

TEST REPORT

Applicant: Dongguan Fuzhaotong Electronic Co.,Ltd.

Address of Applicant: No.58,Yangkeng Road,Qiaoli,ChangpingTown,Dongguan City,Guangdong Province,P.R.China

Manufacturer/Factory: Dongguan Fuzhaotong Electronic Co.,Ltd.

Address of Manufacturer/Factory: No.58,Yangkeng Road,Qiaoli,ChangpingTown,Dongguan City,Guangdong Province,P.R.China

Equipment Under Test (EUT)

Product Name: Intelligent Vacuum Cleaner

Model No.: F8

Trade Mark: N/A

FCC ID: 2AWH2-F8

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

Date of sample receipt: Mar. 09, 2021

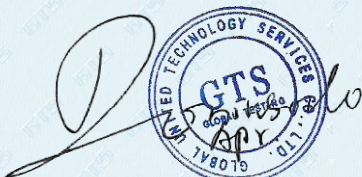
Date of Test: Mar. 09, 2021~Apr. 06, 2021

Date of report issued: Apr. 07, 2021

Test Result : PASS *

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

Authorized Signature:



Robinson Luo

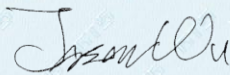
Laboratory Manager

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2 Version

Version No.	Date	Description
00	Apr. 07, 2021	Original

Prepared By:

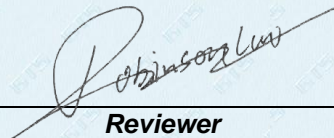


Date:

Apr. 07, 2021

Tested/Project Engineer

Check By:



Reviewer

Date:

Apr. 07, 2021

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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	Pass
Conducted Peak Output Power	FCC part 15.247 (b)(3)	Pass
Channel Bandwidth	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

Test Item	Frequency Range	Measurement Uncertainty	Notes
Radiated Emission	30MHz-200MHz	3.8039dB	(1)
Radiated Emission	200MHz-1GHz	3.9679dB	(1)
Radiated Emission	1GHz-18GHz	4.29dB	(1)
Radiated Emission	18GHz-40GHz	3.30dB	(1)
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	3.44dB	(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:	Intelligent Vacuum Cleaner
Model No.:	F8
Serial No.:	N/A
Hardware version:	N/A
Software version:	N/A
Test sample(s) ID:	GTSL202104000164-1
Sample(s) Status	Engineer sample
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(HT20)/802.11n(HT40): Orthogonal Frequency Division Multiplexing (OFDM)
Antenna Type:	PCB antenna
Antenna gain:	2.5dBi
Power supply:	DC 24V by power adapter (Model: KA24B-2401000US; INPUT: 100-240V~ 50/60Hz 0.8A OUTPUT: DC 24V 1.0A)
Battery:	DC 14.8V 2600mAh Li-poly Battery (XHL 18450-4S1P) or DC 14.8V 2600mAh Li-poly Battery (JY18450-4S1P) or DC 14.8V 2600mAh Li-poly Battery (18450 4S1P)

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	X	

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
<i>Remark: During the test, the duty cycle >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. New battery is used during all test.</i>	

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
/	/	/	/

5.4 Deviation from Standards

None.

5.5 Abnormalities from Standard Conditions

None.

5.6 Test Facility

<p>The test facility is recognized, certified, or accredited by the following organizations:</p> <ul style="list-style-type: none"> ● 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. ● IC —Registration No.: 9079A 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 ● NVLAP (LAB CODE:600179-0) Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP). LAB CODE:600179-0

5.7 Test Location

All tests were performed at:
<p>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</p>

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	July. 02 2020	July. 01 2025
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. 25 2020	June. 24 2021
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	June. 25 2020	June. 24 2021
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	June. 25 2020	June. 24 2021
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	June. 25 2020	June. 24 2021
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Coaxial Cable	GTS	N/A	GTS213	June. 25 2020	June. 24 2021
9	Coaxial Cable	GTS	N/A	GTS211	June. 25 2020	June. 24 2021
10	Coaxial cable	GTS	N/A	GTS210	June. 25 2020	June. 24 2021
11	Coaxial Cable	GTS	N/A	GTS212	June. 25 2020	June. 24 2021
12	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	June. 25 2020	June. 24 2021
13	Amplifier(2GHz-20GHz)	HP	84722A	GTS206	June. 25 2020	June. 24 2021
14	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June. 25 2020	June. 24 2021
15	Band filter	Amindeon	82346	GTS219	June. 25 2020	June. 24 2021
16	Power Meter	Anritsu	ML2495A	GTS540	June. 25 2020	June. 24 2021
17	Power Sensor	Anritsu	MA2411B	GTS541	June. 25 2020	June. 24 2021
18	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	June. 25 2020	June. 24 2021
19	Splitter	Agilent	11636B	GTS237	June. 25 2020	June. 24 2021
20	Loop Antenna	ZHINAN	ZN30900A	GTS534	June. 25 2020	June. 24 2021
21	Breitband hornantenne	SCHWARZBECK	BBHA 9170	GTS579	Oct. 18 2020	Oct. 17 2021
22	Amplifier	TDK	PA-02-02	GTS574	Oct. 18 2020	Oct. 17 2021
23	Amplifier	TDK	PA-02-03	GTS576	Oct. 18 2020	Oct. 17 2021
24	PSA Series Spectrum Analyzer	Rohde & Schwarz	FSP	GTS578	June. 25 2020	June. 24 2021

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.15 2019	May.14 2022
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 25 2020	June. 24 2021
3	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	June. 25 2020	June. 24 2021
4	ENV216 2-L-V-NETZNACHB.DE	ROHDE&SCHWARZ	ENV216	GTS226	June. 25 2020	June. 24 2021
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. 25 2020	June. 24 2021
8	Absorbing clamp	Elektronik-Feinmechanik	MDS21	GTS229	June. 25 2020	June. 24 2021
9	ISN	SCHWARZBECK	NTFM 8158	GTD565	June. 25 2020	June. 24 2021

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	June. 25 2020	June. 24 2021
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 25 2020	June. 24 2021
3	Spectrum Analyzer	Agilent	E4440A	GTS533	June. 25 2020	June. 24 2021
4	MXG vector Signal Generator	Agilent	N5182A	GTS567	June. 25 2020	June. 24 2021
5	ESG Analog Signal Generator	Agilent	E4428C	GTS568	June. 25 2020	June. 24 2021
6	USB RF Power Sensor	DARE	RPR3006W	GTS569	June. 25 2020	June. 24 2021
7	RF Switch Box	Shongyi	RFSW3003328	GTS571	June. 25 2020	June. 24 2021
8	Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	GTS572	June. 25 2020	June. 24 2021

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. 25 2020	June. 24 2021
2	Barometer	ChangChun	DYM3	GTS255	June. 25 2020	June. 24 2021

7 Test results and Measurement Data

7.1 Antenna requirement

Standard requirement:	FCC Part15 C Section 15.203 /247(c)
<p>15.203 requirement:</p> <p>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.</p> <p>15.247(c) (1)(i) requirement:</p> <p>(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.</p>	
Standard requirement:	RSS-Gen Section 8.3
<p>A transmitter can only be sold or operated with antennas with which it was approved.</p> <p>When a measurement at the antenna connector is used to determine RF output power, the effective gain of the device's antenna shall be stated, based on measurement or on data from the antenna manufacturer. For transmitters of RF output power of 10 milliwatts or less, only the portion of the antenna gain that is in excess of 6 dBi (6 dB above isotropic gain) shall be added to the measured RF output power to demonstrate compliance with the radiated power limits specified in the applicable standard. For transmitters of output power greater than 10 milliwatts, the total antenna gain shall be added to the measured RF output power to demonstrate compliance to the specified radiated power</p>	
EUT Antenna:	
<i>The antenna is PCB antenna, the best case gain of the antenna is 2.5dBi, reference to the appendix II for details</i>	

7.2 Conducted Emissions

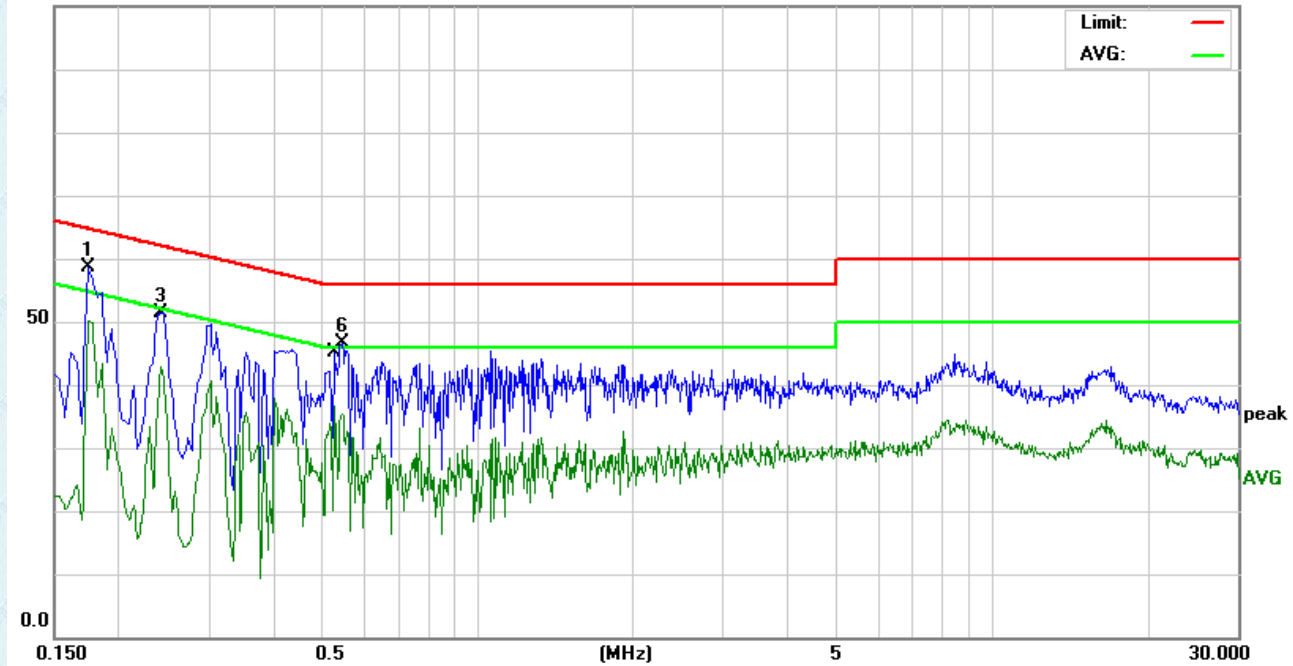
Test Requirement:	FCC Part15 C Section 15.207					
Test Method:	ANSI C63.10:2013					
Test Frequency Range:	150KHz to 30MHz					
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto					
Limit:	Frequency range (MHz)		Limit (dBuV)			
			Quasi-peak		Average	
	0.15-0.5		66 to 56*		56 to 46*	
	0.5-5		56		46	
	5-30		60		50	
* Decreases with the logarithm of the frequency.						
Test setup:	<p>Remark E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</p>					
Test procedure:	<ol style="list-style-type: none"> 1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). 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.:	25 °C	Humid.:	52%	Press.:	1012mbar
Test voltage:	AC 120V/60Hz					
Test results:	Pass					

Measurement data

Battery: XHL 18450-4S1P

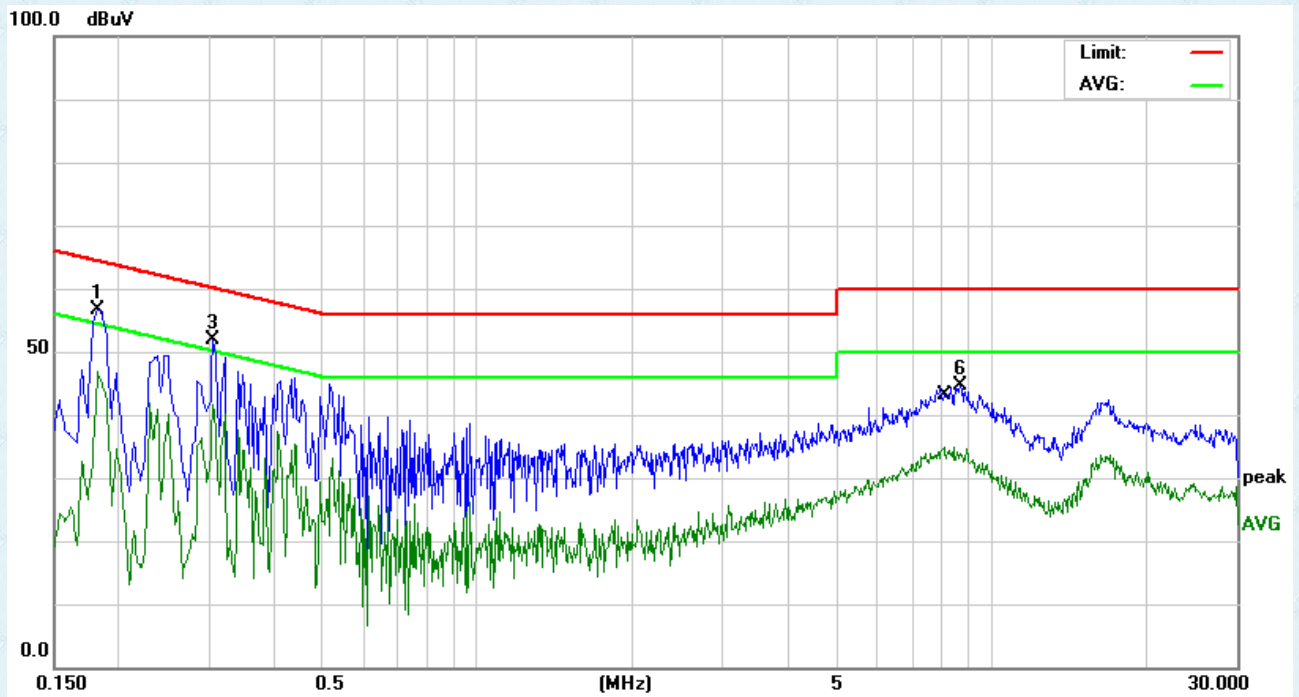
Line:

100.0 dBuV



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB	dBuV	dBuV	dB	
1		0.1740	47.07	11.48	58.55	64.76	-6.21	peak
2	*	0.1740	38.54	11.48	50.02	54.76	-4.74	AVG
3		0.2420	40.58	10.91	51.49	62.02	-10.53	peak
4		0.2429	31.20	10.91	42.11	51.99	-9.88	AVG
5		0.5260	26.74	10.01	36.75	46.00	-9.25	AVG
6		0.5460	36.53	10.00	46.53	56.00	-9.47	peak

Neutral:

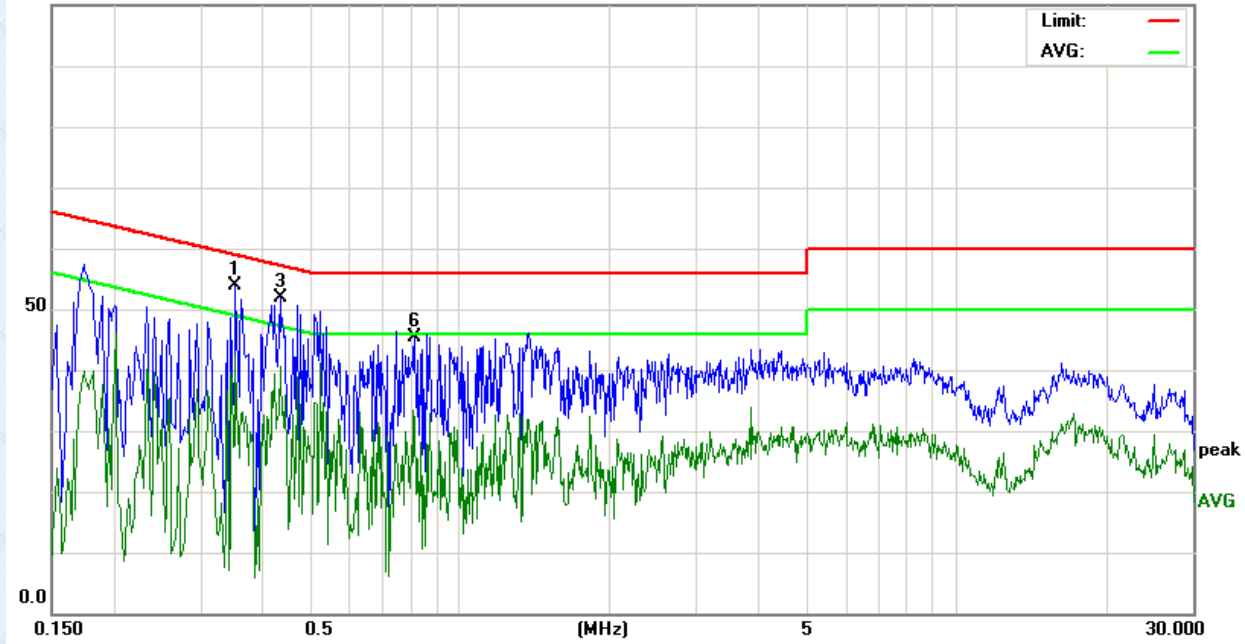


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		0.1819	45.36	11.36	56.72	64.39	-7.67	peak
2	*	0.1819	35.47	11.36	46.83	54.39	-7.56	AVG
3		0.3060	41.77	10.20	51.97	60.08	-8.11	peak
4		0.3060	31.46	10.20	41.66	50.08	-8.42	AVG
5		8.0700	24.64	10.19	34.83	50.00	-15.17	AVG
6		8.7060	34.46	10.19	44.65	60.00	-15.35	peak

Battery: JY18450-4S1P

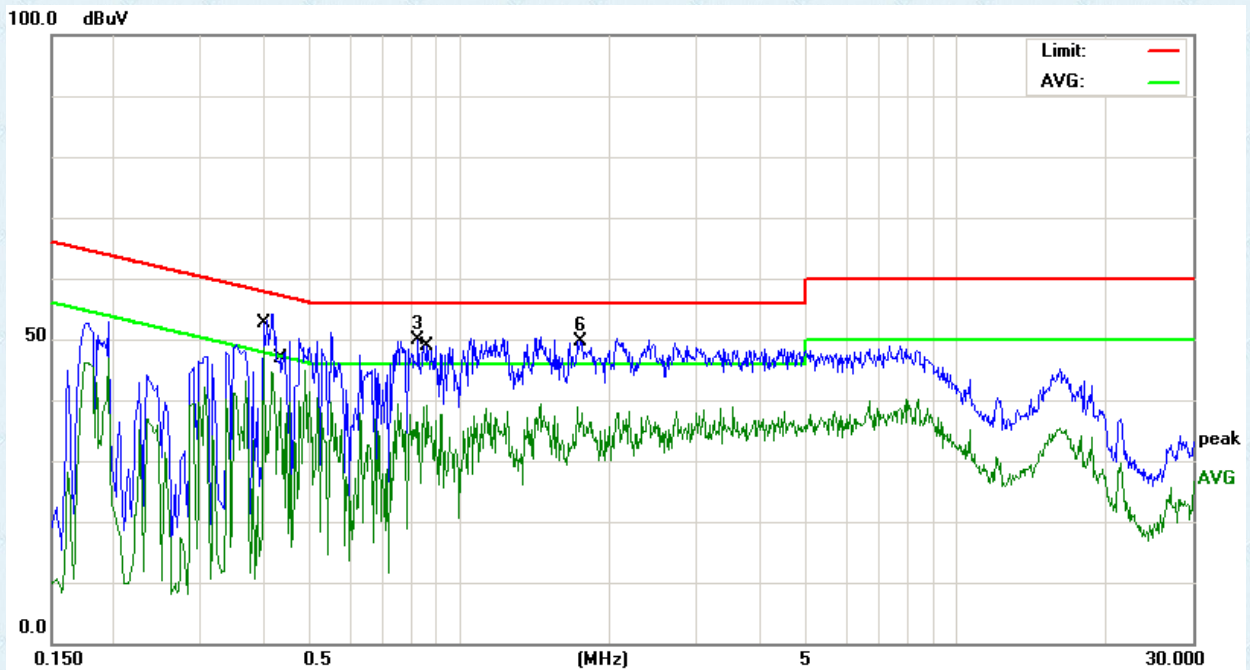
Line:

100.0 dBuV



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB	dBuV	dBuV	dB	
1	*	0.3518	43.82	10.13	53.95	58.92	-4.97	peak
2		0.3518	32.21	10.13	42.34	48.92	-6.58	AVG
3		0.4339	41.82	10.06	51.88	57.18	-5.30	peak
4		0.4339	30.58	10.06	40.64	47.18	-6.54	AVG
5		0.8059	23.39	9.92	33.31	46.00	-12.69	AVG
6		0.8100	35.43	9.92	45.35	56.00	-10.65	peak

Neutral:

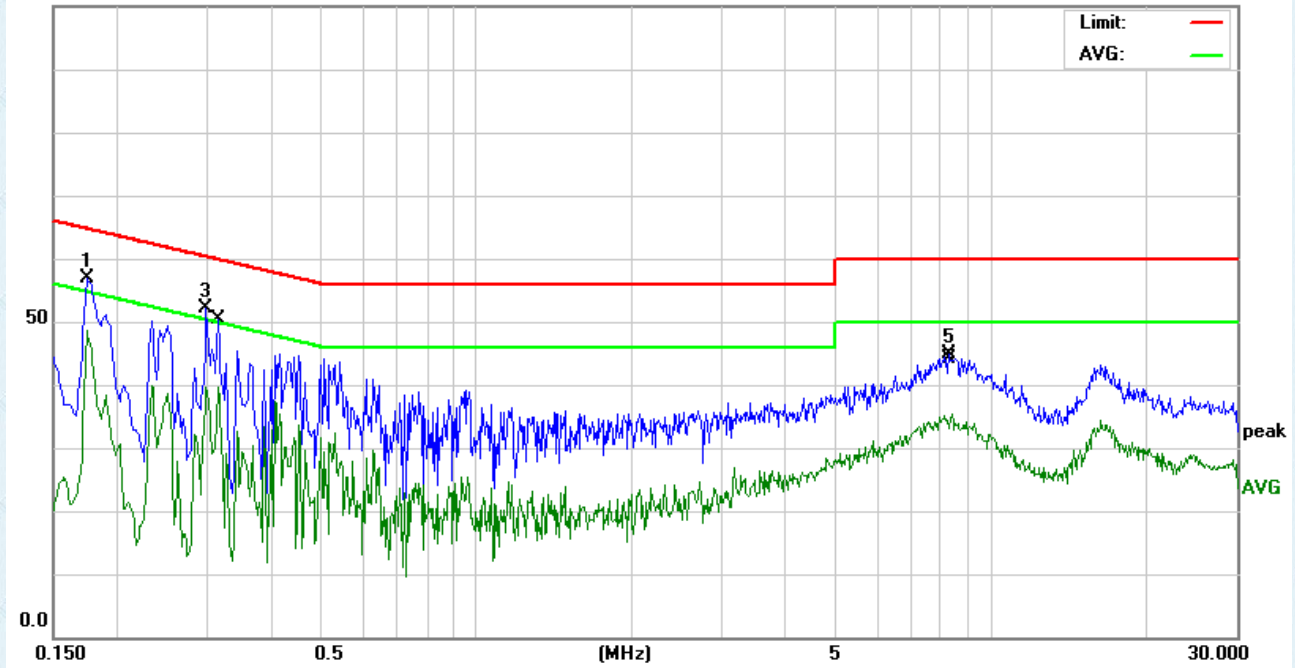


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB	dBuV	dBuV	dB	
1	*	0.4020	34.54	10.09	44.63	47.81	-3.18	AVG
2		0.4340	43.37	10.06	53.43	57.18	-3.75	QP
3		0.8259	40.01	9.92	49.93	56.00	-6.07	peak
4		0.8579	29.30	9.92	39.22	46.00	-6.78	AVG
5		1.7178	28.90	9.94	38.84	46.00	-7.16	AVG
6		1.7459	39.74	9.94	49.68	56.00	-6.32	peak

Battery: 18450 4S1P

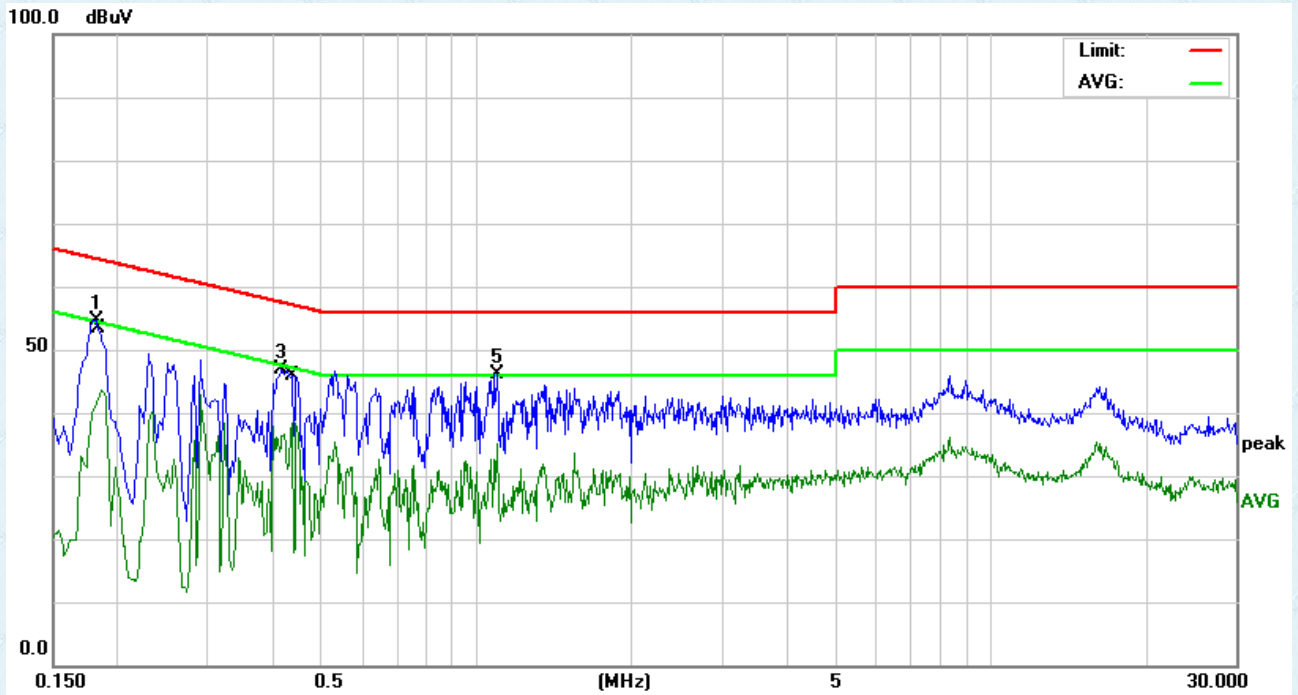
Line:

100.0 dBuV



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB	dBuV	dBuV	dB	
1		0.1740	45.40	11.48	56.88	64.76	-7.88	peak
2	*	0.1740	37.21	11.48	48.69	54.76	-6.07	AVG
3		0.2980	41.89	10.27	52.16	60.30	-8.14	peak
4		0.3140	29.39	10.20	39.59	49.86	-10.27	AVG
5		8.2660	34.59	10.19	44.78	60.00	-15.22	peak
6		8.3780	25.26	10.19	35.45	50.00	-14.55	AVG

Neutral:

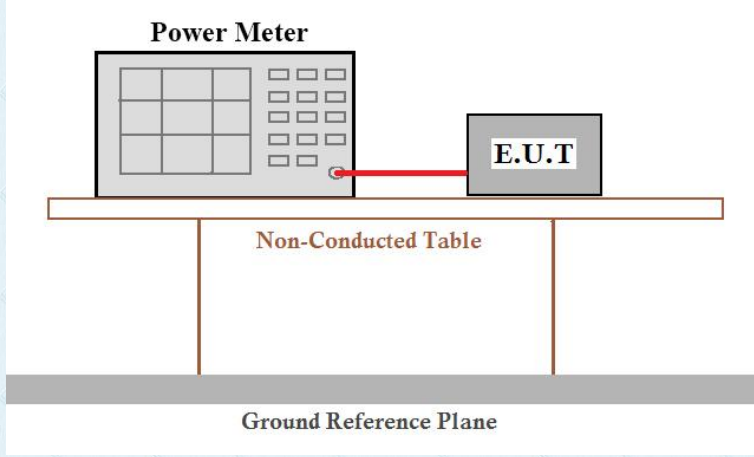


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		0.1819	43.26	11.36	54.62	64.39	-9.77	peak
2		0.1860	32.32	11.31	43.63	54.21	-10.58	AVG
3		0.4180	36.79	10.10	46.89	57.49	-10.60	peak
4	*	0.4380	28.27	10.08	38.35	47.10	-8.75	AVG
5		1.0940	36.22	9.94	46.16	56.00	-9.84	peak
6		1.0940	25.29	9.94	35.23	46.00	-10.77	AVG

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.

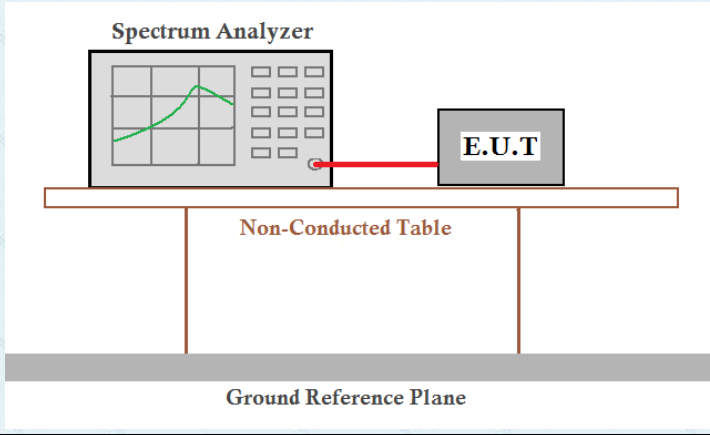
7.3 Conducted Peak Output Power

Test Requirement :	FCC Part15 C Section 15.247 (b)(3)
Test Method :	KDB558074 D01 15.247 Meas Guidance v05r02 ANSI C63.10:2013
Limit:	30dBm 36dBm(4W for e.i.r.p)
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	13.59	11.05	9.79	9.63	30.00	Pass
Middle	13.87	10.95	9.72	9.54		
Highest	13.98	10.94	9.69	9.52		

7.4 Channel Bandwidth

Test Requirement :	FCC Part15 C Section 15.247 (a)(2)
Test Method :	KDB558074 D01 15.247 Meas Guidance v05r02 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

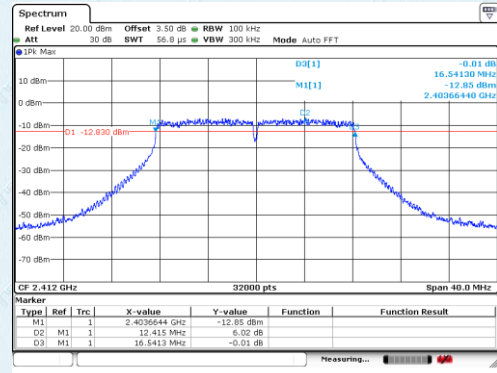
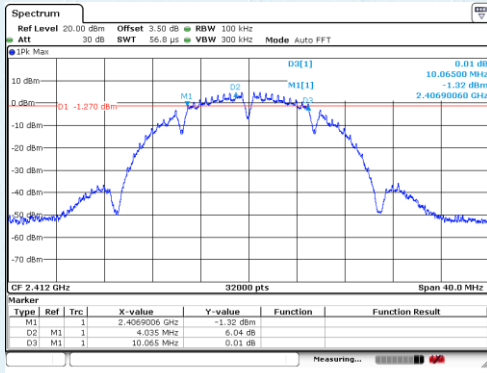
Measurement Data

Test CH	Channel Bandwidth (MHz)				Limit(KHz)	Result
	802.11b	802.11g	802.11n(HT20)	802.11n(HT40)		
Lowest	10.065	16.541	17.684	36.338	>500	Pass
Middle	10.066	16.541	17.735	36.338		
Highest	10.048	16.528	17.614	36.335		

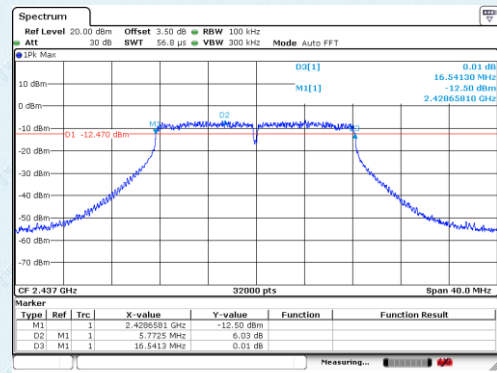
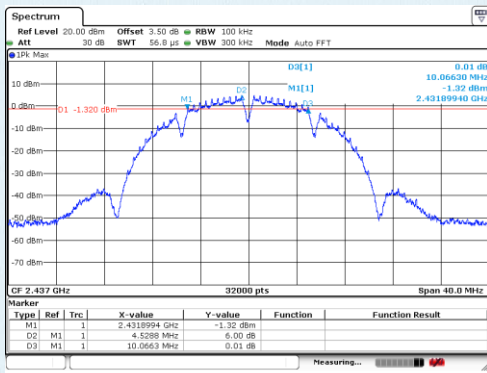
Test plot as follows:

-6dB BW:

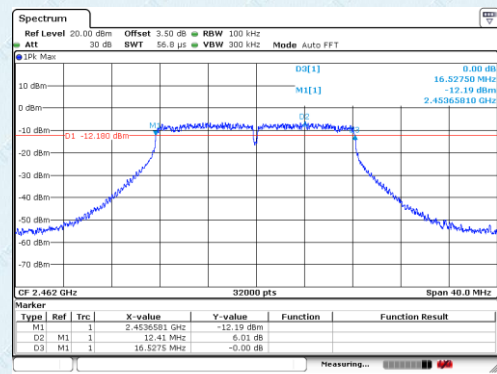
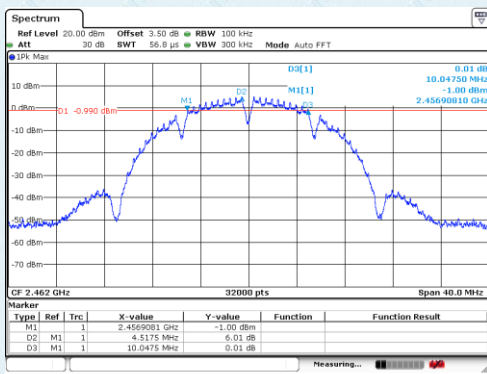
Test mode:	802.11b	Test mode:	802.11g
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Lowest channel

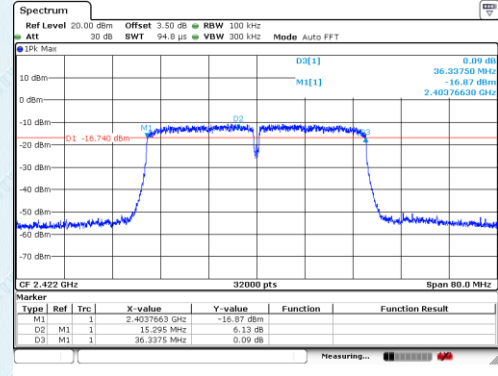
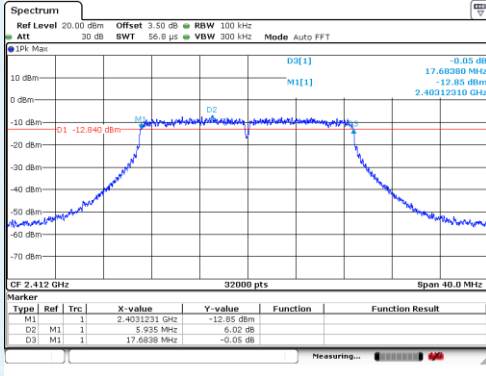


Middle channel

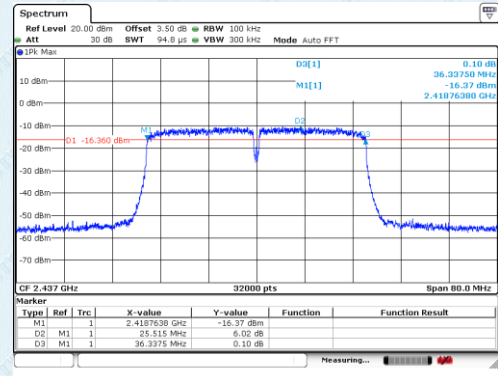
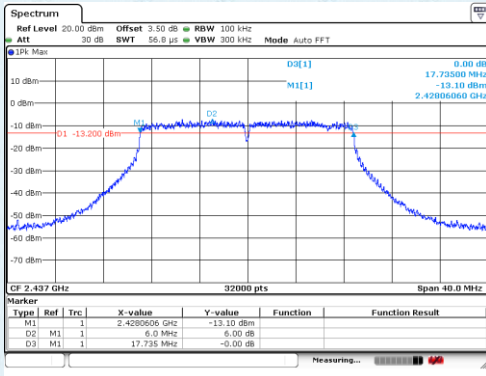


Highest channel

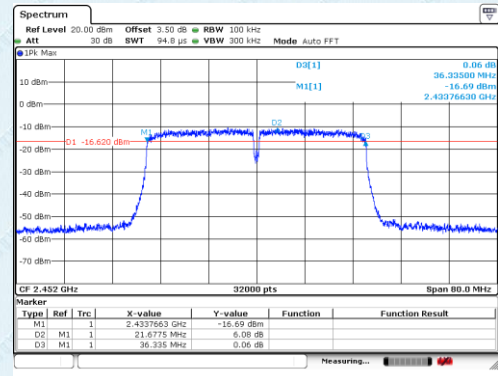
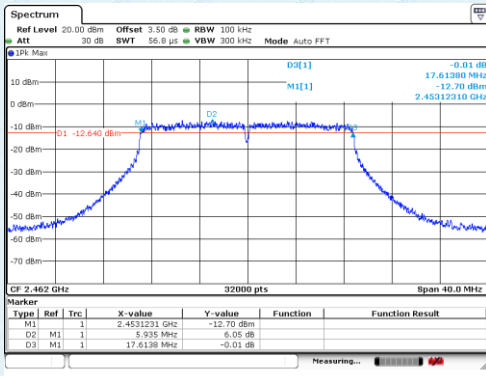
Test mode:	802.11n(HT20)	Test mode:	802.11n(HT40)
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Lowest channel

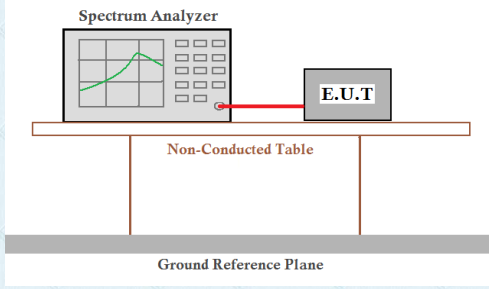


Middle channel



Highest channel

7.5 Power Spectral Density

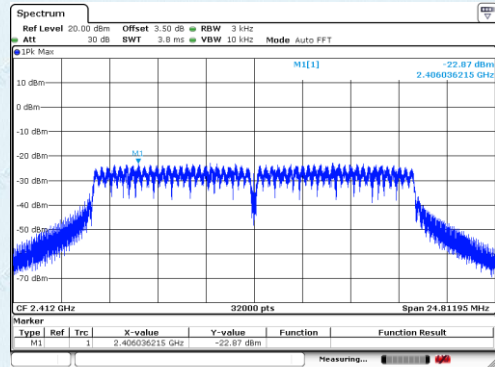
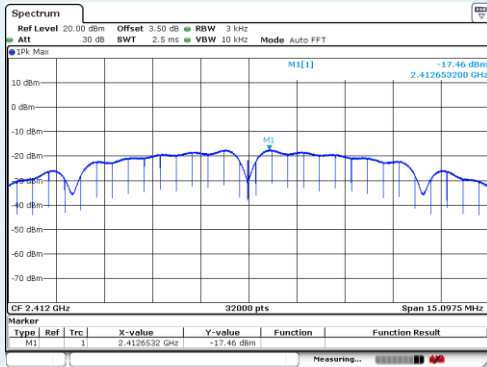
Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	KDB558074 D01 15.247 Meas Guidance v05r02 ANSI C63.10:2013
Limit:	8dBm/3kHz
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data

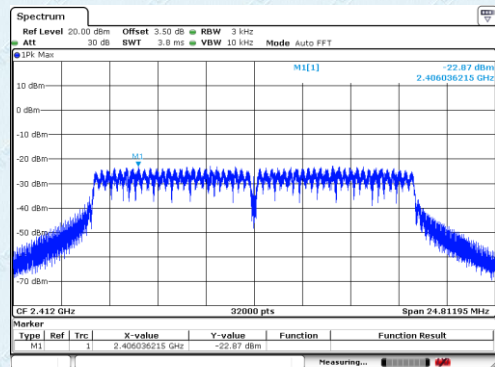
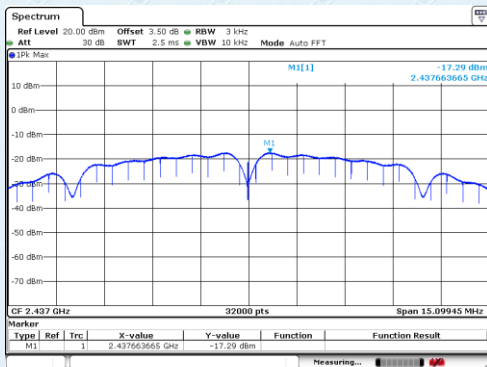
Test CH	Power Spectral Density (dBm/3kHz)				Limit (dBm/3kHz)	Result
	802.11b	802.11g	802.11n(HT20)	802.11n(HT40)		
Lowest	-17.46	-22.87	-23.23	-23.43	8.00	Pass
Middle	-17.29	-22.72	-23.18	-23.59		
Highest	-17.49	-22.73	-23.16	-23.59		

Test plot as follows:

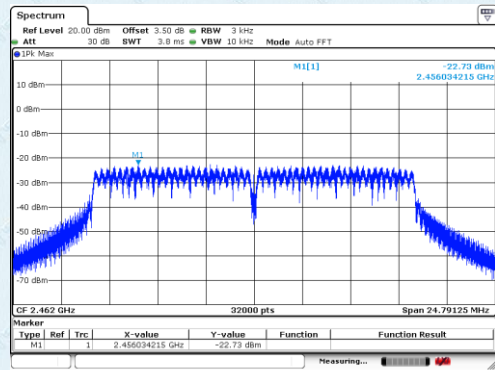
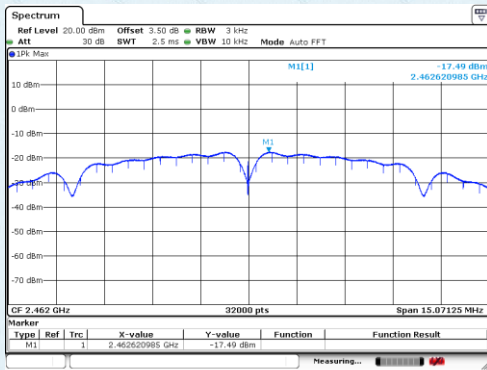
Test mode:	802.11b	Test mode:	802.11g
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Lowest channel

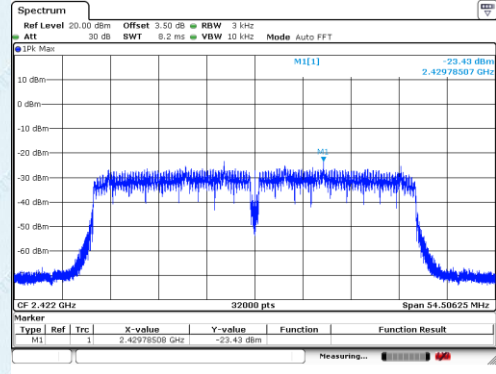
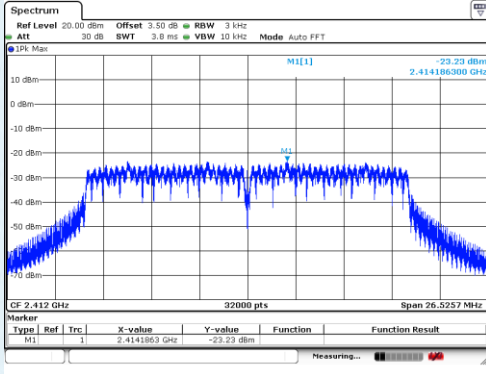


Middle channel

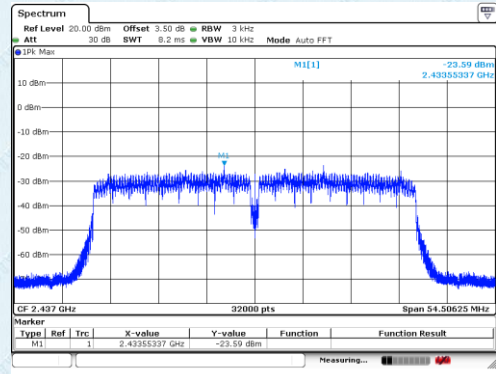
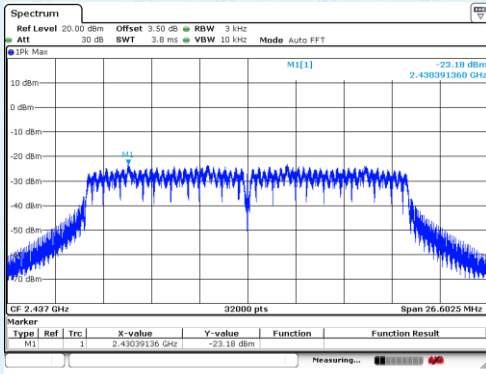


Highest channel

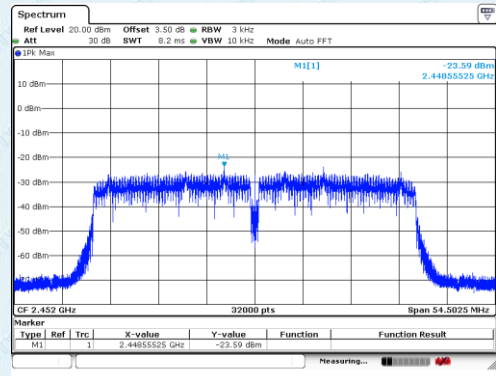
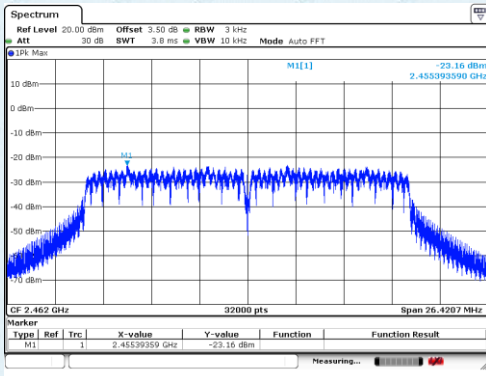
Test mode:	802.11n(HT20)	Test mode:	802.11n(HT40)
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Lowest channel



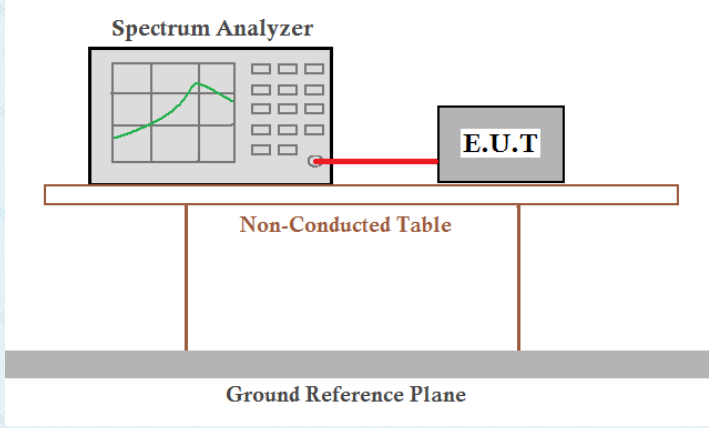
Middle channel



Highest channel

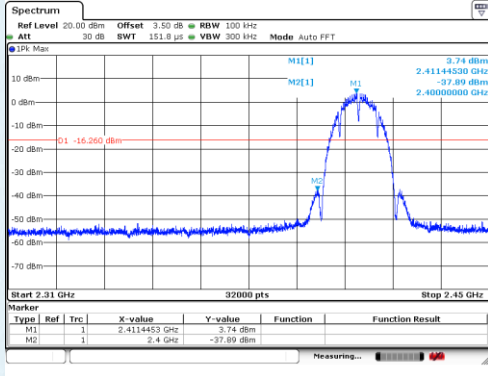
7.6 Band edges

7.6.1 Conducted Emission Method

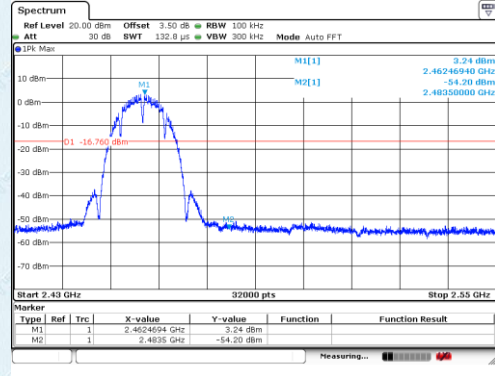
Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	KDB558074 D01 15.247 Meas Guidance v05r02 ANSI C63.10:2013
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional 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:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both are placed on a Non-Conducted Table, which is supported by a Ground Reference Plane.</p>
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

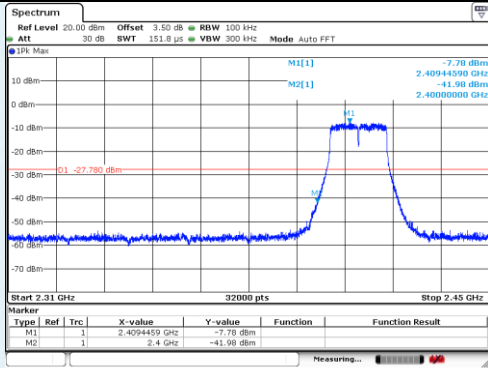


Lowest channel

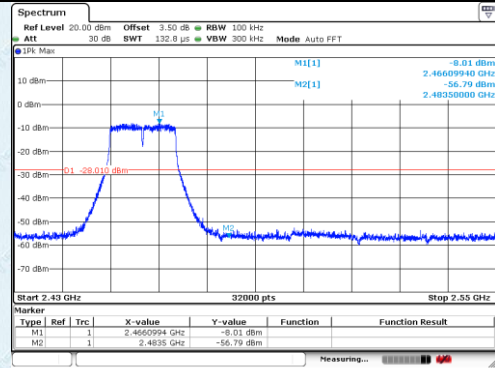


Highest channel

Test mode: 802.11g

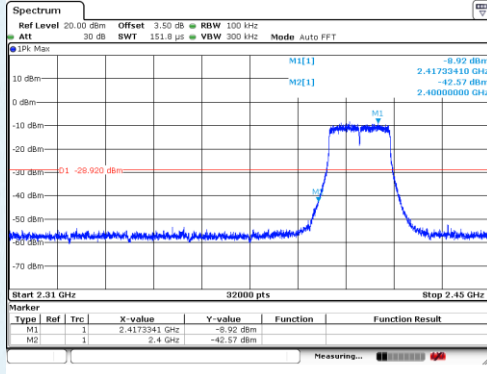


Lowest channel

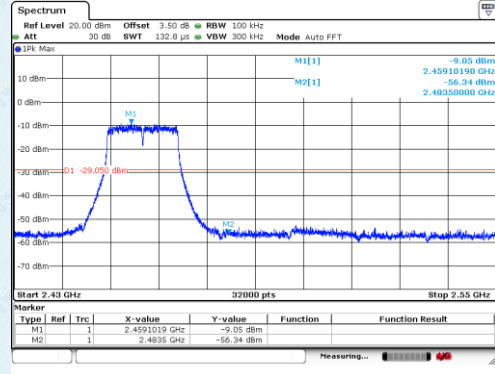


Highest channel

Test mode: 802.11n(HT20)

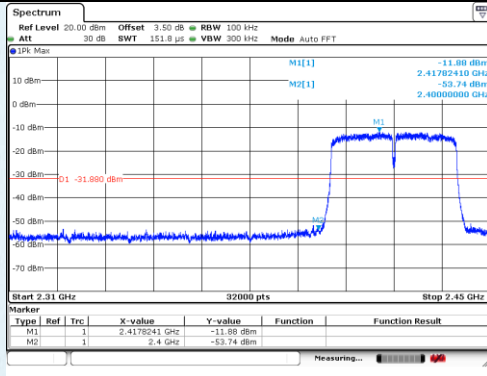


Lowest channel

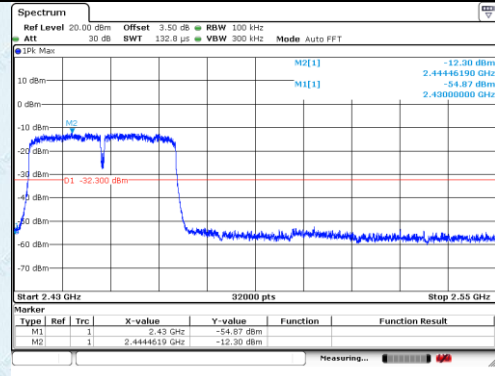


Highest channel

Test mode: 802.11n(HT40)



Lowest channel



Highest channel

7.6.2 Radiated Emission Method

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
	Above 1GHz	Peak	1MHz	3MHz
		Average	1MHz	3MHz
Limit:	Frequency	Limit (dBuV/m @3m)		Value
	Above 1GHz	54.00		Average
		74.00		Peak
Test setup:				
Test Procedure:	<ol style="list-style-type: none"> 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	Test channel:	Lowest
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Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2400.000	32.48	-5.70	26.78	74.00	-47.22	peak
2400.000	20.69	-5.70	14.99	54.00	-39.01	AVG

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2400.000	37.98	-5.70	32.28	74.00	-41.72	peak
2400.000	21.25	-5.70	15.55	54.00	-38.45	AVG

Test mode:	802.11b	Test channel:	Highest
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Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.500	30.25	-4.98	25.27	74.00	-48.73	peak
2483.500	20.78	-4.98	15.80	54.00	-38.20	AVG

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.500	31.18	-4.98	26.20	74.00	-47.80	peak
2483.500	21.66	-4.98	16.68	54.00	-37.32	AVG

Test mode:	802.11g	Test channel:	Lowest
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Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2400.000	36.11	-5.70	30.41	74.00	-43.59	peak
2400.000	21.35	-5.70	15.65	54.00	-38.35	AVG

Horizontal:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2400.000	37.29	-5.70	31.59	74.00	-42.41	38.24
2400.000	21.53	-5.70	15.83	54.00	-38.17	21.69

Test mode:	802.11g	Test channel:	Highest
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Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2483.500	31.37	-4.98	26.39	74.00	-47.61	peak
2483.500	21.26	-4.98	16.28	54.00	-37.72	AVG

Horizontal:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2483.500	31.81	-4.98	26.83	74.00	-47.17	peak
2483.500	21.06	-4.98	16.08	54.00	-37.92	AVG

Test mode:	802.11n(HT20)	Test channel:	Lowest
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Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
2400.000	35.21	-5.70	29.51	74.00	-44.49	peak
2400.000	21.33	-5.70	15.63	54.00	-38.37	AVG

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
2400.000	37.69	-5.70	31.99	74.00	-42.01	peak
2400.000	21.58	-5.70	15.88	54.00	-38.12	AVG

Test mode:	802.11n(HT20)	Test channel:	Highest
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Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
2483.500	31.27	-4.98	26.29	74.00	-47.71	peak
2483.500	20.33	-4.98	15.35	54.00	-38.65	AVG

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
2483.500	31.28	-4.98	26.30	74.00	-47.70	peak
2483.500	21.46	-4.98	16.48	54.00	-37.52	AVG

Test mode:	802.11n(HT40)	Test channel:	Lowest
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Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2400.000	31.36	-5.70	25.66	74.00	-48.34	peak
2400.000	21.51	-5.70	15.81	54.00	-38.19	AVG

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2400.000	39.67	-5.70	33.97	74.00	-40.03	peak
2400.000	21.78	-5.70	16.08	54.00	-37.92	AVG

Test mode:	802.11n(HT40)	Test channel:	Highest
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Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.500	31.28	-4.98	26.30	74.00	-47.70	peak
2483.565	20.16	-4.98	15.18	54.00	-38.82	AVG

Horizontal:

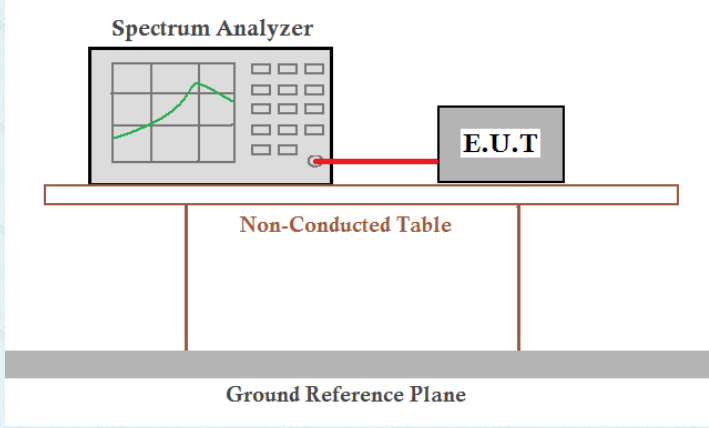
Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.500	31.37	-4.98	26.39	74.00	-47.61	peak
2483.500	21.46	-4.98	16.48	54.00	-37.52	AVG

Remarks:

1. Only the worst case Main Antenna test data.
2. The pre-test were performed on lowest, middle and highest frequencies, only the worst case's (lowest and highest frequencies) data was showed.
3. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

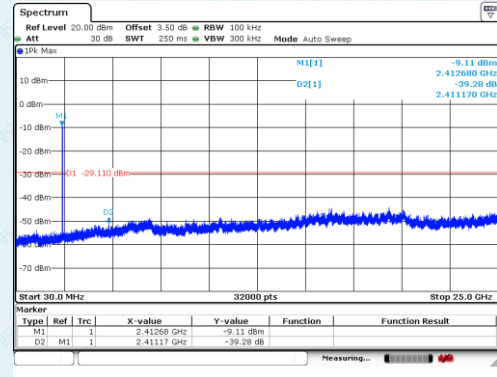
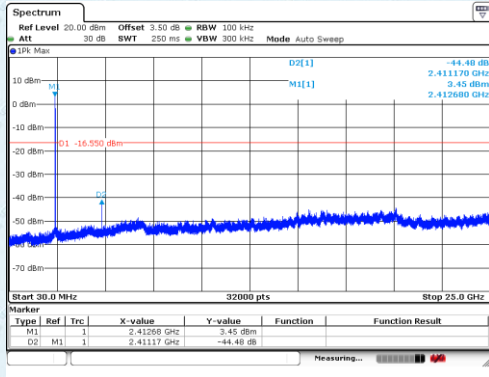
7.7 Spurious Emission

7.7.1 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	KDB558074 D01 15.247 Meas Guidance v05r02 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:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The table is supported by two legs and sits on a Ground Reference Plane.</p>
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

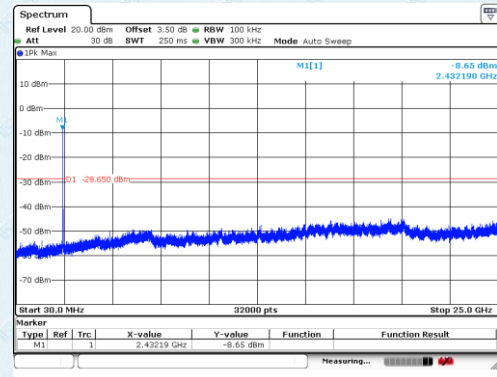
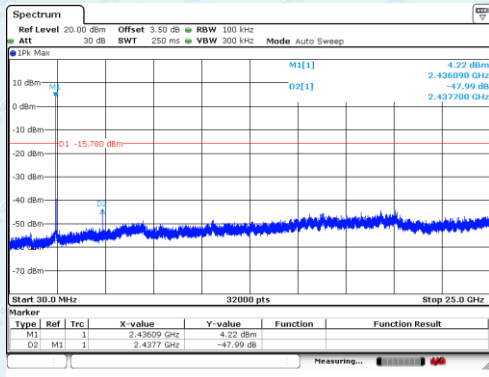
Test plot as follows:

Test mode:	802.11b	Test mode:	802.11g
Lowest channel			



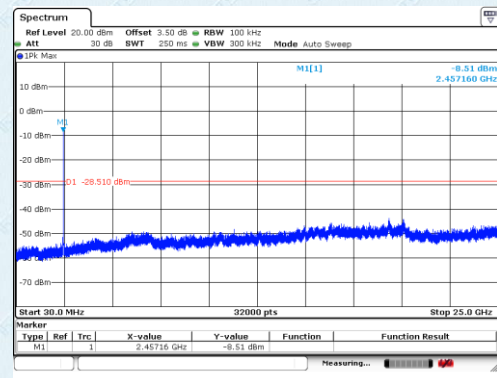
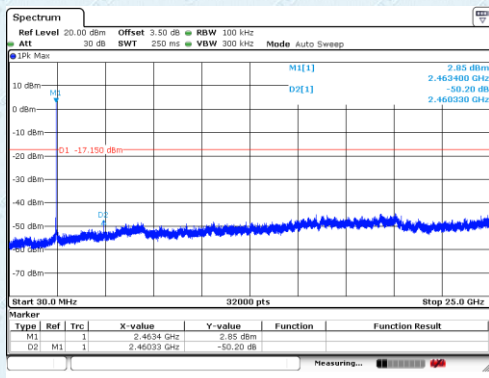
30MHz~25GHz

Middle channel



30MHz~25GHz

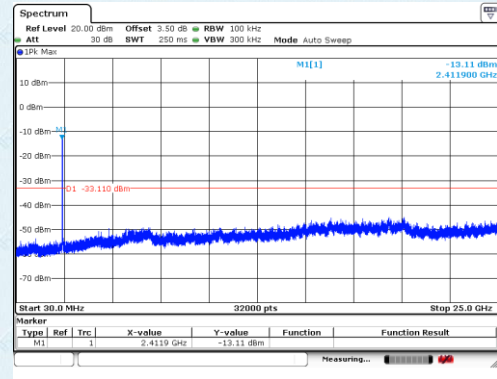
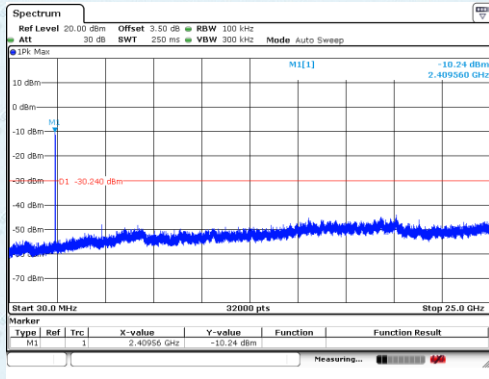
Highest channel



30MHz~25GHz

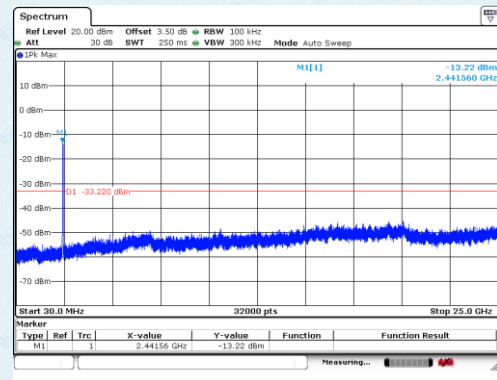
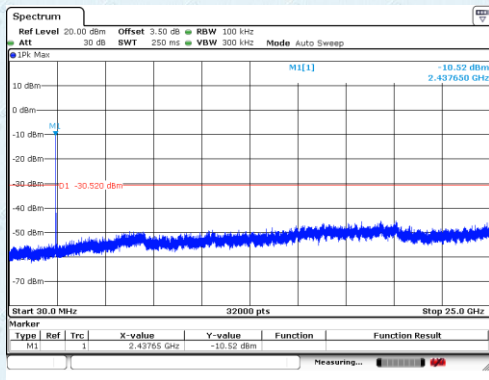
Test mode:	802.11n(HT20)	Test mode:	802.11n(HT40)
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Lowest channel



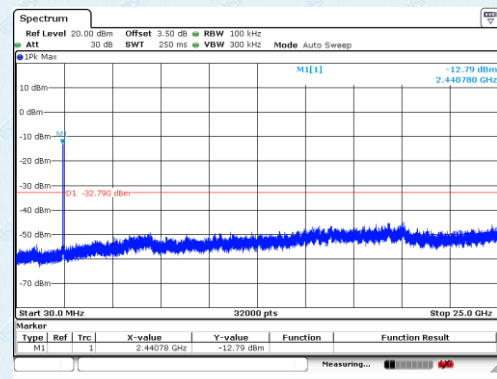
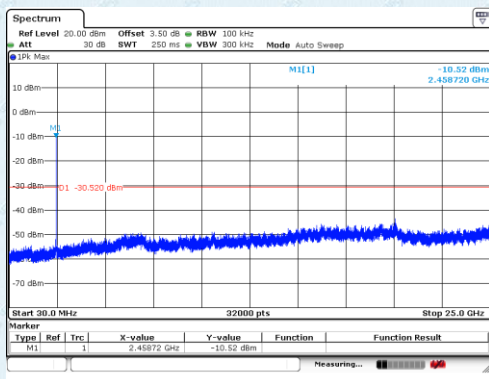
30MHz~25GHz

Middle channel



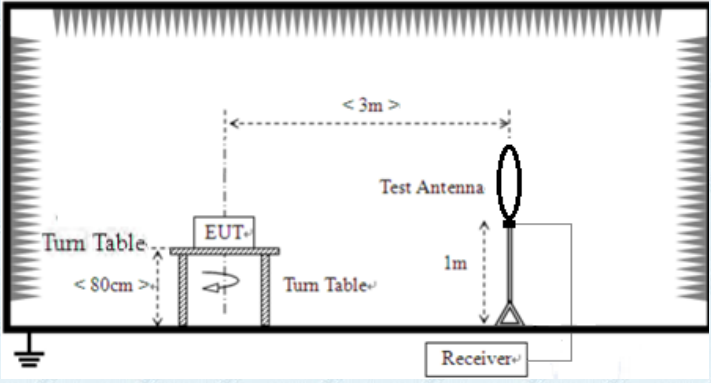
30MHz~25GHz

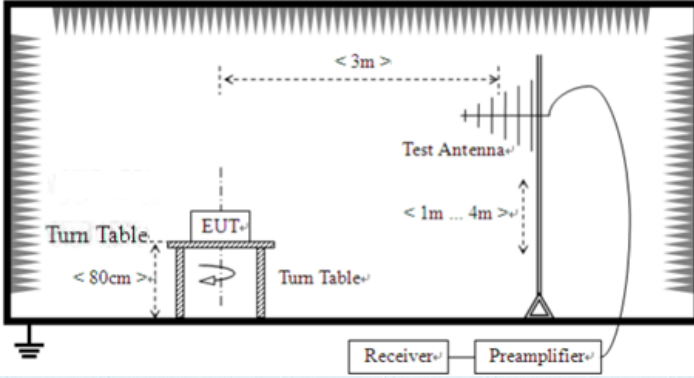
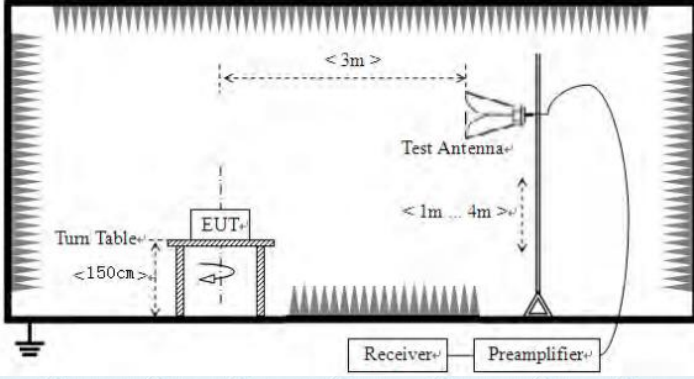
Highest channel



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	100KHz	300KHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
Peak		1MHz	10Hz	Average	
Limit:	Frequency	Limit (uV/m)	Value	Measurement Distance	
	0.009MHz-0.490MHz	2400/F(KHz)	QP	300m	
	0.490MHz-1.705MHz	24000/F(KHz)	QP	300m	
	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				
	 <p>The diagram illustrates the test setup for radiated emissions from 9kHz to 30MHz. It shows an Equipment Under Test (EUT) placed on a turn table. A test antenna is positioned 3m away from the EUT and is mounted on a stand that is 1m high. A receiver is connected to the test antenna. The turn table has a diameter of less than 80cm.</p>				
For radiated emissions from 30MHz to 1GHz					

	 <p>For radiated emissions above 1GHz</p> 
<p>Test Procedure:</p>	<ol style="list-style-type: none"> 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.
<p>Test Instruments:</p>	<p>Refer to section 6.0 for details</p>

Test mode:	Refer to section 5.2 for details					
Test voltage:	AC120V 60Hz					
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar
Test voltage:	AC 120V, 60Hz					
Test results:	Pass					

Remarks:

1. *Only the worst case Main Antenna test data.*
2. *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**

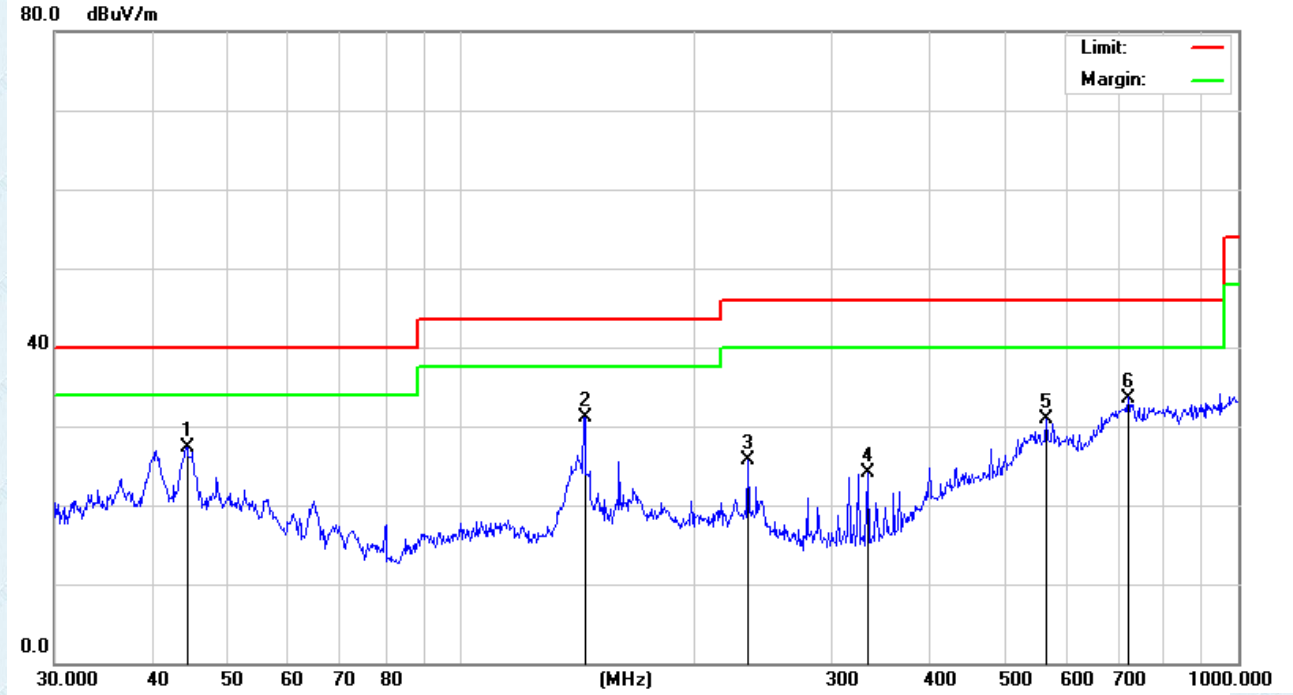
The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o) & RSS-Gen 6.13, the test result no need to reported.

■ Below 1GHz

Pre-scan all test modes, found worst case at 802.11b 2462MHz, and so only show the test result of 802.11b 2462MHz

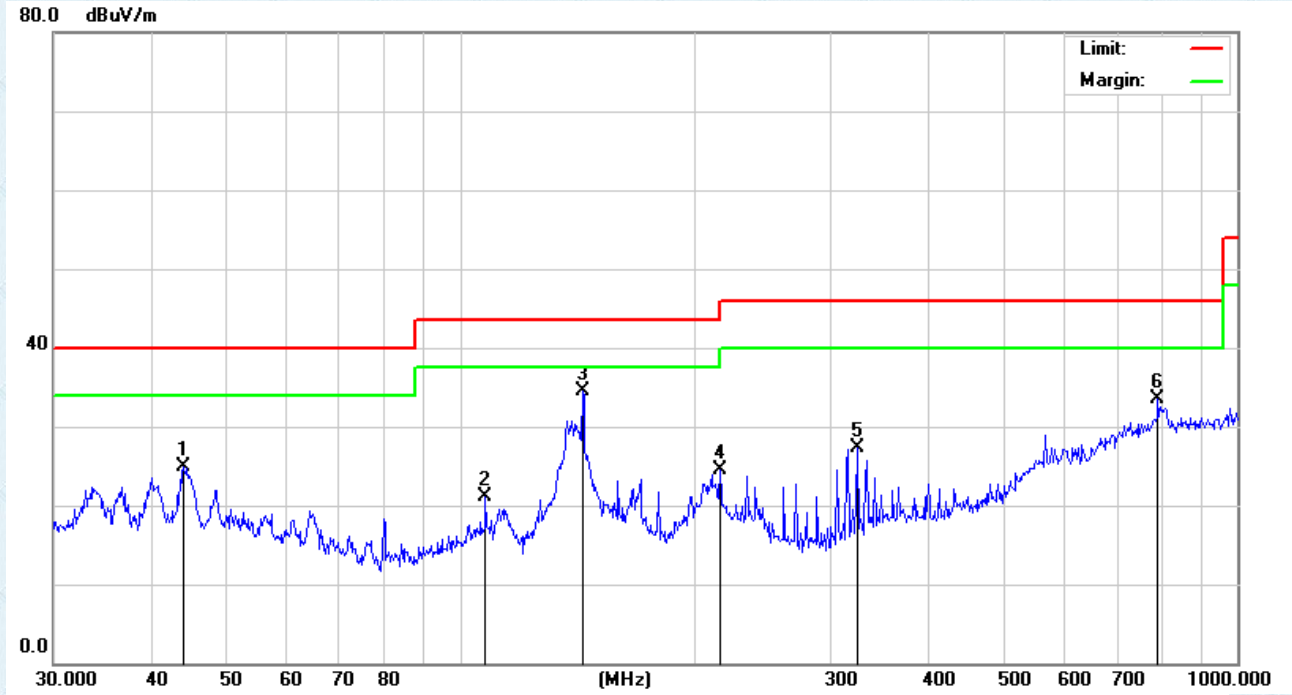
Battery: XHL 18450-4S1P

Horizontal:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1		44.4308	29.47	-2.20	27.27	40.00	-12.73	peak
2	*	144.3348	38.01	-6.81	31.20	43.50	-12.30	peak
3		234.1684	32.63	-6.88	25.75	46.00	-20.25	peak
4		333.6867	31.67	-7.66	24.01	46.00	-21.99	peak
5		566.6223	26.62	4.33	30.95	46.00	-15.05	peak
6		721.7259	26.26	7.34	33.60	46.00	-12.40	peak

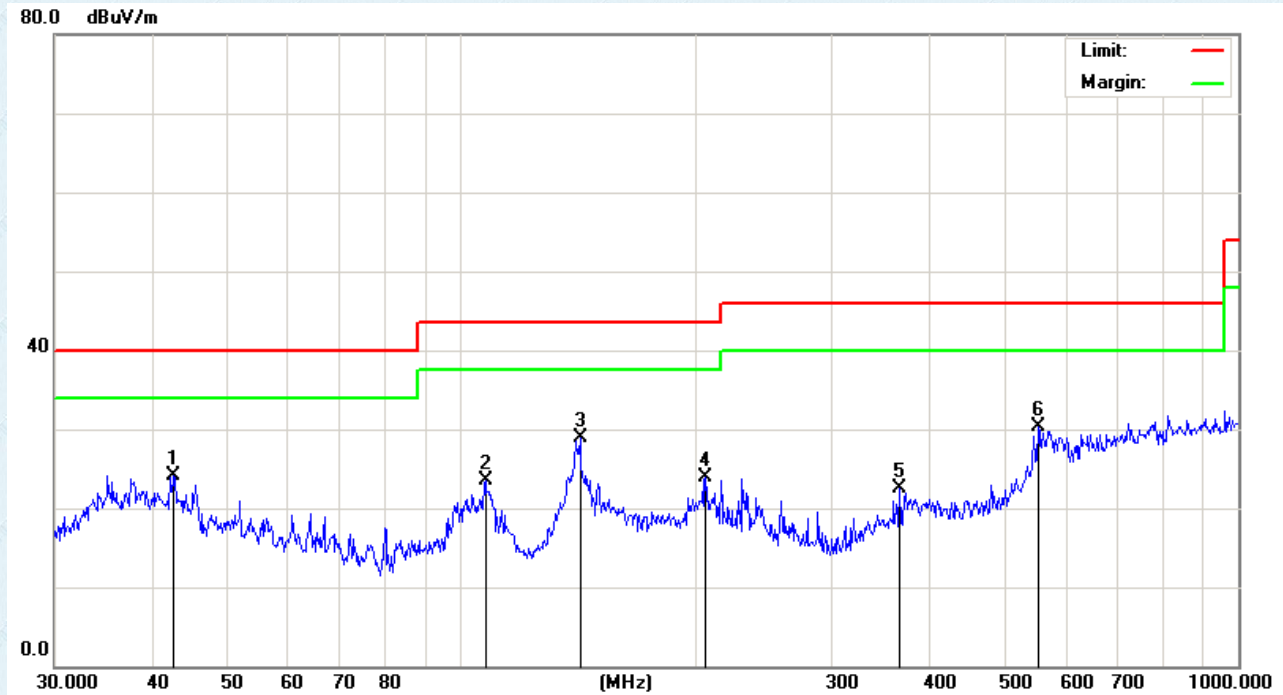
Vertical:



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		44.1202	29.33	-4.48	24.85	40.00	-15.15	peak
2		107.8877	28.76	-7.71	21.05	43.50	-22.45	peak
3	*	143.8295	41.76	-7.26	34.50	43.50	-9.00	peak
4		216.0240	29.96	-5.42	24.54	46.00	-21.46	peak
5		324.4561	33.80	-6.46	27.34	46.00	-18.66	peak
6		790.6188	25.77	7.69	33.46	46.00	-12.54	peak

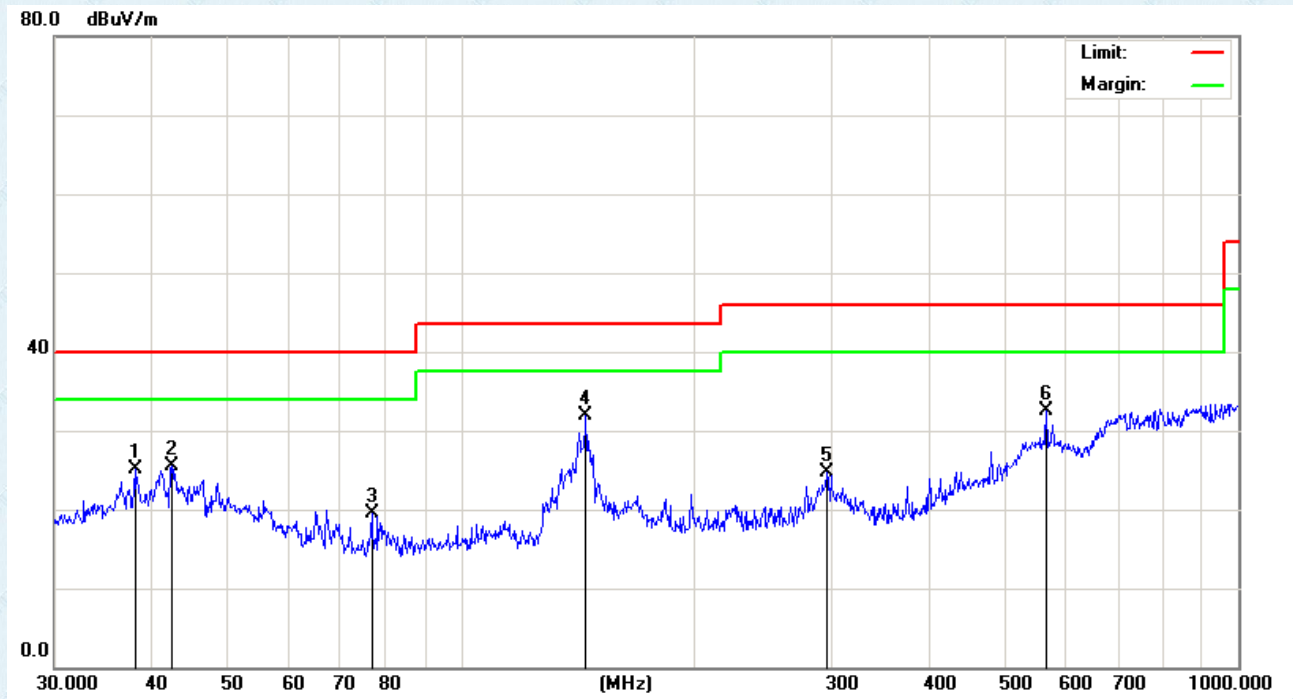
Battery: JY18450-4S1P

Horizontal:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1		42.7496	28.58	-4.38	24.20	40.00	-15.80	peak
2		107.5100	31.33	-7.73	23.60	43.50	-19.90	peak
3	*	142.3242	36.39	-7.39	29.00	43.50	-14.50	peak
4		206.3976	28.83	-4.93	23.90	43.50	-19.60	peak
5		366.8231	26.69	-4.25	22.44	46.00	-23.56	peak
6		552.8831	28.62	1.78	30.40	46.00	-15.60	peak

Vertical:

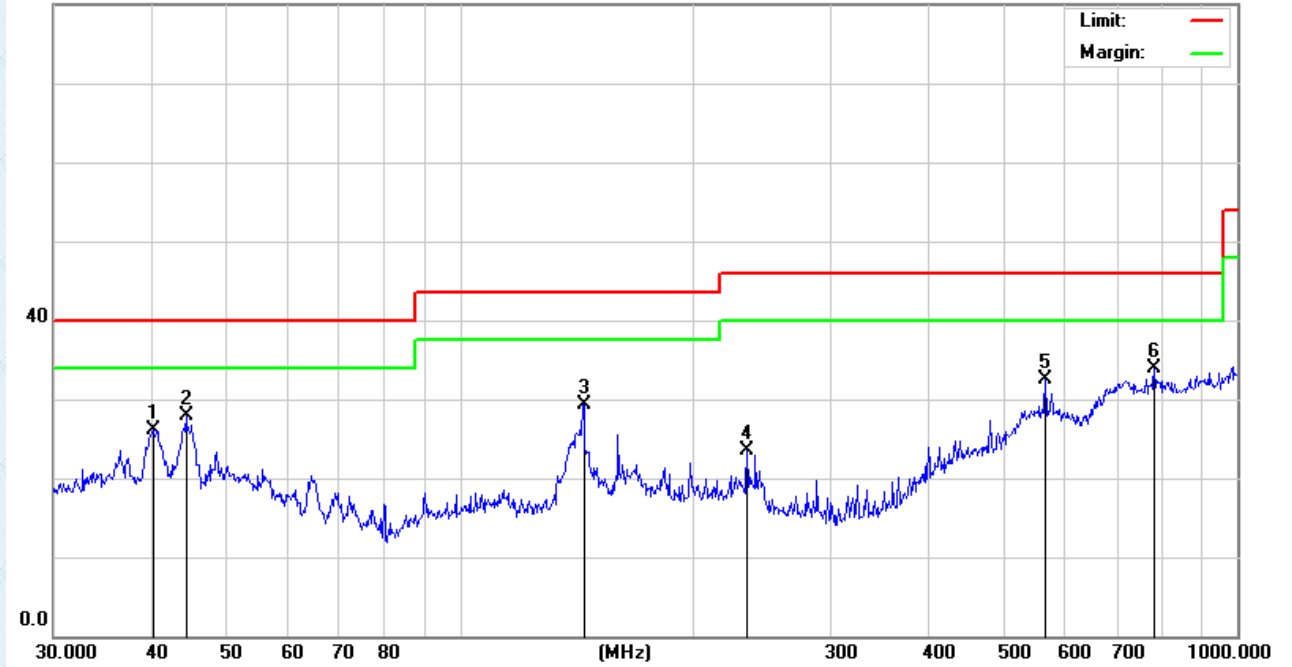


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1		38.0782	27.94	-2.74	25.20	40.00	-14.80	peak
2		42.4508	27.54	-1.94	25.60	40.00	-14.40	peak
3		76.7807	29.88	-10.38	19.50	40.00	-20.50	peak
4	*	144.8418	38.78	-6.78	32.00	43.50	-11.50	peak
5		295.1469	33.48	-8.78	24.70	46.00	-21.30	peak
6		566.6221	28.21	4.33	32.54	46.00	-13.46	peak

Battery: 18450 4S1P

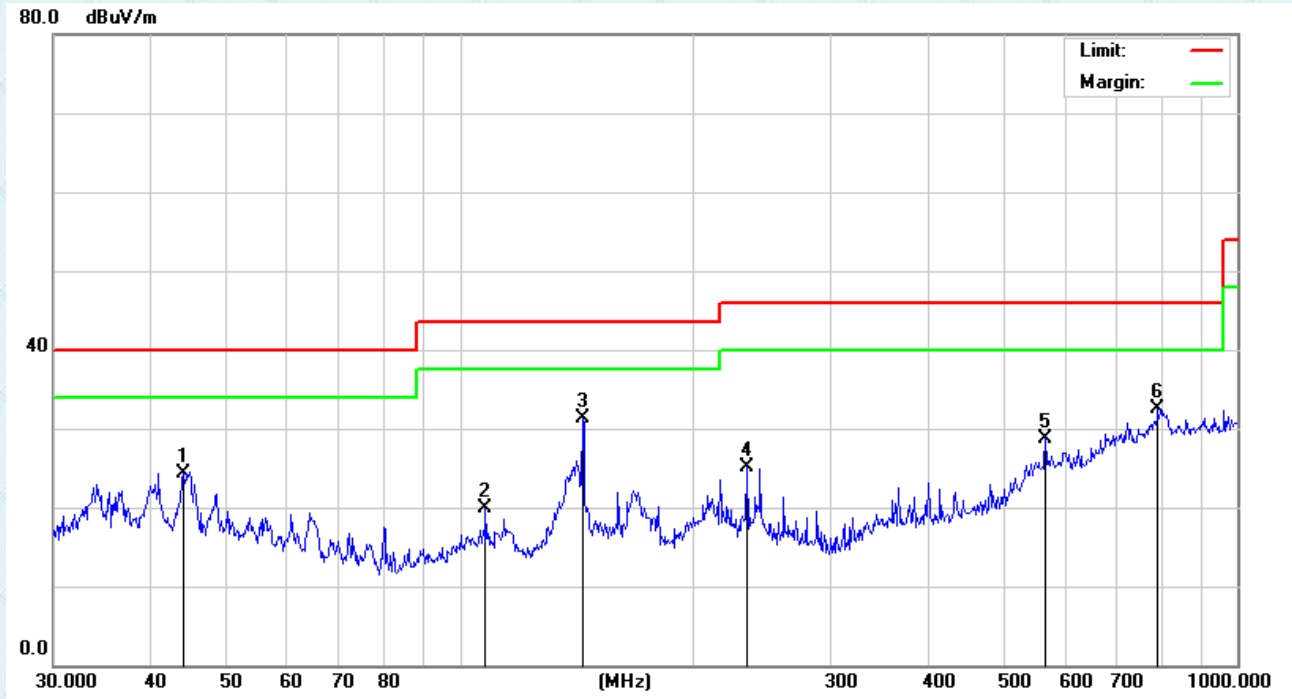
Horizontal:

80.0 dBuV/m



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		40.2757	27.90	-1.89	26.01	40.00	-13.99	peak
2		44.4308	30.03	-2.20	27.83	40.00	-12.17	peak
3		144.3348	36.17	-6.81	29.36	43.50	-14.14	peak
4		234.1684	30.32	-6.88	23.44	46.00	-22.56	peak
5		566.6223	28.21	4.33	32.54	46.00	-13.46	peak
6	*	782.3453	26.37	7.54	33.91	46.00	-12.09	peak

Vertical:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		44.1202	28.82	-4.48	24.34	40.00	-15.66	peak
2		107.8877	27.55	-7.71	19.84	43.50	-23.66	peak
3	*	143.8295	38.56	-7.26	31.30	43.50	-12.20	peak
4		234.1684	32.19	-7.04	25.15	46.00	-20.85	peak
5		566.6223	27.00	1.80	28.80	46.00	-17.20	peak
6		790.6188	24.89	7.69	32.58	46.00	-13.42	peak

■ Above 1GHz

Test mode:	802.11b	Test channel:	Lowest
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H

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
4824.000	43.36	5.08	48.44	74.00	-25.56	PEAK
4824.000	30.28	5.08	35.36	54.00	-18.64	AVG
7326.000	41.49	7.55	49.04	74.00	-24.96	PEAK
7326.000	28.32	7.55	35.87	54.00	-18.13	AVG

V

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
4824.000	43.28	5.08	48.36	74.00	-25.64	PEAK
4824.000	31.46	5.08	36.54	54.00	-17.46	AVG
7236.000	42.27	7.55	49.82	74.00	-24.18	PEAK
7236.000	30.16	7.55	37.71	54.00	-16.29	AVG

Test mode:	802.11b	Test channel:	Middle
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H

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
4874.000	44.14	5.13	49.27	74.00	-24.73	PEAK
4874.000	30.25	5.13	35.38	54.00	-18.62	AVG
7311.000	41.49	7.49	48.98	74.00	-25.02	PEAK
7311.000	27.38	7.49	34.87	54.00	-19.13	AVG

V

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
4874.000	43.62	5.13	48.75	74.00	-25.25	PEAK
4874.000	31.28	5.13	36.41	54.00	-17.59	AVG
7311.000	41.59	7.49	49.08	74.00	-24.92	PEAK
7311.000	28.24	7.49	35.73	54.00	-18.27	AVG

Test mode:	802.11b	Test channel:	Highest
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H

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
4924.000	43.56	5.18	48.74	74.00	-25.26	PEAK
4924.000	31.27	5.18	36.45	54.00	-17.55	AVG
7386.000	41.02	7.82	48.84	74.00	-25.16	PEAK
7386.000	30.24	7.82	38.06	54.00	-15.94	AVG

V

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
4924.000	44.85	5.18	50.03	74.00	-23.97	PEAK
4924.000	31.65	5.18	36.83	54.00	-17.17	AVG
7386.000	42.02	7.82	49.84	74.00	-24.16	PEAK
7386.000	29.07	7.82	36.89	54.00	-17.11	AVG

Test mode:	802.11g	Test channel:	lowest
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H

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
4824.000	43.02	5.08	48.10	74.00	-25.90	PEAK
4824.000	31.07	5.08	36.15	54.00	-17.85	AVG
7326.000	41.63	7.55	49.18	74.00	-24.82	PEAK
7326.000	27.78	7.55	35.33	54.00	-18.67	AVG

V

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
4824.000	43.74	5.08	48.82	74.00	-25.18	PEAK
4824.000	30.64	5.08	35.72	54.00	-18.28	AVG
7236.000	41.28	7.55	48.83	74.00	-25.17	PEAK
7236.000	28.03	7.55	35.58	54.00	-18.42	AVG

Test mode:	802.11g	Test channel:	Middle
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H

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
4874.000	43.21	5.13	48.34	74.00	-25.66	PEAK
4874.000	29.35	5.13	34.48	54.00	-19.52	AVG
7311.000	40.16	7.49	47.65	74.00	-26.35	PEAK
7311.000	27.79	7.49	35.28	54.00	-18.72	AVG

V

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
4874.000	43.28	5.13	48.41	74.00	-25.59	PEAK
4874.000	29.46	5.13	34.59	54.00	-19.41	AVG
7311.000	40.06	7.49	47.55	74.00	-26.45	PEAK
7311.000	27.79	7.49	35.28	54.00	-18.72	AVG

Test mode:	802.11g	Test channel:	Highest
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H

Frequency (MHz)	Meter Reading (dBμV)	Factor (Db)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (Db)	Detector Type
4924.000	43.25	5.18	48.43	74.00	-25.57	PEAK
4924.000	31.11	5.18	36.29	54.00	-17.71	AVG
7386.000	40.19	7.82	48.01	74.00	-25.99	PEAK
7386.000	27.38	7.82	35.20	54.00	-18.80	AVG

V

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4924.000	43.09	5.18	48.27	74.00	-25.73	PEAK
4924.000	31.24	5.18	36.42	54.00	-17.58	AVG
7386.000	41.02	7.82	48.84	74.00	-25.16	PEAK
7386.000	27.79	7.82	35.61	54.00	-18.39	AVG

Test mode:	802.11n(HT20)	Test channel:	Lowest
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H

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
4824.000	43.28	5.08	48.36	74.00	-25.64	PEAK
4824.000	31.26	5.08	36.34	54.00	-17.66	AVG
7326.000	41.15	7.55	48.70	74.00	-25.30	PEAK
7326.000	28.13	7.55	35.68	54.00	-18.32	AVG

V

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
4824.000	43.17	5.08	48.25	74.00	-25.75	PEAK
4824.000	30.25	5.08	35.33	54.00	-18.67	AVG
7236.000	41.44	7.16	48.60	74.00	-25.40	PEAK
7236.000	28.13	7.16	35.29	54.00	-18.71	AVG

Test mode:	802.11n(HT20)	Test channel:	Middle
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H

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
4874.000	42.06	5.13	47.19	74.00	-26.81	PEAK
4874.000	29.35	5.13	34.48	54.00	-19.52	AVG
7311.000	41.11	7.49	48.60	74.00	-25.40	PEAK
7311.000	27.46	7.49	34.95	54.00	-19.05	AVG

V

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
4874.000	43.21	5.13	48.34	74.00	-25.66	PEAK
4874.000	30.25	5.13	35.38	54.00	-18.62	AVG
7311.000	40.16	7.49	47.65	74.00	-26.35	PEAK
7311.000	27.76	7.49	35.25	54.00	-18.75	AVG

Test mode:	802.11n(HT20)	Test channel:	Highest
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H

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
4924.000	42.77	5.18	47.95	74.00	-26.05	PEAK
4924.000	30.05	5.18	35.23	54.00	-18.77	AVG
7386.000	40.76	7.82	48.58	74.00	-25.42	PEAK
7386.000	27.15	7.82	34.97	54.00	-19.03	AVG

V

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
4924.000	43.05	5.18	48.23	74.00	-25.77	PEAK
4924.000	30.27	5.18	35.45	54.00	-18.55	AVG
7386.000	41.56	7.82	49.38	74.00	-24.62	PEAK
7386.000	28.32	7.82	36.14	54.00	-17.86	AVG

Test mode:	802.11n(HT40)	Test channel:	Lowest
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H

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
4844.000	43.06	5.11	48.17	74.00	-25.83	PEAK
4844.000	30.24	5.11	35.35	54.00	-18.65	AVG
7266.000	41.13	7.29	48.42	74.00	-25.58	PEAK
7266.000	27.28	7.29	34.57	54.00	-19.43	AVG

V

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
4844.000	43.19	5.11	48.30	74.00	-25.70	PEAK
4844.000	29.33	5.11	34.44	54.00	-19.56	AVG
7266.000	41.25	7.29	48.54	74.00	-25.46	PEAK
7266.000	28.17	7.29	35.46	54.00	-18.54	AVG

Test mode:	802.11n(HT40)	Test channel:	Middle
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H

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
4874.000	43.21	5.13	48.34	74.00	-25.66	PEAK
4874.000	31.14	5.13	36.27	54.00	-17.73	AVG
7311.000	41.28	7.49	48.77	74.00	-25.23	PEAK
7311.000	27.56	7.49	35.05	54.00	-18.95	AVG

V

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
4874.000	43.06	5.13	48.19	74.00	-25.81	PEAK
4874.000	29.77	5.13	34.90	54.00	-19.10	AVG
7311.000	41.25	7.49	48.74	74.00	-25.26	PEAK
7311.000	28.37	7.49	35.86	54.00	-18.14	AVG

Test mode:	802.11n(HT40)	Test channel:	Highest
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H

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4904.000	43.74	5.16	48.90	74.00	-25.10	peak
4904.000	31.15	5.16	36.31	54.00	-17.69	AVG
7356.000	41.39	7.69	49.08	74.00	-24.92	peak
7356.000	28.54	7.69	36.23	54.00	-17.77	AVG

V

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4904.000	43.28	5.16	48.44	74.00	-25.56	peak
4904.000	30.74	5.16	35.90	54.00	-18.10	AVG
7356.000	40.25	7.69	47.94	74.00	-26.06	peak
7356.000	28.46	7.69	36.15	54.00	-17.85	AVG

Remark:

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

8 Test Setup Photo

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

9 EUT Constructional Details

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

-----End-----