FCC Report (WIFI)

Applicant:	Trane US, Inc.
Address of Applicant:	6200 Troup Highway, TYLER, Texas 75707, United States
Manufacturer:	COMPUTIME ELECTRONICS(SHENZHEN) CO.,LTD.
Address of Manufacturer:	Computime Technology Pk, Dan Zhu Tou Cun Buji, Longgang Region Shenzhen China

Equipment Under Test (EUT)

Product Name:	COLOR WIFI Z-WAVE THERMOSTAT
Model No.:	TCONT824AS52DBA, ACONT824AS52DBA, BAYSTAT814A, TCONT830AS52DAA, ACONT830AS52DAA
FCC ID:	XVR-CONT8245
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.247
Date of sample receipt:	June 21, 2018
Date of Test:	June 22, 2018-July 24, 2018
Date of report issued:	July 25, 2018
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	*July 25, 2018*	*Original*

Prepared By: Tiger Chen ***Date:*** *July 25, 2018*

Project Engineer

Check By: Andy Wu ***Date:*** *July 25, 2018*

Reviewer

3 Contents

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
Channel 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: Test according to ANSI C63.10:2013.

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

Measurement Uncertainty

Test Item	Frequency Range	Measurement Uncertainty	Notes
Radiated Emission	9kHz ~ 30MHz	± 4.34dB	(1)
Radiated Emission	30MHz ~ 1000MHz	± 4.24dB	(1)
Radiated Emission	1GHz ~ 26.5GHz	± 4.68dB	(1)
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	± 3.45dB	(1)
Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.			

5 General Information

5.1 General Description of EUT

Product Name:	COLOR WIFI Z-WAVE THERMOSTAT
Model No.:	TCONT824AS52DBA, ACONT824AS52DBA, BAYSTAT814A, TCONT830AS52DAA, ACONT830AS52DAA
Test Model No:	TCONT824AS52DBA
Remark: All above models are identical in the same PCB layout, interior structure and electrical circuits. The differences are color and model name for commercial purpose.	
Serial No.:	1824C0EX0X
Test sample(s) ID:	GTS201806000197-1
Sample(s) Status	Engineer sample
Hardware version:	0x1
Software version:	5.2.5
Channel numbers:	802.11b/802.11g /802.11n(HT20): 11 802.11n(HT40):7
Channel separation:	5MHz
Modulation technology:	802.11b: Direct Sequence Spread Spectrum (DSSS) 802.11g/802.11n(H20)/802.11n(HT40): Orthogonal Frequency Division Multiplexing (OFDM)
Antenna Type:	Integral Antenna
Antenna gain:	0dBi(declare by manufacturer)
Power supply:	AC 24V

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:

Test channel	Frequency (MHz)	
	802.11b/802.11g/802.11n(HT20)	802.11n(HT40)
Lowest channel	2412MHz	2422MHz
Middle channel	2437MHz	2437MHz
Highest channel	2462MHz	2452MHz

5.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode

Remark: During the test, the dutycycle >98%, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.

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:

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

Mode	802.11b	802.11g	802.11n(HT20)	802.11n(HT40)
Data rate	1Mbps	6Mbps	6.5Mbps	13Mbps

5.3 Description of Support Units

Manufacturer	Description	Model	Serial Number	FCC Approval
Computime	AC-AC adaptor	KJS-66	N/A	N/A
Lenovo	Notebook PC	E40	N/A	N/A

5.4 Test Facility

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

● **FCC —Registration No.: 381383**

Global United Technology 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 files. Registration 381383, January 08, 2018.

● **Industry Canada (IC) —Registration No.: 9079A-2**

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-2, August 15, 2016.

5.5 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.
Address: No. 301-309, 3/F., Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102
Tel: 0755-27798480
Fax: 0755-27798960

5.6 Additional Instructions

EUT Software Settings:

Mode	Special test command was provide by manufacturer		
802.11b/g/n(HT20)	CH1	2412	TX level : default
	CH6	2437	
	CH11	2462	
802.11n(HT40)	CH3	2422	
	CH6	2437	
	CH9	2452	

6 Test Instruments list

Radiated Emission:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	July. 03 2015	July. 02 2020
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	June. 27 2018	June. 26 2019
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	June. 27 2018	June. 26 2019
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	June. 27 2018	June. 26 2019
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	June. 27 2018	June. 26 2019
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Coaxial Cable	GTS	N/A	GTS213	June. 27 2018	June. 26 2019
9	Coaxial Cable	GTS	N/A	GTS211	June. 27 2018	June. 26 2019
10	Coaxial cable	GTS	N/A	GTS210	June. 27 2018	June. 26 2019
11	Coaxial Cable	GTS	N/A	GTS212	June. 27 2018	June. 26 2019
12	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	June. 27 2018	June. 26 2019
13	Amplifier(2GHz-20GHz)	HP	84722A	GTS206	June. 27 2018	June. 26 2019
14	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June. 27 2018	June. 26 2019
15	Band filter	Amindeon	82346	GTS219	June. 27 2018	June. 26 2019
16	Power Meter	Anritsu	ML2495A	GTS540	June. 27 2018	June. 26 2019
17	Power Sensor	Anritsu	MA2411B	GTS541	June. 27 2018	June. 26 2019
18	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	June. 27 2018	June. 26 2019
19	Splitter	Agilent	11636B	GTS237	June. 27 2018	June. 26 2019
20	Loop Antenna	ZHINAN	ZN30900A	GTS534	June. 27 2018	June. 26 2019

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	7.3(L)x3.1(W)x2.9(H)	GTS252	May.16 2014	May.15 2019
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 27 2018	June. 26 2019
3	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	June. 27 2018	June. 26 2019
4	Artificial Mains Network	SCHWARZBECK MESS	NSLK8127	GTS226	June. 27 2018	June. 26 2019
5	Coaxial Cable	GTS	N/A	GTS227	N/A	N/A
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
7	Thermo meter	KTJ	TA328	GTS233	June. 27 2018	June. 26 2019
8	Absorbing clamp	Elektronik-Feinmechanik	MDS21	GTS229	June. 27 2018	June. 26 2019

Conducted:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	MXA Signal Analyzer	Agilent	N9020A	GTS566	June. 27 2018	June. 26 2019
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 27 2018	June. 26 2019
3	Spectrum Analyzer	Agilent	E4440A	GTS533	June. 27 2018	June. 26 2019
4	MXG vector Signal Generator	Agilent	N5182A	GTS567	June. 27 2018	June. 26 2019
5	ESG Analog Signal Generator	Agilent	E4428C	GTS568	June. 27 2018	June. 26 2019
6	USB RF Power Sensor	DARE	RPR3006W	GTS569	June. 27 2018	June. 26 2019
7	RF Switch Box	Shongyi	RFSW3003328	GTS571	June. 27 2018	June. 26 2019
8	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 27 2018	June. 26 2019
9	Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	GTS572	June. 27 2018	June. 26 2019

General used equipment:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Humidity/ Temperature Indicator	KTJ	TA328	GTS243	June. 27 2018	June. 26 2019
2	Barometer	ChangChun	DYM3	GTS255	June. 27 2018	June. 26 2019

7 Test results and Measurement Data

7.1 Antenna requirement

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

15.203 requirement:

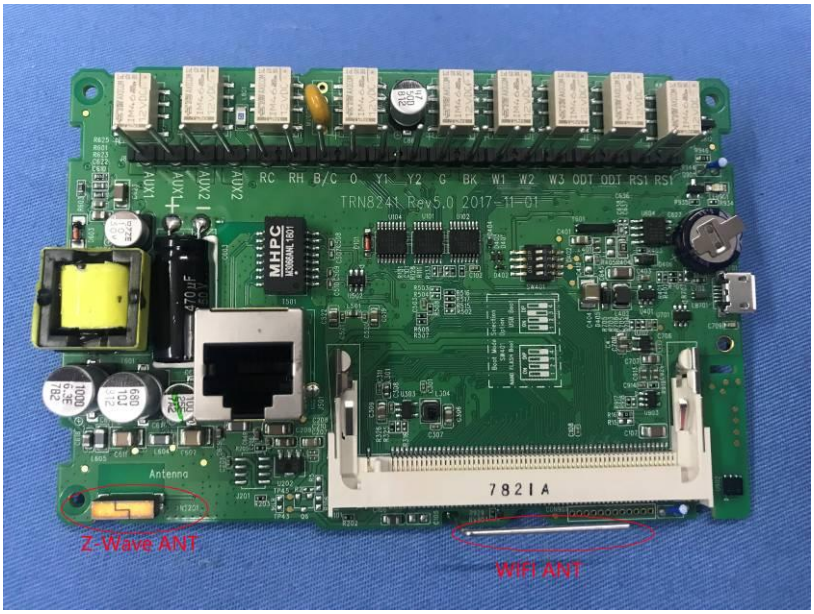
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit 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:

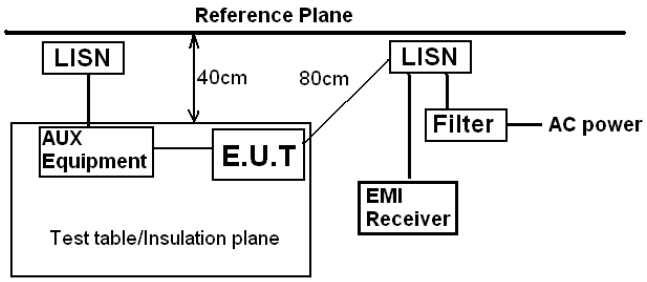
(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

EUT Antenna:

The antenna is integral antenna, the best case gain of the antenna is 0dBi

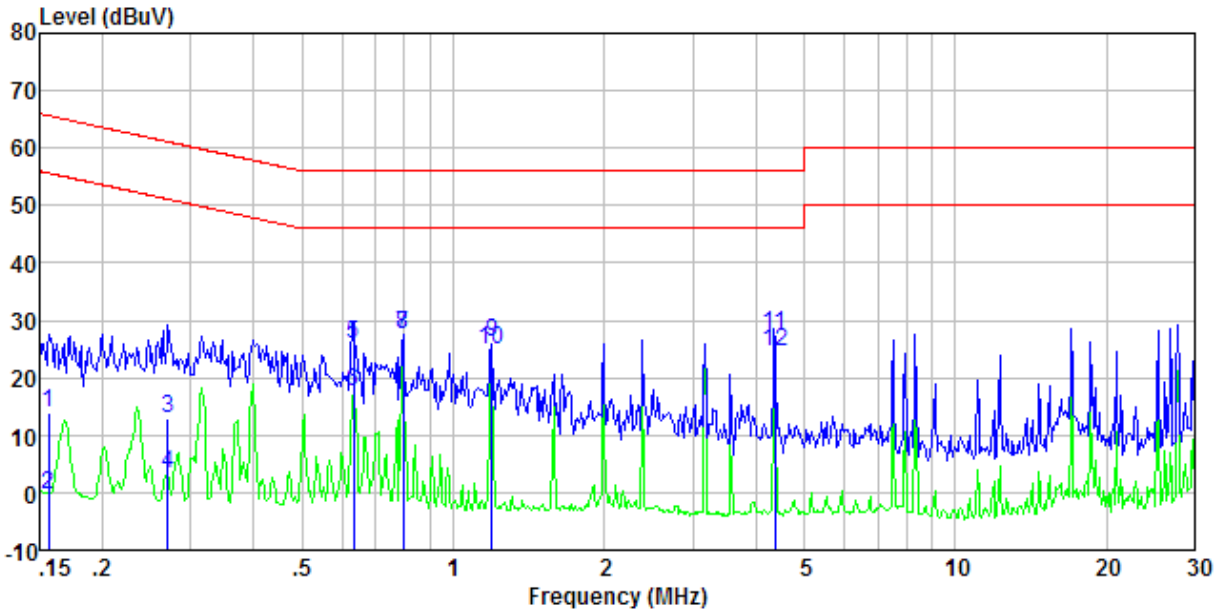


7.2 Conducted Emissions

Test Requirement:	FCC Part15 C Section 15.207
Test Method:	ANSI C63.10:2013
Test Frequency Range:	150KHz to 30MHz
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto
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 setup:	 *Remark:* *E.U.T: Equipment Under Test* *LISN: Line Impedence Stabilization Network* *Test table height=0.8m*
Test procedure:	1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides 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 refer 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 C63.10:2013 on conducted measurement.
Test environment:	Temp.: 25 °C / Humid.: 52% / Press.: 1012mbar
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

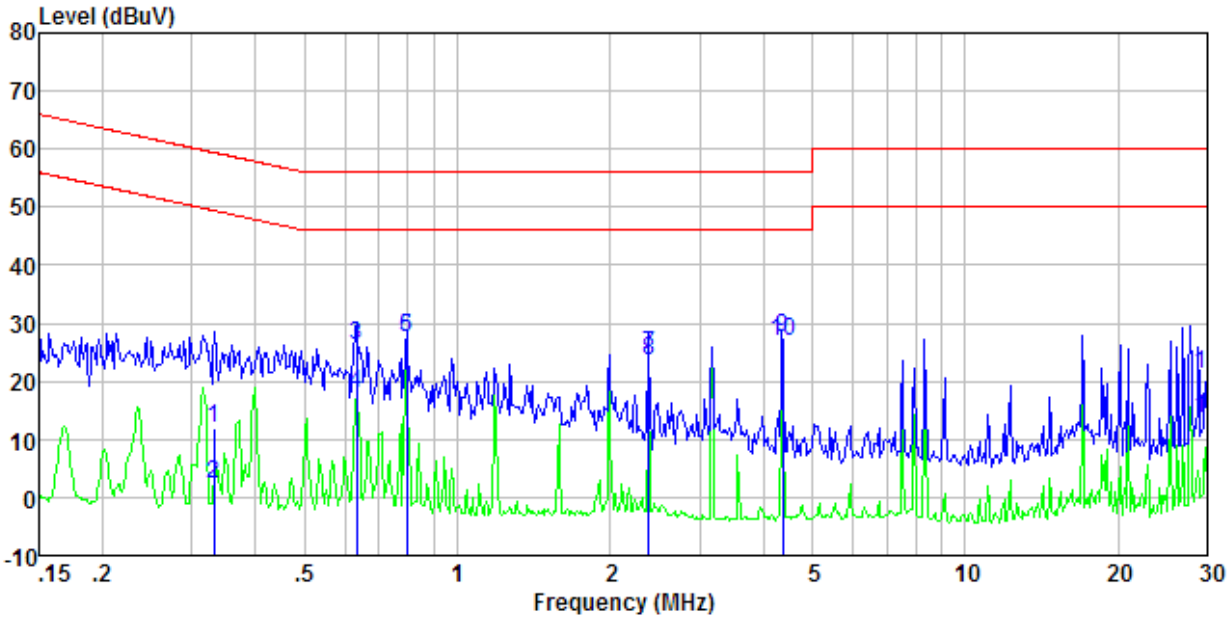
Measurement data

Test mode:	WIFI mode	Phase Polarity:	Line



Freq MHz	Reading level dBuV	LISN/ISN factor dB/m	Cable loss dB	Level dBuV	Limit level dBuV	Over limit dB	Remark
0.16	13.48	0.40	0.08	13.96	65.65	-51.69	QP
0.16	-0.83	0.40	0.08	-0.35	55.65	-56.00	Average
0.27	12.42	0.40	0.10	12.92	61.12	-48.20	QP
0.27	2.76	0.40	0.10	3.26	51.12	-47.86	Average
0.63	25.52	0.28	0.12	25.92	56.00	-30.08	QP
0.63	17.26	0.28	0.12	17.66	46.00	-28.34	Average
0.80	26.98	0.24	0.14	27.36	56.00	-28.64	QP
0.80	27.17	0.24	0.14	27.55	46.00	-18.45	Average
1.19	25.99	0.20	0.16	26.35	56.00	-29.65	QP
1.19	24.64	0.20	0.16	25.00	46.00	-21.00	Average
4.38	27.10	0.20	0.18	27.48	56.00	-28.52	QP
4.38	24.07	0.20	0.18	24.45	46.00	-21.55	Average

Test mode:	WIFI mode	Phase Polarity:	Neutral

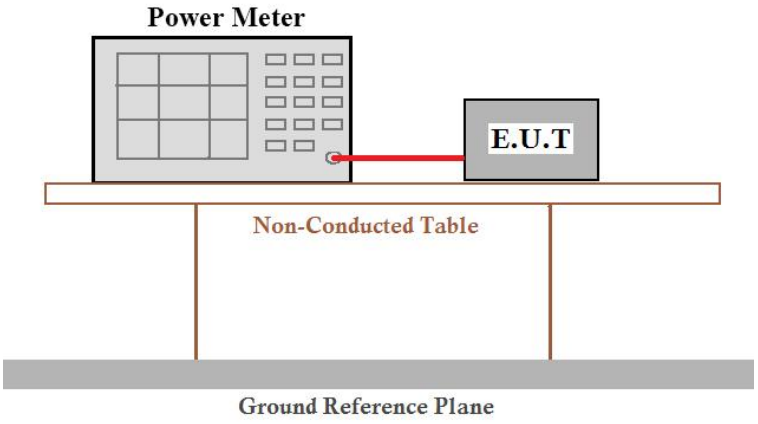


Freq	Reading level	LISN/ISN factor	Cable loss	Level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dBuV	dBuV	dB	
0.33	11.47	0.38	0.10	11.95	59.40	-47.45	QP
0.33	1.72	0.38	0.10	2.20	49.40	-47.20	Average
0.63	25.89	0.28	0.12	26.29	56.00	-29.71	QP
0.63	17.63	0.28	0.12	18.03	46.00	-27.97	Average
0.80	26.99	0.24	0.14	27.37	56.00	-28.63	QP
0.80	27.14	0.24	0.14	27.52	46.00	-18.48	Average
2.38	24.02	0.20	0.18	24.40	56.00	-31.60	QP
2.38	23.21	0.20	0.18	23.59	46.00	-22.41	Average
4.37	26.99	0.20	0.18	27.37	56.00	-28.63	QP
4.37	26.46	0.20	0.18	26.84	46.00	-19.16	Average
30.00	20.57	0.40	0.23	21.20	60.00	-38.80	QP
30.00	12.82	0.40	0.23	13.45	50.00	-36.55	Average

Notes:

1. An initial pre-scan was performed on the line 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
4. *If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.*

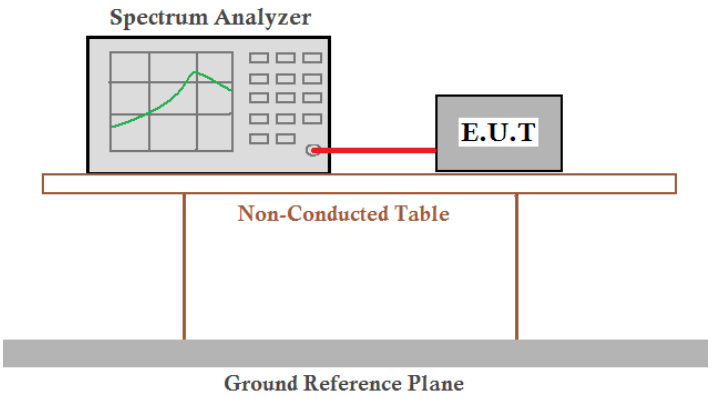
7.3 Conducted Peak Output Power

Test Requirement:	FCC Part15 C Section 15.247 (b)(3)
Test Method:	KDB558074 D01 DTS Meas Guidance V04
Limit:	30dBm
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data

Test CH	Peak Output Power (dBm)				Limit(dBm)	Result
	802.11b	802.11g	802.11n(HT20)	802.11n(HT40)		
Lowest	14.84	15.40	15.27	14.68	30.00	Pass
Middle	14.48	14.61	14.80	15.02		
Highest	13.88	14.59	14.36	14.13		

7.4 Channel Bandwidth

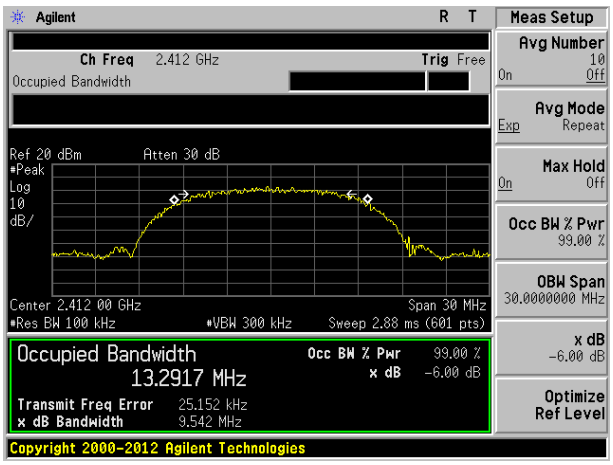
Test Requirement:	FCC Part15 C Section 15.247 (a)(2)
Test Method:	KDB558074 D01 DTS Meas Guidance V04
Limit:	>500KHz
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data

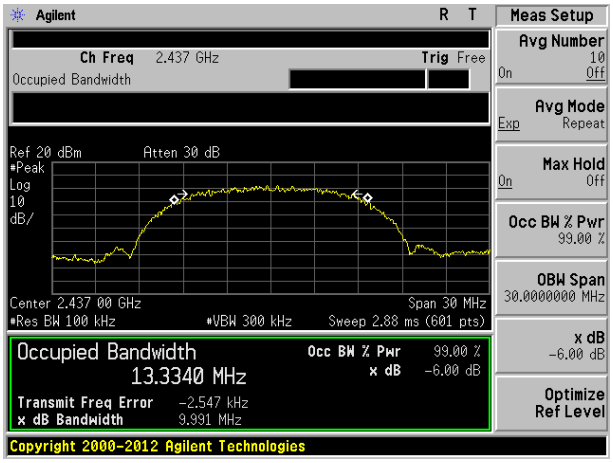
Test CH	Channel Bandwidth (MHz)				Limit(KHz)	Result
	802.11b	802.11g	802.11n(HT20)	802.11n(HT40)		
Lowest	9.542	16.573	17.836	36.579	>500	Pass
Middle	9.991	16.582	16.575	36.552		
Highest	9.550	16.580	17.854	36.570		

Test plot as follows:

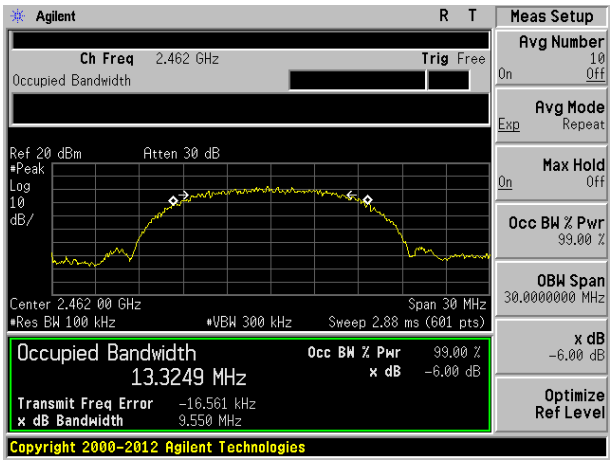
Test mode:	802.11b



Lowest channel

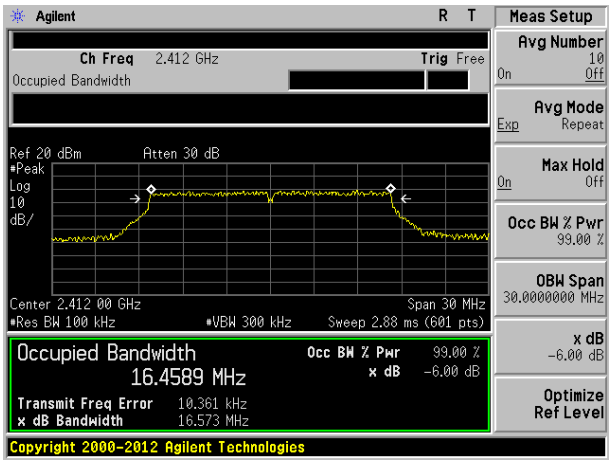


Middle channel

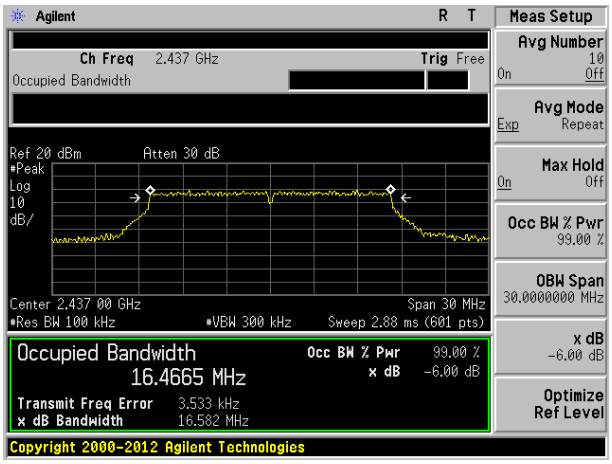


Highest channel

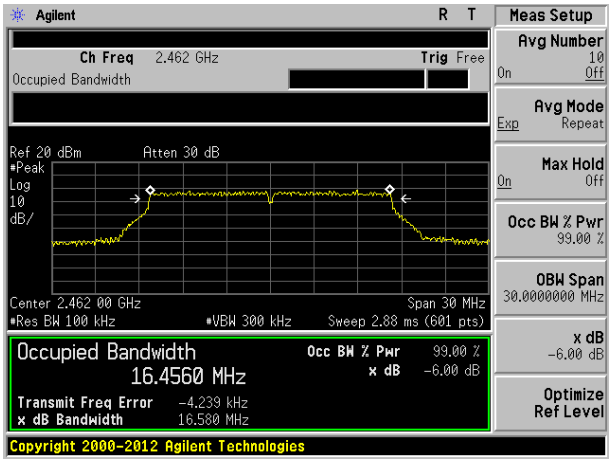
Test mode:	802.11g



Lowest channel

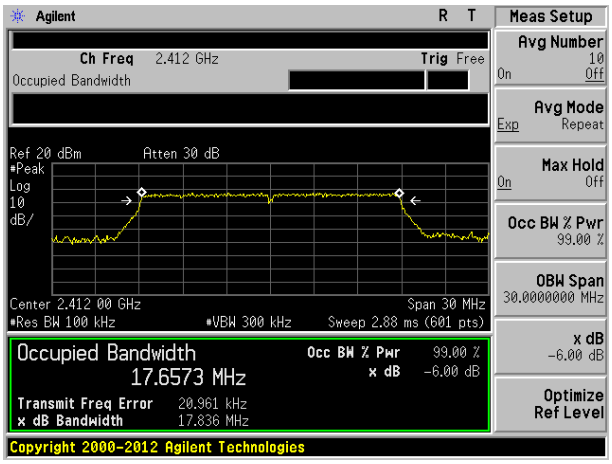


Middle channel

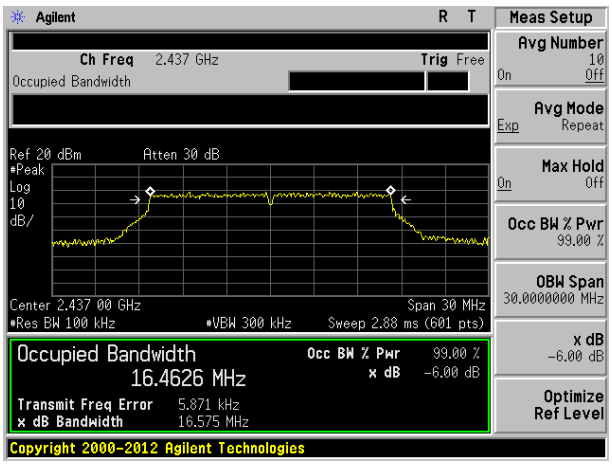


Highest channel

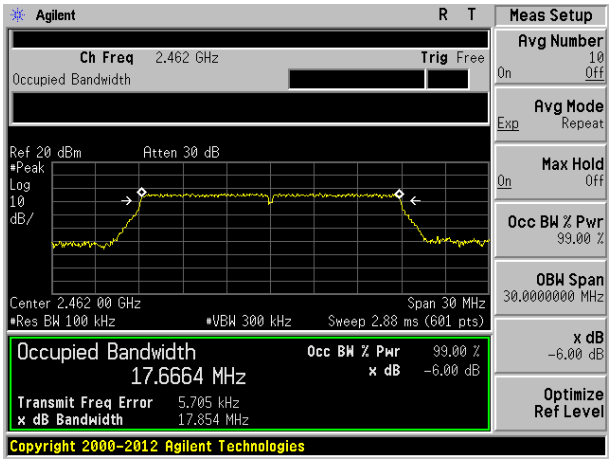
Test mode:	802.11n(HT20)



Lowest channel

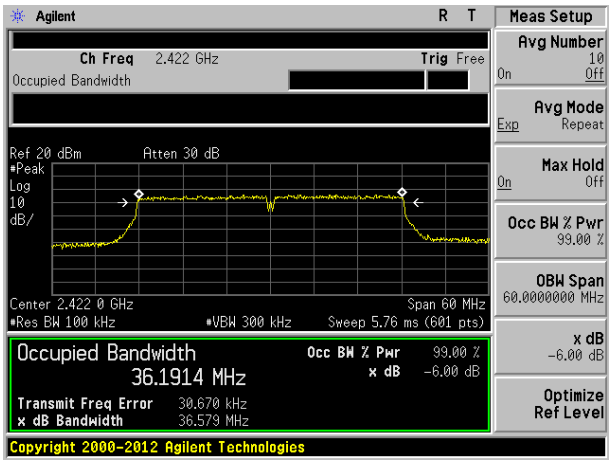


Middle channel

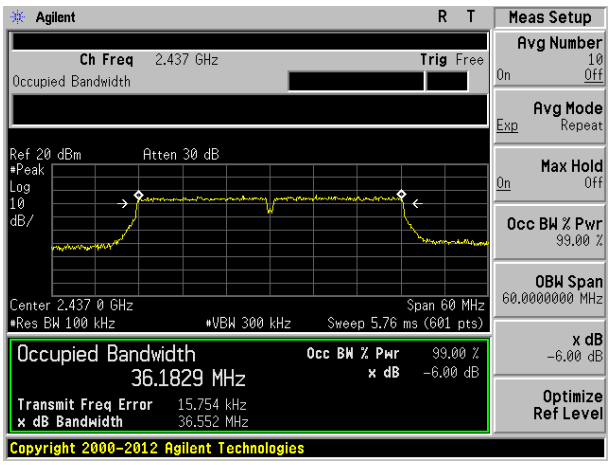


Highest channel

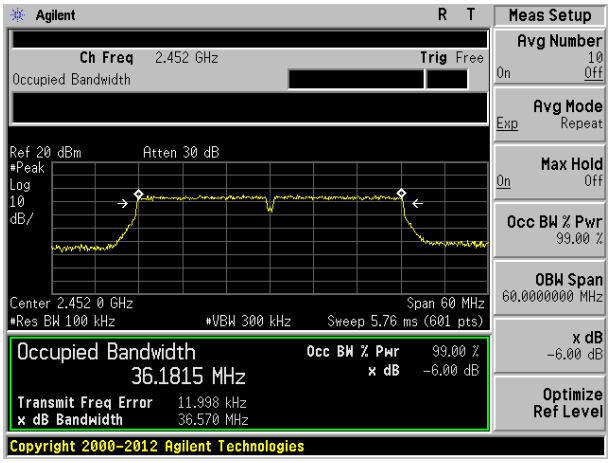
Test mode:	802.11n(HT40)



Lowest channel

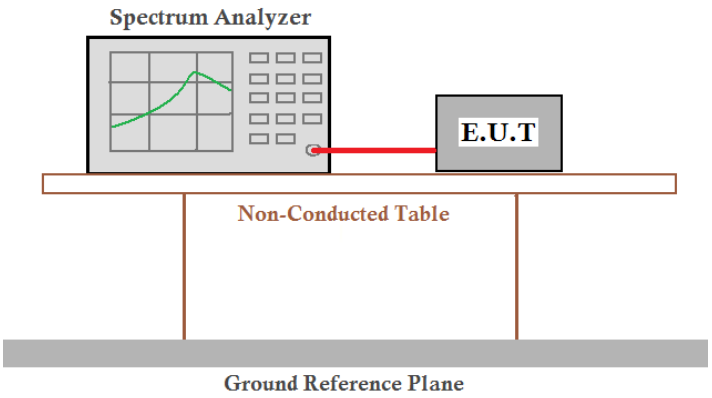


Middle channel



Highest channel

7.5 Power Spectral Density

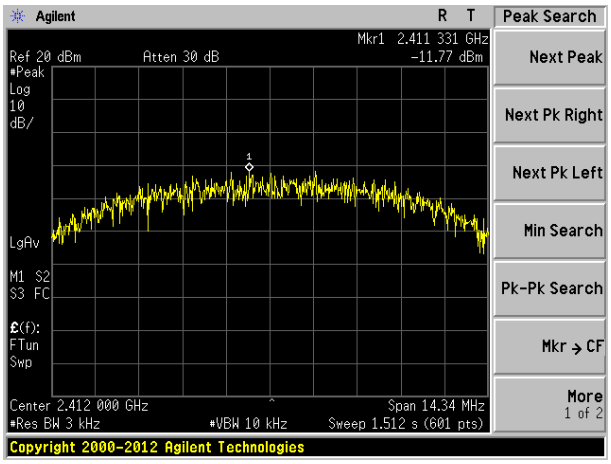
Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	KDB558074 D01 DTS Meas Guidance V04
Limit:	8dBm/3kHz
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data

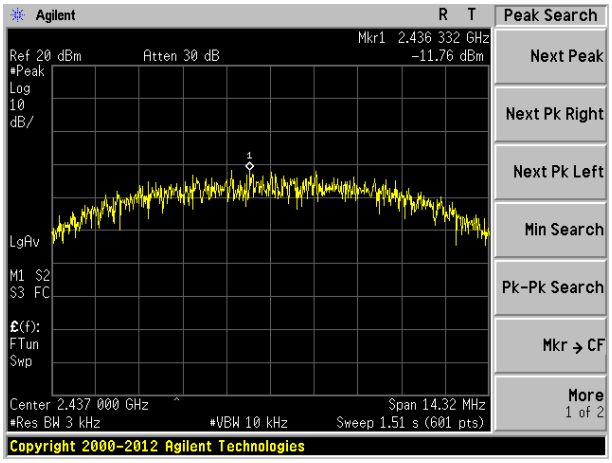
Test CH	Power Spectral Density (dBm)				Limit (dBm/3kHz)	Result
	802.11b	802.11g	802.11n(HT20)	802.11n(HT40)		
Lowest	-11.77	-14.44	-14.05	-12.88	8.00	Pass
Middle	-11.76	-15.31	-15.40	-17.05		
Highest	-12.57	-15.37	-17.22	-18.04		

Test plot as follows:

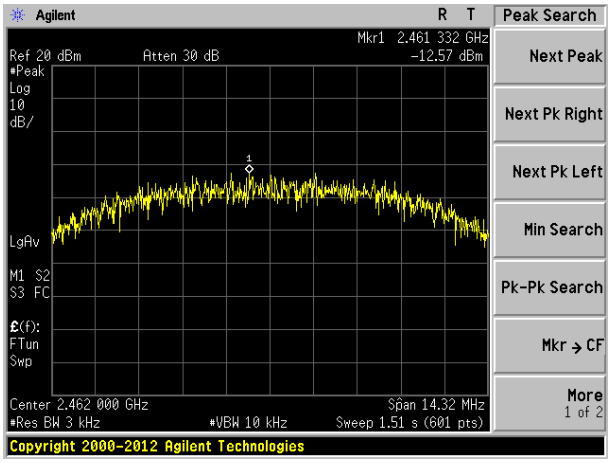
Test mode:	802.11b



Lowest channel

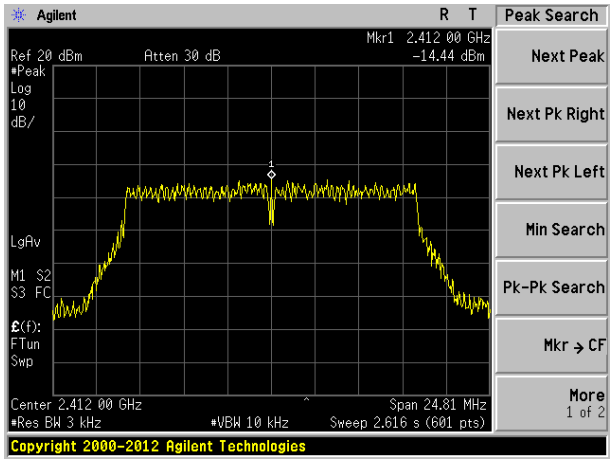


Middle channel

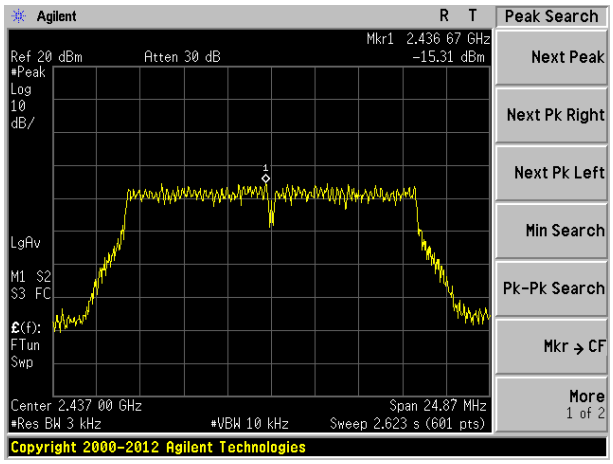


Highest channel

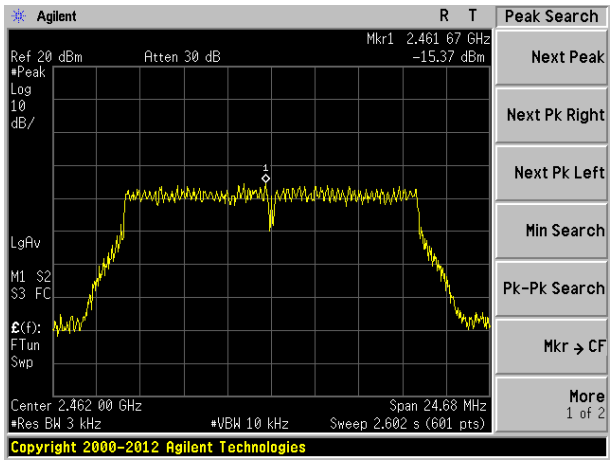
Test mode:	802.11g



Lowest channel

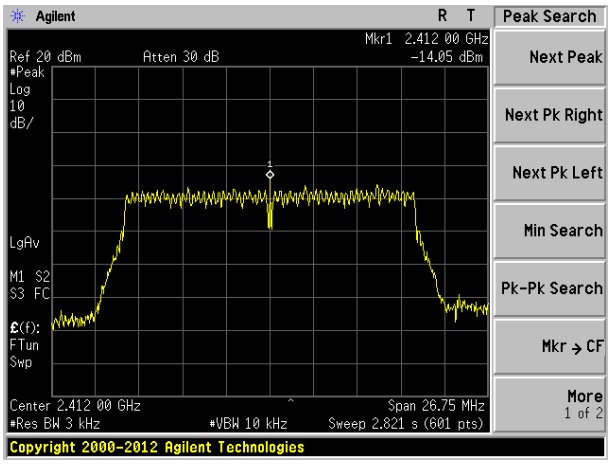


Middle channel

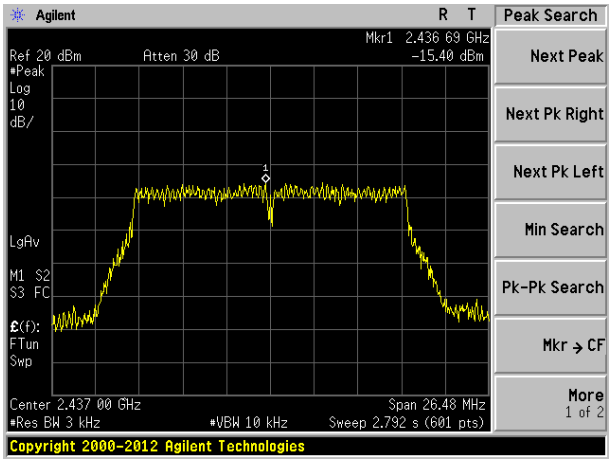


Highest channel

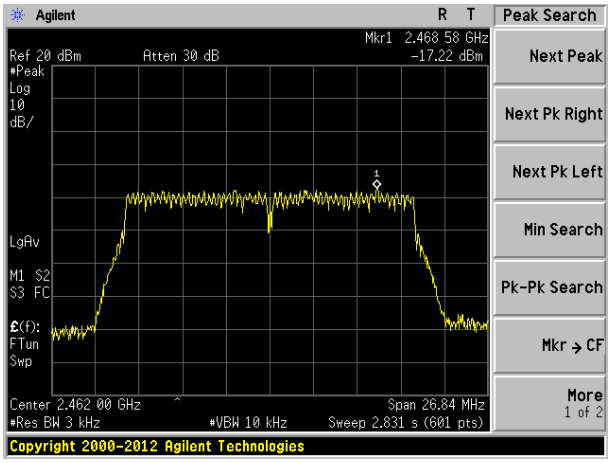
Test mode:	802.11n(HT20)



Lowest channel

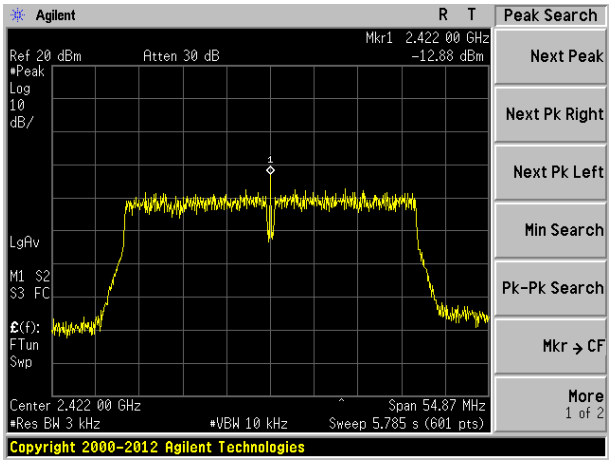


Middle channel

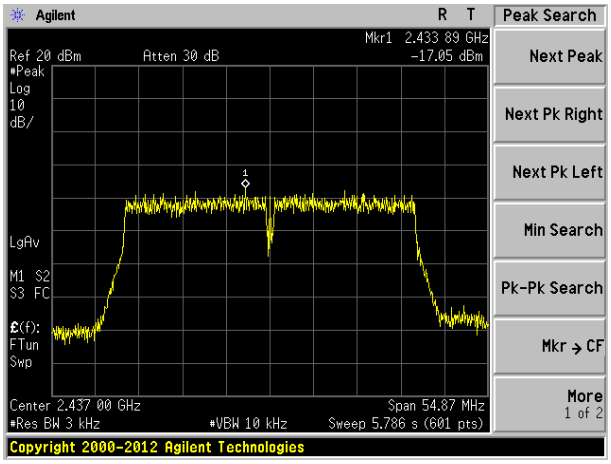


Highest channel

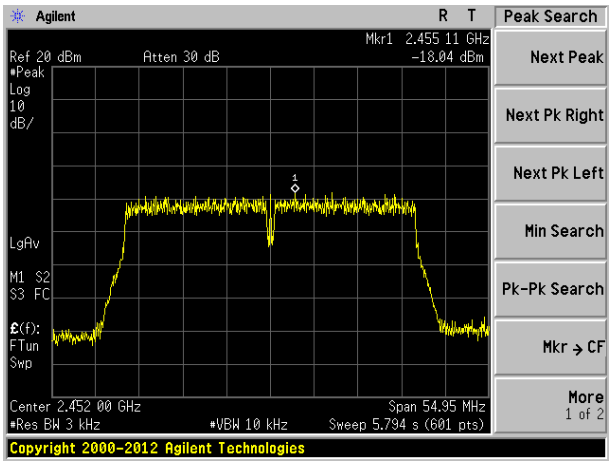
Test mode:	802.11n(HT40)



Lowest channel



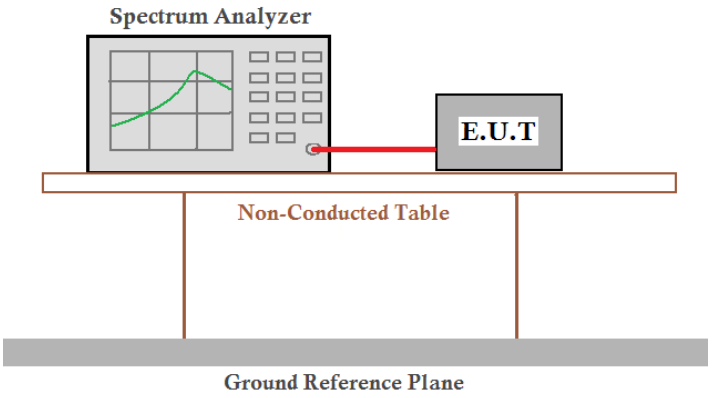
Middle channel



Highest channel

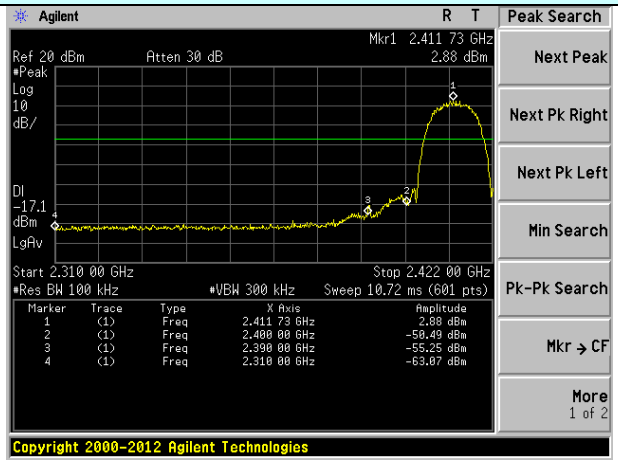
7.6 Band edges

7.6.1 Conducted Emission Method

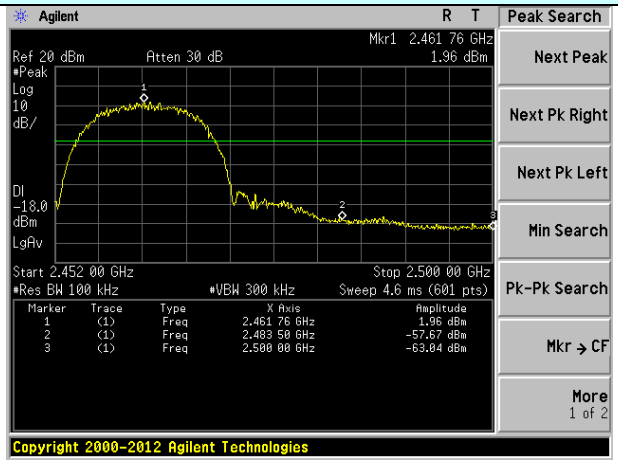
Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	KDB558074 D01 DTS Meas Guidance V04
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be 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 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Test plot as follows:

Test mode:	802.11b

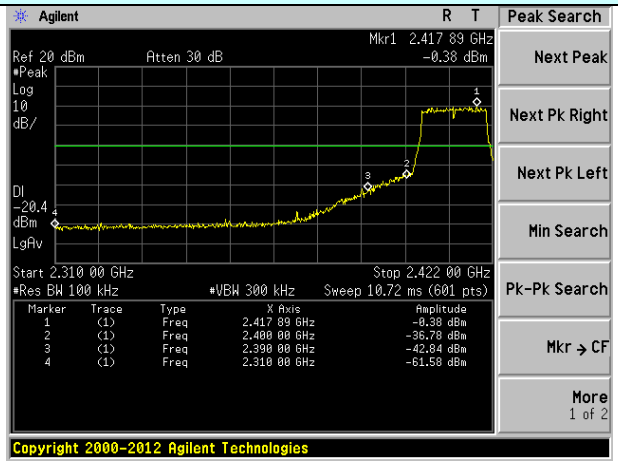


Lowest channel

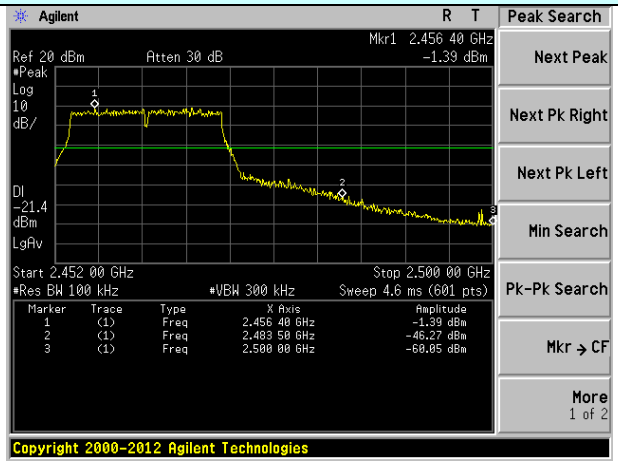


Highest channel

Test mode:	802.11g

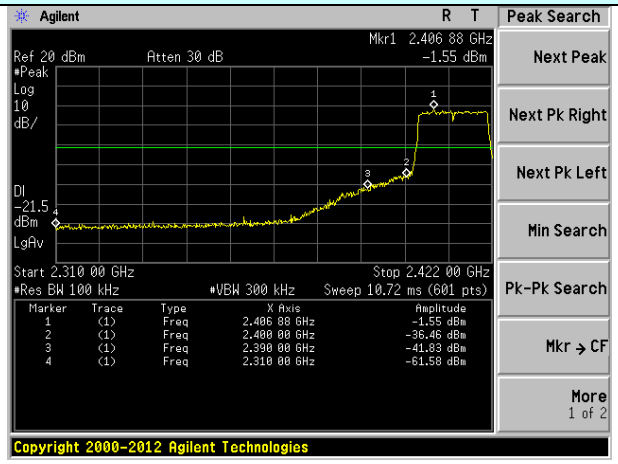


Lowest channel

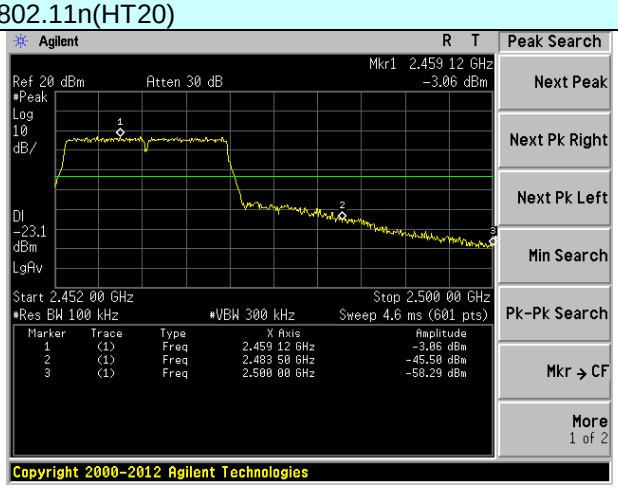


Highest channel

Test mode:	802.11n(HT20)

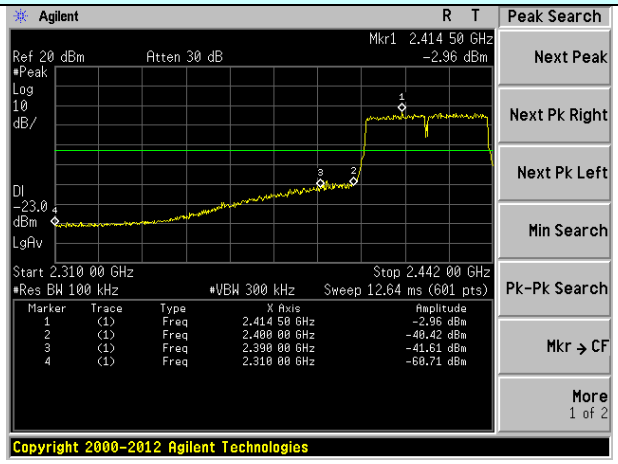


Lowest channel

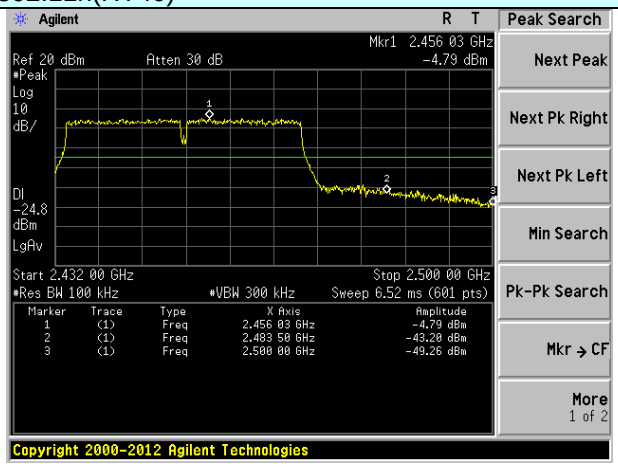


Highest channel

Test mode:	802.11n(HT40)

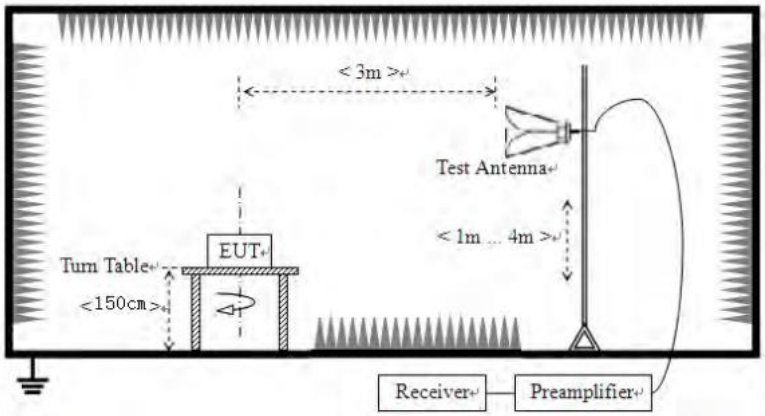


Lowest channel



Highest channel

7.6.2 Radiated Emission Method

<table>
<tr><td>Test Requirement:</td><td colspan="6">FCC Part15 C Section 15.209 and 15.205</td></tr>
<tr><td>Test Method:</td><td colspan="6">ANSI C63.10:2013</td></tr>
<tr><td>Test Frequency Range:</td><td colspan="6">All of the restrict bands were tested, only the worst band's (2310MHz to 2500MHz) data was showed.</td></tr>
<tr><td>Test site:</td><td colspan="6">Measurement Distance: 3m</td></tr>
<tr><td>Receiver setup:</td><td colspan="6">
<table>
<tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak</td></tr>
<tr><td>Average</td><td>1MHz</td><td>3MHz</td><td>Average</td></tr>
</table>
</td></tr>
<tr><td>Limit:</td><td colspan="6">
<table>
<tr><td colspan="2">Frequency</td><td>Limit (dBuV/m @3m)</td><td>Value</td></tr>
<tr><td colspan="2" rowspan="2">Above 1GHz</td><td>54.00</td><td>Average</td></tr>
<tr><td>74.00</td><td>Peak</td></tr>
</table>
</td></tr>
<tr><td>Test setup:</td><td colspan="6"> 
</td></tr>
<tr><td>Test Procedure:</td><td colspan="6">1. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
7. The radiation measurements are performed in X, Y, Z axis positioning. And found the Y axis positioning which it is worse case, only the test worst case mode is recorded in the report.</td></tr>
<tr><td>Test environment:</td><td>Temp.:</td><td>25 °C</td><td>Humid.:</td><td>52%</td><td>Press.:</td><td>1 012mbar</td></tr>
<tr><td>Test Instruments:</td><td colspan="6">Refer to section 6.0 for details</td></tr>
</table>

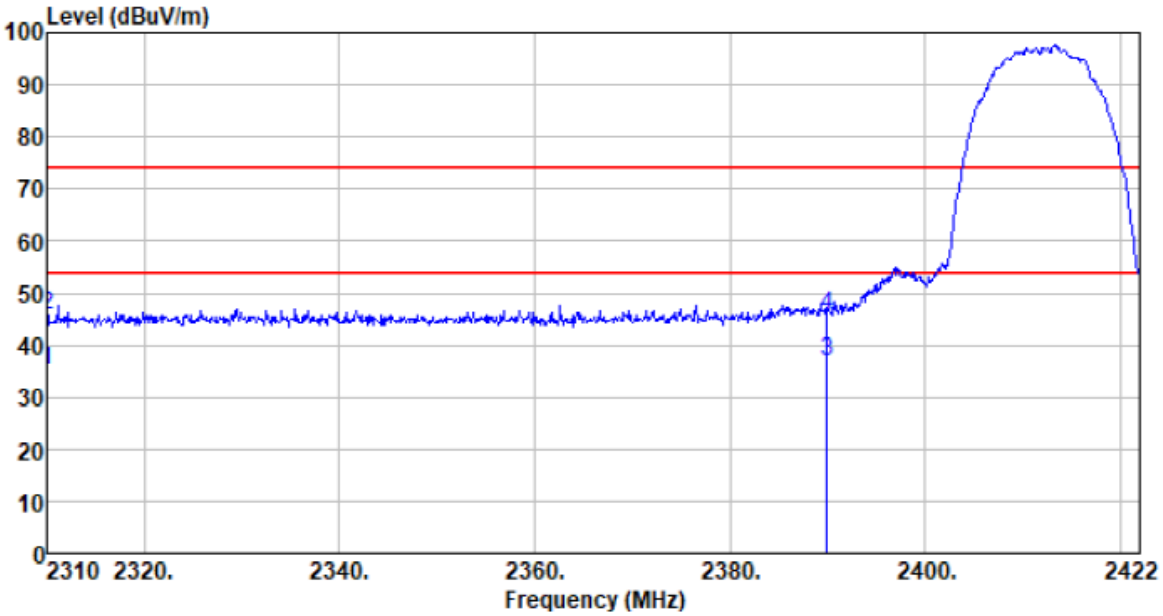
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement data:

Remark: The pre-test were performed on lowest, middle and highest frequencies, only the worst case's (lowest and highest frequencies) data was showed.

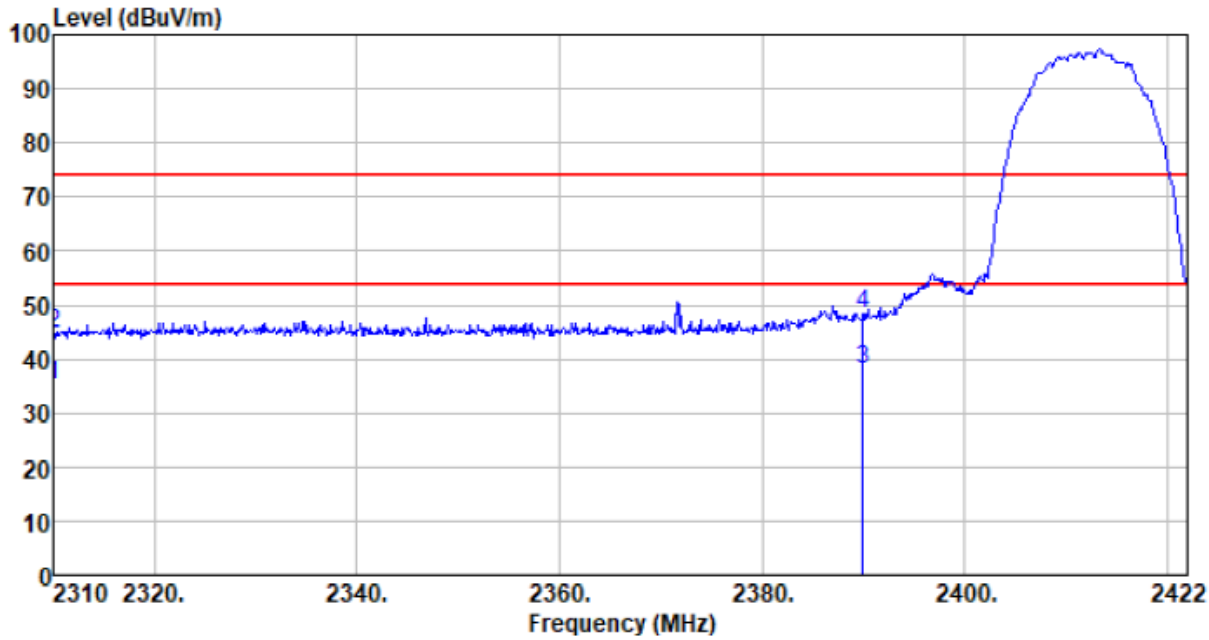
Test mode:	802.11b	Test Frequency:	2412 (MHz)

Horizontal:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
2310.000	27.08	27.14	5.30	24.64	34.88	54.00	-19.12	Average
2310.000	38.13	27.14	5.30	24.64	45.93	74.00	-28.07	Peak
2390.000	28.82	27.37	5.38	24.71	36.86	54.00	-17.14	Average
2390.000	37.79	27.37	5.38	24.71	45.83	74.00	-28.17	Peak

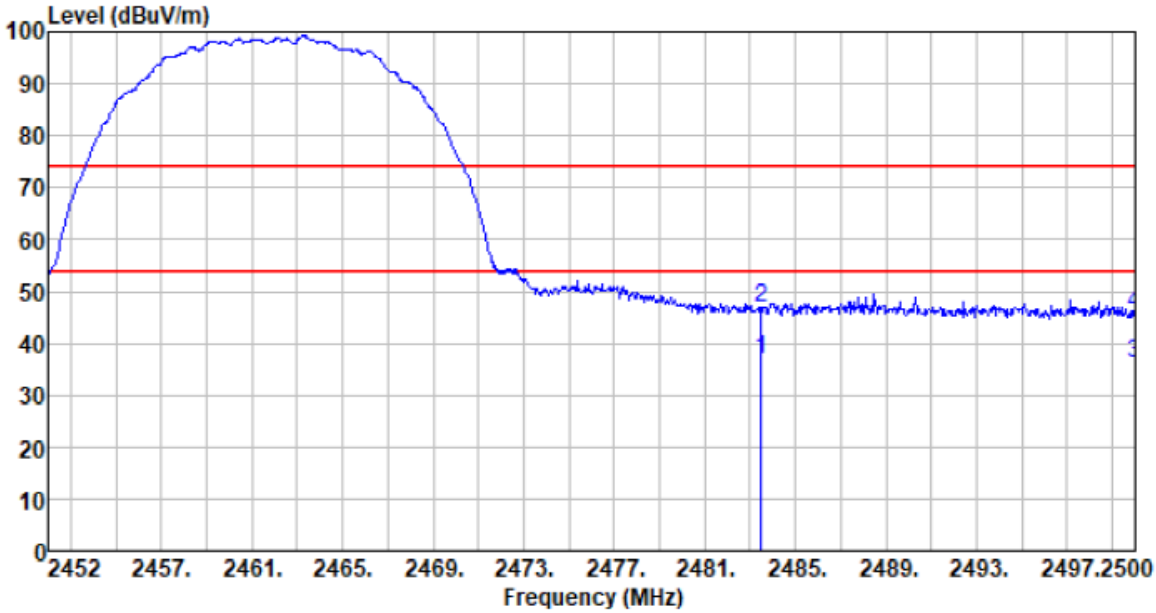
Vertical:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
2310.000	27.16	27.14	5.30	24.64	34.96	54.00	-19.04	Average
2310.000	36.98	27.14	5.30	24.64	44.78	74.00	-29.22	Peak
2390.000	29.80	27.37	5.38	24.71	37.84	54.00	-16.16	Average
2390.000	40.15	27.37	5.38	24.71	48.19	74.00	-25.81	Peak

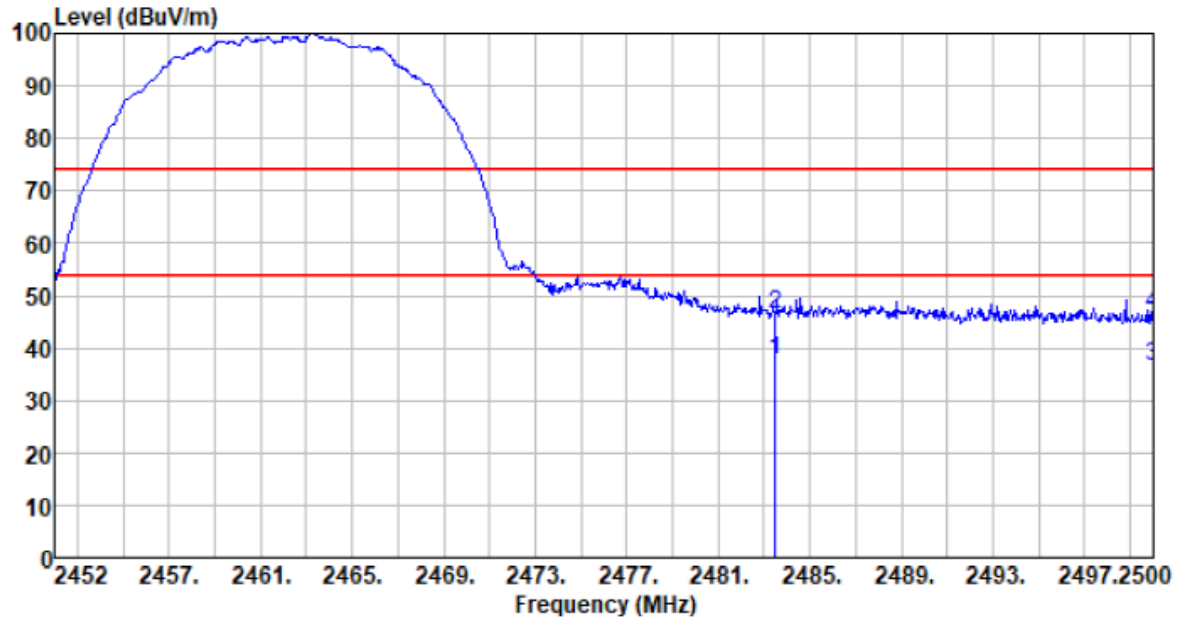
Test mode:	802.11b	Test Frequency:	2462 (MHz)

Horizontal:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
2483.488	28.71	27.66	5.47	24.80	37.04	54.00	-16.96	Average
2483.488	38.35	27.66	5.47	24.80	46.68	74.00	-27.32	Peak
2500.000	27.92	27.70	5.49	24.86	36.25	54.00	-17.75	Average
2500.000	37.38	27.70	5.49	24.86	45.71	74.00	-28.29	Peak

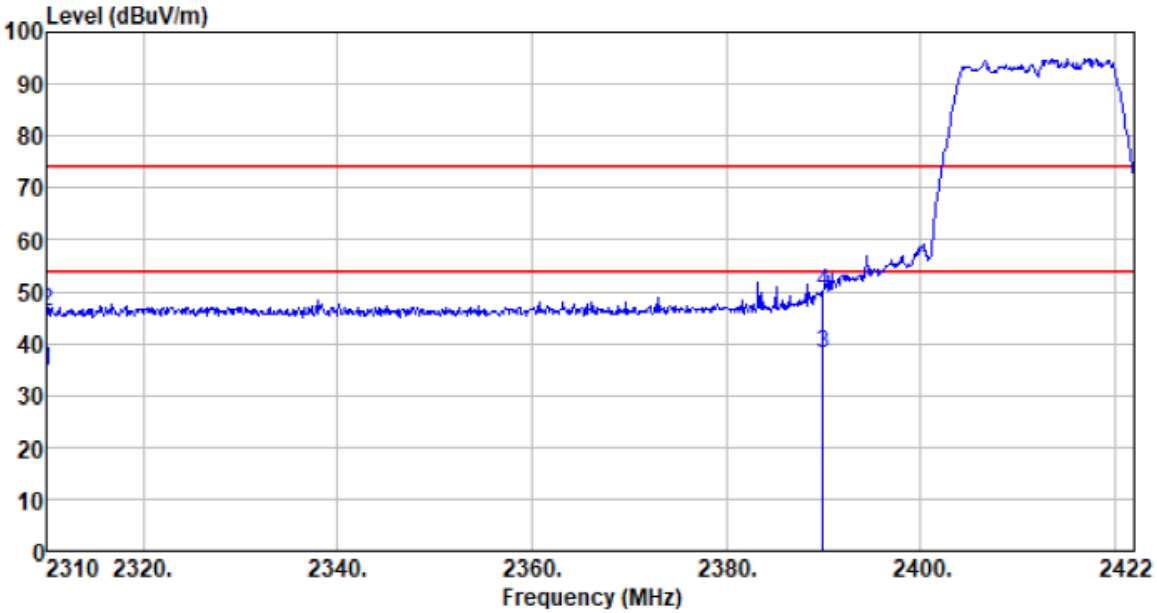
Vertical:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
2483.488	29.26	27.66	5.47	24.80	37.59	54.00	-16.41	Average
2483.488	38.14	27.66	5.47	24.80	46.47	74.00	-27.53	Peak
2500.000	28.26	27.70	5.49	24.86	36.59	54.00	-17.41	Average
2500.000	38.15	27.70	5.49	24.86	46.48	74.00	-27.52	Peak

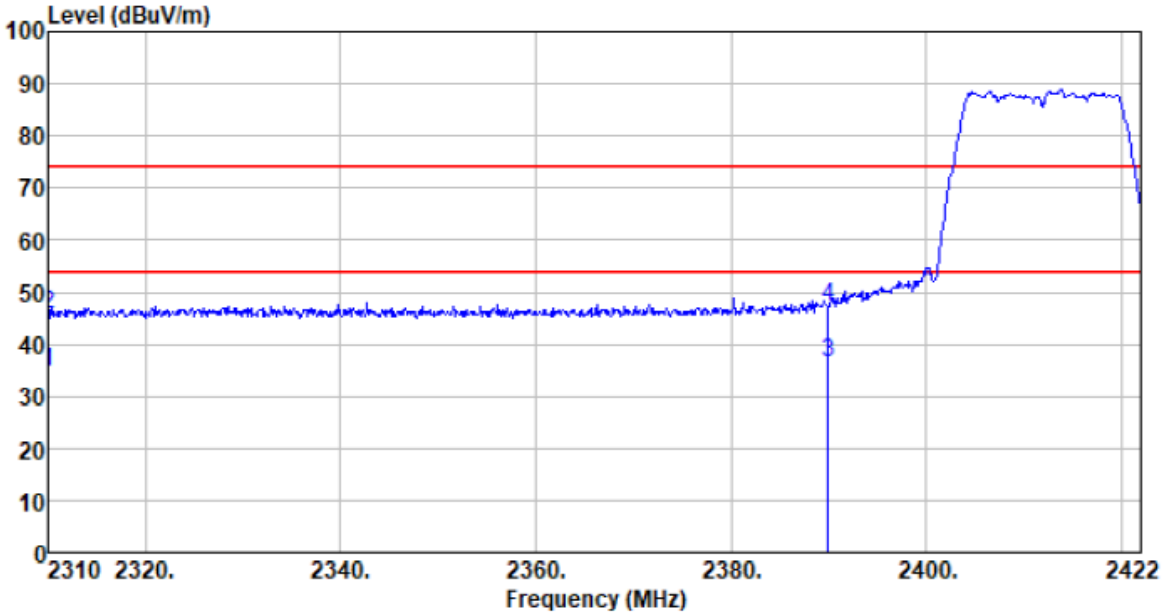
Test mode:	802.11g	Test Frequency:	2412 (MHz)

Horizontal:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
2310.000	26.87	27.14	5.30	24.64	34.67	54.00	-19.33	Average
2310.000	38.27	27.14	5.30	24.64	46.07	74.00	-27.93	Peak
2390.000	29.80	27.37	5.38	24.71	37.84	54.00	-16.16	Average
2390.000	41.86	27.37	5.38	24.71	49.90	74.00	-24.10	Peak

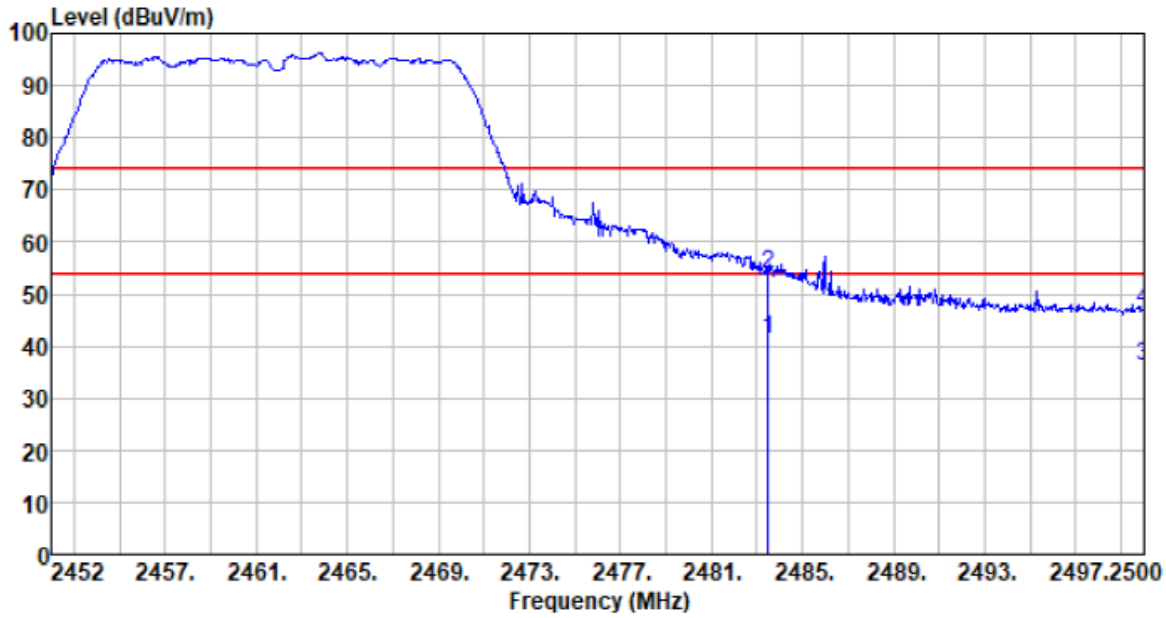
Vertical:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
2310.000	26.88	27.14	5.30	24.64	34.68	54.00	-19.32	Average
2310.000	38.10	27.14	5.30	24.64	45.90	74.00	-28.10	Peak
2390.000	28.41	27.37	5.38	24.71	36.45	54.00	-17.55	Average
2390.000	39.03	27.37	5.38	24.71	47.07	74.00	-26.93	Peak

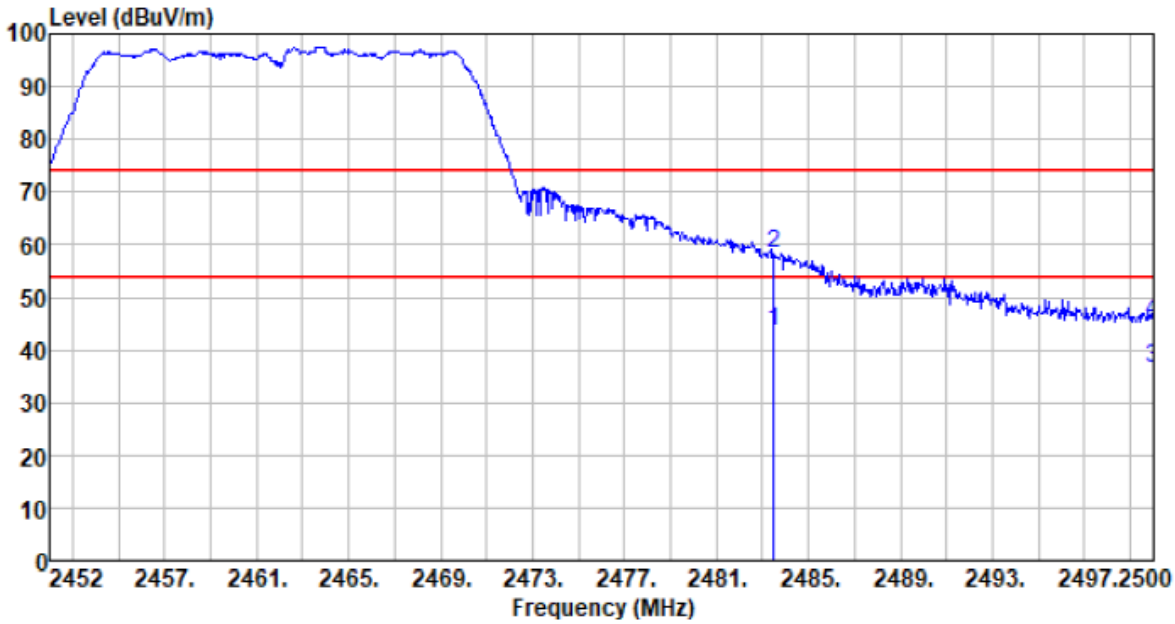
Test mode:	802.11g	Test Frequency:	2462 (MHz)

Horizontal:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
2483.500	32.82	27.66	5.47	24.80	41.15	54.00	-12.85	Average
2483.500	45.50	27.66	5.47	24.80	53.83	74.00	-20.17	Peak
2500.000	27.91	27.70	5.49	24.86	36.24	54.00	-17.76	Average
2500.000	38.65	27.70	5.49	24.86	46.98	74.00	-27.02	Peak

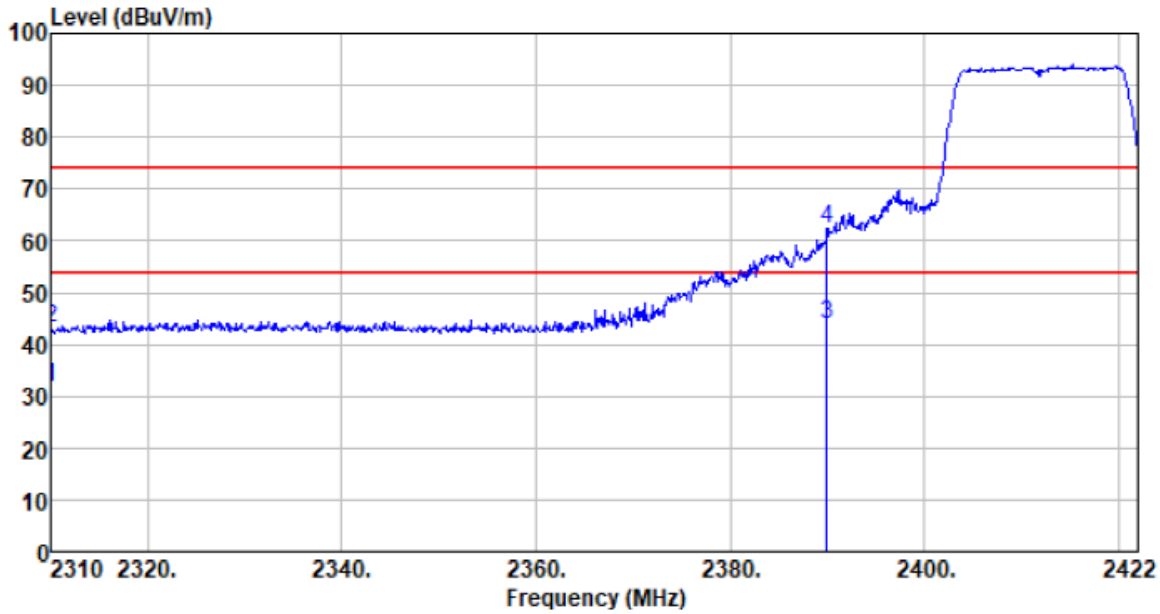
Vertical:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
2483.500	35.10	27.66	5.47	24.80	43.43	54.00	-10.57	Average
2483.500	50.01	27.66	5.47	24.80	58.34	74.00	-15.66	Peak
2500.000	28.22	27.70	5.49	24.86	36.55	54.00	-17.45	Average
2500.000	37.02	27.70	5.49	24.86	45.35	74.00	-28.65	Peak

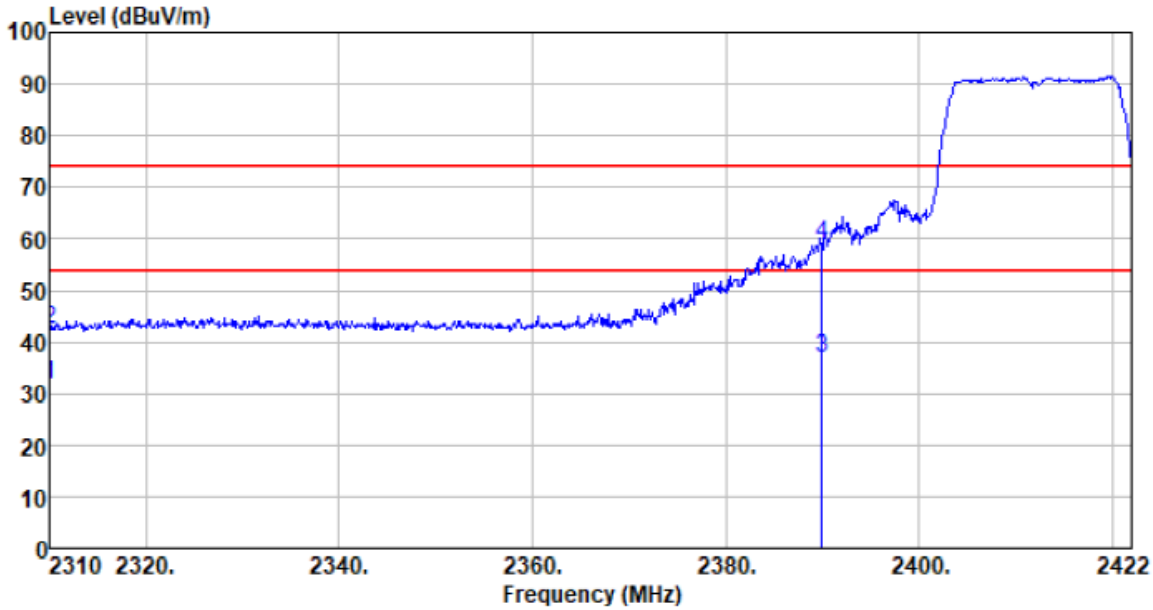
Test mode:	802.11n(HT20)	Test Frequency:	2412 (MHz)

Horizontal:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
2310.000	23.81	27.14	5.30	24.64	31.61	54.00	-22.39	Average
2310.000	35.32	27.14	5.30	24.64	43.12	74.00	-30.88	Peak
2390.000	35.78	27.37	5.38	24.71	43.82	54.00	-10.18	Average
2390.000	54.46	27.37	5.38	24.71	62.50	74.00	-11.50	Peak

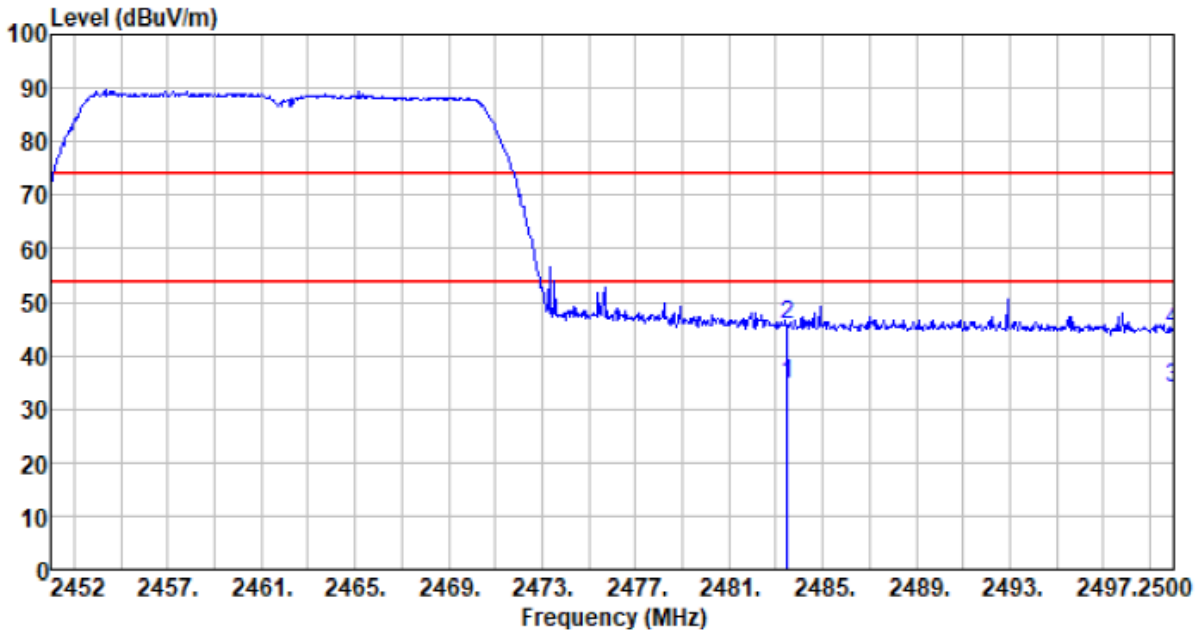
Vertical:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
2310.000	23.91	27.14	5.30	24.64	31.71	54.00	-22.29	Average
2310.000	34.60	27.14	5.30	24.64	42.40	74.00	-31.60	Peak
2390.000	28.99	27.37	5.38	24.71	37.03	54.00	-16.97	Average
2390.000	51.18	27.37	5.38	24.71	59.22	74.00	-14.78	Peak

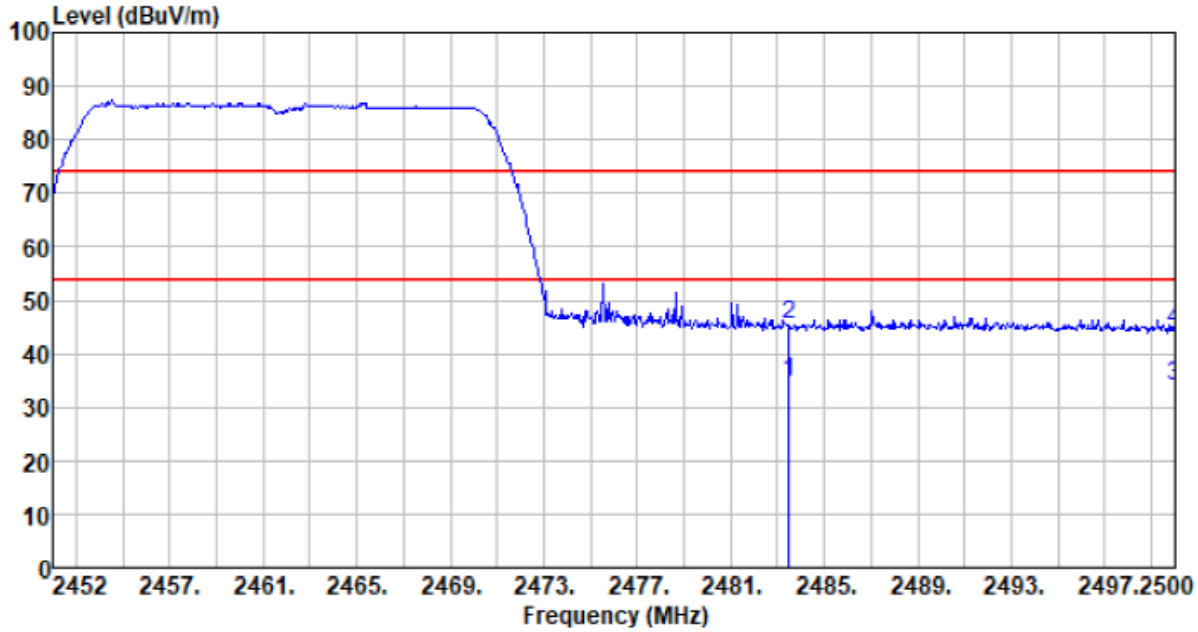
Test mode:	802.11n(HT20)	Test Frequency:	2462 (MHz)

Horizontal:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
2483.500	26.30	27.66	5.47	24.80	34.63	54.00	-19.37	Average
2483.500	37.50	27.66	5.47	24.80	45.83	74.00	-28.17	Peak
2500.000	25.45	27.70	5.49	24.86	33.78	54.00	-20.22	Average
2500.000	36.40	27.70	5.49	24.86	44.73	74.00	-29.27	Peak

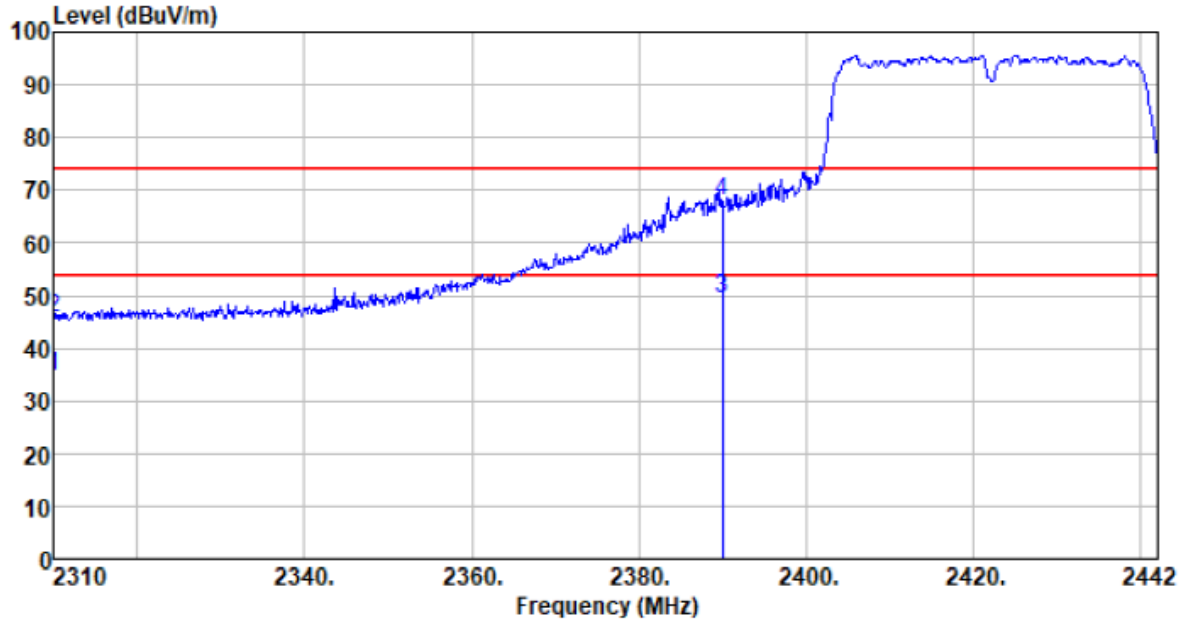
Vertical:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
2483.500	26.52	27.66	5.47	24.80	34.85	54.00	-19.15	Average
2483.500	37.09	27.66	5.47	24.80	45.42	74.00	-28.58	Peak
2500.000	25.52	27.70	5.49	24.86	33.85	54.00	-20.15	Average
2500.000	36.03	27.70	5.49	24.86	44.36	74.00	-29.64	Peak

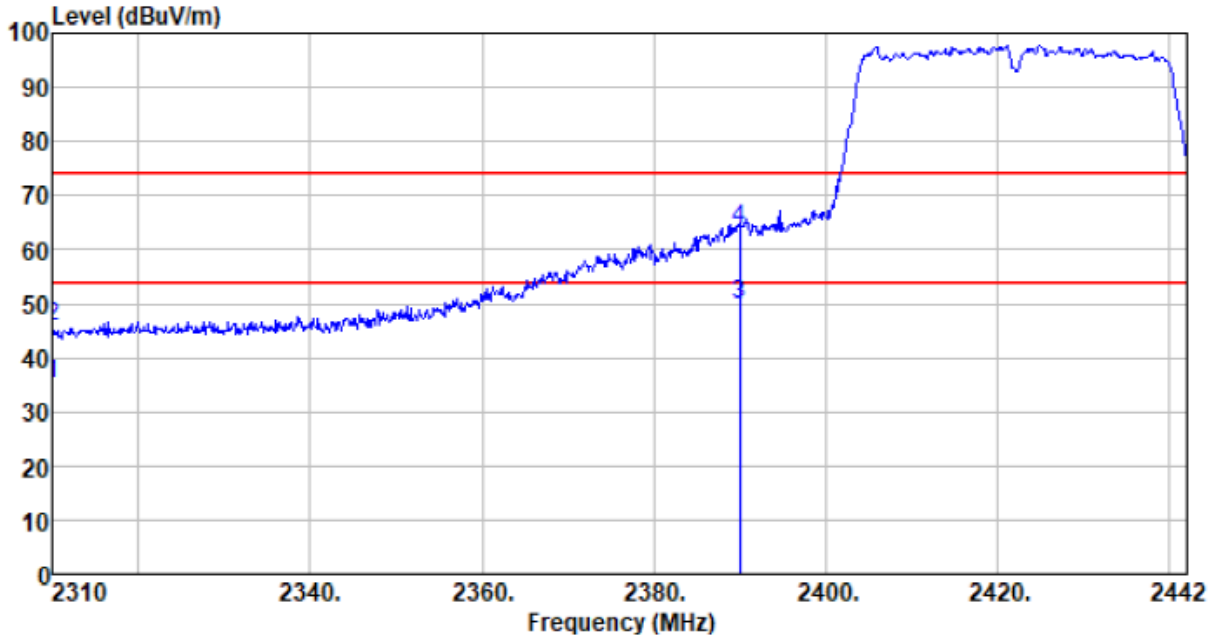
Test mode:	802.11n(HT40)	Test Frequency:	2422 (MHz)

Horizontal:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
2310.000	27.01	27.14	5.30	24.64	34.81	54.00	-19.19	Average
2310.000	37.92	27.14	5.30	24.64	45.72	74.00	-28.28	Peak
2390.000	41.34	27.37	5.38	24.71	49.38	54.00	-4.62	Average
2390.000	59.92	27.37	5.38	24.71	67.96	74.00	-6.04	Peak

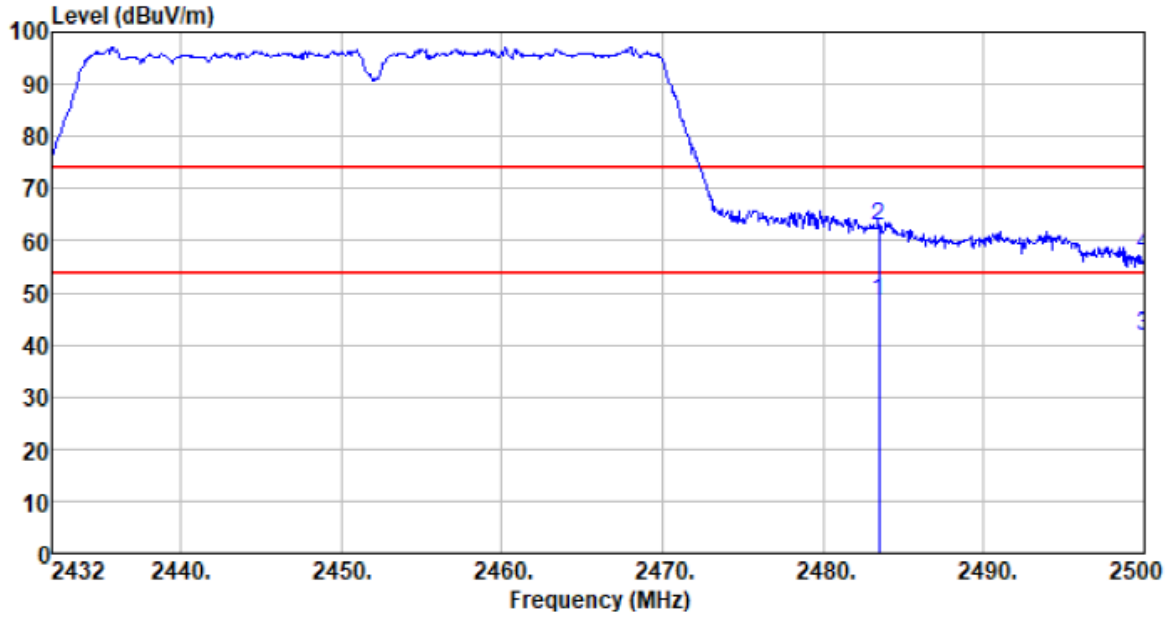
Vertical:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
2310.000	27.08	27.14	5.30	24.64	34.88	54.00	-19.12	Average
2310.000	38.00	27.14	5.30	24.64	45.80	74.00	-28.20	Peak
2390.000	41.65	27.37	5.38	24.71	49.69	54.00	-4.31	Average
2390.000	55.68	27.37	5.38	24.71	63.72	74.00	-10.28	Peak

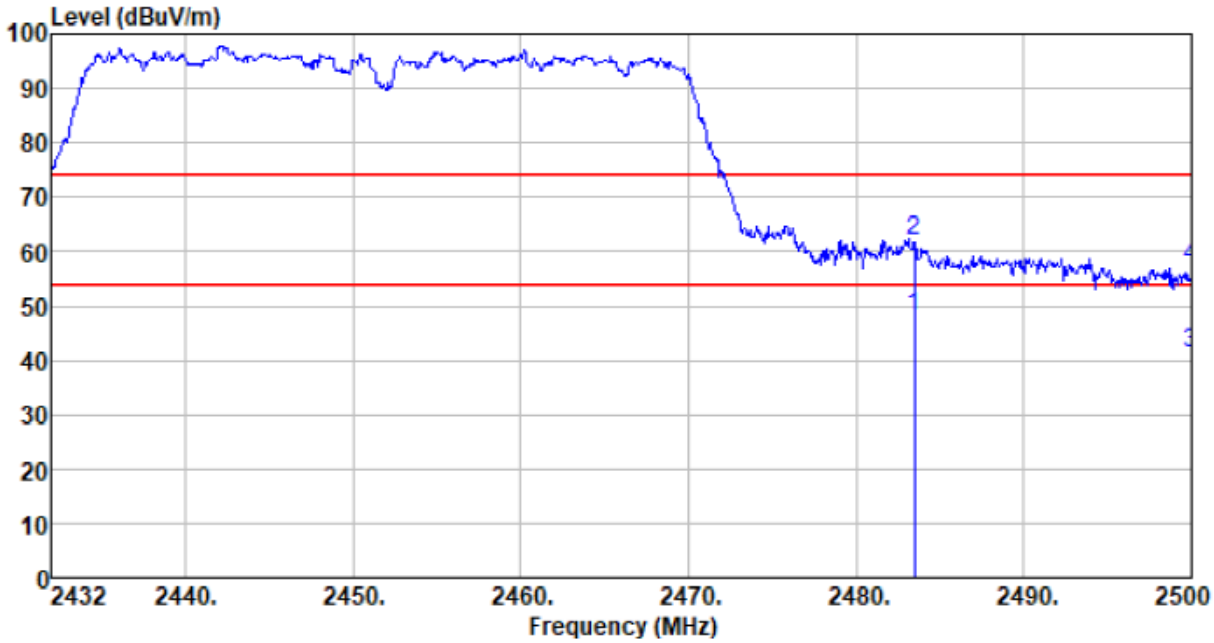
Test mode:	802.11n(HT40)	Test Frequency:	2452 (MHz)

Horizontal:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
2483.500	39.87	27.66	5.47	24.80	48.20	54.00	-5.80	Average
2483.500	54.46	27.66	5.47	24.80	62.79	74.00	-11.21	Peak
2500.000	33.51	27.70	5.49	24.86	41.84	54.00	-12.16	Average
2500.000	48.87	27.70	5.49	24.86	57.20	74.00	-16.80	Peak

Vertical:



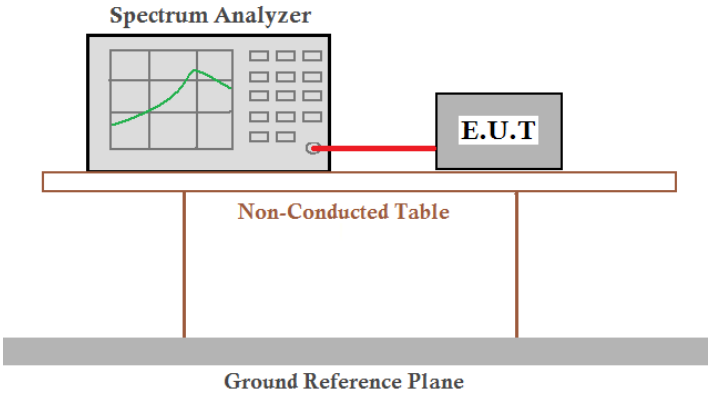
Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
2483.500	39.70	27.66	5.47	24.80	48.03	54.00	-5.97	Average
2483.500	53.83	27.66	5.47	24.80	62.16	74.00	-11.84	Peak
2500.000	33.14	27.70	5.49	24.86	41.47	54.00	-12.53	Average
2500.000	48.80	27.70	5.49	24.86	57.13	74.00	-16.87	Peak

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.*

7.7 Spurious Emission

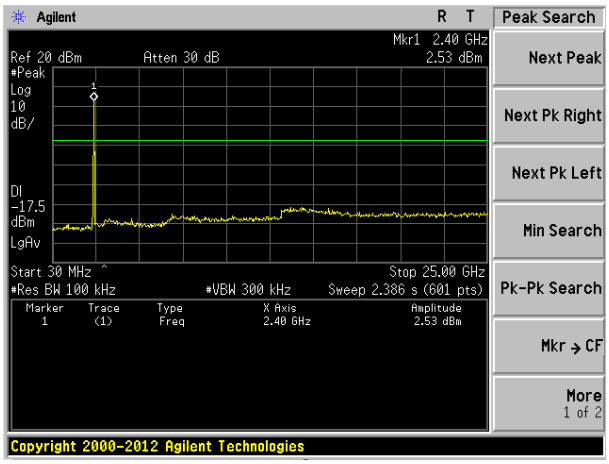
7.7.1 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	KDB558074 D01 DTS Meas Guidance V04
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 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Test plot as follows:

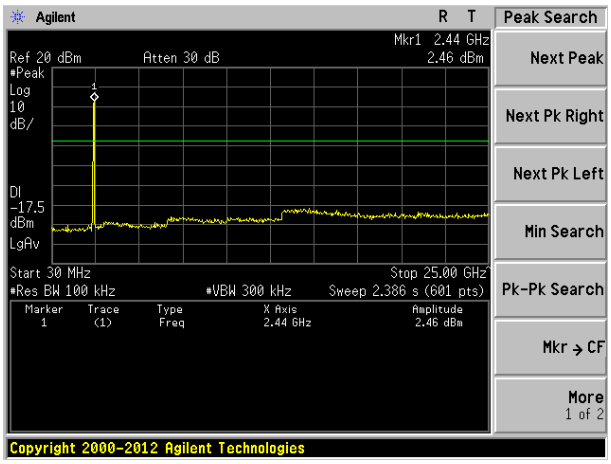
Test mode:	802.11b

Lowest channel



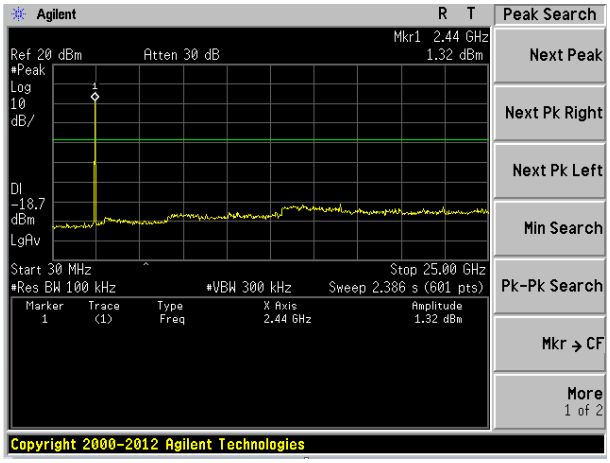
30MHz~25GHz

Middle channel



30MHz~25GHz

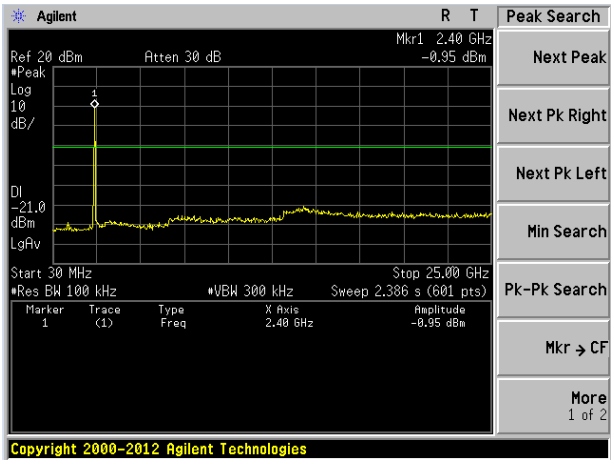
Highest channel



30MHz~25GHz

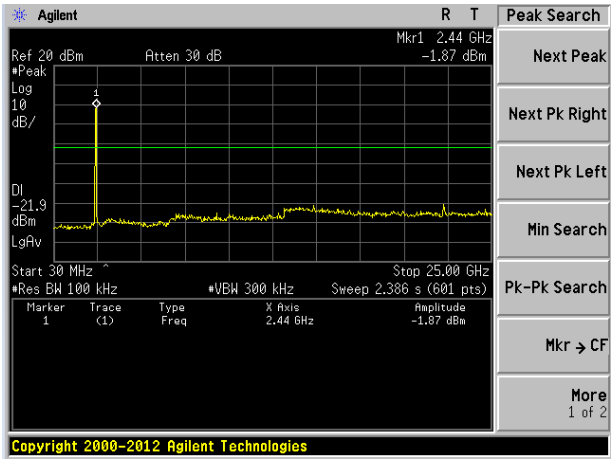
Test mode:	802.11g

Lowest channel



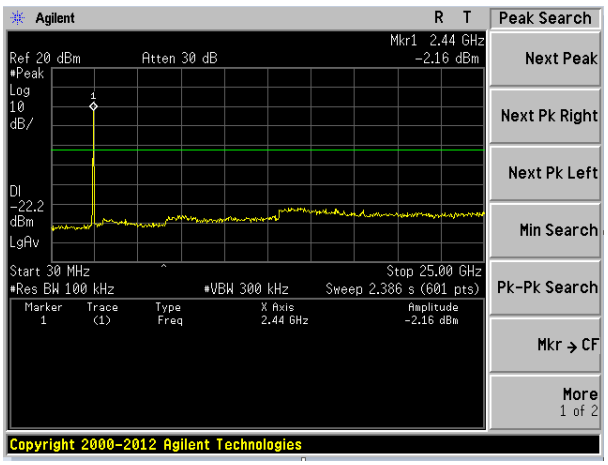
30MHz~25GHz

Middle channel



30MHz~25GHz

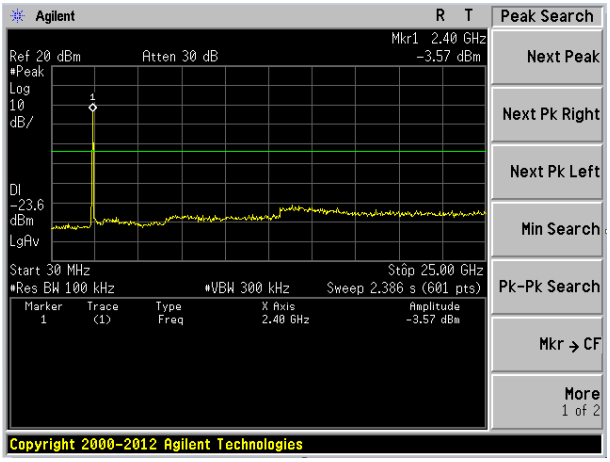
Highest channel



30MHz~25GHz

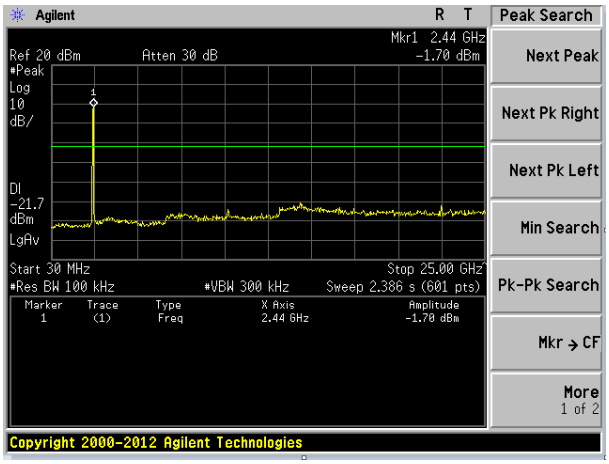
Test mode:	802.11n(HT20)

Lowest channel



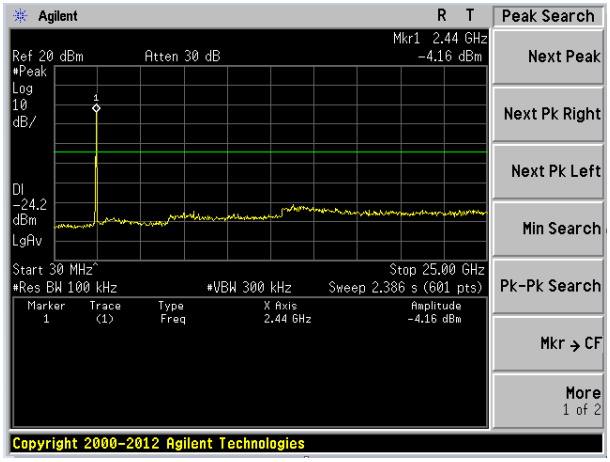
30MHz~25GHz

Middle channel



30MHz~25GHz

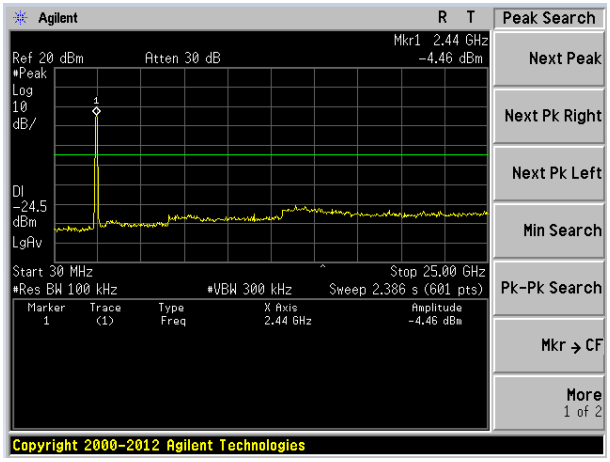
Highest channel



30MHz~25GHz

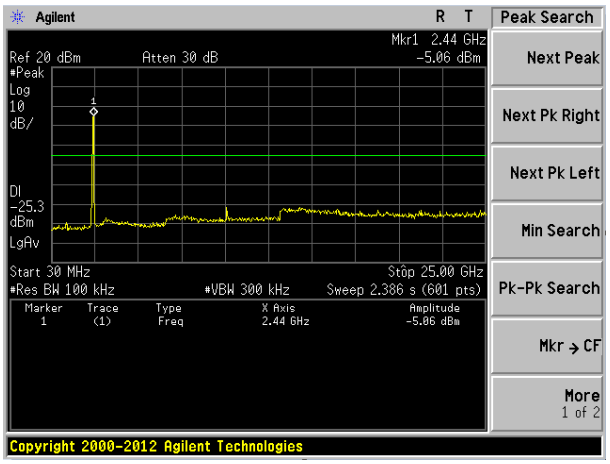
Test mode:	802.11n(HT40)

Lowest channel



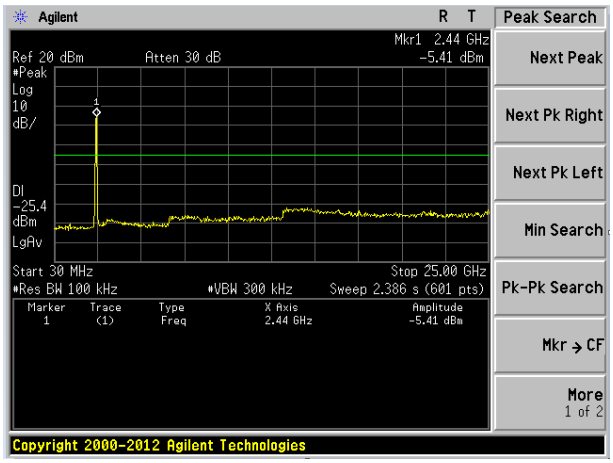
30MHz~25GHz

Middle channel



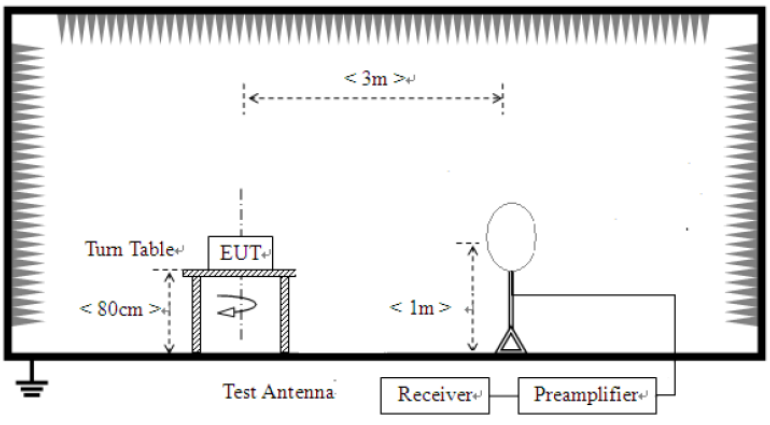
30MHz~25GHz

Highest channel

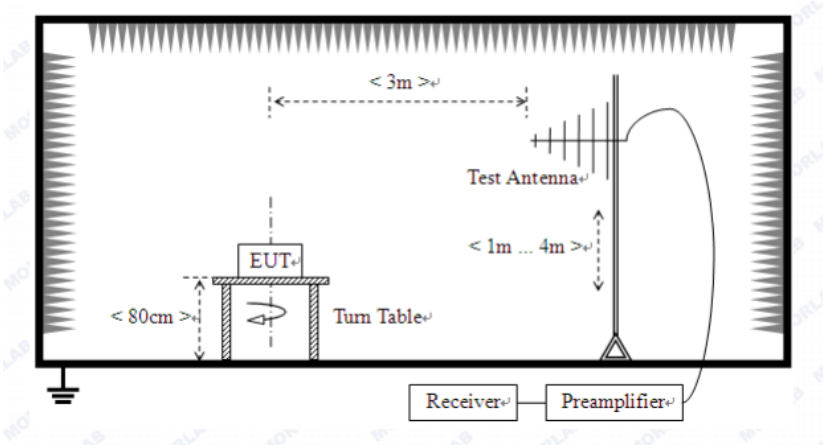


30MHz~25GHz

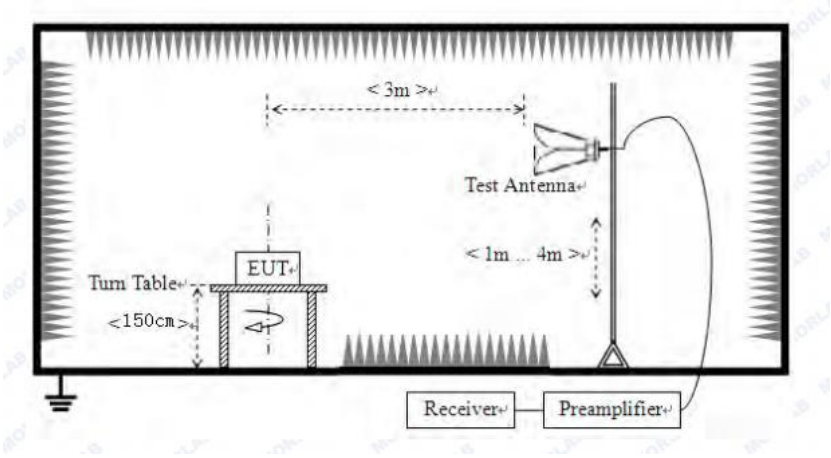
7.7.2 Radiated Emission Method

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.209</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10:2013</td></tr>
<tr><td>Test Frequency Range:</td><td>9kHz to 25GHz</td></tr>
<tr><td>Test site:</td><td>Measurement Distance: 3m</td></tr>
<tr><td>Receiver setup:</td><td>
<table>
<tr><th>Frequency</th><th>Detector</th><th>RBW</th><th>VBW</th><th>Value</th></tr>
<tr><td>9KHz-150KHz</td><td>Quasi-peak</td><td>200Hz</td><td>600Hz</td><td>Quasi-peak</td></tr>
<tr><td>150KHz-30MHz</td><td>Quasi-peak</td><td>9KHz</td><td>30KHz</td><td>Quasi-peak</td></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>100KHz</td><td>300KHz</td><td>Quasi-peak</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak</td></tr>
<tr><td>Peak</td><td>1MHz</td><td>10Hz</td><td>Average</td></tr>
</table>
</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><th>Frequency</th><th>Limit (uV/m)</th><th>Value</th><th>Measurement Distance</th></tr>
<tr><td>0.009MHz-0.490MHz</td><td>2400/F(KHz)</td><td>QP</td><td>300m</td></tr>
<tr><td>0.490MHz-1.705MHz</td><td>24000/F(KHz)</td><td>QP</td><td>300m</td></tr>
<tr><td>1.705MHz-30MHz</td><td>30</td><td>QP</td><td>30m</td></tr>
<tr><td>30MHz-88MHz</td><td>100</td><td>QP</td><td rowspan="6">3m</td></tr>
<tr><td>88MHz-216MHz</td><td>150</td><td>QP</td></tr>
<tr><td>216MHz-960MHz</td><td>200</td><td>QP</td></tr>
<tr><td>960MHz-1GHz</td><td>500</td><td>QP</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>500</td><td>Average</td></tr>
<tr><td>5000</td><td>Peak</td></tr>
</table>
</td></tr>
<tr><td>Test setup:</td><td>For radiated emissions from 9kHz to 30MHz
 

For radiated emissions from 30MHz to1GHz</td></tr>
</table>



For radiated emissions above 1GHz



Test Procedure:

1. The EUT was placed on the top of a rotating table (0.8m for below 1G and 1.5m for above 1G) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the

	EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.					
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1 012mbar
Test Instruments:	Refer to section 6.0 for details					
Test mode:	Refer to section 5.2 for details					
Test results:	Pass					

Remark:

Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.

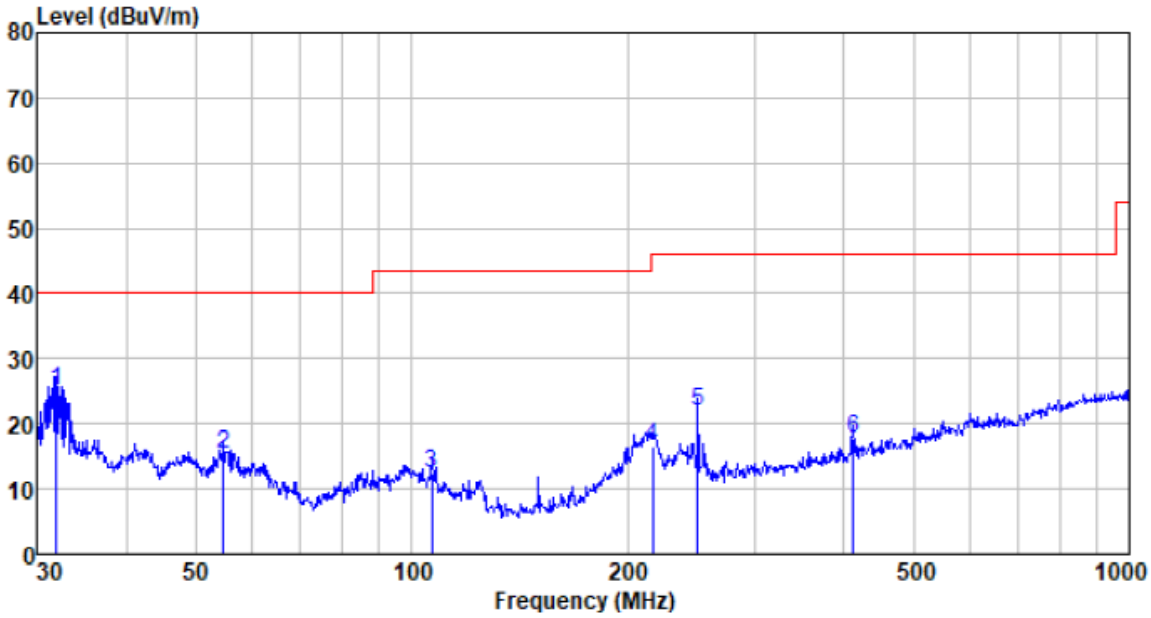
Measurement data:

■ **9kHz~30MHz**

The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

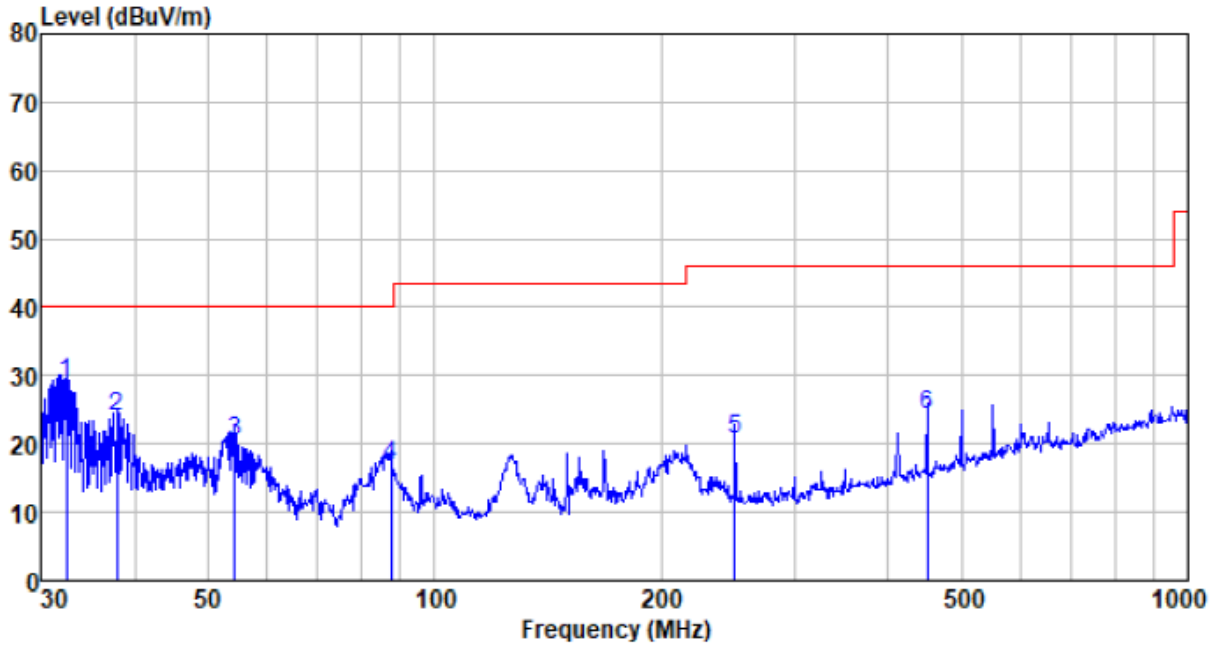
■ **Below 1GHz**

Horizontal:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
31.955	48.52	11.24	0.57	35.15	25.18	40.00	-14.82	QP
54.643	38.87	11.82	0.81	36.25	15.25	40.00	-24.75	QP
106.759	36.44	11.41	1.25	36.78	12.32	43.50	-31.18	QP
216.783	41.01	11.02	1.94	37.35	16.62	46.00	-29.38	QP
250.301	44.86	12.18	2.12	37.38	21.78	46.00	-24.22	QP
411.824	36.69	15.59	2.91	37.52	17.67	46.00	-28.33	QP

Vertical:

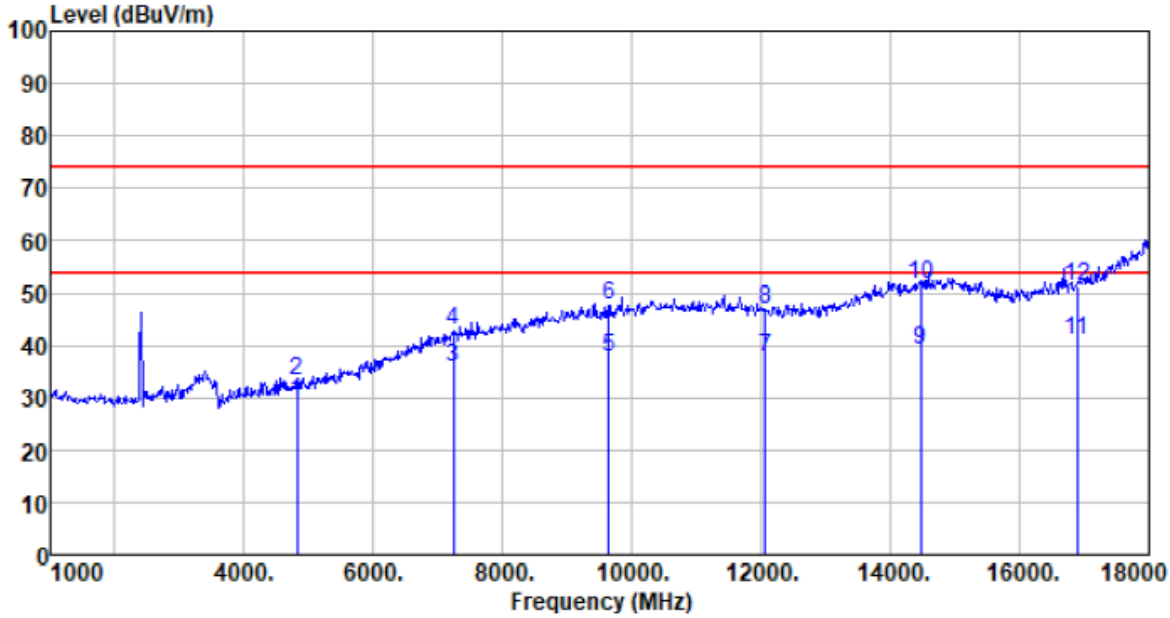


Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
32.406	52.41	11.25	0.58	35.18	29.06	40.00	-10.94	QP
37.812	47.07	11.83	0.64	35.53	24.01	40.00	-15.99	QP
54.261	43.93	11.85	0.81	36.24	20.35	40.00	-19.65	QP
87.418	42.54	9.81	1.09	36.62	16.82	40.00	-23.18	QP
250.301	43.70	12.18	2.12	37.38	20.62	46.00	-25.38	QP
451.135	42.11	16.40	3.09	37.51	24.09	46.00	-21.91	QP

■ **Above 1GHz**

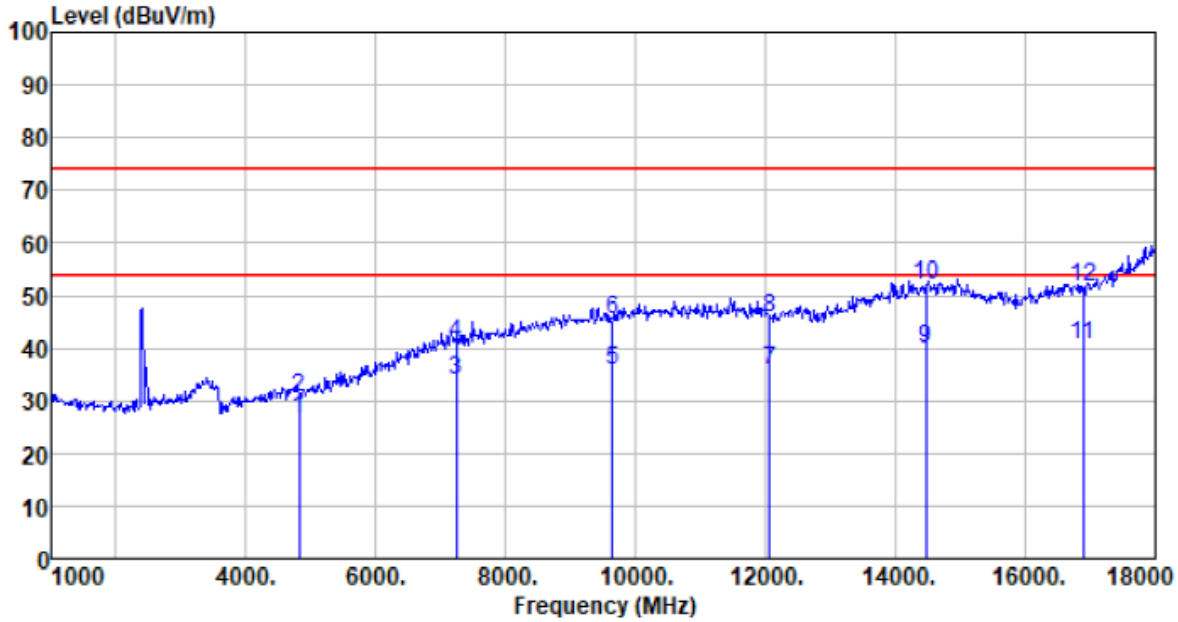
Test mode:	802.11b	Test Frequency:	2412 (MHz)

Horizontal:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
4824.000	27.00	31.22	8.61	37.73	29.10	54.00	-24.90	Average
4824.000	31.20	31.22	8.61	37.73	33.30	74.00	-40.70	Peak
7236.000	23.32	36.25	11.68	35.62	35.63	54.00	-18.37	Average
7236.000	30.59	36.25	11.68	35.62	42.90	74.00	-31.10	Peak
9648.000	20.52	37.97	14.16	34.95	37.70	54.00	-16.30	Average
9648.000	30.43	37.97	14.16	34.95	47.61	74.00	-26.39	Peak
12060.000	20.29	38.51	15.05	36.22	37.63	54.00	-16.37	Average
12060.000	29.63	38.51	15.05	36.22	46.97	74.00	-27.03	Peak
14472.000	16.46	41.50	17.19	36.00	39.15	54.00	-14.85	Average
14472.000	28.94	41.50	17.19	36.00	51.63	74.00	-22.37	Peak
16884.000	18.79	39.62	18.88	36.21	41.08	54.00	-12.92	Average
16884.000	28.89	39.62	18.88	36.21	51.18	74.00	-22.82	Peak

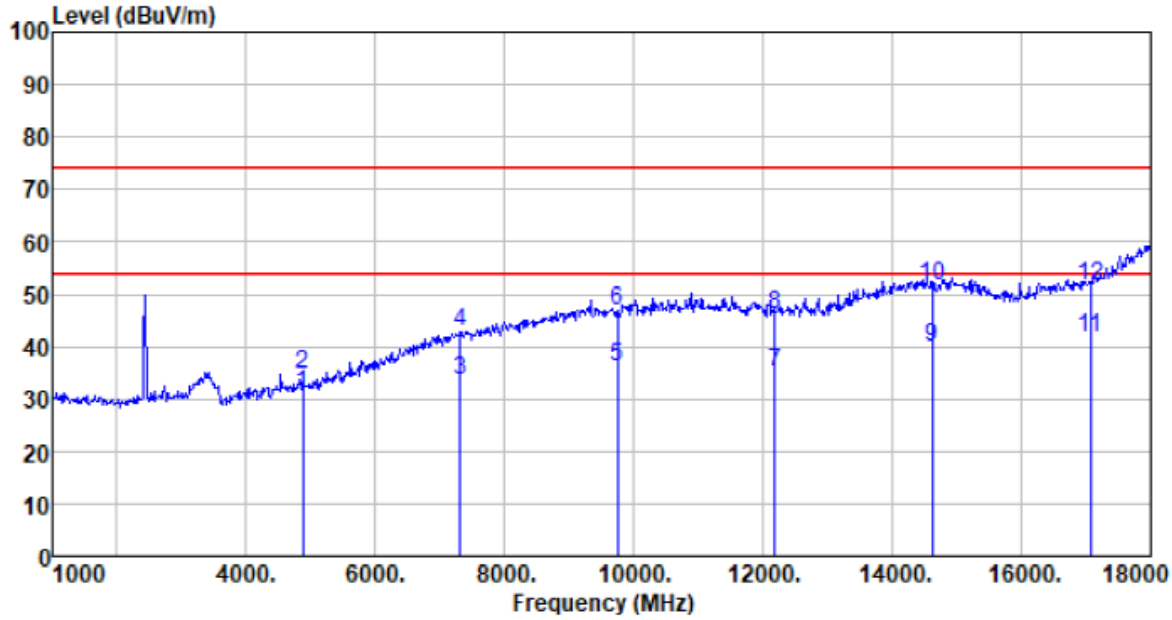
Vertical:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
4824.000	24.44	31.22	8.61	37.73	26.54	54.00	-27.46	Average
4824.000	28.68	31.22	8.61	37.73	30.78	74.00	-43.22	Peak
7236.000	21.81	36.25	11.68	35.62	34.12	54.00	-19.88	Average
7236.000	28.58	36.25	11.68	35.62	40.89	74.00	-33.11	Peak
9648.000	18.51	37.97	14.16	34.95	35.69	54.00	-18.31	Average
9648.000	28.10	37.97	14.16	34.95	45.28	74.00	-28.72	Peak
12060.000	18.50	38.51	15.05	36.22	35.84	54.00	-18.16	Average
12060.000	28.45	38.51	15.05	36.22	45.79	74.00	-28.21	Peak
14472.000	17.25	41.50	17.19	36.00	39.94	54.00	-14.06	Average
14472.000	29.26	41.50	17.19	36.00	51.95	74.00	-22.05	Peak
16884.000	18.39	39.62	18.88	36.21	40.68	54.00	-13.32	Average
16884.000	29.32	39.62	18.88	36.21	51.61	74.00	-22.39	Peak

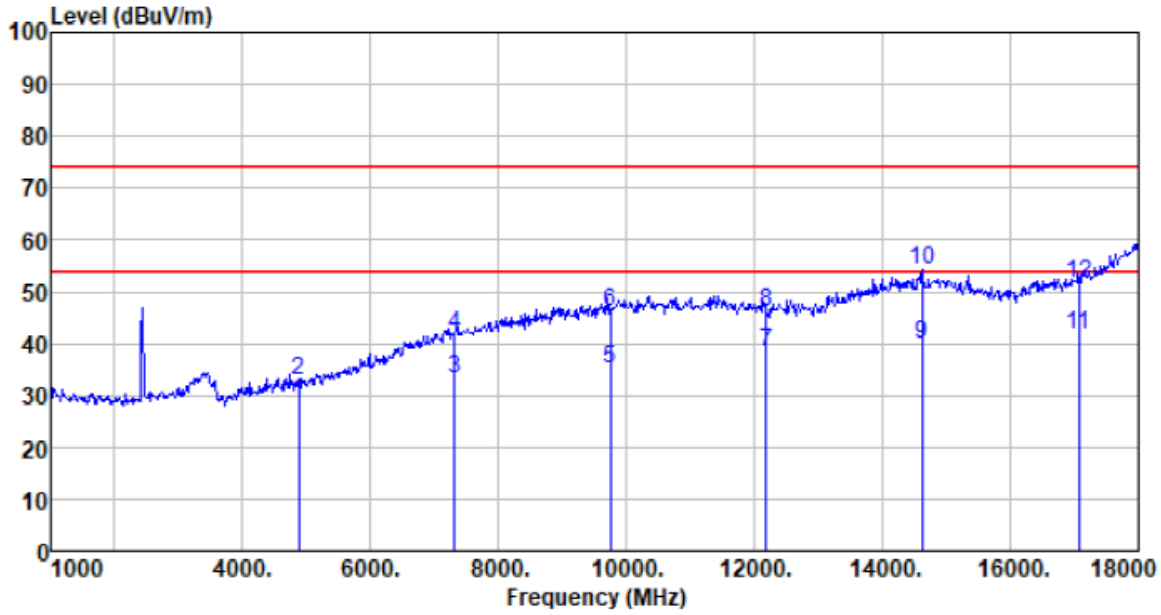
Test mode:	802.11b	Test Frequency:	2437 (MHz)

Horizontal:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4874.000	28.62	31.31	8.66	37.75	30.84	54.00	-23.16	Average
4874.000	32.41	31.31	8.66	37.75	34.63	74.00	-39.37	Peak
7311.000	21.04	36.39	11.71	35.60	33.54	54.00	-20.46	Average
7311.000	30.35	36.39	11.71	35.60	42.85	74.00	-31.15	Peak
9748.000	18.67	38.10	14.25	35.03	35.99	54.00	-18.01	Average
9748.000	29.38	38.10	14.25	35.03	46.70	74.00	-27.30	Peak
12185.000	17.81	38.57	15.14	36.31	35.21	54.00	-18.79	Average
12185.000	28.76	38.57	15.14	36.31	46.16	74.00	-27.84	Peak
14622.000	17.10	41.20	17.26	35.83	39.73	54.00	-14.27	Average
14622.000	28.91	41.20	17.26	35.83	51.54	74.00	-22.46	Peak
17059.000	18.99	39.96	18.99	36.29	41.65	54.00	-12.35	Average
17059.000	28.91	39.96	18.99	36.29	51.57	74.00	-22.43	Peak

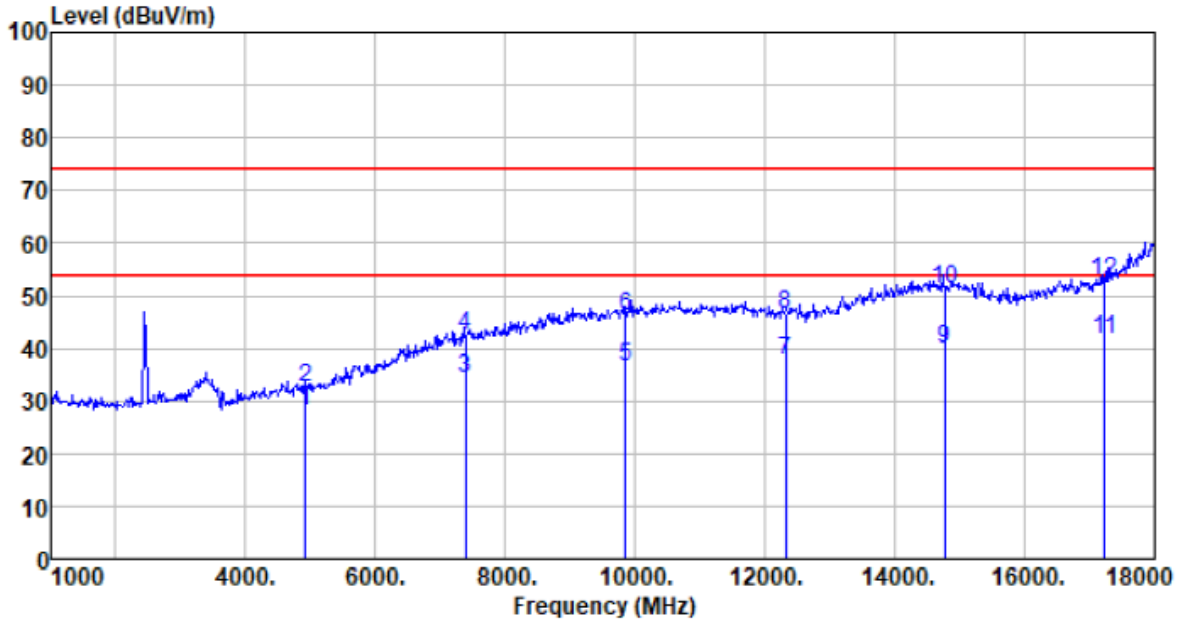
Vertical:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
4874.000	26.44	31.31	8.66	37.75	28.66	54.00	-25.34	Average
4874.000	30.66	31.31	8.66	37.75	32.88	74.00	-41.12	Peak
7311.000	20.75	36.39	11.71	35.60	33.25	54.00	-20.75	Average
7311.000	29.07	36.39	11.71	35.60	41.57	74.00	-32.43	Peak
9748.000	17.77	38.10	14.25	35.03	35.09	54.00	-18.91	Average
9748.000	28.74	38.10	14.25	35.03	46.06	74.00	-27.94	Peak
12185.000	20.88	38.57	15.14	36.31	38.28	54.00	-15.72	Average
12185.000	28.61	38.57	15.14	36.31	46.01	74.00	-27.99	Peak
14622.000	17.18	41.20	17.26	35.83	39.81	54.00	-14.19	Average
14622.000	31.72	41.20	17.26	35.83	54.35	74.00	-19.65	Peak
17059.000	19.11	39.96	18.99	36.29	41.77	54.00	-12.23	Average
17059.000	29.14	39.96	18.99	36.29	51.80	74.00	-22.20	Peak

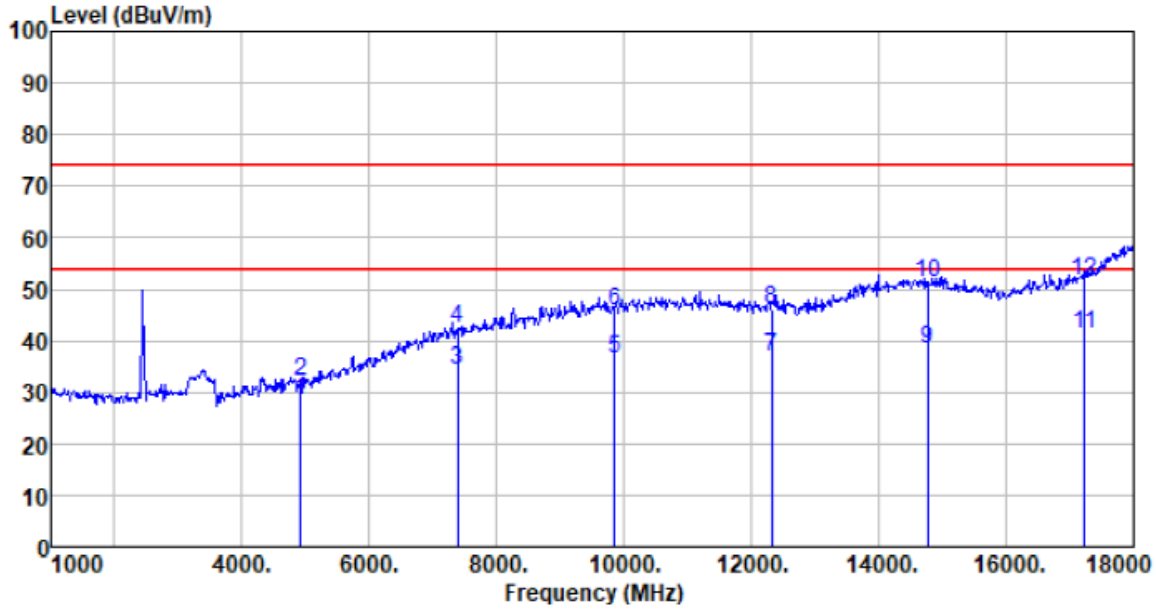
Test mode:	802.11b	Test Frequency:	2462 (MHz)

Horizontal:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
4924.000	25.65	31.39	8.70	37.77	27.97	54.00	-26.03	Average
4924.000	30.23	31.39	8.70	37.77	32.55	74.00	-41.45	Peak
7386.000	21.68	36.57	11.76	35.58	34.43	54.00	-19.57	Average
7386.000	29.60	36.57	11.76	35.58	42.35	74.00	-31.65	Peak
9848.000	19.01	38.20	14.31	35.09	36.43	54.00	-17.57	Average
9848.000	28.55	38.20	14.31	35.09	45.97	74.00	-28.03	Peak
12310.000	20.22	38.63	15.23	36.40	37.68	54.00	-16.32	Average
12310.000	29.02	38.63	15.23	36.40	46.48	74.00	-27.52	Peak
14772.000	17.48	40.80	17.34	35.59	40.03	54.00	-13.97	Average
14772.000	28.81	40.80	17.34	35.59	51.36	74.00	-22.64	Peak
17234.000	17.87	41.00	18.98	36.28	41.57	54.00	-12.43	Average
17234.000	28.90	41.00	18.98	36.28	52.60	74.00	-21.40	Peak

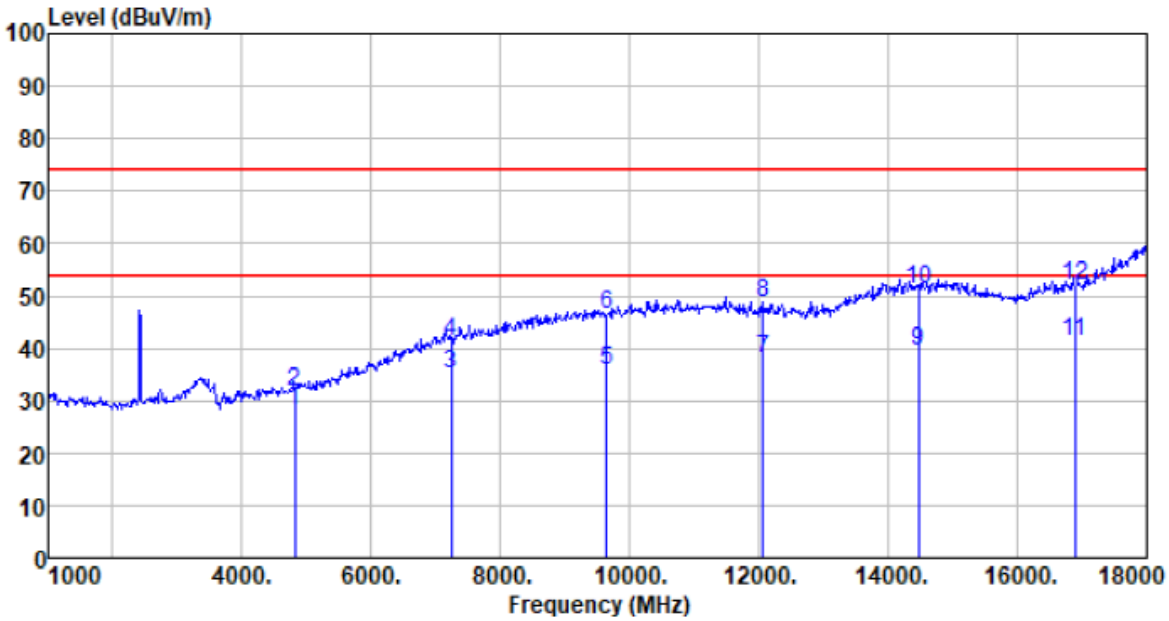
Vertical:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4924.000	26.13	31.39	8.70	37.77	28.45	54.00	-25.55	Average
4924.000	29.96	31.39	8.70	37.77	32.28	74.00	-41.72	Peak
7386.000	21.70	36.57	11.76	35.58	34.45	54.00	-19.55	Average
7386.000	29.61	36.57	11.76	35.58	42.36	74.00	-31.64	Peak
9848.000	18.94	38.20	14.31	35.09	36.36	54.00	-17.64	Average
9848.000	28.27	38.20	14.31	35.09	45.69	74.00	-28.31	Peak
12310.000	19.45	38.63	15.23	36.40	36.91	54.00	-17.09	Average
12310.000	28.84	38.63	15.23	36.40	46.30	74.00	-27.70	Peak
14772.000	15.78	40.80	17.34	35.59	38.33	54.00	-15.67	Average
14772.000	28.92	40.80	17.34	35.59	51.47	74.00	-22.53	Peak
17234.000	17.71	41.00	18.98	36.28	41.41	54.00	-12.59	Average
17234.000	27.95	41.00	18.98	36.28	51.65	74.00	-22.35	Peak

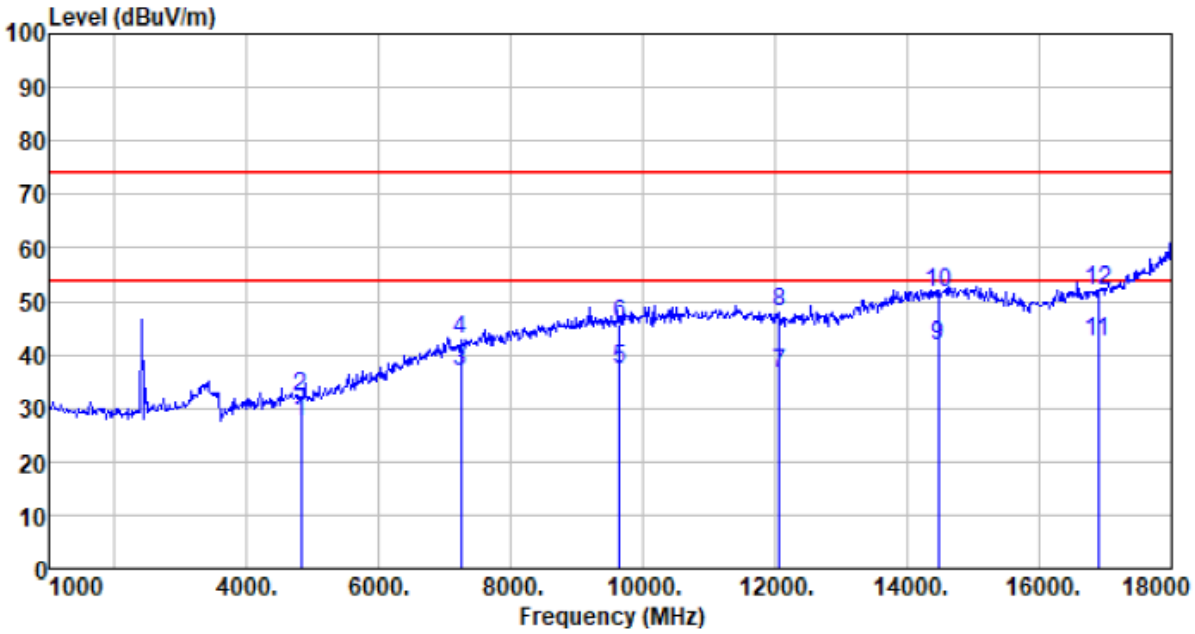
Test mode:	802.11g	Test Frequency:	2412 (MHz)

Horizontal:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
4824.000	25.78	31.22	8.61	37.73	27.88	54.00	-26.12	Average
4824.000	29.72	31.22	8.61	37.73	31.82	74.00	-42.18	Peak
7236.000	22.79	36.25	11.68	35.62	35.10	54.00	-18.90	Average
7236.000	28.89	36.25	11.68	35.62	41.20	74.00	-32.80	Peak
9648.000	18.57	37.97	14.16	34.95	35.75	54.00	-18.25	Average
9648.000	29.43	37.97	14.16	34.95	46.61	74.00	-27.39	Peak
12060.000	20.63	38.51	15.05	36.22	37.97	54.00	-16.03	Average
12060.000	31.20	38.51	15.05	36.22	48.54	74.00	-25.46	Peak
14472.000	16.77	41.50	17.19	36.00	39.46	54.00	-14.54	Average
14472.000	28.43	41.50	17.19	36.00	51.12	74.00	-22.88	Peak
16884.000	19.19	39.62	18.88	36.21	41.48	54.00	-12.52	Average
16884.000	29.74	39.62	18.88	36.21	52.03	74.00	-21.97	Peak

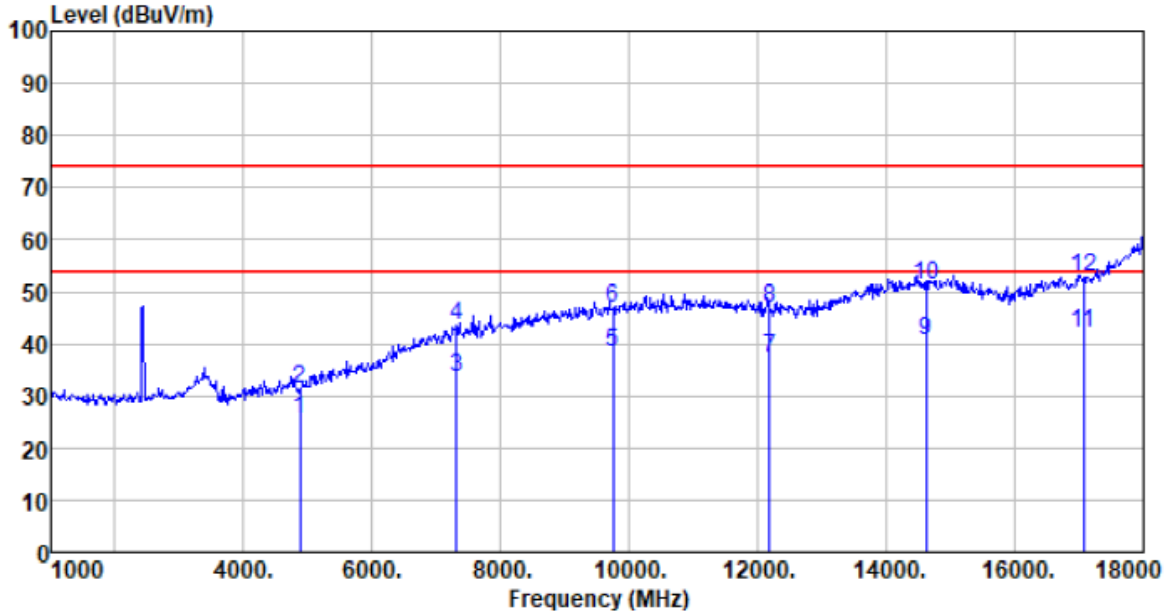
Vertical:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
4824.000	25.16	31.22	8.61	37.73	27.26	54.00	-26.74	Average
4824.000	30.03	31.22	8.61	37.73	32.13	74.00	-41.87	Peak
7236.000	24.65	36.25	11.68	35.62	36.96	54.00	-17.04	Average
7236.000	30.60	36.25	11.68	35.62	42.91	74.00	-31.09	Peak
9648.000	20.20	37.97	14.16	34.95	37.38	54.00	-16.62	Average
9648.000	28.74	37.97	14.16	34.95	45.92	74.00	-28.08	Peak
12060.000	19.35	38.51	15.05	36.22	36.69	54.00	-17.31	Average
12060.000	30.63	38.51	15.05	36.22	47.97	74.00	-26.03	Peak
14472.000	18.87	41.50	17.19	36.00	41.56	54.00	-12.44	Average
14472.000	28.87	41.50	17.19	36.00	51.56	74.00	-22.44	Peak
16884.000	20.19	39.62	18.88	36.21	42.48	54.00	-11.52	Average
16884.000	29.77	39.62	18.88	36.21	52.06	74.00	-21.94	Peak

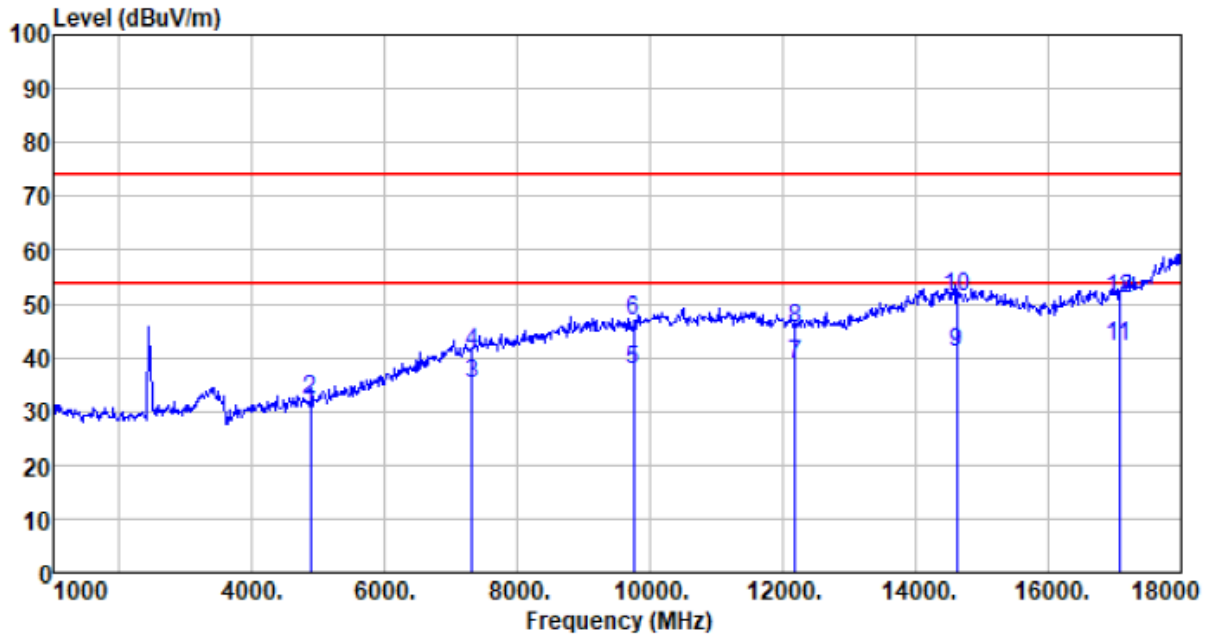
Test mode:	802.11g	Test Frequency:	2437 (MHz)

Horizontal:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4874.000	23.33	31.31	8.66	37.75	25.55	54.00	-28.45	Average
4874.000	29.19	31.31	8.66	37.75	31.41	74.00	-42.59	Peak
7311.000	20.91	36.39	11.71	35.60	33.41	54.00	-20.59	Average
7311.000	30.92	36.39	11.71	35.60	43.42	74.00	-30.58	Peak
9748.000	21.03	38.10	14.25	35.03	38.35	54.00	-15.65	Average
9748.000	29.43	38.10	14.25	35.03	46.75	74.00	-27.25	Peak
12185.000	19.93	38.57	15.14	36.31	37.33	54.00	-16.67	Average
12185.000	29.30	38.57	15.14	36.31	46.70	74.00	-27.30	Peak
14622.000	18.09	41.20	17.26	35.83	40.72	54.00	-13.28	Average
14622.000	28.73	41.20	17.26	35.83	51.36	74.00	-22.64	Peak
17059.000	19.31	39.96	18.99	36.29	41.97	54.00	-12.03	Average
17059.000	30.28	39.96	18.99	36.29	52.94	74.00	-21.06	Peak

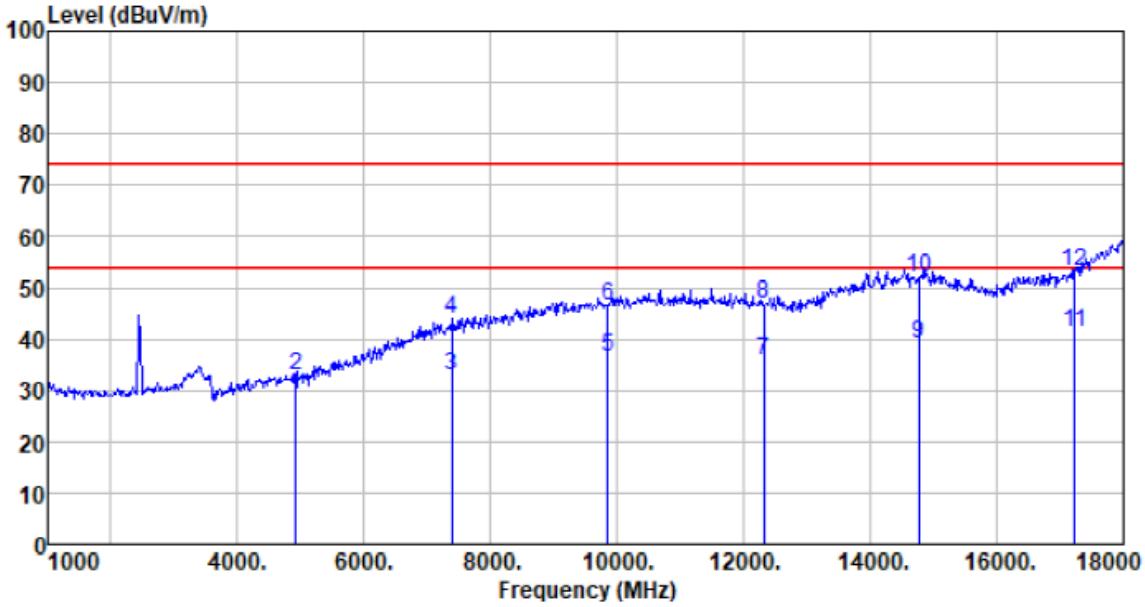
Vertical:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
4874.000	27.81	31.31	8.66	37.75	30.03	54.00	-23.97	Average
4874.000	29.85	31.31	8.66	37.75	32.07	74.00	-41.93	Peak
7311.000	22.66	36.39	11.71	35.60	35.16	54.00	-18.84	Average
7311.000	28.31	36.39	11.71	35.60	40.81	74.00	-33.19	Peak
9748.000	20.39	38.10	14.25	35.03	37.71	54.00	-16.29	Average
9748.000	29.55	38.10	14.25	35.03	46.87	74.00	-27.13	Peak
12185.000	21.19	38.57	15.14	36.31	38.59	54.00	-15.41	Average
12185.000	27.99	38.57	15.14	36.31	45.39	74.00	-28.61	Peak
14622.000	18.33	41.20	17.26	35.83	40.96	54.00	-13.04	Average
14622.000	28.67	41.20	17.26	35.83	51.30	74.00	-22.70	Peak
17059.000	19.30	39.96	18.99	36.29	41.96	54.00	-12.04	Average
17059.000	28.42	39.96	18.99	36.29	51.08	74.00	-22.92	Peak

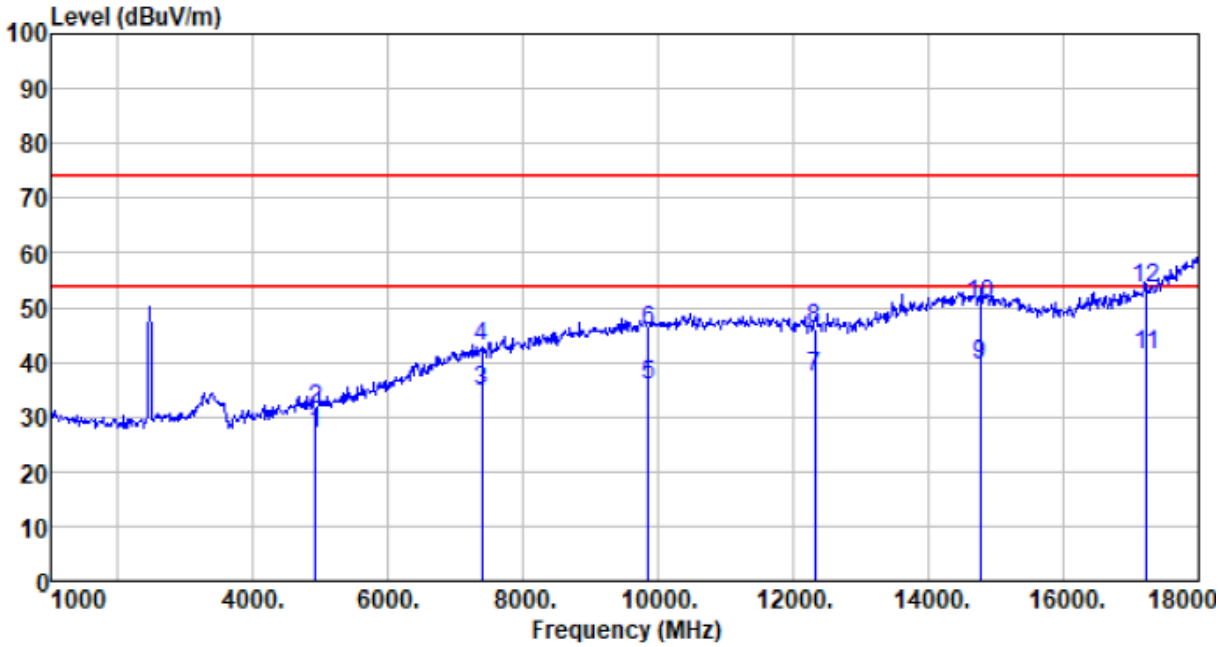
Test mode:	802.11g	Test Frequency:	2462 (MHz)

Horizontal:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
4924.000	26.74	31.39	8.70	37.77	29.06	54.00	-24.94	Average
4924.000	30.42	31.39	8.70	37.77	32.74	74.00	-41.26	Peak
7386.000	20.18	36.57	11.76	35.58	32.93	54.00	-21.07	Average
7386.000	31.14	36.57	11.76	35.58	43.89	74.00	-30.11	Peak
9848.000	19.27	38.20	14.31	35.09	36.69	54.00	-17.31	Average
9848.000	29.22	38.20	14.31	35.09	46.64	74.00	-27.36	Peak
12310.000	18.39	38.63	15.23	36.40	35.85	54.00	-18.15	Average
12310.000	29.37	38.63	15.23	36.40	46.83	74.00	-27.17	Peak
14772.000	16.44	40.80	17.34	35.59	38.99	54.00	-15.01	Average
14772.000	29.46	40.80	17.34	35.59	52.01	74.00	-21.99	Peak
17234.000	17.69	41.00	18.98	36.28	41.39	54.00	-12.61	Average
17234.000	29.54	41.00	18.98	36.28	53.24	74.00	-20.76	Peak

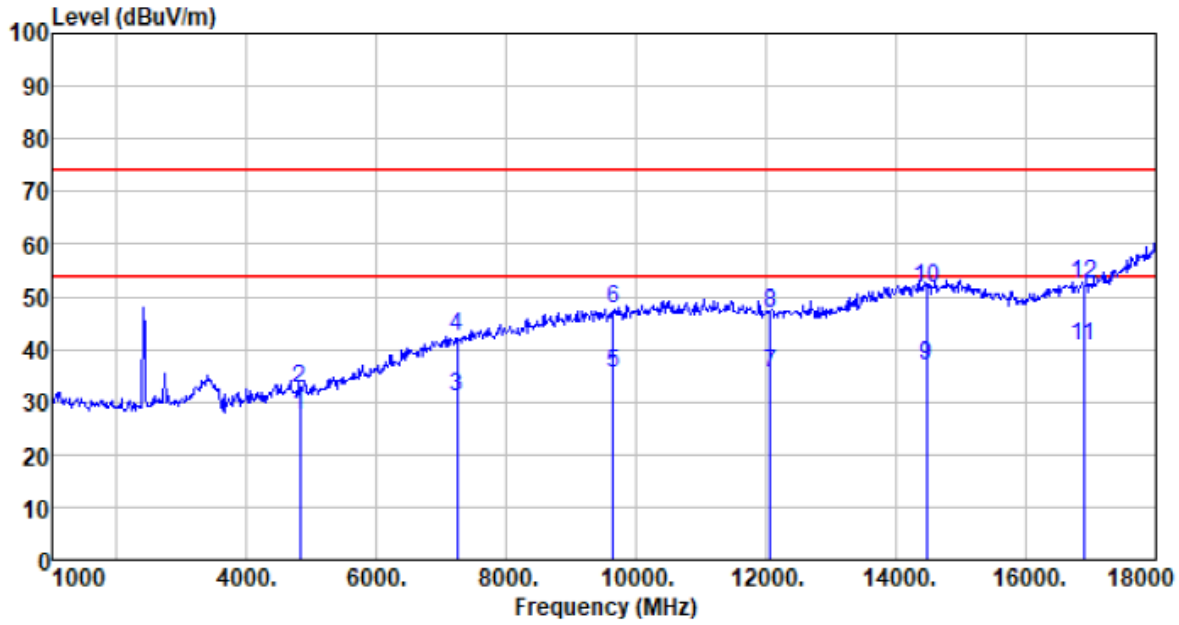
Vertical:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4924.000	24.47	31.39	8.70	37.77	26.79	54.00	-27.21	Average
4924.000	28.88	31.39	8.70	37.77	31.20	74.00	-42.80	Peak
7386.000	22.08	36.57	11.76	35.58	34.83	54.00	-19.17	Average
7386.000	29.90	36.57	11.76	35.58	42.65	74.00	-31.35	Peak
9848.000	18.21	38.20	14.31	35.09	35.63	54.00	-18.37	Average
9848.000	28.43	38.20	14.31	35.09	45.85	74.00	-28.15	Peak
12310.000	19.85	38.63	15.23	36.40	37.31	54.00	-16.69	Average
12310.000	28.49	38.63	15.23	36.40	45.95	74.00	-28.05	Peak
14772.000	16.82	40.80	17.34	35.59	39.37	54.00	-14.63	Average
14772.000	27.95	40.80	17.34	35.59	50.50	74.00	-23.50	Peak
17234.000	17.50	41.00	18.98	36.28	41.20	54.00	-12.80	Average
17234.000	29.96	41.00	18.98	36.28	53.66	74.00	-20.34	Peak

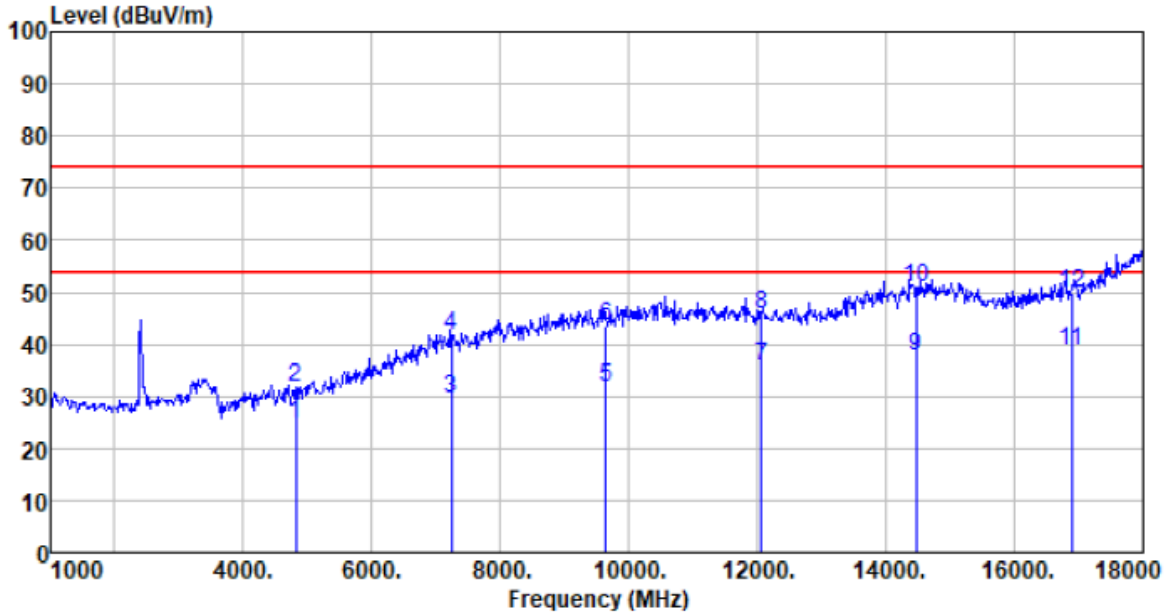
Test mode:	802.11n(HT20)	Test Frequency:	2412 (MHz)

Horizontal:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4824.000	25.27	31.22	8.61	37.73	27.37	54.00	-26.63	Average
4824.000	30.28	31.22	8.61	37.73	32.38	74.00	-41.62	Peak
7236.000	18.60	36.25	11.68	35.62	30.91	54.00	-23.09	Average
7236.000	29.97	36.25	11.68	35.62	42.28	74.00	-31.72	Peak
9648.000	18.21	37.97	14.16	34.95	35.39	54.00	-18.61	Average
9648.000	30.31	37.97	14.16	34.95	47.49	74.00	-26.51	Peak
12060.000	18.18	38.51	15.05	36.22	35.52	54.00	-18.48	Average
12060.000	29.39	38.51	15.05	36.22	46.73	74.00	-27.27	Peak
14472.000	14.14	41.50	17.19	36.00	36.83	54.00	-17.17	Average
14472.000	28.93	41.50	17.19	36.00	51.62	74.00	-22.38	Peak
16884.000	18.43	39.62	18.88	36.21	40.72	54.00	-13.28	Average
16884.000	30.29	39.62	18.88	36.21	52.58	74.00	-21.42	Peak

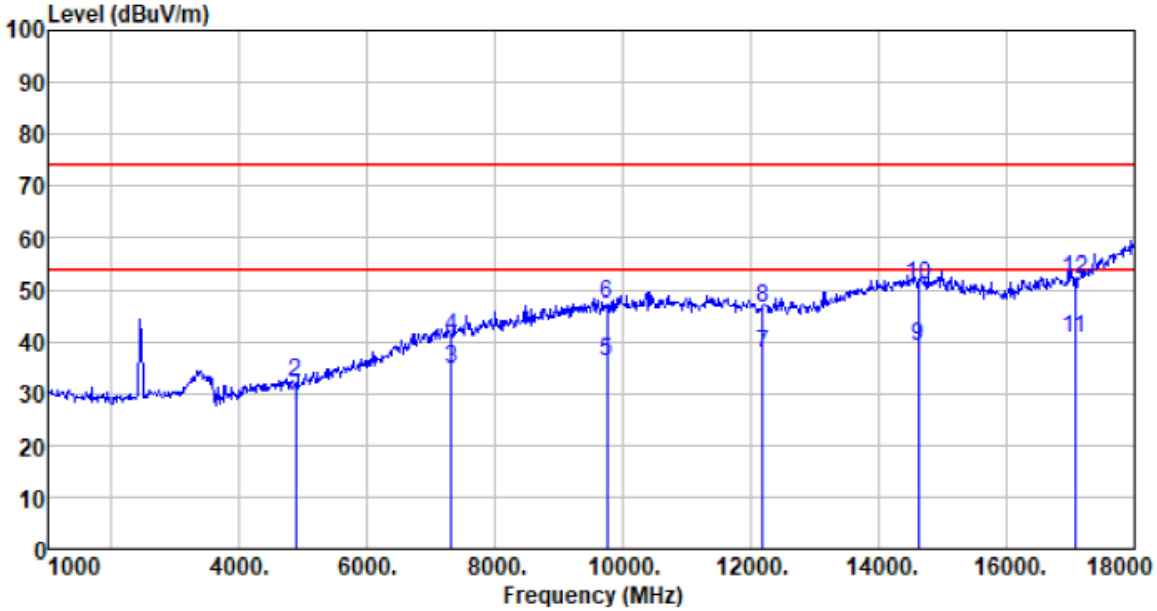
Vertical:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4824.000	22.58	31.22	8.61	37.73	24.68	54.00	-29.32	Average
4824.000	29.58	31.22	8.61	37.73	31.68	74.00	-42.32	Peak
7236.000	17.38	36.25	11.68	35.62	29.69	54.00	-24.31	Average
7236.000	29.55	36.25	11.68	35.62	41.86	74.00	-32.14	Peak
9648.000	14.59	37.97	14.16	34.95	31.77	54.00	-22.23	Average
9648.000	26.19	37.97	14.16	34.95	43.37	74.00	-30.63	Peak
12060.000	18.60	38.51	15.05	36.22	35.94	54.00	-18.06	Average
12060.000	28.44	38.51	15.05	36.22	45.78	74.00	-28.22	Peak
14472.000	15.06	41.50	17.19	36.00	37.75	54.00	-16.25	Average
14472.000	28.19	41.50	17.19	36.00	50.88	74.00	-23.12	Peak
16884.000	16.35	39.62	18.88	36.21	38.64	54.00	-15.36	Average
16884.000	27.69	39.62	18.88	36.21	49.98	74.00	-24.02	Peak

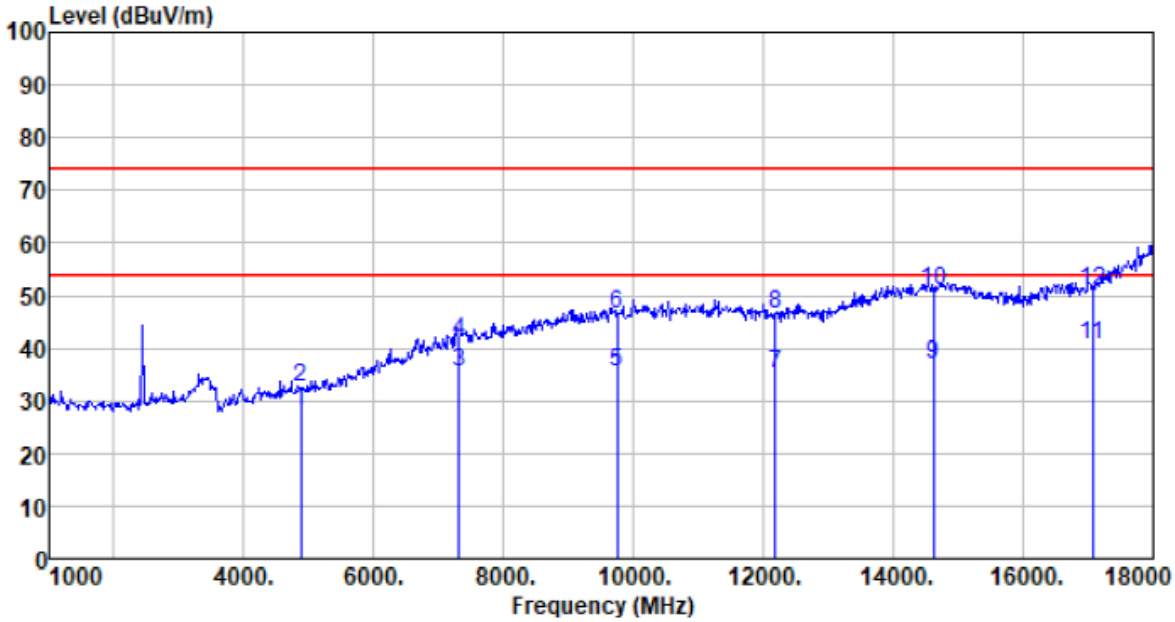
Test mode:	802.11n(HT20)	Test Frequency:	2437 (MHz)

Horizontal:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4874.000	25.25	31.31	8.66	37.75	27.47	54.00	-26.53	Average
4874.000	29.89	31.31	8.66	37.75	32.11	74.00	-41.89	Peak
7311.000	22.18	36.39	11.71	35.60	34.68	54.00	-19.32	Average
7311.000	28.60	36.39	11.71	35.60	41.10	74.00	-32.90	Peak
9748.000	18.97	38.10	14.25	35.03	36.29	54.00	-17.71	Average
9748.000	29.82	38.10	14.25	35.03	47.14	74.00	-26.86	Peak
12185.000	20.22	38.57	15.14	36.31	37.62	54.00	-16.38	Average
12185.000	29.24	38.57	15.14	36.31	46.64	74.00	-27.36	Peak
14622.000	16.43	41.20	17.26	35.83	39.06	54.00	-14.94	Average
14622.000	28.42	41.20	17.26	35.83	51.05	74.00	-22.95	Peak
17059.000	17.92	39.96	18.99	36.29	40.58	54.00	-13.42	Average
17059.000	29.29	39.96	18.99	36.29	51.95	74.00	-22.05	Peak

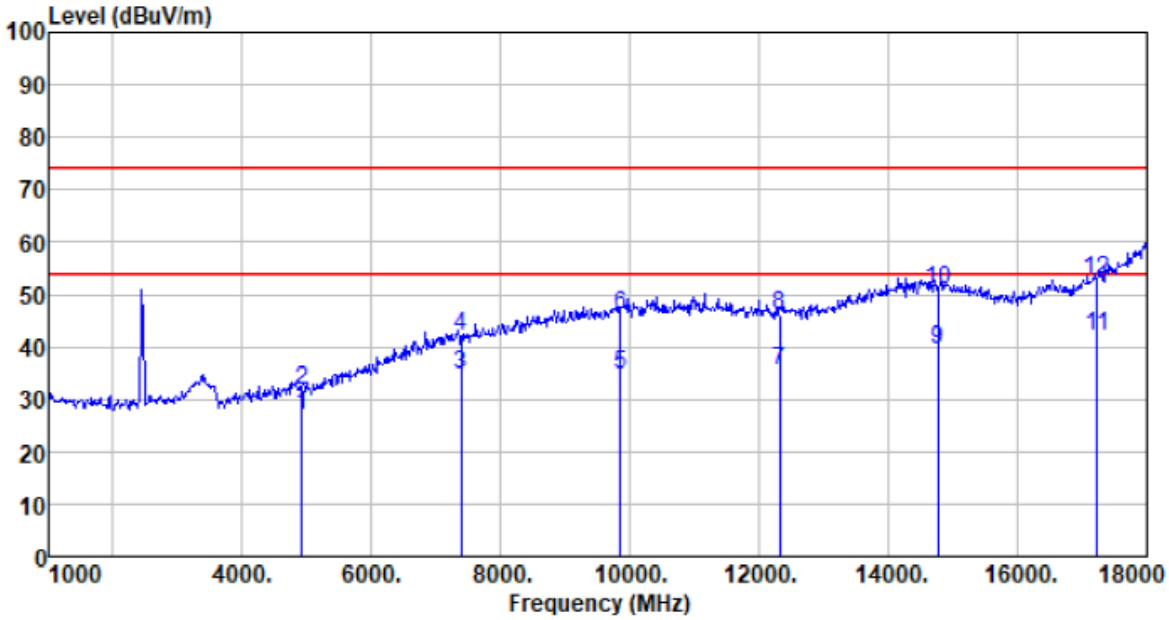
Vertical:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4874.000	25.90	31.31	8.66	37.75	28.12	54.00	-25.88	Average
4874.000	30.08	31.31	8.66	37.75	32.30	74.00	-41.70	Peak
7311.000	22.82	36.39	11.71	35.60	35.32	54.00	-18.68	Average
7311.000	28.84	36.39	11.71	35.60	41.34	74.00	-32.66	Peak
9748.000	18.13	38.10	14.25	35.03	35.45	54.00	-18.55	Average
9748.000	29.31	38.10	14.25	35.03	46.63	74.00	-27.37	Peak
12185.000	17.76	38.57	15.14	36.31	35.16	54.00	-18.84	Average
12185.000	28.96	38.57	15.14	36.31	46.36	74.00	-27.64	Peak
14622.000	14.28	41.20	17.26	35.83	36.91	54.00	-17.09	Average
14622.000	28.16	41.20	17.26	35.83	50.79	74.00	-23.21	Peak
17059.000	17.84	39.96	18.99	36.29	40.50	54.00	-13.50	Average
17059.000	28.24	39.96	18.99	36.29	50.90	74.00	-23.10	Peak

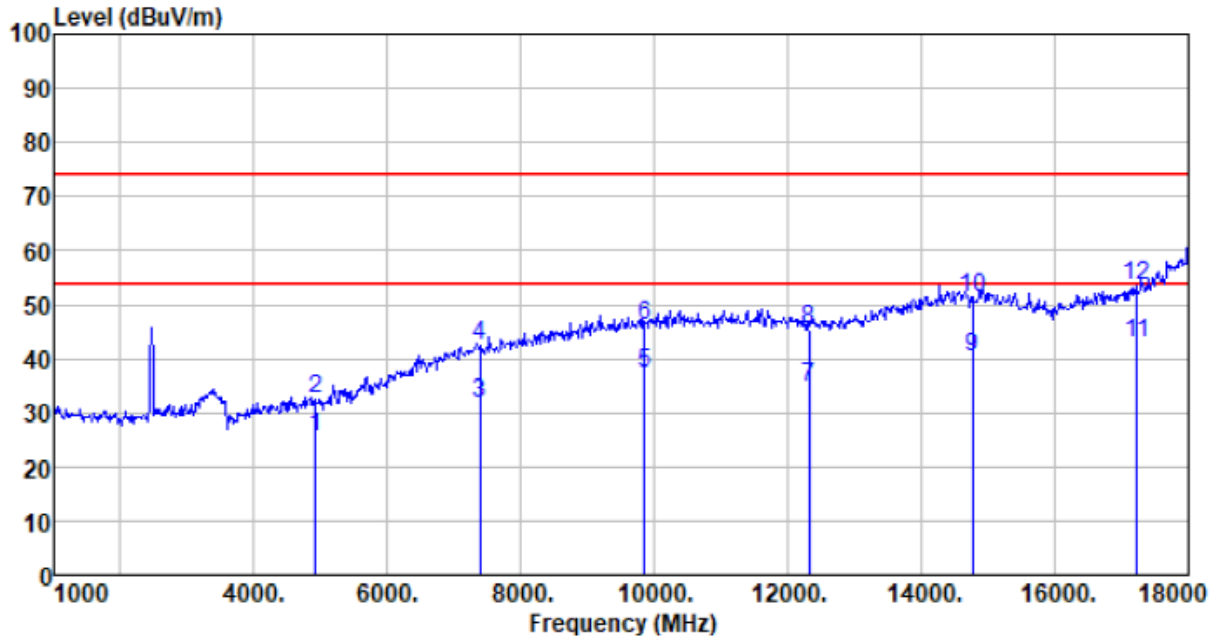
Test mode:	802.11n(HT20)	Test Frequency:	2462 (MHz)

Horizontal:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4924.000	24.79	31.39	8.70	37.77	27.11	54.00	-26.89	Average
4924.000	29.37	31.39	8.70	37.77	31.69	74.00	-42.31	Peak
7386.000	22.00	36.57	11.76	35.58	34.75	54.00	-19.25	Average
7386.000	29.49	36.57	11.76	35.58	42.24	74.00	-31.76	Peak
9848.000	17.14	38.20	14.31	35.09	34.56	54.00	-19.44	Average
9848.000	28.78	38.20	14.31	35.09	46.20	74.00	-27.80	Peak
12310.000	18.07	38.63	15.23	36.40	35.53	54.00	-18.47	Average
12310.000	28.73	38.63	15.23	36.40	46.19	74.00	-27.81	Peak
14772.000	16.99	40.80	17.34	35.59	39.54	54.00	-14.46	Average
14772.000	28.21	40.80	17.34	35.59	50.76	74.00	-23.24	Peak
17234.000	18.26	41.00	18.98	36.28	41.96	54.00	-12.04	Average
17234.000	29.17	41.00	18.98	36.28	52.87	74.00	-21.13	Peak

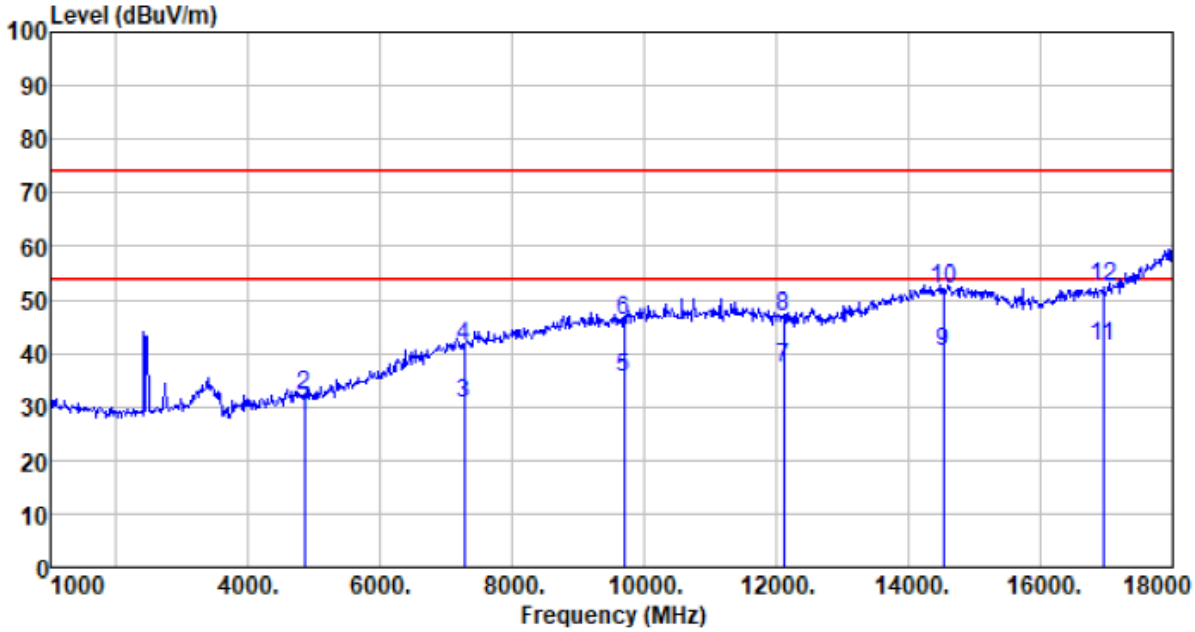
Vertical:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4924.000	23.30	31.39	8.70	37.77	25.62	54.00	-28.38	Average
4924.000	29.97	31.39	8.70	37.77	32.29	74.00	-41.71	Peak
7386.000	19.00	36.57	11.76	35.58	31.75	54.00	-22.25	Average
7386.000	29.77	36.57	11.76	35.58	42.52	74.00	-31.48	Peak
9848.000	19.82	38.20	14.31	35.09	37.24	54.00	-16.76	Average
9848.000	28.84	38.20	14.31	35.09	46.26	74.00	-27.74	Peak
12310.000	17.39	38.63	15.23	36.40	34.85	54.00	-19.15	Average
12310.000	28.04	38.63	15.23	36.40	45.50	74.00	-28.50	Peak
14772.000	17.60	40.80	17.34	35.59	40.15	54.00	-13.85	Average
14772.000	28.64	40.80	17.34	35.59	51.19	74.00	-22.81	Peak
17234.000	18.95	41.00	18.98	36.28	42.65	54.00	-11.35	Average
17234.000	29.93	41.00	18.98	36.28	53.63	74.00	-20.37	Peak

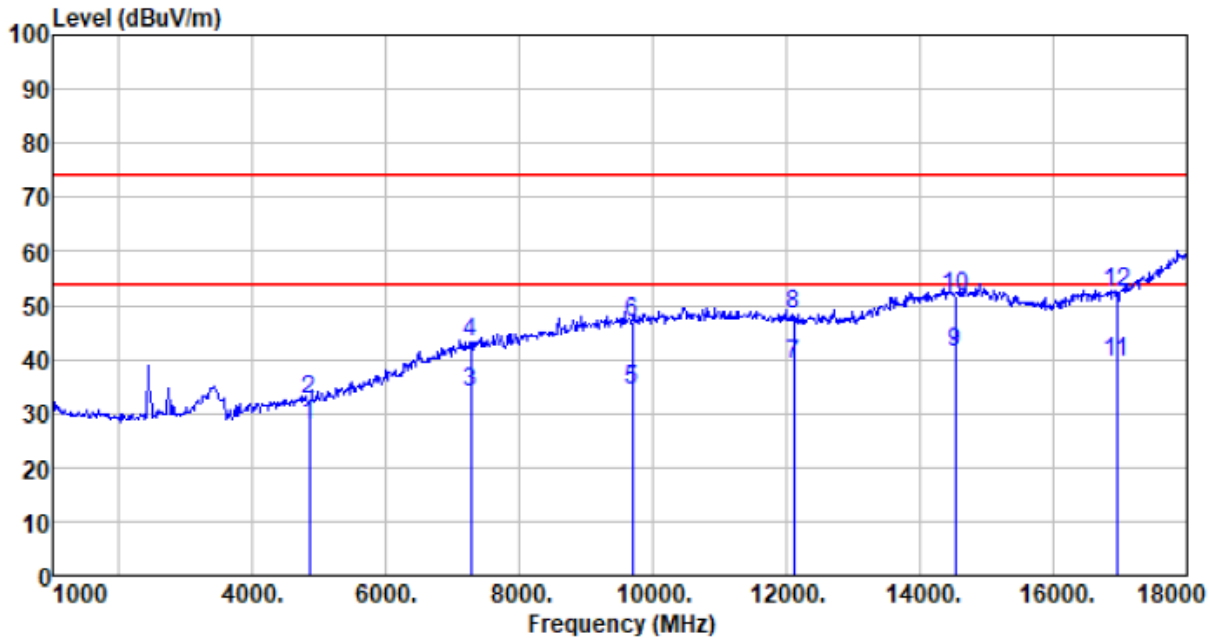
Test mode:	802.11n(HT40)	Test Frequency:	2422 (MHz)

Horizontal:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
4844.000	25.73	31.26	8.63	37.74	27.88	54.00	-26.12	Average
4844.000	29.98	31.26	8.63	37.74	32.13	74.00	-41.87	Peak
7266.000	18.16	36.30	11.69	35.62	30.53	54.00	-23.47	Average
7266.000	29.13	36.30	11.69	35.62	41.50	74.00	-32.50	Peak
9688.000	18.22	38.03	14.21	34.99	35.47	54.00	-18.53	Average
9688.000	29.04	38.03	14.21	34.99	46.29	74.00	-27.71	Peak
12110.000	19.84	38.54	15.10	36.27	37.21	54.00	-16.79	Average
12110.000	29.47	38.54	15.10	36.27	46.84	74.00	-27.16	Peak
14532.000	17.70	41.40	17.22	35.94	40.38	54.00	-13.62	Average
14532.000	29.31	41.40	17.22	35.94	51.99	74.00	-22.01	Peak
16954.000	18.88	39.66	18.93	36.26	41.21	54.00	-12.79	Average
16954.000	29.99	39.66	18.93	36.26	52.32	74.00	-21.68	Peak

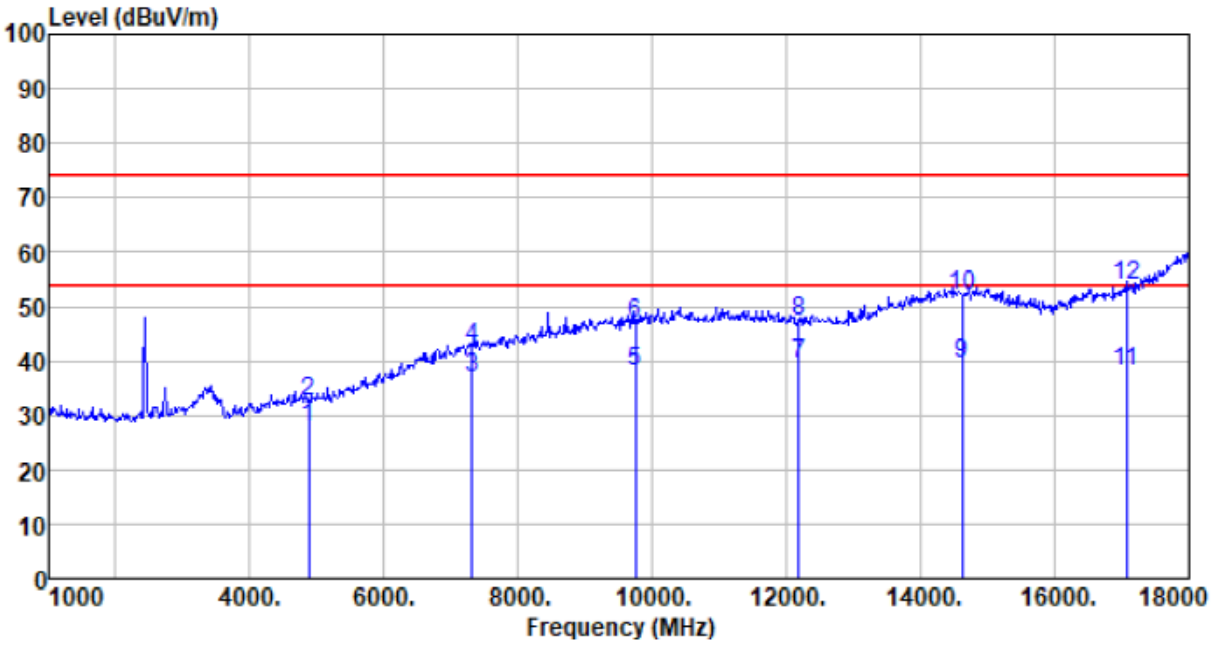
Vertical:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
4844.000	25.53	31.26	8.63	37.74	27.68	54.00	-26.32	Average
4844.000	30.46	31.26	8.63	37.74	32.61	74.00	-41.39	Peak
7266.000	21.59	36.30	11.69	35.62	33.96	54.00	-20.04	Average
7266.000	30.73	36.30	11.69	35.62	43.10	74.00	-30.90	Peak
9688.000	17.21	38.03	14.21	34.99	34.46	54.00	-19.54	Average
9688.000	29.53	38.03	14.21	34.99	46.78	74.00	-27.22	Peak
12110.000	21.70	38.54	15.10	36.27	39.07	54.00	-14.93	Average
12110.000	31.11	38.54	15.10	36.27	48.48	74.00	-25.52	Peak
14532.000	18.69	41.40	17.22	35.94	41.37	54.00	-12.63	Average
14532.000	29.13	41.40	17.22	35.94	51.81	74.00	-22.19	Peak
16954.000	16.99	39.66	18.93	36.26	39.32	54.00	-14.68	Average
16954.000	30.11	39.66	18.93	36.26	52.44	74.00	-21.56	Peak

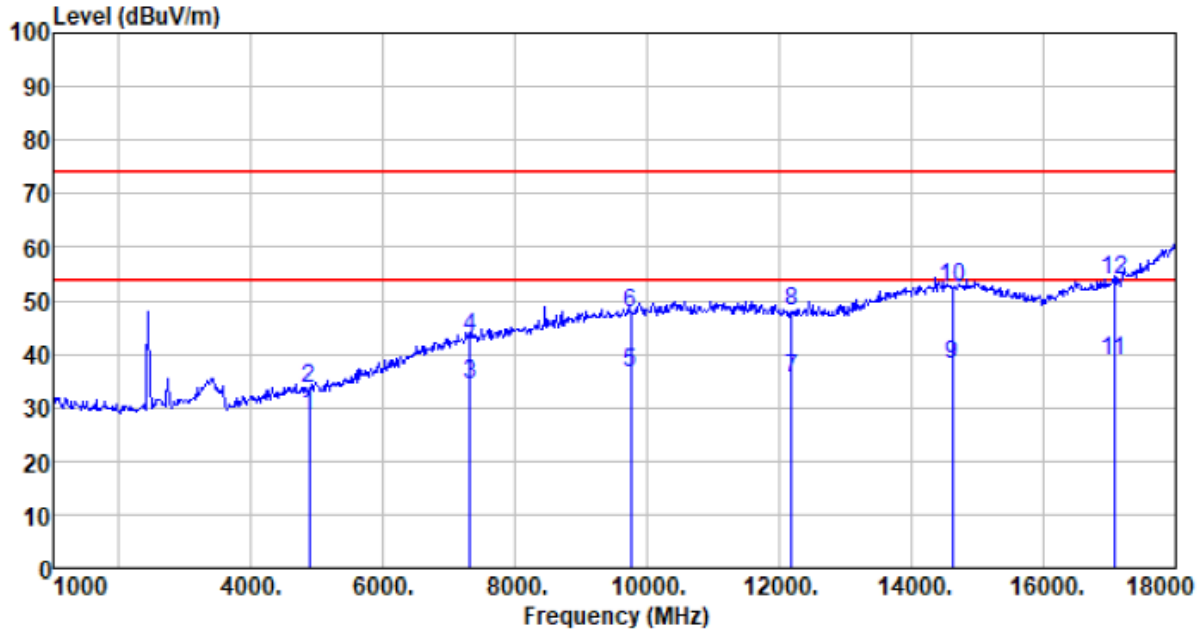
Test mode:	802.11n(HT40)	Test Frequency:	2437(MHz)

Horizontal:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4874.000	25.33	31.31	8.66	37.75	27.55	54.00	-26.45	Average
4874.000	30.37	31.31	8.66	37.75	32.59	74.00	-41.41	Peak
7311.000	24.34	36.39	11.71	35.60	36.84	54.00	-17.16	Average
7311.000	29.84	36.39	11.71	35.60	42.34	74.00	-31.66	Peak
9748.000	20.55	38.10	14.25	35.03	37.87	54.00	-16.13	Average
9748.000	29.53	38.10	14.25	35.03	46.85	74.00	-27.15	Peak
12185.000	21.93	38.57	15.14	36.31	39.33	54.00	-14.67	Average
12185.000	29.97	38.57	15.14	36.31	47.37	74.00	-26.63	Peak
14622.000	16.71	41.20	17.26	35.83	39.34	54.00	-14.66	Average
14622.000	29.55	41.20	17.26	35.83	52.18	74.00	-21.82	Peak
17059.000	15.22	39.96	18.99	36.29	37.88	54.00	-16.12	Average
17059.000	31.26	39.96	18.99	36.29	53.92	74.00	-20.08	Peak

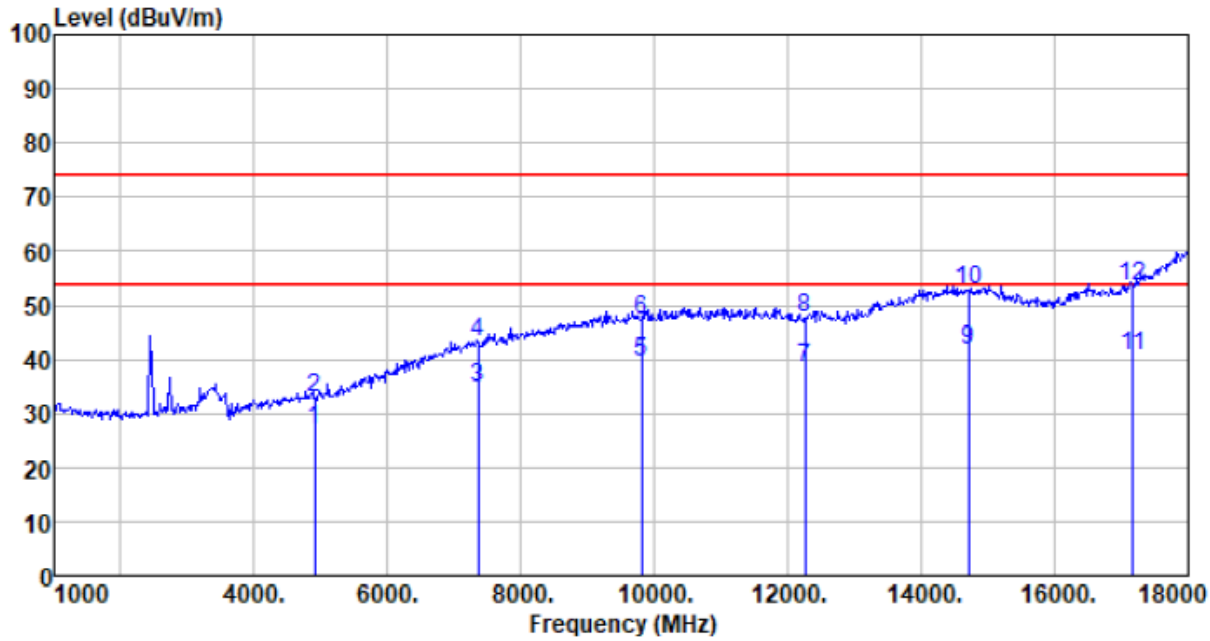
Vertical:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
4874.000	26.34	31.31	8.66	37.75	28.56	54.00	-25.44	Average
4874.000	31.28	31.31	8.66	37.75	33.50	74.00	-40.50	Peak
7311.000	21.77	36.39	11.71	35.60	34.27	54.00	-19.73	Average
7311.000	30.53	36.39	11.71	35.60	43.03	74.00	-30.97	Peak
9748.000	19.04	38.10	14.25	35.03	36.36	54.00	-17.64	Average
9748.000	30.35	38.10	14.25	35.03	47.67	74.00	-26.33	Peak
12185.000	17.84	38.57	15.14	36.31	35.24	54.00	-18.76	Average
12185.000	30.71	38.57	15.14	36.31	48.11	74.00	-25.89	Peak
14622.000	15.32	41.20	17.26	35.83	37.95	54.00	-16.05	Average
14622.000	29.73	41.20	17.26	35.83	52.36	74.00	-21.64	Peak
17059.000	16.12	39.96	18.99	36.29	38.78	54.00	-15.22	Average
17059.000	31.26	39.96	18.99	36.29	53.92	74.00	-20.08	Peak

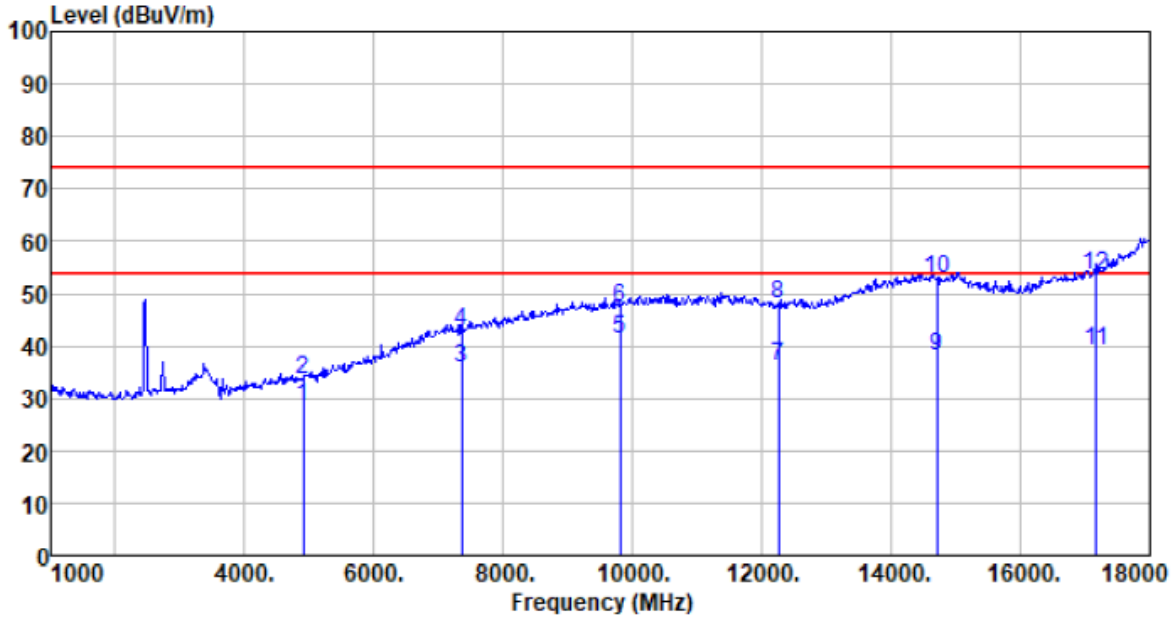
Test mode:	802.11n(HT40)	Test Frequency:	2452 (MHz)

Horizontal:



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV	dBuV/m	dB	
4904.000	24.52	31.35	8.68	37.76	26.79	54.00	-27.21	Average
4904.000	30.39	31.35	8.68	37.76	32.66	74.00	-41.34	Peak
7356.000	21.98	36.48	11.74	35.59	34.61	54.00	-19.39	Average
7356.000	30.68	36.48	11.74	35.59	43.31	74.00	-30.69	Peak
9808.000	21.96	38.17	14.29	35.07	39.35	54.00	-14.65	Average
9808.000	29.95	38.17	14.29	35.07	47.34	74.00	-26.66	Peak
12260.000	20.81	38.60	15.18	36.36	38.23	54.00	-15.77	Average
12260.000	30.17	38.60	15.18	36.36	47.59	74.00	-26.41	Peak
14712.000	19.20	41.00	17.30	35.71	41.79	54.00	-12.21	Average
14712.000	30.14	41.00	17.30	35.71	52.73	74.00	-21.27	Peak
17164.000	17.18	40.74	18.98	36.28	40.62	54.00	-13.38	Average
17164.000	30.08	40.74	18.98	36.28	53.52	74.00	-20.48	Peak

Vertical:



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV	Limit level dBuV/m	Over limit dB	Remark
4904.000	26.12	31.35	8.68	37.76	28.39	54.00	-25.61	Average
4904.000	31.43	31.35	8.68	37.76	33.70	74.00	-40.30	Peak
7356.000	23.13	36.48	11.74	35.59	35.76	54.00	-18.24	Average
7356.000	30.19	36.48	11.74	35.59	42.82	74.00	-31.18	Peak
9808.000	23.96	38.17	14.29	35.07	41.35	54.00	-12.65	Average
9808.000	30.02	38.17	14.29	35.07	47.41	74.00	-26.59	Peak
12260.000	18.73	38.60	15.18	36.36	36.15	54.00	-17.85	Average
12260.000	30.37	38.60	15.18	36.36	47.79	74.00	-26.21	Peak
14712.000	15.30	41.00	17.30	35.71	37.89	54.00	-16.11	Average
14712.000	30.14	41.00	17.30	35.71	52.73	74.00	-21.27	Peak
17164.000	15.81	40.74	18.98	36.28	39.25	54.00	-14.75	Average
17164.000	30.20	40.74	18.98	36.28	53.64	74.00	-20.36	Peak

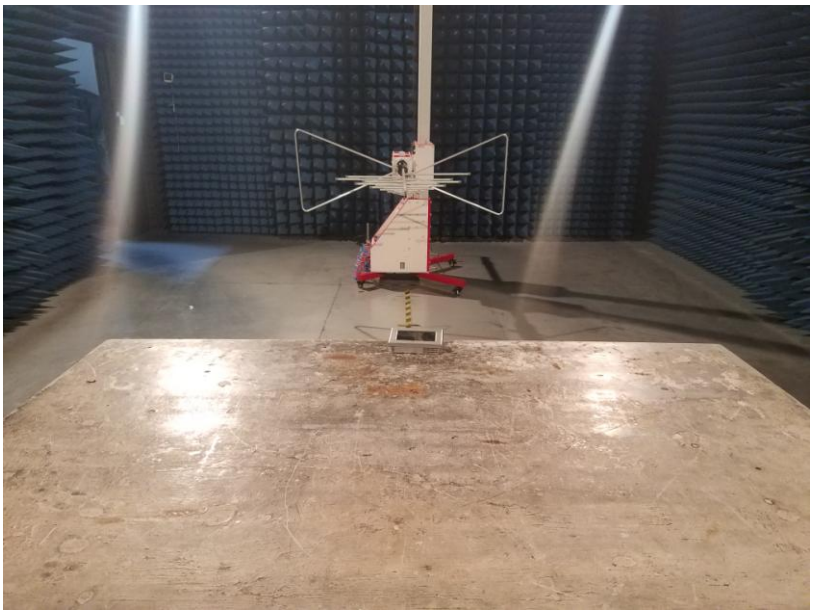
Remark:

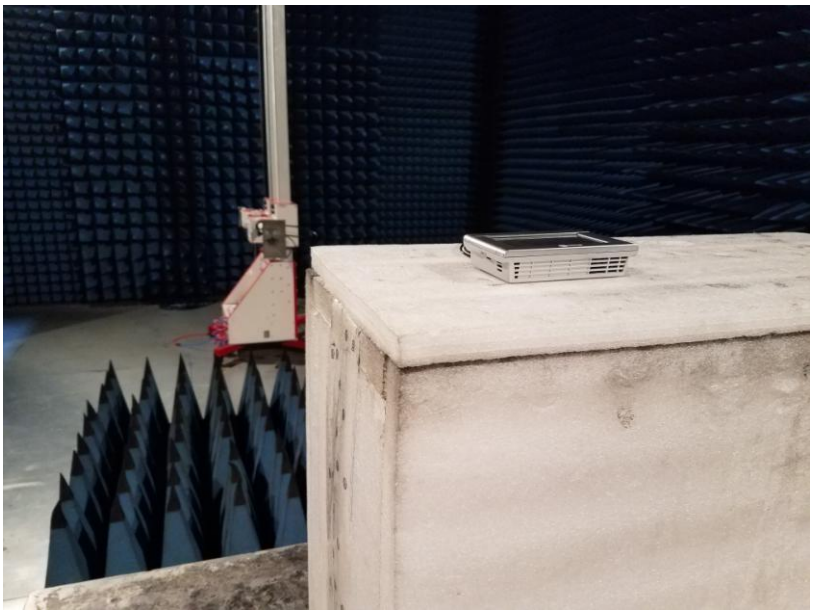
1 Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor

2 "", means this data is the too weak instrument of signal is unable to test.*

8 Test Setup Photo

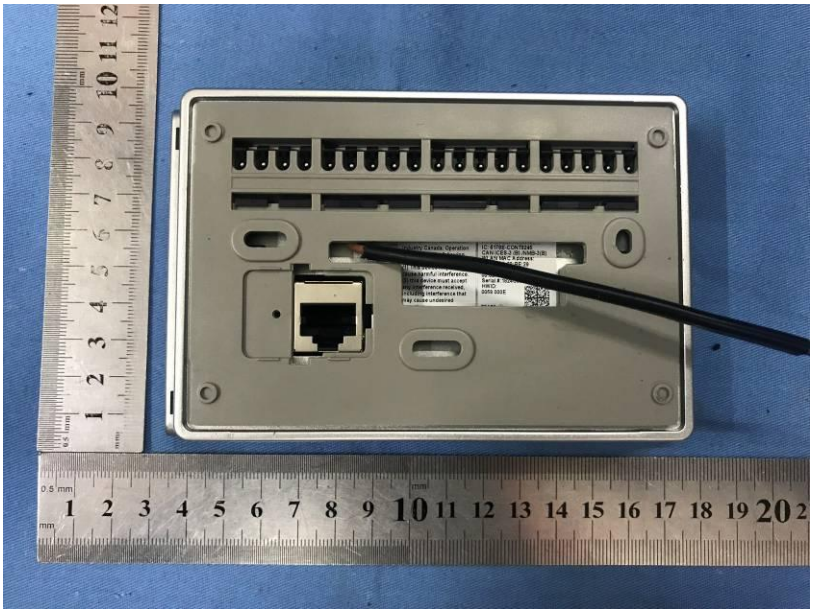
Radiated Emission

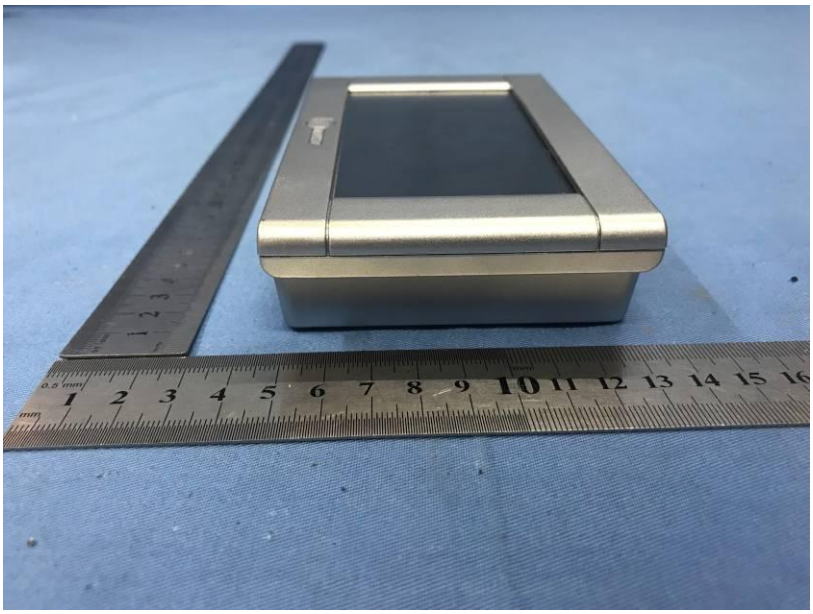




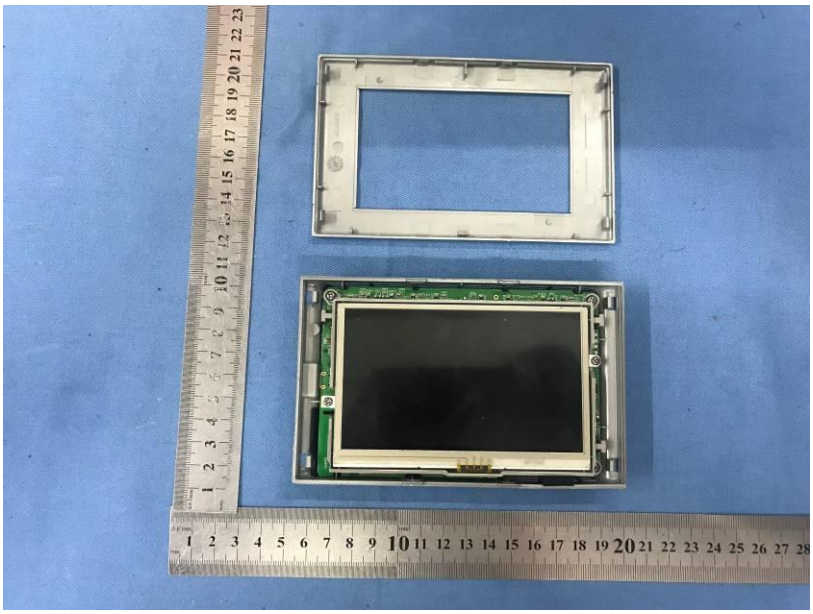
Conducted Emission

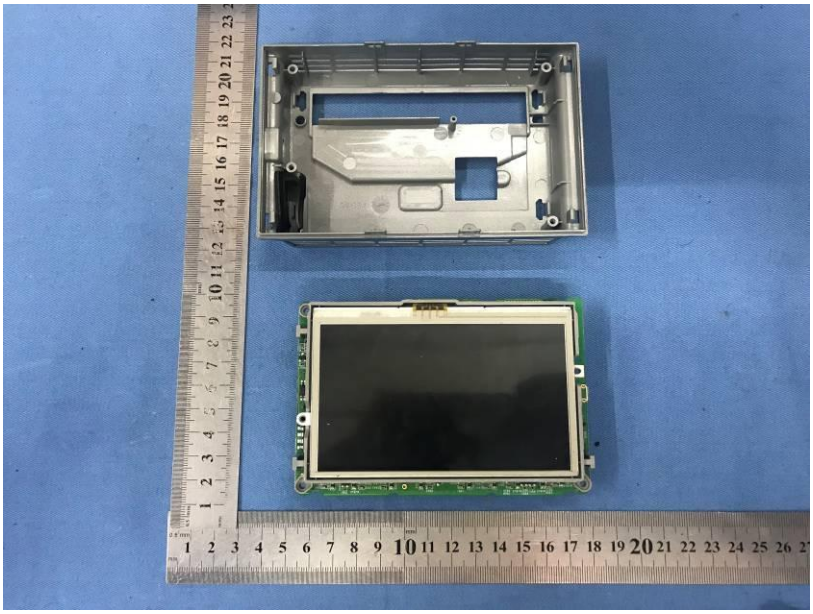
9 EUT Constructional Details

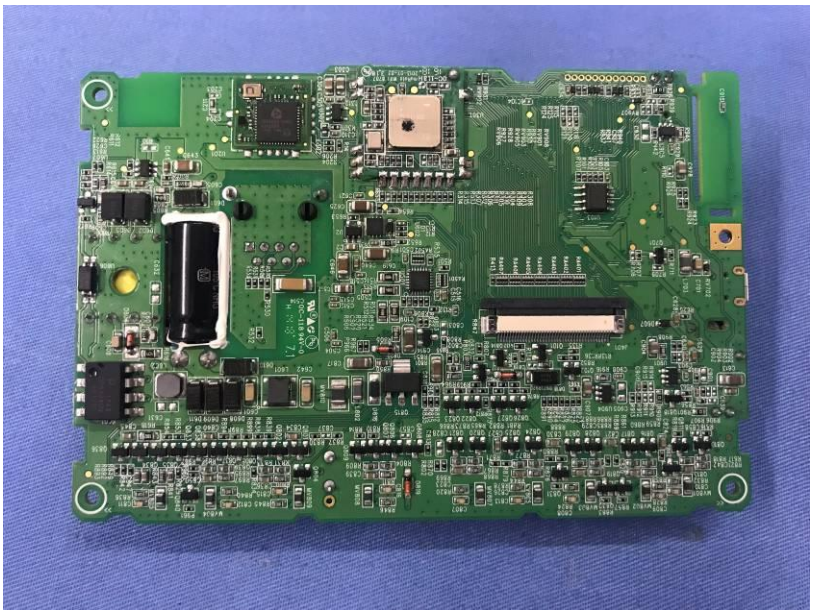




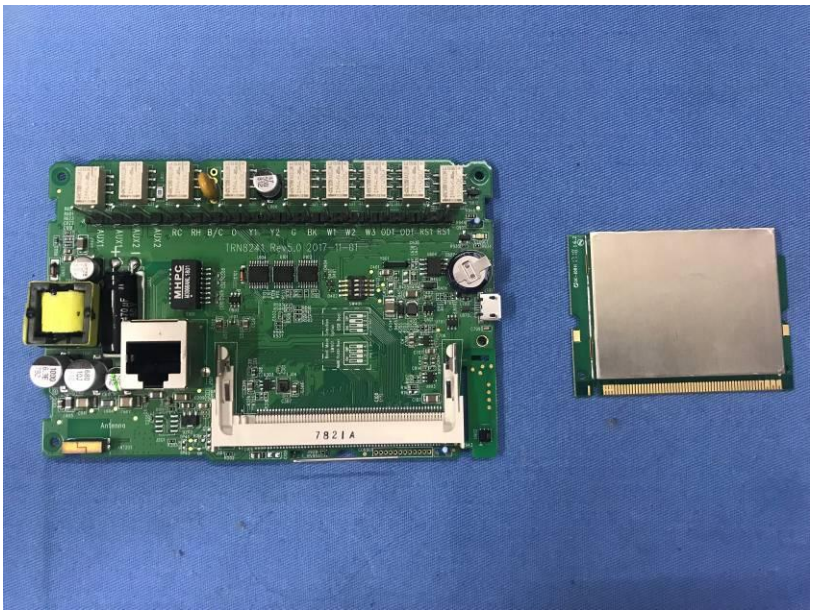

Trane US,INC
DSK:18585-29992-35712-46351-44764-20672-06905-49510
Z-WAVE
PLUS








RC RH B/C O Y1 Y2 G BK W1 W2 W3 ODT ODT RS1 RS1
TRN8241 Rev5.0 2017-11-01
AUX1
AUX2
MHPC
Antenna
7821A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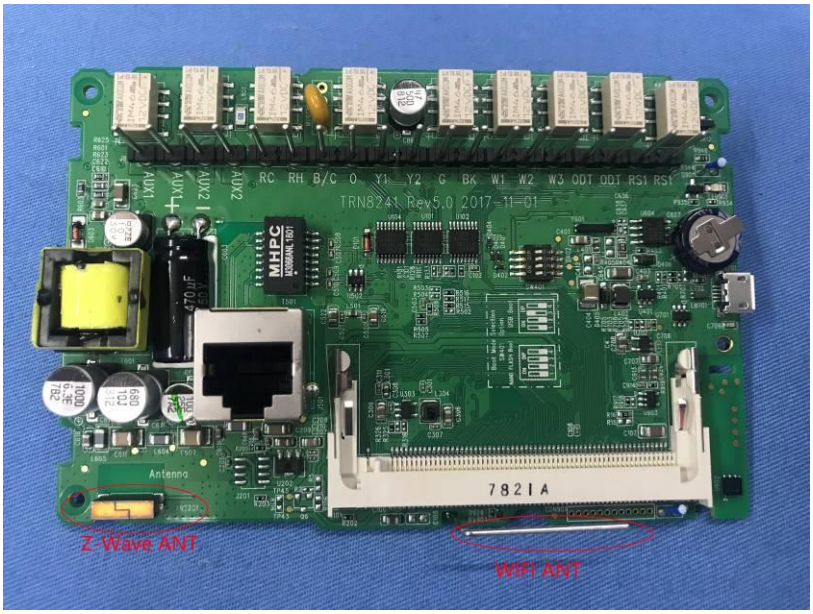
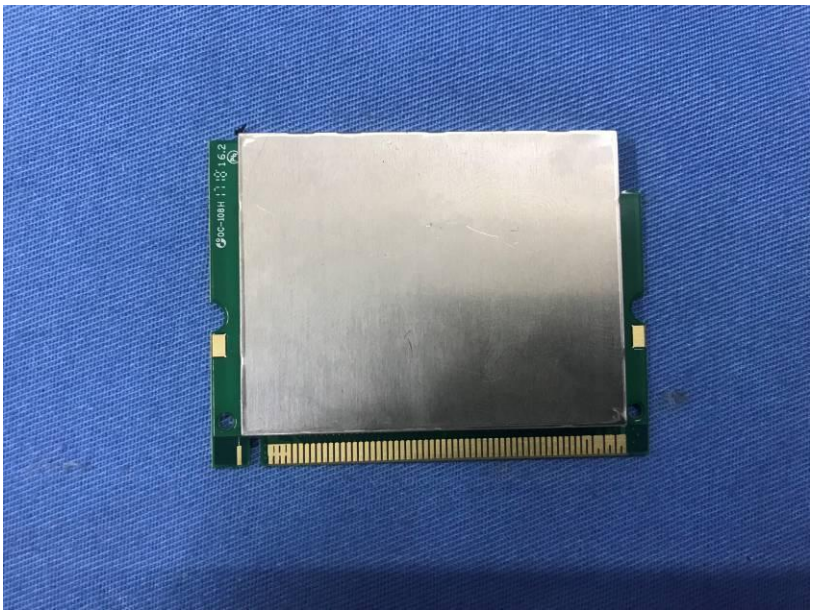
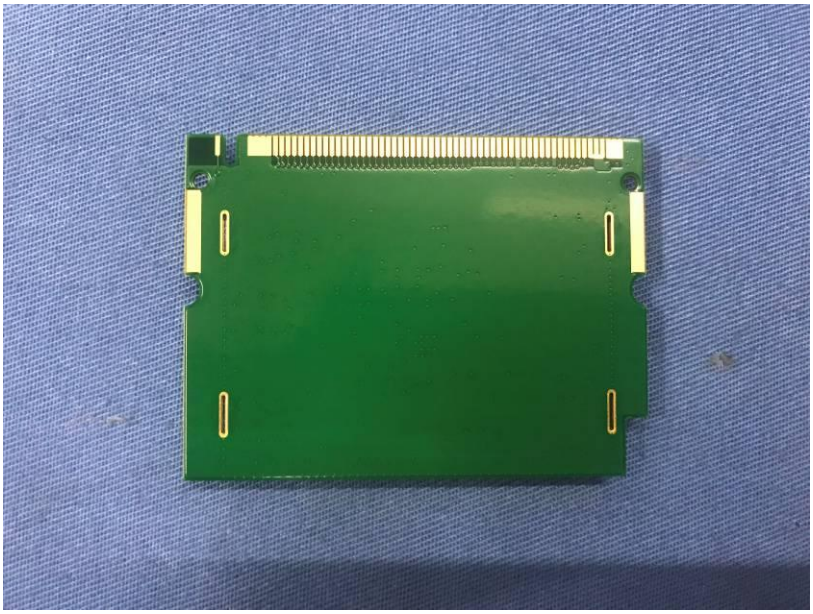
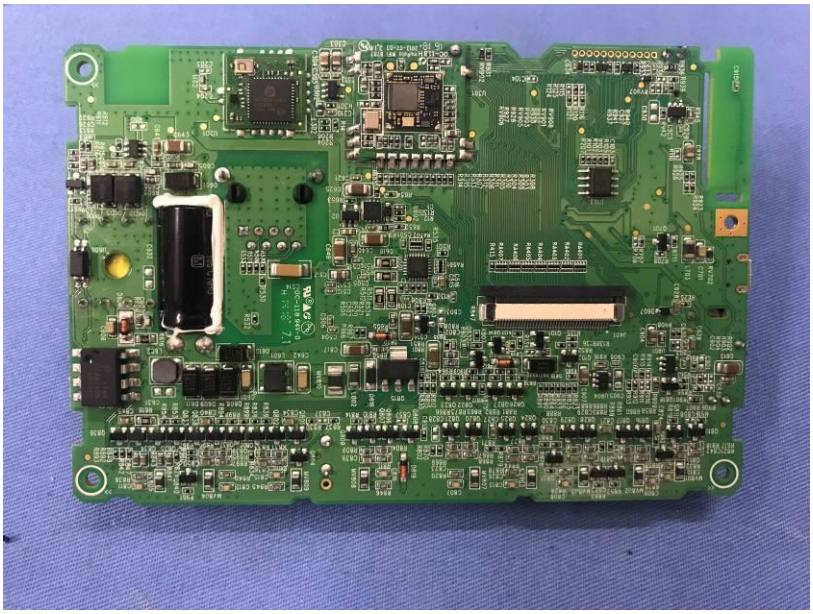
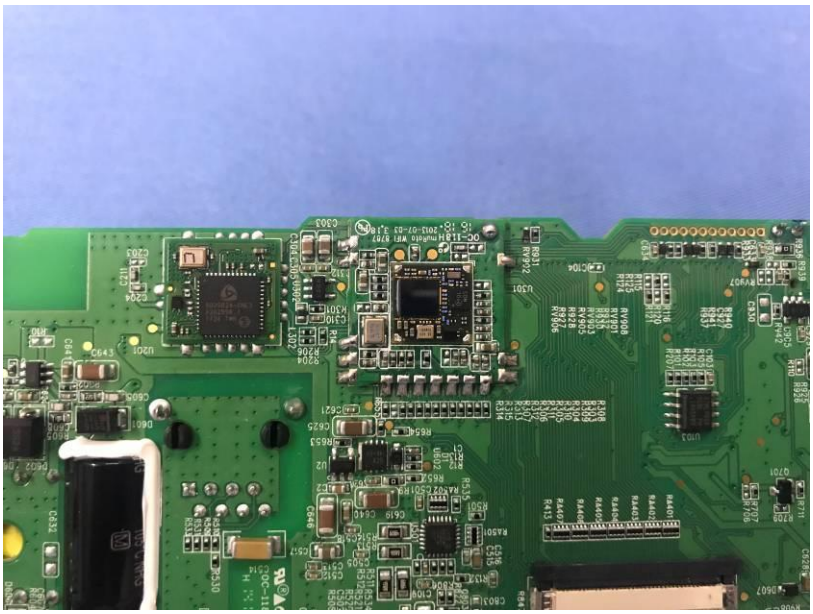

TRN8241 Rev5.0 2017-11-01
Antenna
Z-Wave ANT
WIFI ANT






VGG1111 CORE BOARD
VER:3.0 2012-04-09





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