TEST REPORT

Product	:	reMarkable 2
Trade mark	:	reMarkable
Model/Type reference	:	RM110
Serial Number	:	N/A
Report Number	:	EED32L00207101
FCC ID	:	2AMK2-RM110
Date of Issue	:	Oct. 09, 2019
Test Standards	:	47 CFR Part 15Subpart C
Test result	:	PASS

Prepared for:

reMarkable AS
Biermanns gate 6, 0473 Oslo, Norway

Prepared by:

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Date:	Oct. 09, 2019		Check No.: 3096363822

CENTRE TESTING INTERNATIONAL GROUP CO.,LTD. CTI Report Seal

2 Version

Version No.	Date	Description
00	2019-10-09	Original

3 Test Summary

Test Item	Test Requirement	Test method	Result
Antenna Requirement	47 CFR Part 15 Subpart C Section 15.203/15.247 (c)	ANSI C63.10-2013	PASS
AC Power Line Conducted Emission	47 CFR Part 15 Subpart C Section 15.207	ANSI C63.10-2013	PASS
Conducted Peak Output Power	47 CFR Part 15 Subpart C Section 15.247 (b)(3)	ANSI C63.10-2013	PASS
6dB Occupied Bandwidth	47 CFR Part 15 Subpart C Section 15.247 (a)(2)	ANSI C63.10-2013	PASS
Power Spectral Density	47 CFR Part 15 Subpart C Section 15.247 (e)	ANSI C63.10-2013	PASS
Band-edge for RF Conducted Emissions	47 CFR Part 15 Subpart C Section 15.247(d)	ANSI C63.10-2013	PASS
RF Conducted Spurious Emissions	47 CFR Part 15 Subpart C Section 15.247(d)	ANSI C63.10-2013	PASS
Radiated Spurious Emissions	47 CFR Part 15 Subpart C Section 15.205/15.209	ANSI C63.10-2013	PASS
Restricted bands around fundamental frequency (Radiated Emission)	47 CFR Part 15 Subpart C Section 15.205/15.209	ANSI C63.10-2013	PASS

Remark:

Test according to ANSI C63.4-2014 & ANSI C63.10-2013.

The tested sample(s) and the sample information are provided by the client.

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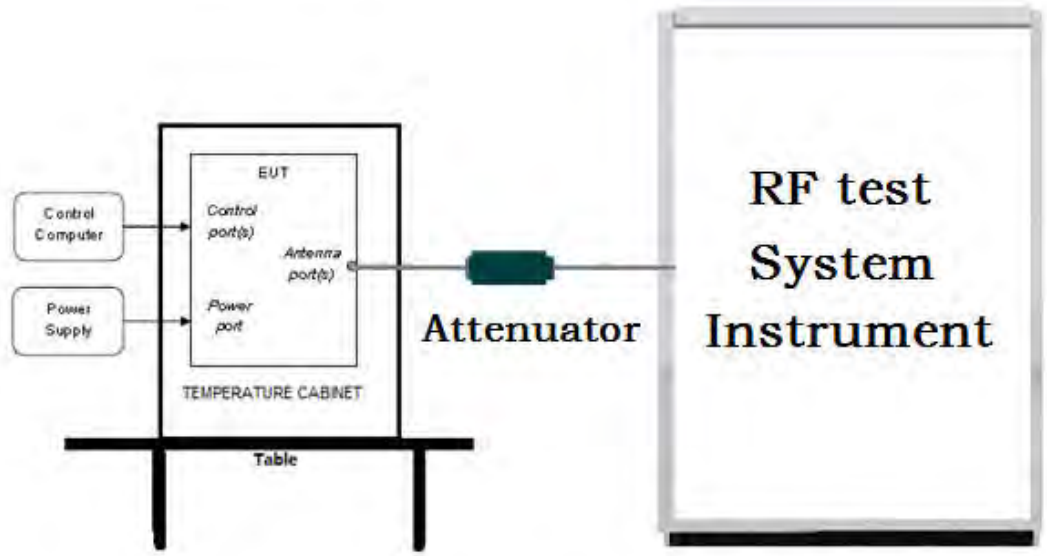
5 Test Requirement

5.1 Test setup

5.1.1 For Conducted test setup



5.1.2 For Radiated Emissions test setup

Radiated Emissions setup:

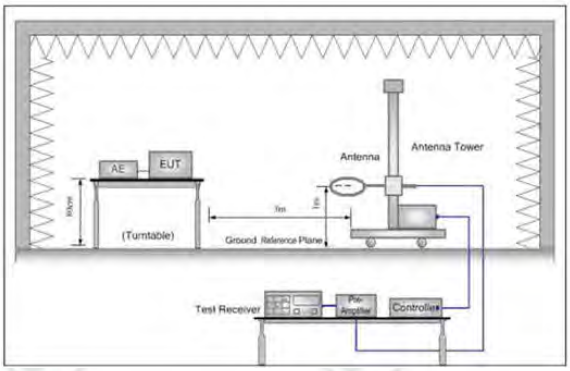


Figure 1. Below 30MHz

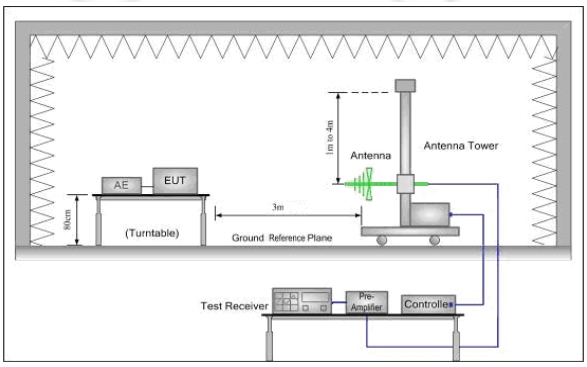


Figure 2. 30MHz to 1GHz

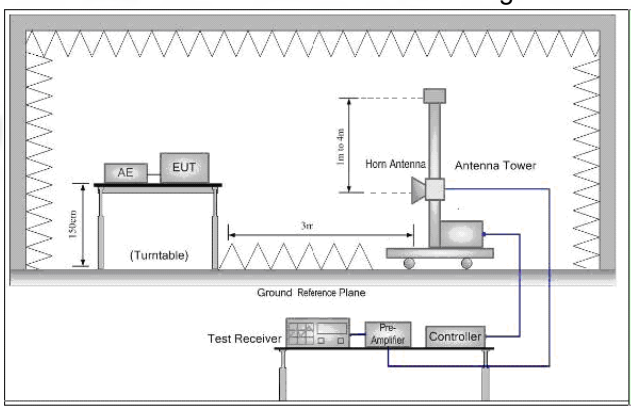
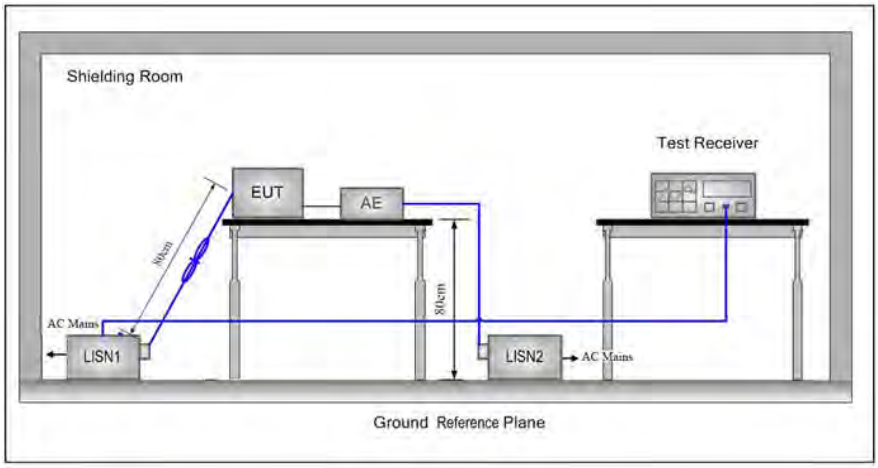


Figure 3. Above 1GHz

5.1.3 For Conducted Emissions test setup

Conducted Emissions setup



5.2 Test Environment

Operating Environment:	
Temperature:	24 °C
Humidity:	55 % RH
Atmospheric Pressure:	1010mbar

5.3 Test Condition

Test channel:

Test Mode	Tx/Rx	RF Channel		
		Low(L)	Middle(M)	High(H)
802.11b/g/n(HT20)	2412MHz ~2462 MHz	Channel 1	Channel 6	Channel11
		2412MHz	2437MHz	2462MHz
Transmitting mode:	Keep the EUT in transmitting mode with all kind of modulation and all kind of data rate.			

Test mode:

Pre-scan under all rate at lowest channel 1

Mode	802.11b			
Data Rate	1Mbps	2Mbps	5.5Mbps	11Mbps
Power(dBm)	15.85	15.74	15.69	15.18

Mode	802.11g							
Data Rate	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
Power(dBm)	15.81	15.89	15.93	15.99	16.12	16.23	16.37	16.4

Mode	802.11n (HT20)							
Data Rate	6.5Mbps	13Mbps	19.5Mbps	26Mbps	39Mbps	52Mbps	58.5Mbps	65Mbps
Power(dBm)	15.04	15.16	15.23	15.33	15.48	15.67	15.95	16.07

Through Pre-scan, 11Mbps of rate is the worst case of 802.11b; 6Mbps of rate is the worst case of 802.11g; 6.5Mbps of rate is the worst case of 802.11n(HT20).

6 General Information

6.1 Client Information

Applicant:	reMarkable AS
Address of Applicant:	Biermanns gate 6, 0473 Oslo, Norway
Manufacturer:	reMarkable AS
Address of Manufacturer:	Biermanns gate 6, 0473 Oslo, Norway
Factory:	Dongguan Kaifa Technology Co., Ltd.
Address of Factory:	No.2 Junma Road,Chigang Community, Humen Town, Dongguan City, Guangdong Province, 523921.P.R. China.

6.2 General Description of EUT

Product Name:	reMarkable 2	
Model No.(EUT):	RM110	
Trade Mark:	reMarkable	
EUT Supports Radios application:	Wi-Fi IEEE 802.11 a/b/g/n(HT20), 2412MHz to 2462MHz	
Power Supply:	Battery:	3.85V 3000mAh
Sample Received Date:	Jul. 31, 2019	
Sample tested Date:	Jul. 31, 2019 to Sep. 29, 2019	

6.3 Product Specification subjective to this standard

Operation Frequency:	IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz
Channel Numbers:	IEEE 802.11b/g, IEEE 802.11n HT20: 11 Channels
Channel Separation:	5MHz
Type of Modulation:	DSSS, OFDM
Test Power Grade:	Default
Test Software of EUT:	PUTTY
Antenna Type and Gain:	Type: PCB antenna Gain: 5.42dBi
Test Voltage:	DC 5V

Operation Frequency each of channel(802.11b/g/n HT20)

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		

6.4 Description of Support Units

The EUT has been tested independently

6.5 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd
Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China
Telephone: +86 (0) 755 33683668 Fax:+86 (0) 755 33683385
No tests were sub-contracted.
FCC Designation No.: CN1164

6.6 Deviation from Standards

None.

6.7 Abnormalities from Standard Conditions

None.

6.8 Other Information Requested by the Customer

None.

6.9 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Radio Frequency	7.9×10^{-8}
2	RF power, conducted	0.46dB (30MHz-1GHz)
		0.55dB (1GHz-18GHz)
3	Radiated Spurious emission test	4.3dB (30MHz-1GHz)
		4.5dB (1GHz-12.75GHz)
4	Conduction emission	3.5dB (9kHz to 150kHz)
		3.1dB (150kHz to 30MHz)
5	Temperature test	0.64°C
6	Humidity test	3.8%
7	DC power voltages	0.026%

7 Equipment List

RF test system					
Equipment	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. Date (mm-dd-yyyy)**	**Cal. Due date (mm-dd-yyyy)**
Signal Generator	Keysight	E8257D	MY53401106	03-01-2019	02-29-2020
Spectrum Analyzer	Keysight	N9010A	MY54510339	03-01-2019	02-29-2020
Signal Generator	Keysight	N5182B	MY53051549	03-01-2019	02-29-2020
High-pass filter	Sinoscite	FL3CX03WG18NM12-0398-002	---	01-09-2019	01-08-2020
High-pass filter	MICRO-TRONICS	SPA-F-63029-4	---	01-09-2019	01-08-2020
DC Power	Keysight	E3642A	MY54426035	03-01-2019	02-29-2020
PC-1	Lenovo	R4960d	---	03-01-2019	02-29-2020
BT&WI-FI Automatic control	R&S	OSP120	101374	03-01-2019	02-29-2020
RF control unit	JS Tonscend	JS0806-2	15860006	03-01-2019	02-29-2020
RF control unit	JS Tonscend	JS0806-1	15860004	03-01-2019	02-29-2020
RF control unit	JS Tonscend	JS0806-4	158060007	03-01-2019	02-29-2020
BT&WI-FI Automatic test software	JS Tonscend	JS1120-2	---	03-01-2019	02-29-2020

Conducted disturbance Test					
Equipment	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date (mm-dd-yyyy)**	**Cal. Due date (mm-dd-yyyy)**
Receiver	R&S	ESCI	100435	05-20-2019	05-19-2020
Temperature/ Humidity Indicator	Defu	TH128	/	06-14-2019	06-13-2020
Communication test set	Agilent	E5515C	GB47050534	03-01-2019	02-28-2022
Communication test set	R&S	CMW500	102898	01-18-2019	01-17-2020
LISN	R&S	ENV216	100098	05-08-2019	05-07-2020
LISN	schwarzbeck	NNLK8121	8121-529	05-08-2019	05-07-2020
Voltage Probe	R&S	ESH2-Z3 0299.7810.56	100042	06-13-2017	06-12-2020
Current Probe	R&S	EZ-17 816.2063.03	100106	05-20-2019	05-19-2020
ISN	TESEQ	ISN T800	30297	01-16-2019	01-15-2020
Barometer	changchun	DYM3	1188	06-20-2019	06-19-2020

3M Semi/full-anechoic Chamber					
Equipment	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date (mm-dd-yyyy)**	**Cal. Due date (mm-dd-yyyy)**
3M Chamber & Accessory Equipment	TDK	SAC-3	---	05-24-2019	05-23-2022
TRILOG Broadband Antenna	Schwarzbeck	VULB9163	9163-401	12-21-2018	12-20-2019
TRILOG Broadband Antenna	Schwarzbeck	VULB9163	9163-618	07-26-2019	07-25-2020
Microwave Preamplifier	Agilent	8449B	3008A02425	07-12-2019	07-11-2020
Microwave Preamplifier	Tonscend	EMC051845SE	980380	01-16-2019	01-15-2020
Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-1869	04-25-2018	04-24-2021
Horn Antenna	ETS-LINDGREN	3117	00057410	06-05-2018	06-04-2021
Double ridge horn antenna	A.H.SYSTEMS	SAS-574	374	06-05-2018	06-04-2021
Pre-amplifier	A.H.SYSTEMS	PAP-1840-60	6041.6041	07-26-2019	07-25-2020
Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-076	04-25-2018	04-24-2021
Spectrum Analyzer	R&S	FSP40	100416	04-28-2019	04-27-2020
Receiver	R&S	ESCI	100435	05-20-2019	05-19-2020
Receiver	R&S	ESCI7	100938-003	11-23-2018	11-22-2019
Multi device Controller	maturo	NCD/070/10711112	---	01-09-2019	01-08-2020
Signal Generator	Agilent	E4438C	MY45095744	03-01-2019	02-29-2020
Signal Generator	Keysight	E8257D	MY53401106	03-01-2019	02-29-2020
Temperature/ Humidity Indicator	Shanghai qixiang	HM10	1804298	07-26-2019	07-25-2020
Communication test set	Agilent	E5515C	GB47050534	03-01-2019	02-28-2022
Cable line	Fulai(7M)	SF106	5219/6A	01-09-2019	01-08-2020
Cable line	Fulai(6M)	SF106	5220/6A	01-09-2019	01-08-2020
Cable line	Fulai(3M)	SF106	5216/6A	01-09-2019	01-08-2020
Cable line	Fulai(3M)	SF106	5217/6A	01-09-2019	01-08-2020
High-pass filter	Sinoscite	FL3CX03WG18NM12-0398-002	---	01-09-2019	01-08-2020
High-pass filter	MICRO-TRONICS	SPA-F-63029-4	---	01-09-2019	01-08-2020
band rejection filter	Sinoscite	FL5CX01CA09CL12-0395-001	---	01-09-2019	01-08-2020
band rejection filter	Sinoscite	FL5CX01CA08CL12-0393-001	---	01-09-2019	01-08-2020
band rejection filter	Sinoscite	FL5CX02CA04CL12-0396-002	---	01-09-2019	01-08-2020
band rejection filter	Sinoscite	FL5CX02CA03CL12-0394-001	---	01-09-2019	01-08-2020

3M full-anechoic Chamber					
Equipment	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date (mm-dd-yyyy)**	**Cal. Due date (mm-dd-yyyy)**
RSE Automatic test software	JS Tonscend	JS36-RSE	10166	06-19-2019	06-18-2020
Receiver	Keysight	N9038A	MY57290136	03-27-2019	03-26-2020
Spectrum Analyzer	Keysight	N9020B	MY57111112	03-27-2019	03-26-2020
Spectrum Analyzer	Keysight	N9030B	MY57140871	03-27-2019	03-26-2020
Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-075	04-25-2018	04-24-2021
Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-076	04-25-2018	04-24-2021
TRILOG Broadband Antenna	Schwarzbeck	VULB 9163	9163-1148	04-25-2018	04-24-2021
Horn Antenna	Schwarzbeck	BBHA 9170	9170-832	04-25-2018	04-24-2021
Horn Antenna	Schwarzbeck	BBHA 9170	9170-829	04-25-2018	04-24-2021
Communication Antenna	Schwarzbeck	CLSA 0110L	1014	02-14-2019	02-13-2020
Biconical antenna	Schwarzbeck	VUBA 9117	9117-381	04-25-2018	04-24-2021
Horn Antenna	ETS-LINDGREN	3117	00057407	07-10-2018	07-09-2021
Preamplifier	EMCI	EMC184055SE	980596	05-22-2019	05-21-2020
Communication test set	R&S	CMW500	102898	01-18-2019	01-17-2020
Preamplifier	EMCI	EMC001330	980563	05-08-2019	05-07-2020
Preamplifier	Agilent	8449B	3008A02425	07-12-2019	07-11-2020
Temperature/ Humidity Indicator	biaozhi	GM1360	EE1186631	04-30-2019	04-29-2020
Signal Generator	KEYSIGHT	E8257D	MY53401106	03-01-2019	02-29-2020
Fully Anechoic Chamber	TDK	FAC-3	---	01-17-2018	01-16-2021
Filter bank	JS Tonscend	JS0806-F	188060094	04-10-2018	04-09-2021
Cable line	Times	SFT205-NMSM-2.50M	394812-0001	01-09-2019	01-08-2020
Cable line	Times	SFT205-NMSM-2.50M	394812-0002	01-09-2019	01-08-2020
Cable line	Times	SFT205-NMSM-2.50M	394812-0003	01-09-2019	01-08-2020
Cable line	Times	SFT205-NMSM-2.50M	393495-0001	01-09-2019	01-08-2020
Cable line	Times	EMC104-NMNM-1000	SN160710	01-09-2019	01-08-2020
Cable line	Times	SFT205-NMSM-3.00M	394813-0001	01-09-2019	01-08-2020
Cable line	Times	SFT205-NMNM-1.50M	381964-0001	01-09-2019	01-08-2020
Cable line	Times	SFT205-NMSM-7.00M	394815-0001	01-09-2019	01-08-2020
Cable line	Times	HF160-KMKM-3.00M	393493-0001	01-09-2019	01-08-2020

8 Radio Technical Requirements Specification

Reference documents for testing:

No.	Identity	Document Title
1	FCC Part15C	Subpart C-Intentional Radiators
2	ANSI C63.10-2013	American National Standard for Testing Unlicesed Wireless Devices

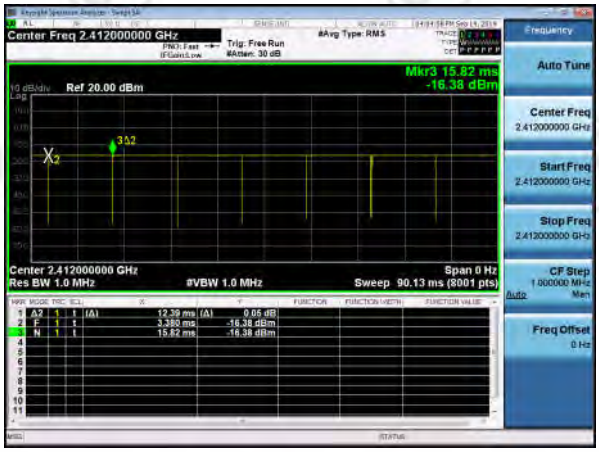
Test Results List:

Test Requirement	Test method	Test item	Verdict	Note
Part15C Section 15.247 (b)(3)	ANSI C63.10	Conducted Peak Output Power	PASS	Appendix A)
Part15C Section 15.247 (a)(2)	ANSI C63.10	6dB Occupied Bandwidth	PASS	Appendix B)
Part15C Section 15.247(d)	ANSI C63.10	Band-edge for RF Conducted Emissions	PASS	Appendix C)
Part15C Section 15.247(d)	ANSI C63.10	RF Conducted Spurious Emissions	PASS	Appendix D)
Part15C Section 15.247 (e)	ANSI C63.10	Power Spectral Density	PASS	Appendix E)
Part15C Section 15.203/15.247 (c)	ANSI C63.10	Antenna Requirement	PASS	Appendix F)
Part15C Section 15.207	ANSI C63.10	AC Power Line Conducted Emission	PASS	Appendix G)
Part15C Section 15.205/15.209	ANSI C63.10	Restricted bands around fundamental frequency (Radiated Emission)	PASS	Appendix H)
Part15C Section 15.205/15.209	ANSI C63.10	Radiated Spurious Emissions	PASS	Appendix I)

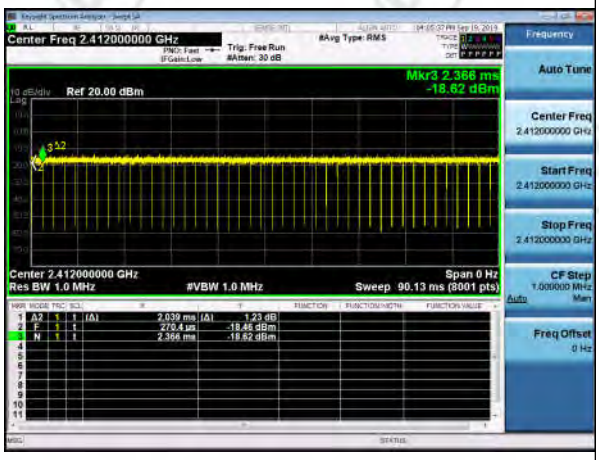
Duty Cycle

Duty Cycle			
Configuration	TX ON(ms)	TX ALL(ms)	Duty Cycle(%)
802.11b	12.39	12.44	99.6%
802.11g	2.039	2.0956	97.3%
802.11n HT20	1.284	1.409	91.1%

802.11b



802.11g



802.11n HT20

Appendix A): Conducted Peak Output Power

Test Limit

According to §15.247(b)(3),

Peak output power：

For systems using digital modulation in the 2400-2483.5 MHz: 1 Watt(30 dBm), base on the use of antennas with directional gain not exceed 6 dBi. If transmitting antennas of directional gain greater than 6dBi are used the peak output power the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

Limit	☒ Antenna not exceed 6 dBi：30dBm ☐ Antenna with DG greater than 6 dBi： [Limit = 30 – (DG – 6)] ☐ Point-to-point operation：

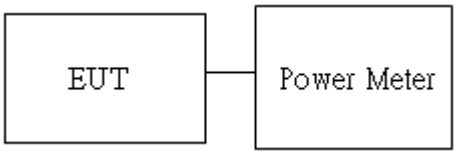
Average output power： For reporting purposes only.

Test Procedure

Test method Refer as KDB 558074 D01.

1. The EUT RF output connected to the power meter by RF cable.
2. Setting maximum power transmit of EUT.
3. The path loss was compensated to the results for each measurement.
4. Measure and record the result of Peak output power and Average output power. in the test report.

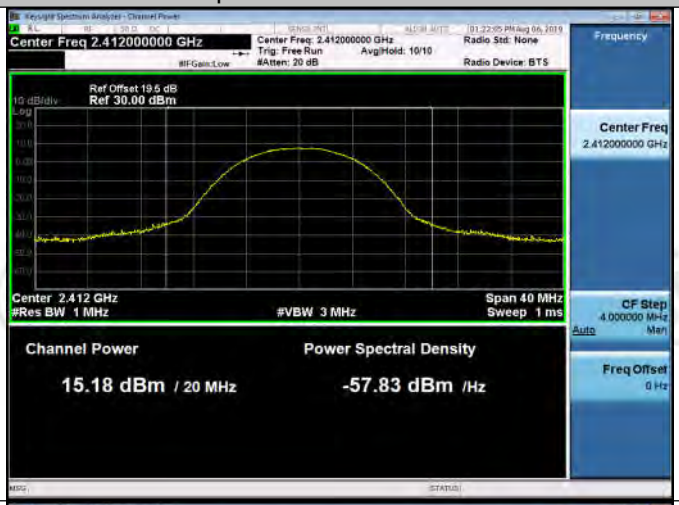
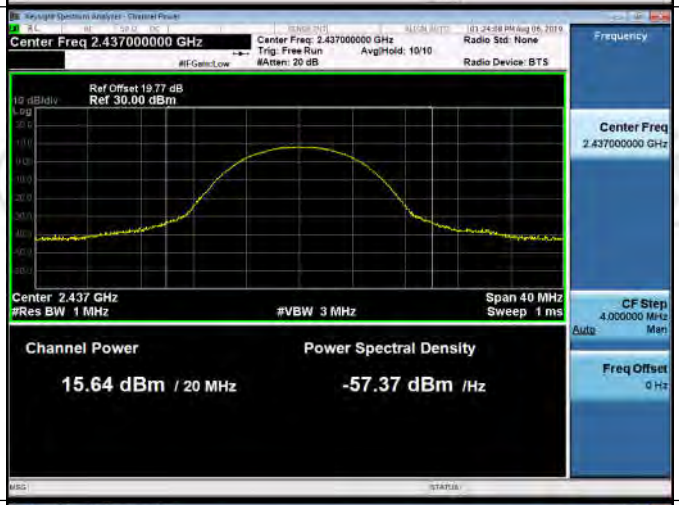
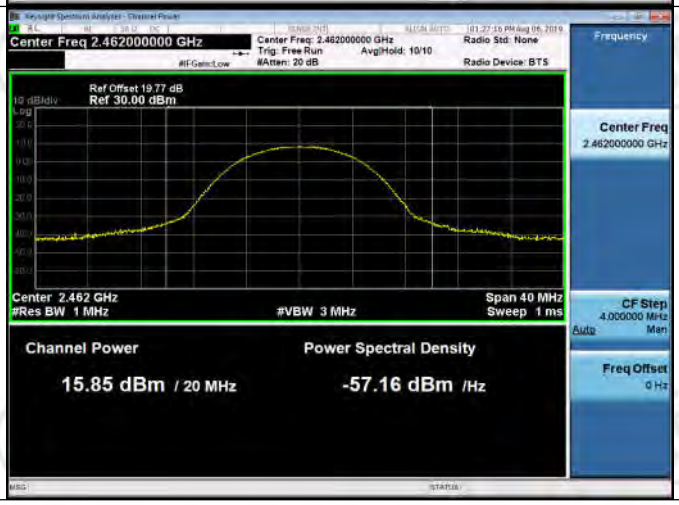
Test Setup

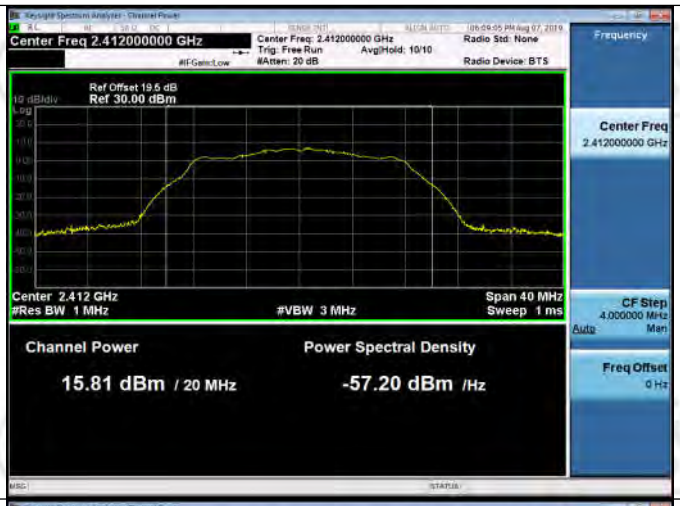
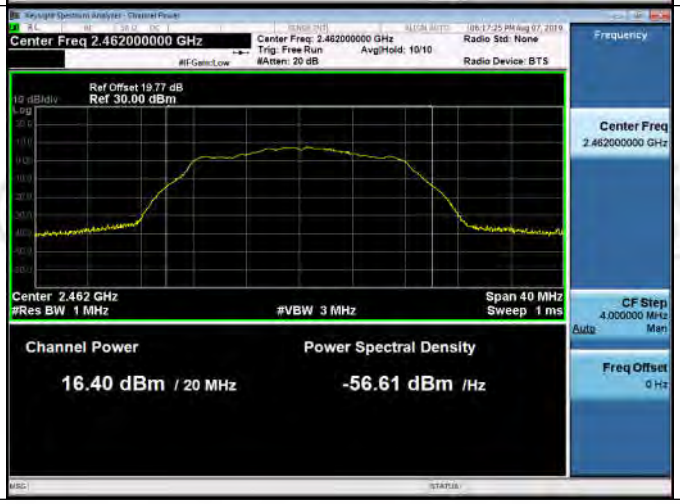


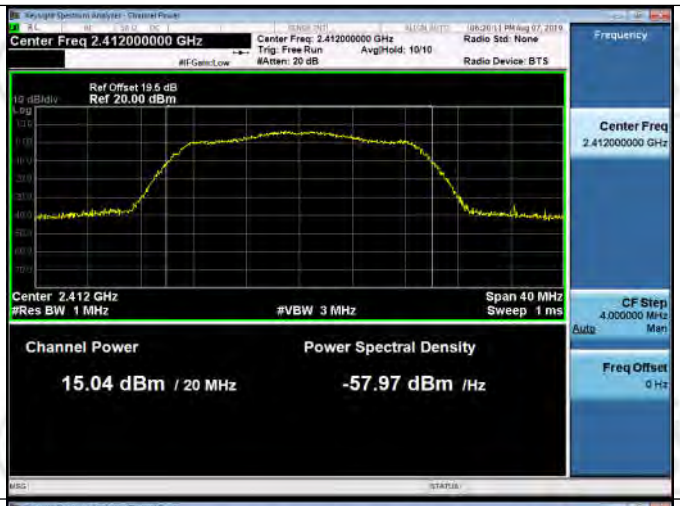
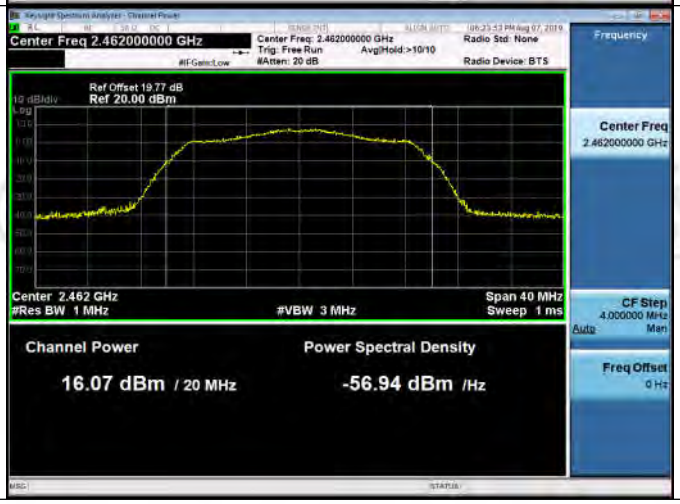
Result Table

Mode	Channel	Conducted Peak Output Power [dBm]	Verdict
11B	LCH	15.18	PASS
11B	MCH	15.64	PASS
11B	HCH	15.85	PASS
11G	LCH	15.81	PASS
11G	MCH	16.05	PASS
11G	HCH	16.4	PASS
11N20SISO	LCH	15.04	PASS
11N20SISO	MCH	15.69	PASS
11N20SISO	HCH	16.07	PASS

Test Graph

Graphs			
11B/LCH			
11B/MCH			
11B/HCH			

11G/LCH		
11G/MCH		
11G/HCH		

11N20SISO/LCH			
11N20SISO/MCH			
11N20SISO/HCH			

Appendix B): 6dB Occupied Bandwidth

Test Limit

According to §15.247(a)(2),

6 dB Bandwidth：

Limit	Shall be at least 500kHz

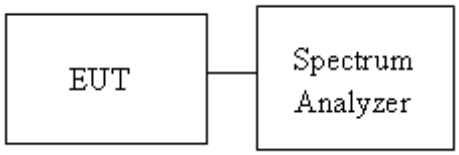
Occupied Bandwidth(99%)： For reporting purposes only.

Test Procedure

Test method Refer as KDB 558074 D01 and ANSI C63.10: 2013 clause 6.9.2,

1. The EUT RF output connected to the spectrum analyzer by RF cable.
2. Setting maximum power transmit of EUT
3. SA set RBW =100KHz , VBW = 300KHz and Detector = Peak, to measurement 6dB Bandwidth
4. SA set RBW = 1% ~ 5% OBW, VBW = three times the RBW and Detector = Peak, to measurement 99% Bandwidth
5. Measure and record the result of 6 dB Bandwidth and 99% Bandwidth. in the test report.

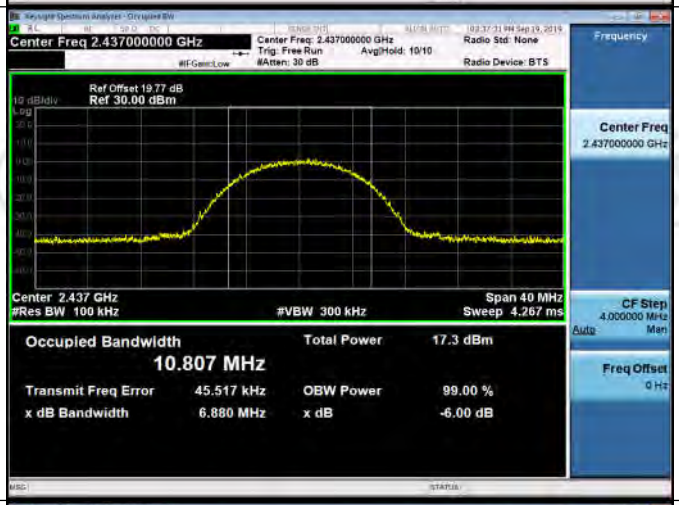
Test Setup

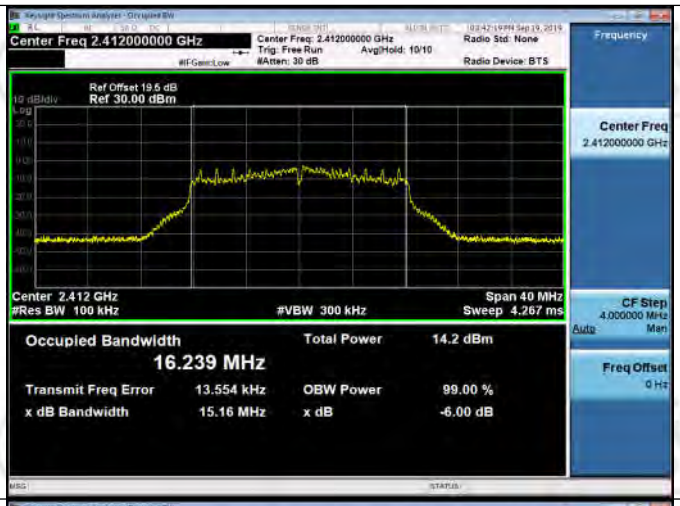
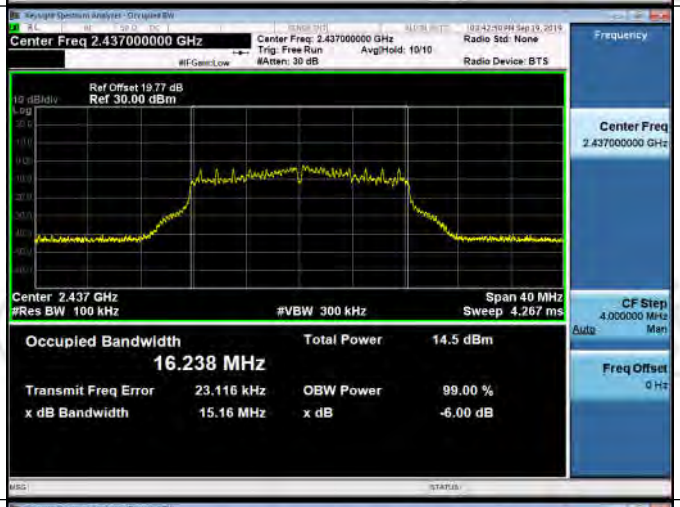
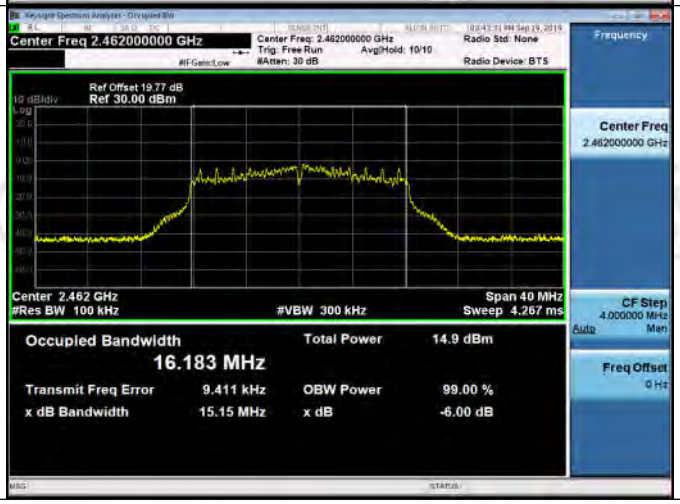


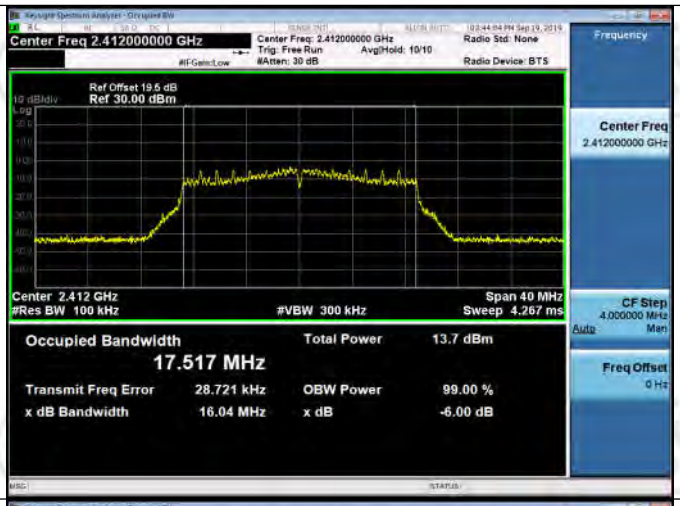
Result Table

Mode	Channel	6dB Bandwidth [MHz]	Verdict
11B	LCH	7.440	PASS
11B	MCH	6.880	PASS
11B	HCH	7.649	PASS
11G	LCH	15.16	PASS
11G	MCH	15.16	PASS
11G	HCH	15.15	PASS
11N20SISO	LCH	16.04	PASS
11N20SISO	MCH	15.17	PASS
11N20SISO	HCH	15.16	PASS

Test Graph

Graphs			
11B/LCH			
11B/MCH			
11B/HCH			

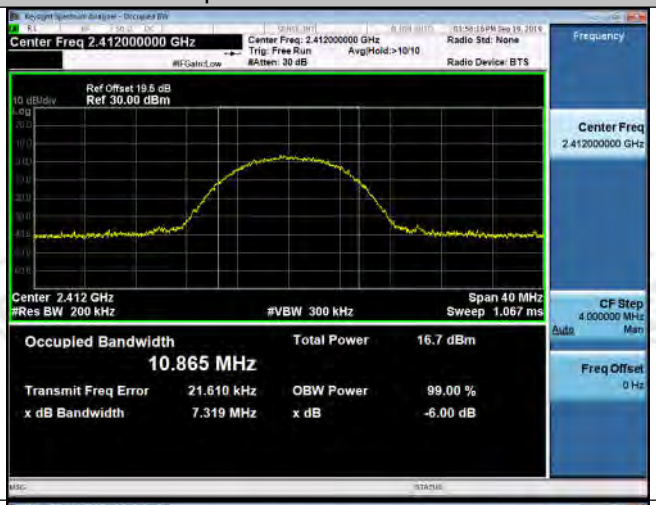
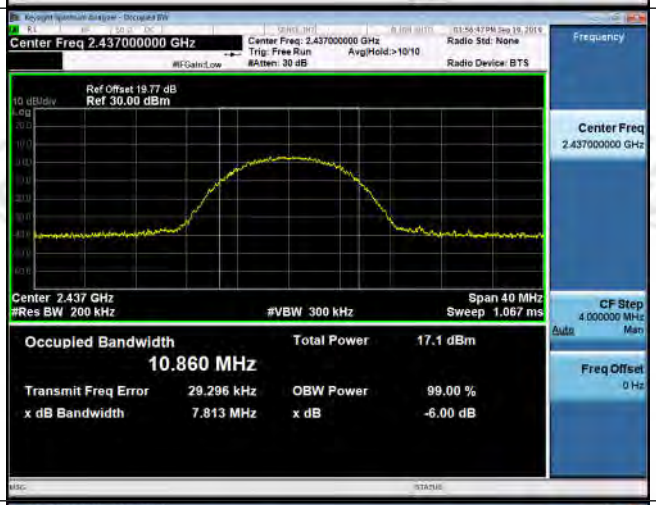
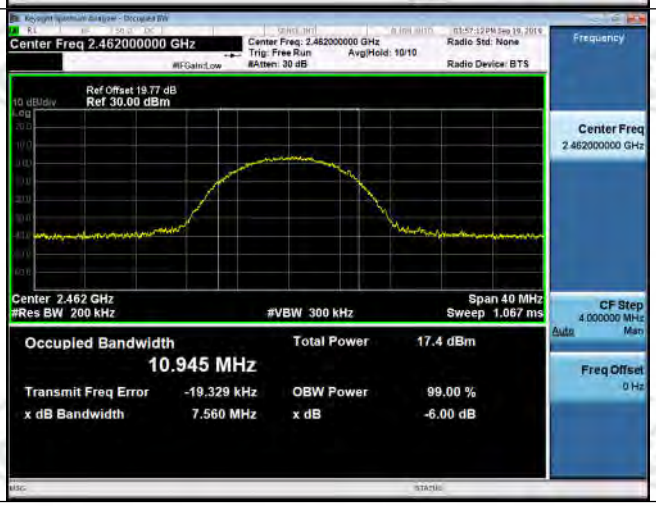
11G/LCH		
11G/MCH		
11G/HCH		

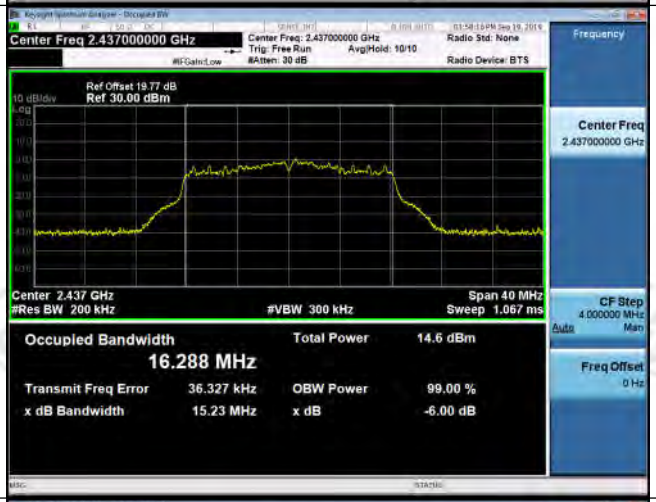
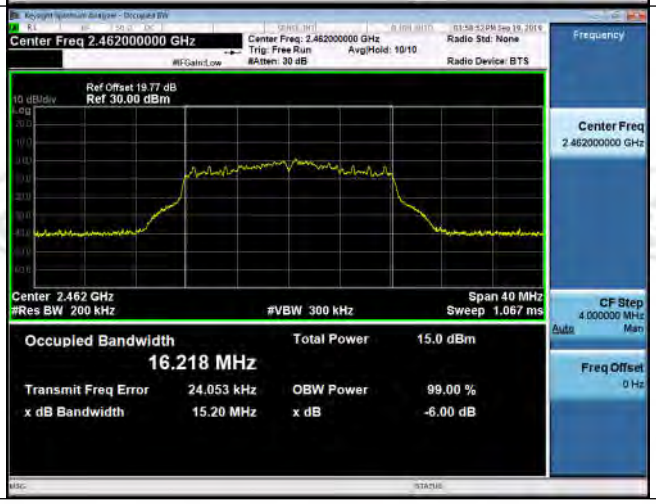
11N20SISO/LCH		
11N20SISO/MCH		
11N20SISO/HCH		

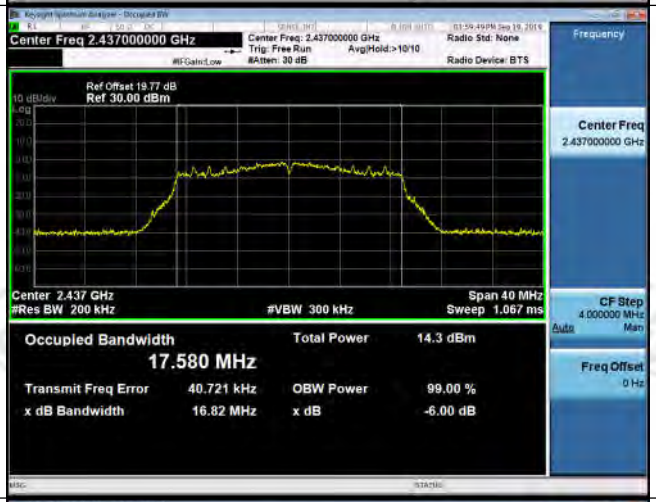
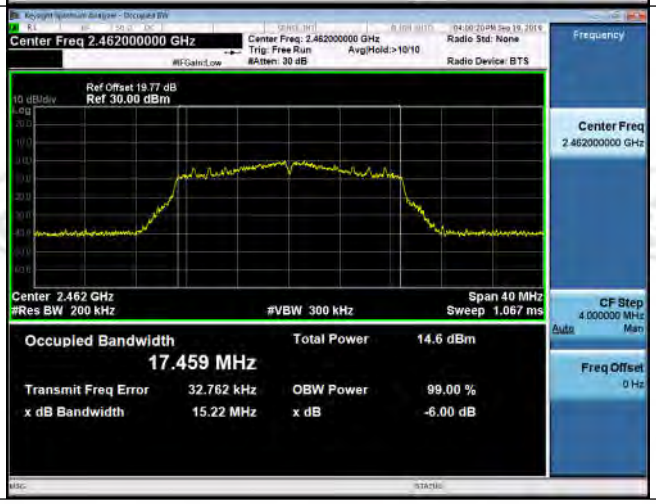
Occupied Bandwidth(99%)

Mode	Channel	99% OBW [MHz]	Verdict
11B	LCH	10.865	PASS
11B	MCH	10.860	PASS
11B	HCH	10.945	PASS
11G	LCH	16.271	PASS
11G	MCH	16.288	PASS
11G	HCH	16.218	PASS
11N20SISO	LCH	17.543	PASS
11N20SISO	MCH	17.580	PASS
11N20SISO	HCH	17.459	PASS

Test Graph

Graphs		
11B/LCH		
11B/MCH		
11B/HCH		

11G/LCH		
11G/MCH		
11G/HCH		

11N20SISO/LCH			
11N20SISO/MCH			
11N20SISO/HCH			

Appendix C): Band-edge for RF Conducted Emissions

Test Limit

According to §15.247(d),

In any 100 kHz bandwidth outside the authorized frequency band,

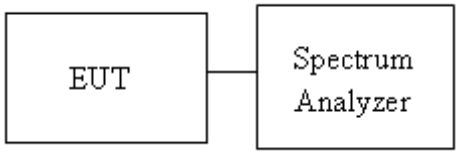
Non-restricted bands shall be attenuated at least 20 dB/30 dB relative to the maximum PSD level in 100 kHz by RF conducted or a radiated measurement which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

Test Procedure

Test method Refer as KDB 558074 D01.

1. EUT RF output port connected to the SA by RF cable, and the path loss was compensated to result.
2. SA setting, RBW=100kHz, VBW=300kHz, Detector=Peak, Trace mode = max hold, SWT = Auto.
3. In any 100 kHz bandwidth outside the authorized frequency band, shall be attenuated at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when conducted power procedure is used. f the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

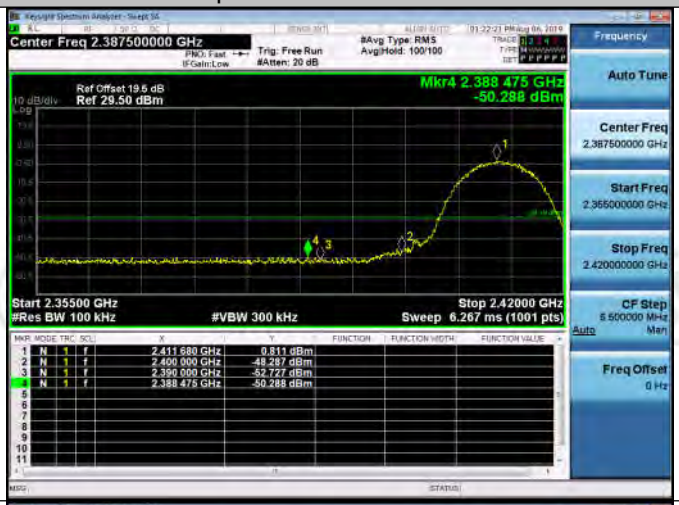
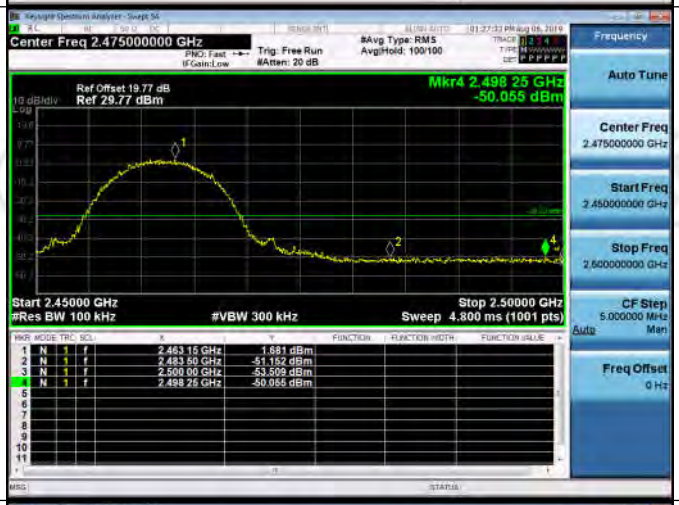
Test Setup

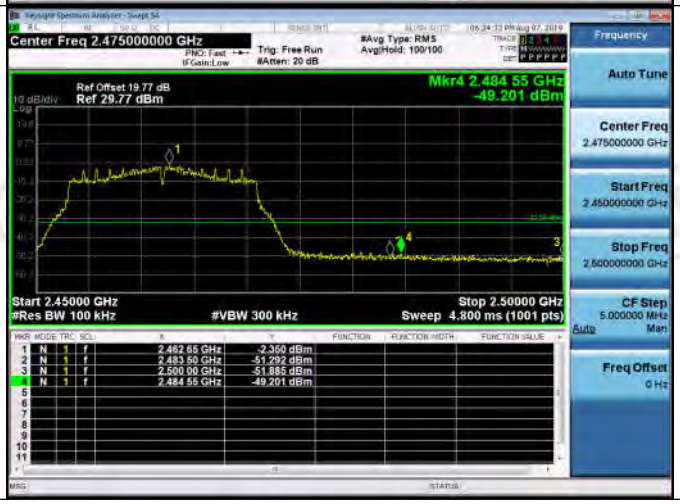


Result Table

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	0.811	-50.288	-29.19	PASS
11B	HCH	1.681	-50.055	-28.32	PASS
11G	LCH	-2.144	-49.596	-32.14	PASS
11G	HCH	-1.515	-48.550	-31.52	PASS
11N20SISO	LCH	-2.696	-49.338	-32.7	PASS
11N20SISO	HCH	-2.350	-49.201	-32.35	PASS

Test Graph

Graphs			
11B/LCH			
11B/HCH			
11G/LCH			

11G/HCH		
11N20SISO/LCH		
11N20SISO/HCH		

Appendix D): RF Conducted Spurious Emissions

Test Limit

According to §15.247(d),

In any 100 kHz bandwidth outside the authorized frequency band,

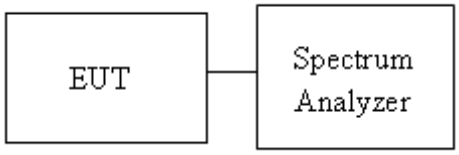
Non-restricted bands shall be attenuated at least 20 dB/30 dB relative to the maximum PSD level in 100 kHz by RF conducted or a radiated measurement which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

Test Procedure

Test method Refer as KDB 558074 D01.

1. EUT RF output port connected to the SA by RF cable, and the path loss was compensated to result.
2. SA setting, RBW=100kHz, VBW=300kHz, Detector=Peak, Trace mode = max hold, SWT = Auto.
3. In any 100 kHz bandwidth outside the authorized frequency band, shall be attenuated at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when conducted power procedure is used. f the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

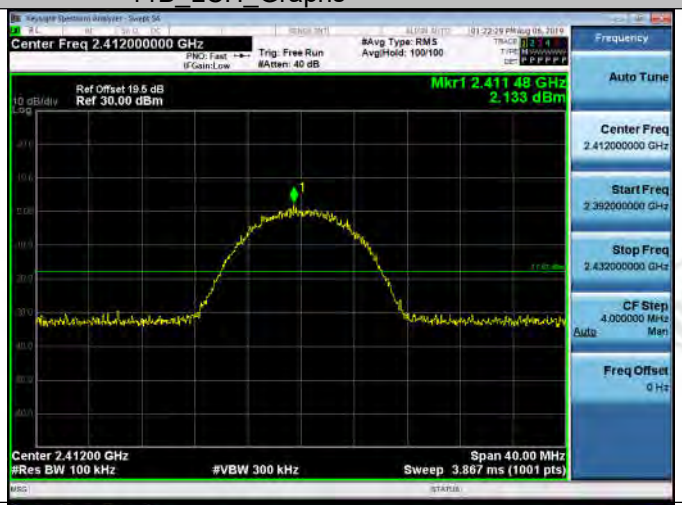
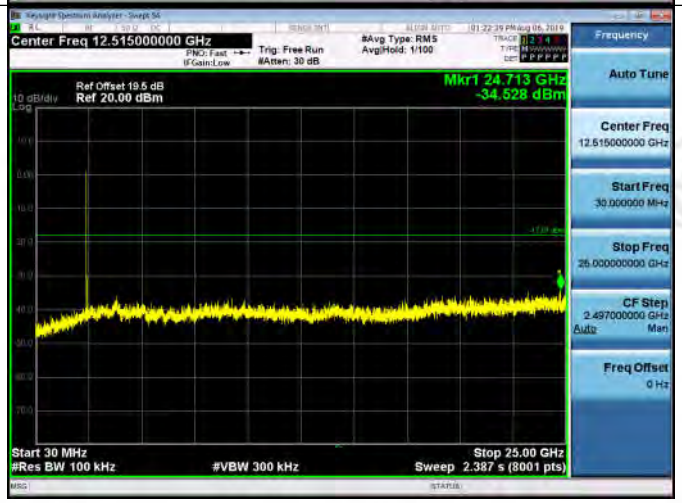
Test Setup

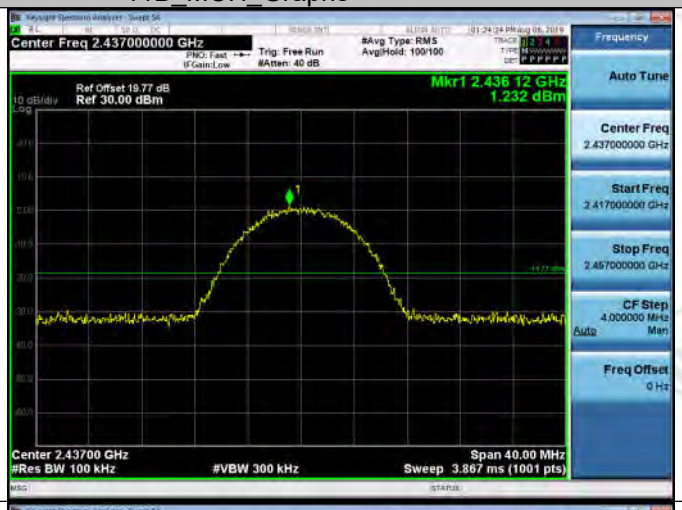
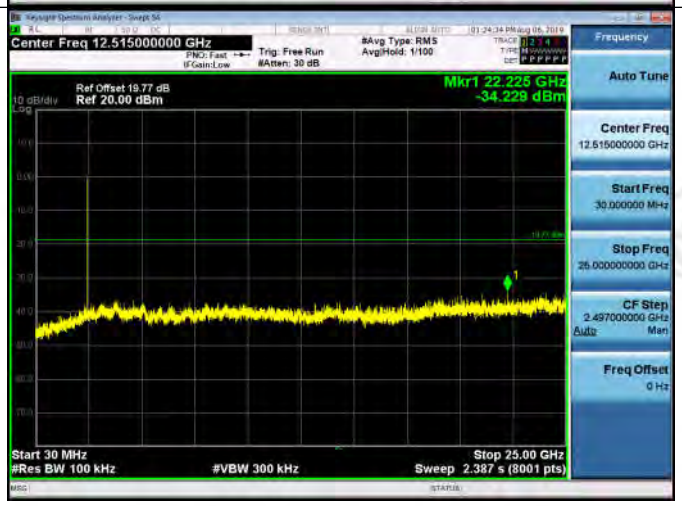


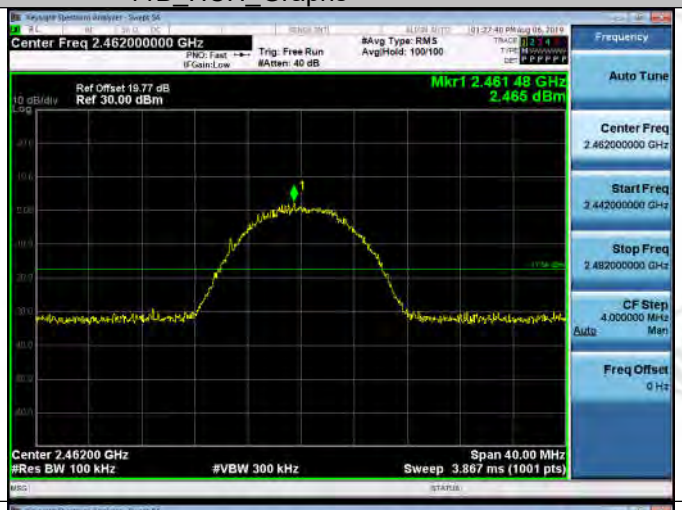
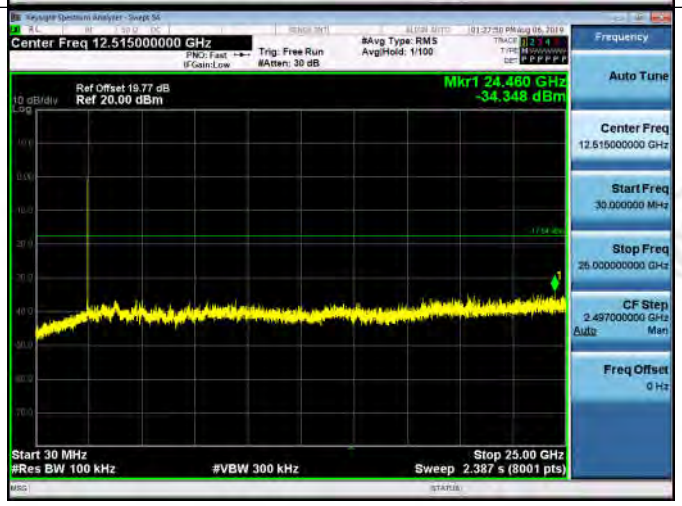
Result Table

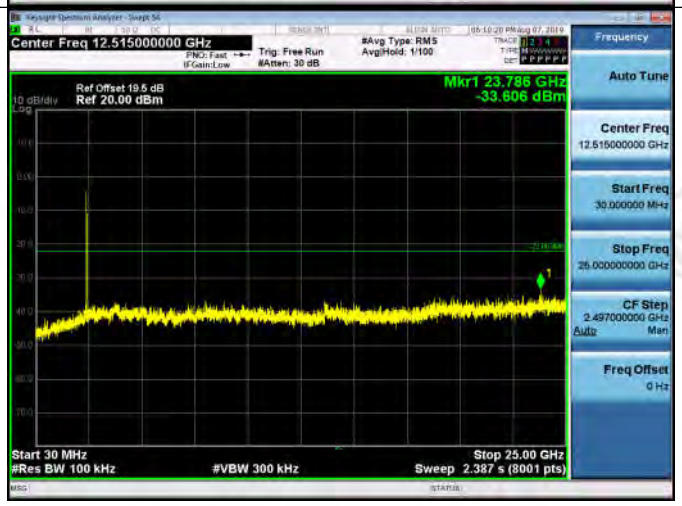
Mode	Channel	Pref [dBm]	Puw[dBm]	Verdict
11B	LCH	2.133	<Limit	PASS
11B	MCH	1.232	<Limit	PASS
11B	HCH	2.465	<Limit	PASS
11G	LCH	-2.055	<Limit	PASS
11G	MCH	-1.787	<Limit	PASS
11G	HCH	-1.169	<Limit	PASS
11N20SISO	LCH	-3.311	<Limit	PASS
11N20SISO	MCH	-2.224	<Limit	PASS
11N20SISO	HCH	-2.139	<Limit	PASS

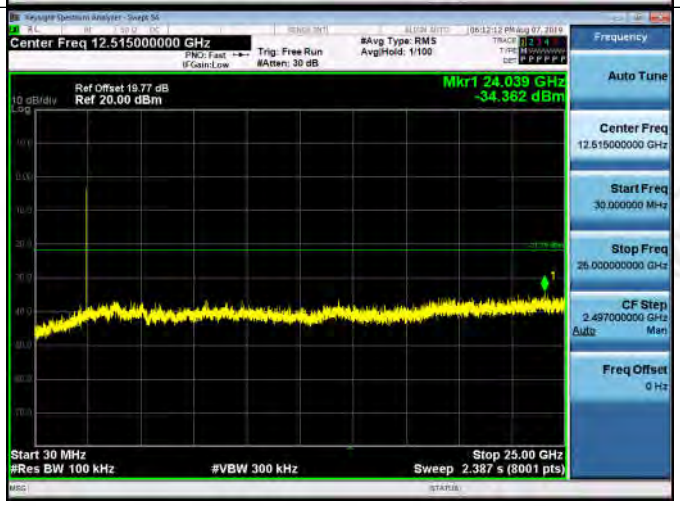
Test Graph

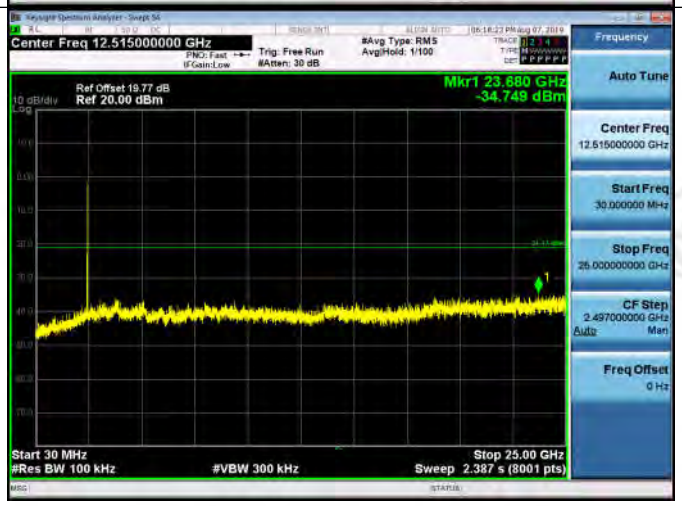
11B_LCH_Graphs	
Pref/11B/LCH	
Puw/11B/LCH	

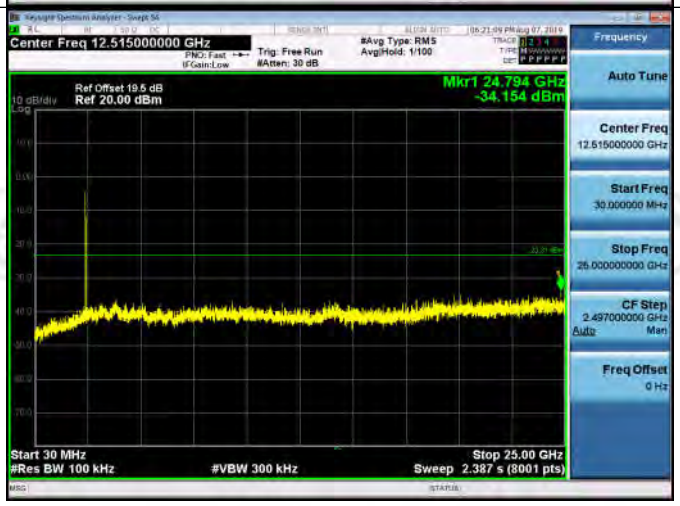
11B_MCH_Graphs		
Pref/11B/MCH		
Puw/11B/MCH		

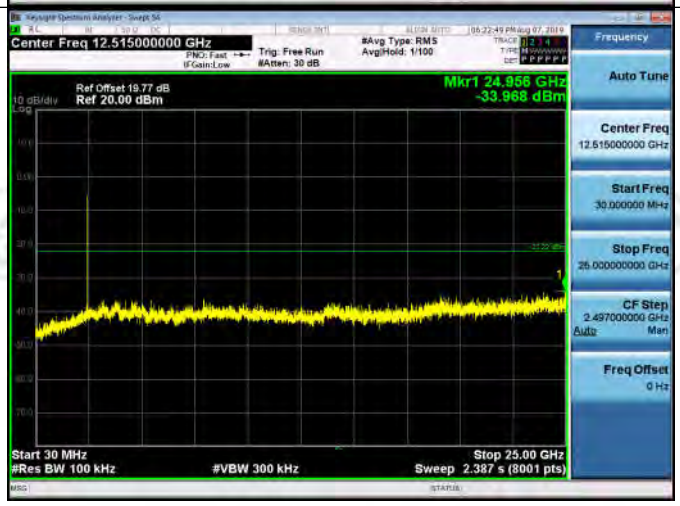
11B_HCH_Graphs		
Pref/11B/HCH		
Puw/11B/HCH		

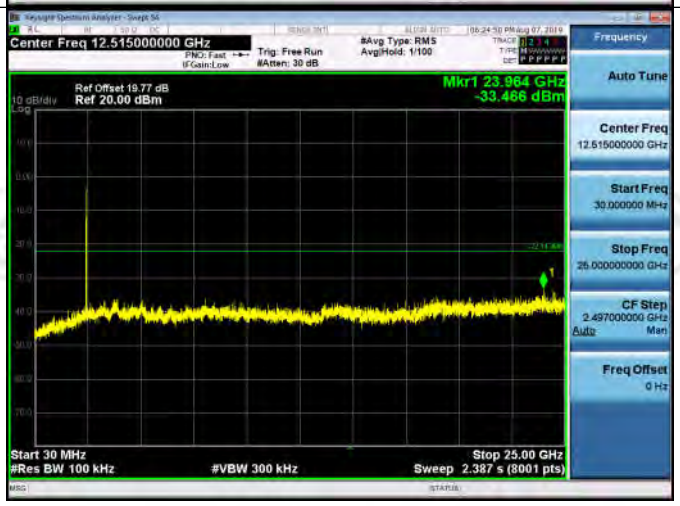
11G_LCH_Graphs		
Pref/11G/LCH		
Puw/11G/LCH		

11G_MCH_Graphs		
Pref/11G/MCH		
Puw/11G/MCH		

11G_HCH_Graphs		
Pref/11G/HCH		
Puw/11G/HCH		

11N20SISO_LCH_Graphs		
Pref/11N20SISO/LCH		
Puw/11N20SISO/LCH		

11N20SISO_MCH_Graphs		
Pref/11N20SISO/MCH		
Puw/11N20SISO/MCH		

11N20SISO_HCH_Graphs		
Pref/11N20SISO/HCH		
Puw/11N20SISO/HCH		

Appendix E): Power Spectral Density

Test Limit

According to §15.247(e),

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

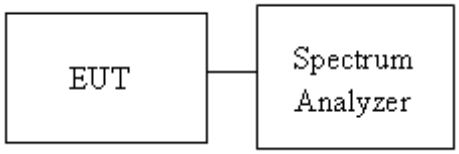
Limit	☒ Antenna not exceed 6 dBi：8dBm ☐ Antenna with DG greater than 6 dBi： [Limit = 8 – (DG – 6)] ☐ Point-to-point operation：

Test Procedure

Test method Refer as KDB 558074 D01.

1. The EUT RF output connected to the spectrum analyzer by RF cable.
2. Setting maximum power transmit of EUT
3. SA set RBW = 3kHz, VBW = 30kHz, Span = 1.5 times DTS Bandwidth (6 dB BW), Detector = Peak, Sweep Time = Auto and Trace = Max hold.
4. The path loss was compensated to the results for each measurement by SA.
5. Mark the maximum level.
6. Measure and record the result of power spectral density. in the test report.

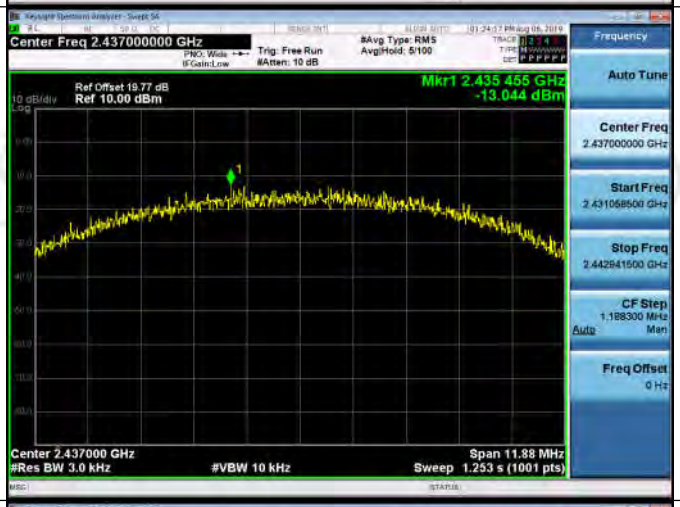
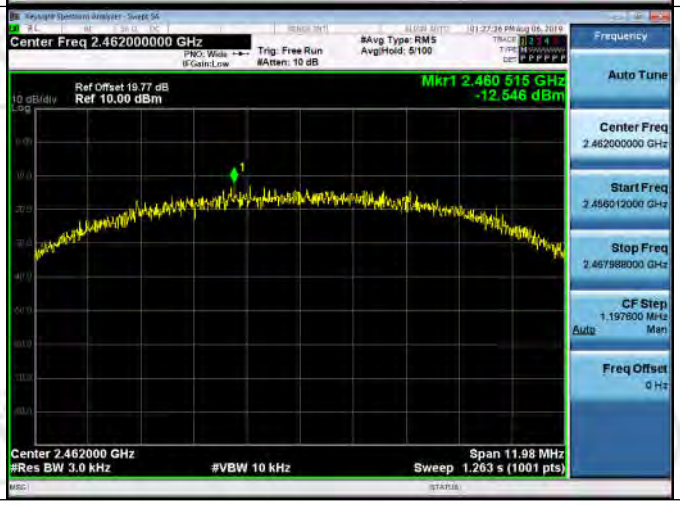
Test Setup

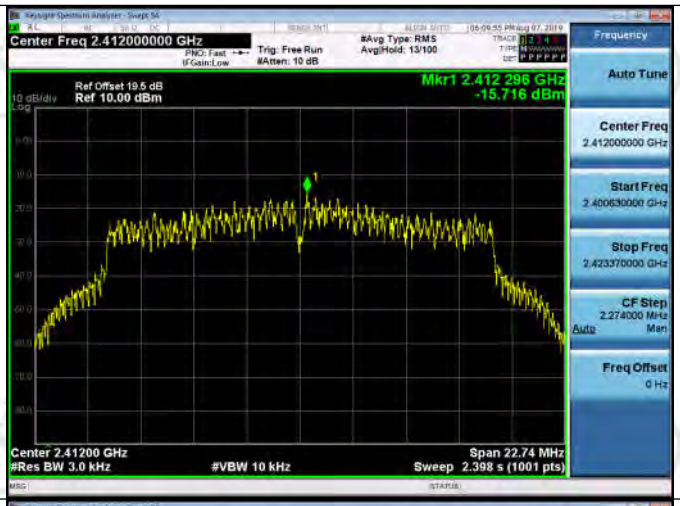


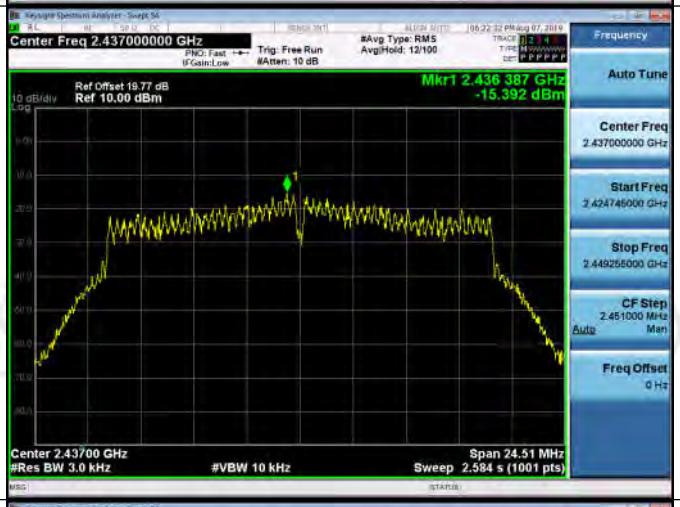
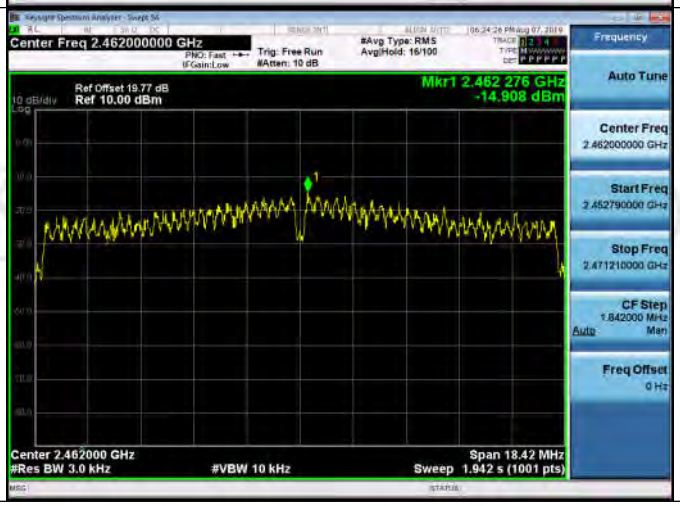
Result Table

Mode	Channel	Power Spectral Density [dBm/3KHz]	Verdict
11B	LCH	-13.775	PASS
11B	MCH	-13.044	PASS
11B	HCH	-12.546	PASS
11G	LCH	-15.716	PASS
11G	MCH	-15.560	PASS
11G	HCH	-15.317	PASS
11N20SISO	LCH	-16.333	PASS
11N20SISO	MCH	-15.392	PASS
11N20SISO	HCH	-14.908	PASS

Test Graph

Graphs			
11B/LCH			
11B/MCH			
11B/HCH			

11G/LCH			
11G/MCH			
11G/HCH			

11N20SISO/LCH			
11N20SISO/MCH			
11N20SISO/HCH			

Appendix F): Antenna Requirement

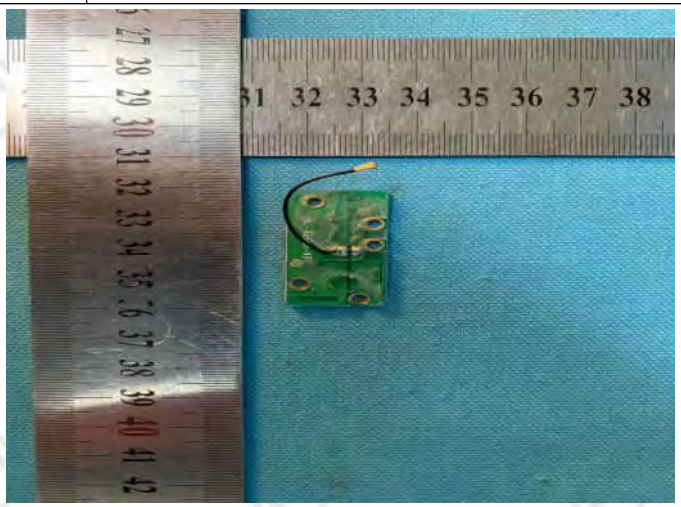
15.203 requirement:

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(b) (4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

EUT Antenna:	



The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 5.42dBi

Appendix G): AC Power Line Conducted Emission

<table>
<tr><td>Test Procedure:</td><td>Test frequency range :150KHz-30MHz
1)The mains terminal disturbance voltage test was conducted in a shielded room.
2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
3)The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
5) 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 on conducted measurement.</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (dBμV)</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>
* The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.
NOTE : The lower limit is applicable at the transition frequency</td></tr>
</table>

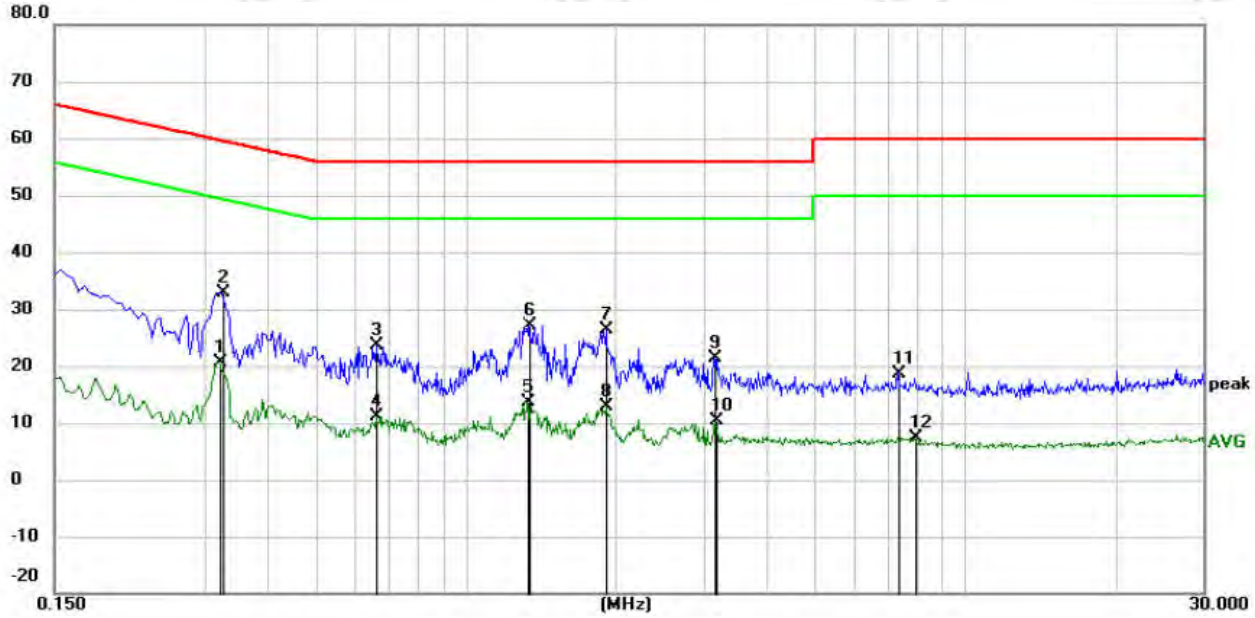
Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.

Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

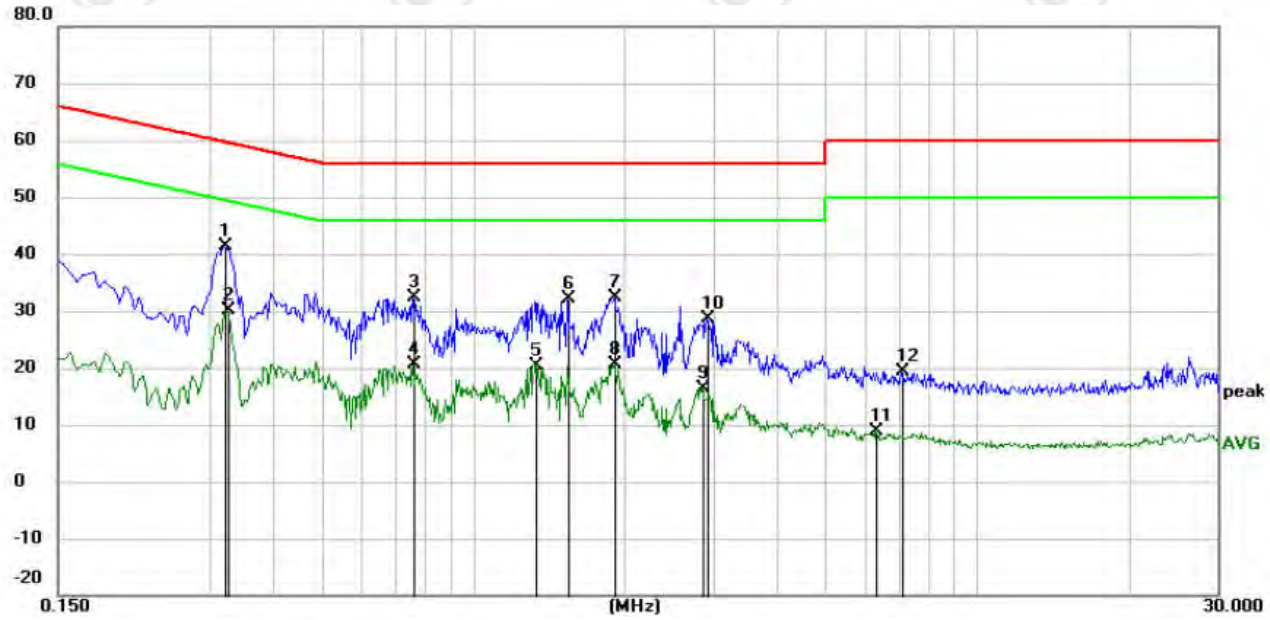
Product	:	reMarkable 2	**Model/Type reference**	:	RM110
Temperature	:	21℃	**Humidity**	:	51%

Live line:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3209	10.52	10.08	20.60	49.68	-29.08	AVG	
2	*	0.3255	22.92	10.07	32.99	59.57	-26.58	peak	
3		0.6630	13.74	9.82	23.56	56.00	-32.44	peak	
4		0.6630	1.29	9.82	11.11	46.00	-34.89	AVG	
5		1.3290	3.77	9.88	13.65	46.00	-32.35	AVG	
6		1.3380	17.24	9.88	27.12	56.00	-28.88	peak	
7		1.9095	16.59	9.84	26.43	56.00	-29.57	peak	
8		1.9095	3.15	9.84	12.99	46.00	-33.01	AVG	
9		3.1560	11.65	9.83	21.48	56.00	-34.52	peak	
10		3.1605	0.55	9.83	10.38	46.00	-35.62	AVG	
11		7.3500	8.89	9.86	18.75	60.00	-41.25	peak	
12		7.9530	-2.41	9.88	7.47	50.00	-42.53	AVG	

Neutral line:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.3209	31.20	10.08	41.28	59.68	-18.40	peak	
2		0.3255	20.15	10.07	30.22	49.57	-19.35	AVG	
3		0.7620	22.50	9.81	32.31	56.00	-23.69	peak	
4		0.7620	10.80	9.81	20.61	46.00	-25.39	AVG	
5		1.3290	10.62	9.88	20.50	46.00	-25.50	AVG	
6		1.5405	22.19	9.87	32.06	56.00	-23.94	peak	
7		1.9095	22.64	9.84	32.48	56.00	-23.52	peak	
8		1.9095	10.86	9.84	20.70	46.00	-25.30	AVG	
9		2.8500	6.52	9.83	16.35	46.00	-29.65	AVG	
10		2.9085	18.86	9.83	28.69	56.00	-27.31	peak	
11		6.3060	-1.06	9.84	8.78	50.00	-41.22	AVG	
12		7.0845	9.57	9.85	19.42	60.00	-40.58	peak	

Notes:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

Appendix H): Restricted bands around fundamental frequency (Radiated)

Receiver Setup:

Frequency	Detector	RBW	VBW	Remark
30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

Test Procedure:

Below 1GHz test procedure as below:

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
f. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel

Above 1GHz test procedure as below:

g. Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber change form table 0.8 meter to 1.5 meter(Above 18GHz the distance is 1 meter and table is 1.5 meter).
h. Test the EUT in the lowest channel , the Highest channel
i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is worse case.
j. Repeat above procedures until all frequencies measured was complete.

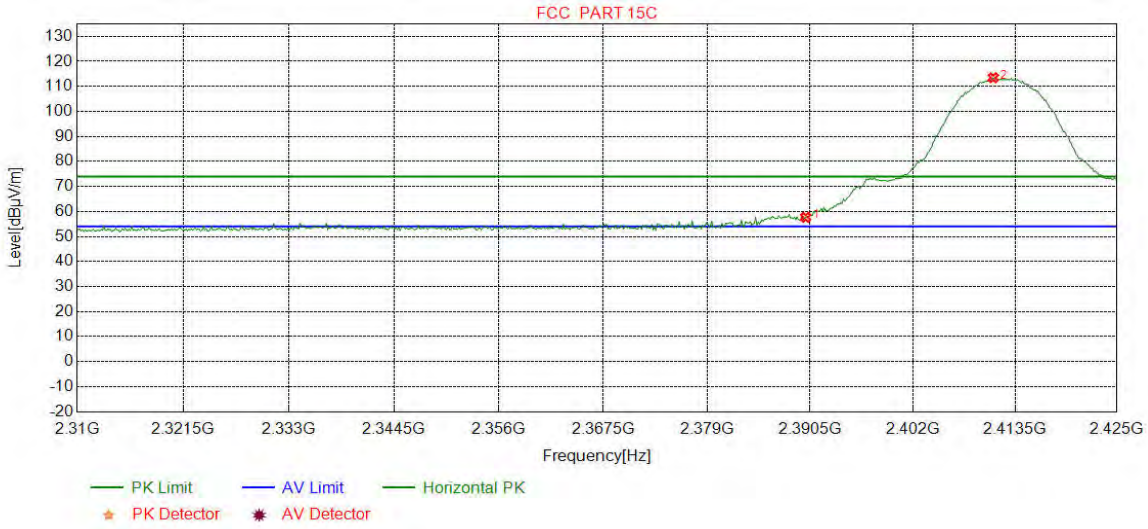
Limit:

Frequency	Limit (dBμV/m @3m)	Remark
30MHz-88MHz	40.0	Quasi-peak Value
88MHz-216MHz	43.5	Quasi-peak Value
216MHz-960MHz	46.0	Quasi-peak Value
960MHz-1GHz	54.0	Quasi-peak Value
Above 1GHz	54.0	Average Value
	74.0	Peak Value

Test plot as follows:

Mode:	802.11 b(11Mbps) Transmitting	Channel:	2412
Remark:	PK		

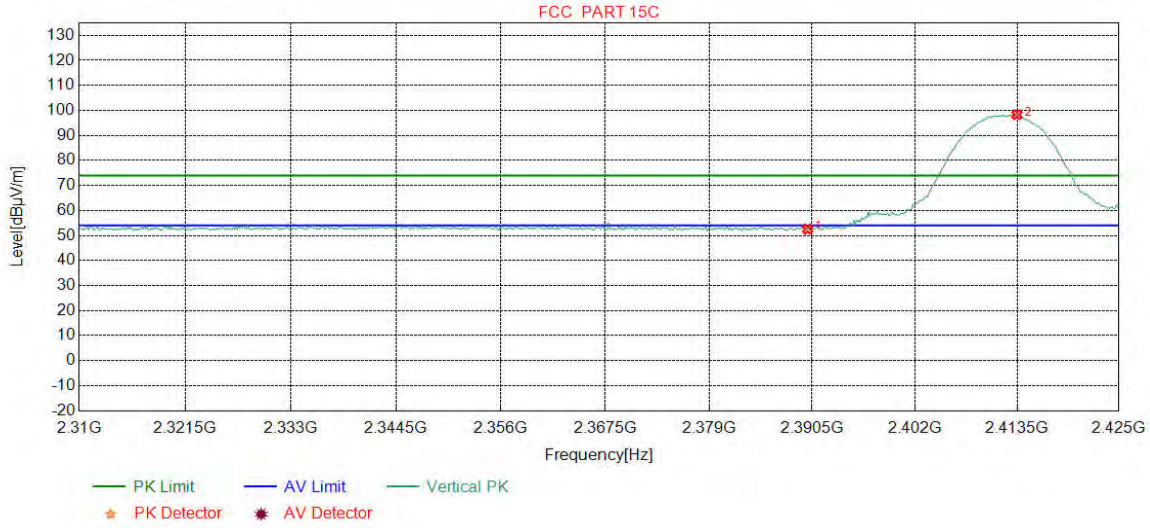
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2390.0000	32.25	13.37	-42.44	54.50	57.68	74.00	16.32	Pass	Horizontal
2	2411.0388	32.28	13.35	-42.43	110.26	113.46	74.00	-39.46	Pass	Horizontal

Mode:	802.11 b(11Mbps) Transmitting	Channel:	2412
Remark:	PK		

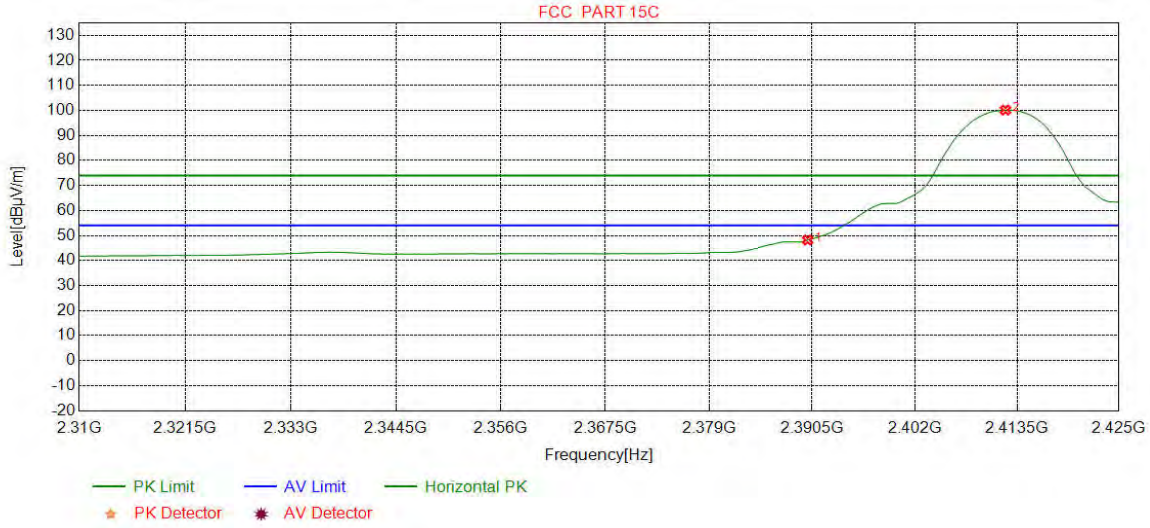
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity
1	2390.0000	32.25	13.37	-42.44	49.35	52.53	74.00	21.47	Pass	Vertical
2	2413.4856	32.28	13.36	-42.43	95.08	98.29	74.00	-24.29	Pass	Vertical

Mode:	802.11 b(11Mbps) Transmitting	Channel:	2412
Remark:	AV		

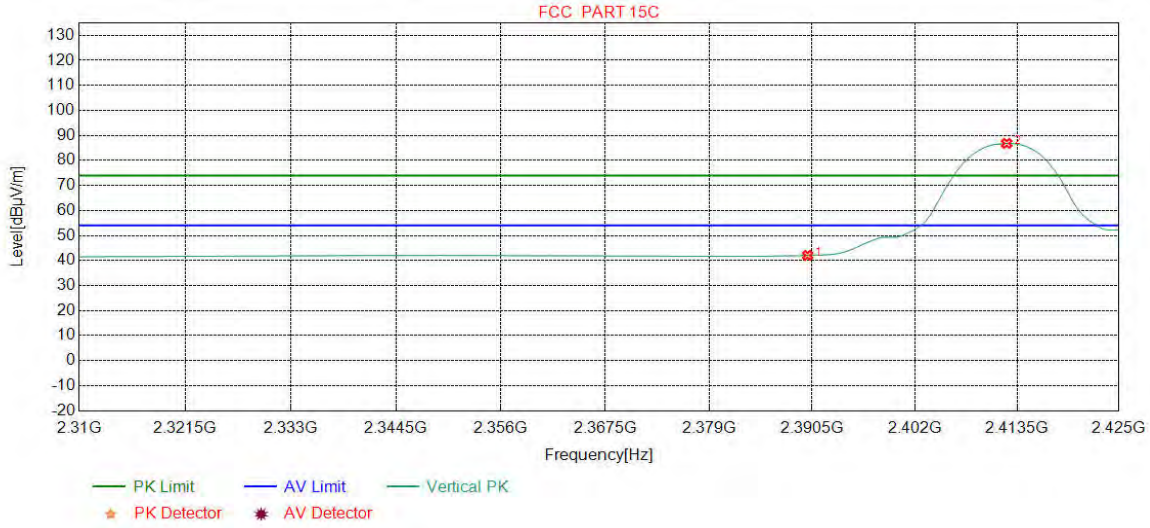
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2390.0000	32.25	13.37	-42.44	45.01	48.19	54.00	5.81	Pass	Horizontal
2	2412.1902	32.28	13.36	-42.44	96.94	100.14	54.00	-46.14	Pass	Horizontal

Mode:	802.11 b(11Mbps) Transmitting	Channel:	2412
Remark:	AV		

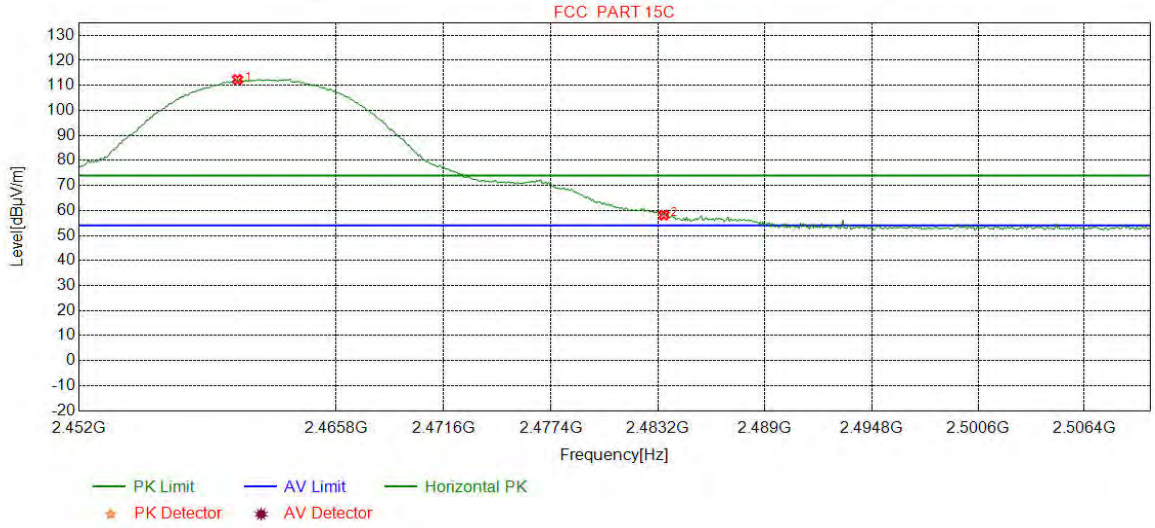
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2390.0000	32.25	13.37	-42.44	38.89	42.07	54.00	11.93	Pass	Vertical
2	2412.3342	32.28	13.36	-42.43	83.60	86.81	54.00	-32.81	Pass	Vertical

Mode:	802.11 b(11Mbps) Transmitting	Channel:	2462
Remark:	PK		

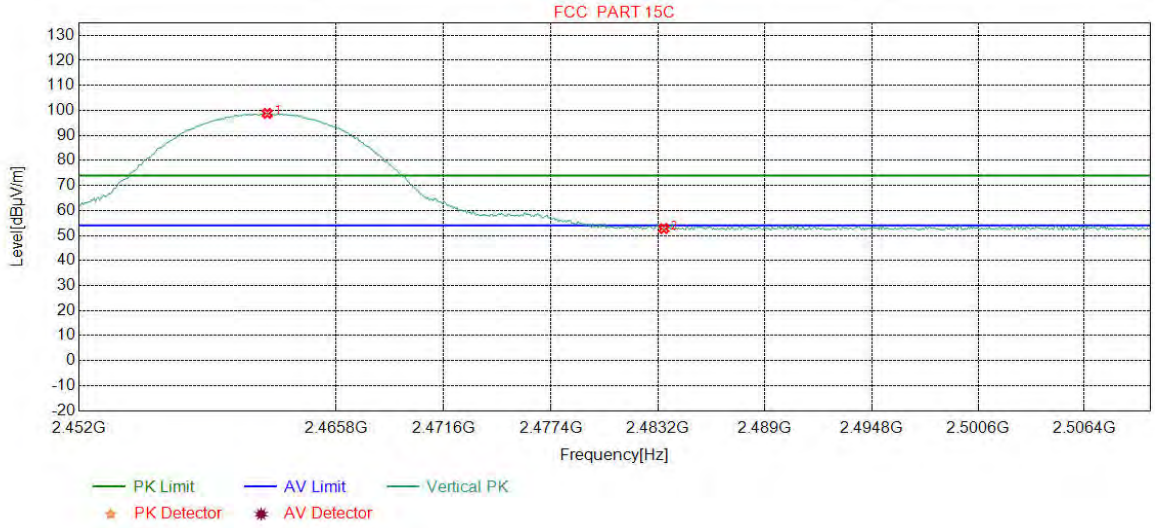
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity
1	2460.4931	32.34	13.48	-42.40	108.92	112.34	74.00	-38.34	Pass	Horizontal
2	2483.5000	32.38	13.38	-42.40	54.80	58.16	74.00	15.84	Pass	Horizontal

Mode:	802.11 b(11Mbps) Transmitting	Channel:	2462
Remark:	PK		

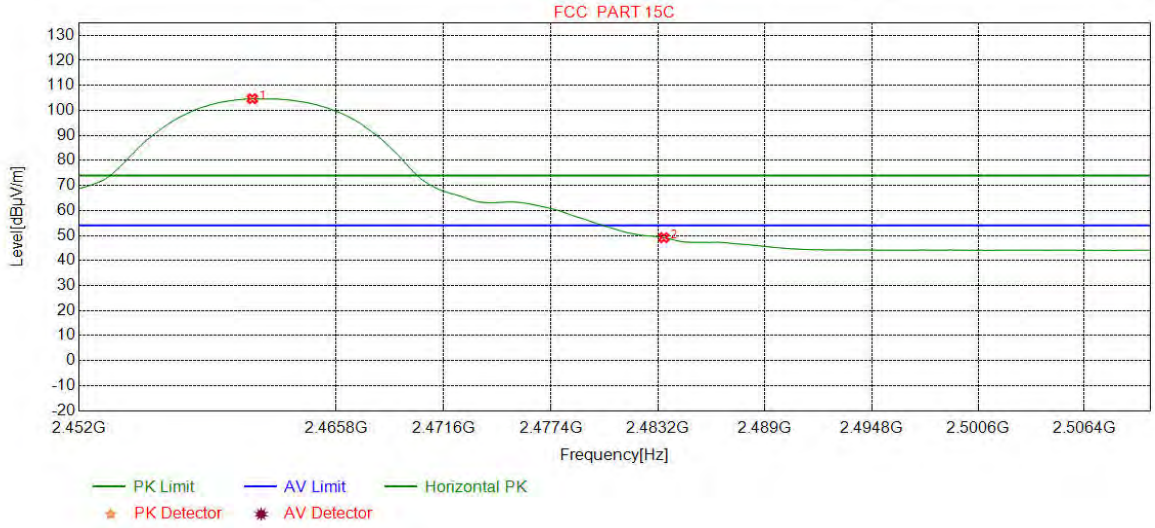
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2462.0901	32.35	13.47	-42.41	95.42	98.83	74.00	-24.83	Pass	Vertical
2	2483.5000	32.38	13.38	-42.40	49.41	52.77	74.00	21.23	Pass	Vertical

Mode:	802.11 b(11Mbps) Transmitting	Channel:	2462
Remark:	AV		

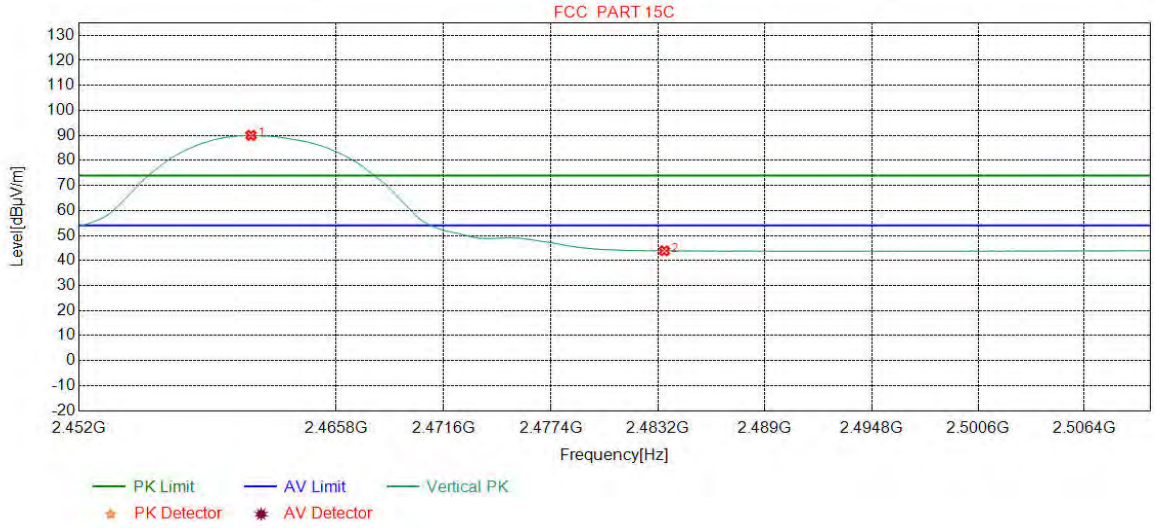
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2461.2916	32.35	13.48	-42.41	101.24	104.66	54.00	-50.66	Pass	Horizontal
2	2483.5000	32.38	13.38	-42.40	45.79	49.15	54.00	4.85	Pass	Horizontal

Mode:	802.11 b(11Mbps) Transmitting	Channel:	2462
Remark:	AV		

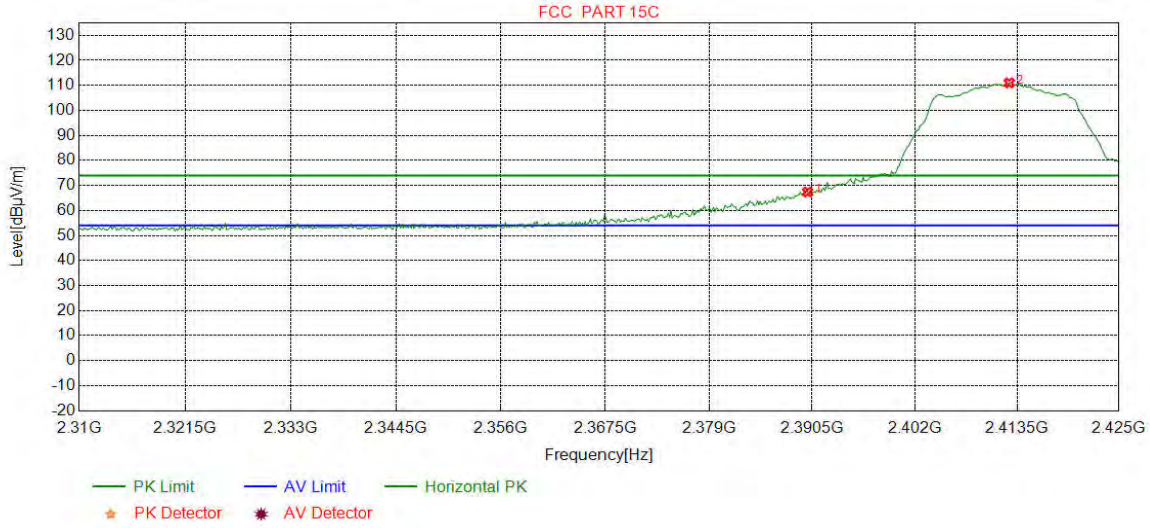
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2461.2190	32.35	13.48	-42.41	86.61	90.03	54.00	-36.03	Pass	Vertical
2	2483.5300	32.38	13.38	-42.40	40.53	43.89	54.00	10.11	Pass	Vertical

Mode:	802.11 g(6Mbps) Transmitting	Channel:	2412
Remark:	PK		

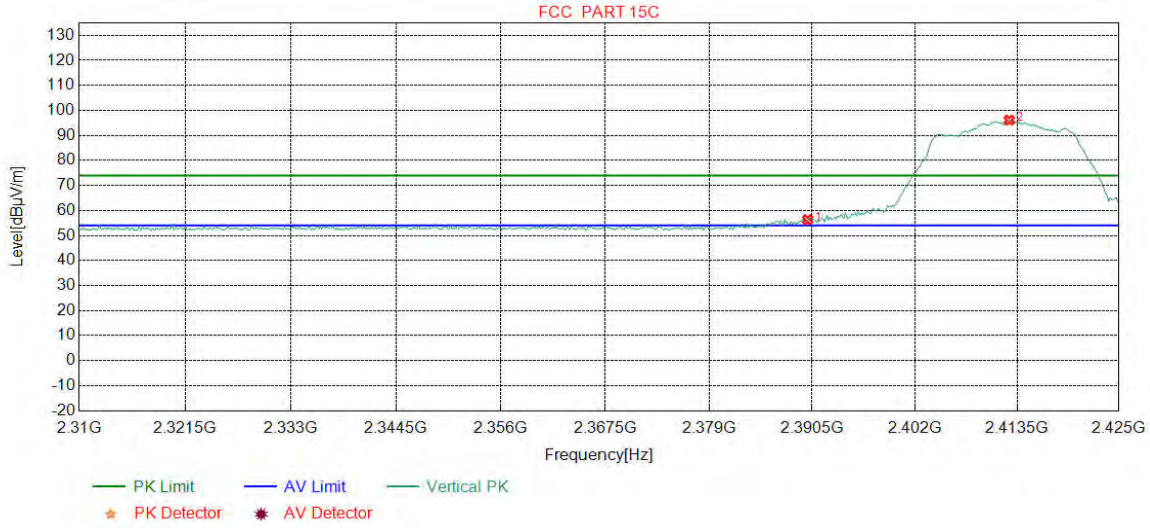
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity
1	2390.0000	32.25	13.37	-42.44	64.21	67.39	74.00	6.61	Pass	Horizontal
2	2412.6220	32.28	13.36	-42.43	107.78	110.99	74.00	-36.99	Pass	Horizontal

Mode:	802.11 g(6Mbps) Transmitting	Channel:	2412
Remark:	PK		

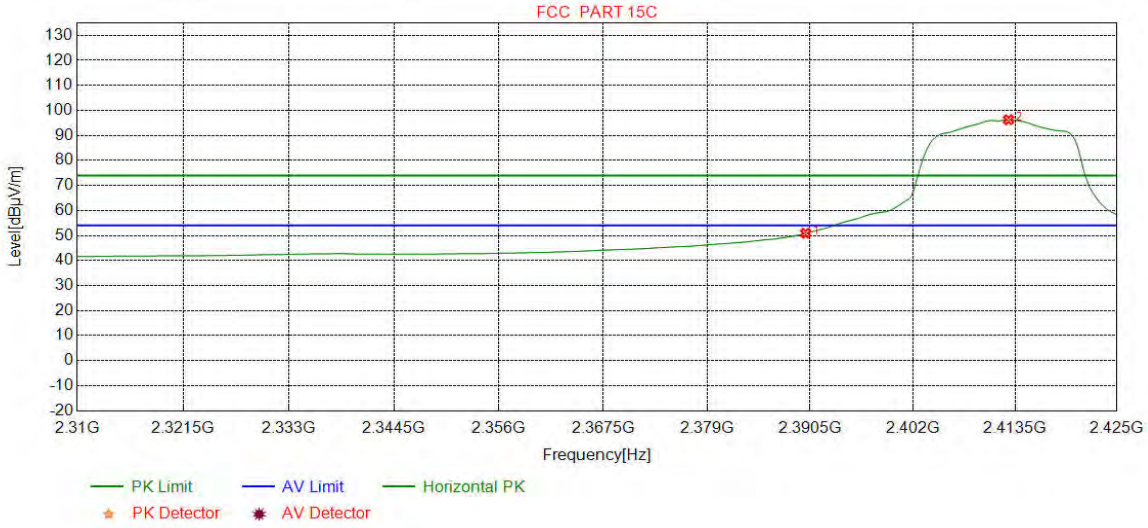
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity
1	2390.0000	32.25	13.37	-42.44	53.11	56.29	74.00	17.71	Pass	Vertical
2	2412.6220	32.28	13.36	-42.43	92.90	96.11	74.00	-22.11	Pass	Vertical

Mode:	802.11 g(6Mbps) Transmitting	Channel:	2412
Remark:	AV		

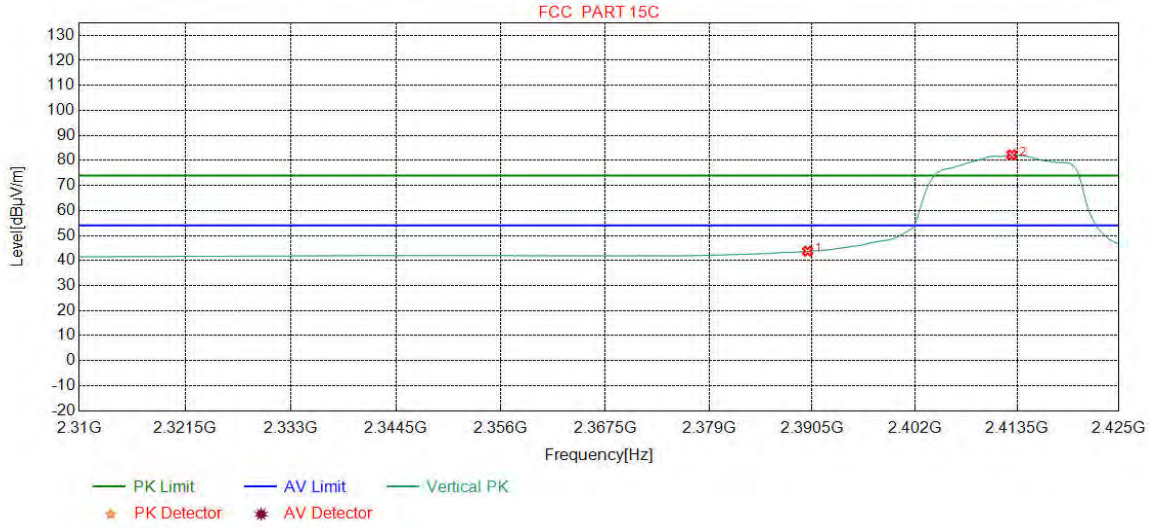
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2390.0000	32.25	13.37	-42.44	47.74	50.92	54.00	3.08	Pass	Horizontal
2	2412.7660	32.28	13.36	-42.43	93.06	96.27	54.00	-42.27	Pass	Horizontal

Mode:	802.11 g(6Mbps) Transmitting	Channel:	2412
Remark:	AV		

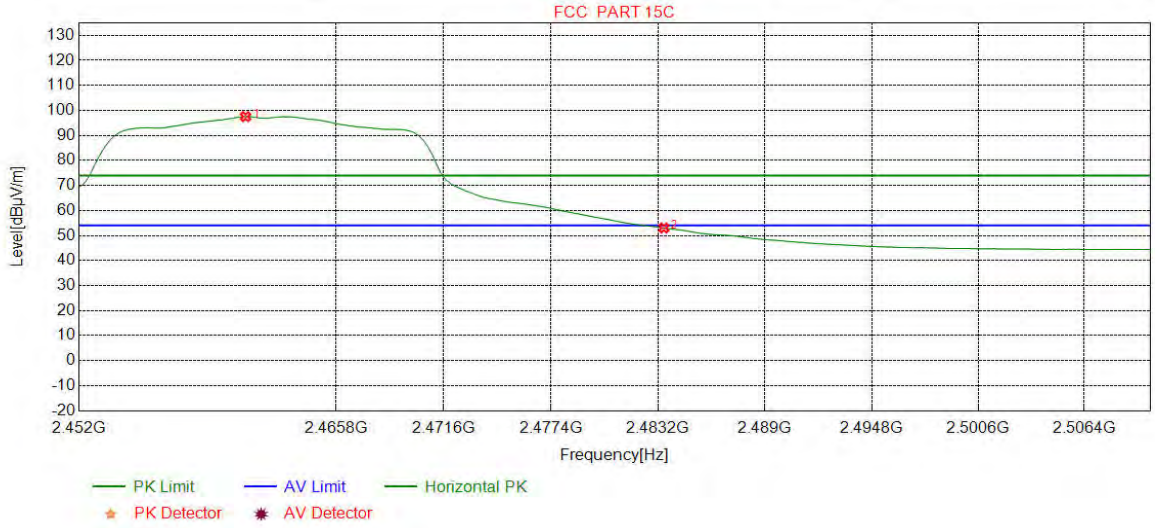
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2390.0000	32.25	13.37	-42.44	40.57	43.75	54.00	10.25	Pass	Vertical
2	2412.9099	32.28	13.36	-42.43	79.03	82.24	54.00	-28.24	Pass	Vertical

Mode:	802.11 g(6Mbps) Transmitting	Channel:	2462
Remark:	AV		

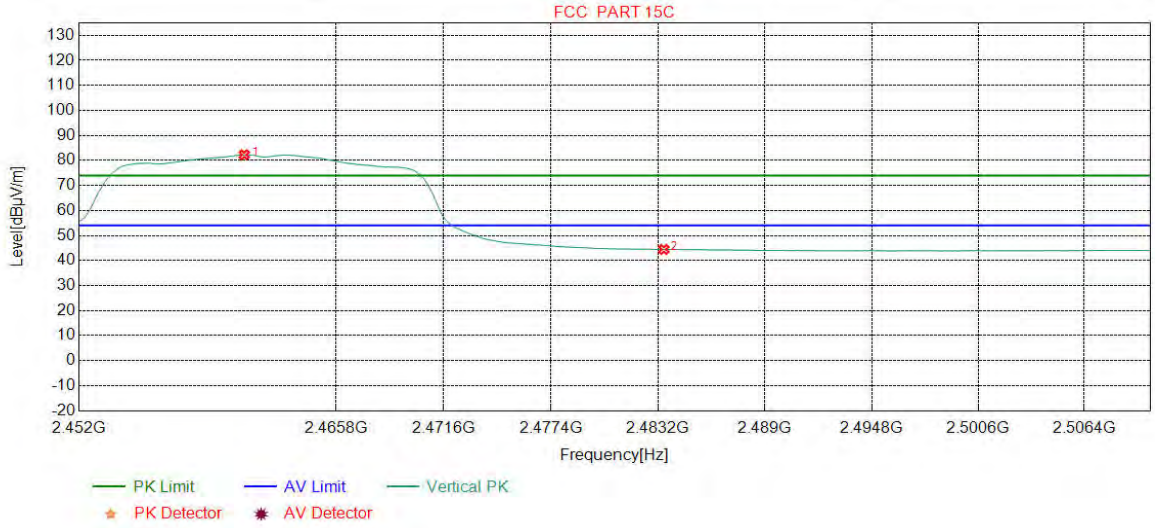
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2460.9287	32.35	13.48	-42.41	94.08	97.50	54.00	-43.50	Pass	Horizontal
2	2483.5000	32.38	13.38	-42.40	49.64	53.00	54.00	1.00	Pass	Horizontal

Mode:	802.11 g(6Mbps) Transmitting	Channel:	2462
Remark:	AV		

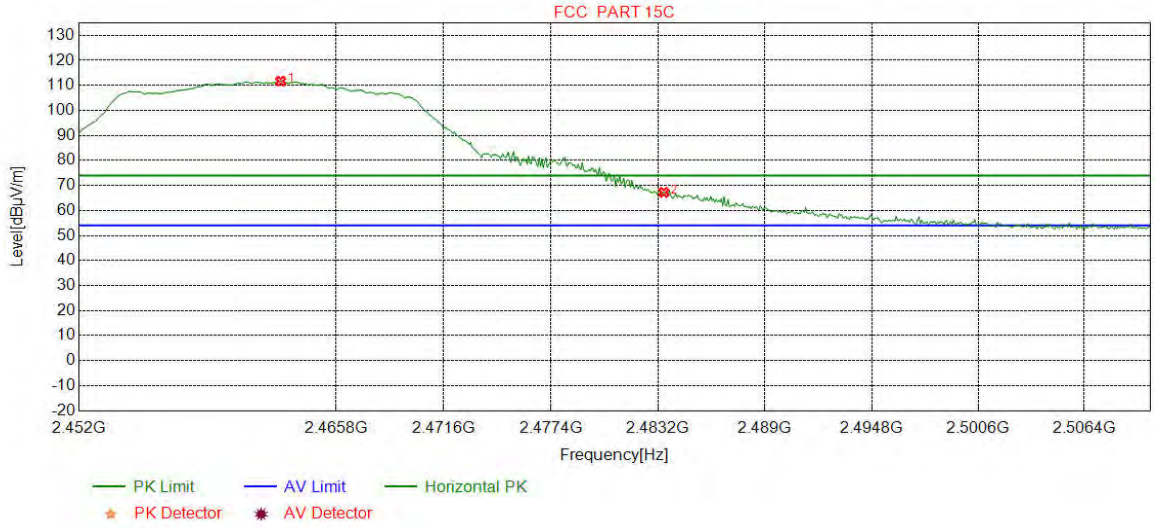
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2460.8561	32.35	13.48	-42.41	78.84	82.26	54.00	-28.26	Pass	Vertical
2	2483.5000	32.38	13.38	-42.40	41.08	44.44	54.00	9.56	Pass	Vertical

Mode:	802.11 g(6Mbps) Transmitting	Channel:	2462
Remark:	PK		

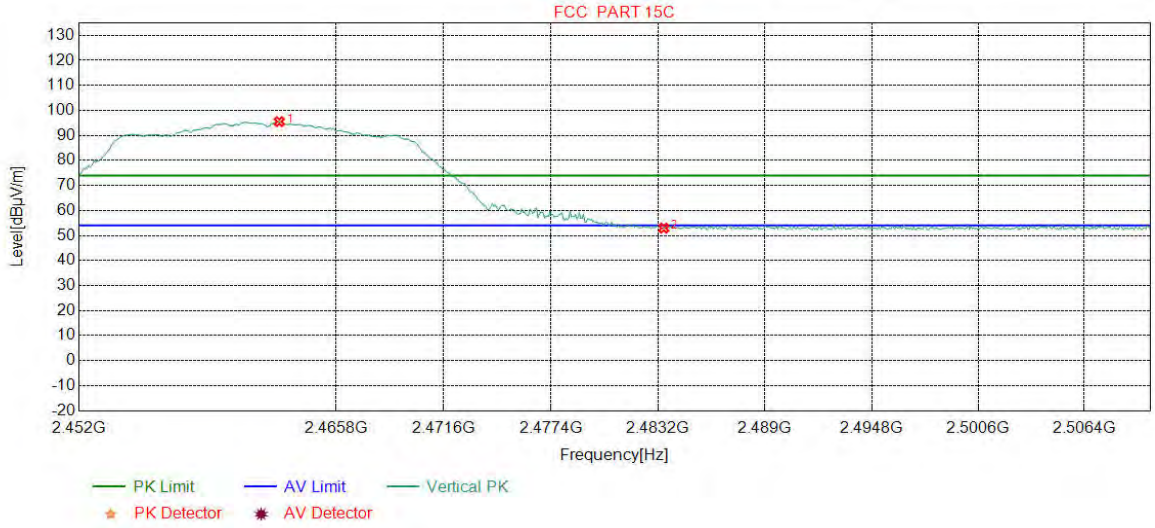
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2462.8160	32.35	13.47	-42.41	108.27	111.68	74.00	-37.68	Pass	Horizontal
2	2483.5000	32.38	13.38	-42.40	63.89	67.25	74.00	6.75	Pass	Horizontal

Mode:	802.11 g(6Mbps) Transmitting	Channel:	2462
Remark:	PK		

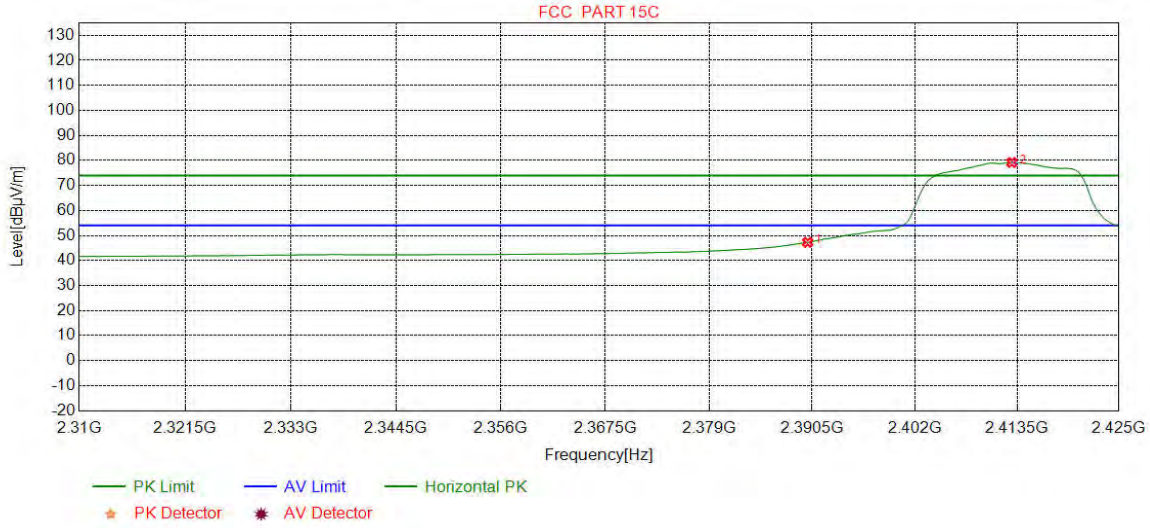
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2462.7434	32.35	13.47	-42.41	92.10	95.51	74.00	-21.51	Pass	Vertical
2	2483.5000	32.38	13.38	-42.40	49.57	52.93	74.00	21.07	Pass	Vertical

Mode:	802.11 n(HT20) (6.5Mbps)	Channel:	2412
Remark:	AV		

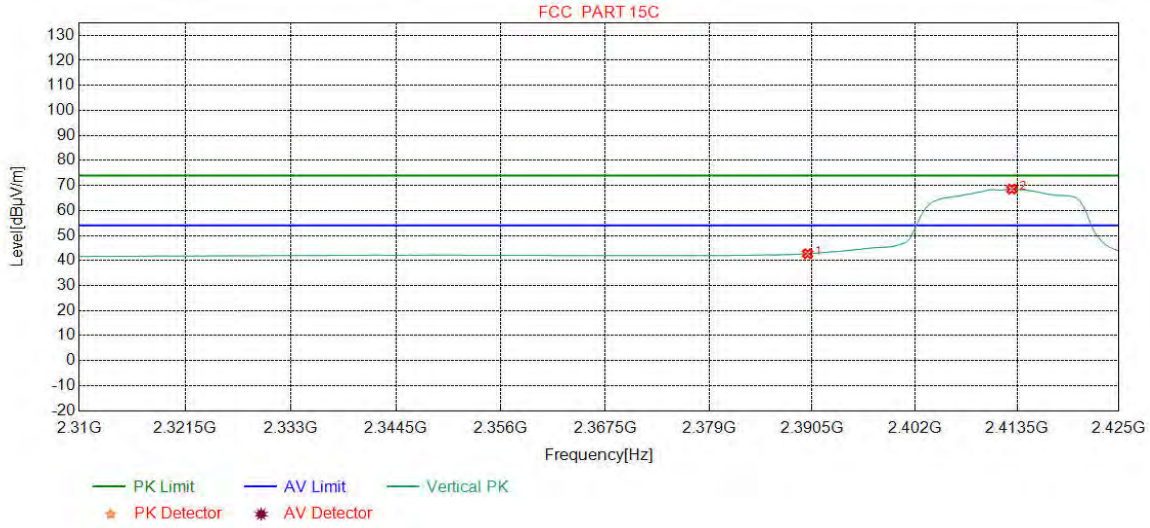
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2390.0000	32.25	13.37	-42.44	44.09	47.27	54.00	6.73	Pass	Horizontal
2	2412.9099	32.28	13.36	-42.43	75.96	79.17	54.00	-25.17	Pass	Horizontal

Mode:	802.11 n(HT20) (6.5Mbps)	Channel:	2412
Remark:	AV		

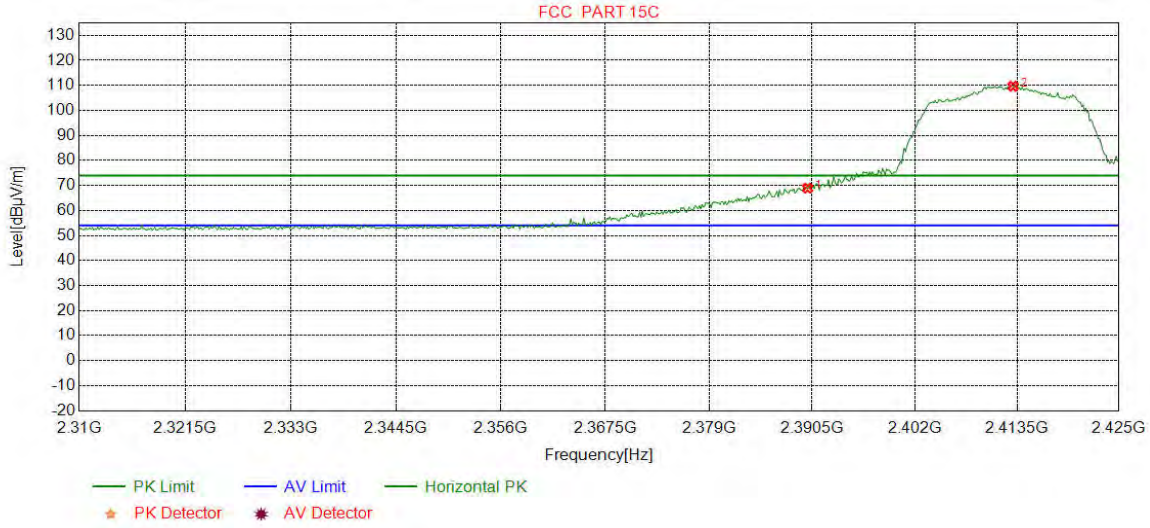
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2390.0000	32.25	13.37	-42.44	39.52	42.70	54.00	11.30	Pass	Vertical
2	2412.9099	32.28	13.36	-42.43	65.34	68.55	54.00	-14.55	Pass	Vertical

Mode:	802.11 n(HT20) (6.5Mbps)	Channel:	2412
Remark:	PK		

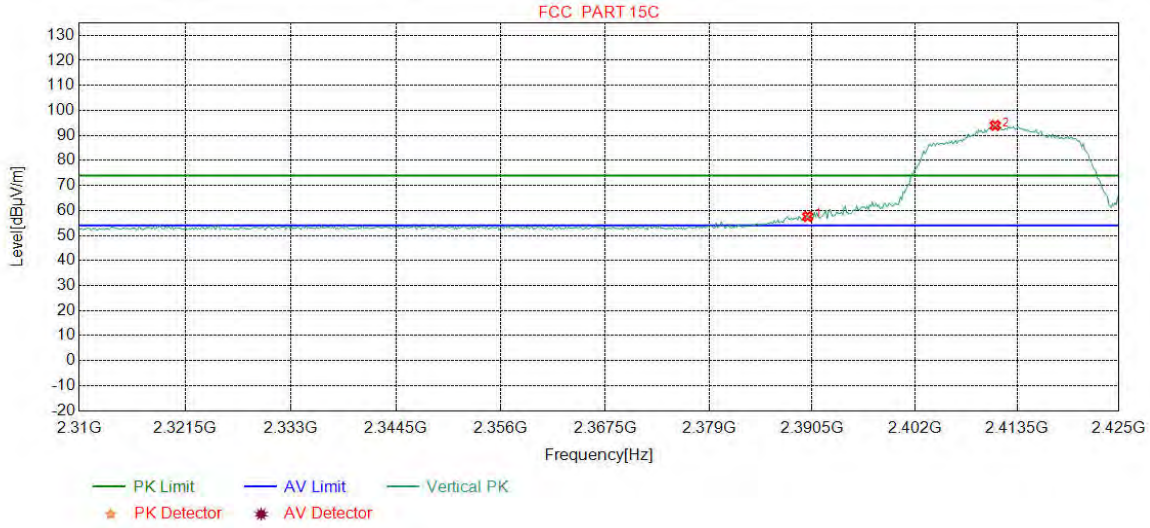
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2390.0000	32.25	13.37	-42.44	65.73	68.91	74.00	5.09	Pass	Horizontal
2	2413.0538	32.28	13.36	-42.43	106.45	109.66	74.00	-35.66	Pass	Horizontal

Mode:	802.11 n(HT20) (6.5Mbps)	Channel:	2412
Remark:	PK		

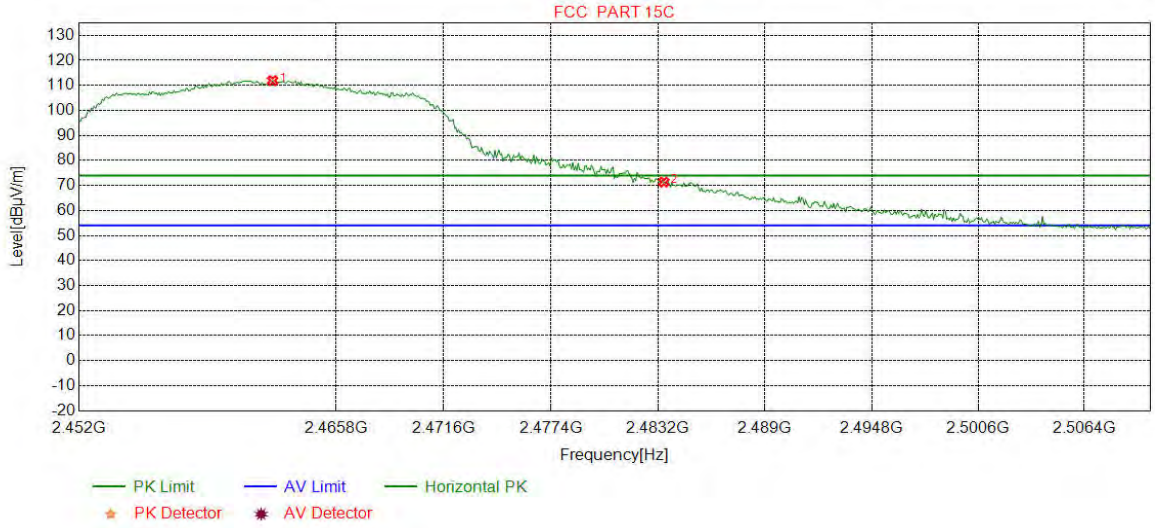
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2390.0000	32.25	13.37	-42.44	54.43	57.61	74.00	16.39	Pass	Vertical
2	2411.0388	32.28	13.35	-42.43	90.77	93.97	74.00	-19.97	Pass	Vertical

Mode:	802.11 n(HT20) (6.5Mbps)	Channel:	2462
Remark:	PK		

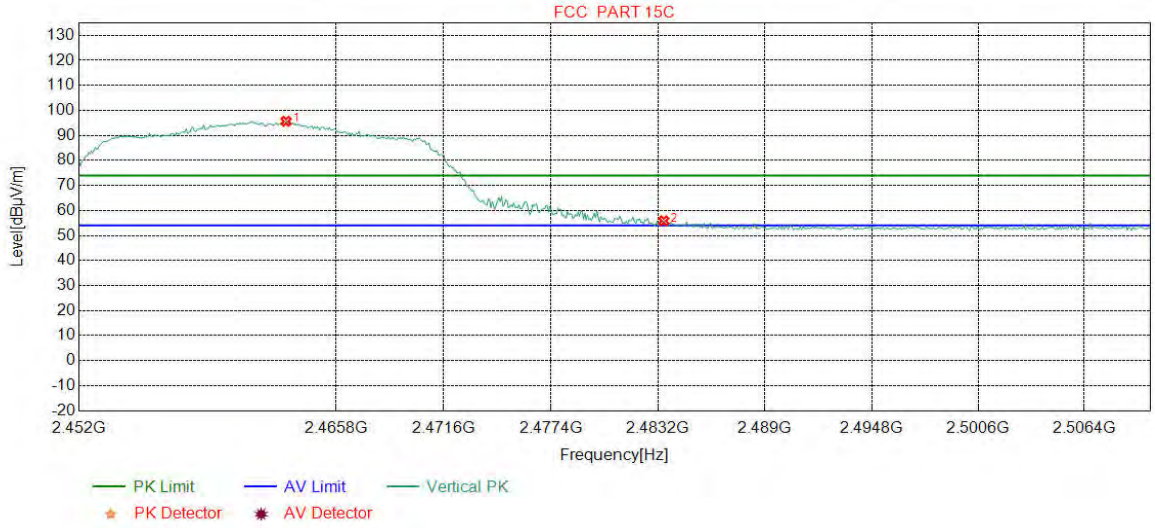
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2462.3805	32.35	13.47	-42.41	108.48	111.89	74.00	-37.89	Pass	Horizontal
2	2483.5000	32.38	13.38	-42.40	67.97	71.33	74.00	2.67	Pass	Horizontal

Mode:	802.11 n(HT20) (6.5Mbps)	Channel:	2462
Remark:	PK		

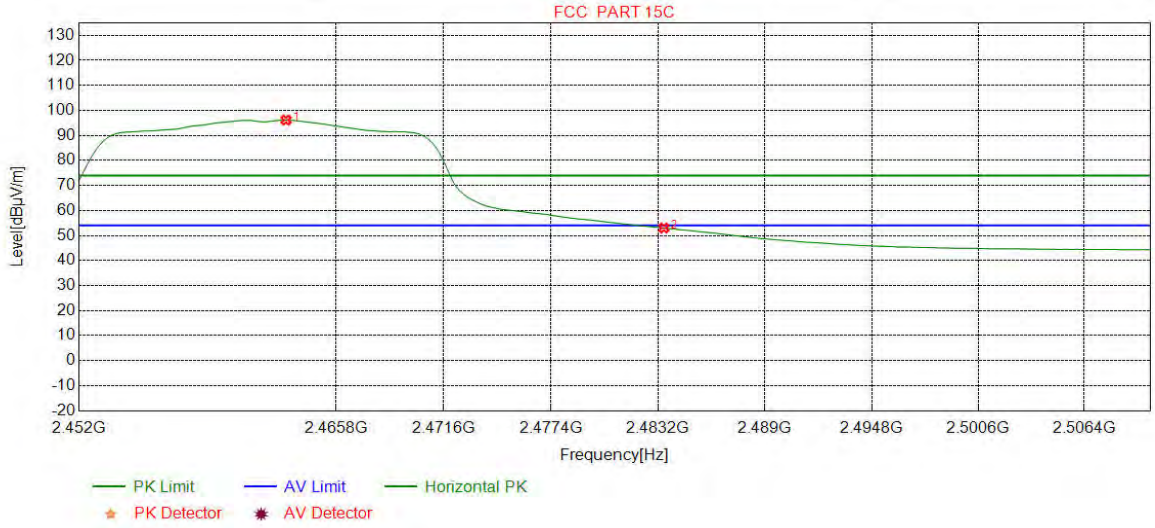
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2463.1064	32.35	13.47	-42.41	92.24	95.65	74.00	-21.65	Pass	Vertical
2	2483.5000	32.38	13.38	-42.40	52.50	55.86	74.00	18.14	Pass	Vertical

Mode:	802.11 n(HT20) (6.5Mbps)	Channel:	2462
Remark:	AV		

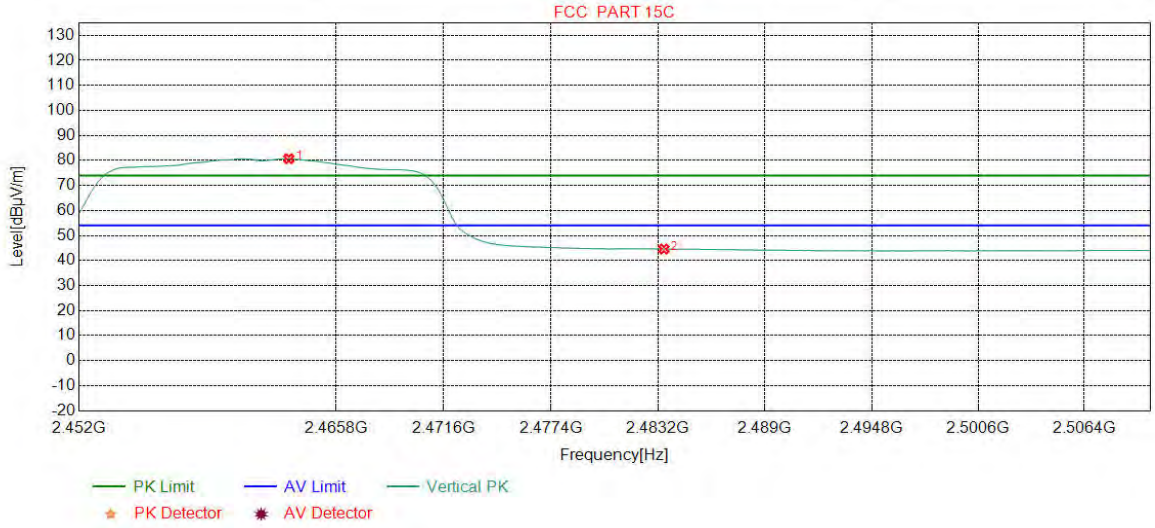
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2463.1064	32.35	13.47	-42.41	92.73	96.14	54.00	-42.14	Pass	Horizontal
2	2483.5000	32.38	13.38	-42.40	49.64	53.00	54.00	1.00	Pass	Horizontal

Mode:	802.11 n(HT20) (6.5Mbps)	Channel:	2462
Remark:	AV		

Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2463.2516	32.35	13.47	-42.41	77.27	80.68	54.00	-26.68	Pass	Vertical
2	2483.5000	32.38	13.38	-42.40	41.23	44.59	54.00	9.41	Pass	Vertical

Note:

1) Through Pre-scan transmitting mode and charge+transmitter mode with all kind of modulation and data rate, find the 11Mbps of rate is the worst case of 802.11b; 6Mbpsof rate is the worst case of 802.11g; 6.5Mbps of rate is the worst case of 802.11n(HT20) , and then Only the worst case is recorded in the report.

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

Final Test Level =Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor– Antenna Factor–Cable Factor

Appendix I): Radiated Spurious Emissions

Receiver Setup:

Frequency	Detector	RBW	VBW	Remark
0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak
0.009MHz-0.090MHz	Average	10kHz	30kHz	Average
0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak
0.110MHz-0.490MHz	Average	10kHz	30kHz	Average
0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

Test Procedure:

Below 1GHz test procedure as below:

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Above 1GHz test procedure as below:

g. Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 meter to 1.5 meter(Above 18GHz the distance is 1 meter and table is 1.5 meter)..
h. Test the EUT in the lowest channel ,the middle channel ,the Highest channel
i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is worse case.
j. Repeat above procedures until all frequencies measured was complete.

Limit:

Frequency	Field strength (microvolt/meter)	Limit (dBμV/m)	Remark	Measurement distance (m)
0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
1.705MHz-30MHz	30	-	-	30
30MHz-88MHz	100	40.0	Quasi-peak	3
88MHz-216MHz	150	43.5	Quasi-peak	3
216MHz-960MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
Above 1GHz	500	54.0	Average	3

Note: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

Radiated Spurious Emissions test Data:

Product : reMarkable 2 **Model/Type reference** : RM110

Temperature : 23℃ **Humidity** : 54%

Radiated Emission below 1GHz

Mode:		802.11 b (11Mbps) Transmitting				Channel:		2412		
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity
1	39.9920	12.30	0.72	-32.11	46.84	27.75	40.00	12.25	Pass	H
2	59.0059	11.76	0.89	-32.05	52.98	33.58	40.00	6.42	Pass	H
3	160.5751	7.93	1.47	-31.97	62.65	40.08	43.50	3.42	Pass	H
4	267.1887	12.54	1.95	-31.87	55.22	37.84	46.00	8.16	Pass	H
5	345.7666	14.21	2.22	-31.86	48.99	33.56	46.00	12.44	Pass	H
6	484.0054	16.74	2.63	-31.90	44.63	32.10	46.00	13.90	Pass	H
7	31.3581	10.55	0.64	-32.12	42.93	22.00	40.00	18.00	Pass	V
8	58.4238	11.85	0.88	-32.05	46.04	26.72	40.00	13.28	Pass	V
9	120.0250	9.20	1.30	-32.07	49.62	28.05	43.50	15.45	Pass	V
10	199.9610	10.90	1.67	-31.94	51.59	32.22	43.50	11.28	Pass	V
11	345.7666	14.21	2.22	-31.86	50.73	35.30	46.00	10.70	Pass	V
12	484.0054	16.74	2.63	-31.90	48.94	36.41	46.00	9.59	Pass	V

Mode:		802.11 b (11Mbps) Transmitting				Channel:		2437		
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity
1	39.9920	12.30	0.72	-32.11	46.88	27.79	40.00	12.21	Pass	H
2	58.3268	11.87	0.88	-32.06	51.60	32.29	40.00	7.71	Pass	H
3	156.6947	7.78	1.46	-31.98	62.16	39.42	43.50	4.08	Pass	H
4	261.0771	12.42	1.92	-31.87	54.18	36.65	46.00	9.35	Pass	H
5	484.0054	16.74	2.63	-31.90	47.56	35.03	46.00	10.97	Pass	H
6	600.0290	19.00	2.96	-31.99	44.77	34.74	46.00	11.26	Pass	H
7	39.9920	12.30	0.72	-32.11	42.51	23.42	40.00	16.58	Pass	V
8	58.3268	11.87	0.88	-32.06	43.71	24.40	40.00	15.60	Pass	V
9	120.0250	9.20	1.30	-32.07	50.24	28.67	43.50	14.83	Pass	V
10	138.2628	7.29	1.38	-32.00	47.96	24.63	43.50	18.87	Pass	V
11	199.9610	10.90	1.67	-31.94	51.22	31.85	43.50	11.65	Pass	V
12	484.0054	16.74	2.63	-31.90	49.30	36.77	46.00	9.23	Pass	V

Mode:		802.11 b (11Mbps) Transmitting				Channel:		2462		
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity
1	57.7448	11.96	0.87	-32.05	53.20	33.98	40.00	6.02	Pass	H
2	162.2242	8.02	1.48	-31.97	61.36	38.89	43.50	4.61	Pass	H
3	268.3528	12.57	1.95	-31.88	55.82	38.46	46.00	7.54	Pass	H
4	345.7666	14.21	2.22	-31.86	47.89	32.46	46.00	13.54	Pass	H
5	600.0290	19.00	2.96	-31.99	44.76	34.73	46.00	11.27	Pass	H
6	899.9830	22.10	3.60	-31.58	37.75	31.87	46.00	14.13	Pass	H
7	39.9920	12.30	0.72	-32.11	42.82	23.73	40.00	16.27	Pass	V
8	59.1999	11.73	0.89	-32.05	45.25	25.82	40.00	14.18	Pass	V
9	120.0250	9.20	1.30	-32.07	49.92	28.35	43.50	15.15	Pass	V
10	199.9610	10.90	1.67	-31.94	51.99	32.62	43.50	10.88	Pass	V
11	290.2770	13.01	2.03	-31.88	47.72	30.88	46.00	15.12	Pass	V
12	484.0054	16.74	2.63	-31.90	49.78	37.25	46.00	8.75	Pass	V

Mode:		802.11 g (6Mbps) Transmitting				Channel:		2412		
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity
1	39.9920	12.30	0.72	-32.11	53.24	34.15	40.00	5.85	Pass	H
2	61.1401	11.30	0.90	-32.03	39.61	19.78	40.00	20.22	Pass	H
3	106.4436	10.94	1.22	-32.08	40.28	20.36	43.50	23.14	Pass	H
4	143.9864	7.34	1.41	-31.99	55.97	32.73	43.50	10.77	Pass	H
5	519.9960	17.40	2.73	-31.93	48.28	36.48	46.00	9.52	Pass	H
6	600.0290	19.00	2.96	-31.99	47.19	37.16	46.00	8.84	Pass	H
7	120.0250	9.20	1.30	-32.07	48.88	27.31	43.50	16.19	Pass	V
8	199.9610	10.90	1.67	-31.94	49.90	30.53	43.50	12.97	Pass	V
9	240.0260	11.94	1.84	-31.90	46.96	28.84	46.00	17.16	Pass	V
10	279.9940	12.80	1.99	-31.93	47.33	30.19	46.00	15.81	Pass	V
11	439.9630	16.04	2.48	-31.88	43.01	29.65	46.00	16.35	Pass	V
12	519.9960	17.40	2.73	-31.93	43.46	31.66	46.00	14.34	Pass	V

Mode:		802.11 g (6Mbps) Transmitting				Channel:		2437		
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity
1	50.2750	13.16	0.80	-32.12	47.71	29.55	40.00	10.45	Pass	H
2	134.2854	7.49	1.36	-32.02	54.60	31.43	43.50	12.07	Pass	H
3	258.8459	12.38	1.92	-31.88	45.74	28.16	46.00	17.84	Pass	H
4	443.8434	16.10	2.49	-31.88	43.12	29.83	46.00	16.17	Pass	H
5	600.0290	19.00	2.96	-31.99	41.03	31.00	46.00	15.00	Pass	H
6	899.9830	22.10	3.60	-31.58	35.42	29.54	46.00	16.46	Pass	H
7	54.9315	12.41	0.84	-32.08	41.27	22.44	40.00	17.56	Pass	V
8	71.9082	8.64	0.97	-32.05	37.62	15.18	40.00	24.82	Pass	V
9	120.0250	9.20	1.30	-32.07	48.97	27.40	43.50	16.10	Pass	V
10	143.9864	7.34	1.41	-31.99	52.16	28.92	43.50	14.58	Pass	V
11	272.0392	12.64	1.97	-31.89	46.73	29.45	46.00	16.55	Pass	V
12	432.8813	15.93	2.46	-31.84	41.24	27.79	46.00	18.21	Pass	V

Mode:		802.11 g (6Mbps) Transmitting				Channel:		2462		
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity
1	39.9920	12.30	0.72	-32.11	47.25	28.16	40.00	11.84	Pass	H
2	59.9760	11.60	0.90	-32.04	53.56	34.02	40.00	5.98	Pass	H
3	160.5751	7.93	1.47	-31.97	61.06	38.49	43.50	5.01	Pass	H
4	276.5987	12.73	1.98	-31.91	51.97	34.77	46.00	11.23	Pass	H
5	519.9960	17.40	2.73	-31.93	39.84	28.04	46.00	17.96	Pass	H
6	750.0060	20.35	3.29	-32.04	36.30	27.90	46.00	18.10	Pass	H
7	55.3195	12.35	0.84	-32.07	42.16	23.28	40.00	16.72	Pass	V
8	120.0250	9.20	1.30	-32.07	49.57	28.00	43.50	15.50	Pass	V
9	160.6721	7.94	1.47	-31.98	48.65	26.08	43.50	17.42	Pass	V
10	199.9610	10.90	1.67	-31.94	51.59	32.22	43.50	11.28	Pass	V
11	366.3326	14.66	2.28	-31.86	41.82	26.90	46.00	19.10	Pass	V
12	519.9960	17.40	2.73	-31.93	40.58	28.78	46.00	17.22	Pass	V

Mode:		802.11 n (HT20) (6.5Mbps)				Channel:		2412		
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity
1	59.1029	11.74	0.89	-32.04	50.98	31.57	40.00	8.43	Pass	H
2	156.3066	7.77	1.46	-31.99	60.24	37.48	43.50	6.02	Pass	H
3	267.0917	12.54	1.95	-31.88	56.32	38.93	46.00	7.07	Pass	H
4	345.7666	14.21	2.22	-31.86	46.17	30.74	46.00	15.26	Pass	H
5	484.0054	16.74	2.63	-31.90	44.24	31.71	46.00	14.29	Pass	H
6	874.0814	21.79	3.54	-31.71	40.07	33.69	46.00	12.31	Pass	H
7	58.0358	11.91	0.88	-32.06	44.21	24.94	40.00	15.06	Pass	V
8	120.0250	9.20	1.30	-32.07	49.56	27.99	43.50	15.51	Pass	V
9	160.3810	7.92	1.47	-31.98	49.55	26.96	43.50	16.54	Pass	V
10	276.5987	12.73	1.98	-31.91	50.15	32.95	46.00	13.05	Pass	V
11	345.7666	14.21	2.22	-31.86	49.83	34.40	46.00	11.60	Pass	V
12	553.0763	18.06	2.80	-31.97	44.87	33.76	46.00	12.24	Pass	V

Mode:		802.11 n (HT20) (6.5Mbps)				Channel:		2437		
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity
1	39.9920	12.30	0.72	-32.11	47.48	28.39	40.00	11.61	Pass	H
2	57.6478	11.98	0.87	-32.06	49.95	30.74	40.00	9.26	Pass	H
3	160.5751	7.93	1.47	-31.97	64.64	42.07	43.50	1.43	Pass	H
4	269.1289	12.58	1.96	-31.88	53.84	36.50	46.00	9.50	Pass	H
5	345.6696	14.20	2.22	-31.85	50.17	34.74	46.00	11.26	Pass	H
6	600.0290	19.00	2.96	-31.99	43.69	33.66	46.00	12.34	Pass	H
7	59.3939	11.70	0.89	-32.05	44.71	25.25	40.00	14.75	Pass	V
8	120.0250	9.20	1.30	-32.07	49.45	27.88	43.50	15.62	Pass	V
9	159.5080	7.88	1.47	-31.98	50.44	27.81	43.50	15.69	Pass	V
10	199.9610	10.90	1.67	-31.94	51.19	31.82	43.50	11.68	Pass	V
11	276.5987	12.73	1.98	-31.91	49.17	31.97	46.00	14.03	Pass	V
12	484.0054	16.74	2.63	-31.90	47.94	35.41	46.00	10.59	Pass	V

Mode:		802.11 n (HT20) (6.5Mbps)				Channel:		2462		
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity
1	58.7149	11.81	0.88	-32.05	50.86	31.50	40.00	8.50	Pass	H
2	160.7691	7.94	1.47	-31.97	64.75	42.19	43.50	1.31	Pass	H
3	260.3010	12.41	1.92	-31.87	53.85	36.31	46.00	9.69	Pass	H
4	345.7666	14.21	2.22	-31.86	47.60	32.17	46.00	13.83	Pass	H
5	600.0290	19.00	2.96	-31.99	43.92	33.89	46.00	12.11	Pass	H
6	796.5707	20.86	3.38	-32.01	37.66	29.89	46.00	16.11	Pass	H
7	58.4238	11.85	0.88	-32.05	45.44	26.12	40.00	13.88	Pass	V
8	120.0250	9.20	1.30	-32.07	49.67	28.10	43.50	15.40	Pass	V
9	159.1199	7.87	1.47	-31.99	50.15	27.50	43.50	16.00	Pass	V
10	199.9610	10.90	1.67	-31.94	51.52	32.15	43.50	11.35	Pass	V
11	276.5017	12.73	1.98	-31.91	50.60	33.40	46.00	12.60	Pass	V
12	484.0054	16.74	2.63	-31.90	46.22	33.69	46.00	12.31	Pass	V

Transmitter Emission above 1GHz

Mode:		802.11 b (11Mbps) Transmitting				Channel:		2412			
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Preamp gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1202.6802	28.10	2.66	-42.88	57.45	45.33	74.00	28.67	Pass	H	Peak
2	1499.7667	28.40	2.99	-42.67	58.02	46.74	74.00	27.26	Pass	H	Peak
3	3503.0335	33.40	4.49	-41.81	49.54	45.62	74.00	28.38	Pass	H	Peak
4	4824.0000	34.50	4.61	-40.65	47.09	45.55	74.00	28.45	Pass	H	Peak
5	7236.0000	36.34	5.79	-40.99	46.36	47.50	74.00	26.50	Pass	H	Peak
6	9648.0000	37.66	6.72	-40.73	42.57	46.22	74.00	27.78	Pass	H	Peak
7	1199.7467	28.10	2.66	-42.89	56.54	44.41	74.00	29.59	Pass	V	Peak
8	1843.9229	30.67	3.37	-42.69	57.89	49.24	74.00	24.76	Pass	V	Peak
9	3000.0000	33.20	4.93	-42.12	50.57	46.58	74.00	27.42	Pass	V	Peak
10	4824.0000	34.50	4.61	-40.65	45.93	44.39	74.00	29.61	Pass	V	Peak
11	7236.0000	36.34	5.79	-40.99	47.21	48.35	74.00	25.65	Pass	V	Peak
12	9648.0000	37.66	6.72	-40.73	42.77	46.42	74.00	27.58	Pass	V	Peak

Mode:		802.11 b (11Mbps) Transmitting				Channel:		2437			
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Preamp gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1219.0813	28.12	2.67	-42.87	67.15	55.07	74.00	18.93	Pass	H	Peak
2	1499.3666	28.40	2.99	-42.67	54.68	43.40	74.00	30.60	Pass	H	Peak
3	3655.0437	33.52	4.33	-41.49	55.19	51.55	74.00	22.45	Pass	H	Peak
4	4874.0000	34.50	4.78	-40.61	46.37	45.04	74.00	28.96	Pass	H	Peak
5	7311.0000	36.41	5.85	-40.93	46.44	47.77	74.00	26.23	Pass	H	Peak
6	9748.0000	37.70	6.77	-40.63	42.59	46.43	74.00	27.57	Pass	H	Peak
7	1218.1479	28.12	2.67	-42.88	55.08	42.99	74.00	31.01	Pass	V	Peak
8	1400.9601	28.30	2.90	-42.68	56.42	44.94	74.00	29.06	Pass	V	Peak
9	1996.3331	31.68	3.47	-42.62	55.84	48.37	74.00	25.63	Pass	V	Peak
10	4874.0000	34.50	4.78	-40.61	44.68	43.35	74.00	30.65	Pass	V	Peak
11	7311.0000	36.41	5.85	-40.93	46.84	48.17	74.00	25.83	Pass	V	Peak
12	9748.0000	37.70	6.77	-40.63	42.33	46.17	74.00	27.83	Pass	V	Peak

Mode:		802.11 b (11Mbps) Transmitting				Channel:		2462			
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1230.5487	28.13	2.67	-42.86	65.26	53.20	74.00	20.80	Pass	H	Peak
2	1500.4334	28.40	2.99	-42.67	57.29	46.01	74.00	27.99	Pass	H	Peak
3	3692.0461	33.55	4.26	-41.42	54.69	51.08	74.00	22.92	Pass	H	Peak
4	4924.0000	34.50	4.85	-40.56	45.28	44.07	74.00	29.93	Pass	H	Peak
5	7386.0000	36.49	5.85	-40.87	46.51	47.98	74.00	26.02	Pass	H	Peak
6	9848.0000	37.74	6.83	-40.54	42.22	46.25	74.00	27.75	Pass	H	Peak
7	1231.8821	28.13	2.67	-42.85	54.50	42.45	74.00	31.55	Pass	V	Peak
8	1494.9663	28.39	2.99	-42.67	54.75	43.46	74.00	30.54	Pass	V	Peak
9	3527.0351	33.42	4.46	-41.76	49.30	45.42	74.00	28.58	Pass	V	Peak
10	4924.0000	34.50	4.85	-40.56	43.80	42.59	74.00	31.41	Pass	V	Peak
11	7386.0000	36.49	5.85	-40.87	45.50	46.97	74.00	27.03	Pass	V	Peak
12	9848.0000	37.74	6.83	-40.54	42.21	46.24	74.00	27.76	Pass	V	Peak

Mode:		802.11 g (6Mbps) Transmitting				Channel:		2412			
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1203.8803	28.10	2.66	-42.88	64.43	52.31	74.00	21.69	Pass	H	Peak
2	1500.0333	28.40	2.99	-42.67	56.30	45.02	74.00	28.98	Pass	H	Peak
3	3618.0412	33.49	4.34	-41.57	53.64	49.90	74.00	24.10	Pass	H	Peak
4	4824.0000	34.50	4.61	-40.65	44.66	43.12	74.00	30.88	Pass	H	Peak
5	7236.0000	36.34	5.79	-40.99	45.23	46.37	74.00	27.63	Pass	H	Peak
6	9648.0000	37.66	6.72	-40.73	41.75	45.40	74.00	28.60	Pass	H	Peak
7	1396.8265	28.30	2.89	-42.68	55.79	44.30	74.00	29.70	Pass	V	Peak
8	1998.0665	31.69	3.47	-42.62	55.25	47.79	74.00	26.21	Pass	V	Peak
9	2793.1862	32.87	4.23	-42.23	53.93	48.80	74.00	25.20	Pass	V	Peak
10	4824.0000	34.50	4.61	-40.65	43.35	41.81	74.00	32.19	Pass	V	Peak
11	7236.0000	36.34	5.79	-40.99	44.93	46.07	74.00	27.93	Pass	V	Peak
12	9648.0000	37.66	6.72	-40.73	42.91	46.56	74.00	27.44	Pass	V	Peak

Mode:		802.11 g (6Mbps) Transmitting				Channel:		2437			
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1216.1477	28.12	2.67	-42.88	61.46	49.37	74.00	24.63	Pass	H	Peak
2	1499.7667	28.40	2.99	-42.67	55.32	44.04	74.00	29.96	Pass	H	Peak
3	3378.0252	33.35	4.54	-41.89	49.07	45.07	74.00	28.93	Pass	H	Peak
4	4874.0000	34.50	4.78	-40.61	45.83	44.50	74.00	29.50	Pass	H	Peak
5	7311.0000	36.41	5.85	-40.93	44.65	45.98	74.00	28.02	Pass	H	Peak
6	9748.0000	37.70	6.77	-40.63	43.47	47.31	74.00	26.69	Pass	H	Peak
7	1498.9666	28.40	2.99	-42.67	57.71	46.43	74.00	27.57	Pass	V	Peak
8	1999.5333	31.70	3.47	-42.61	58.54	51.10	74.00	22.90	Pass	V	Peak
9	2798.2532	32.88	4.24	-42.23	54.64	49.53	74.00	24.47	Pass	V	Peak
10	4874.0000	34.50	4.78	-40.61	45.68	44.35	74.00	29.65	Pass	V	Peak
11	7311.0000	36.41	5.85	-40.93	48.36	49.69	74.00	24.31	Pass	V	Peak
12	9748.0000	37.70	6.77	-40.63	43.09	46.93	74.00	27.07	Pass	V	Peak

Mode:		802.11 g (6Mbps) Transmitting				Channel:		2462			
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1229.2153	28.13	2.67	-42.86	60.74	48.68	74.00	25.32	Pass	H	Peak
2	1500.3000	28.40	2.99	-42.67	53.48	42.20	74.00	31.80	Pass	H	Peak
3	3693.0462	33.55	4.25	-41.41	50.72	47.11	74.00	26.89	Pass	H	Peak
4	4924.0000	34.50	4.85	-40.56	46.07	44.86	74.00	29.14	Pass	H	Peak
5	7386.0000	36.49	5.85	-40.87	43.67	45.14	74.00	28.86	Pass	H	Peak
6	9848.0000	37.74	6.83	-40.54	41.93	45.96	74.00	28.04	Pass	H	Peak
7	1343.8896	28.24	2.81	-42.73	53.46	41.78	74.00	32.22	Pass	V	Peak
8	1931.1287	31.25	3.42	-42.65	54.35	46.37	74.00	27.63	Pass	V	Peak
9	2787.3192	32.86	4.22	-42.24	54.72	49.56	74.00	24.44	Pass	V	Peak
10	4924.0000	34.50	4.85	-40.56	44.28	43.07	74.00	30.93	Pass	V	Peak
11	7386.0000	36.49	5.85	-40.87	47.56	49.03	74.00	24.97	Pass	V	Peak
12	9848.0000	37.74	6.83	-40.54	42.21	46.24	74.00	27.76	Pass	V	Peak

Mode:		802.11 n (HT20) (6.5Mbps)				Channel:		2412			
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Readin g [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity	Remark
1	1205.3470	28.11	2.66	-42.89	60.19	48.07	74.00	25.93	Pass	H	Peak
2	1499.6333	28.40	2.99	-42.67	56.01	44.73	74.00	29.27	Pass	H	Peak
3	3066.0044	33.23	4.79	-42.08	50.42	46.36	74.00	27.64	Pass	H	Peak
4	4824.0000	34.50	4.61	-40.65	47.41	45.87	74.00	28.13	Pass	H	Peak
5	7236.0000	36.34	5.79	-40.99	44.10	45.24	74.00	28.76	Pass	H	Peak
6	9648.0000	37.66	6.72	-40.73	43.24	46.89	74.00	27.11	Pass	H	Peak
7	1199.8800	28.10	2.66	-42.89	55.11	42.98	74.00	31.02	Pass	V	Peak
8	1500.1667	28.40	2.99	-42.67	54.25	42.97	74.00	31.03	Pass	V	Peak
9	1936.3291	31.28	3.42	-42.64	55.17	47.23	74.00	26.77	Pass	V	Peak
10	4824.0000	34.50	4.61	-40.65	44.71	43.17	74.00	30.83	Pass	V	Peak
11	7236.0000	36.34	5.79	-40.99	45.68	46.82	74.00	27.18	Pass	V	Peak
12	9648.0000	37.66	6.72	-40.73	43.05	46.70	74.00	27.30	Pass	V	Peak

Mode:		802.11 n (HT20) (6.5Mbps)				Channel:		2437			
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Readin g [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity	Remark
1	1218.2812	28.12	2.67	-42.88	60.71	48.62	74.00	25.38	Pass	H	Peak
2	1499.5000	28.40	2.99	-42.67	55.47	44.19	74.00	29.81	Pass	H	Peak
3	3655.0437	33.52	4.33	-41.49	50.57	46.93	74.00	27.07	Pass	H	Peak
4	4874.0000	34.50	4.78	-40.61	46.60	45.27	74.00	28.73	Pass	H	Peak
5	7311.0000	36.41	5.85	-40.93	44.39	45.72	74.00	28.28	Pass	H	Peak
6	9748.0000	37.70	6.77	-40.63	42.02	45.86	74.00	28.14	Pass	H	Peak
7	1200.0133	28.10	2.66	-42.89	55.64	43.51	74.00	30.49	Pass	V	Peak
8	1500.0333	28.40	2.99	-42.67	53.76	42.48	74.00	31.52	Pass	V	Peak
9	1994.4663	31.66	3.46	-42.60	54.87	47.39	74.00	26.61	Pass	V	Peak
10	4874.0000	34.50	4.78	-40.61	43.67	42.34	74.00	31.66	Pass	V	Peak
11	7311.0000	36.41	5.85	-40.93	45.31	46.64	74.00	27.36	Pass	V	Peak
12	9748.0000	37.70	6.77	-40.63	42.03	45.87	74.00	28.13	Pass	V	Peak

Mode:		802.11 n (HT20) (6.5Mbps)				Channel:		2462			
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Readin g [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity	Remark
1	1231.3488	28.13	2.67	-42.85	59.49	47.44	74.00	26.56	Pass	H	Peak
2	1499.9000	28.40	2.99	-42.67	57.82	46.54	74.00	27.46	Pass	H	Peak
3	1812.0541	30.46	3.33	-42.70	51.26	42.35	74.00	31.65	Pass	H	Peak
4	4924.0000	34.50	4.85	-40.56	44.50	43.29	74.00	30.71	Pass	H	Peak
5	7386.0000	36.49	5.85	-40.87	44.77	46.24	74.00	27.76	Pass	H	Peak
6	9848.0000	37.74	6.83	-40.54	42.74	46.77	74.00	27.23	Pass	H	Peak
7	1200.4134	28.10	2.66	-42.89	56.04	43.91	74.00	30.09	Pass	V	Peak
8	1500.5667	28.40	2.99	-42.67	53.38	42.10	74.00	31.90	Pass	V	Peak
9	2087.1391	31.82	3.57	-42.56	55.71	48.54	74.00	25.46	Pass	V	Peak
10	4924.0000	34.50	4.85	-40.56	43.92	42.71	74.00	31.29	Pass	V	Peak
11	7386.0000	36.49	5.85	-40.87	45.40	46.87	74.00	27.13	Pass	V	Peak
12	9848.0000	37.74	6.83	-40.54	42.06	46.09	74.00	27.91	Pass	V	Peak

Note:

1) Through Pre-scan transmitting mode and charge+transmitter mode with all kind of modulation and data rate, find the 11Mbps of rate is the worst case of 802.11b; 6Mbpsof rate is the worst case of 802.11g; 6.5Mbps of rate is the worst case of 802.11n(HT20) ,and then Only the worst case is recorded in the report.

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

Final Test Level =Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor– Antenna Factor–Cable Factor

3) Scan from 9kHz to 25GHz, the disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.