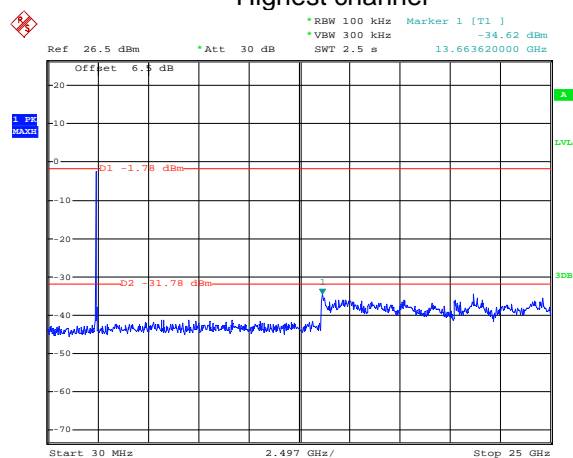
30MHz~25GHz

Middle channel



30MHz~25GHz

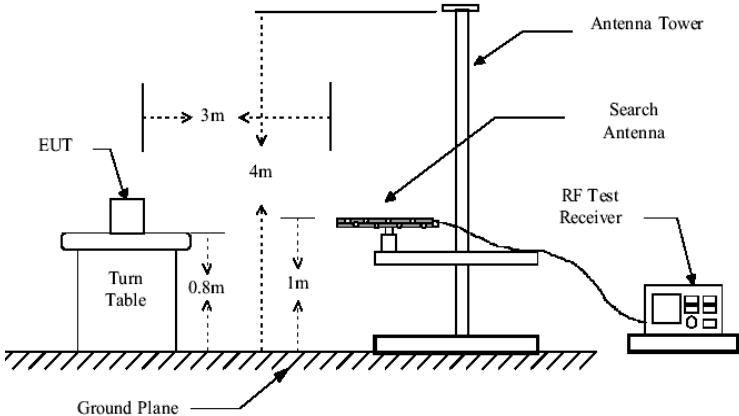
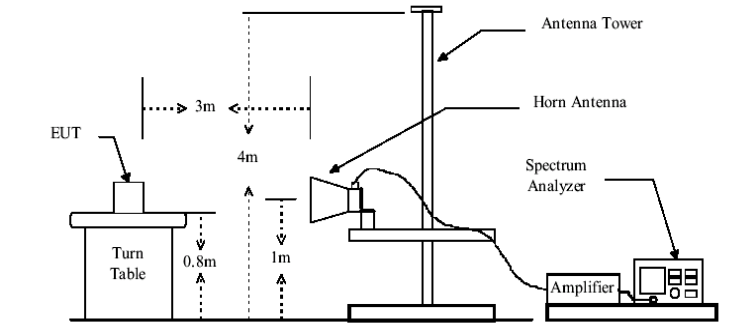
Highest channel



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:	30MHz 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:	<div>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.</div> <div>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.</div> <div>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.</div> <div>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.</div> <div>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</div> <div>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.</div>				

<p>Test setup:</p>	<p>Below 1GHz</p>  <p>Above 1GHz</p> 
<p>Test Instruments:</p>	<p>Refer to section 5.7 for details</p>
<p>Test mode:</p>	<p>Refer to section 5.3 for details</p>
<p>Test results:</p>	<p>Passed</p>

Below 1GHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
282.00	43.03	12.70	2.89	29.49	29.13	46.00	-16.87	Vertical
360.45	51.95	14.43	3.10	29.73	39.75	46.00	-6.25	Vertical
497.68	42.02	16.52	3.60	30.52	31.62	46.00	-14.38	Vertical
599.32	43.15	18.45	3.94	30.55	34.99	46.00	-11.01	Vertical
699.31	42.34	18.80	4.17	30.60	34.71	46.00	-11.29	Vertical
801.79	42.36	20.06	4.34	30.40	36.36	46.00	-9.64	Vertical
119.86	44.08	10.48	2.17	29.70	27.03	43.50	-16.47	Horizontal
239.99	52.79	12.09	2.82	29.64	38.06	46.00	-7.94	Horizontal
360.45	53.13	14.43	3.10	29.73	40.93	46.00	-5.07	Horizontal
480.53	49.50	16.07	3.46	30.52	38.51	46.00	-7.49	Horizontal
601.43	45.79	18.46	3.94	30.55	37.64	46.00	-8.36	Horizontal
721.73	48.81	19.10	4.26	30.55	41.62	46.00	-4.38	Horizontal

Above 1GHz

Test mode: 802.11b			Test channel:			Remark:	Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	39.65	31.79	5.34	24.07	52.71	74.00	-21.29	Vertical
7236.00	28.54	36.19	6.88	26.44	45.17	74.00	-28.83	Vertical
9648.00	28.33	38.07	8.96	25.36	50.00	74.00	-24.00	Vertical
12060.00	25.44	39.05	10.35	25.15	49.69	74.00	-24.31	Vertical
14472.00	*					74.00		Vertical
16884.00	*					74.00		Vertical
4824.00	40.36	31.79	5.34	24.07	53.42	74.00	-20.58	Horizontal
7236.00	29.65	36.19	6.88	26.44	46.28	74.00	-27.72	Horizontal
9648.00	30.22	38.07	8.96	25.36	51.89	74.00	-22.11	Horizontal
12060.00	28.96	39.05	10.35	25.15	53.21	74.00	-20.79	Horizontal
14472.00	*					74.00		Horizontal
16884.00	*					74.00		Horizontal

Test mode: 802.11b			Test channel:			Remark:	Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	23.65	31.79	5.34	24.07	36.71	54.00	-17.29	Vertical
7236.00	18.56	36.19	6.88	26.44	35.19	54.00	-18.81	Vertical
9648.00	17.25	38.07	8.96	25.36	38.92	54.00	-15.08	Vertical
12060.00	15.36	39.05	10.35	25.15	39.61	54.00	-14.39	Vertical
14472.00	*					54.00		Vertical
16884.00	*					54.00		Vertical
4824.00	25.64	31.79	5.34	24.07	38.70	54.00	-15.30	Horizontal
7236.00	19.54	36.19	6.88	26.44	36.17	54.00	-17.83	Horizontal
9648.00	18.22	38.07	8.96	25.36	39.89	54.00	-14.11	Horizontal
12060.00	16.09	39.05	10.35	25.15	40.34	54.00	-13.66	Horizontal
14472.00	*					54.00		Horizontal
16884.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test mode:	802.11b		Test channel:	Middle		Remark:	Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	42.55	31.85	5.40	24.01	55.79	74.00	-18.21	Vertical
7311.00	29.66	36.37	6.90	26.58	46.35	74.00	-27.65	Vertical
9748.00	30.25	38.13	8.98	25.34	52.02	74.00	-21.98	Vertical
12185.00	26.08	38.92	10.38	25.04	50.34	74.00	-23.66	Vertical
14622.00	*					74.00		Vertical
17059.00	*					74.00		Vertical
4874.00	44.56	31.85	5.40	24.01	57.80	74.00	-16.20	Horizontal
7311.00	31.29	36.37	6.90	26.58	47.98	74.00	-26.02	Horizontal
9748.00	32.30	38.13	8.98	25.34	54.07	74.00	-19.93	Horizontal
12185.00	28.97	38.92	10.38	25.04	53.23	74.00	-20.77	Horizontal
14622.00	*					74.00		Horizontal
17059.00	*					74.00		Horizontal

Test mode:	802.11b		Test channel:	Middle		Remark:	Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	24.22	31.85	5.40	24.01	37.46	54.00	-16.54	Vertical
7311.00	17.65	36.37	6.90	26.58	34.34	54.00	-19.66	Vertical
9748.00	13.66	38.13	8.98	25.34	35.43	54.00	-18.57	Vertical
12185.00	14.25	38.92	10.38	25.04	38.51	54.00	-15.49	Vertical
14622.00	*					54.00		Vertical
17059.00	*					54.00		Vertical
4874.00	26.35	31.85	5.40	24.01	39.59	54.00	-14.41	Horizontal
7311.00	19.64	36.37	6.90	26.58	36.33	54.00	-17.67	Horizontal
9748.00	15.24	38.13	8.98	25.34	37.01	54.00	-16.99	Horizontal
12185.00	15.38	38.92	10.38	25.04	39.64	54.00	-14.36	Horizontal
14622.00	*					54.00		Horizontal
17059.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test mode:	802.11b		Test channel:	Highest		Remark:	Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4924.00	41.22	31.89	5.46	23.96	54.61	74.00	-19.39	Vertical
7386.00	35.69	36.49	6.93	26.79	52.32	74.00	-21.68	Vertical
9848.00	31.08	38.24	9.05	25.30	53.07	74.00	-20.93	Vertical
12310.00	31.24	38.83	10.41	24.90	55.58	74.00	-18.42	Vertical
14772.00	*					74.00		Vertical
17234.00	*					74.00		Vertical
4924.00	43.68	31.89	5.46	23.96	57.07	74.00	-16.93	Horizontal
7386.00	37.89	36.49	6.93	26.79	54.52	74.00	-19.48	Horizontal
9848.00	33.64	38.24	9.05	25.30	55.63	74.00	-18.37	Horizontal
12310.00	33.97	38.83	10.41	24.90	58.31	74.00	-15.69	Horizontal
14772.00	*					74.00		Horizontal
17234.00	*					74.00		Horizontal

Test mode:	802.11b		Test channel:	Highest		Remark:	Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4924.00	25.85	31.89	5.46	23.96	39.24	54.00	-14.76	Vertical
7386.00	20.46	36.49	6.93	26.79	37.09	54.00	-16.91	Vertical
9848.00	21.65	38.24	9.05	25.30	43.64	54.00	-10.36	Vertical
12310.00	18.97	38.83	10.41	24.90	43.31	54.00	-10.69	Vertical
14772.00	*					54.00		Vertical
17234.00	*					54.00		Vertical
4924.00	27.95	31.89	5.46	23.96	41.34	54.00	-12.66	Horizontal
7386.00	22.69	36.49	6.93	26.79	39.32	54.00	-14.68	Horizontal
9848.00	20.31	38.24	9.05	25.30	42.30	54.00	-11.70	Horizontal
12310.00	19.54	38.83	10.41	24.90	43.88	54.00	-10.12	Horizontal
14772.00	*					54.00		Horizontal
17234.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test mode:	802.11g		Test channel:	Lowest		Remark:		Peak
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	39.05	31.79	5.34	24.07	52.11	74.00	-21.89	Vertical
7236.00	36.97	36.19	6.88	26.44	53.60	74.00	-20.40	Vertical
9648.00	32.68	38.07	8.96	25.36	54.35	74.00	-19.65	Vertical
12060.00	31.08	39.05	10.35	25.15	55.33	74.00	-18.67	Vertical
14472.00	*					74.00		Vertical
16884.00	*					74.00		Vertical
4824.00	40.61	31.79	5.34	24.07	53.67	74.00	-20.33	Horizontal
7236.00	35.09	36.19	6.88	26.44	51.72	74.00	-22.28	Horizontal
9648.00	34.21	38.07	8.96	25.36	55.88	74.00	-18.12	Horizontal
12060.00	32.91	39.05	10.35	25.15	57.16	74.00	-16.84	Horizontal
14472.00	*					74.00		Horizontal
16884.00	*					74.00		Horizontal

Test mode:	802.11g		Test channel:	Lowest		Remark:		Average
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	26.34	31.79	5.34	24.07	39.40	54.00	-14.60	Vertical
7236.00	23.07	36.19	6.88	26.44	39.70	54.00	-14.30	Vertical
9648.00	19.64	38.07	8.96	25.36	41.31	54.00	-12.69	Vertical
12060.00	18.94	39.05	10.35	25.15	43.19	54.00	-10.81	Vertical
14472.00	*					54.00		Vertical
16884.00	*					54.00		Vertical
4824.00	28.90	31.79	5.34	24.07	41.96	54.00	-12.04	Horizontal
7236.00	25.64	36.19	6.88	26.44	42.27	54.00	-11.73	Horizontal
9648.00	20.97	38.07	8.96	25.36	42.64	54.00	-11.36	Horizontal
12060.00	19.05	39.05	10.35	25.15	43.30	54.00	-10.70	Horizontal
14472.00	*					54.00		Horizontal
16884.00	*					54.00		Horizontal

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *“*” means this data is too weak, the instrument of signal is unable to test.*
3. *The emission levels of other frequencies are very lower than the limit and not shown in the test report.*

Test mode:	802.11g		Test channel:	Middle		Remark:		Peak
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	36.34	31.85	5.40	24.01	49.58	74.00	-24.42	Vertical
7311.00	30.25	36.37	6.90	26.58	46.94	74.00	-27.06	Vertical
9748.00	33.30	38.13	8.98	25.34	55.07	74.00	-18.93	Vertical
12185.00	34.64	38.92	10.38	25.04	58.90	74.00	-15.10	Vertical
14622.00	*					74.00		Vertical
17059.00	*					74.00		Vertical
4874.00	38.31	31.85	5.40	24.01	51.55	74.00	-22.45	Horizontal
7311.00	33.15	36.37	6.90	26.58	49.84	74.00	-24.16	Horizontal
9748.00	27.51	38.13	8.98	25.34	49.28	74.00	-24.72	Horizontal
12185.00	27.94	38.92	10.38	25.04	52.20	74.00	-21.80	Horizontal
14622.00	*					74.00		Horizontal
17059.00	*					74.00		Horizontal

Test mode:	802.11g		Test channel:	Middle		Remark:		Average
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	22.56	31.85	5.40	24.01	35.80	54.00	-18.20	Vertical
7311.00	20.15	36.37	6.90	26.58	36.84	54.00	-17.16	Vertical
9748.00	16.94	38.13	8.98	25.34	38.71	54.00	-15.29	Vertical
12185.00	13.65	38.92	10.38	25.04	37.91	54.00	-16.09	Vertical
14622.00	*					54.00		Vertical
17059.00	*					54.00		Vertical
4874.00	24.56	31.85	5.40	24.01	37.80	54.00	-16.20	Horizontal
7311.00	22.36	36.37	6.90	26.58	39.05	54.00	-14.95	Horizontal
9748.00	17.98	38.13	8.98	25.34	39.75	54.00	-14.25	Horizontal
12185.00	15.64	38.92	10.38	25.04	39.90	54.00	-14.10	Horizontal
14622.00	*					54.00		Horizontal
17059.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test mode:	802.11g		Test channel:	Highest		Remark:	Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4924.00	38.42	31.89	5.46	23.96	51.81	74.00	-22.19	Vertical
7386.00	35.19	36.49	6.93	26.79	51.82	74.00	-22.18	Vertical
9848.00	32.94	38.24	9.05	25.30	54.93	74.00	-19.07	Vertical
12310.00	30.17	38.83	10.41	24.90	54.51	74.00	-19.49	Vertical
14772.00	*					74.00		Vertical
17234.00	*					74.00		Vertical
4924.00	41.14	31.89	5.46	23.96	54.53	74.00	-19.47	Horizontal
7386.00	35.37	36.49	6.93	26.79	52.00	74.00	-22.00	Horizontal
9848.00	32.84	38.24	9.05	25.30	54.83	74.00	-19.17	Horizontal
12310.00	29.81	38.83	10.41	24.90	54.15	74.00	-19.85	Horizontal
14772.00	*					74.00		Horizontal
17234.00	*					74.00		Horizontal

Test mode:	802.11g		Test channel:	Highest		Remark:	Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4924.00	24.54	31.89	5.46	23.96	37.93	54.00	-16.07	Vertical
7386.00	23.87	36.49	6.93	26.79	40.50	54.00	-13.50	Vertical
9848.00	18.64	38.24	9.05	25.30	40.63	54.00	-13.37	Vertical
12310.00	17.64	38.83	10.41	24.90	41.98	54.00	-12.02	Vertical
14772.00	*					54.00		Vertical
17234.00	*					54.00		Vertical
4924.00	26.24	31.89	5.46	23.96	39.63	54.00	-14.37	Horizontal
7386.00	24.68	36.49	6.93	26.79	41.31	54.00	-12.69	Horizontal
9848.00	20.15	38.24	9.05	25.30	42.14	54.00	-11.86	Horizontal
12310.00	18.64	38.83	10.41	24.90	42.98	54.00	-11.02	Horizontal
14772.00	*					54.00		Horizontal
17234.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test mode:	802.11n(H20)		Test channel:	Lowest		Remark:	Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	37.50	31.79	5.34	24.07	50.56	74.00	-23.44	Vertical
7236.00	34.61	36.19	6.88	26.44	51.24	74.00	-22.76	Vertical
9648.00	33.64	38.07	8.96	25.36	55.31	74.00	-18.69	Vertical
12060.00	31.25	39.05	10.35	25.15	55.50	74.00	-18.50	Vertical
14472.00	*					74.00		Vertical
16884.00	*					74.00		Vertical
4824.00	39.64	31.79	5.34	24.07	52.70	74.00	-21.30	Horizontal
7236.00	35.02	36.19	6.88	26.44	51.65	74.00	-22.35	Horizontal
9648.00	34.29	38.07	8.96	25.36	55.96	74.00	-18.04	Horizontal
12060.00	32.07	39.05	10.35	25.15	56.32	74.00	-17.68	Horizontal
14472.00	*					74.00		Horizontal
16884.00	*					74.00		Horizontal

Test mode:	802.11n(H20)		Test channel:	Lowest		Remark:	Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	24.98	31.79	5.34	24.07	38.04	54.00	-15.96	Vertical
7236.00	23.64	36.19	6.88	26.44	40.27	54.00	-13.73	Vertical
9648.00	19.52	38.07	8.96	25.36	41.19	54.00	-12.81	Vertical
12060.00	17.54	39.05	10.35	25.15	41.79	54.00	-12.21	Vertical
14472.00	*					54.00		Vertical
16884.00	*					54.00		Vertical
4824.00	26.97	31.79	5.34	24.07	40.03	54.00	-13.97	Horizontal
7236.00	25.30	36.19	6.88	26.44	41.93	54.00	-12.07	Horizontal
9648.00	21.36	38.07	8.96	25.36	43.03	54.00	-10.97	Horizontal
12060.00	17.94	39.05	10.35	25.15	42.19	54.00	-11.81	Horizontal
14472.00	*					54.00		Horizontal
16884.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test mode:	802.11n(H20)		Test channel:	Middle		Remark:	Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	35.65	31.85	5.40	24.01	48.89	74.00	-25.11	Vertical
7311.00	30.28	36.37	6.90	26.58	46.97	74.00	-27.03	Vertical
9748.00	26.98	38.13	8.98	25.34	48.75	74.00	-25.25	Vertical
12185.00	25.46	38.92	10.38	25.04	49.72	74.00	-24.28	Vertical
14622.00	*					74.00		Vertical
17059.00	*					74.00		Vertical
4874.00	37.98	31.85	5.40	24.01	51.22	74.00	-22.78	Horizontal
7311.00	35.98	36.37	6.90	26.58	52.67	74.00	-21.33	Horizontal
9748.00	28.97	38.13	8.98	25.34	50.74	74.00	-23.26	Horizontal
12185.00	26.34	38.92	10.38	25.04	50.60	74.00	-23.40	Horizontal
14622.00	*					74.00		Horizontal
17059.00	*					74.00		Horizontal

Test mode:	802.11n(H20)		Test channel:	Middle		Remark:	Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	22.65	31.85	5.40	24.01	35.89	54.00	-18.11	Vertical
7311.00	22.36	36.37	6.90	26.58	39.05	54.00	-14.95	Vertical
9748.00	18.20	38.13	8.98	25.34	39.97	54.00	-14.03	Vertical
12185.00	13.25	38.92	10.38	25.04	37.51	54.00	-16.49	Vertical
14622.00	*					54.00		Vertical
17059.00	*					54.00		Vertical
4874.00	24.68	31.85	5.40	24.01	37.92	54.00	-16.08	Horizontal
7311.00	24.88	36.37	6.90	26.58	41.57	54.00	-12.43	Horizontal
9748.00	20.14	38.13	8.98	25.34	41.91	54.00	-12.09	Horizontal
12185.00	16.97	38.92	10.38	25.04	41.23	54.00	-12.77	Horizontal
14622.00	*					54.00		Horizontal
17059.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test mode:	802.11n(H20)		Test channel:	Highest		Remark:	Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4924.00	37.44	31.89	5.46	23.96	50.83	74.00	-23.17	Vertical
7386.00	34.56	36.49	6.93	26.79	51.19	74.00	-22.81	Vertical
9848.00	32.06	38.24	9.05	25.30	54.05	74.00	-19.95	Vertical
12310.00	29.35	38.83	10.41	24.90	53.69	74.00	-20.31	Vertical
14772.00	*					74.00		Vertical
17234.00	*					74.00		Vertical
4924.00	37.54	31.89	5.46	23.96	50.93	74.00	-23.07	Horizontal
7386.00	36.97	36.49	6.93	26.79	53.60	74.00	-20.40	Horizontal
9848.00	33.02	38.24	9.05	25.30	55.01	74.00	-18.99	Horizontal
12310.00	30.41	38.83	10.41	24.90	54.75	74.00	-19.25	Horizontal
14772.00	*					74.00		Horizontal
17234.00	*					74.00		Horizontal

Test mode:	802.11n(H20)		Test channel:	Highest		Remark:	Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4924.00	24.60	31.89	5.46	23.96	37.99	54.00	-16.01	Vertical
7386.00	22.36	36.49	6.93	26.79	38.99	54.00	-15.01	Vertical
9848.00	18.54	38.24	9.05	25.30	40.53	54.00	-13.47	Vertical
12310.00	17.51	38.83	10.41	24.90	41.85	54.00	-12.15	Vertical
14772.00	*					54.00		Vertical
17234.00	*					54.00		Vertical
4924.00	25.64	31.89	5.46	23.96	39.03	54.00	-14.97	Horizontal
7386.00	23.65	36.49	6.93	26.79	40.28	54.00	-13.72	Horizontal
9848.00	18.60	38.24	9.05	25.30	40.59	54.00	-13.41	Horizontal
12310.00	17.05	38.83	10.41	24.90	41.39	54.00	-12.61	Horizontal
14772.00	*					54.00		Horizontal
17234.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test mode:	802.11n(H40)		Test channel:	Lowest		Remark:	Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4844.00	41.23	31.79	5.34	24.07	54.29	74.00	-19.71	Vertical
7266.00	40.36	36.19	6.88	26.44	56.99	74.00	-17.01	Vertical
9688.00	35.88	38.07	8.96	25.36	57.55	74.00	-16.45	Vertical
12110.00	34.21	39.05	10.35	25.15	58.46	74.00	-15.54	Vertical
14532.00	*					74.00		Vertical
16954.00	*					74.00		Vertical
4844.00	42.65	31.79	5.34	24.07	55.71	74.00	-18.29	Horizontal
7266.00	42.01	36.19	6.88	26.44	58.64	74.00	-15.36	Horizontal
9688.00	36.97	38.07	8.96	25.36	58.64	74.00	-15.36	Horizontal
12110.00	35.09	39.05	10.35	25.15	59.34	74.00	-14.66	Horizontal
14532.00	*					74.00		Horizontal
16954.00	*					74.00		Horizontal

Test mode:	802.11n(H40)		Test channel:	Lowest		Remark:	Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4844.00	24.98	31.79	5.34	24.07	38.04	54.00	-15.96	Vertical
7266.00	22.70	36.19	6.88	26.44	39.33	54.00	-14.67	Vertical
9688.00	18.40	38.07	8.96	25.36	40.07	54.00	-13.93	Vertical
12110.00	18.52	39.05	10.35	25.15	42.77	54.00	-11.23	Vertical
14532.00	*					54.00		Vertical
16954.00	*					54.00		Vertical
4844.00	26.69	31.79	5.34	24.07	39.75	54.00	-14.25	Horizontal
7266.00	23.65	36.19	6.88	26.44	40.28	54.00	-13.72	Horizontal
9688.00	20.15	38.07	8.96	25.36	41.82	54.00	-12.18	Horizontal
12110.00	18.06	39.05	10.35	25.15	42.31	54.00	-11.69	Horizontal
14532.00	*					54.00		Horizontal
16954.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test mode:	802.11n(H40)		Test channel:	Middle		Remark:		Peak
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	41.26	31.85	5.40	24.01	54.50	74.00	-19.50	Vertical
7311.00	39.02	36.37	6.90	26.58	55.71	74.00	-18.29	Vertical
9748.00	33.84	38.13	8.98	25.34	55.61	74.00	-18.39	Vertical
12185.00	32.58	38.92	10.38	25.04	56.84	74.00	-17.16	Vertical
14622.00	*					74.00		Vertical
17059.00	*					74.00		Vertical
4874.00	41.52	31.85	5.40	24.01	54.76	74.00	-19.24	Horizontal
7311.00	38.65	36.37	6.90	26.58	55.34	74.00	-18.66	Horizontal
9748.00	34.02	38.13	8.98	25.34	55.79	74.00	-18.21	Horizontal
12185.00	32.68	38.92	10.38	25.04	56.94	74.00	-17.06	Horizontal
14622.00	*					74.00		Horizontal
17059.00	*					74.00		Horizontal

Test mode:	802.11n(H40)		Test channel:	Middle		Remark:	Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	22.54	31.85	5.40	24.01	35.78	54.00	-18.22	Vertical
7311.00	19.65	36.37	6.90	26.58	36.34	54.00	-17.66	Vertical
9748.00	16.24	38.13	8.98	25.34	38.01	54.00	-15.99	Vertical
12185.00	14.25	38.92	10.38	25.04	38.51	54.00	-15.49	Vertical
14622.00	*					54.00		Vertical
17059.00	*					54.00		Vertical
4874.00	24.69	31.85	5.40	24.01	37.93	54.00	-16.07	Horizontal
7311.00	21.08	36.37	6.90	26.58	37.77	54.00	-16.23	Horizontal
9748.00	17.59	38.13	8.98	25.34	39.36	54.00	-14.64	Horizontal
12185.00	16.33	38.92	10.38	25.04	40.59	54.00	-13.41	Horizontal
14622.00	*					54.00		Horizontal
17059.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

Test mode:	802.11n(H40)		Test channel:	Highest		Remark:	Peak	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4904.00	35.69	31.89	5.46	23.96	49.08	74.00	-24.92	Vertical
7356.00	31.58	36.49	6.93	26.79	48.21	74.00	-25.79	Vertical
9808.00	29.87	38.24	9.05	25.30	51.86	74.00	-22.14	Vertical
12260.00	27.99	38.83	10.41	24.90	52.33	74.00	-21.67	Vertical
14712.00	*					74.00		Vertical
17164.00	*					74.00		Vertical
4904.00	38.05	31.89	5.46	23.96	51.44	74.00	-22.56	Horizontal
7356.00	33.60	36.49	6.93	26.79	50.23	74.00	-23.77	Horizontal
9808.00	31.28	38.24	9.05	25.30	53.27	74.00	-20.73	Horizontal
12260.00	28.46	38.83	10.41	24.90	52.80	74.00	-21.20	Horizontal
14712.00	*					74.00		Horizontal
17164.00	*					74.00		Horizontal

Test mode:	802.11n(H40)		Test channel:	Highest		Remark:	Average	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4904.00	23.22	31.89	5.46	23.96	36.61	54.00	-17.39	Vertical
7356.00	20.45	36.49	6.93	26.79	37.08	54.00	-16.92	Vertical
9808.00	17.98	38.24	9.05	25.30	39.97	54.00	-14.03	Vertical
12260.00	16.93	38.83	10.41	24.90	41.27	54.00	-12.73	Vertical
14712.00	*					54.00		Vertical
17164.00	*					54.00		Vertical
4904.00	25.64	31.89	5.46	23.96	39.03	54.00	-14.97	Horizontal
7356.00	22.01	36.49	6.93	26.79	38.64	54.00	-15.36	Horizontal
9808.00	19.80	38.24	9.05	25.30	41.79	54.00	-12.21	Horizontal
12260.00	18.54	38.83	10.41	24.90	42.88	54.00	-11.12	Horizontal
14712.00	*					54.00		Horizontal
17164.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.