

TEST REPORT

Applicant: RADIOSHACK WORLDWIDE CORP.
Address of Applicant: Millennium Tower, 18th floor Paseo General Escalon Number 3675 Col. Escalon, San Salvador, El Salvador
Manufacturer: RADIOSHACK WORLDWIDE CORP.
Address of Manufacturer: Millennium Tower, 18th floor Paseo General Escalon Number 3675 Col. Escalon, San Salvador, El Salvador
Factory: Shenzhen Golden Vision Technology Development Co., Ltd
Address of Factory: No.6 Bao Fu Road, Bao Lai industrial Park, Shang Mu Gu Villiage, Pinghu Street, Longgang District, Shenzhen City, Guangdong Province, 518000, China
Equipment Under Test (EUT)
Product Name: Video doorbell
Model No.: 6301919
Trade Mark: N/A
FCC ID: 2BDUR-6301919
Applicable standards: FCC CFR Title 47 Part 15 Subpart C Section 15.247
Date of sample receipt: 2024-10-23
Date of Test: 2024-11-09 to 2024-11-20
Date of report issued: 2024-11-27
Test Result : PASS *

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

Authorized Signature:



Robinson Luo
Laboratory Manager

This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

2 Version

Version No.	Date	Description
00	2024-11-27	Original

Prepared By:**Date:**

2024-11-27

Project Engineer**Check By:**
Reviewer**Date:**

2024-11-27

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4 Test Summary

Test Item	Section	Result
Antenna requirement	FCC part 15.203/15.247 (c)	Pass
AC Power Line Conducted Emission	FCC part 15.207	N/A The EUT is DC power supply.
Conducted Peak Output Power	FCC part 15.247 (b)(3)	Pass
Channel Bandwidth & 99% OCB	FCC part 15.247 (a)(2)	Pass
Power Spectral Density	FCC part 15.247 (e)	Pass
Band Edge	FCC part 15.247(d)	Pass
Spurious Emission	FCC part 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

No.	Item	Measurement Uncertainty
1	Radio Frequency	$\pm 7.25 \times 10^{-8}$
2	Duty cycle	$\pm 0.37\%$
3	Occupied Bandwidth	$\pm 3\%$
4	RF conducted power	$\pm 0.75\text{dB}$
5	RF power density	$\pm 3\text{dB}$
6	Conducted Spurious emissions	$\pm 2.58\text{dB}$
7	AC Power Line Conducted Emission	$\pm 3.44\text{dB}$ (0.15MHz ~ 30MHz)
8	Radiated Spurious emission test	$\pm 3.1\text{dB}$ (9kHz-30MHz)
		$\pm 3.8039\text{dB}$ (30MHz-200MHz)
		$\pm 3.9679\text{dB}$ (200MHz-1GHz)
		$\pm 4.29\text{dB}$ (1GHz-18GHz)
		$\pm 3.30\text{dB}$ (18GHz-40GHz)
9	Temperature test	$\pm 1^\circ\text{C}$
10	Humidity test	$\pm 3\%$
11	Time	$\pm 3\%$

5 General Information

5.1 General Description of EUT

Product Name:	Video doorbell
Model No.:	6301919
Test sample(s) ID:	GTSL2024110488-1
Sample(s) Status	Engineer sample
S/N:	N/A
Operation Frequency:	802.11b/802.11g/802.11n(HT20): 2412MHz~2462MHz
Channel numbers:	802.11b/802.11g /802.11n(HT20): 11
Channel separation:	5MHz
Modulation technology:	802.11b: Direct Sequence Spread Spectrum (DSSS) 802.11g/802.11n(HT20): Orthogonal Frequency Division Multiplexing (OFDM)
Antenna Type:	PCB Antenna
Antenna gain:	4.0 dBi
Power supply:	Rechargeable Li-ion Battery 3.7V==

Remark:

1. Antenna gain information provided by the customer.
2. The relevant information of the sample is provided by the entrusting company, and the laboratory is not responsible for its authenticity.

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)
Lowest channel	2412MHz
Middle channel	2437MHz
Highest channel	2462MHz

5.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode
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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)
Data rate	1Mbps	6Mbps	6.5Mbps

5.3 Description of Support Units

Manufacturer	Description	Model	Serial Number
Dongguan Golden Cel Battery Co.,Ltd.	Rechargeable Li-ion Battery	CEL18650	N/A

5.4 Deviation from Standards

None.

5.5 Abnormalities from Standard Conditions

None.

5.6 Test Facility

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

- **FCC—Registration No.: 381383**

Designation Number: CN5029

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.

- **ISED—Registration No.: 9079A**

CAB identifier: CN0091

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of ISED for radio equipment testing.

- **NVLAP (LAB CODE:600179-0)**

Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

5.7 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.

Address: No. 123-128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102

Tel: 0755-27798480

Fax: 0755-27798960

5.8 Additional Instructions

Test Software	Special test command provided by manufacturer
Power level setup	Default

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	June 22, 2024	June 21, 2027
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	April 11, 2024	April 10, 2025
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9168	GTS640	March 19, 2023	March 18, 2025
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	April 17, 2023	April 16, 2025
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
7	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	April 11, 2024	April 10, 2025
8	Loop Antenna	ZHINAN	ZN30900A	GTS534	Nov. 13, 2023 Nov. 12, 2024	Nov.12, 2024 Nov.11, 2025
9	Broadband Preamplifier	SCHWARZBECK	BBV9718	GTS535	April 11, 2024	April 10, 2025
10	Amplifier(1GHz-26.5GHz)	HP	8449B	GTS601	April 11, 2024	April 10, 2025
11	Horn Antenna (18-26.5GHz)	/	UG-598A/U	GTS664	Oct. 28, 2024	Oct. 27, 2025
12	Horn Antenna (26.5-40GHz)	A.H Systems	SAS-573	GTS665	Oct. 28, 2024	Oct. 27, 2025
13	FSV-Signal Analyzer (10Hz-40GHz)	Keysight	FSV-40-N	GTS666	March 12, 2024	March 11, 2025
14	Amplifier	/	LNA-1000-30S	GTS650	April 11, 2024	April 10, 2025
15	CDNE M2+M3-16A	HCT	30MHz-300MHz	GTS692	Nov. 07, 2024	Nov.06, 2025
16	Wideband Amplifier	/	WDA-01004000-15P35	GTS602	April 11, 2024	April 10, 2025
17	Thermo meter	JINCHUANG	GSP-8A	GTS643	April 18, 2024	April 17, 2025
18	RE cable 1	GTS	N/A	GTS675	July 02. 2024	July 01. 2025
19	RE cable 2	GTS	N/A	GTS676	July 02. 2024	July 01. 2025
20	RE cable 3	GTS	N/A	GTS677	July 02. 2024	July 01. 2025
21	RE cable 4	GTS	N/A	GTS678	July 02. 2024	July 01. 2025
22	RE cable 5	GTS	N/A	GTS679	July 02. 2024	July 01. 2025
23	RE cable 6	GTS	N/A	GTS680	July 02. 2024	July 01. 2025
24	RE cable 7	GTS	N/A	GTS681	July 05. 2024	July 04. 2025
25	RE cable 8	GTS	N/A	GTS682	July 05. 2024	July 04. 2025

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	July 12, 2022	July 11, 2027
2	EMI Test Receiver	R&S	ESCI 7	GTS552	April 11, 2024	April 10, 2025
3	LISN	ROHDE & SCHWARZ	ENV216	GTS226	April 11, 2024	April 10, 2025
4	Coaxial Cable	GTS	N/A	GTS227	N/A	N/A
5	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
6	Thermo meter	JINCHUANG	GSP-8A	GTS642	April 18, 2024	April 17, 2025
7	Absorbing clamp	Elektronik-Feinmechanik	MDS21	GTS229	April 11, 2024	April 10, 2025
8	ISN	SCHWARZBECK	NTFM 8158	GTS565	April 11, 2024	April 10, 2025
9	High voltage probe	SCHWARZBECK	TK9420	GTS537	April 11, 2024	April 10, 2025
10	Antenna end assembly	Weinschel	1870A	GTS560	April 11, 2024	April 10, 2025

RF Conducted Test:						
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	April 11, 2024	April 10, 2025
2	EMI Test Receiver	R&S	ESCI 7	GTS552	April 11, 2024	April 10, 2025
3	PSA Series Spectrum Analyzer	Agilent	E4440A	GTS536	April 11, 2024	April 10, 2025
4	MXG vector Signal Generator	Agilent	N5182A	GTS567	April 11, 2024	April 10, 2025
5	ESG Analog Signal Generator	Agilent	E4428C	GTS568	April 11, 2024	April 10, 2025
6	USB RF Power Sensor	DARE	RPR3006W	GTS569	April 11, 2024	April 10, 2025
7	RF Switch Box	Shongyi	RFSW3003328	GTS571	April 11, 2024	April 10, 2025
8	Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	GTS572	April 11, 2024	April 10, 2025
9	Thermo meter	JINCHUANG	GSP-8A	GTS641	April 18, 2024	April 17, 2025

General used equipment:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Barometer	KUMAO	SF132	GTS647	April 18, 2024	April 17, 2025

7 Test results and Measurement Data

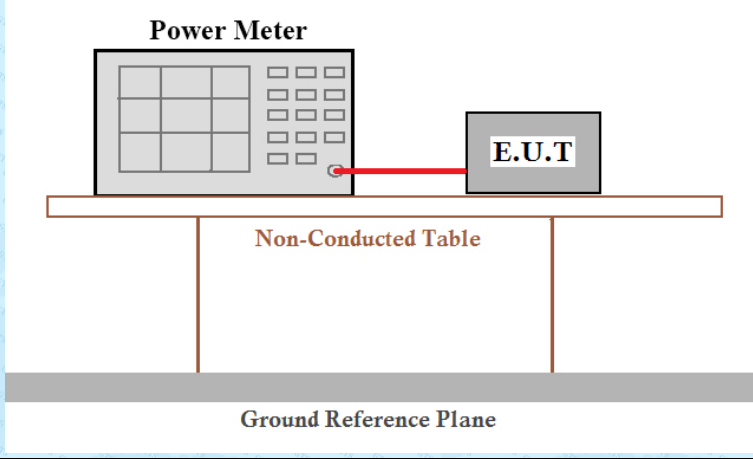
7.1 Antenna requirement

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:	
<i>The antennas are PCB Antenna, the best case gain of the antennas are 4.0dBi, reference to the appendix II for details</i>	

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:	<table><tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (dBuV)</th></tr><tr><th>Quasi-peak</th><th>Average</th></tr><tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr><tr><td>0.5-5</td><td>56</td><td>46</td></tr><tr><td>5-30</td><td>60</td><td>50</td></tr></table> * Decreases with the logarithm of the frequency.					Frequency range (MHz)	Limit (dBuV)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	5-30	60	50
Frequency range (MHz)	Limit (dBuV)																		
	Quasi-peak	Average																	
0.15-0.5	66 to 56*	56 to 46*																	
0.5-5	56	46																	
5-30	60	50																	
Test setup:	Reference Plane Remark E.U.T: Equipment Under Test LISN: Line Impedance 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 Instruments:	Refer to section 6.0 for details																		
Test mode:	Refer to section 5.2 for details																		
Test environment:	Temp.:	/	Humid.:	/	Press.:														
Test voltage:	N/A																		
Test results:	N/A																		

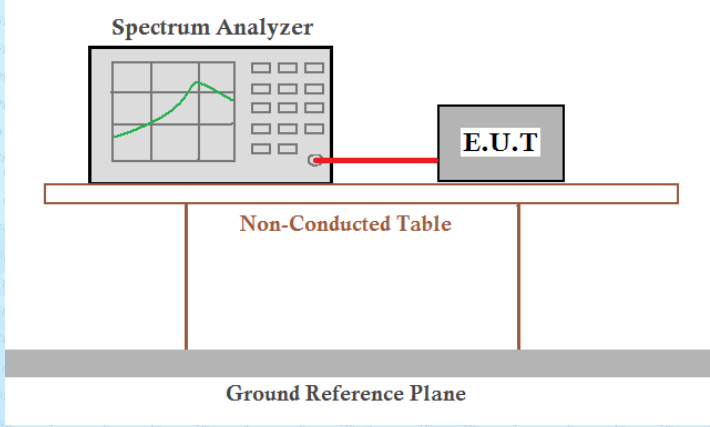
7.3 Conducted Output Power

Test Requirement :	FCC Part15 C Section 15.247 (b)(3)
Test Method :	ANSI C63.10:2013
Limit:	30dBm
Test setup:	 The diagram illustrates the test setup. A Power Meter and an E.U.T. are connected by a red cable. They are placed on a table labeled 'Non-Conducted Table'. Below the table is a 'Ground Reference Plane'.
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	Output Power (dBm)			Limit(dBm)	Result
	802.11b	802.11g	802.11n(HT20)		
Lowest	16.75	15.19	13.92	30.00	Pass
Middle	18.09	16.73	15.53		
Highest	19.55	17.92	17.03		

7.4 Channel Bandwidth

Test Requirement :	FCC Part15 C Section 15.247 (a)(2)
Test Method :	ANSI C63.10:2013
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

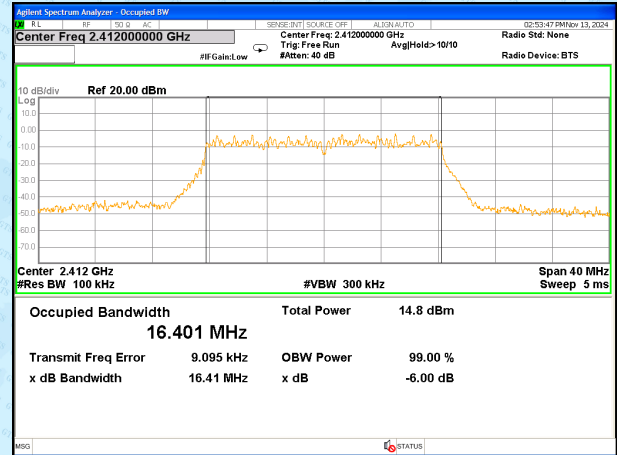
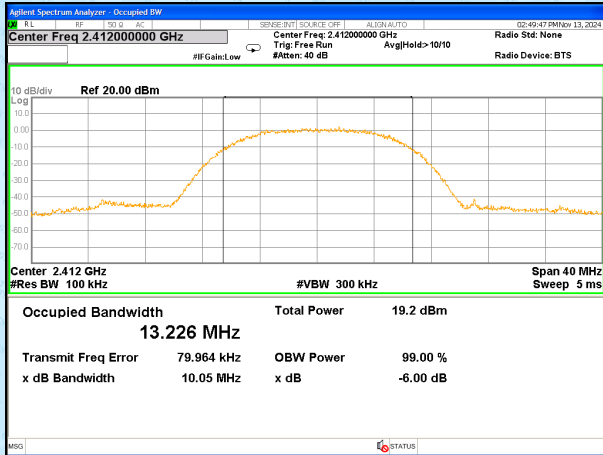
Measurement Data

Test CH	Channel Bandwidth (MHz)			Limit(KHz)	Result
	802.11b	802.11g	802.11n(HT20)		
Lowest	10.05	16.41	16.51	>500	Pass
Middle	9.82	16.37	16.48		
Highest	10.04	16.39	16.31		

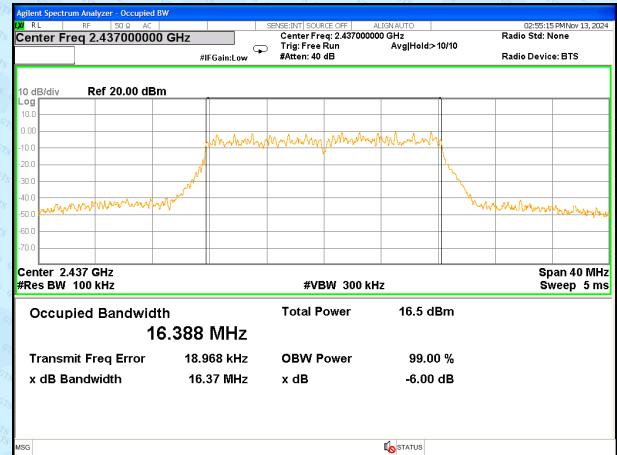
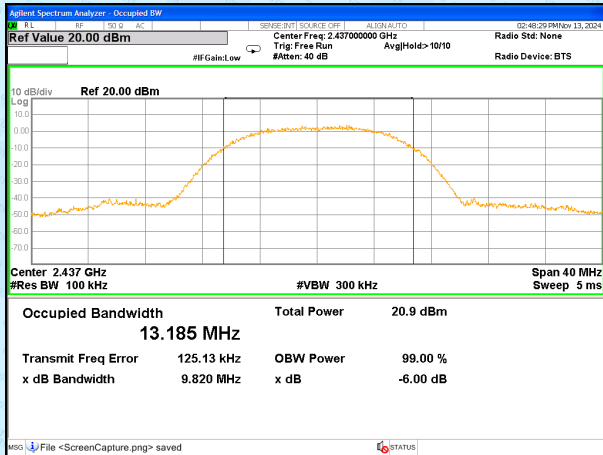
Test plot as follows:

802.11b

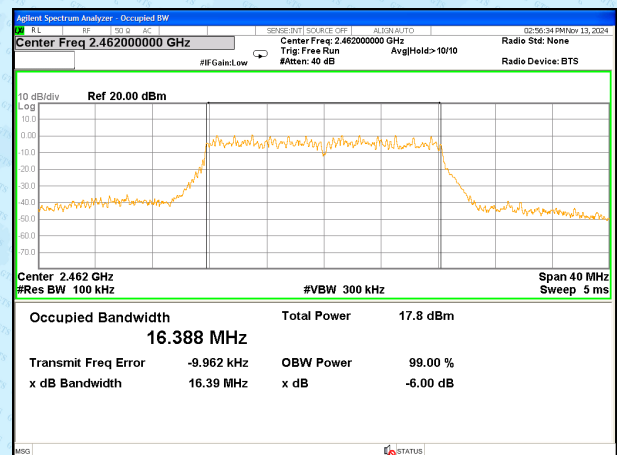
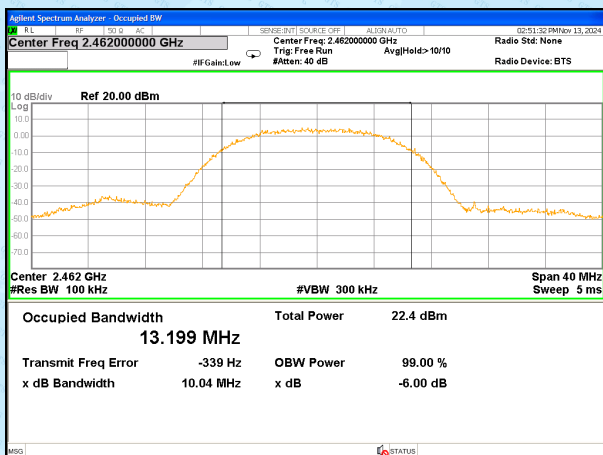
802.11g



Lowest channel

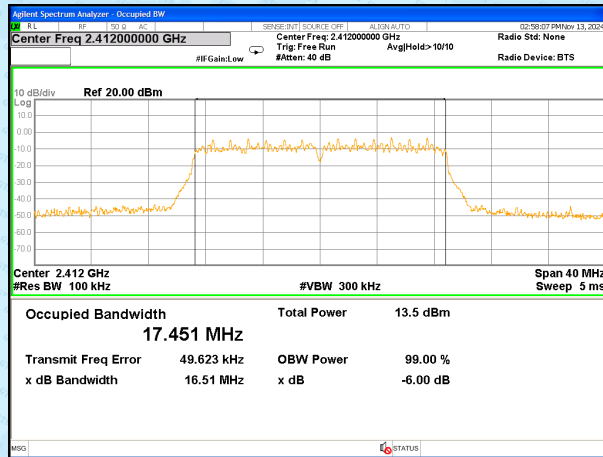


Middle channel

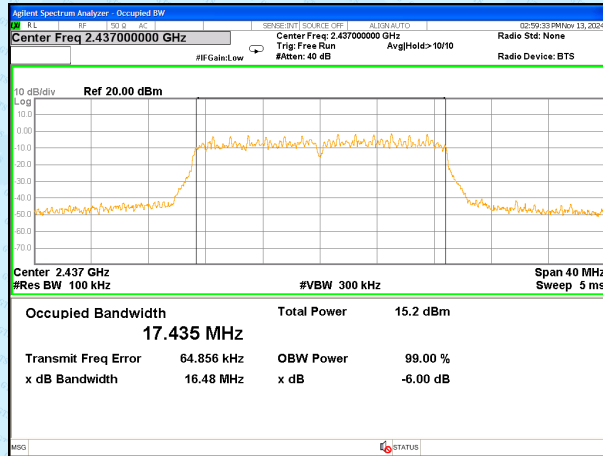


Highest channel

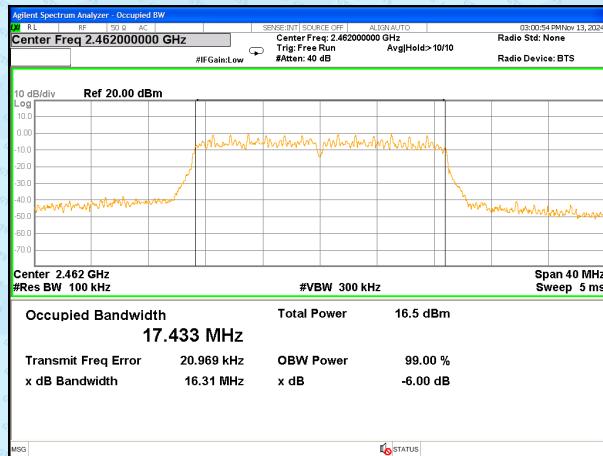
802.11n(HT20)



Lowest channel

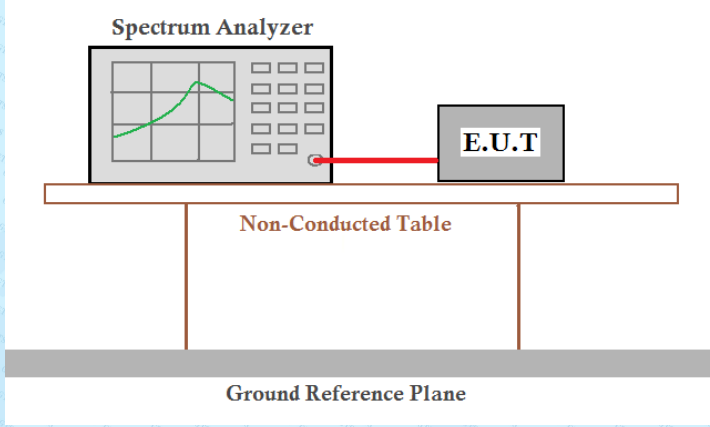


Middle channel



Highest channel

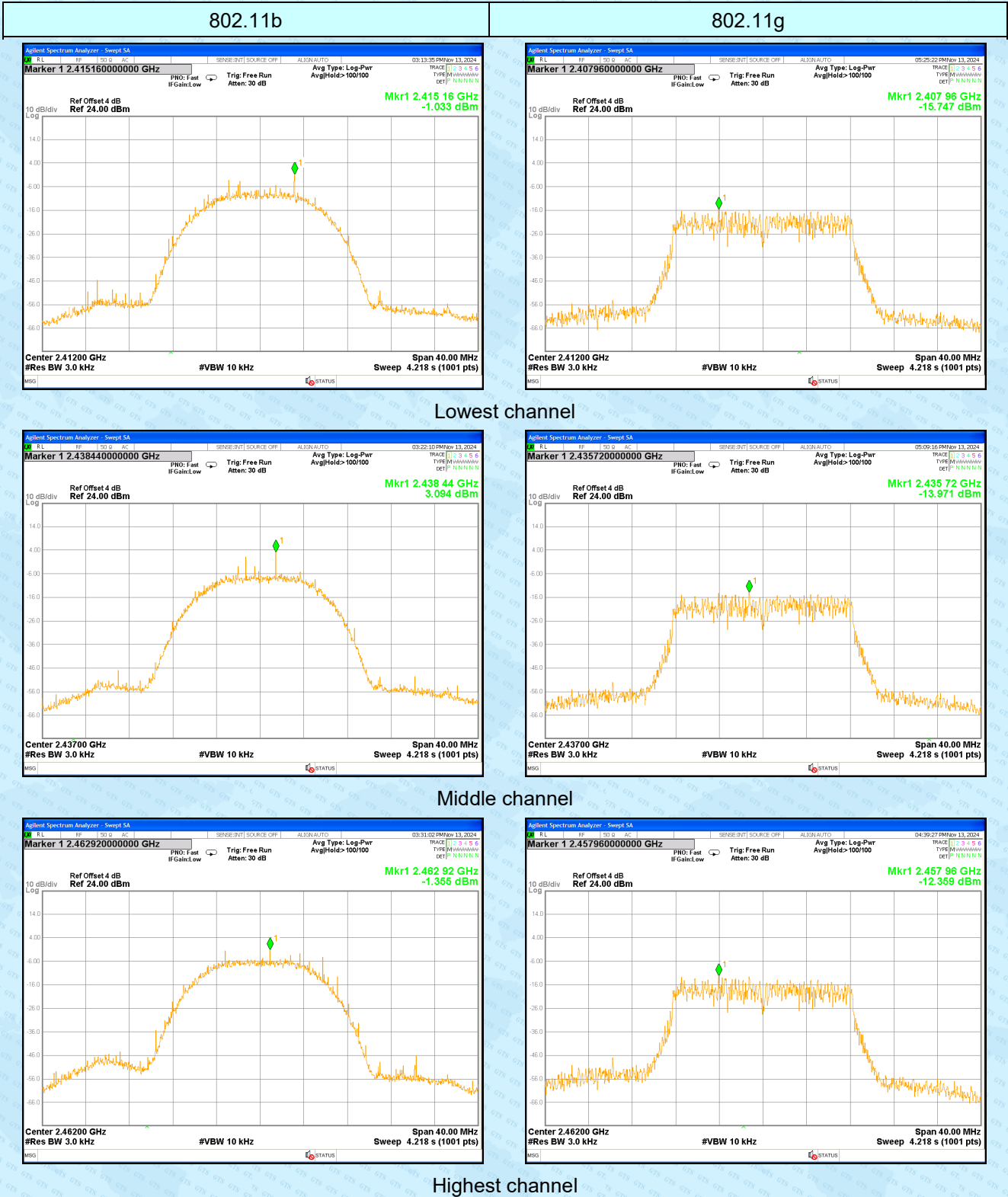
7.5 Power Spectral Density

Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	ANSI C63.10:2013
Limit:	8dBm/3kHz
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The table is supported by a Ground Reference Plane.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

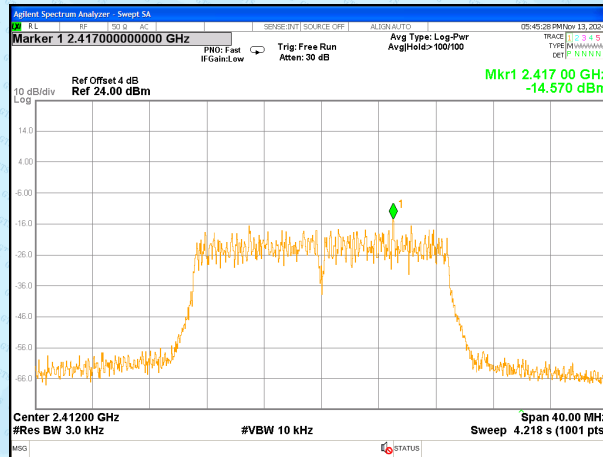
Measurement Data

Test CH	Power Spectral Density (dBm/3kHz)			Limit (dBm/3kHz)	Result
	802.11b	802.11g	802.11n(HT20)		
Lowest	-1.033	-15.747	-14.570	8.00	Pass
Middle	3.094	-13.971	-12.593		
Highest	-1.355	-12.359	-12.000		

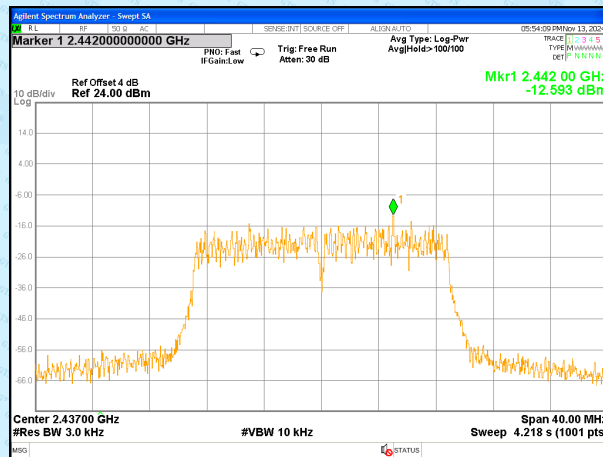
Test plot as follows:



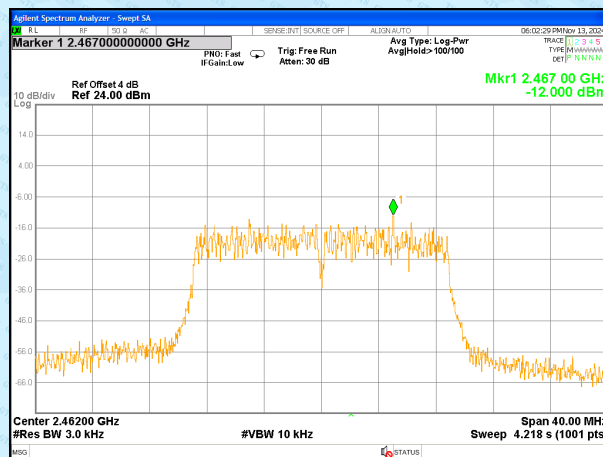
802.11n(HT20)



Lowest channel



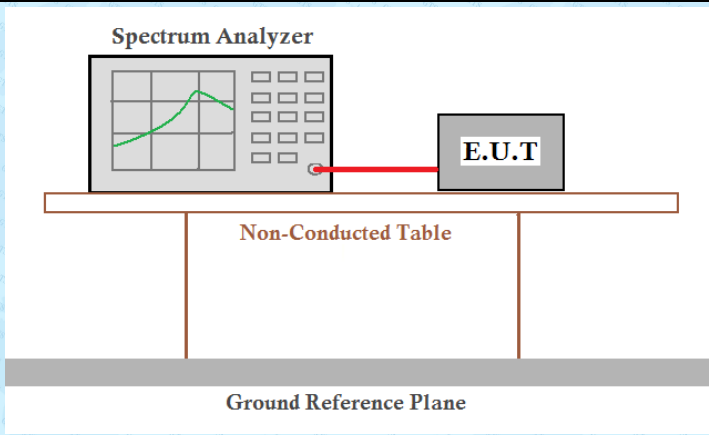
Middle channel



Highest channel

7.6 Bands edges

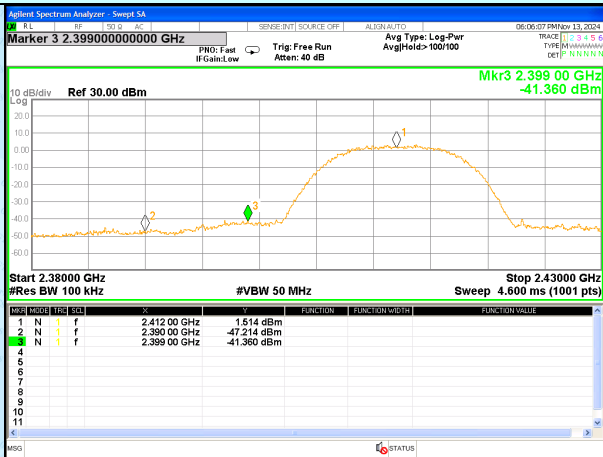
7.6.1 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.10:2013
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The table is supported by a Ground Reference Plane.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

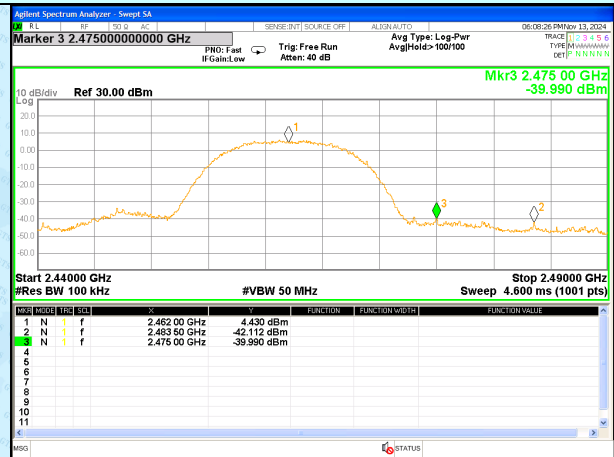
Test plot as follows:

Test mode:

802.11b



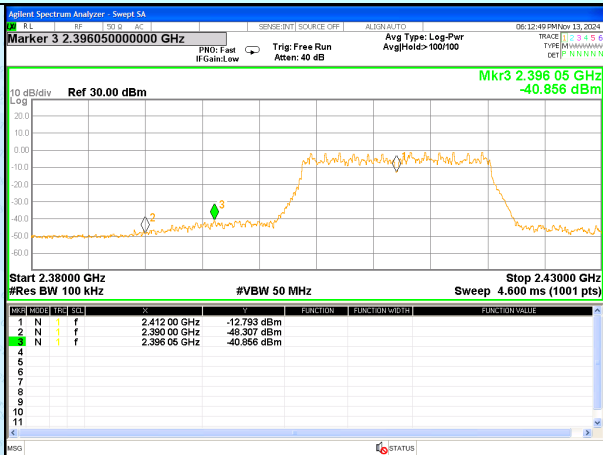
Lowest channel



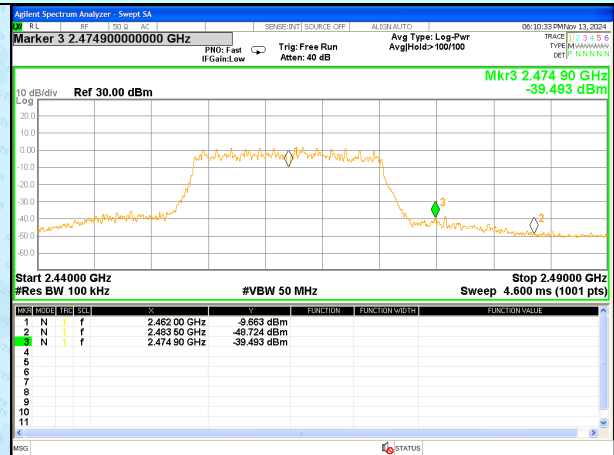
Highest channel

Test mode:

802.11g



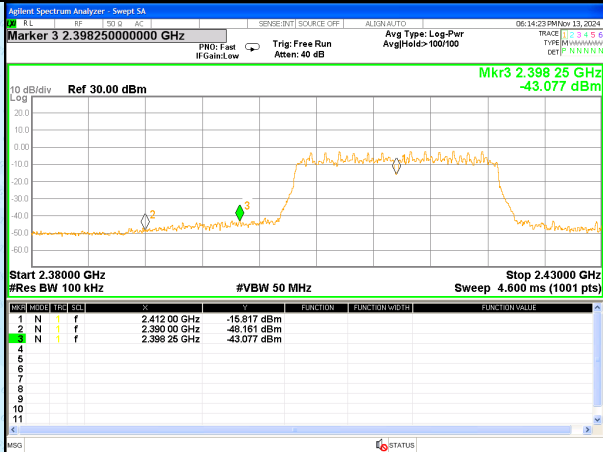
Lowest channel



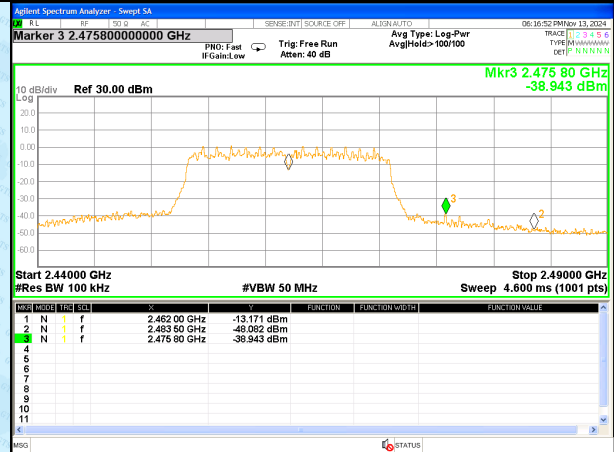
Highest channel

Test mode:

802.11n(HT20)

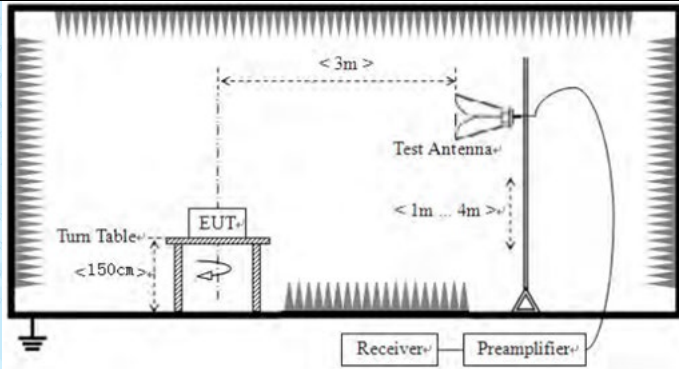


Lowest channel



Highest channel

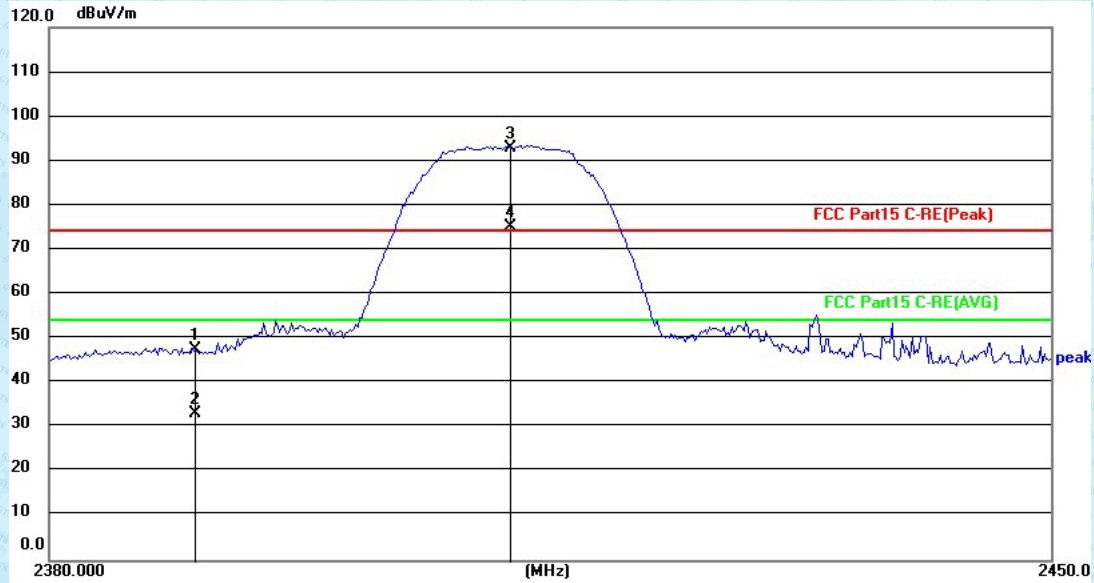
7.6.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209 and 15.205				
Test Method:	ANSI C63.10: 2013				
Test Frequency Range:	All of the restrict bands were tested, only the worst band's (2310MHz to 2500MHz) data was showed.				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	Above 1GHz	Peak	1MHz	3MHz	Peak
		Average	1MHz	3MHz	Average
Limit:	Frequency		Limit (dBuV/m @3m)		Value
	Above 1GHz		54.00		Average
			74.00		Peak
Test setup:					
Test Procedure:	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.				
Test Instruments:	Refer to section 6.0 for details				
Test mode:	Refer to section 5.2 for details				
Test results:	Pass				

Measurement data:

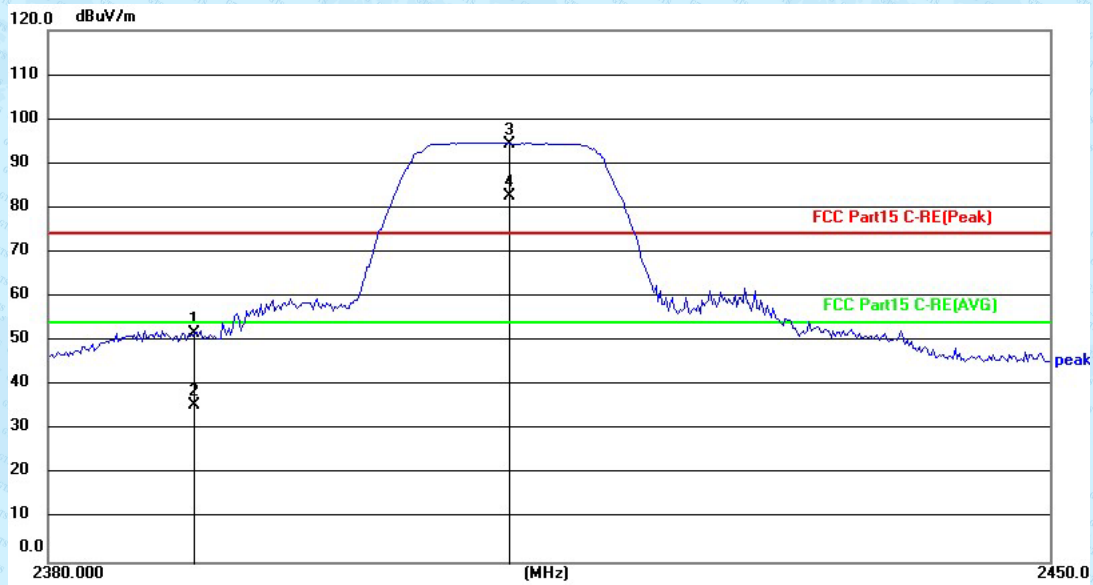
Test mode:	802.11b 2412MHz	Test channel:	Lowest
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Horizontal



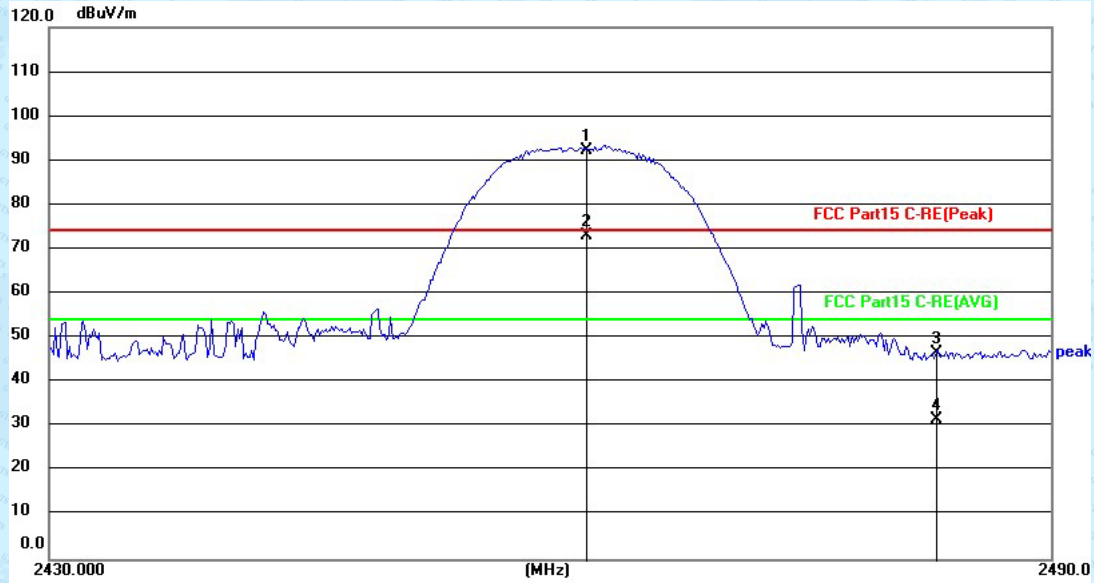
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2390.000	21.16	26.32	47.48	74.00	-26.52	peak
2	2390.000	6.86	26.32	33.18	54.00	-20.82	AVG
3	2412.000	66.55	26.36	92.91	74.00	18.91	peak
4	2412.000	48.75	26.36	75.11	54.00	21.11	AVG

Vertical



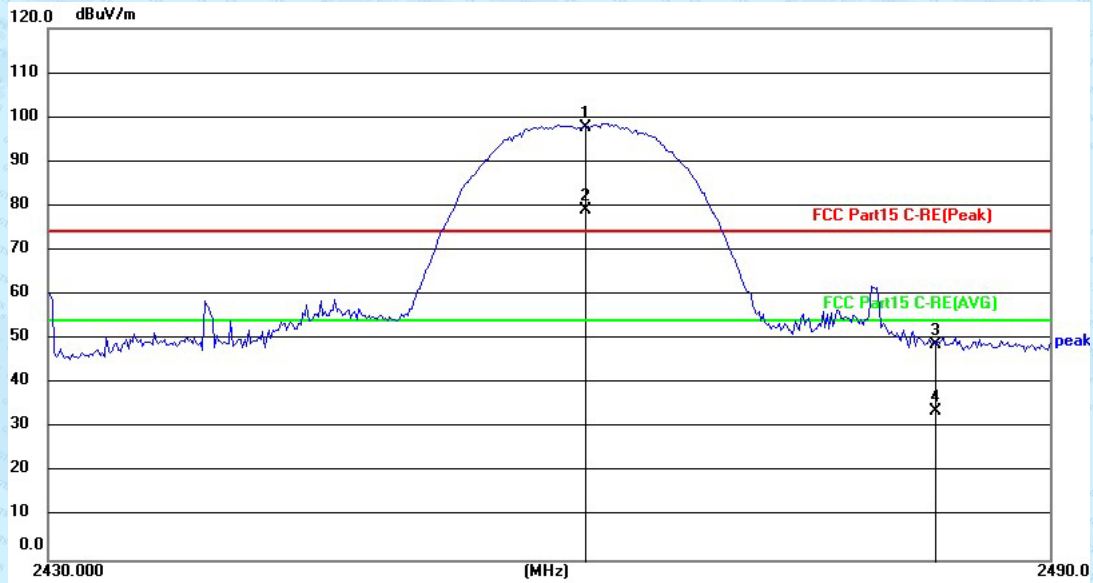
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2390.000	25.38	26.32	51.70	74.00	-22.30	peak
2	2390.000	9.15	26.32	35.47	54.00	-18.53	AVG
3	2412.000	68.08	26.36	94.44	74.00	20.44	peak
4	2412.000	56.32	26.36	82.68	54.00	28.68	AVG

Test mode:	802.11b 2462MHz	Test channel:	Highest
Horizontal			



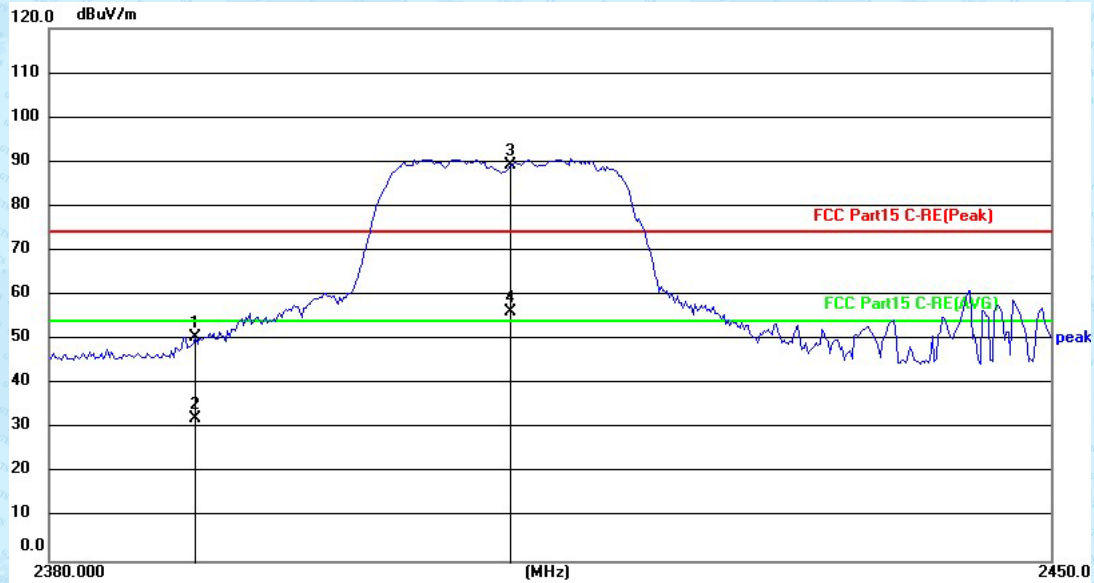
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2462.000	65.87	26.44	92.31	74.00	18.31	peak
2	2462.000	46.64	26.44	73.08	54.00	19.08	AVG
3	2483.000	20.33	26.47	46.80	74.00	-27.20	peak
4	2483.000	5.31	26.47	31.78	54.00	-22.22	AVG

Vertical



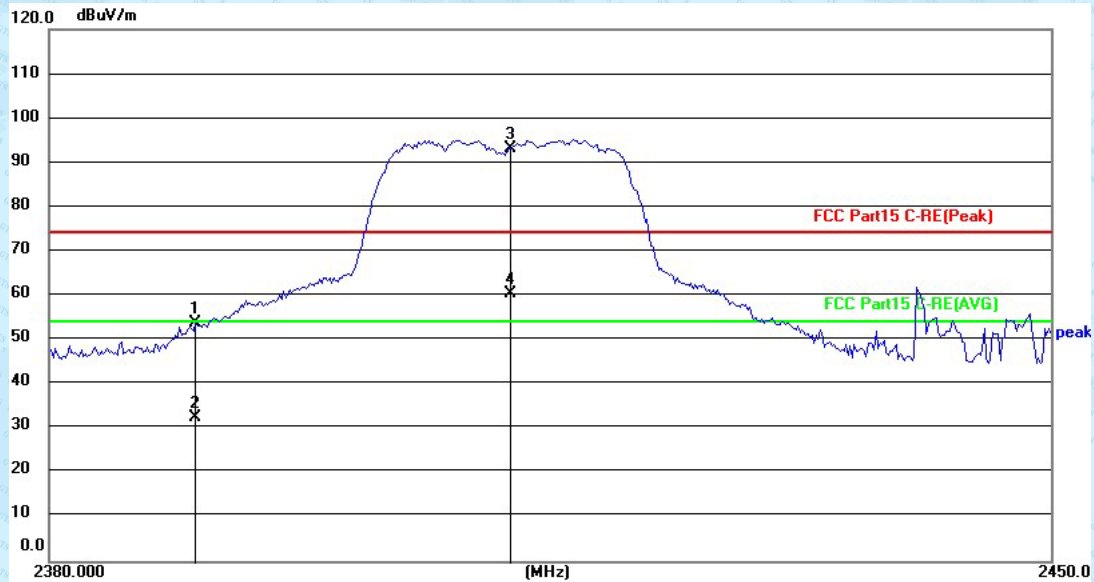
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2462.000	71.22	26.44	97.66	74.00	23.66	peak
2	2462.000	52.55	26.44	78.99	54.00	24.99	AVG
3	2483.000	22.27	26.47	48.74	74.00	-25.26	peak
4	2483.000	7.14	26.47	33.61	54.00	-20.39	AVG

Test mode:	802.11g 2412MHz	Test channel:	Lowest
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Horizontal

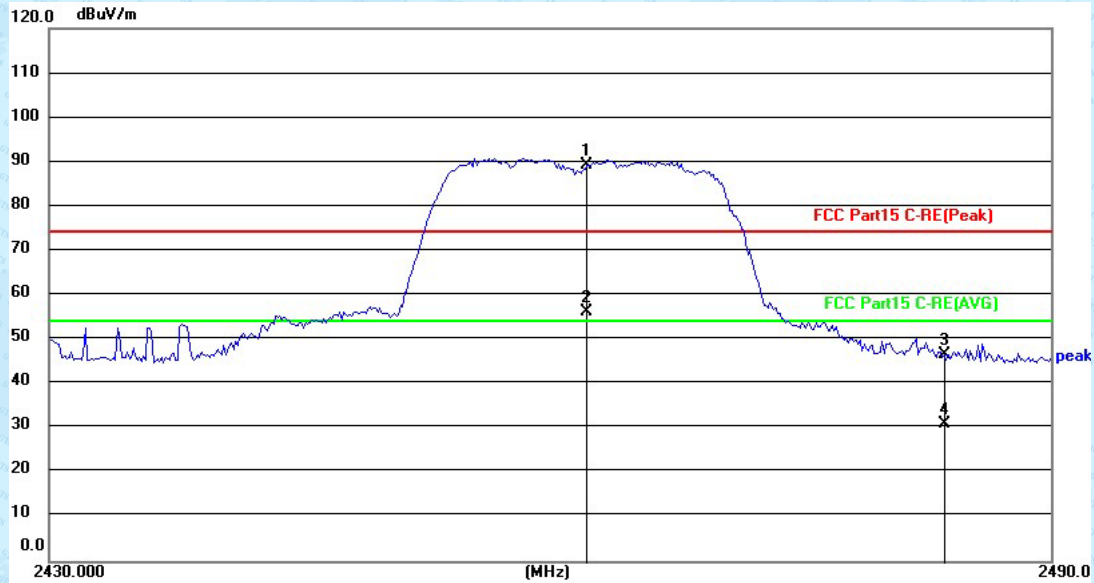
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2390.000	24.21	26.32	50.53	74.00	-23.47	peak
2	2390.000	6.02	26.32	32.34	54.00	-21.66	AVG
3	2412.000	62.91	26.36	89.27	74.00	15.27	peak
4	2412.000	29.92	26.36	56.28	54.00	2.28	AVG

Vertical



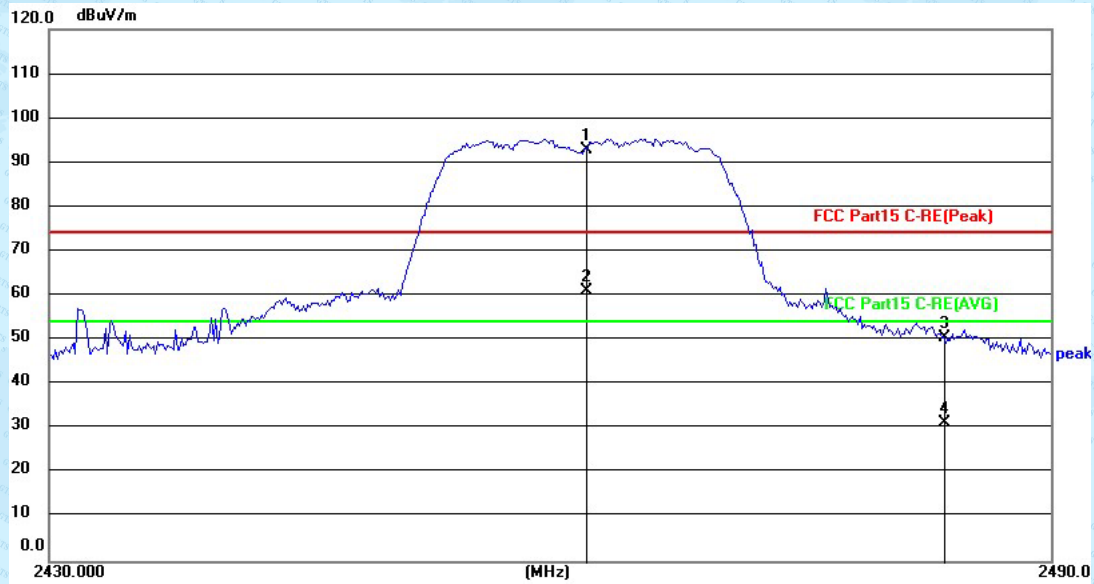
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2390.000	27.55	26.32	53.87	74.00	-20.13	peak
2	2390.000	6.37	26.32	32.69	54.00	-21.31	AVG
3	2412.000	66.90	26.36	93.26	74.00	19.26	peak
4	2412.000	34.24	26.36	60.60	54.00	6.60	AVG

Test mode:	802.11g 2462MHz	Test channel:	Highest
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Horizontal

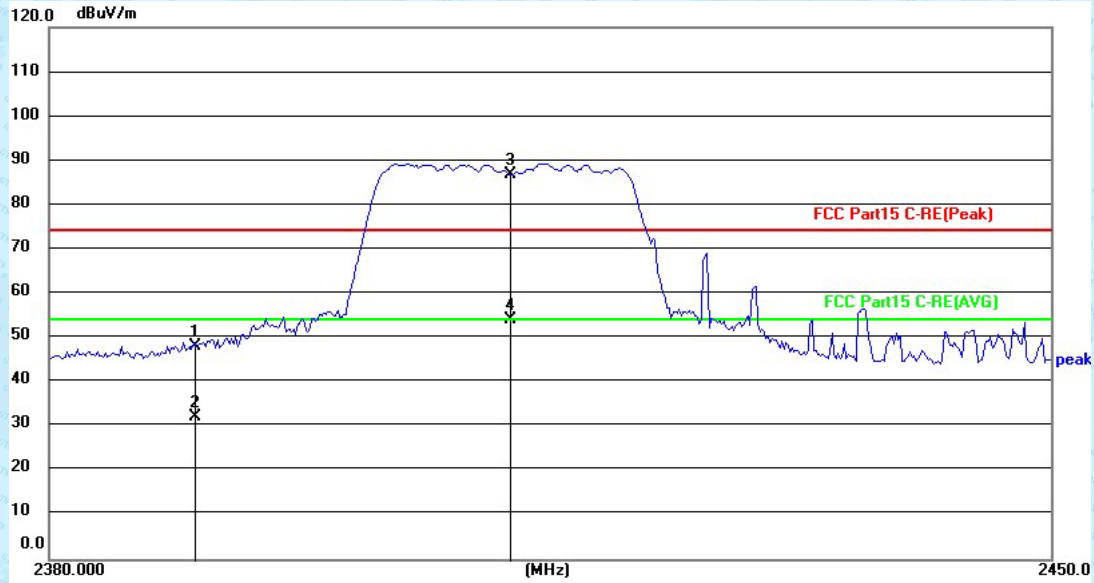
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2462.000	62.85	26.44	89.29	74.00	15.29	peak
2	2462.000	29.89	26.44	56.33	54.00	2.33	AVG
3	2483.500	20.18	26.47	46.65	74.00	-27.35	peak
4	2483.500	4.47	26.47	30.94	54.00	-23.06	AVG

Vertical



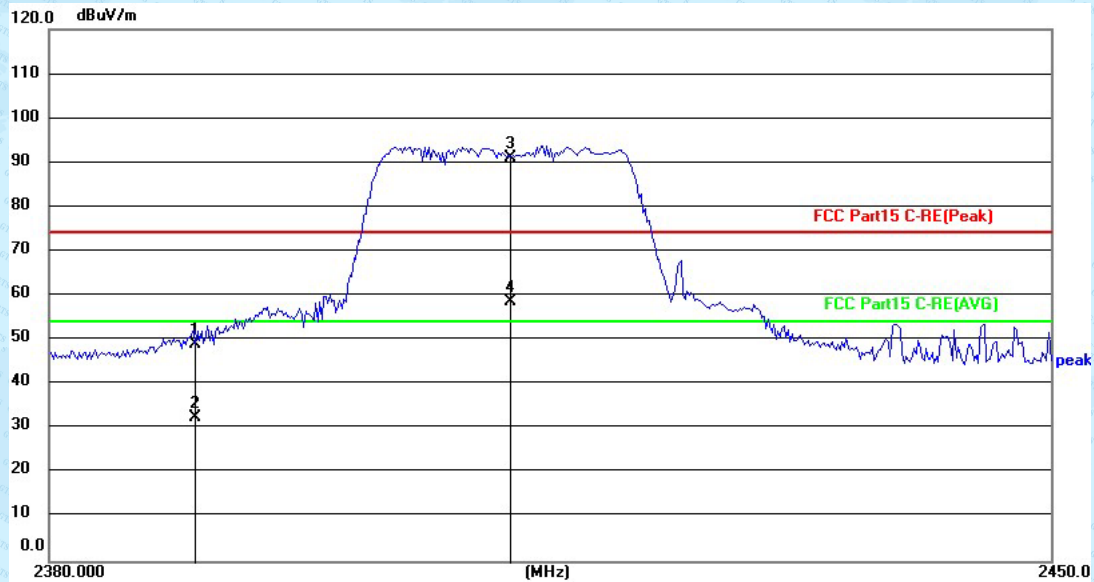
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2462.000	66.48	26.44	92.92	74.00	18.92	peak
2	2462.000	34.57	26.44	61.01	54.00	7.01	AVG
3	2483.500	24.15	26.47	50.62	74.00	-23.38	peak
4	2483.500	4.98	26.47	31.45	54.00	-22.55	AVG

Test mode:	802.11n(HT20) 2412MHz	Test channel:	Lowest
Horizontal			



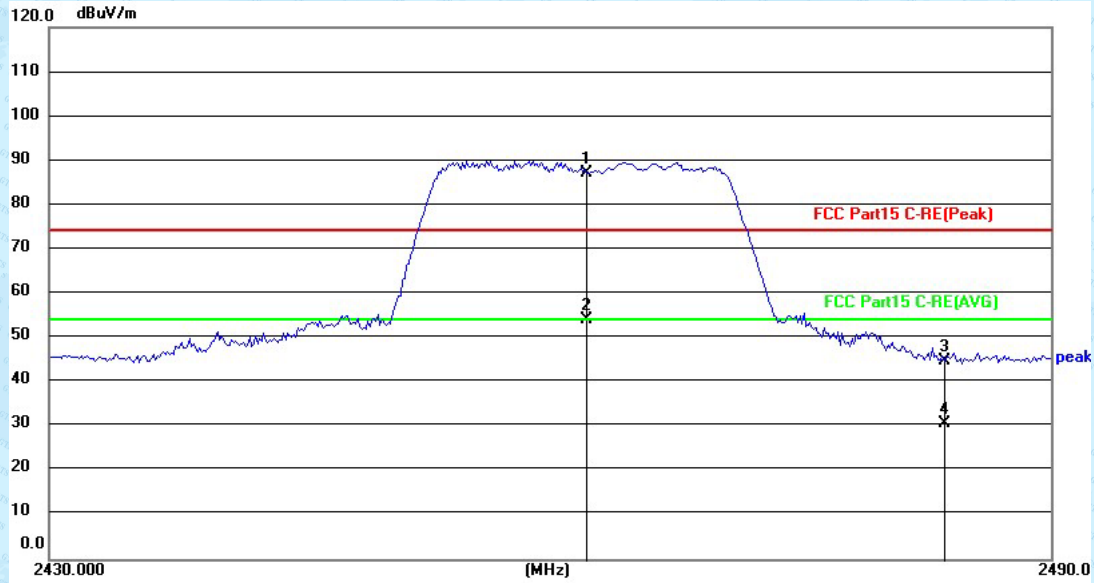
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2390.000	21.98	26.32	48.30	74.00	-25.70	peak
2	2390.000	5.94	26.32	32.26	54.00	-21.74	AVG
3	2412.000	60.43	26.36	86.79	74.00	12.79	peak
4	2412.000	27.90	26.36	54.26	54.00	0.26	AVG

Vertical



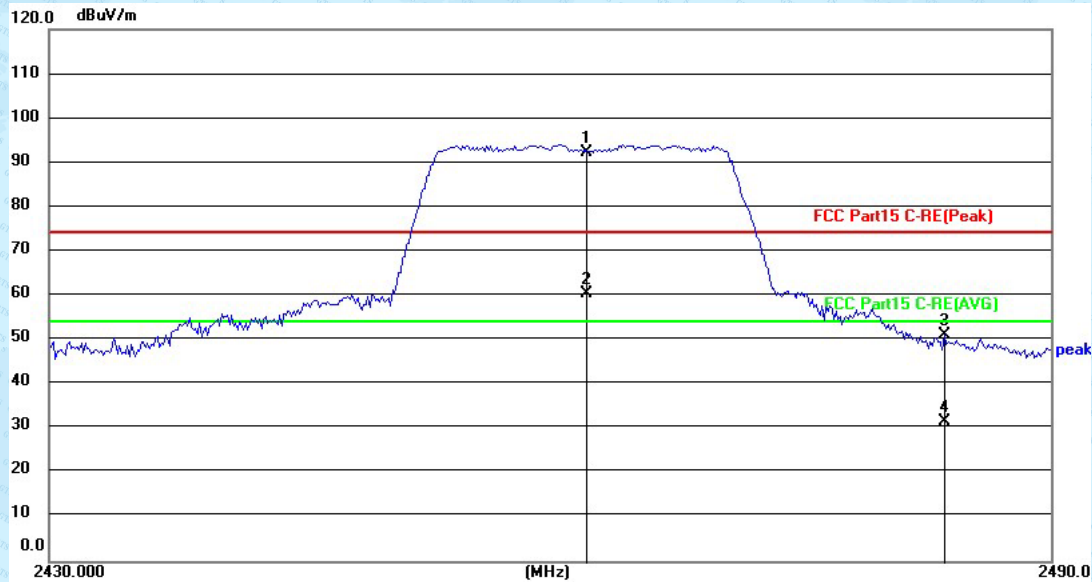
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2390.000	22.59	26.32	48.91	74.00	-25.09	peak
2	2390.000	6.23	26.32	32.55	54.00	-21.45	AVG
3	2412.000	64.57	26.36	90.93	74.00	16.93	peak
4	2412.000	32.24	26.36	58.60	54.00	4.60	AVG

Test mode:	802.11n(HT20 2462MHz)	Test channel:	Highest
Horizontal			



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2462.000	60.65	26.44	87.09	74.00	13.09	peak
2	2462.000	27.84	26.44	54.28	54.00	0.28	AVG
3	2483.500	18.44	26.47	44.91	74.00	-29.09	peak
4	2483.500	4.41	26.47	30.88	54.00	-23.12	AVG

Vertical



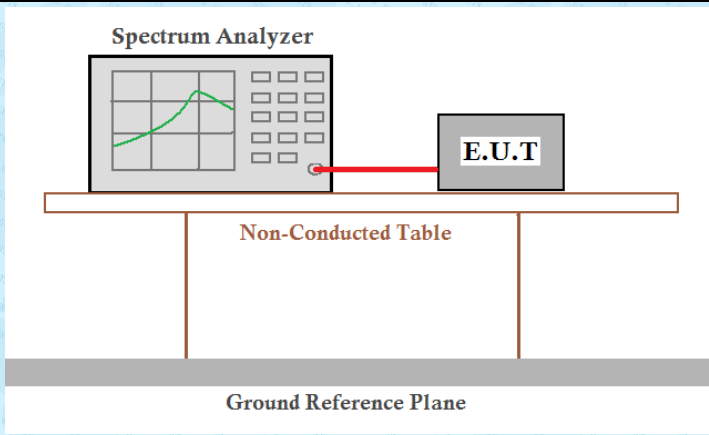
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2462.000	65.91	26.44	92.35	74.00	18.35	peak
2	2462.000	34.07	26.44	60.51	54.00	6.51	AVG
3	2483.500	24.55	26.47	51.02	74.00	-22.98	peak
4	2483.500	5.04	26.47	31.51	54.00	-22.49	AVG

Remarks:

- Only the worst case Main Antenna test data.
 - The pre-test were performed on lowest, middle and highest frequencies, only the worst case's (lowest and highest frequencies) data was showed.
 - Final Level = Receiver Read level + Antenna Factor
- 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

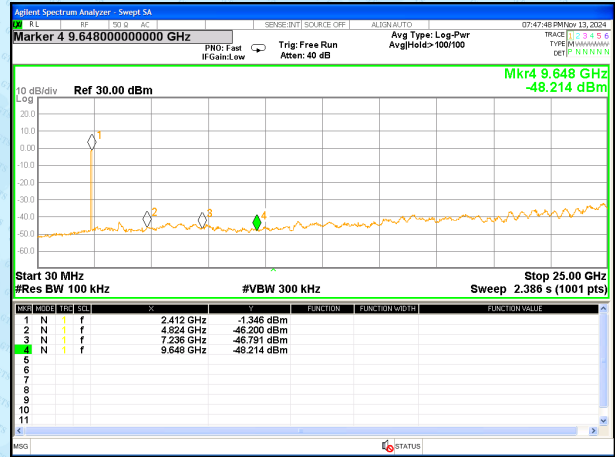
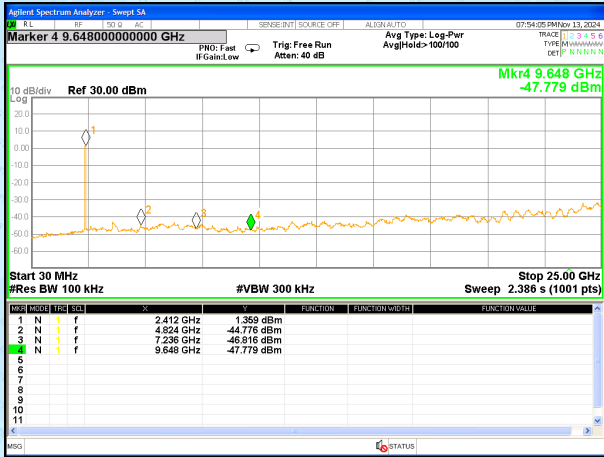
Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.10:2013
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below 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:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The Non-Conducted Table is supported by a Ground Reference Plane.
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:

802.11b

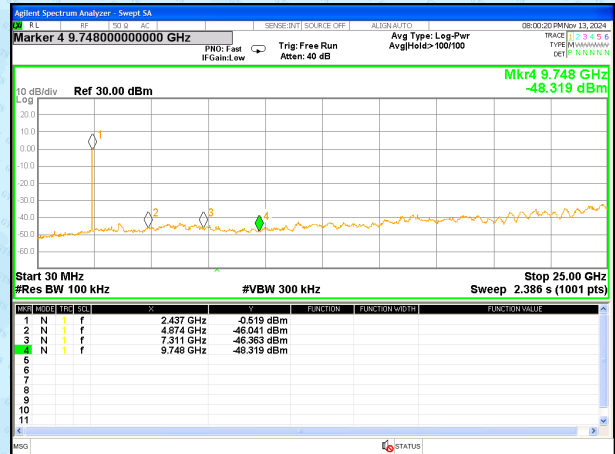
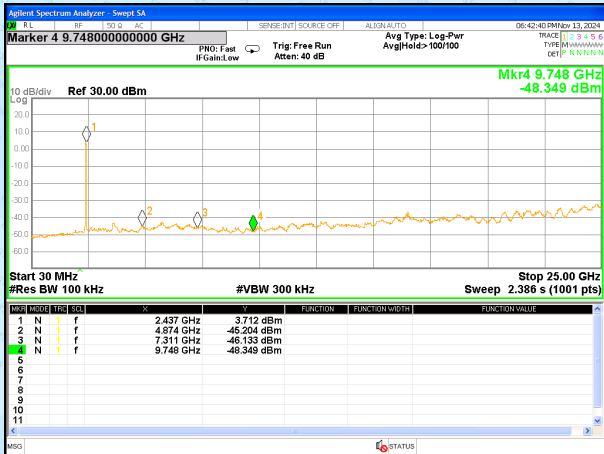
802.11g

Lowest channel



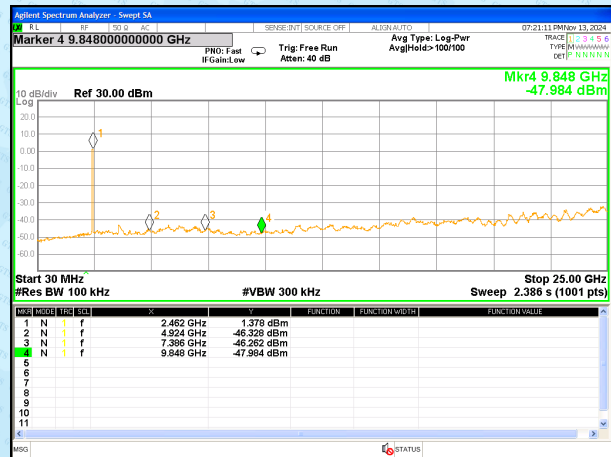
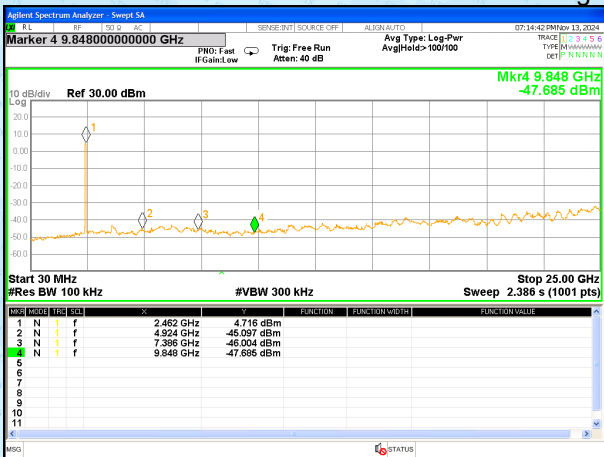
30MHz~25GHz

Middle channel



30MHz~25GHz

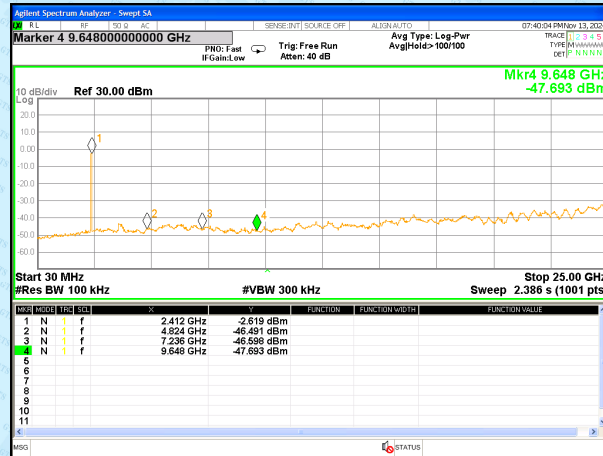
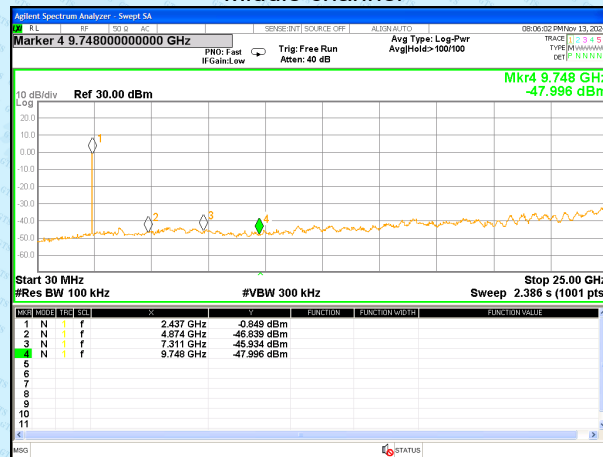
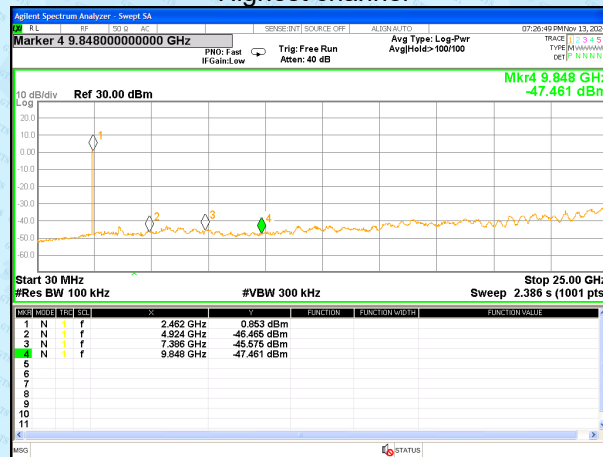
Highest channel



30MHz~25GHz

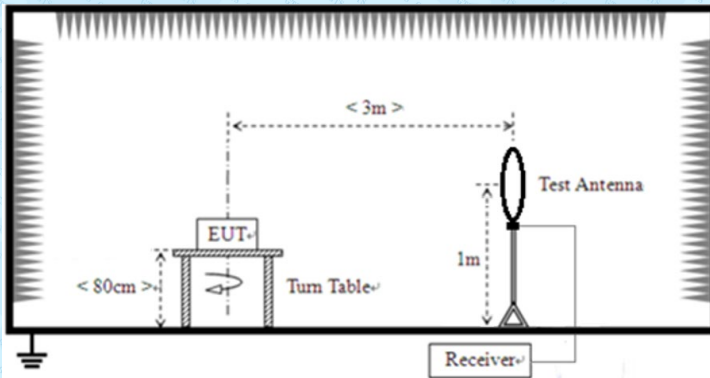
802.11n(HT20)

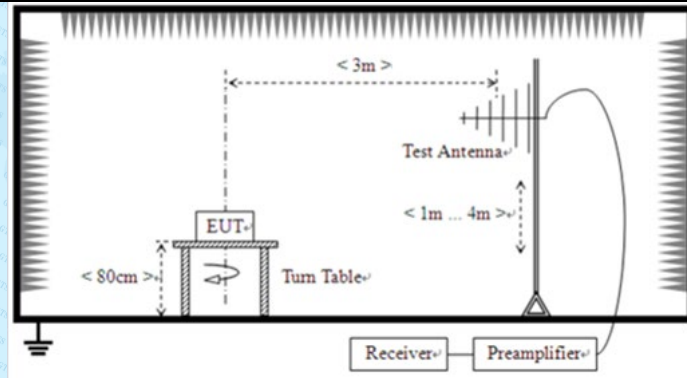
Lowest channel

30MHz~25GHz
Middle channel30MHz~25GHz
Highest channel

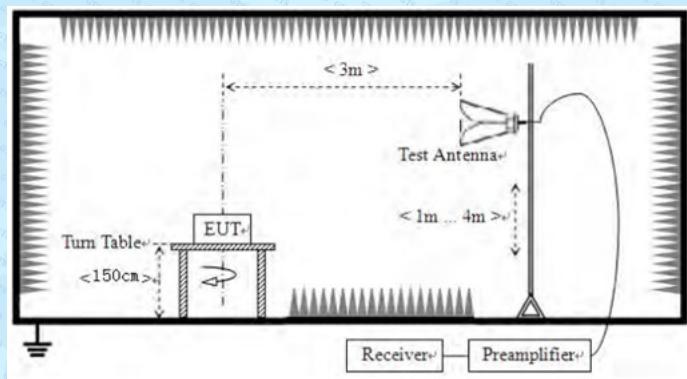
30MHz~25GHz

7.7.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209				
Test Method:	ANSI C63.10:2013				
Test Frequency Range:	9kHz to 25GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
	150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
		Peak	1MHz	10Hz	Average
	Note: For Duty cycle ≥ 98%, average detector set as above For Duty cycle < 98%, average detector set as below: VBW ≥ 1 / T				
Limit:	Frequency	Limit (uV/m)	Value	Measurement Distance	
	0.009MHz-0.490MHz	2400/F(KHz)	PK/QP/AV	300m	
	0.490MHz-1.705MHz	24000/F(KHz)	QP	30m	
	1.705MHz-30MHz	30	QP	30m	
	30MHz-88MHz	100	QP	3m	
	88MHz-216MHz	150	QP		
	216MHz-960MHz	200	QP		
	960MHz-1GHz	500	QP		
	Above 1GHz	500	Average		
5000		Peak			
Test setup:	For radiated emissions from 9kHz to 30MHz				
					
For radiated emissions from 30MHz to1GHz					



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 Instruments:

Refer to section 6.0 for details

Test mode:

Refer to section 5.2 for details

Test environment:	Temp.:	24.2 °C	Humid.:	50%	Press.:	1010mbar
Test voltage:	AC 120V, 60Hz					
Test results:	Pass					

Remarks:

1. 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**

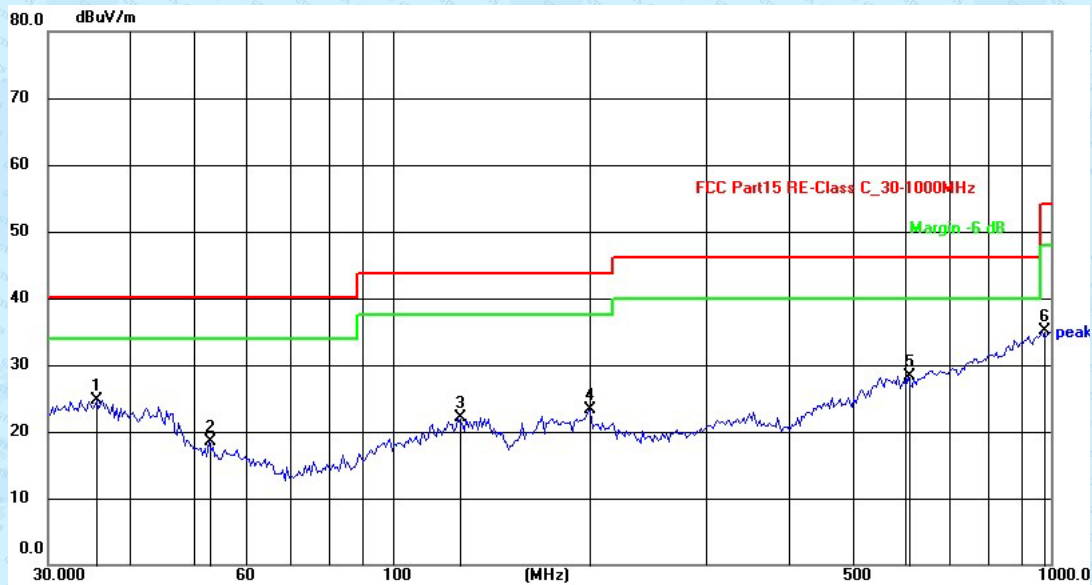
The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o), the test result no need to reported.

■ **Above 18GHz**

The emission from Above 18GHz was pre-tested and found the result was 20dB lower than the limit, the test result no need to reported.

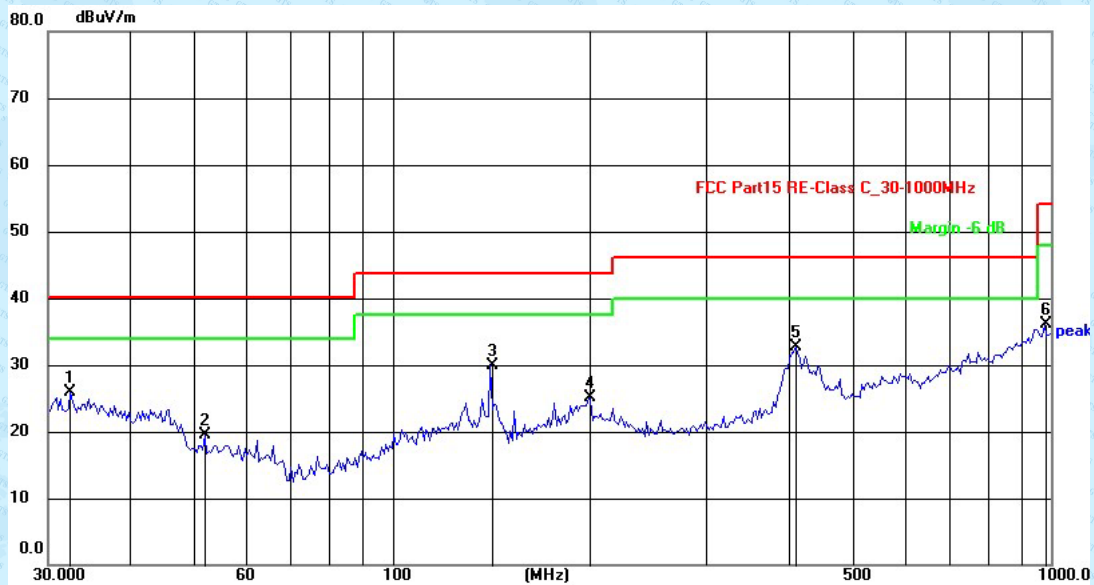
Below 1GHz

Ant. Pol.	Horizontal
Test Mode:	802.11b 2412MHz
Remark:	Only worse case is reported



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	35.5112	27.16	-2.39	24.77	40.00	-15.23	QP
2	52.6345	28.17	-9.65	18.52	40.00	-21.48	QP
3	125.8059	28.22	-6.11	22.11	43.50	-21.39	QP
4	198.6424	28.33	-4.98	23.35	43.50	-20.15	QP
5	607.1806	27.92	0.35	28.27	46.00	-17.73	QP
6	972.2827	29.57	5.54	35.11	54.00	-18.89	QP

Ant. Pol.	Vertical
Test Mode:	802.11b 2412MHz
Remark:	Only worse case is reported

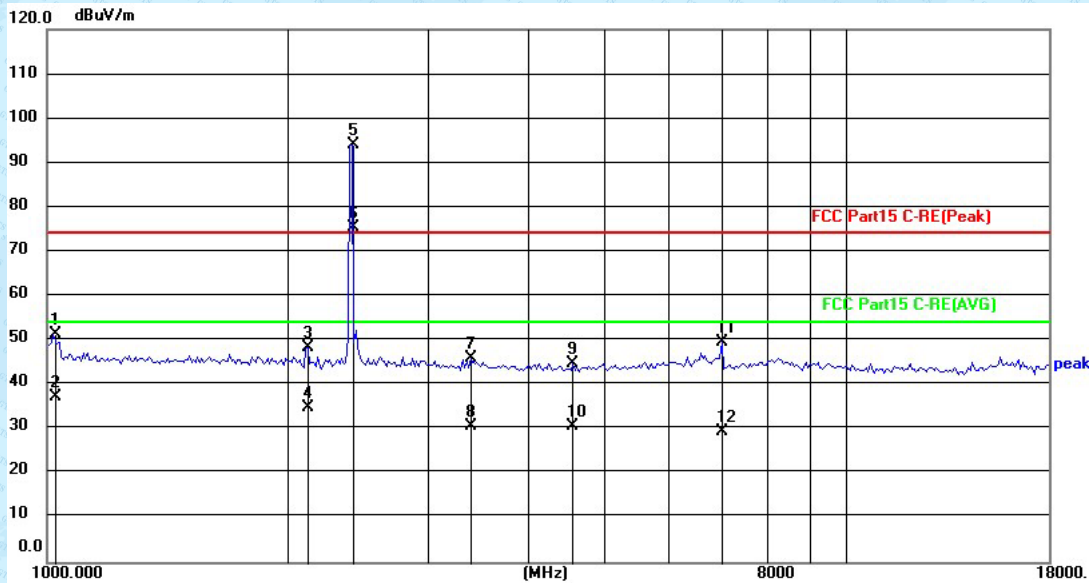


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	32.4109	28.21	-2.38	25.83	40.00	-14.17	QP
2	51.8998	28.57	-9.03	19.54	40.00	-20.46	QP
3	140.7767	36.25	-6.40	29.85	43.50	-13.65	QP
4	198.6424	28.44	-3.30	25.14	43.50	-18.36	QP
5	409.6506	35.34	-2.72	32.62	46.00	-13.38	QP
6	979.1392	30.65	5.54	36.19	54.00	-17.81	QP

Above 1GHz

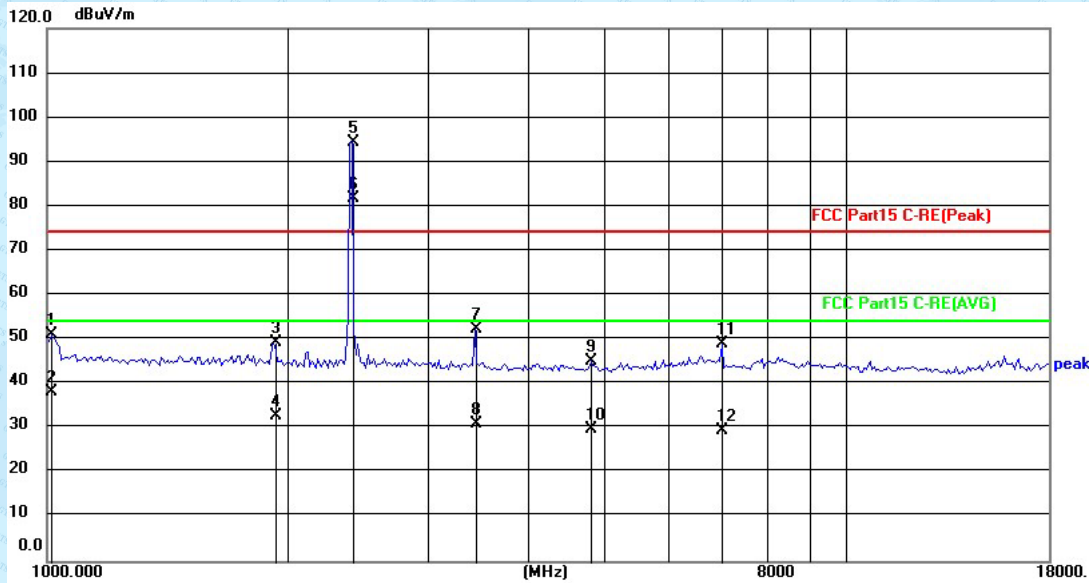
Test mode:	802.11b 2412MHz	Test channel:	Lowest
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Horizontal:



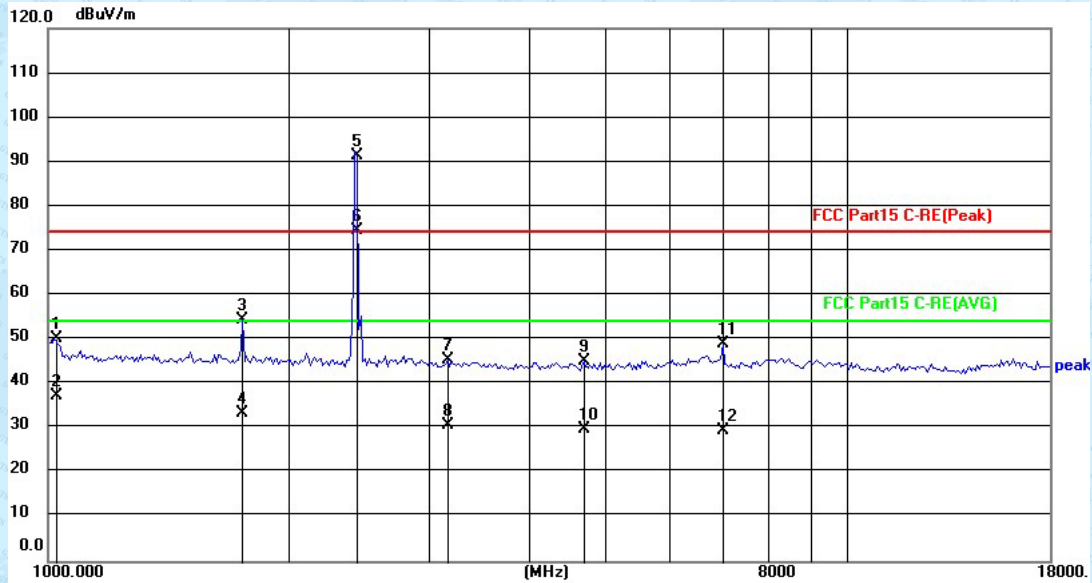
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1017.529	49.73	1.67	51.40	74.00	-22.60	peak
2	1017.529	35.82	1.67	37.49	54.00	-16.51	AVG
3	2123.366	22.46	25.90	48.36	74.00	-25.64	peak
4	2123.366	8.91	25.90	34.81	54.00	-19.19	AVG
5	2412.000	67.64	26.36	94.00	74.00	20.00	peak
6	2412.000	48.95	26.36	75.31	54.00	21.31	AVG
7	3394.584	18.03	28.11	46.14	74.00	-27.86	peak
8	3394.584	2.77	28.11	30.88	54.00	-23.12	AVG
9	4561.219	15.35	29.53	44.88	74.00	-29.12	peak
10	4561.219	1.18	29.53	30.71	54.00	-23.29	AVG
11	7002.185	13.74	35.80	49.54	74.00	-24.46	peak
12	7002.185	-6.31	35.80	29.49	54.00	-24.51	AVG

Vertical:



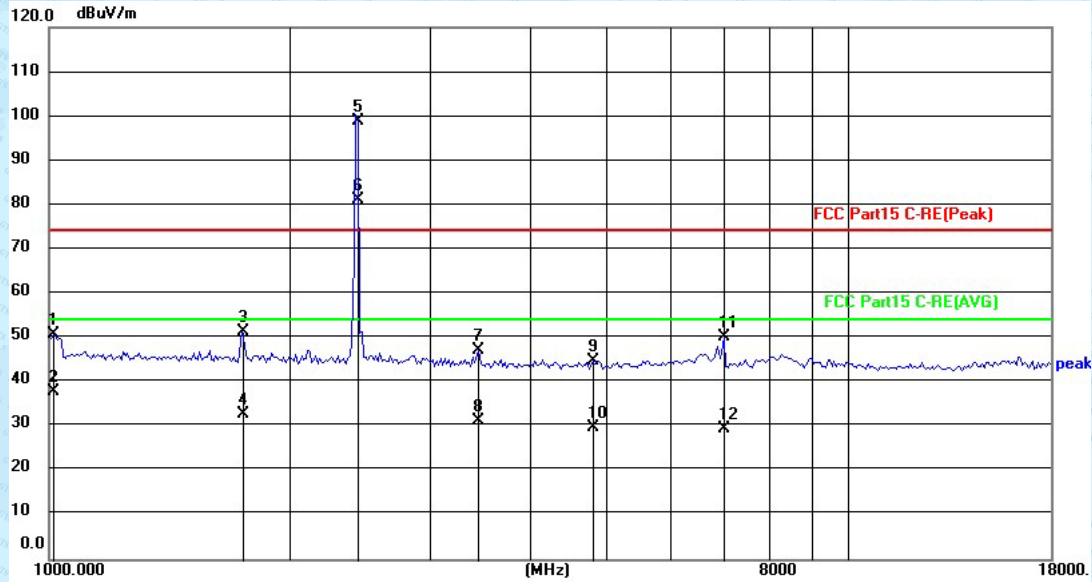
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1011.652	49.45	1.58	51.03	74.00	-22.97	peak
2	1011.652	36.69	1.58	38.27	54.00	-15.73	AVG
3	1924.244	24.00	25.47	49.47	74.00	-24.53	peak
4	1924.244	7.52	25.47	32.99	54.00	-21.01	AVG
5	2412.000	67.95	26.36	94.31	74.00	20.31	peak
6	2412.000	55.38	26.36	81.74	54.00	27.74	AVG
7	3434.138	24.02	28.18	52.20	74.00	-21.80	peak
8	3434.138	2.86	28.18	31.04	54.00	-22.96	AVG
9	4805.307	15.21	30.07	45.28	74.00	-28.72	peak
10	4805.307	-0.30	30.07	29.77	54.00	-24.23	AVG
11	7002.185	13.29	35.80	49.09	74.00	-24.91	peak
12	7002.185	-6.26	35.80	29.54	54.00	-24.46	AVG

Test mode:	802.11b 2437MHz	Test channel:	Middle
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Horizontal:

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1017.529	48.52	1.67	50.19	74.00	-23.81	peak
2	1017.529	35.76	1.67	37.43	54.00	-16.57	AVG
3	1753.924	29.60	24.96	54.56	74.00	-19.44	peak
4	1753.924	8.59	24.96	33.55	54.00	-20.45	AVG
5	2437.000	65.05	26.40	91.45	74.00	17.45	peak
6	2437.000	48.14	26.40	74.54	54.00	20.54	AVG
7	3166.647	17.84	27.70	45.54	74.00	-28.46	peak
8	3166.647	2.99	27.70	30.69	54.00	-23.31	AVG
9	4695.251	15.20	29.83	45.03	74.00	-28.97	peak
10	4695.251	0.09	29.83	29.92	54.00	-24.08	AVG
11	7002.185	13.25	35.80	49.05	74.00	-24.95	peak
12	7002.185	-6.35	35.80	29.45	54.00	-24.55	AVG

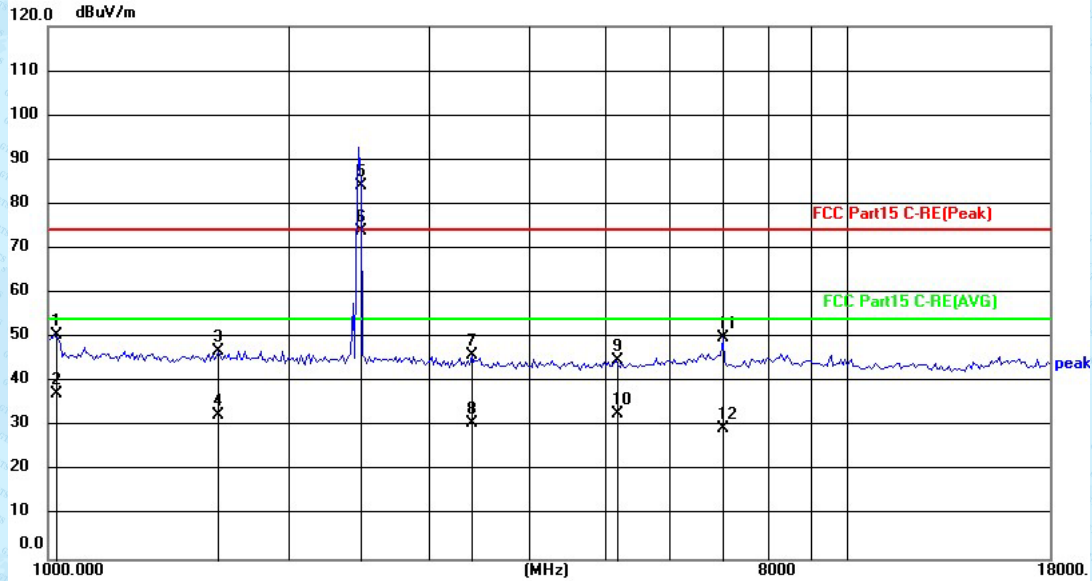
Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1011.652	49.26	1.58	50.84	74.00	-23.16	peak
2	1011.652	36.44	1.58	38.02	54.00	-15.98	AVG
3	1743.795	26.44	24.93	51.37	74.00	-22.63	peak
4	1743.795	7.79	24.93	32.72	54.00	-21.28	AVG
5	2437.000	72.43	26.40	98.83	74.00	24.83	peak
6	2437.000	54.83	26.40	81.23	54.00	27.23	AVG
7	3454.087	19.14	28.22	47.36	74.00	-26.64	peak
8	3454.087	3.02	28.22	31.24	54.00	-22.76	AVG
9	4805.307	14.87	30.07	44.94	74.00	-29.06	peak
10	4805.307	-0.35	30.07	29.72	54.00	-24.28	AVG
11	7002.185	14.44	35.80	50.24	74.00	-23.76	peak
12	7002.185	-6.34	35.80	29.46	54.00	-24.54	AVG

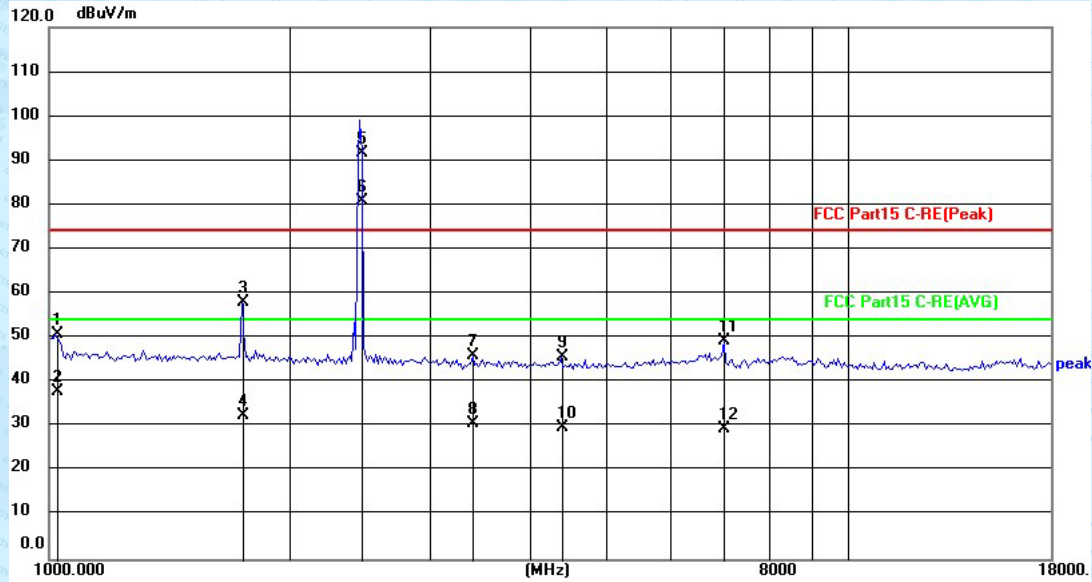
Test mode:	802.11b 2462MHz	Test channel:	Highest
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Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1017.529	49.00	1.67	50.67	74.00	-23.33	peak
2	1017.529	35.76	1.67	37.43	54.00	-16.57	AVG
3	1636.153	22.46	24.61	47.07	74.00	-26.93	peak
4	1636.153	7.86	24.61	32.47	54.00	-21.53	AVG
5	2462.000	57.79	26.44	84.23	74.00	10.23	peak
6	2462.000	47.63	26.44	74.07	54.00	20.07	AVG
7	3394.584	17.82	28.11	45.93	74.00	-28.07	peak
8	3394.584	2.71	28.11	30.82	54.00	-23.18	AVG
9	5151.196	14.06	30.71	44.77	74.00	-29.23	peak
10	5151.196	2.23	30.71	32.94	54.00	-21.06	AVG
11	7002.185	14.15	35.80	49.95	74.00	-24.05	peak
12	7002.185	-6.38	35.80	29.42	54.00	-24.58	AVG

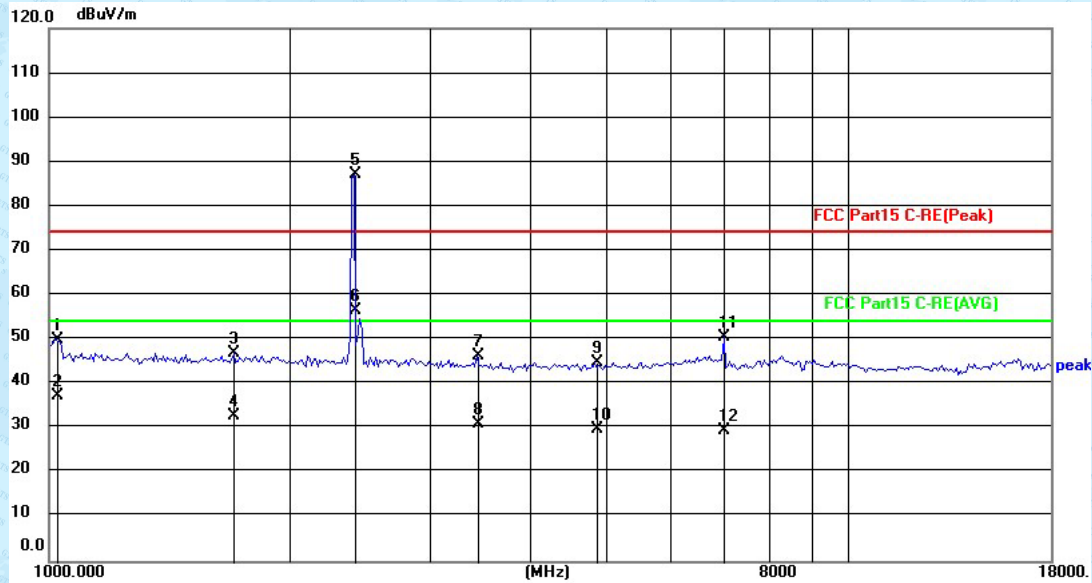
Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1017.529	49.04	1.67	50.71	74.00	-23.29	peak
2	1017.529	36.36	1.67	38.03	54.00	-15.97	AVG
3	1743.795	33.03	24.93	57.96	74.00	-16.04	peak
4	1743.795	7.76	24.93	32.69	54.00	-21.31	AVG
5	2462.000	65.09	26.44	91.53	74.00	17.53	peak
6	2462.000	54.40	26.44	80.84	54.00	26.84	AVG
7	3394.584	17.96	28.11	46.07	74.00	-27.93	peak
8	3394.584	2.72	28.11	30.83	54.00	-23.17	AVG
9	4379.978	16.38	29.28	45.66	74.00	-28.34	peak
10	4379.978	0.59	29.28	29.87	54.00	-24.13	AVG
11	7002.185	13.40	35.80	49.20	74.00	-24.80	peak
12	7002.185	-6.37	35.80	29.43	54.00	-24.57	AVG

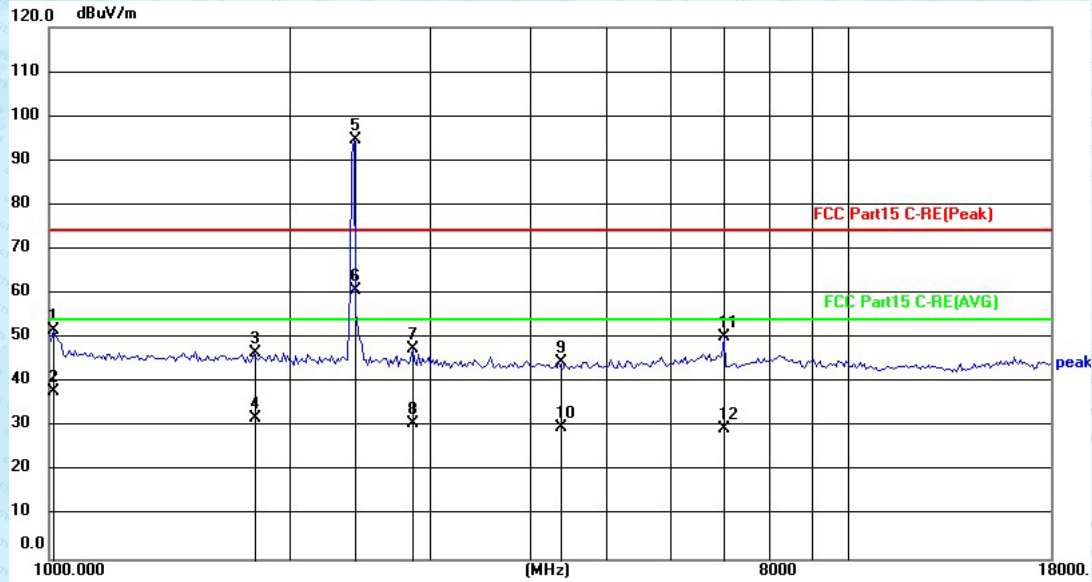
Test mode:	802.11g 2412MHz	Test channel:	lowest
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Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1017.529	48.34	1.67	50.01	74.00	-23.99	peak
2	1017.529	35.67	1.67	37.34	54.00	-16.66	AVG
3	1703.856	22.02	24.81	46.83	74.00	-27.17	peak
4	1703.856	7.94	24.81	32.75	54.00	-21.25	AVG
5	2411.946	60.86	26.36	87.22	74.00	13.22	peak
6	2411.946	30.22	26.36	56.58	54.00	2.58	AVG
7	3434.138	18.29	28.18	46.47	74.00	-27.53	peak
8	3434.138	2.79	28.18	30.97	54.00	-23.03	AVG
9	4833.222	14.65	30.13	44.78	74.00	-29.22	peak
10	4833.222	-0.24	30.13	29.89	54.00	-24.11	AVG
11	7002.185	14.87	35.80	50.67	74.00	-23.33	peak
12	7002.185	-6.39	35.80	29.41	54.00	-24.59	AVG

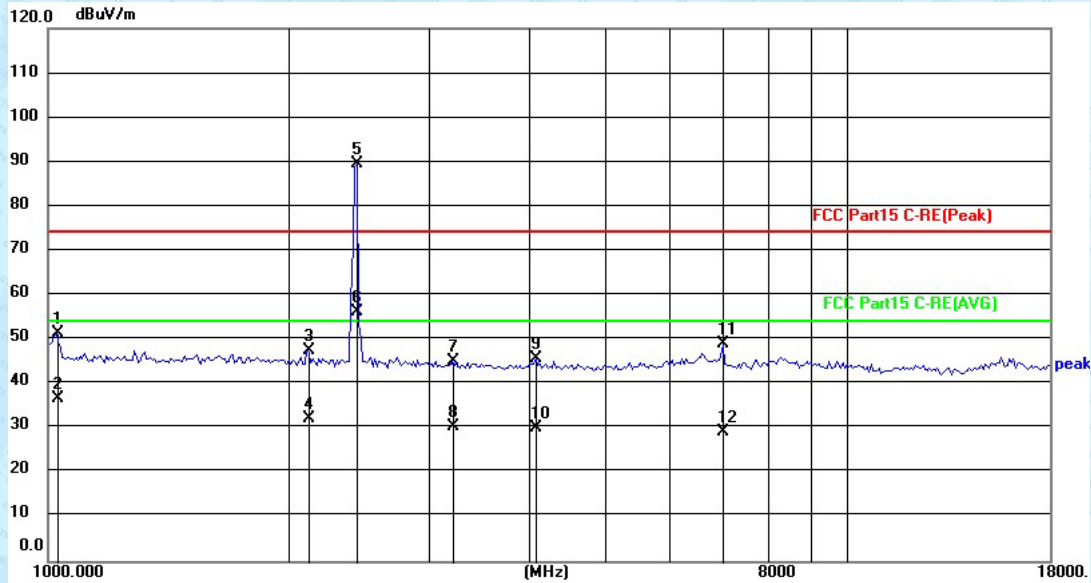
Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1011.652	50.29	1.58	51.87	74.00	-22.13	peak
2	1011.652	36.29	1.58	37.87	54.00	-16.13	AVG
3	1805.464	21.60	25.12	46.72	74.00	-27.28	peak
4	1805.464	6.96	25.12	32.08	54.00	-21.92	AVG
5	2412.000	68.22	26.36	94.58	74.00	20.58	peak
6	2412.000	34.42	26.36	60.78	54.00	6.78	AVG
7	2853.115	20.28	27.14	47.42	74.00	-26.58	peak
8	2853.115	3.54	27.14	30.68	54.00	-23.32	AVG
9	4354.681	15.41	29.25	44.66	74.00	-29.34	peak
10	4354.681	0.58	29.25	29.83	54.00	-24.17	AVG
11	7002.185	14.47	35.80	50.27	74.00	-23.73	peak
12	7002.185	-6.39	35.80	29.41	54.00	-24.59	AVG

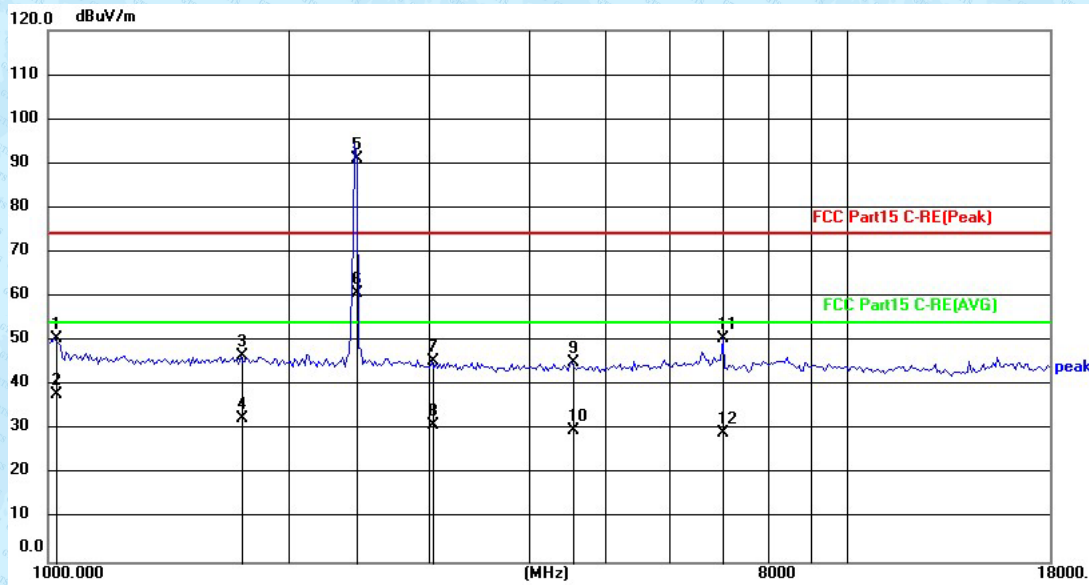
Test mode:	802.11g 2437MHz	Test channel:	Middle
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Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1023.440	49.67	1.76	51.43	74.00	-22.57	peak
2	1023.440	35.10	1.76	36.86	54.00	-17.14	AVG
3	2111.103	21.54	25.88	47.42	74.00	-26.58	peak
4	2111.103	6.30	25.88	32.18	54.00	-21.82	AVG
5	2437.000	63.15	26.40	89.55	74.00	15.55	peak
6	2437.000	29.98	26.40	56.38	54.00	2.38	AVG
7	3203.545	17.37	27.77	45.14	74.00	-28.86	peak
8	3203.545	2.78	27.77	30.55	54.00	-23.45	AVG
9	4085.874	16.85	28.99	45.84	74.00	-28.16	peak
10	4085.874	1.12	28.99	30.11	54.00	-23.89	AVG
11	7002.185	13.35	35.80	49.15	74.00	-24.85	peak
12	7002.185	-6.42	35.80	29.38	54.00	-24.62	AVG

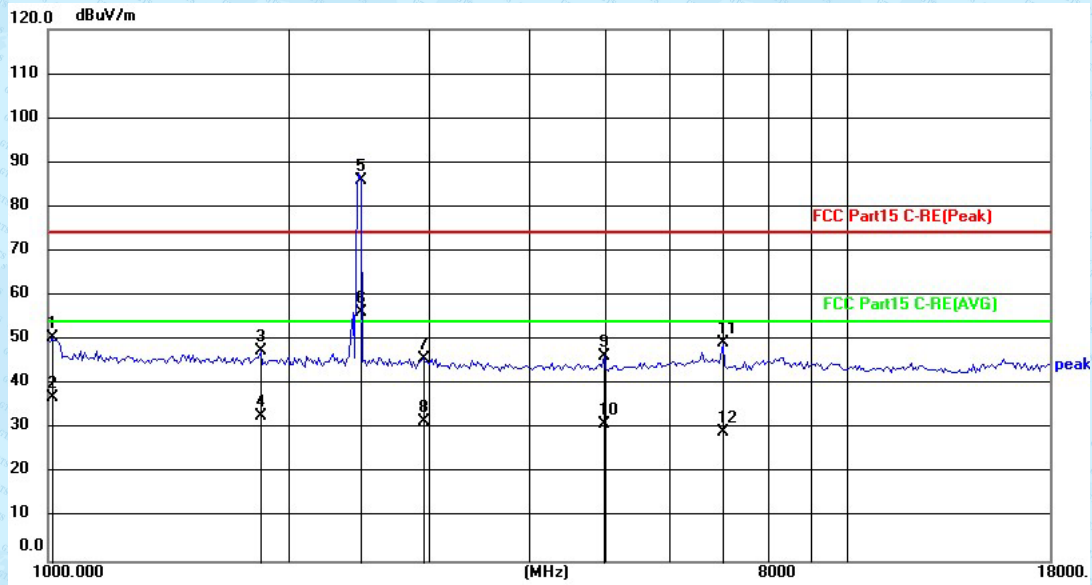
Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1017.529	48.85	1.67	50.52	74.00	-23.48	peak
2	1017.529	36.37	1.67	38.04	54.00	-15.96	AVG
3	1743.795	21.68	24.93	46.61	74.00	-27.39	peak
4	1743.795	7.74	24.93	32.67	54.00	-21.33	AVG
5	2437.000	64.65	26.40	91.05	74.00	17.05	peak
6	2437.000	34.37	26.40	60.77	54.00	6.77	AVG
7	3023.257	17.94	27.44	45.38	74.00	-28.62	peak
8	3023.257	3.66	27.44	31.10	54.00	-22.90	AVG
9	4534.876	15.59	29.48	45.07	74.00	-28.93	peak
10	4534.876	0.47	29.48	29.95	54.00	-24.05	AVG
11	7002.185	14.70	35.80	50.50	74.00	-23.50	peak
12	7002.185	-6.40	35.80	29.40	54.00	-24.60	AVG

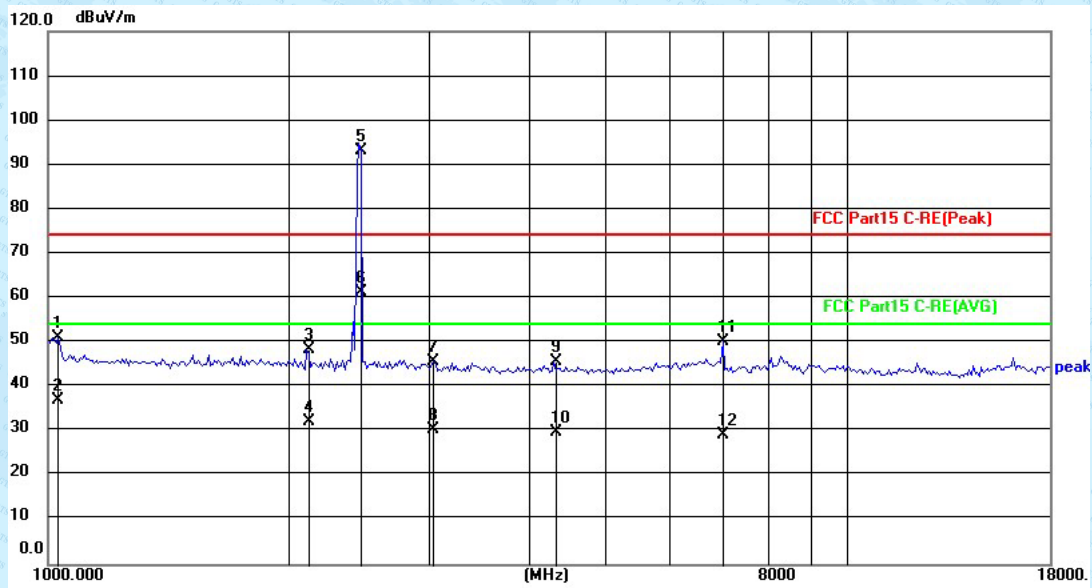
Test mode:	802.11g 2462MHz	Test channel:	Highest
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Horizontal:



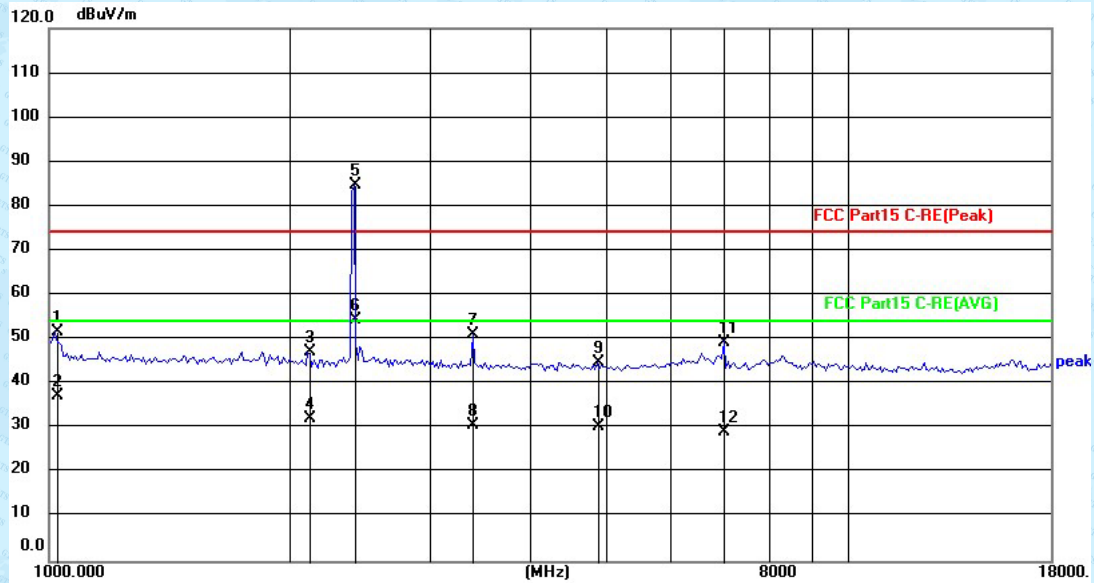
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1011.652	49.01	1.58	50.59	74.00	-23.41	peak
2	1011.652	35.54	1.58	37.12	54.00	-16.88	AVG
3	1847.783	22.38	25.24	47.62	74.00	-26.38	peak
4	1847.783	7.70	25.24	32.94	54.00	-21.06	AVG
5	2462.000	59.40	26.44	85.84	74.00	11.84	peak
6	2462.000	29.84	26.44	56.28	54.00	2.28	AVG
7	2954.015	18.52	27.32	45.84	74.00	-28.16	peak
8	2954.015	4.22	27.32	31.54	54.00	-22.46	AVG
9	4975.246	15.83	30.45	46.28	74.00	-27.72	peak
10	4975.246	0.68	30.45	31.13	54.00	-22.87	AVG
11	7002.185	13.45	35.80	49.25	74.00	-24.75	peak
12	7002.185	-6.41	35.80	29.39	54.00	-24.61	AVG

Vertical:



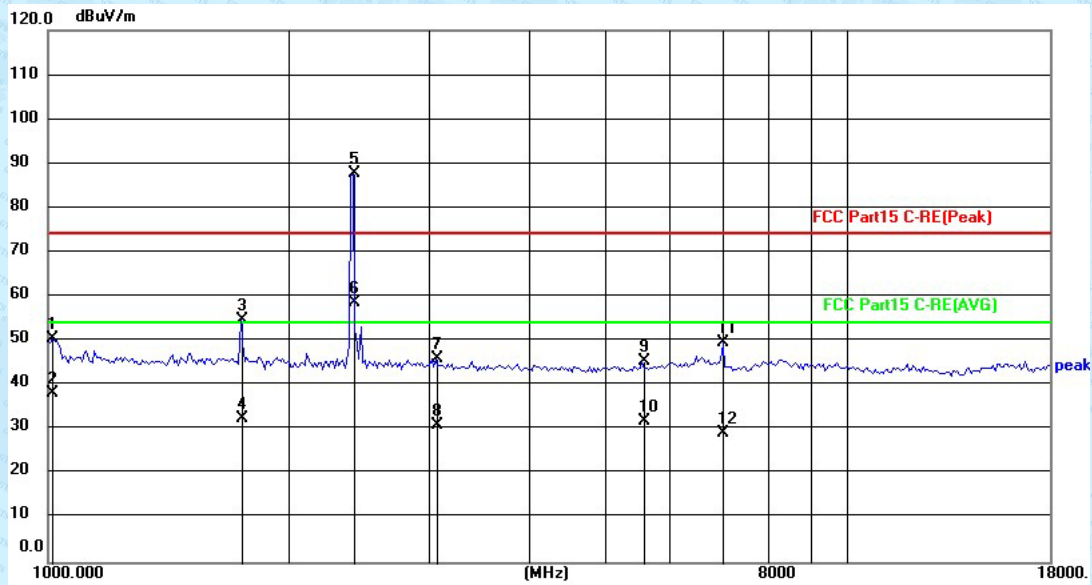
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1029.385	49.44	1.86	51.30	74.00	-22.70	peak
2	1029.385	35.18	1.86	37.04	54.00	-16.96	AVG
3	2111.103	22.58	25.88	48.46	74.00	-25.54	peak
4	2111.103	6.27	25.88	32.15	54.00	-21.85	AVG
5	2462.000	66.60	26.44	93.04	74.00	19.04	peak
6	2462.000	34.83	26.44	61.27	54.00	7.27	AVG
7	3040.819	18.20	27.47	45.67	74.00	-28.33	peak
8	3040.819	3.03	27.47	30.50	54.00	-23.50	AVG
9	4304.525	16.41	29.20	45.61	74.00	-28.39	peak
10	4304.525	0.69	29.20	29.89	54.00	-24.11	AVG
11	7002.185	14.42	35.80	50.22	74.00	-23.78	peak
12	7002.185	-6.41	35.80	29.39	54.00	-24.61	AVG

Test mode:	802.11n(HT20) 2412MHz	Test channel:	Lowest
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Horizontal:

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1017.529	50.14	1.67	51.81	74.00	-22.19	peak
2	1017.529	35.74	1.67	37.41	54.00	-16.59	AVG
3	2111.103	21.32	25.88	47.20	74.00	-26.80	peak
4	2111.103	6.23	25.88	32.11	54.00	-21.89	AVG
5	2412.000	58.30	26.36	84.66	74.00	10.66	peak
6	2412.000	27.97	26.36	54.33	54.00	0.33	AVG
7	3394.584	23.08	28.11	51.19	74.00	-22.81	peak
8	3394.584	2.69	28.11	30.80	54.00	-23.20	AVG
9	4861.299	14.59	30.19	44.78	74.00	-29.22	peak
10	4861.299	0.30	30.19	30.49	54.00	-23.51	AVG
11	7002.185	13.70	35.80	49.50	74.00	-24.50	peak
12	7002.185	-6.42	35.80	29.38	54.00	-24.62	AVG

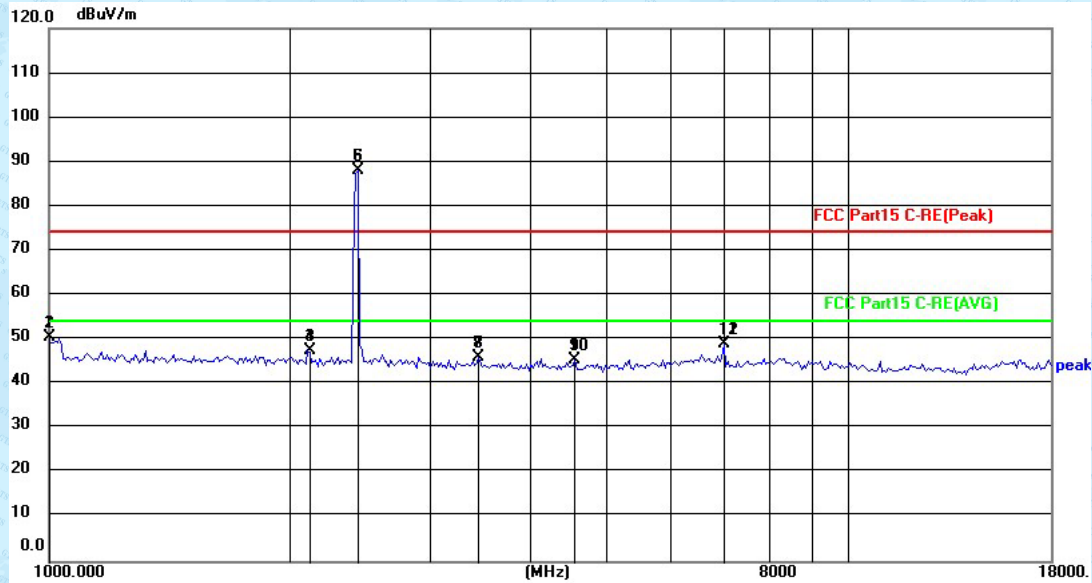
Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1011.652	48.87	1.58	50.45	74.00	-23.55	peak
2	1011.652	36.81	1.58	38.39	54.00	-15.61	AVG
3	1743.795	29.78	24.93	54.71	74.00	-19.29	peak
4	1743.795	7.73	24.93	32.66	54.00	-21.34	AVG
5	2412.000	61.42	26.36	87.78	74.00	13.78	peak
6	2412.000	32.44	26.36	58.80	54.00	4.80	AVG
7	3058.484	18.60	27.51	46.11	74.00	-27.89	peak
8	3058.484	3.59	27.51	31.10	54.00	-22.90	AVG
9	5554.060	14.21	31.36	45.57	74.00	-28.43	peak
10	5554.060	0.58	31.36	31.94	54.00	-22.06	AVG
11	7002.185	13.77	35.80	49.57	74.00	-24.43	peak
12	7002.185	-6.40	35.80	29.40	54.00	-24.60	AVG

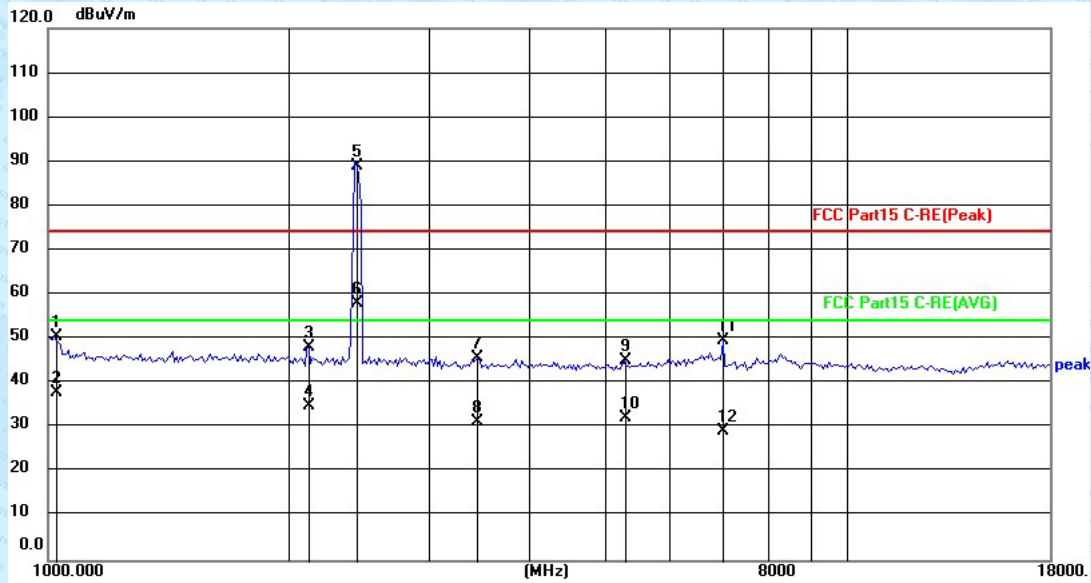
Test mode:	802.11n(HT20 2437MHz)	Test channel:	Middle
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Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1000.0000	48.03	2.60	50.63	74.00	-23.37	peak
2	1000.0000	48.03	2.60	50.63	74.00	-23.37	peak
3	2111.103	21.79	25.88	47.67	74.00	-26.33	peak
4	2111.103	21.79	25.88	47.67	74.00	-26.33	peak
5	2437.000	61.60	26.40	88.00	74.00	14.00	peak
6	2437.000	61.60	26.40	88.00	74.00	14.00	peak
7	3454.087	17.90	28.22	46.12	74.00	-27.88	peak
8	3454.087	17.90	28.22	46.12	74.00	-27.88	peak
9	4561.219	16.05	29.53	45.58	74.00	-28.42	peak
10	4561.219	16.05	29.53	45.58	74.00	-28.42	peak
11	7002.185	13.37	35.80	49.17	74.00	-24.83	peak
12	7002.185	13.37	35.80	49.17	74.00	-24.83	peak

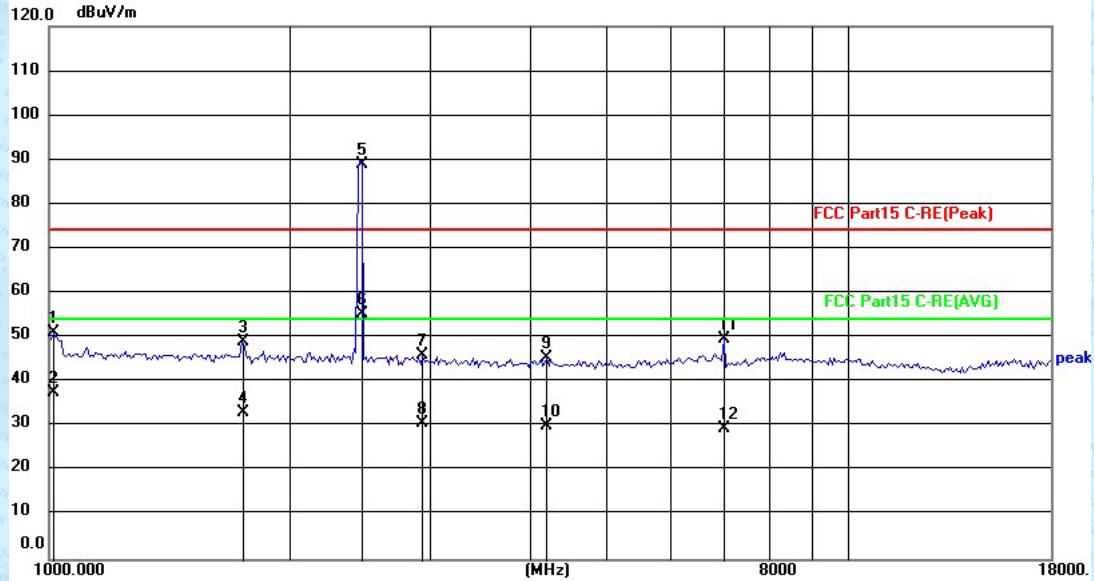
Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1017.529	48.88	1.67	50.55	74.00	-23.45	peak
2	1017.529	36.42	1.67	38.09	54.00	-15.91	AVG
3	2123.366	22.13	25.90	48.03	74.00	-25.97	peak
4	2123.366	9.13	25.90	35.03	54.00	-18.97	AVG
5	2437.000	62.51	26.40	88.91	74.00	14.91	peak
6	2437.000	31.51	26.40	57.91	54.00	3.91	AVG
7	3454.087	17.64	28.22	45.86	74.00	-28.14	peak
8	3454.087	3.23	28.22	31.45	54.00	-22.55	AVG
9	5271.939	14.20	30.88	45.08	74.00	-28.92	peak
10	5271.939	1.27	30.88	32.15	54.00	-21.85	AVG
11	7002.185	13.76	35.80	49.56	74.00	-24.44	peak
12	7002.185	-6.40	35.80	29.40	54.00	-24.60	AVG

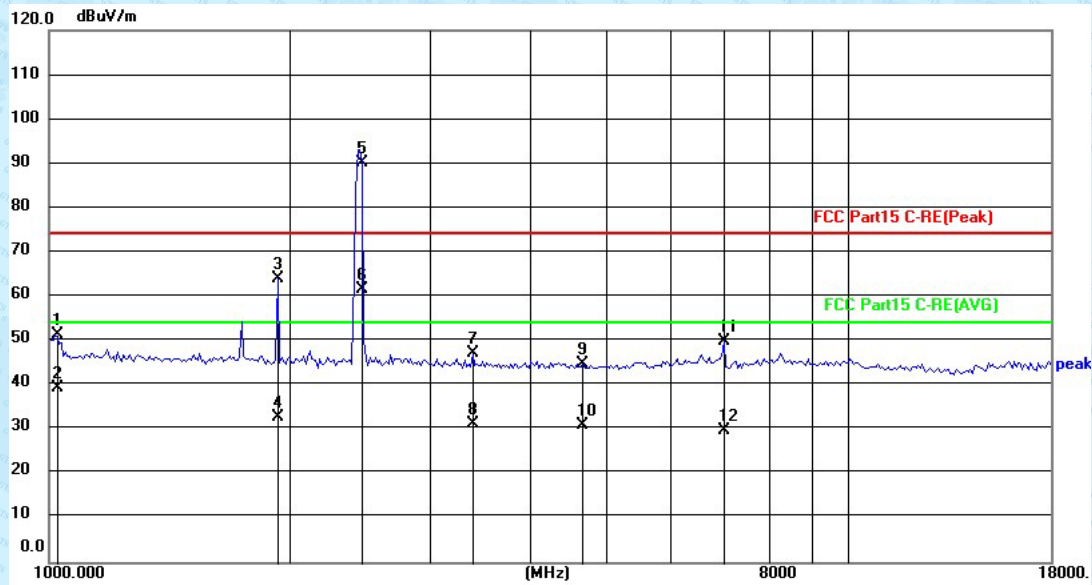
Test mode:	802.11n(HT20 2462MHz)	Test channel:	Highest
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Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1011.652	49.52	1.58	51.10	74.00	-22.90	peak
2	1011.652	36.11	1.58	37.69	54.00	-16.31	AVG
3	1743.795	24.03	24.93	48.96	74.00	-25.04	peak
4	1743.795	8.12	24.93	33.05	54.00	-20.95	AVG
5	2462.000	62.66	26.44	89.10	74.00	15.10	peak
6	2462.000	28.78	26.44	55.22	54.00	1.22	AVG
7	2936.954	18.77	27.29	46.06	74.00	-27.94	peak
8	2936.954	3.33	27.29	30.62	54.00	-23.38	AVG
9	4205.938	16.27	29.11	45.38	74.00	-28.62	peak
10	4205.938	1.15	29.11	30.26	54.00	-23.74	AVG
11	7002.185	13.83	35.80	49.63	74.00	-24.37	peak
12	7002.185	-6.11	35.80	29.69	54.00	-24.31	AVG

Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1017.529	49.64	1.67	51.31	74.00	-22.69	peak
2	1017.529	37.74	1.67	39.41	54.00	-14.59	AVG
3	1935.422	38.68	25.51	64.19	74.00	-9.81	peak
4	1935.422	7.33	25.51	32.84	54.00	-21.16	AVG
5	2462.000	63.86	26.44	90.30	74.00	16.30	peak
6	2462.000	35.15	26.44	61.59	54.00	7.59	AVG
7	3394.584	19.18	28.11	47.29	74.00	-26.71	peak
8	3394.584	3.20	28.11	31.31	54.00	-22.69	AVG
9	4668.133	15.22	29.77	44.99	74.00	-29.01	peak
10	4668.133	1.30	29.77	31.07	54.00	-22.93	AVG
11	7002.185	14.03	35.80	49.83	74.00	-24.17	peak
12	7002.185	-5.81	35.80	29.99	54.00	-24.01	AVG

Remarks:

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

8 Test Setup Photo

Reference to the **appendix I** for details.

9 EUT Constructional Details

Reference to the **appendix II** and **appendix III** for details.

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