Report No: GTSE11050034101

FCC REPORT

Applicant:	Shenzhen Ogemray Technology Co.,Ltd
Address of Applicant:	3/F,No.9 Bldg. Minxing Industrial Park. Minkang Rd. Minzhi St. Baoan District. Shenzhen

Equipment Under Test (EUT)

Product Name:	USB Wifi Adaptor
Model No.:	3S01
FCC ID:	YWTWF5370S1
Standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.247:2010
Date of Receipt:	16 May, 2011
Date of Test:	16-23 May, 2011
Date of Issue:	24 May, 2011
Test Result :	PASS *

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

Authorized Signature:

Robinson Lo
Laboratory Manager

2 Version

Version No.	Date	Description
00	*2011-05-24*	*Original*

Prepared By: Collin.He ***Date:*** *2011-05-24*

Project Engineer

Check By: Hans.Hu ***Date:*** *2011-05-24*

Reviewer

3 Contents

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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

Remark:

- *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. Baoan District. Shenzhen
Manufacturer/ Factory:	Shenzhen Ogemray Technology Co.,Ltd
Address of Manufacturer/ Factory:	3/F,No.9 Bldg. Minxing Industrial Park. Minkang Rd. Minzhi St. Baoan District. Shenzhen

5.2 General Description of E.U.T.

Product Name:	USB Wifi Adaptor
Model No.:	3S01
Operation Frequency:	2412MHz~2462MHz (802.11b/802.11g/802.11n(H20)) 2422MHz~2452MHz (802.11n(H40))
Channel numbers:	11 for 802.11b/802.11g/802.11(H20) 7 for 802.11(H40)
Channel separation:	5MHz
Modulation technology: (IEEE 802.11b)	Direct Sequence Spread Spectrum (DSSS)
Modulation technology: (IEEE 802.11g/802.11n)	Orthogonal Frequency Division Multiplexing(OFDM)
Data speed (IEEE 802.11b):	1Mbps, 2Mbps, 5.5Mbps, 11Mbps
Data speed (IEEE 802.11g):	6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps,54Mbps
Data speed (IEEE 802.11n):	Up to 150Mbps
Antenna Type:	Integral
Antenna gain:	0dBi (declare by manufacturer)
Power supply:	DC 5V by 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

5.3 Test environment and mode

Operating Environment:	
Temperature:	24.0 °C
Humidity:	54 % RH
Atmospheric Pressure:	1010 mbar
Test mode:	
Transmitting mode	Keep the EUT in Transmitting mode

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)	13.0Mbps

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), 13Mbps for 802.11n(H40)

5.4 Test Facility

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

● **FCC —Registration No.: 600491**

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fuly described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in out files. Registration 600491, July 20, 2010.

● **Industry Canada (IC)**

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. Has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A-1.

5.5 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.
Address: 2nd Floor, Block No.2, Laodong Industrial Zone, Xixiang Road Baoan District, Shenzhen, China
Tel: 0755-27798480
Fax: 0755-27798960

5.6 Other Information Requested by the Customer

None.

5.7 Test Instruments list

Radiated Emission:

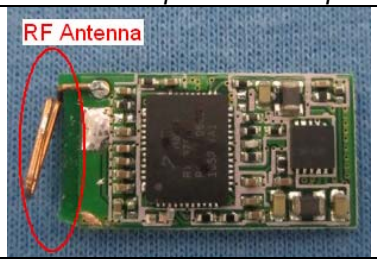
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS201	Mar. 30 2011	Mar. 30 2012
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS202	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	Sept. 10 2010	Sept. 10 2011
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS204	Feb. 26 2011	Feb. 26 2012
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	9120D-829	GTS205	June 30 2010	June 30 2011
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
7	Coaxial Cable	GTS	N/A	GTS400	Apr. 01 2011	Apr. 01 2012
8	Coaxial Cable	GTS	N/A	GTS401	Apr. 01 2011	Apr. 01 2012
9	Coaxial cable	GTS	N/A	GTS402	Apr. 01 2011	Apr. 01 2012
10	Coaxial Cable	GTS	N/A	GTS407	Apr. 01 2011	Apr. 01 2012
11	Coaxial Cable	GTS	N/A	GTS408	Apr. 01 2011	Apr. 01 2012
12	Amplifier(10KHz-5GHz)	Sonnoma Instrument	305-1052	GTS210	Aug. 03 2010	Aug. 03 2011
13	Amplifier(2GHz-20GHz)	HP	8349B	GTS231	Aug. 03 2010	Aug. 03 2011
14	Power Meter	Rohde & Schwarz	NRVD	SEL0069	June 23 2010	June 23 2011
15	Power Sensor	Rohde & Schwarz	URV5-Z2	SEL0071	June 23 2010	June 23 2011

Conducted Emission:

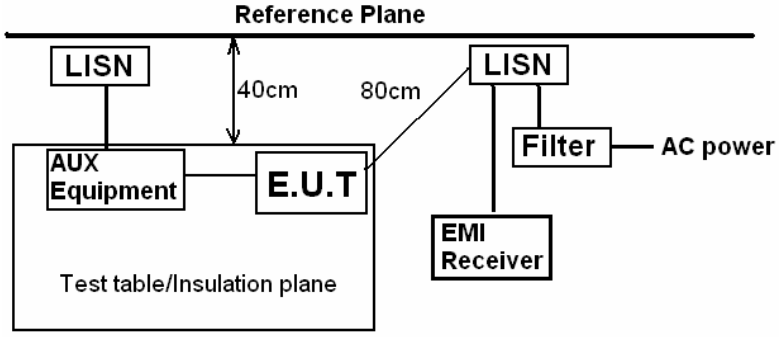
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Shielding Room	ZhongYu Electron	7.0(L)x3.0(W)x3.0(H)	GTS206	Apr. 10 2011	Apr. 10 2012
2	EMI Test Receiver	Rohde & Schwarz	ESCS30	GTS208	Sep. 14 2010	Sep. 14 2011
3	10dB Pulse Limita	Rohde & Schwarz	N/A	GTS209	Sep. 14 2010	Sep. 14 2011
4	LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	GTS207	Apr. 14 2011	Apr. 14 2012
5	Coaxial Cable	GTS	N/A	GTS406	Apr. 01 2010	Apr. 01 2011
6	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)
15.203 requirement: *An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.* *15.247(c) (1)(i) requirement:* *(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.*	
E.U.T Antenna:	
The antenna port is an unique copper-axis antenna, the best case gain of the antenna is 0dBi.	
	

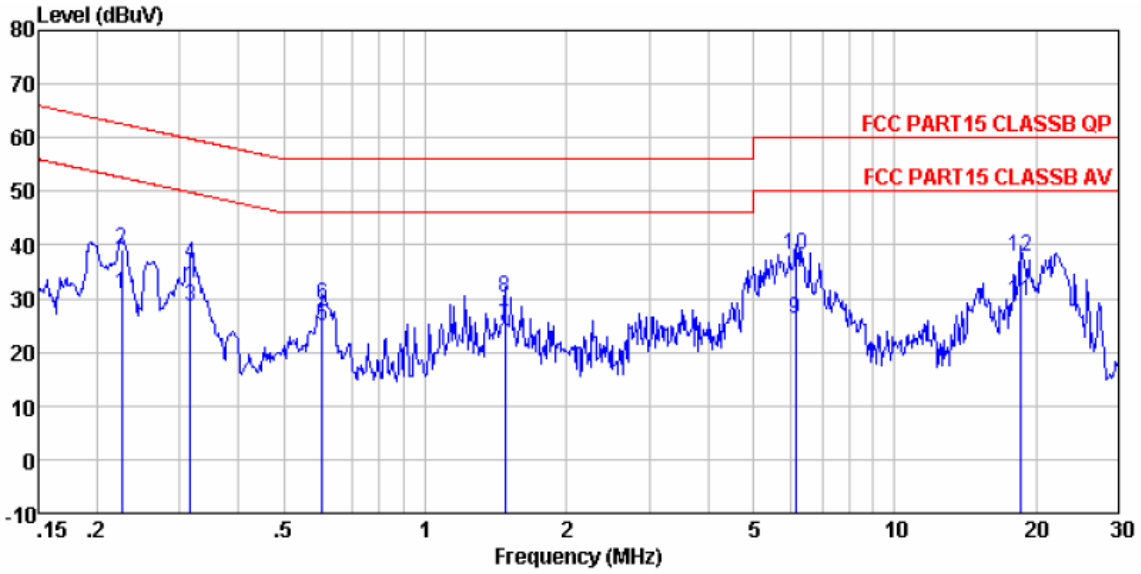
6.2 Conducted Emissions

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 (dBµV): Quasi-peak / Average 0.15-0.5: 66 to 56* / 56 to 46* 0.5-5: 56 / 46 5-30: 60 / 50
Test procedure	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. 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). Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2003 on conducted measurement.
Test setup:	 *Remark:* *E.U.T: Equipment Under Test* *LISN: Line Impedence Stabilization Network* *Test table height=0.8m*
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

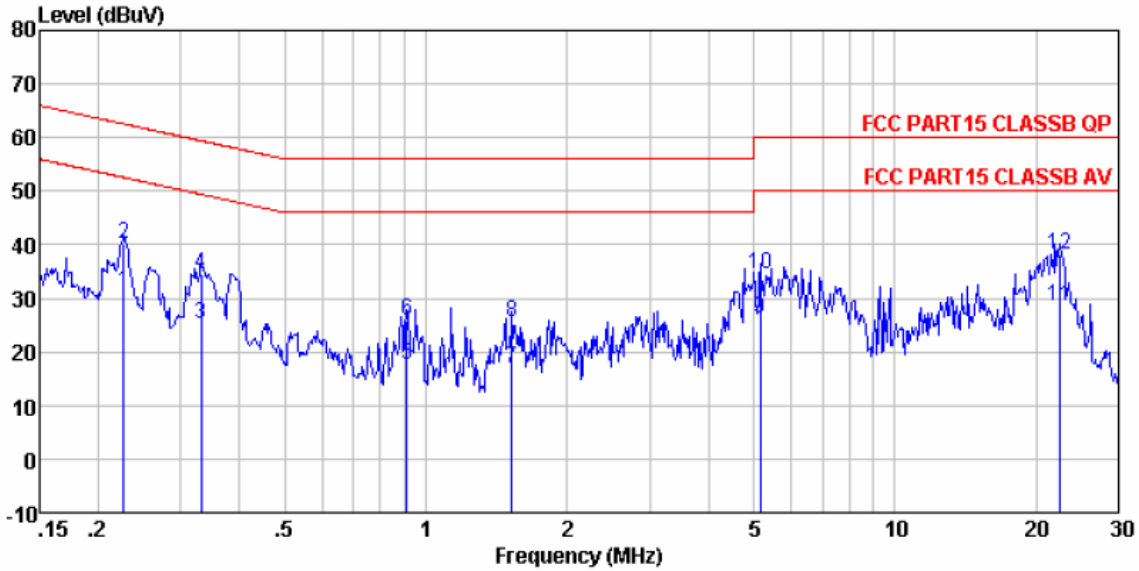
Live:



Condition : FCC PART15 CLASSB QP LISN(2011) LINE
Job No : 341RF
Test mode : Operation mode
Test engineer: Collin

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.226	30.14	0.64	0.10	30.88	52.61	-21.73	Average
2	0.226	38.51	0.64	0.10	39.25	62.61	-23.36	QP
3	0.317	27.98	0.60	0.10	28.68	49.80	-21.12	Average
4	0.317	35.63	0.60	0.10	36.33	59.80	-23.47	QP
5	0.604	24.30	0.53	0.10	24.93	46.00	-21.07	Average
6	0.604	28.20	0.53	0.10	28.83	56.00	-27.17	QP
7	1.480	24.31	0.43	0.10	24.84	46.00	-21.16	Average
8	1.480	29.70	0.43	0.10	30.23	56.00	-25.77	QP
9	6.153	25.64	0.28	0.12	26.04	50.00	-23.96	Average
10	6.153	37.68	0.28	0.12	38.08	60.00	-21.92	QP
11	18.622	29.26	0.15	0.21	29.62	50.00	-20.38	Average
12	18.622	37.30	0.15	0.21	37.66	60.00	-22.34	QP

Neutral:



Condition : FCC PART15 CLASSB QP LISN(2011) NEUTRAL
Job No : 341RF
Test mode : Operation mode
Test engineer: Collin

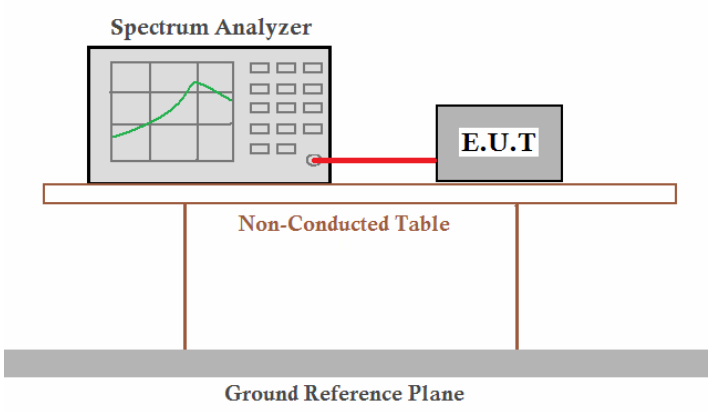
	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.227	30.33	0.64	0.10	31.07	52.57	-21.50	Average
2	0.227	39.51	0.64	0.10	40.25	62.57	-22.32	QP
3	0.332	24.58	0.60	0.10	25.28	49.40	-24.12	Average
4	0.332	33.85	0.60	0.10	34.55	59.40	-24.85	QP
5	0.909	16.89	0.49	0.10	17.48	46.00	-28.52	Average
6	0.909	25.12	0.49	0.10	25.71	56.00	-30.29	QP
7	1.527	16.51	0.43	0.10	17.04	46.00	-28.96	Average
8	1.527	25.09	0.43	0.10	25.62	56.00	-30.38	QP
9	5.166	25.81	0.30	0.10	26.21	50.00	-23.79	Average
10	5.166	34.02	0.30	0.10	34.42	60.00	-25.58	QP
11	22.535	28.11	0.13	0.21	28.45	50.00	-21.55	Average
12	22.535	37.89	0.13	0.21	38.23	60.00	-21.77	QP

Notes:

1. The following Quasi-Peak and Average measurements were performed on the EUT:

2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

6.3 Conducted Peak Output Power

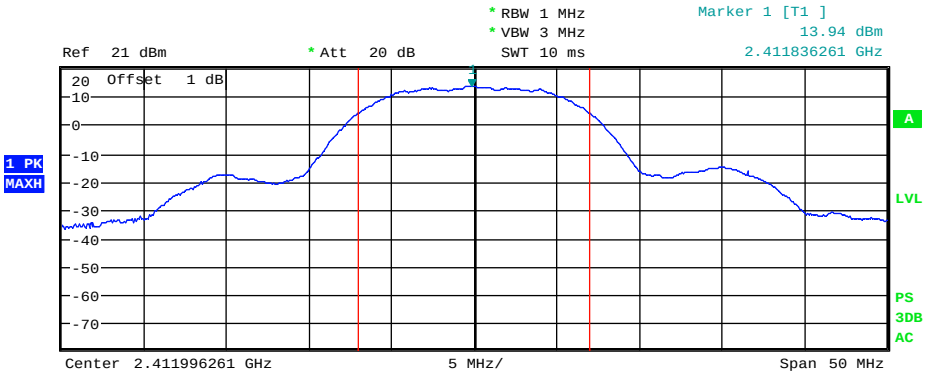
Test Requirement:	FCC Part15 C Section 15.247 (b)(3)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	30dBm
Test setup:	
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

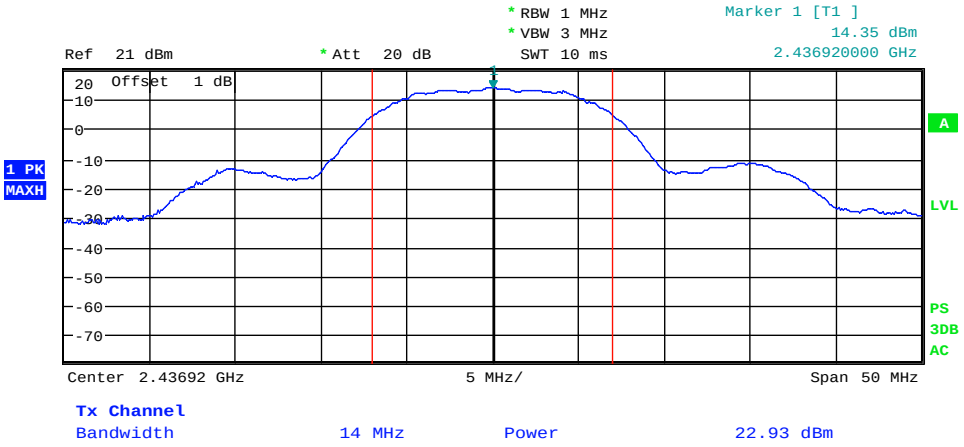
802.11b mode			
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	22.49	30.00	Pass
Middle	22.93	30.00	Pass
Highest	22.86	30.00	Pass
802.11g mode			
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	22.34	30.00	Pass
Middle	21.66	30.00	Pass
Highest	21.36	30.00	Pass
802.11n-H20 mode			
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	21.12	30.00	Pass
Middle	21.12	30.00	Pass
Highest	20.80	30.00	Pass
802.11n-H40 mode			
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	21.54	30.00	Pass
Middle	19.67	30.00	Pass
Highest	21.90	30.00	Pass

Test plot as follows:

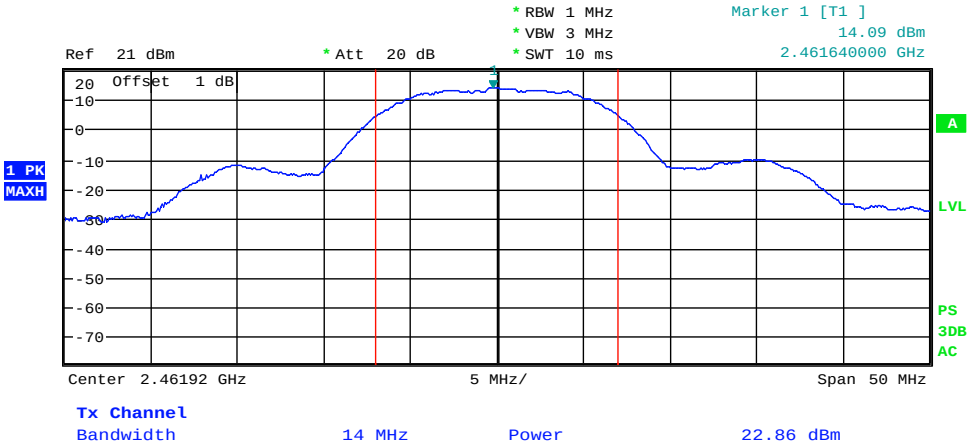
Test mode:	802.11b	Test channel:	Lowest



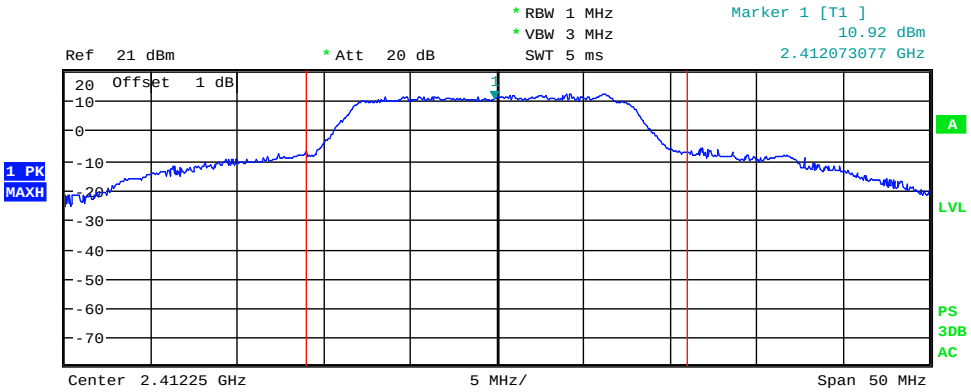
Test mode:	802.11b	Test channel:	Middle



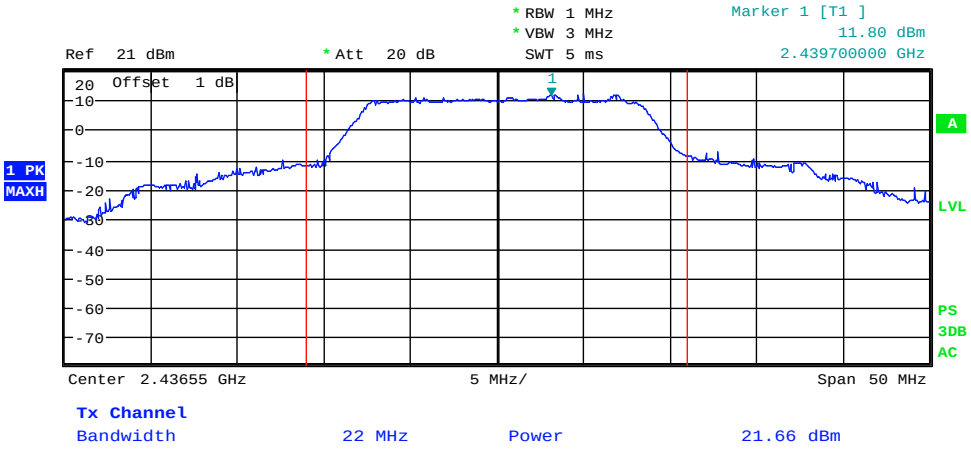
Test mode:	802.11b	Test channel:	Highest



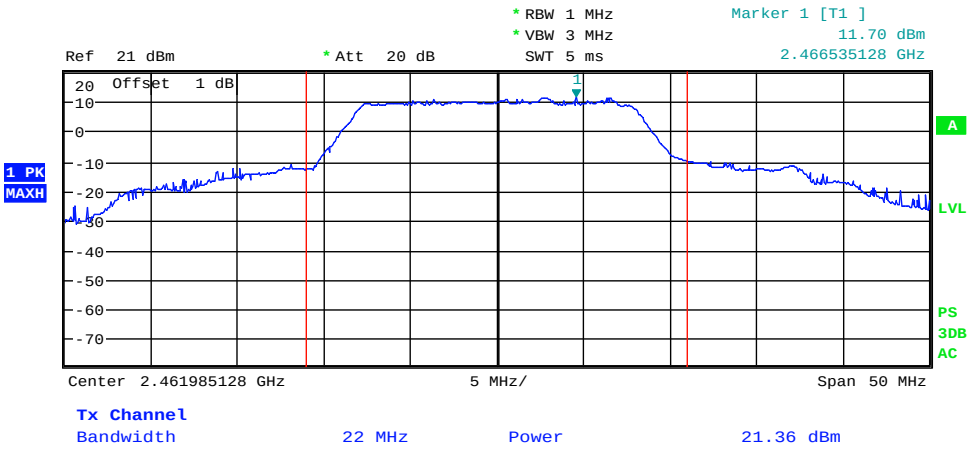
Test mode:	802.11g	Test channel:	Lowest



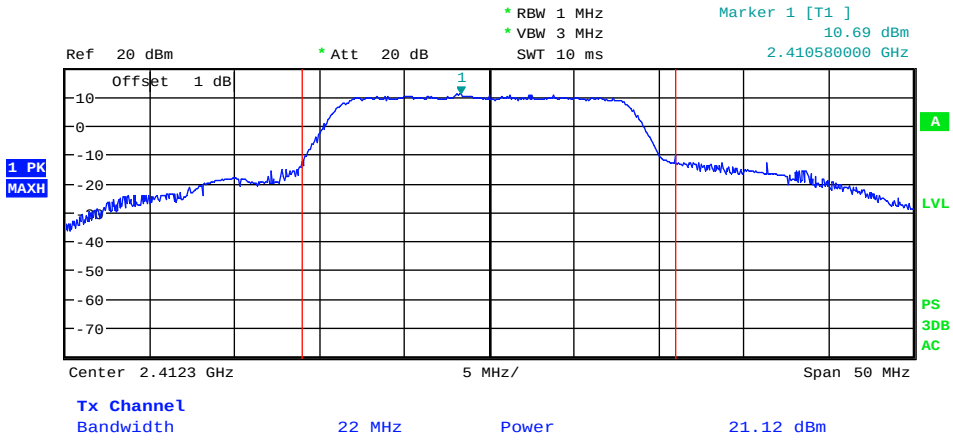
Test mode:	802.11g	Test channel:	Middle



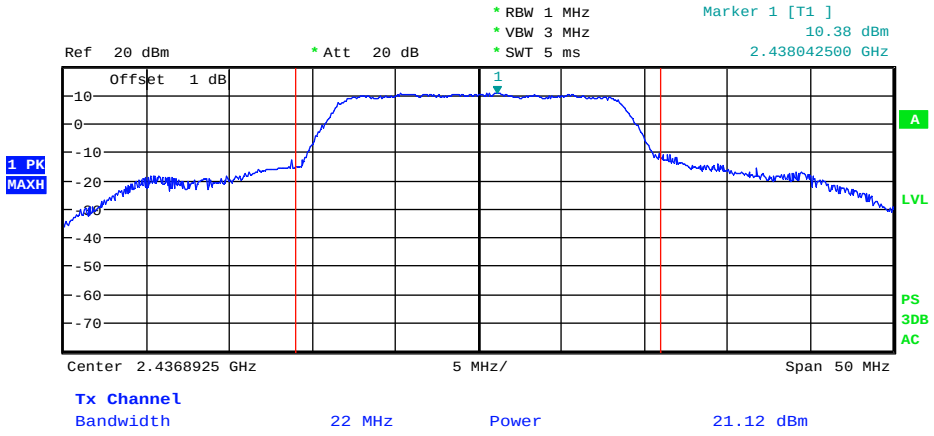
Test mode:	802.11g	Test channel:	Highest



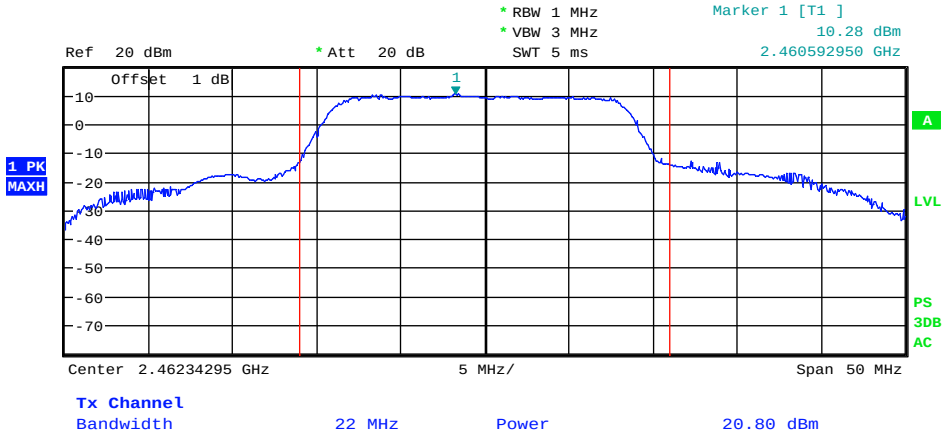
Test mode:	802.11n(H20)	Test channel:	Lowest



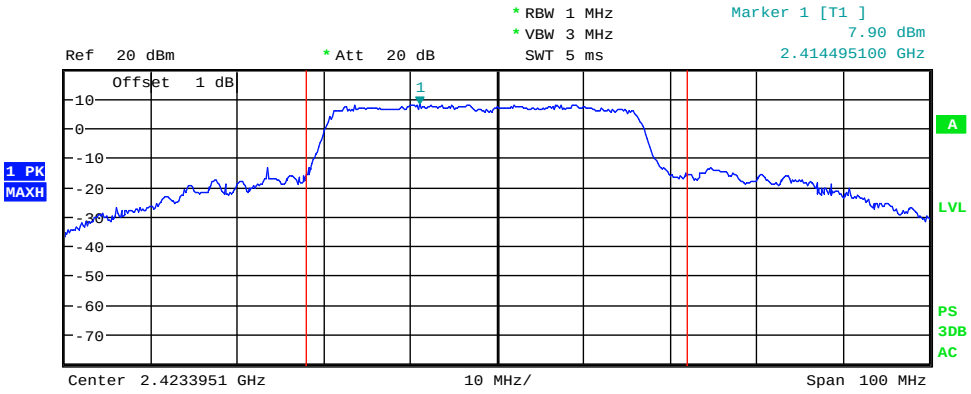
Test mode:	802.11n(H20)	Test channel:	Middle



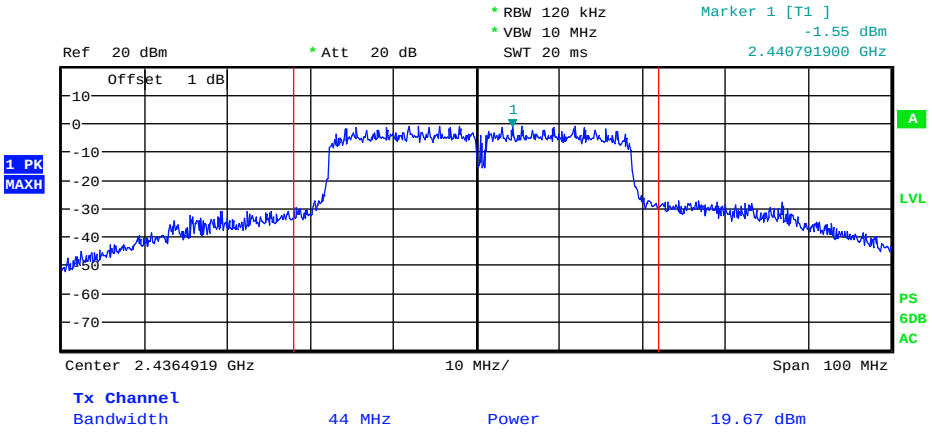
Test mode:	802.11n(H20)	Test channel:	Highest



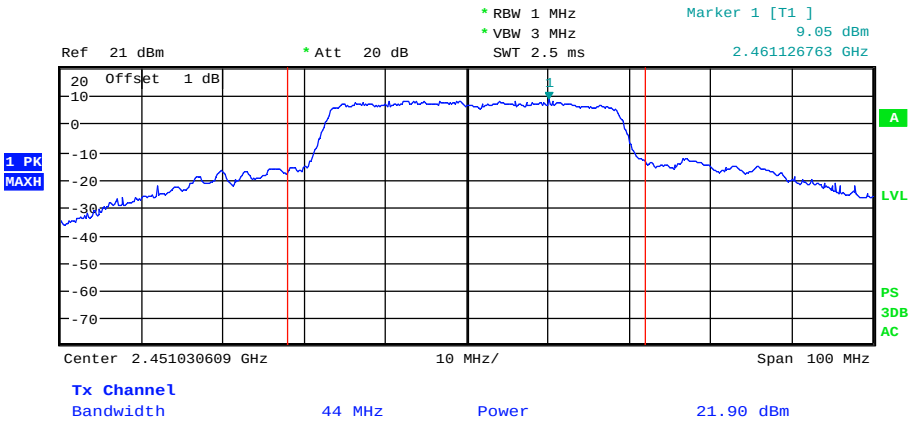
Test mode:	802.11n(H40)	Test channel:	Lowest



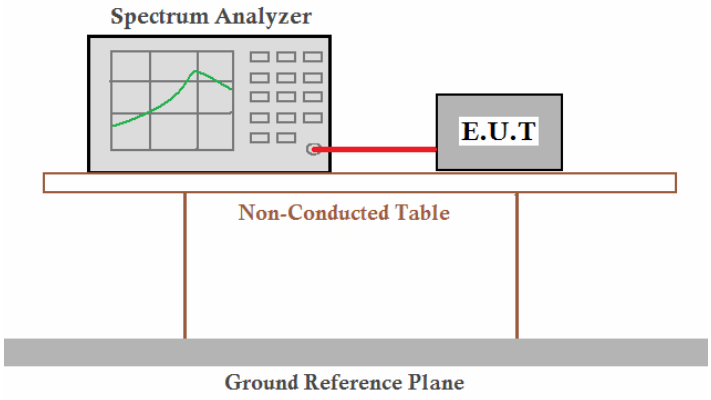
Test mode:	802.11n(H40)	Test channel:	Middle



Test mode:	802.11n(H40)	Test channel:	Highest



6.4 6dB Occupy Bandwidth

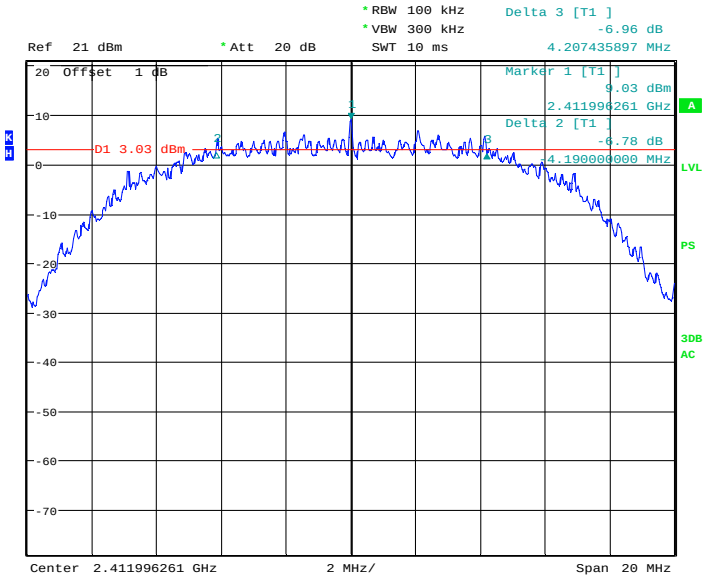
Test Requirement:	FCC Part15 C Section 15.247 (a)(2)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	>500kHz
Test setup:	
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

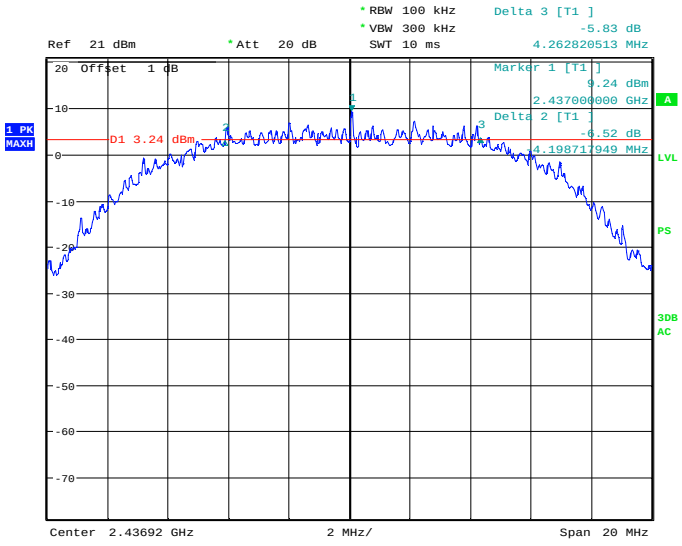
802.11b mode			
Test channel	6dB Occupy Bandwidth (MHz)	Limit (KHz)	Result
Lowest	8.397	>500	Pass
Middle	8.452	>500	Pass
Highest	9.278	>500	Pass
802.11g mode			
Test channel	6dB Occupy Bandwidth (MHz)	Limit (KHz)	Result
Lowest	16.378	>500	Pass
Middle	16.474	>500	Pass
Highest	16.410	>500	Pass
802.11n-H20 mode			
Test channel	6dB Occupy Bandwidth (MHz)	Limit (KHz)	Result
Lowest	17.306	>500	Pass
Middle	15.092	>500	Pass
Highest	15.028	>500	Pass
802.11n-H40 mode			
Test channel	6dB Occupy Bandwidth (MHz)	Limit (KHz)	Result
Lowest	34.616	>500	Pass
Middle	35.496	>500	Pass
Highest	35.736	>500	Pass

Test plot as follows:

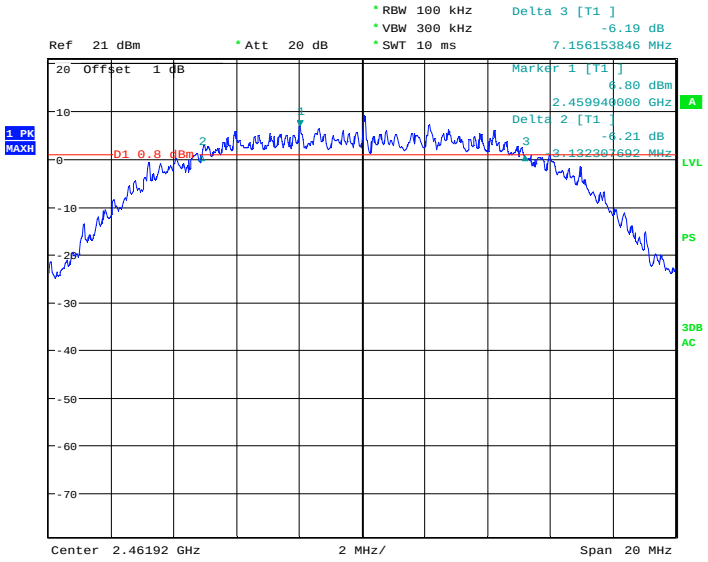
Test mode:	802.11b	Test channel:	Lowest



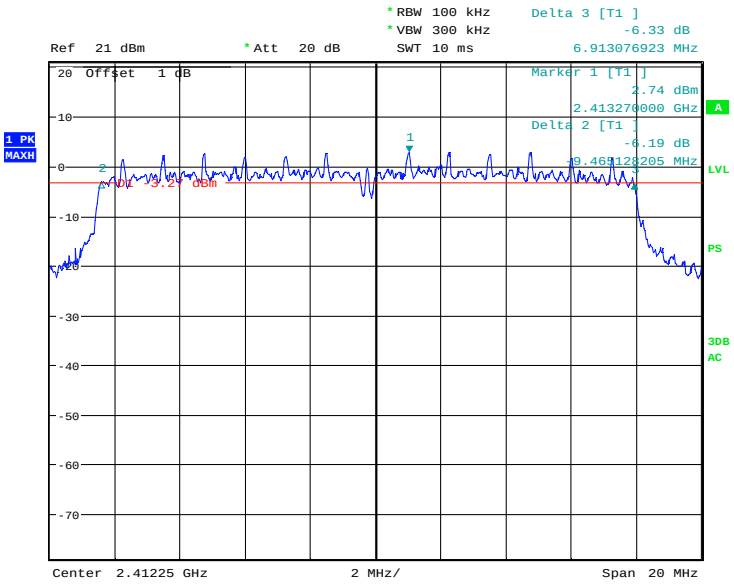
Test mode:	802.11b	Test channel:	Middle



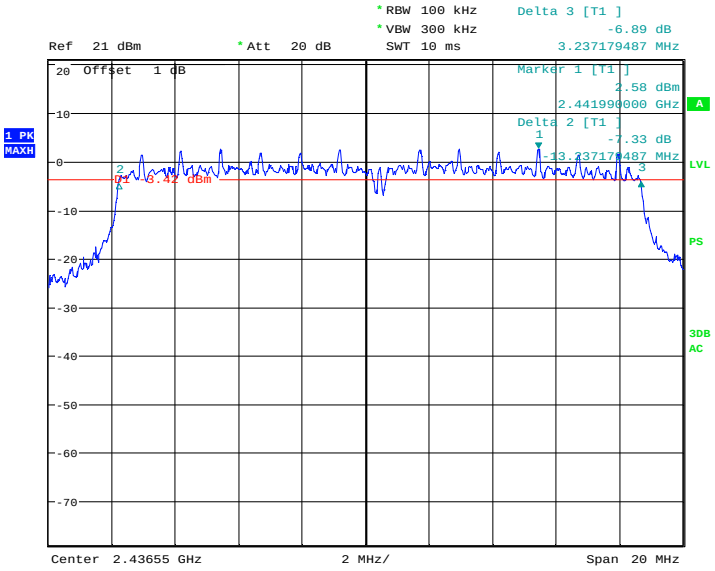
Test mode:	802.11b	Test channel:	Highest



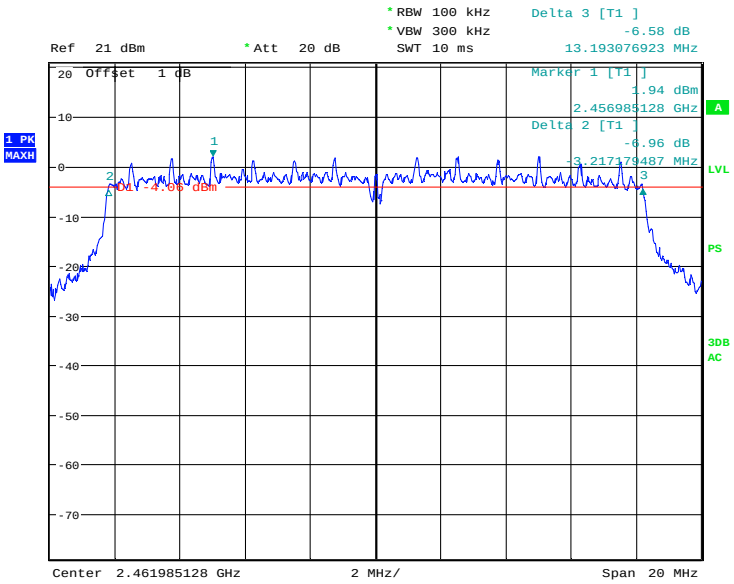
Test mode:	802.11g	Test channel:	Lowest



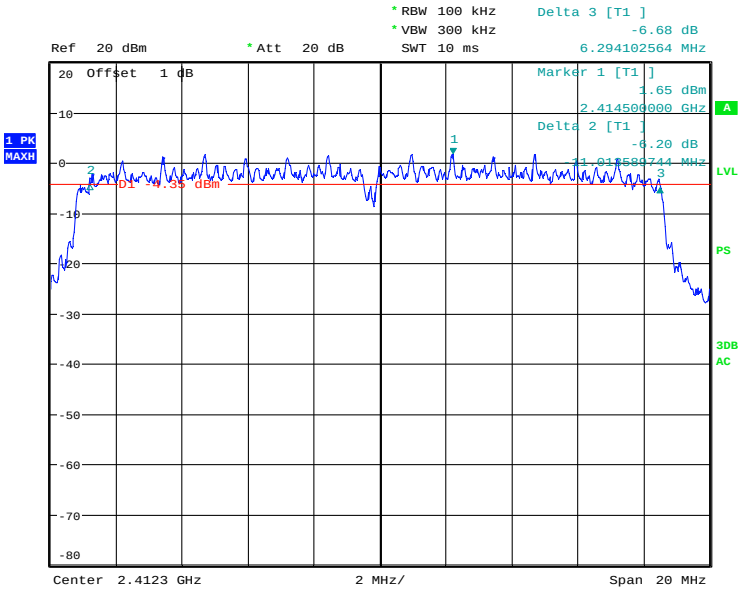
Test mode:	802.11g	Test channel:	Middle



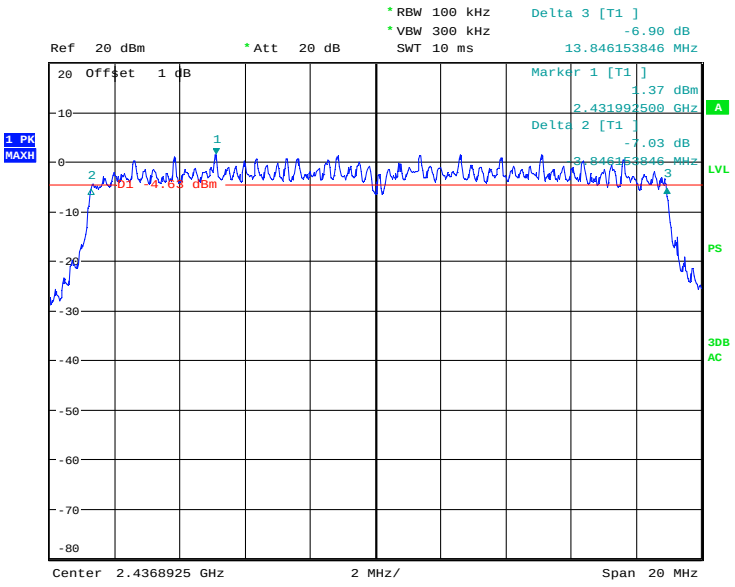
Test mode:	802.11g	Test channel:	Highest



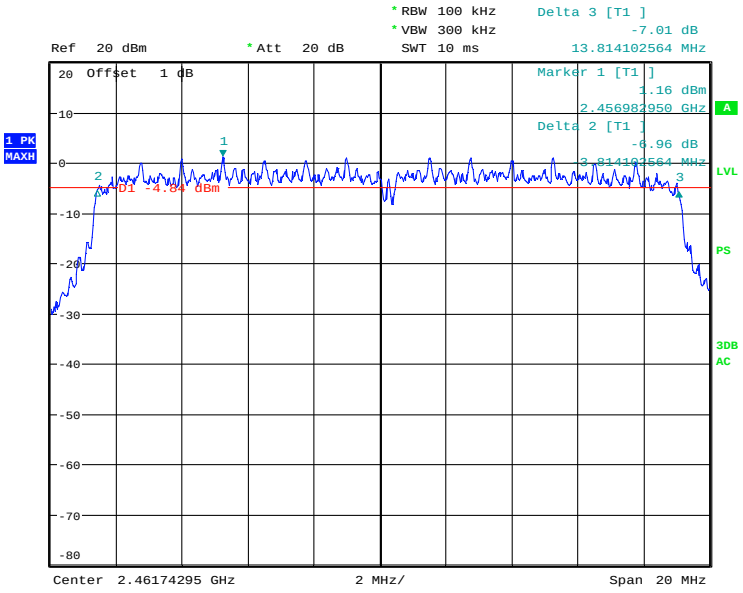
Test mode:	802.11n-H20	Test channel:	Lowest



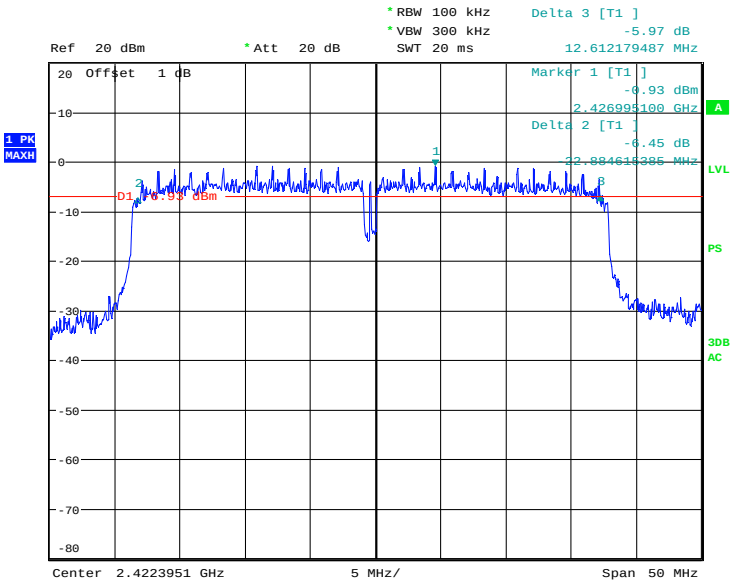
Test mode:	802.11n-H20	Test channel:	Middle



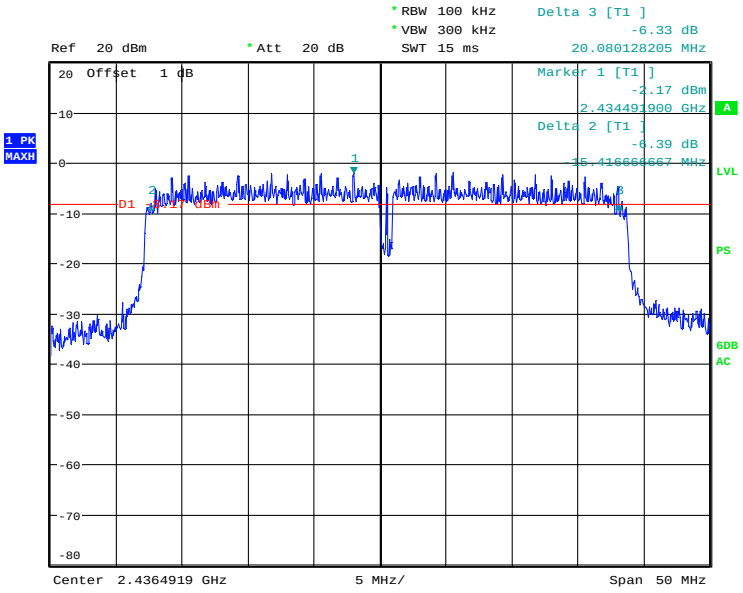
Test mode:	802.11n-H20	Test channel:	Highest



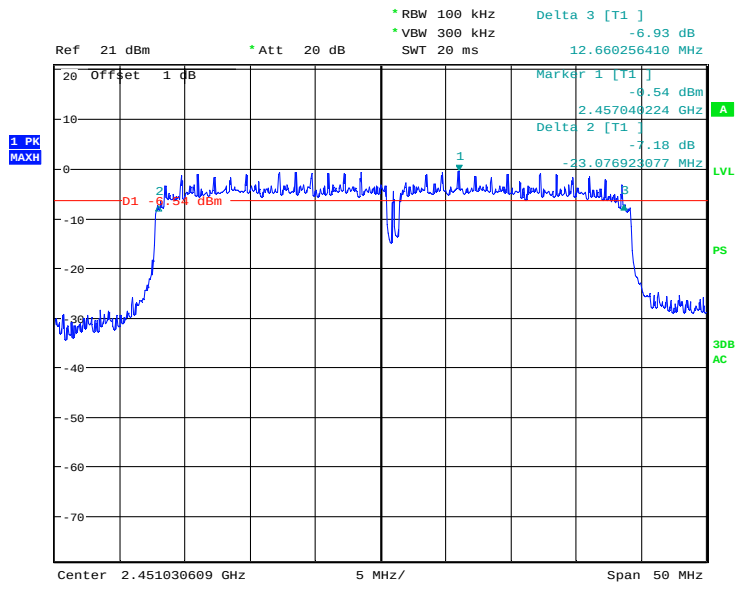
Test mode:	802.11n-H40	Test channel:	Lowest



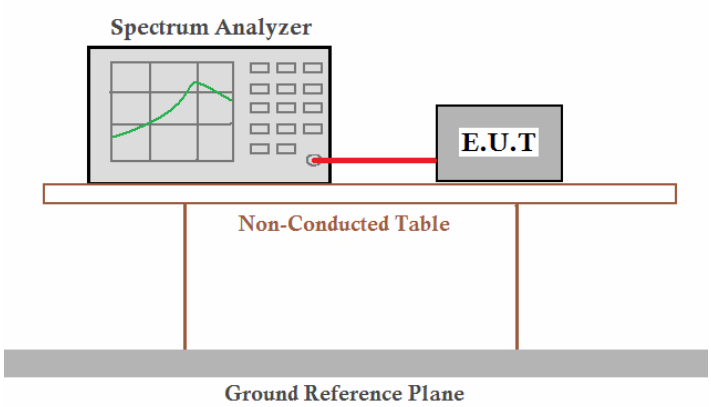
Test mode:	802.11n-H40	Test channel:	Middle



Test mode:	802.11n-H40	Test channel:	Highest



6.5 Power Spectral Density

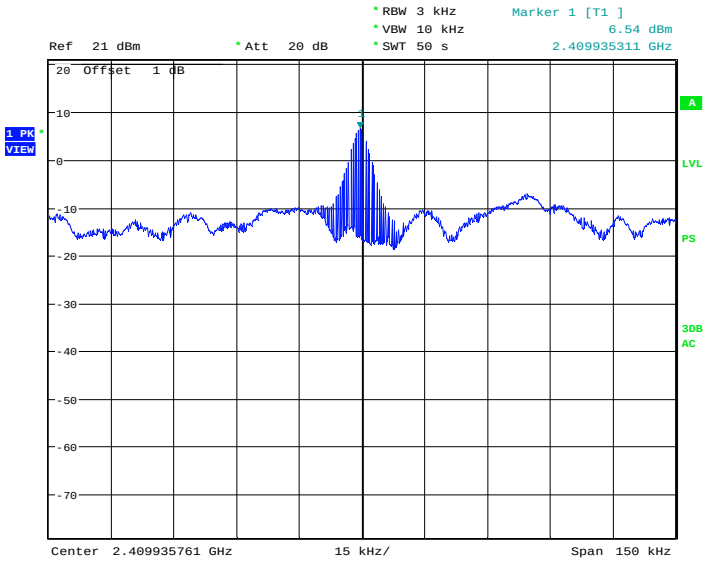
Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	8dBm
Test setup:	
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

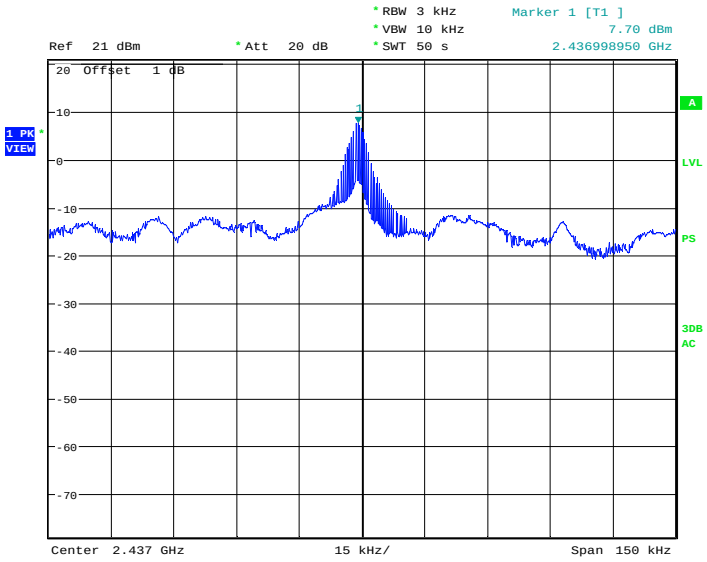
802.11b mode			
Test channel	Power Spectral Density (dBm)	Limit (dBm)	Result
Lowest	6.54	8.00	Pass
Middle	7.70	8.00	Pass
Highest	6.78	8.00	Pass
802.11g mode			
Test channel	Power Spectral Density (dBm)	Limit (dBm)	Result
Lowest	-4.79	8.00	Pass
Middle	-8.30	8.00	Pass
Highest	-7.38	8.00	Pass
802.11n-H20 mode			
Test channel	Power Spectral Density (dBm)	Limit (dBm)	Result
Lowest	-10.23	8.00	Pass
Middle	-8.95	8.00	Pass
Highest	-7.38	8.00	Pass
802.11n-H40 mode			
Test channel	Power Spectral Density (dBm)	Limit (dBm)	Result
Lowest	-8.43	8.00	Pass
Middle	-8.80	8.00	Pass
Highest	-9.00	8.00	Pass

Test plot as follows:

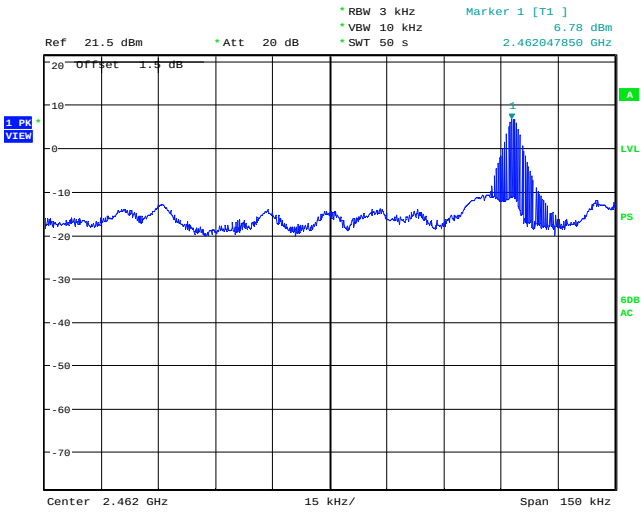
Test mode:	802.11b	Test channel:	Lowest



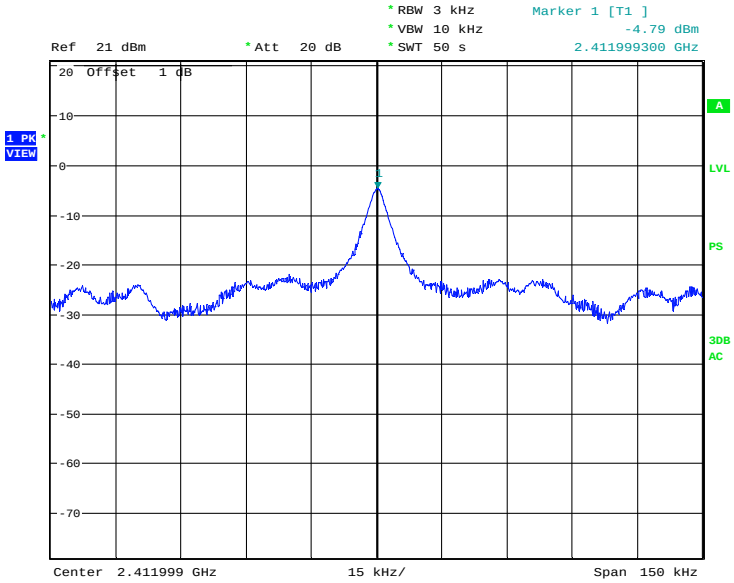
Test mode:	802.11b	Test channel:	Middle



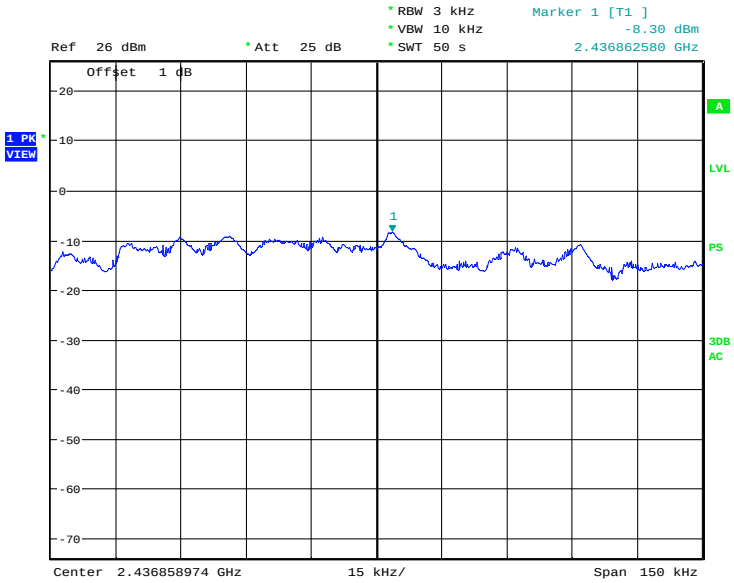
Test mode:	802.11b	Test channel:	Highest



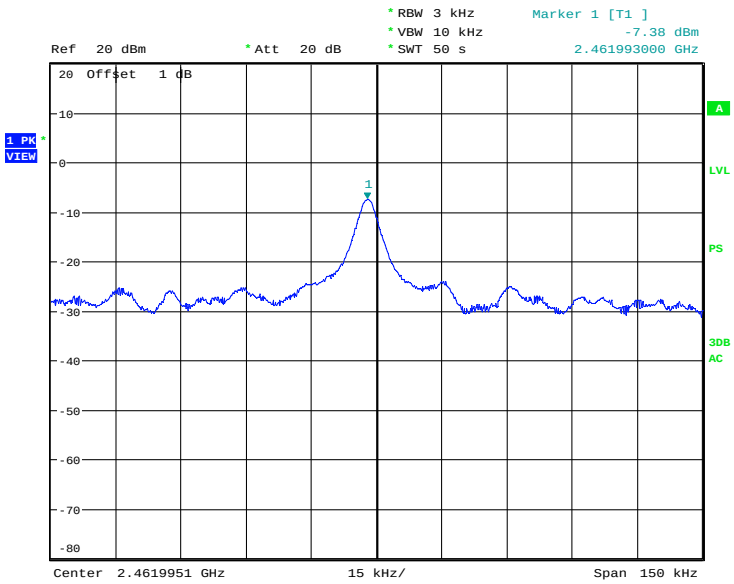
Test mode:	802.11g	Test channel:	Lowest



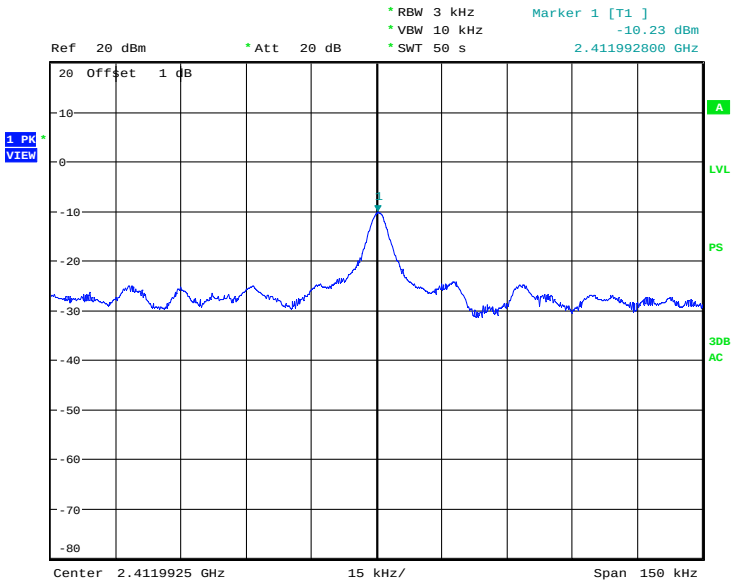
Test mode:	802.11g	Test channel:	Middle



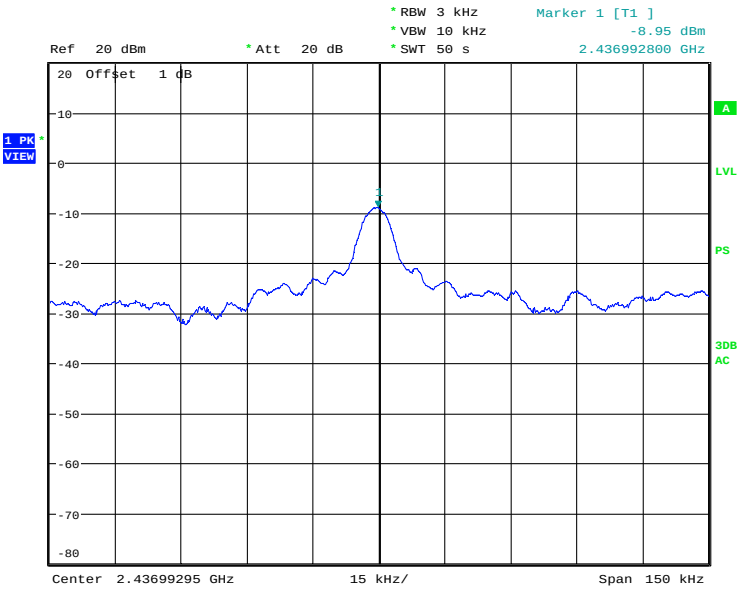
Test mode:	802.11g	Test channel:	Highest



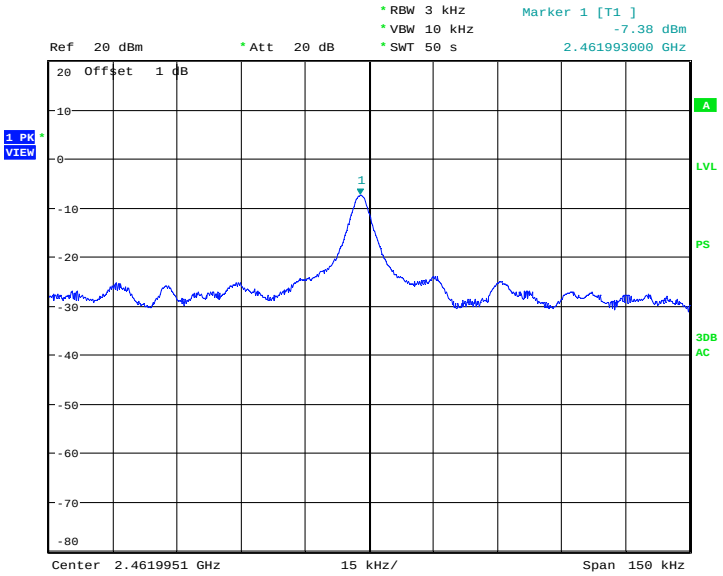
Test mode:	802.11n-H20	Test channel:	Lowest



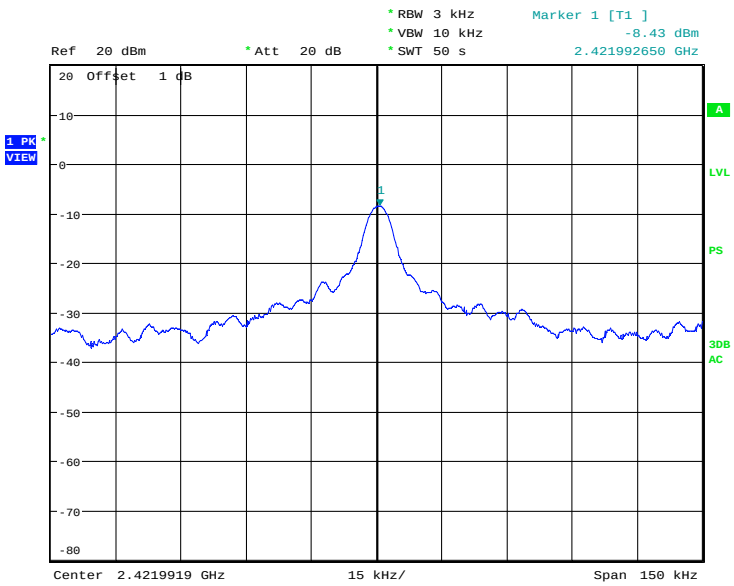
Test mode:	802.11n-H20	Test channel:	Middle



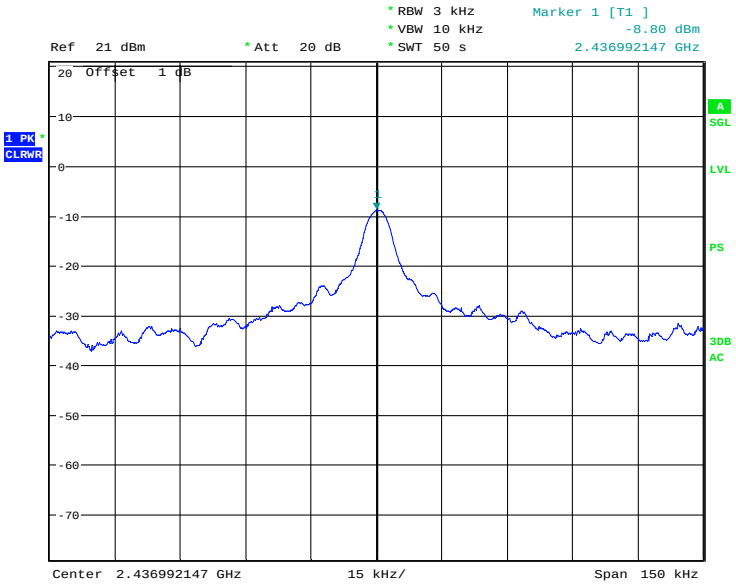
Test mode:	802.11n-H20	Test channel:	Highest



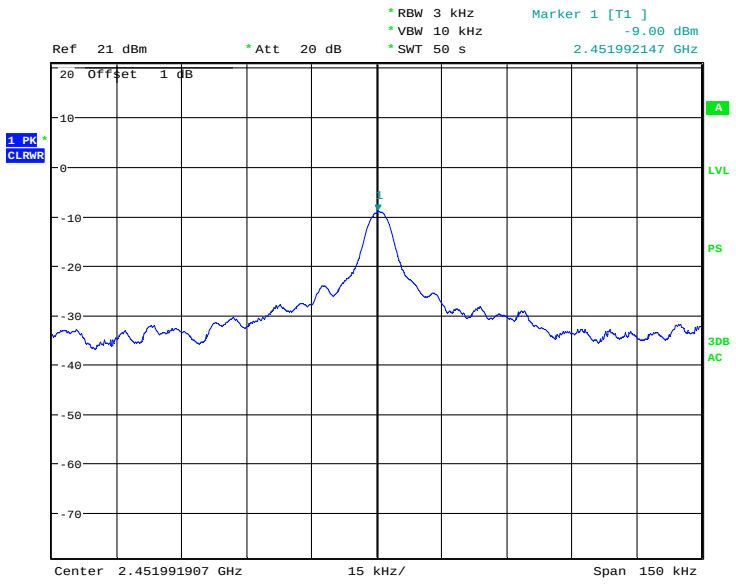
Test mode:	802.11n-H40	Test channel:	Lowest



Test mode:	802.11n-H40	Test channel:	Middle

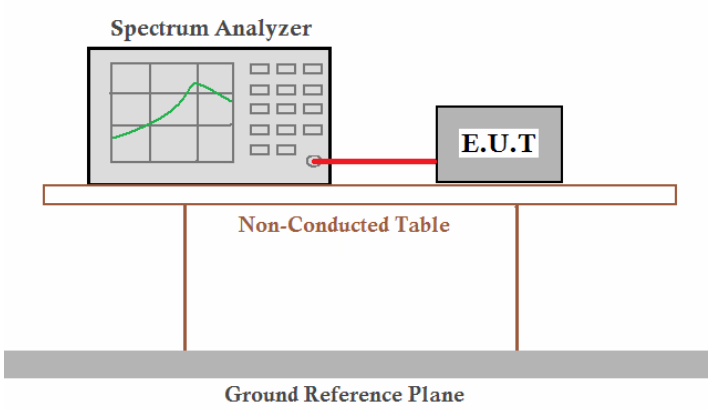


Test mode:	802.11n-H40	Test channel:	Highest



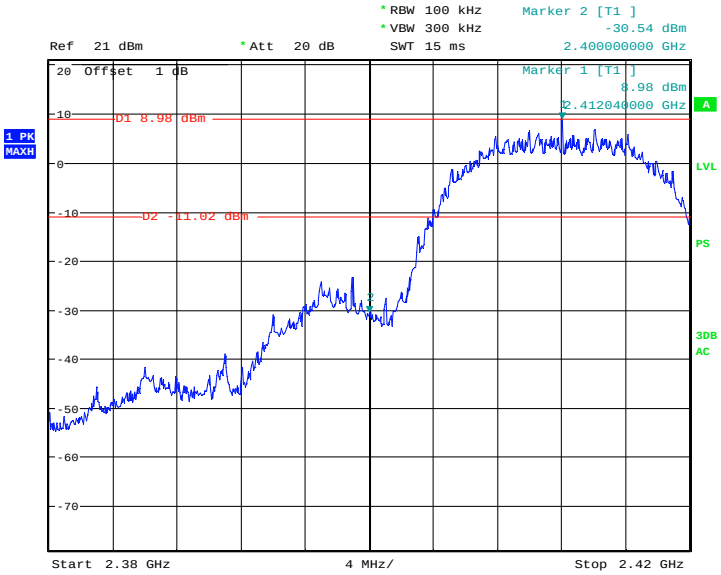
6.6 Band Edge

6.6.1 Conducted Emission Method

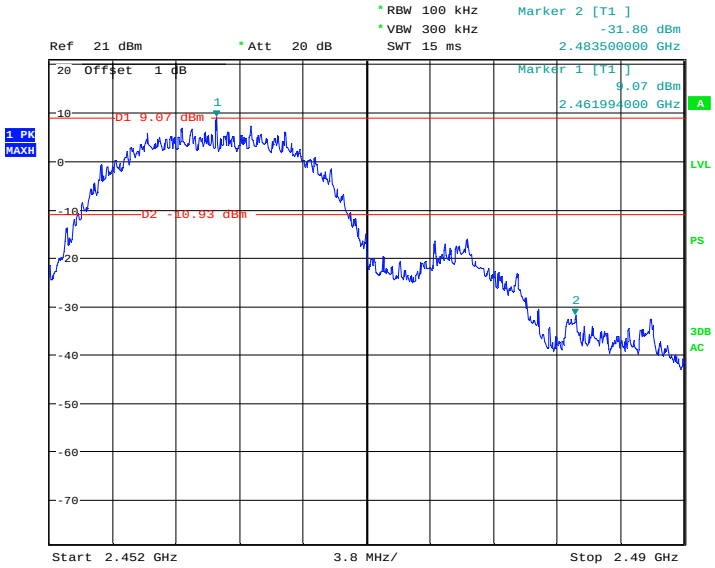
Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.4:2003 and KDB558074
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least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

Test plot as follows:

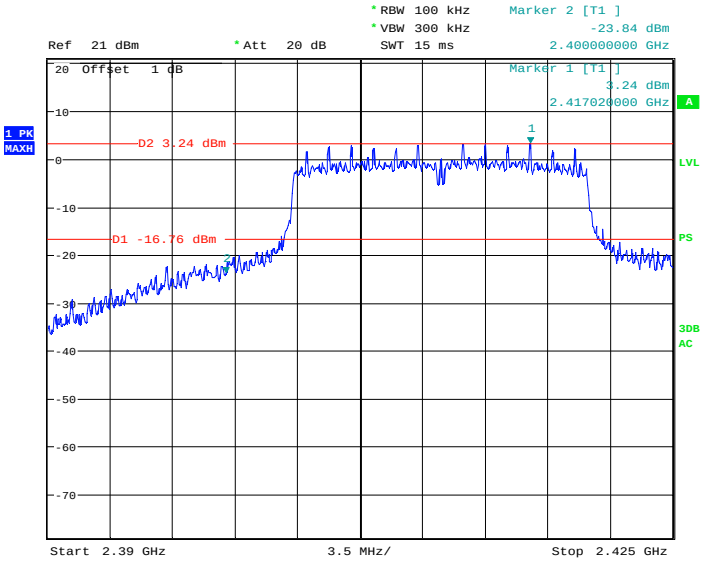
Test mode:	802.11b	Test channel:	Lowest



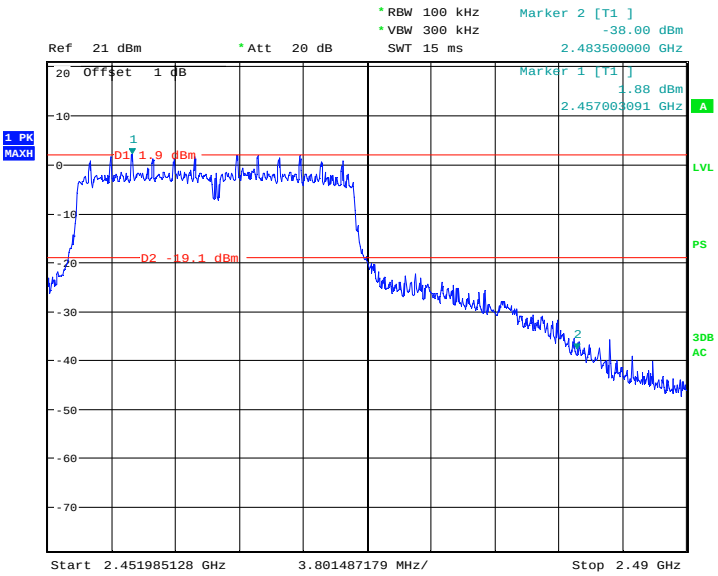
Test mode:	802.11b	Test channel:	Highest



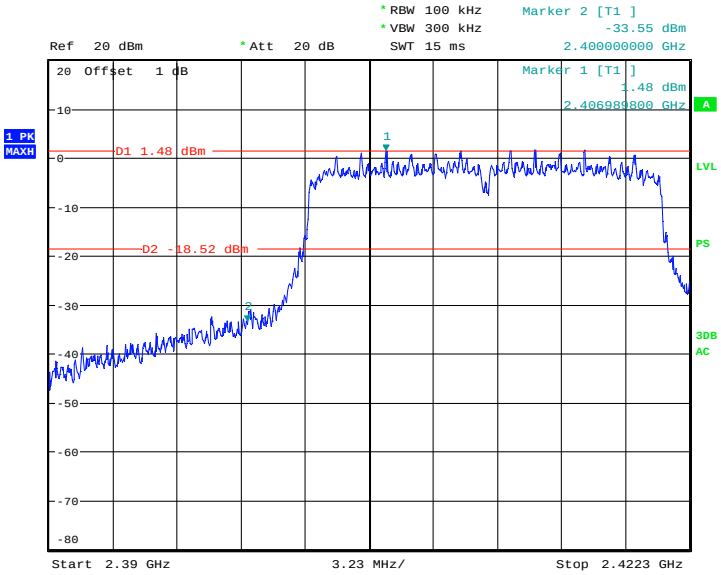
Test mode:	802.11g	Test channel:	Lowest



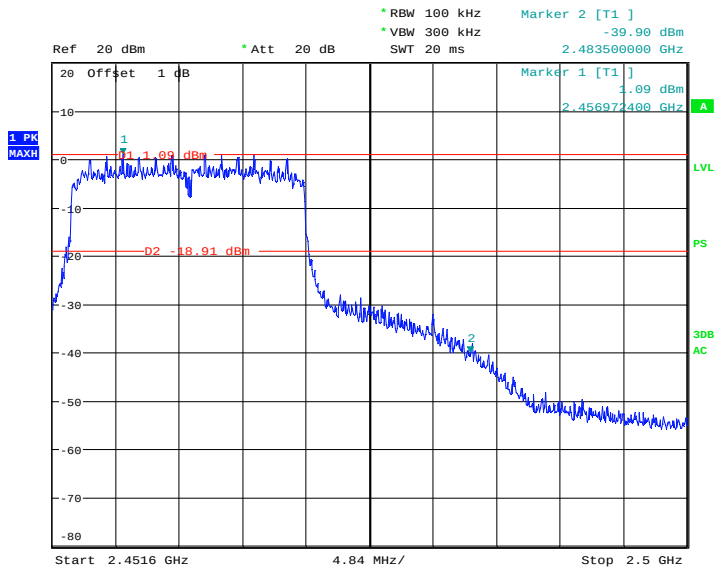
Test mode:	802.11g	Test channel:	Highest



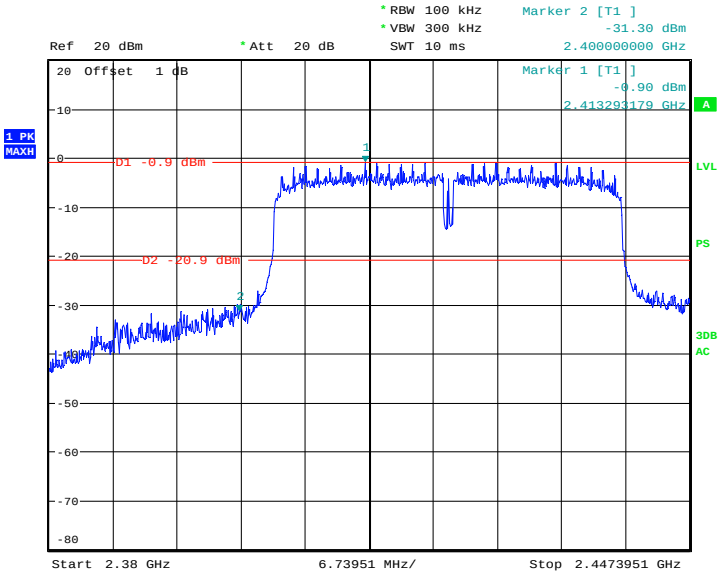
Test mode:	802.11n (H20)	Test channel:	Lowest



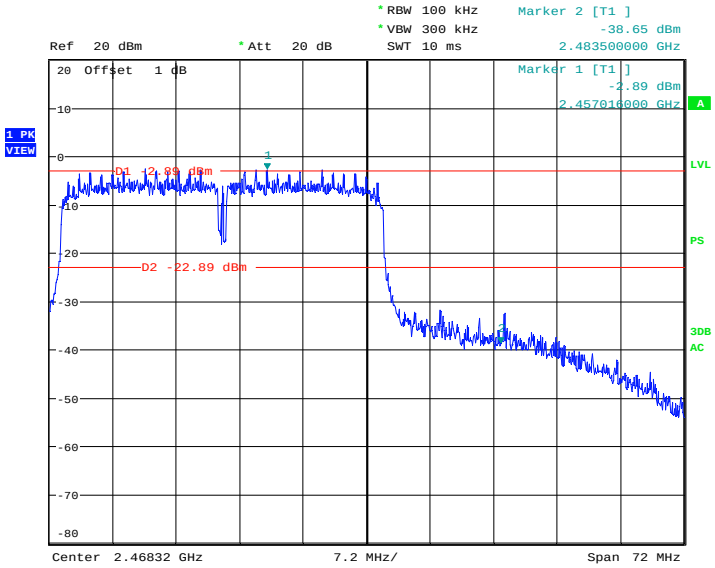
Test mode:	802.11n (H20)	Test channel:	Highest



Test mode:	802.11n (H40)	Test channel:	Lowest

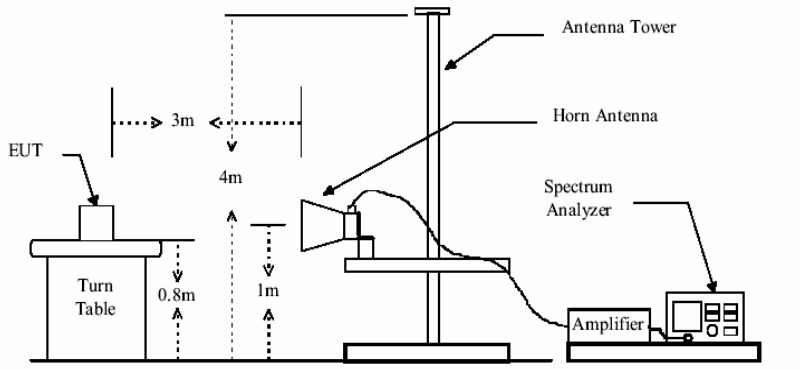


Test mode:	802.11n (H40)	Test channel:	Highest



6.6.2 Radiated Emission Method

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.209 and 15.205</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.4: 2003</td></tr>
<tr><td>Test Frequency Range:</td><td>2.3GHz to 2.5GHz</td></tr>
<tr><td>Test site:</td><td>Measurement Distance: 3m (Semi-Anechoic Chamber)</td></tr>
<tr><td>Receiver setup:</td><td>
<table>
<tr><th>Frequency</th><th>Detector</th><th>RBW</th><th>VBW</th><th>Remark</th></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td>Peak</td><td>1MHz</td><td>10Hz</td><td>Average Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><th>Frequency</th><th>Limit (dBuV/m @3m)</th><th>Remark</th></tr>
<tr><td rowspan="2">Above 1GHz</td><td>54.0</td><td>Average Value</td></tr>
<tr><td>74.0</td><td>Peak Value</td></tr>
</table>
</td></tr>
<tr><td>Test Procedure:</td><td>
a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. 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.
d. 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 rotable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
</td></tr>
</table>

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

Note:
The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

Measurement data:

Test mode:	802.11b	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
2390.00	49.37	27.59	3.33	30.10	50.19	74.00	-23.81	Vertical
2400.00	53.43	27.58	3.37	30.10	54.28	74.00	-19.72	Vertical
2390.00	50.62	27.59	3.33	30.10	51.44	74.00	-22.56	Horizontal
2400.00	54.59	27.58	3.37	30.10	55.44	74.00	-18.56	Horizontal

Test mode:	802.11b	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
2390.00	33.01	27.59	3.33	30.10	33.83	54.00	-20.17	Vertical
2400.00	36.42	27.58	3.37	30.10	37.27	54.00	-16.73	Vertical
2390.00	34.26	27.59	3.33	30.10	35.08	54.00	-18.92	Horizontal
2400.00	37.58	27.58	3.37	30.10	38.43	54.00	-15.57	Horizontal

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
2483.50	49.91	27.53	3.49	29.93	51.00	74.00	-23.00	Vertical
2500.00	53.71	27.55	3.52	30.70	54.08	74.00	-19.92	Vertical
2483.50	51.21	27.53	3.49	29.93	52.30	74.00	-21.70	Horizontal
2500.00	54.97	27.55	3.52	30.70	55.34	74.00	-18.66	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
2483.50	36.77	27.53	3.49	29.93	37.86	54.00	-16.14	Vertical
2500.00	32.10	27.55	3.52	30.70	32.47	54.00	-21.53	Vertical
2483.50	38.07	27.53	3.49	29.93	39.16	54.00	-14.84	Horizontal
2500.00	33.36	27.55	3.52	30.70	33.73	54.00	-20.27	Horizontal

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
2390.00	47.82	27.59	3.33	30.10	48.64	74.00	-25.36	Vertical
2400.00	51.81	27.58	3.37	30.10	52.66	74.00	-21.34	Vertical
2390.00	49.26	27.59	3.33	30.10	50.08	74.00	-23.92	Horizontal
2400.00	53.19	27.58	3.37	30.10	54.04	74.00	-19.96	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
2390.00	33.08	27.59	3.33	30.10	33.90	54.00	-20.10	Vertical
2400.00	36.90	27.58	3.37	30.10	37.75	54.00	-16.25	Vertical
2390.00	34.96	27.59	3.33	30.10	35.78	54.00	-18.22	Horizontal
2400.00	38.81	27.58	3.37	30.10	39.66	54.00	-14.34	Horizontal

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
2483.50	48.65	27.53	3.49	29.93	49.74	74.00	-24.26	Vertical
2500.00	52.50	27.55	3.52	30.70	52.87	74.00	-21.13	Vertical
2483.50	50.15	27.53	3.49	29.93	51.24	74.00	-22.76	Horizontal
2500.00	53.86	27.55	3.52	30.70	54.23	74.00	-19.77	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
2483.50	38.19	27.53	3.49	29.93	39.28	54.00	-14.72	Vertical
2500.00	33.83	27.55	3.52	30.70	34.20	54.00	-19.80	Vertical
2483.50	38.40	27.53	3.49	29.93	39.49	54.00	-14.51	Horizontal
2500.00	34.07	27.55	3.52	30.70	34.44	54.00	-19.56	Horizontal

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
2390.00	35.13	27.59	3.33	30.10	35.95	74.00	-38.05	Vertical
2400.00	47.39	27.58	3.37	30.10	48.24	74.00	-25.76	Vertical
2390.00	49.42	27.59	3.33	30.10	50.24	74.00	-23.76	Horizontal
2400.00	53.43	27.58	3.37	30.10	54.28	74.00	-19.72	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
2390.00	35.29	27.59	3.33	30.10	36.11	54.00	-17.89	Vertical
2400.00	39.13	27.58	3.37	30.10	39.98	54.00	-14.02	Vertical
2390.00	34.75	27.59	3.33	30.10	35.57	54.00	-18.43	Horizontal
2400.00	34.68	27.58	3.37	30.10	35.53	54.00	-18.47	Horizontal

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
2483.50	39.28	27.53	3.49	29.93	40.37	74.00	-33.63	Vertical
2500.00	47.99	27.55	3.52	30.70	48.36	74.00	-25.64	Vertical
2483.50	50.18	27.53	3.49	29.93	51.27	74.00	-22.73	Horizontal
2500.00	53.92	27.55	3.52	30.70	54.29	74.00	-19.71	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
2483.50	39.37	27.53	3.49	29.93	40.46	54.00	-13.54	Vertical
2500.00	37.79	27.55	3.52	30.70	38.16	54.00	-15.84	Vertical
2483.50	37.42	27.53	3.49	29.93	38.51	54.00	-15.49	Horizontal
2500.00	32.97	27.55	3.52	30.70	33.34	54.00	-20.66	Horizontal

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
2390.00	48.97	27.59	3.33	30.10	49.79	74.00	-24.21	Vertical
2400.00	51.78	27.58	3.37	30.10	52.63	74.00	-21.37	Vertical
2390.00	50.41	27.59	3.33	30.10	51.23	74.00	-22.77	Horizontal
2400.00	53.16	27.58	3.37	30.10	54.01	74.00	-19.99	Horizontal

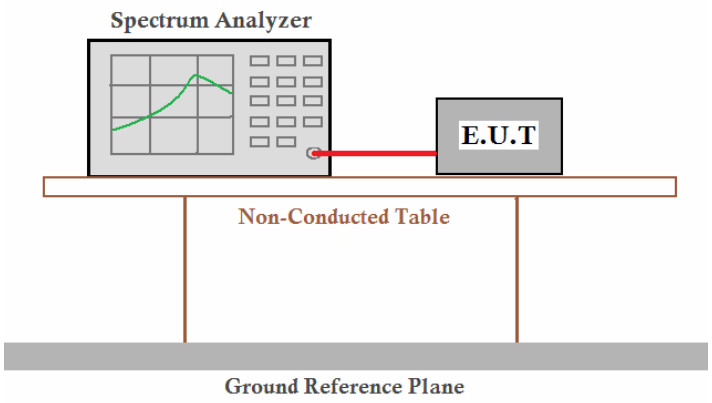
Test mode:	802.11n(H40)	Test channel:	Lowest	Remark:	Average			
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2390.00	32.24	27.59	3.33	30.10	33.06	54.00	-20.94	Vertical
2400.00	37.36	27.58	3.37	30.10	38.21	54.00	-15.79	Vertical
2390.00	33.02	27.59	3.33	30.10	33.84	54.00	-20.16	Horizontal
2400.00	38.07	27.58	3.37	30.10	38.92	54.00	-15.08	Horizontal

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
2483.50	50.98	27.53	3.49	29.93	52.07	74.00	-21.93	Vertical
2500.00	47.47	27.55	3.52	30.70	47.84	74.00	-26.16	Vertical
2483.50	52.48	27.53	3.49	29.93	53.57	74.00	-20.43	Horizontal
2500.00	48.83	27.55	3.52	30.70	49.20	74.00	-24.80	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
2483.50	41.52	27.53	3.49	29.93	42.61	54.00	-11.39	Vertical
2500.00	39.79	27.55	3.52	30.70	40.16	54.00	-13.84	Vertical
2483.50	40.73	27.53	3.49	29.93	41.82	54.00	-12.18	Horizontal
2500.00	39.03	27.55	3.52	30.70	39.40	54.00	-14.60	Horizontal

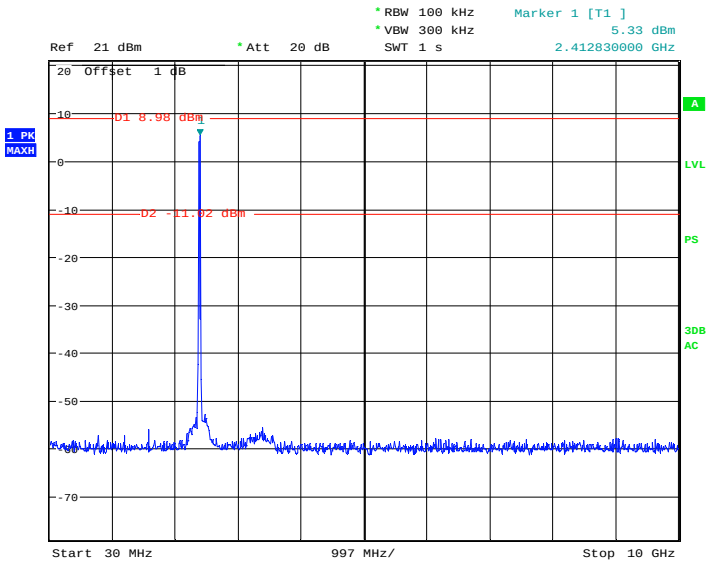
6.7 Spurious Emission

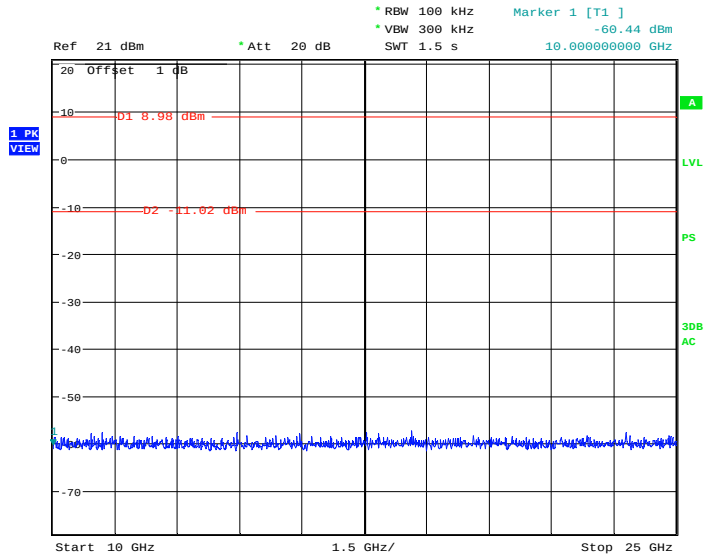
6.7.1 Conducted Emission Method

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

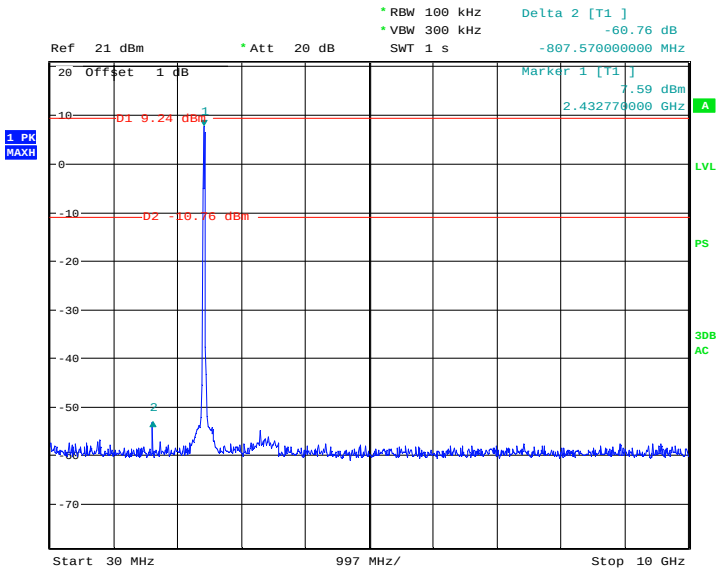
Test plot as follows:

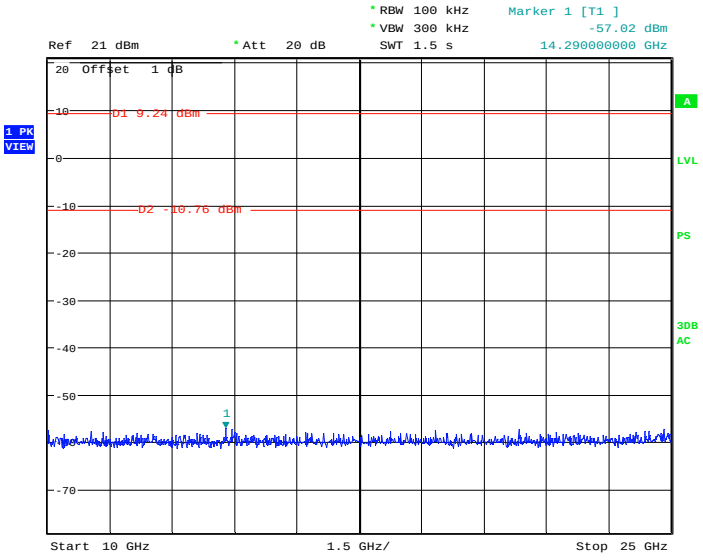
Test mode:	802.11b	Test channel:	Lowest



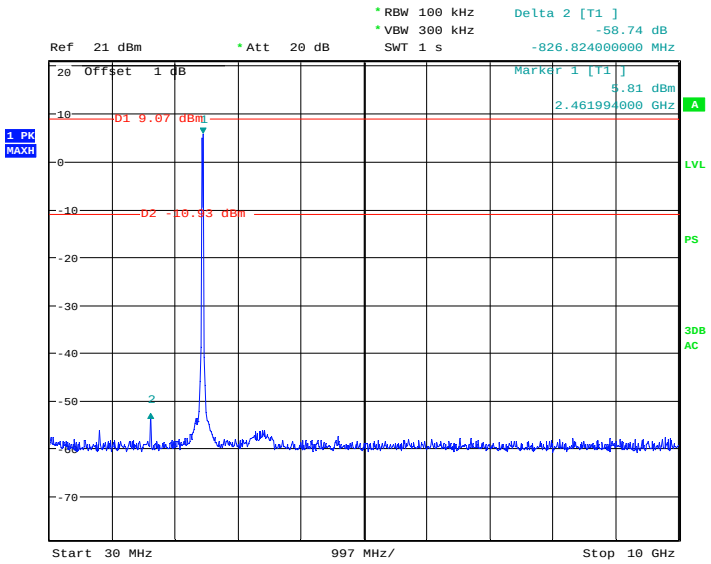


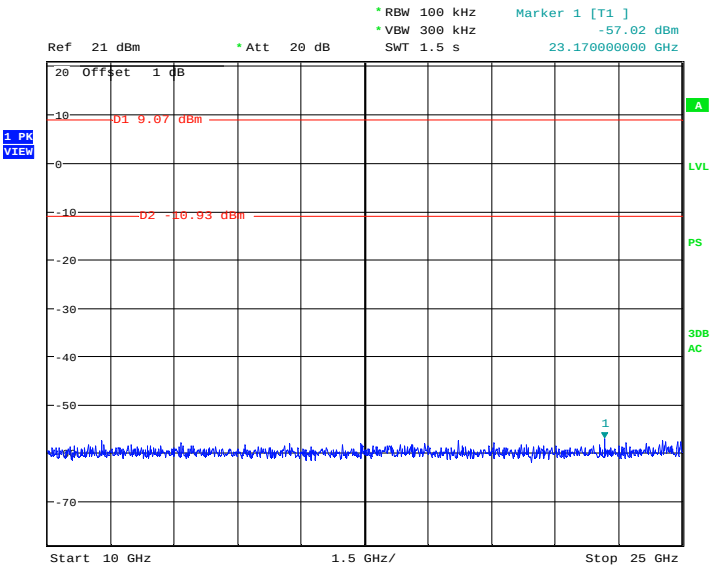
Test mode:	802.11b	Test channel:	Middle



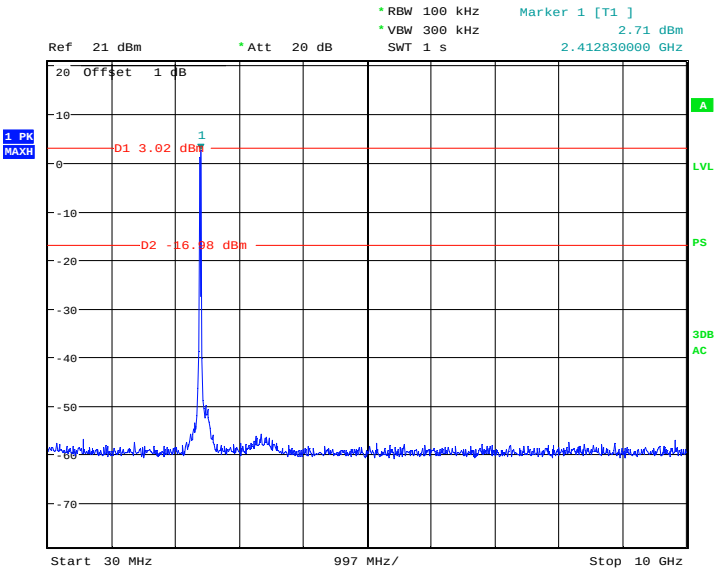


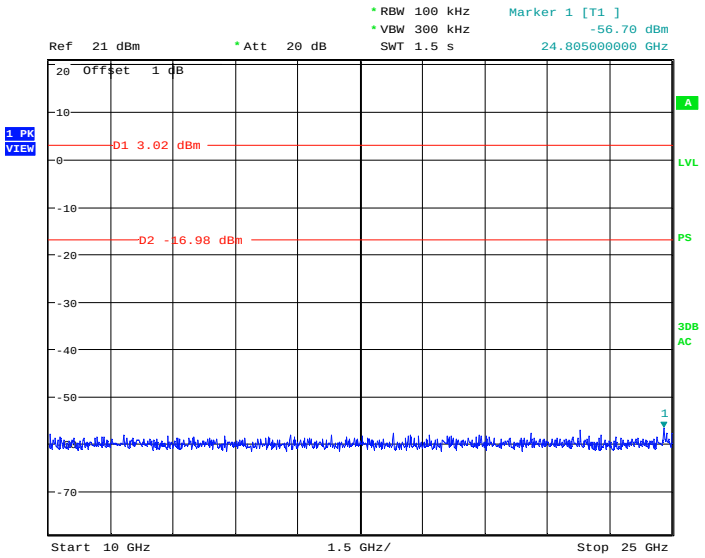
Test mode:	802.11b	Test channel:	Highest



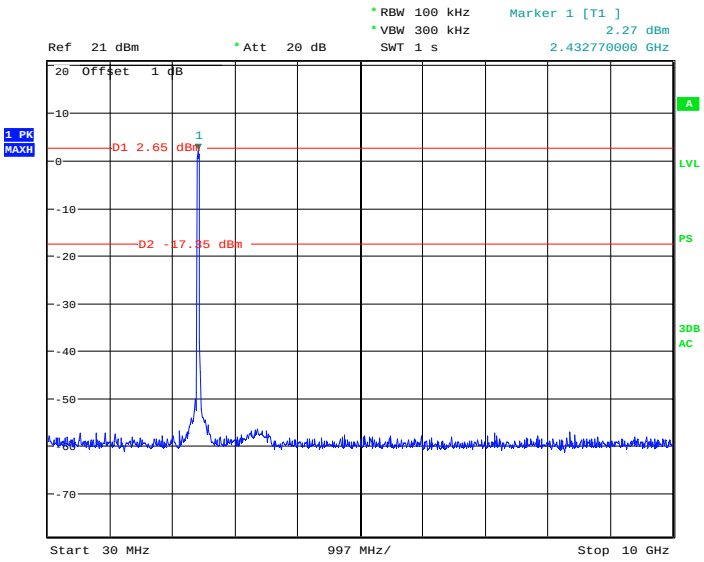


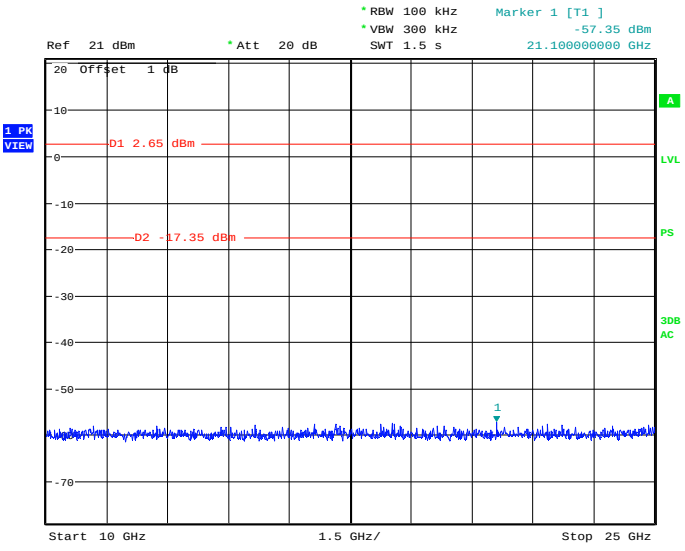
Test mode:	802.11g	Test channel:	Lowest



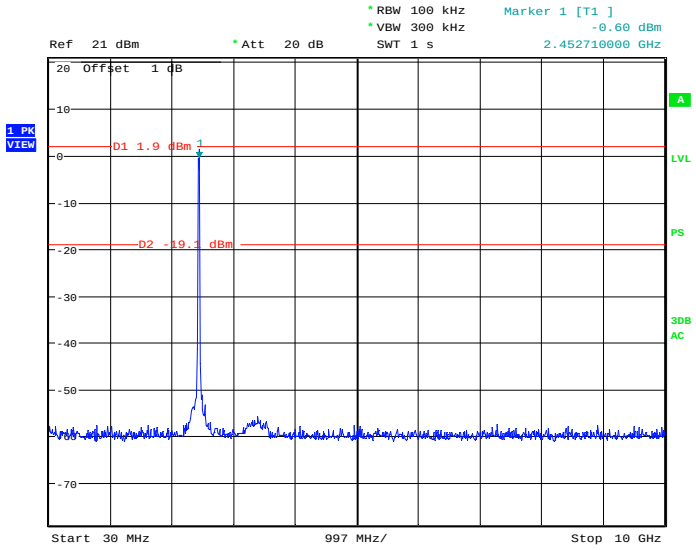


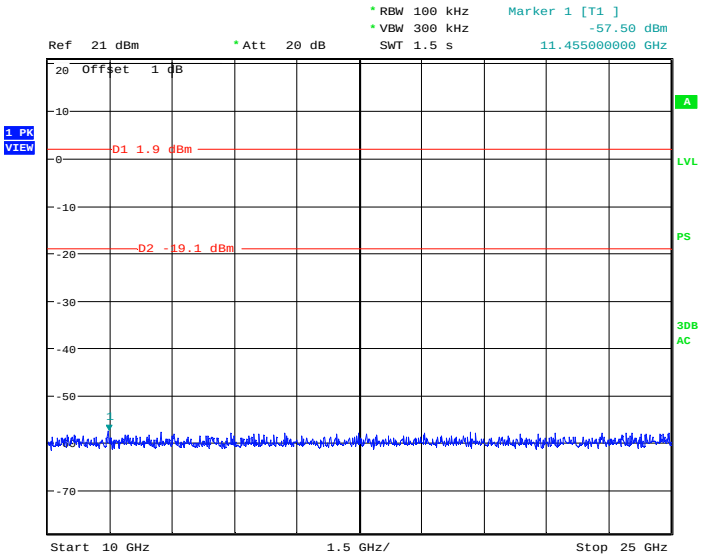
Test mode:	802.11g	Test channel:	Middle



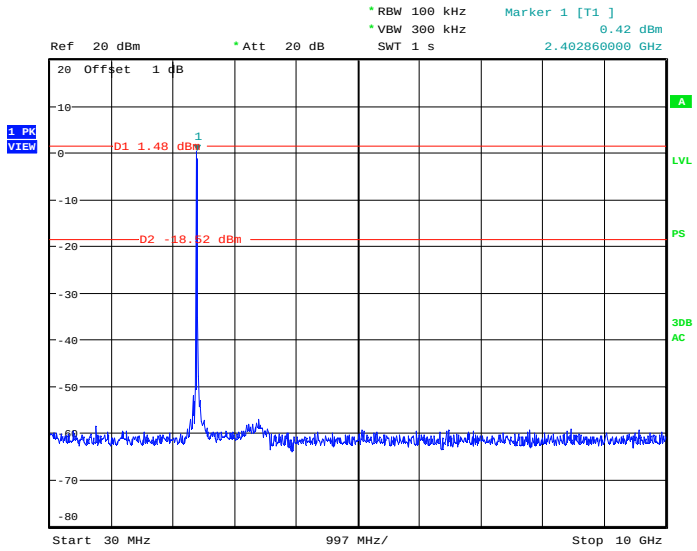


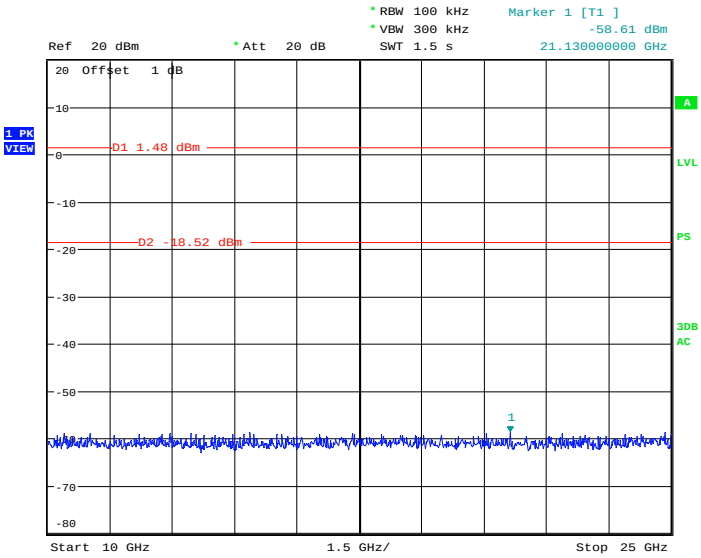
Test mode:	802.11g	Test channel:	Highest



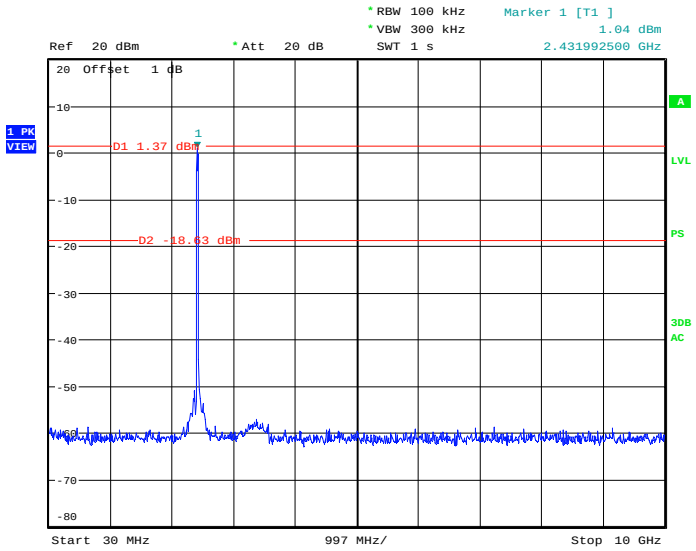


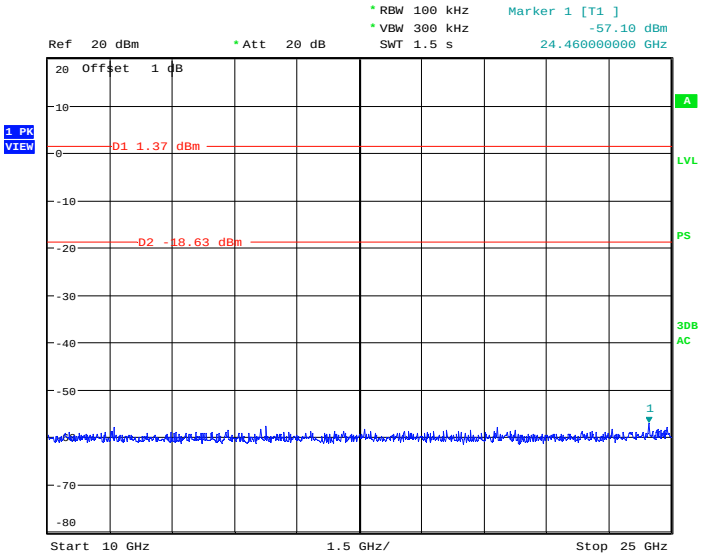
Test mode:	802.11n(H20)	Test channel:	Lowest



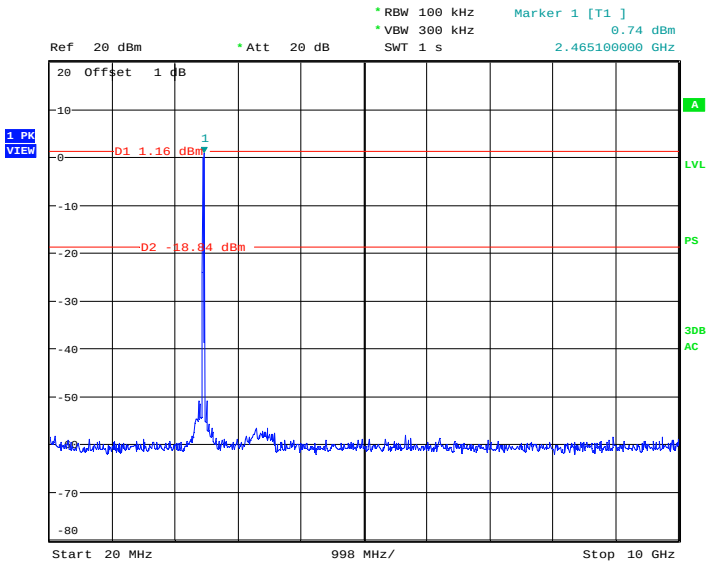


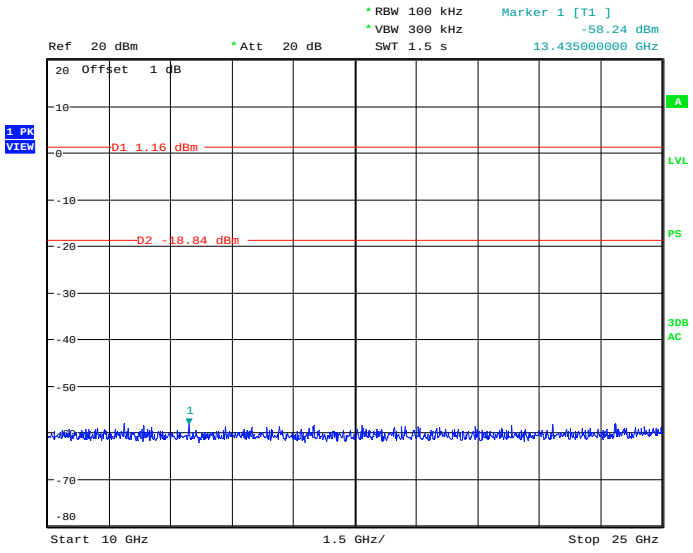
Test mode:	802.11n(H20)	Test channel:	Middle



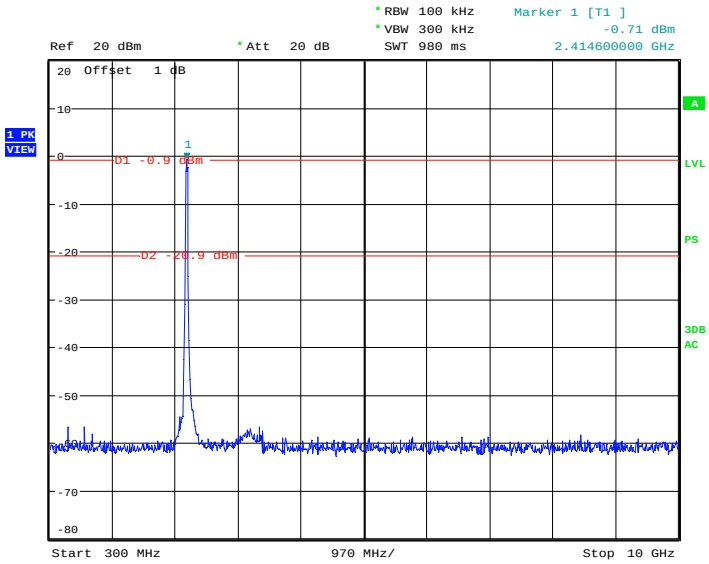


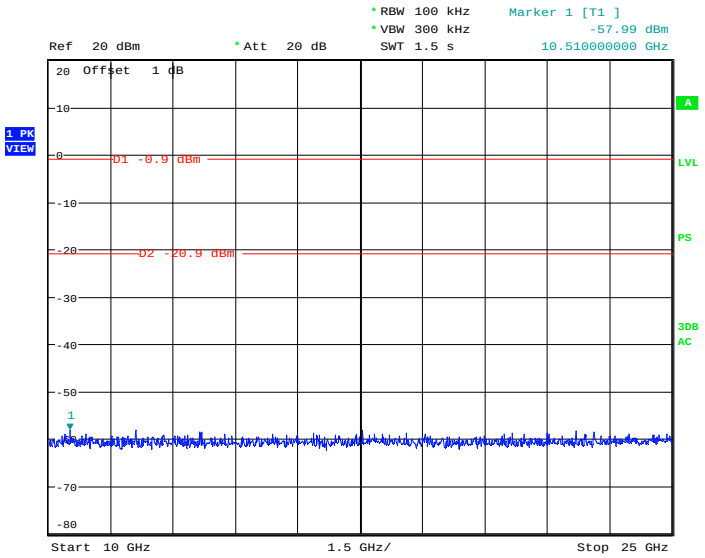
Test mode:	802.11n(H20)	Test channel:	Highest



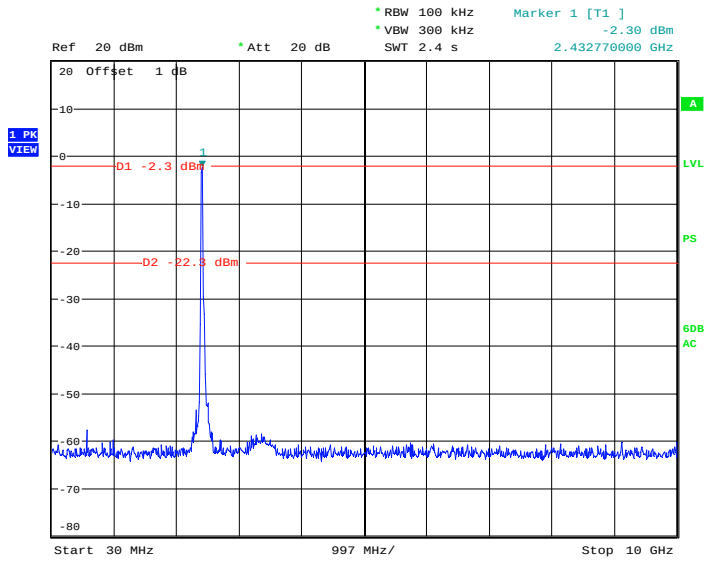


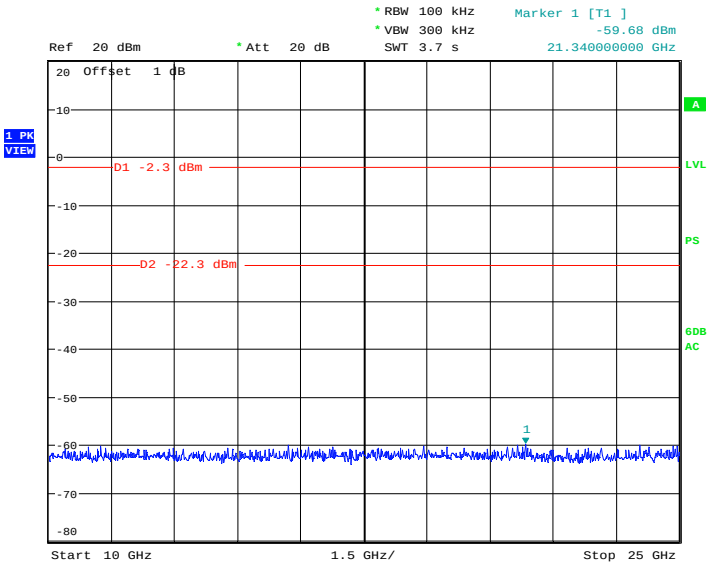
Test mode:	802.11n(H40)	Test channel:	Lowest



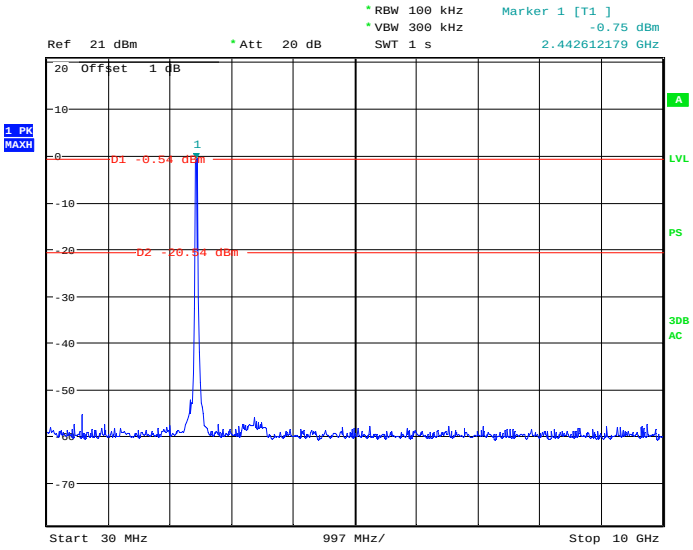


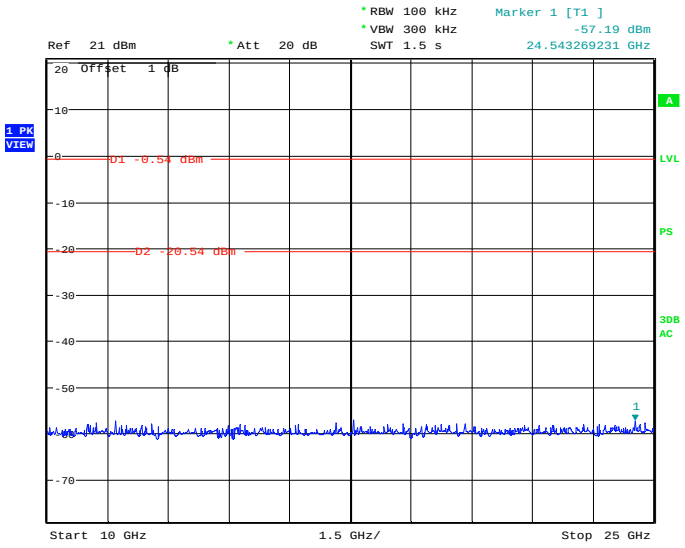
Test mode:	802.11n(H40)	Test channel:	Middle





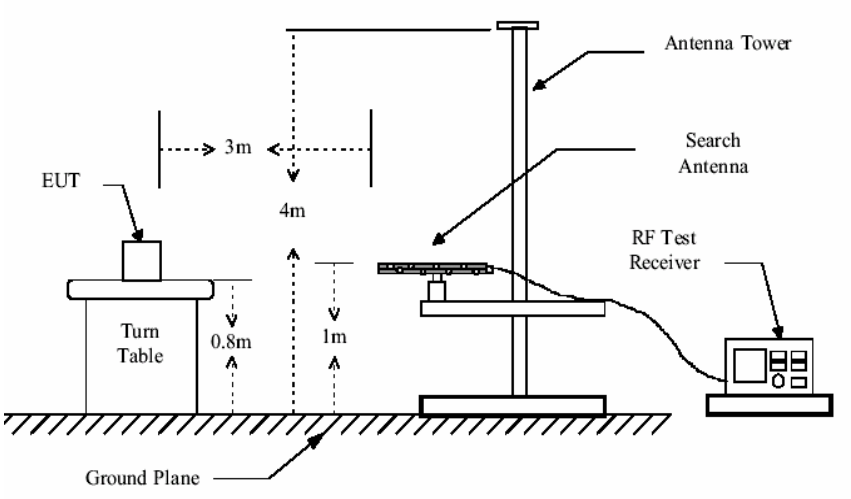
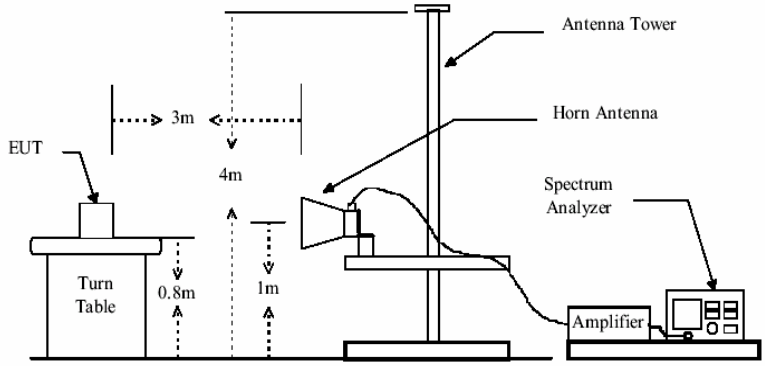
Test mode:	802.11n(H40)	Test channel:	Highest





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 (Semi-Anechoic Chamber)
Receiver setup:	Frequency / Detector / RBW / VBW / Remark 30MHz-1GHz / Quasi-peak / 100kHz / 300kHz / Quasi-peak Value Above 1GHz / Peak / 1MHz / 3MHz / Peak Value Above 1GHz / 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 Above 1GHz / 74.0 / Peak Value
Test Procedure:	g. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation. h. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. i. 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. j. 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 rotable table was turned from 0 degrees to 360 degrees to find the maximum reading. k. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. l. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

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

Note:
The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

Below 1GHz

Test in WIFI mode.

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
62.21	48.19	14.15	0.73	31.93	31.14	40.00	-8.86	Vertical
125.01	57.18	10.23	1.35	31.84	36.92	43.50	-6.58	Vertical
175.04	54.18	10.07	1.65	32.12	33.78	43.50	-9.72	Vertical
267.55	50.62	11.61	2.00	32.29	31.94	46.00	-14.06	Vertical
434.07	44.83	15.53	2.31	32.07	30.60	46.00	-15.40	Vertical
750.11	43.99	21.49	3.05	31.60	36.93	46.00	-9.07	Vertical
85.90	48.83	10.20	1.02	31.77	28.28	40.00	-11.72	Horizontal
166.65	55.24	11.53	1.61	32.08	36.30	43.50	-7.20	Horizontal
225.31	55.42	11.51	1.88	32.28	36.53	46.00	-9.47	Horizontal
267.55	56.99	11.54	2.00	32.29	38.24	46.00	-7.76	Horizontal
501.18	43.95	19.37	2.41	31.60	34.13	46.00	-11.87	Horizontal
749.99	45.90	22.54	3.05	31.60	39.89	46.00	-6.11	Horizontal

Above 1GHz

Test mode:	802.11b	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
1384.00	40.06	25.63	2.43	21.35	46.77	74.00	-27.23	Vertical
4824.00	41.3	31.79	5.34	24.07	54.36	74.00	-19.64	Vertical
7236.00	33.08	36.19	6.88	26.44	49.71	74.00	-24.29	Vertical
9648.00	31.69	38.07	8.96	25.36	53.36	74.00	-20.64	Vertical
12060.00	30.45	39.05	10.35	25.15	54.70	74.00	-19.30	Vertical
1384.00	42.97	25.63	2.43	21.35	49.68	74.00	1384.00	Horizontal
4824.00	44.91	31.79	5.34	24.07	57.97	74.00	4824.00	Horizontal
7236.00	34.06	36.19	6.88	26.44	50.69	74.00	7236.00	Horizontal
9648.00	32.58	38.07	8.96	25.36	54.25	74.00	9648.00	Horizontal
12060.00	31.25	39.05	10.35	25.15	55.50	74.00	12060.00	Horizontal

Test mode:	802.11b	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
1384.00	23.6	25.63	2.43	21.35	30.31	54.00	-23.69	Vertical
4824.00	20.06	31.79	5.34	24.07	33.12	54.00	-20.88	Vertical
7236.00	17.08	36.19	6.88	26.44	33.71	54.00	-20.29	Vertical
9648.00	15.17	38.07	8.96	25.36	36.84	54.00	-17.16	Vertical
12060.00	17.1	39.05	10.35	25.15	41.35	54.00	-12.65	Vertical
1384.00	24.94	25.63	2.43	21.35	31.65	54.00	-22.35	Horizontal
4824.00	26.13	31.79	5.34	24.07	39.19	54.00	-14.81	Horizontal
7236.00	18.06	36.19	6.88	26.44	34.69	54.00	-19.31	Horizontal
9648.00	16.06	38.07	8.96	25.36	37.73	54.00	-16.27	Horizontal
12060.00	17.9	39.05	10.35	25.15	42.15	54.00	-11.85	Horizontal

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
1754.00	44.36	25.09	2.61	28.59	43.47	74.00	-30.53	Vertical
4874.00	42.24	31.85	5.40	24.01	55.48	74.00	-18.52	Vertical
7311.00	30.96	36.37	6.90	26.58	47.65	74.00	-26.35	Vertical
9688.00	27.25	38.13	8.98	25.34	49.02	74.00	-24.98	Vertical
12185.00	28.24	38.92	10.38	25.04	52.50	74.00	-21.50	Vertical
1754.00	49.24	25.09	2.61	28.59	48.35	74.00	-25.65	Horizontal
4874.00	46.7	31.85	5.40	24.01	59.94	74.00	-14.06	Horizontal
7311.00	31.29	36.37	6.90	26.58	47.98	74.00	-26.02	Horizontal
9688.00	27.69	38.13	8.98	25.34	49.46	74.00	-24.54	Horizontal
12185.00	28.79	38.92	10.38	25.04	53.05	74.00	-20.95	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
1754.00	30.6	25.09	2.61	28.59	29.71	54.00	-24.29	Vertical
4874.00	22.02	31.85	5.40	24.01	35.26	54.00	-18.74	Vertical
7311.00	17.86	36.37	6.90	26.58	34.55	54.00	-19.45	Vertical
9688.00	15.02	38.13	8.98	25.34	36.79	54.00	-17.21	Vertical
12185.00	16.12	38.92	10.38	25.04	40.38	54.00	-13.62	Vertical
1754.00	30.71	25.09	2.61	28.59	29.82	54.00	-24.18	Horizontal
4874.00	25.98	31.85	5.40	24.01	39.22	54.00	-14.78	Horizontal
7311.00	18.19	36.37	6.90	26.58	34.88	54.00	-19.12	Horizontal
9688.00	15.46	38.13	8.98	25.34	37.23	54.00	-16.77	Horizontal
12185.00	16.67	38.92	10.38	25.04	40.93	54.00	-13.07	Horizontal

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
1648.00	44.18	24.87	2.55	27.09	44.51	74.00	-29.49	Vertical
4924.00	39.58	31.89	5.46	23.96	52.97	74.00	-21.03	Vertical
7386.00	30.58	36.49	6.93	26.79	47.21	74.00	-26.79	Vertical
12310.00	28.33	38.83	10.41	24.90	52.67	74.00	-21.33	Vertical
14772.00	24.59	41.82	12.18	24.52	54.07	74.00	-19.93	Vertical
1648.00	45.52	24.87	2.55	27.09	45.85	74.00	-28.15	Horizontal
4924.00	40.41	31.89	5.46	23.96	53.80	74.00	-20.20	Horizontal
7386.00	31.76	36.49	6.93	26.79	48.39	74.00	-25.61	Horizontal
12310.00	29.47	38.83	10.41	24.90	53.81	74.00	-20.19	Horizontal
14772.00	25.69	41.82	12.18	24.52	55.17	74.00	-18.83	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
1648.00	26.59	24.87	2.55	27.09	26.92	54.00	-27.08	Vertical
4924.00	21.21	31.89	5.46	23.96	34.60	54.00	-19.40	Vertical
7386.00	18.46	36.49	6.93	26.79	35.09	54.00	-18.91	Vertical
12310.00	16.32	38.83	10.41	24.90	40.66	54.00	-13.34	Vertical
14772.00	13.83	41.82	12.18	24.52	43.31	54.00	-10.69	Vertical
1648.00	27.93	24.87	2.55	27.09	28.26	54.00	-25.74	Horizontal
4924.00	25.67	31.89	5.46	23.96	39.06	54.00	-14.94	Horizontal
7386.00	19.64	36.49	6.93	26.79	36.27	54.00	-17.73	Horizontal
12310.00	17.46	38.83	10.41	24.90	41.80	54.00	-12.20	Horizontal
14772.00	14.93	41.82	12.18	24.52	44.41	54.00	-9.59	Horizontal

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
1384.00	34.58	25.63	2.43	21.35	41.29	74.00	-32.71	Vertical
4824.00	34.63	31.79	5.34	24.07	47.69	74.00	-26.31	Vertical
7236.00	31.32	36.19	6.88	26.44	47.95	74.00	-26.05	Vertical
9648.00	29.86	38.07	8.96	25.36	51.53	74.00	-22.47	Vertical
12060.00	28.55	39.05	10.35	25.15	52.80	74.00	-21.20	Vertical
1384.00	41.08	25.63	2.43	21.35	47.79	74.00	-26.21	Horizontal
4824.00	45	31.79	5.34	24.07	58.06	74.00	-15.94	Horizontal
7236.00	32.58	36.19	6.88	26.44	49.21	74.00	-24.79	Horizontal
9648.00	31.06	38.07	8.96	25.36	52.73	74.00	-21.27	Horizontal
12060.00	29.69	39.05	10.35	25.15	53.94	74.00	-20.06	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
1384.00	23.26	25.63	2.43	21.35	29.97	54.00	-24.03	Vertical
4824.00	20.95	31.79	5.34	24.07	34.01	54.00	-19.99	Vertical
7236.00	18.38	36.19	6.88	26.44	35.01	54.00	-18.99	Vertical
9648.00	16.88	38.07	8.96	25.36	38.55	54.00	-15.45	Vertical
12060.00	19.22	39.05	10.35	25.15	43.47	54.00	-10.53	Vertical
1384.00	25.11	25.63	2.43	21.35	31.82	54.00	-22.18	Horizontal
4824.00	30.48	31.79	5.34	24.07	43.54	54.00	-10.46	Horizontal
7236.00	20.35	36.19	6.88	26.44	36.98	54.00	-17.02	Horizontal
9648.00	18.88	38.07	8.96	25.36	40.55	54.00	-13.45	Horizontal
12060.00	21.25	39.05	10.35	25.15	45.50	54.00	-8.50	Horizontal

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
1754.00	43.75	25.09	2.61	28.59	42.86	74.00	-31.14	Vertical
4874.00	36.54	31.85	5.40	24.01	49.78	74.00	-24.22	Vertical
7311.00	30.45	36.37	6.90	26.58	47.14	74.00	-26.86	Vertical
9688.00	26.79	38.13	8.98	25.34	48.56	74.00	-25.44	Vertical
12185.00	27.83	38.92	10.38	25.04	52.09	74.00	-21.91	Vertical
1754.00	43.96	25.09	2.61	28.59	43.07	74.00	-30.93	Horizontal
4874.00	45.37	31.85	5.40	24.01	58.61	74.00	-15.39	Horizontal
7311.00	30.68	36.37	6.90	26.58	47.37	74.00	-26.63	Horizontal
9688.00	27.03	38.13	8.98	25.34	48.80	74.00	-25.20	Horizontal
12185.00	28.08	38.92	10.38	25.04	52.34	74.00	-21.66	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
1754.00	31.27	25.09	2.61	28.59	30.38	54.00	-23.62	Vertical
4874.00	23.22	31.85	5.40	24.01	36.46	54.00	-17.54	Vertical
7311.00	19.59	36.37	6.90	26.58	36.28	54.00	-17.72	Vertical
12185.00	18.91	38.92	10.38	25.04	43.17	54.00	-10.83	Vertical
14622.00	16.63	42.33	11.91	24.45	46.42	54.00	-7.58	Vertical
1754.00	31.26	25.09	2.61	28.59	30.37	54.00	-23.63	Horizontal
4874.00	28.44	31.85	5.40	24.01	41.68	54.00	-12.32	Horizontal
7311.00	19.38	36.37	6.90	26.58	36.07	54.00	-17.93	Horizontal
9688.00	16.97	38.13	8.98	25.34	38.74	54.00	-15.26	Horizontal
12185.00	18.50	38.92	10.38	25.04	42.76	54.00	-11.24	Horizontal

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
1648.00	38.87	24.87	2.55	27.09	39.20	74.00	-34.80	Vertical
4924.00	32.28	31.89	5.46	23.96	45.67	74.00	-28.33	Vertical
7386.00	29.47	36.49	6.93	26.79	46.10	74.00	-27.90	Vertical
12310.00	27.27	38.83	10.41	24.90	51.61	74.00	-22.39	Vertical
14772.00	23.58	41.82	12.18	24.52	53.06	74.00	-20.94	Vertical
1648.00	40.51	24.87	2.55	27.09	40.84	74.00	-33.16	Horizontal
4924.00	44.54	31.89	5.46	23.96	57.93	74.00	-16.07	Horizontal
7386.00	30.55	36.49	6.93	26.79	47.18	74.00	-26.82	Horizontal
12310.00	28.21	38.83	10.41	24.90	52.55	74.00	-21.45	Horizontal
14772.00	24.38	41.82	12.18	24.52	53.86	74.00	-20.14	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
1648.00	27.70	24.87	2.55	27.09	28.03	54.00	-25.97	Vertical
4924.00	23.25	31.89	5.46	23.96	36.64	54.00	-17.36	Vertical
7386.00	20.81	36.49	6.93	26.79	37.44	54.00	-16.56	Vertical
12310.00	18.98	38.83	10.41	24.90	43.32	54.00	-10.68	Vertical
14772.00	16.8	41.82	12.18	24.52	46.28	54.00	-7.72	Vertical
1648.00	27.88	24.87	2.55	27.09	28.21	54.00	-25.79	Horizontal
4924.00	28.22	31.89	5.46	23.96	41.61	54.00	-12.39	Horizontal
7386.00	21.11	36.49	6.93	26.79	37.74	54.00	-16.26	Horizontal
12310.00	19.31	38.83	10.41	24.90	43.65	54.00	-10.35	Horizontal
14772.00	17.16	41.82	12.18	24.52	46.64	54.00	-7.36	Horizontal

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
1384.00	41.07	25.63	2.43	21.35	47.78	74.00	-26.22	Vertical
4824.00	52.36	31.79	5.34	24.07	65.42	74.00	-8.58	Vertical
7236.00	37.20	36.19	6.88	26.44	53.83	74.00	-20.17	Vertical
9648.00	31.91	38.07	8.96	25.36	53.58	74.00	-20.42	Vertical
12060.00	30.47	39.05	10.35	25.15	54.72	74.00	-19.28	Vertical
1384.00	41.16	25.63	2.43	21.35	47.87	74.00	-26.13	Horizontal
4824.00	44.44	31.79	5.34	24.07	57.50	74.00	-16.50	Horizontal
7236.00	32.98	36.19	6.88	26.44	49.61	74.00	-24.39	Horizontal
9648.00	31.54	38.07	8.96	25.36	53.21	74.00	-20.79	Horizontal
12060.00	30.25	39.05	10.35	25.15	54.50	74.00	-19.50	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
1384.00	31.27	25.63	2.43	21.35	37.98	54.00	-16.02	Vertical
4824.00	30.93	31.79	5.34	24.07	43.99	54.00	-10.01	Vertical
7236.00	22.00	36.19	6.88	26.44	38.63	54.00	-15.37	Vertical
9648.00	21.45	38.07	8.96	25.36	43.12	54.00	-10.88	Vertical
12060.00	20.97	39.05	10.35	25.15	45.22	54.00	-8.78	Vertical
1384.00	28.85	25.63	2.43	21.35	35.56	54.00	-18.44	Horizontal
4824.00	39.57	31.79	5.34	24.07	52.63	54.00	-1.37	Horizontal
7236.00	30.73	36.19	6.88	26.44	47.36	54.00	-6.64	Horizontal
9648.00	21.27	38.07	8.96	25.36	42.94	54.00	-11.06	Horizontal
12060.00	19.88	39.05	10.35	25.15	44.13	54.00	-9.87	Horizontal

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
1754.00	45.87	25.09	2.61	28.59	44.98	74.00	-29.02	Vertical
4874.00	42.89	31.85	5.40	24.01	56.13	74.00	-17.87	Vertical
7311.00	34.66	36.37	6.90	26.58	51.35	74.00	-22.65	Vertical
9688.00	29.51	38.13	8.98	25.34	51.28	74.00	-22.72	Vertical
12185.00	25.83	38.92	10.38	25.04	50.09	74.00	-23.91	Vertical
1754.00	46.53	25.09	2.61	28.59	45.64	74.00	-28.36	Horizontal
4874.00	46.17	31.85	5.40	24.01	59.41	74.00	-14.59	Horizontal
7311.00	30.41	36.37	6.90	26.58	47.10	74.00	-26.90	Horizontal
9688.00	26.84	38.13	8.98	25.34	48.61	74.00	-25.39	Horizontal
12185.00	27.97	38.92	10.38	25.04	52.23	74.00	-21.77	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
1754.00	31.61	25.09	2.61	28.59	30.72	54.00	-23.28	Vertical
4874.00	30.89	31.85	5.40	24.01	44.13	54.00	-9.87	Vertical
7311.00	21.82	36.37	6.90	26.58	38.51	54.00	-15.49	Vertical
9688.00	19.13	38.13	8.98	25.34	40.90	54.00	-13.10	Vertical
12185.00	19.80	38.92	10.38	25.04	44.06	54.00	-9.94	Vertical
1754.00	31.32	25.09	2.61	28.59	30.43	54.00	-23.57	Horizontal
4874.00	30.49	31.85	5.40	24.01	43.73	54.00	-10.27	Horizontal
7311.00	27.38	36.37	6.90	26.58	44.07	54.00	-9.93	Horizontal
9688.00	19.69	38.13	8.98	25.34	41.46	54.00	-12.54	Horizontal
12185.00	17.36	38.92	10.38	25.04	41.62	54.00	-12.38	Horizontal

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
1648.00	44.81	24.87	2.55	27.09	45.14	74.00	-28.86	Vertical
4924.00	52.73	31.89	5.46	23.96	66.12	74.00	-7.88	Vertical
7386.00	36.44	36.49	6.93	26.79	53.07	74.00	-20.93	Vertical
12310.00	29.56	38.83	10.41	24.90	53.90	74.00	-20.10	Vertical
14772.00	27.29	41.82	12.18	24.52	56.77	74.00	-17.23	Vertical
1648.00	47.51	24.87	2.55	27.09	47.84	74.00	-26.16	Horizontal
4924.00	42.74	31.89	5.46	23.96	56.13	74.00	-17.87	Horizontal
7386.00	30.67	36.49	6.93	26.79	47.30	74.00	-26.70	Horizontal
12310.00	28.36	38.83	10.41	24.90	52.70	74.00	-21.30	Horizontal
14772.00	24.56	41.82	12.18	24.52	54.04	74.00	-19.96	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
1648.00	33.81	24.87	2.55	27.09	34.14	54.00	-19.86	Vertical
4924.00	34.32	31.89	5.46	23.96	47.71	54.00	-6.29	Vertical
7386.00	23.67	36.49	6.93	26.79	40.30	54.00	-13.70	Vertical
12310.00	21.16	38.83	10.41	24.90	45.50	54.00	-8.50	Vertical
14772.00	19.26	41.82	12.18	24.52	48.74	54.00	-5.26	Vertical
1648.00	32.13	24.87	2.55	27.09	32.46	54.00	-21.54	Horizontal
4924.00	25.63	31.89	5.46	23.96	39.02	54.00	-14.98	Horizontal
7386.00	29.11	36.49	6.93	26.79	45.74	54.00	-8.26	Horizontal
12310.00	21.73	38.83	10.41	24.90	46.07	54.00	-7.93	Horizontal
14772.00	19.96	41.82	12.18	24.52	49.44	54.00	-4.56	Horizontal

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
1725.00	46.96	25.02	2.59	28.36	46.21	74.00	-27.79	Vertical
4844.00	43.87	31.82	5.36	24.05	57.00	74.00	-17.00	Vertical
7266.00	30.11	36.28	6.89	26.51	46.77	74.00	-27.23	Vertical
12110.00	27.55	38.98	10.37	25.11	51.79	74.00	-22.21	Vertical
1725.00	46.96	25.02	2.59	28.36	46.21	74.00	-27.79	Vertical
1725.00	50.46	25.02	2.59	28.36	49.71	74.00	-24.29	Horizontal
4844.00	45.61	31.82	5.36	24.05	58.74	74.00	-15.26	Horizontal
7266.00	31.37	36.28	6.89	26.51	48.03	74.00	-25.97	Horizontal
12110.00	28.75	38.98	10.37	25.11	52.99	74.00	-21.01	Horizontal
14532.00	26.73	42.55	11.78	24.38	56.68	74.00	-17.32	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
1725.00	33.84	25.02	2.59	28.36	33.09	54.00	-20.91	Vertical
4844.00	24.14	31.82	5.36	24.05	37.27	54.00	-16.73	Vertical
7266.00	22.45	36.28	6.89	26.51	39.11	54.00	-14.89	Vertical
12110.00	19.58	38.98	10.37	25.11	43.82	54.00	-10.18	Vertical
14532.00	18.22	42.55	11.78	24.38	48.17	54.00	-5.83	Vertical
1725.00	32.69	25.02	2.59	28.36	31.94	54.00	-22.06	Horizontal
4844.00	33.11	31.82	5.36	24.05	46.24	54.00	-7.76	Horizontal
7266.00	23.02	36.28	6.89	26.51	39.68	54.00	-14.32	Horizontal
12110.00	20.08	38.98	10.37	25.11	44.32	54.00	-9.68	Horizontal
14532.00	18.65	42.55	11.78	24.38	48.60	54.00	-5.40	Horizontal

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
1754.00	49.11	25.09	2.61	28.59	48.22	74.00	-25.78	Vertical
4874.00	43.39	31.85	5.40	24.01	56.63	74.00	-17.37	Vertical
7311.00	32.35	36.37	6.90	26.58	49.04	74.00	-24.96	Vertical
9688.00	28.96	38.13	8.98	25.34	50.73	74.00	-23.27	Vertical
12185.00	30.27	38.92	10.38	25.04	54.53	74.00	-19.47	Vertical
1754.00	48.32	25.09	2.61	28.59	47.43	74.00	-26.57	Horizontal
4874.00	46.43	31.85	5.40	24.01	59.67	74.00	-14.33	Horizontal
7311.00	32.58	36.37	6.90	26.58	49.27	74.00	-24.73	Horizontal
9688.00	29.20	38.13	8.98	25.34	50.97	74.00	-23.03	Horizontal
12185.00	30.52	38.92	10.38	25.04	54.78	74.00	-19.22	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
1754.00	32.83	25.09	2.61	28.59	31.94	54.00	-22.06	Vertical
4874.00	27.48	31.85	5.40	24.01	40.72	54.00	-13.28	Vertical
7311.00	22.25	36.37	6.90	26.58	38.94	54.00	-15.06	Vertical
9688.00	19.45	38.13	8.98	25.34	41.22	54.00	-12.78	Vertical
12185.00	21.35	38.92	10.38	25.04	45.61	54.00	-8.39	Vertical
1754.00	31.82	25.09	2.61	28.59	30.93	54.00	-23.07	Horizontal
4874.00	31.17	31.85	5.40	24.01	44.41	54.00	-9.59	Horizontal
7311.00	22.04	36.37	6.90	26.58	38.73	54.00	-15.27	Horizontal
9688.00	19.14	38.13	8.98	25.34	40.91	54.00	-13.09	Horizontal
12185.00	20.94	38.92	10.38	25.04	45.20	54.00	-8.80	Horizontal

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
1954.00	47.94	25.95	2.74	30.69	45.94	74.00	-28.06	Vertical
4904.00	42.20	31.88	5.42	23.97	55.53	74.00	-18.47	Vertical
7356.00	32.49	36.45	6.92	26.70	49.16	74.00	-24.84	Vertical
9748.00	30.52	38.27	9.00	25.30	52.49	74.00	-21.51	Vertical
12260.00	29.69	38.86	10.40	24.97	53.98	74.00	-20.02	Vertical
1954.00	49.58	25.95	2.74	30.69	47.58	74.00	-26.42	Horizontal
4904.00	45.77	31.88	5.42	23.97	59.10	74.00	-14.90	Horizontal
7356.00	33.57	36.45	6.92	26.70	50.24	74.00	-23.76	Horizontal
9748.00	31.46	38.27	9.00	25.30	53.43	74.00	-20.57	Horizontal
12260.00	30.49	38.86	10.40	24.97	54.78	74.00	-19.22	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
1954.00	34.80	25.95	2.74	30.69	32.80	54.00	-21.20	Vertical
4904.00	27.04	31.88	5.42	23.97	40.37	54.00	-13.63	Vertical
7356.00	23.65	36.45	6.92	26.70	40.32	54.00	-13.68	Vertical
9748.00	21.90	38.27	9.00	25.30	43.87	54.00	-10.13	Vertical
12260.00	21.29	38.86	10.40	24.97	45.58	54.00	-8.42	Vertical
1954.00	30.98	25.95	2.74	30.69	28.98	54.00	-25.02	Horizontal
4904.00	32.69	31.88	5.42	23.97	46.02	54.00	-7.98	Horizontal
7356.00	24.13	36.45	6.92	26.70	40.80	54.00	-13.20	Horizontal
9748.00	22.56	38.27	9.00	25.30	44.53	54.00	-9.47	Horizontal
12260.00	22.13	38.86	10.40	24.97	46.42	54.00	-7.58	Horizontal