TEST REPORT

Product	:	Keon by Kiiroo
Trade mark	:	Kiiroo
Model/Type reference	:	KEON
Serial Number	:	N/A
Report Number	:	EED32M80046003
FCC ID	:	2AO5N-KEON
Date of Issue	:	Nov. 30, 2020
Test Standards	:	47 CFR Part 15Subpart C
Test result	:	PASS

Prepared for:

Feel Robotics B.V.
Amstelplein 62, 30th Floor,
Amsterdam, 1096BC, Netherlands

Prepared by:

Centre Testing International Group Co., Ltd.
Hongwei Industrial Zone, Bao'an 70 District,
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Compiled by:	Sunlight Sun	Reviewed by:	Tom Chen
Approved by:	Aaron Ma	Date:	Nov. 30, 2020

Sunlight Sun

Tom Chen

Aaron Ma

Check No.:3143021120

2 Version

Version No.	Date	Description
00	Nov. 30, 2020	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.

Company Name and Address shown on Report, the sample(s) and sample Information was/ were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.

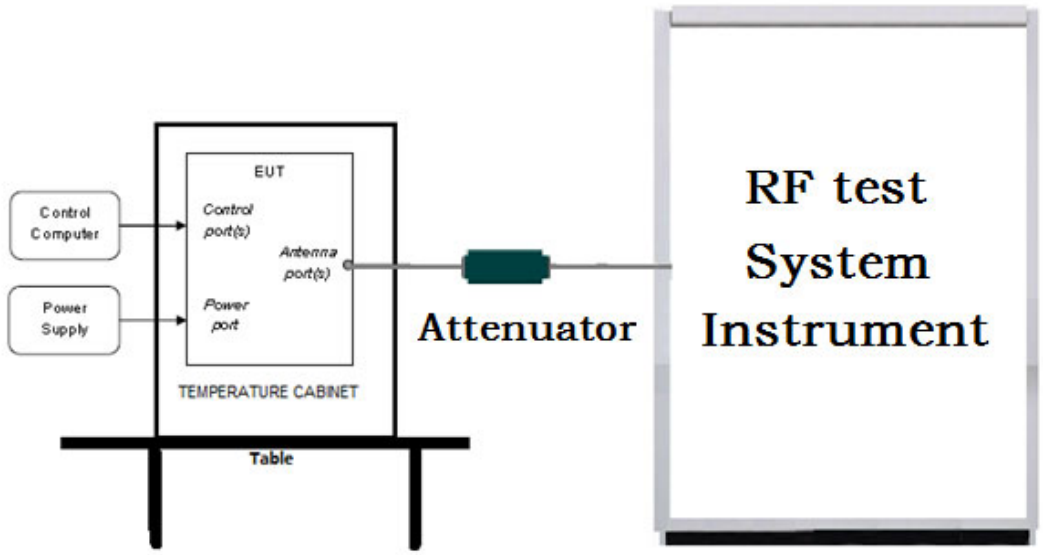
The products have two kinds of delivery way: One is with Stroker, The other is without Stroker. In addition, Stroker does not contain any electronic components.

4 Content

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:

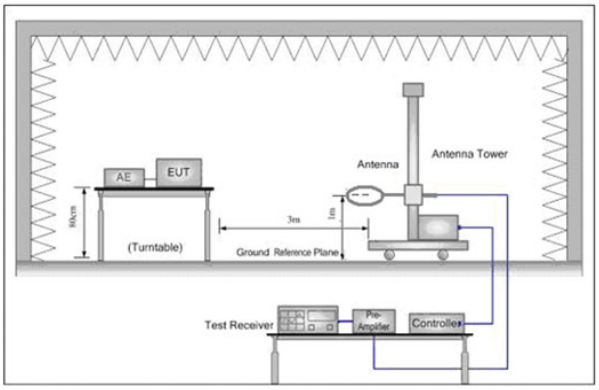


Figure 1. Below 30MHz

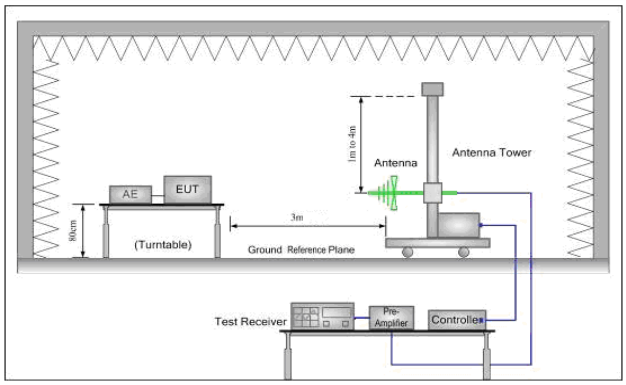


Figure 2. 30MHz to 1GHz

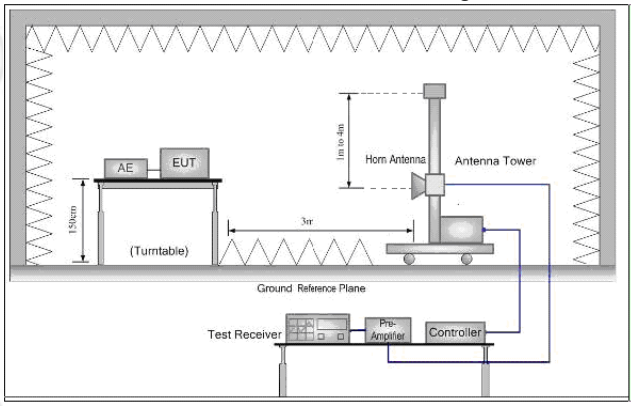
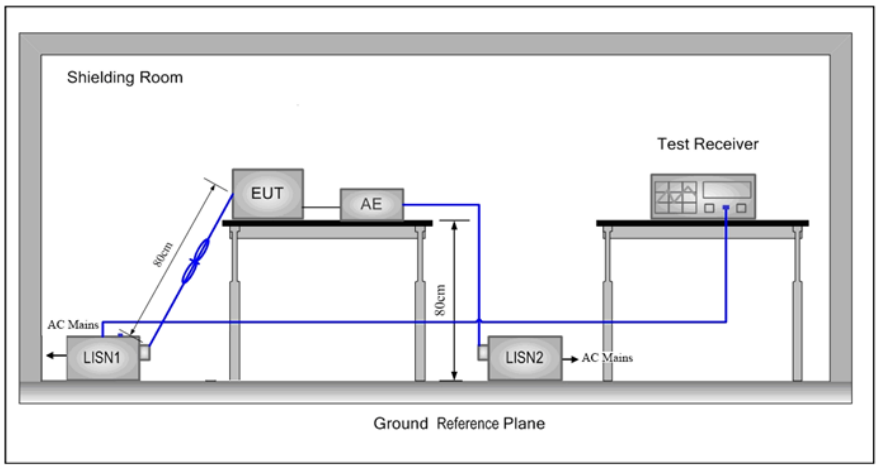


Figure 3. Above 1GHz

5.1.3 For Conducted Emissions test setup

Conducted Emissions setup



5.2 Test Environment

Operating Environment:	
Temperature:	24.0 °C
Humidity:	54 % 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
802.11n(HT40)	2422MHz ~2452 MHz	Channel 1	Channel 4	Channel7
		2422MHz	2437MHz	2452MHz
Transmitting mode:	Keep the EUT in transmitting mode with all kind of modulation and all kind of data rate.			

Test mode:

Through Pre-scan, 1Mbps 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); 13.5Mbps of rate is the worst case of 802.11n(HT40).

6 General Information

6.1 Client Information

Applicant:	Feel Robotics B.V.
Address of Applicant:	Amstelplein 62, 30th Floor, Amsterdam, 1096BC, Netherlands
Manufacturer:	Assembling Manufacturing & Sourcing Group B.V.
Address of Manufacturer:	Asterweg 20 S3 1031 HN Amsterdam, Netherlands
Factory:	AMS Product Assembly (Foshan) Co. LTD
Address of Factory:	North Chuangye RoadSongxia Industry District – Nanhai Area 528234 Foshan PR China

6.2 General Description of EUT

Product Name:	Keon by Kiiroo	
Model No.(EUT):	KEON	
Trade mark:	Kiiroo	
EUT Supports Radios application:	IEEE 802.11 b/g/n(HT20)(HT40): 2412MHz to 2462MHz	
Power Supply:	DC 5V	
	Li-ion battery	Model:SH553055-4S 14.8V 700mAh/10.36Wh
Sample Received Date:	Nov. 02, 2020	
Sample tested Date:	Nov. 02, 2020 to Nov. 14, 2020	

6.3 Product Specification subjective to this standard

Operation Frequency:	IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz IEEE 802.11n(HT40): 2422MHz to 2452MHz
Channel Numbers:	IEEE 802.11b/g, IEEE 802.11n HT20: 11 Channels IEEE 802.11n HT40: 7 Channels
Channel Separation:	5MHz
Type of Modulation:	IEEE for 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE for 802.11g :OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE for 802.11n(HT20 and HT40) : OFDM (64QAM, 16QAM,QPSK,BPSK)
Test Power Grade:	Default
Test Software of EUT:	espRFTool.exe
Antenna Type and Gain:	Type: Internal antenna Gain: 2dBi
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		

Operation Frequency each of channel(802.11n HT40)					
Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2422MHz	4	2437MHz	7	2452MHz
2	2427MHz	5	2442MHz		
3	2432MHz	6	2447MHz		

6.4 Description of Support Units

The EUT has been tested with associated equipment below.

Associated equipment name		Manufacture	model	S/N serial number	Supplied by	Certification
AE1	Notebook	HP	HP ProBook 430 G3	5CG5192QSM	CTI	IC&FCC
AE2	Power supply Unit	OPPO	Ak933JH	J51642000007	CTI	IC&FCC

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**	**Mode No.**	**Serial Number**	**Cal. Date (mm-dd-yyyy)**	**Cal. Due date (mm-dd-yyyy)**
Spectrum Analyzer	Keysight	N9010A	MY54510339	02-17-2020	02-16-2021
Signal Generator	Keysight	N5182B	MY53051549	02-17-2020	02-16-2021
Temperature/ Humidity Indicator	biaozhi	HM10	1804186	06-29-2020	06-28-2021
High-pass filter	Sinoscite	FL3CX03WG18N M12-0398-002	---	---	---
High-pass filter	MICRO-TRONICS	SPA-F-63029-4	---	---	---
DC Power	Keysight	E3642A	MY56376072	02-17-2020	02-16-2021
PC-1	Lenovo	R4960d	---	---	---
BT&WI-FI Automatic control	R&S	OSP120	101374	02-17-2020	02-16-2021
RF control unit	JS Tonscend	JS0806-2	158060006	02-17-2020	02-16-2021
BT&WI-FI Automatic test software	JS Tonscend	JS1120-3	---	---	---

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	04-28-2020	04-27-2021
Temperature/ Humidity Indicator	Defu	TH128	/	---	---
LISN	R&S	ENV216	100098	03-05-2020	03-04-2021
Barometer	changchun	DYM3	1188	---	---

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	9163-618	05-16-2020	05-15-2021
Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-076	04-25-2018	04-24-2021
Receiver	R&S	ESCI7	100938-003	10-16-2020	10-15-2021
Multi device Controller	maturo	NCD/070/10711112	---	---	---
Temperature/ Humidity Indicator	Shanghai qixiang	HM10	1804298	06-29-2020	06-28-2021
Cable line	Fulai(7M)	SF106	5219/6A	---	---
Cable line	Fulai(6M)	SF106	5220/6A	---	---
Cable line	Fulai(3M)	SF106	5216/6A	---	---
Cable line	Fulai(3M)	SF106	5217/6A	---	---

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	---	---
Receiver	Keysight	N9038A	MY57290136	03-05-2020	03-04-2021
Spectrum Analyzer	Keysight	N9020B	MY57111112	03-05-2020	03-04-2021
Spectrum Analyzer	Keysight	N9030B	MY57140871	03-05-2020	03-04-2021
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	ETS-LINDGREN	3117	00057407	07-10-2018	07-09-2021
Preamplifier	EMCI	EMC184055SE	980597	05-20-2020	05-19-2021
Preamplifier	EMCI	EMC001330	980563	04-22-2020	04-21-2021
Preamplifier	JS Tonscend	980380	EMC051845 SE	01-09-2020	01-08-2021
Temperature/ Humidity Indicator	biaozhi	GM1360	EE1186631	04-27-2020	04-26-2021
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	---	---
Cable line	Times	SFT205-NMSM-2.50M	394812-0002	---	---
Cable line	Times	SFT205-NMSM-2.50M	394812-0003	---	---
Cable line	Times	SFT205-NMSM-2.50M	393495-0001	---	---
Cable line	Times	EMC104-NMNM-1000	SN160710	---	---
Cable line	Times	SFT205-NMSM-3.00M	394813-0001	---	---
Cable line	Times	SFT205-NMNM-1.50M	381964-0001	---	---
Cable line	Times	SFT205-NMSM-7.00M	394815-0001	---	---
Cable line	Times	HF160-KMKM-3.00M	393493-0001	---	---

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)

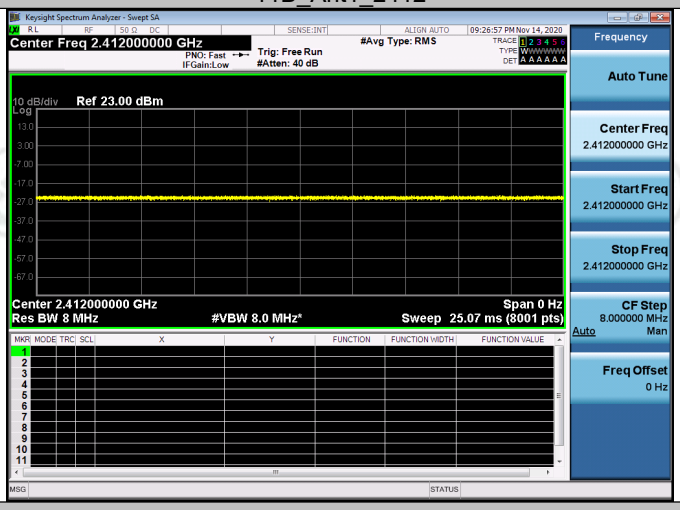
EUT DUTY CYCLE

Result Table

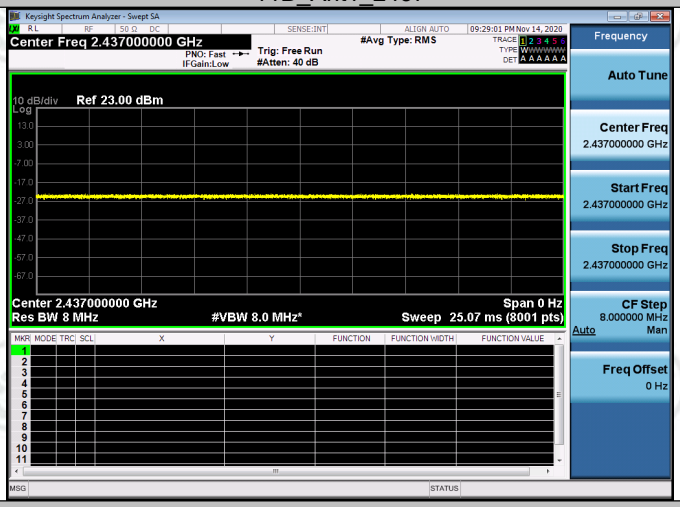
Test Mode	Antenna	Channel	Duty Cycle [%]	Limit	Verdict
11B	Ant1	2412	100	---	PASS
	Ant1	2437	100	---	PASS
	Ant1	2462	100	---	PASS
11G	Ant1	2412	100	---	PASS
	Ant1	2437	100	---	PASS
	Ant1	2462	100	---	PASS
11N20SISO	Ant1	2412	100	---	PASS
	Ant1	2437	100	---	PASS
	Ant1	2462	100	---	PASS
11N40SISO	Ant1	2422	100	---	PASS
	Ant1	2437	100	---	PASS
	Ant1	2452	100	---	PASS

Test Graph

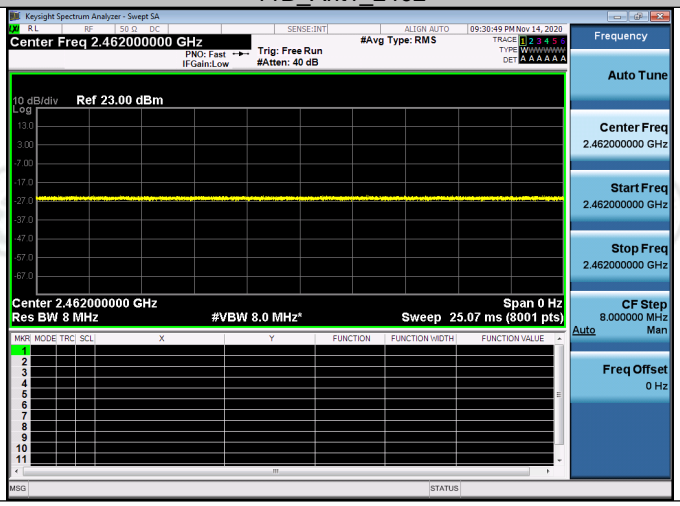
11B_Ant1_2412



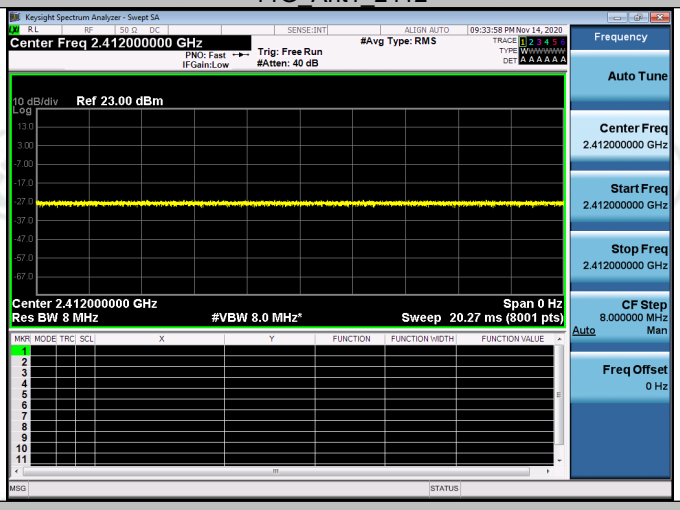
11B_Ant1_2437



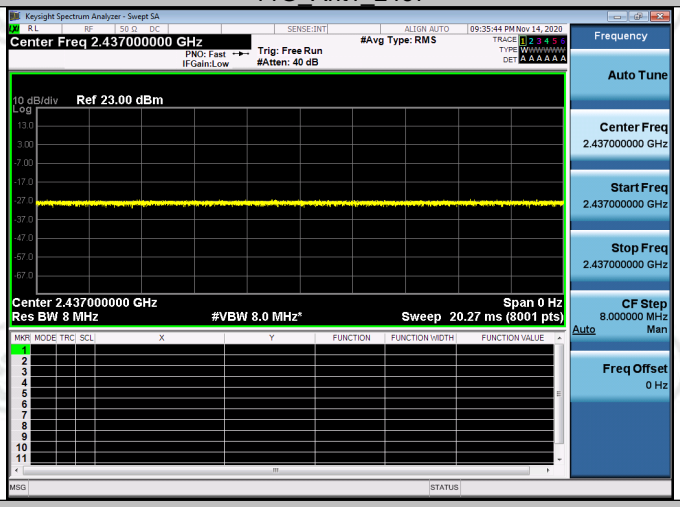
11B_Ant1_2462



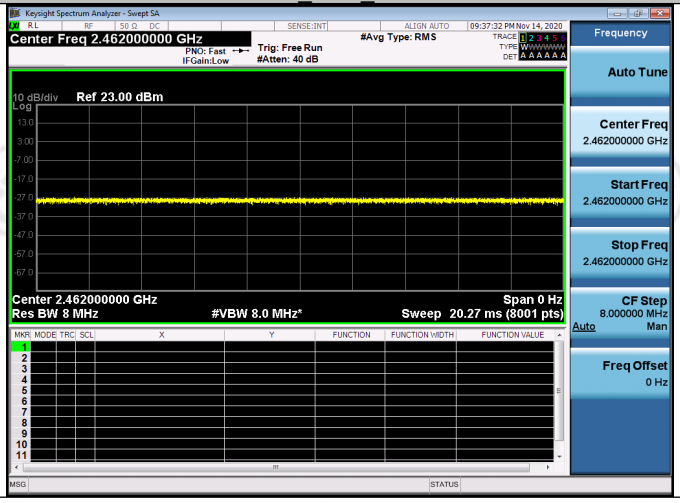
11G_Ant1_2412



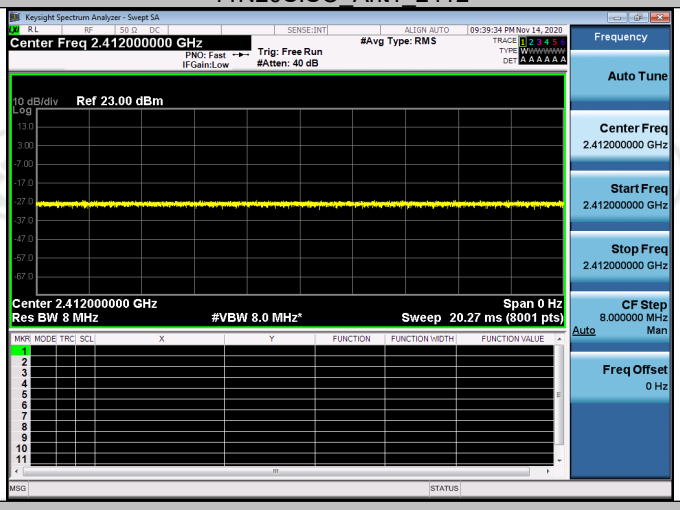
11G_Ant1_2437



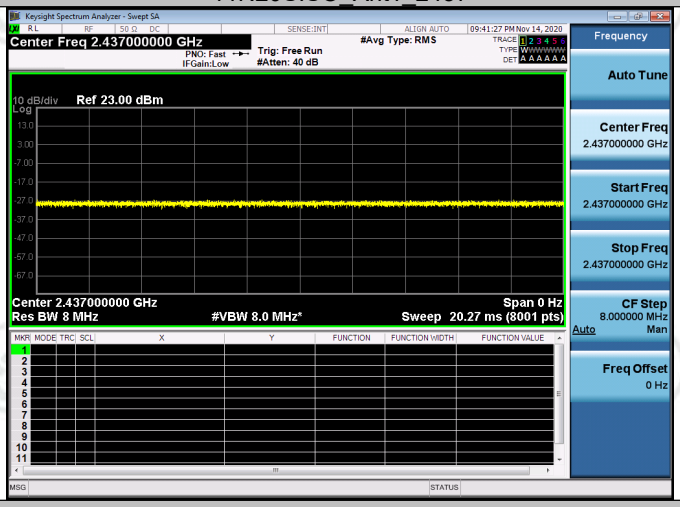
11G_Ant1_2462



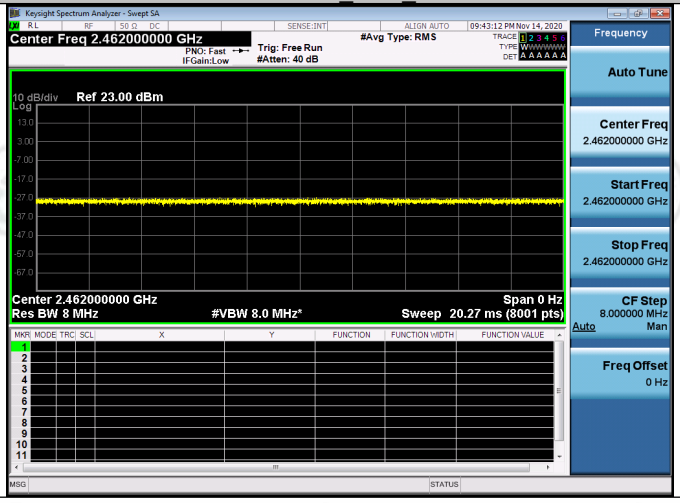
11N20SISO_Ant1_2412



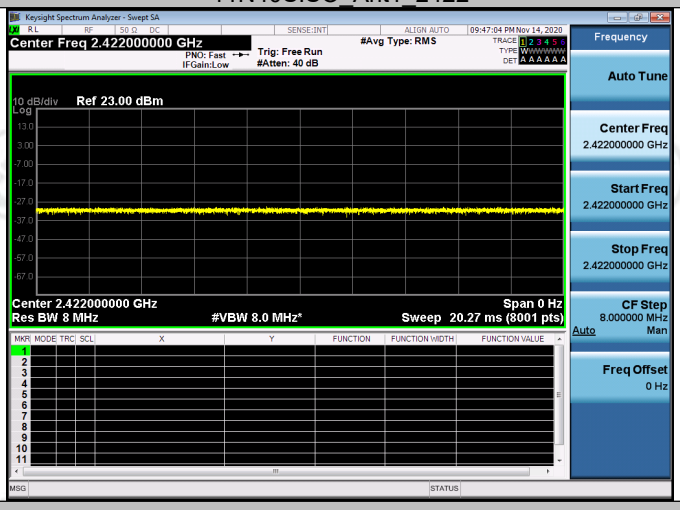
11N20SISO_Ant1_2437



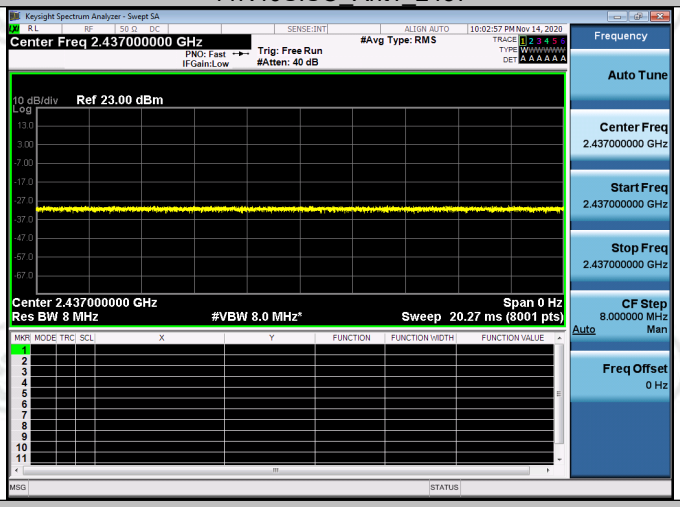
11N20SISO_Ant1_2462



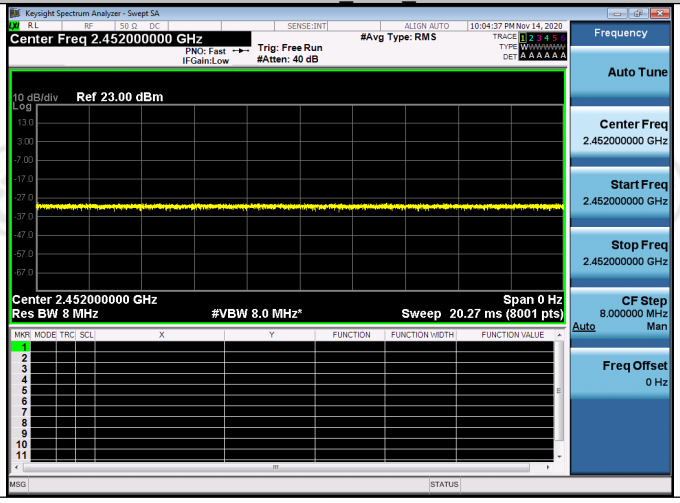
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



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：

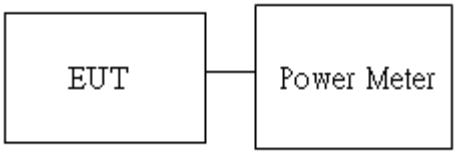
Average output power：For reporting purposes only.

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



Test Result

Mode	Channel	Conducted Peak Output Power [dBm]	Verdict
11B	LCH	3.59	PASS
11B	MCH	3.73	PASS
11B	HCH	3.17	PASS
11G	LCH	3.04	PASS
11G	MCH	3.45	PASS
11G	HCH	3.68	PASS
11N20SISO	LCH	3.09	PASS
11N20SISO	MCH	3.28	PASS
11N20SISO	HCH	3.67	PASS
11N40SISO	LCH	3.58	PASS
11N40SISO	MCH	3.57	PASS
11N40SISO	HCH	3.32	PASS

Appendix B): 6dB Occupied Bandwidth

Test Limit

According to §15.247(a)(2),

6 dB Bandwidth :

Limit	Shall be at least 500kHz

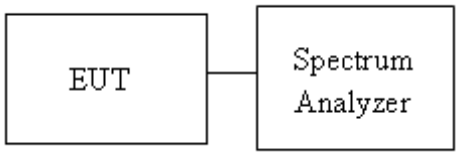
Occupied Bandwidth(99%) : For reporting purposes only.

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

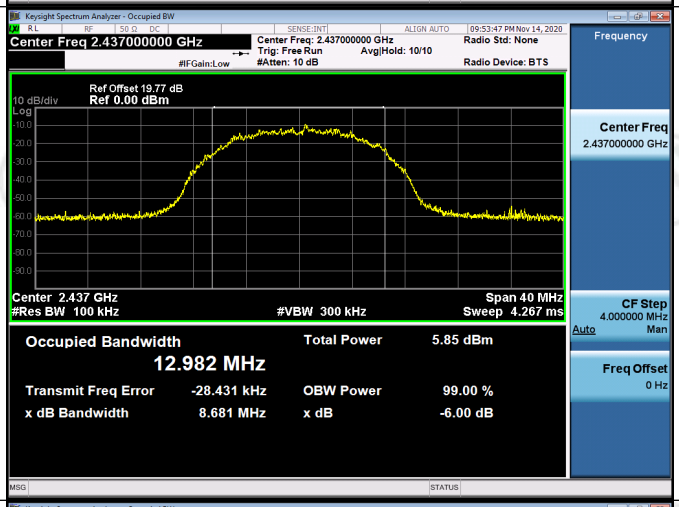
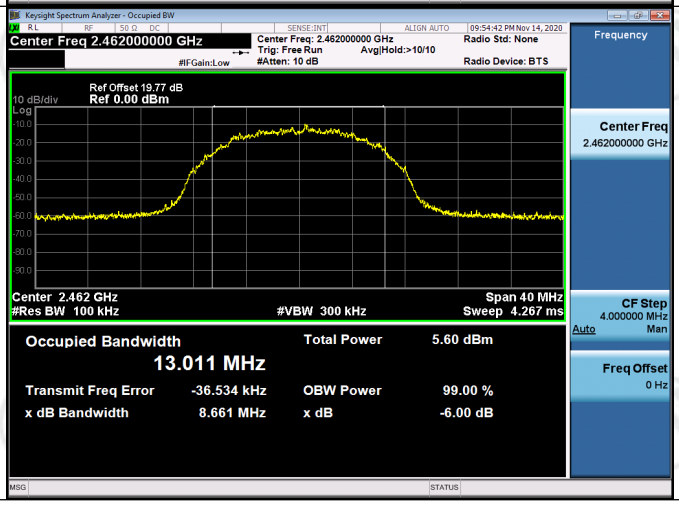


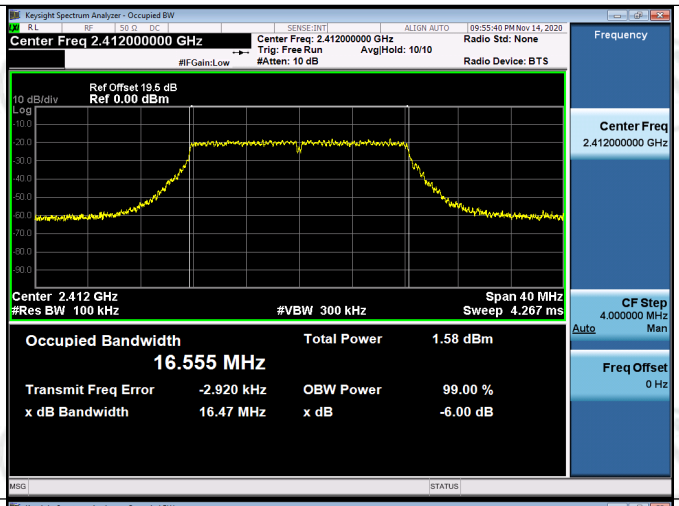
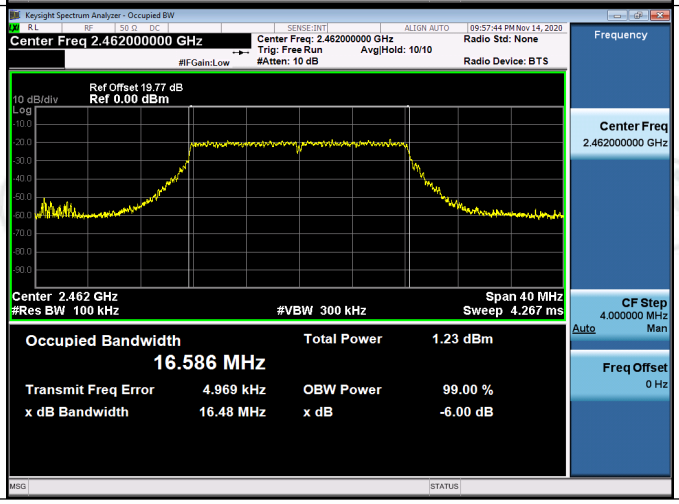
Test Result

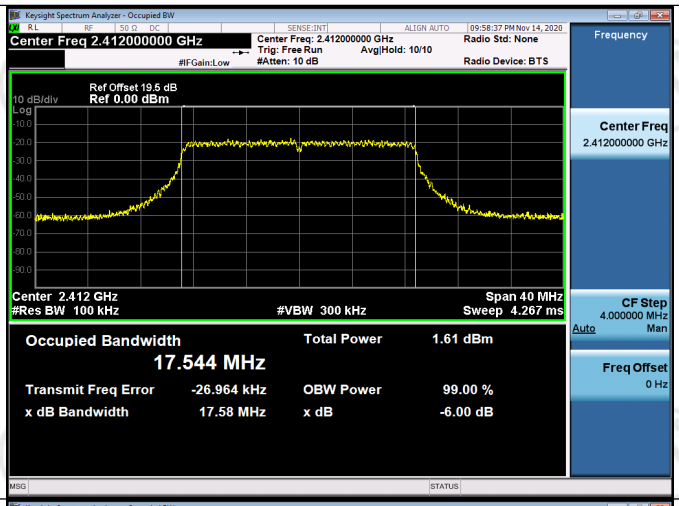
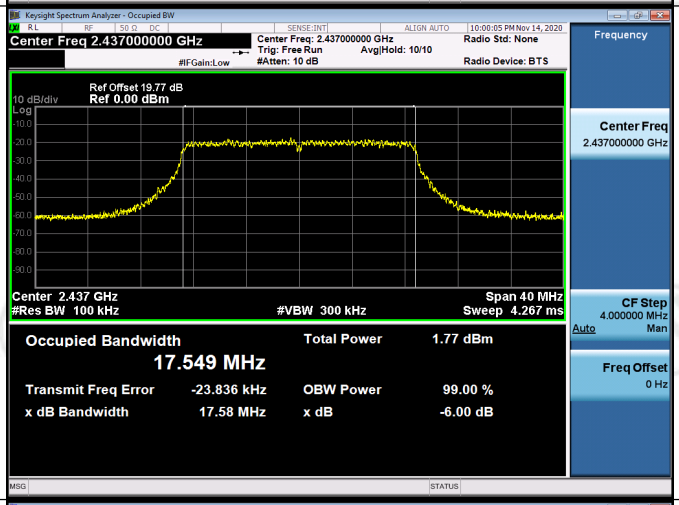
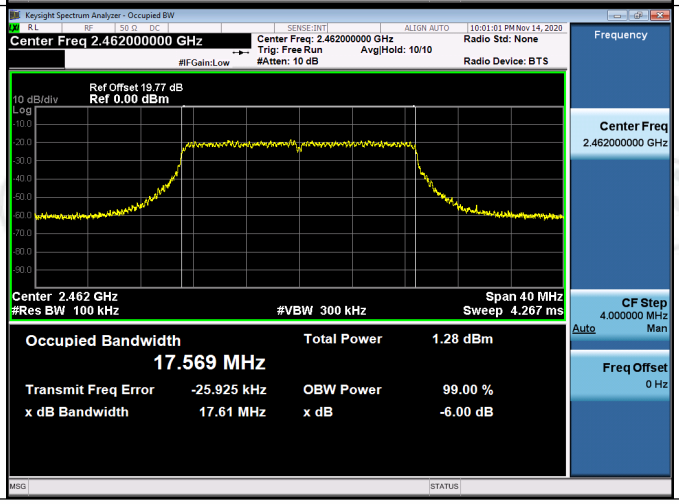
Mode	Channel	6dB Bandwidth [MHz]	99% OBW [MHz]	Verdict
11B	LCH	8.733	13.051	PASS
11B	MCH	8.681	13.022	PASS
11B	HCH	8.661	13.092	PASS
11G	LCH	16.47	16.781	PASS
11G	MCH	16.46	16.790	PASS
11G	HCH	16.48	16.838	PASS
11N20SISO	LCH	17.58	17.572	PASS
11N20SISO	MCH	17.58	17.563	PASS
11N20SISO	HCH	17.61	17.597	PASS
11N40SISO	LCH	36.46	36.524	PASS
11N40SISO	MCH	36.41	36.446	PASS
11N40SISO	HCH	36.38	36.484	PASS

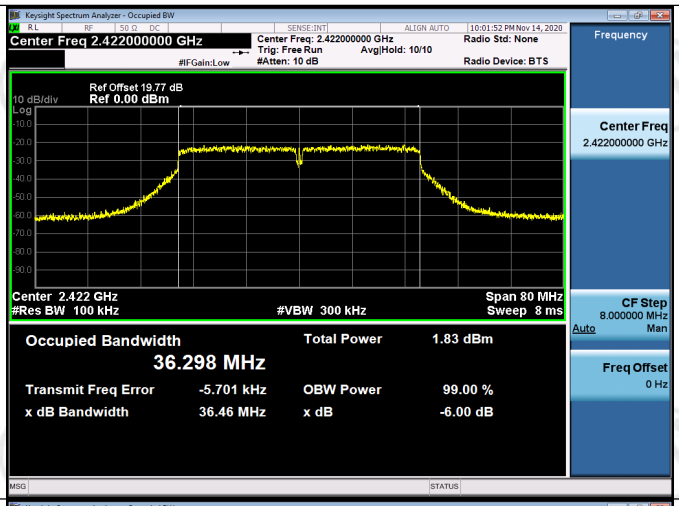
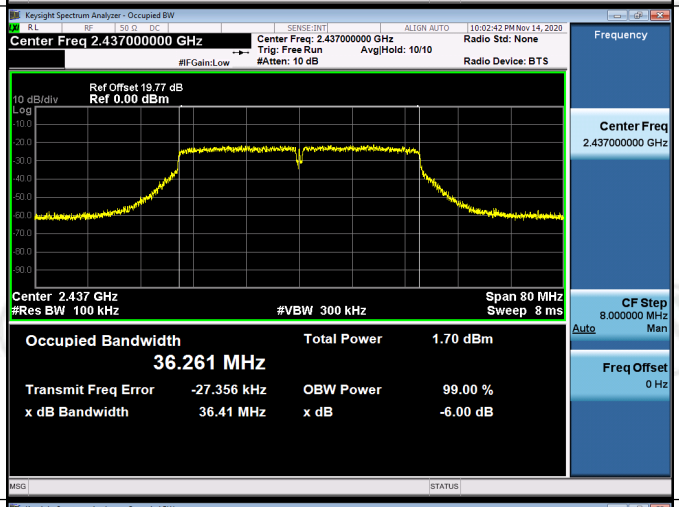
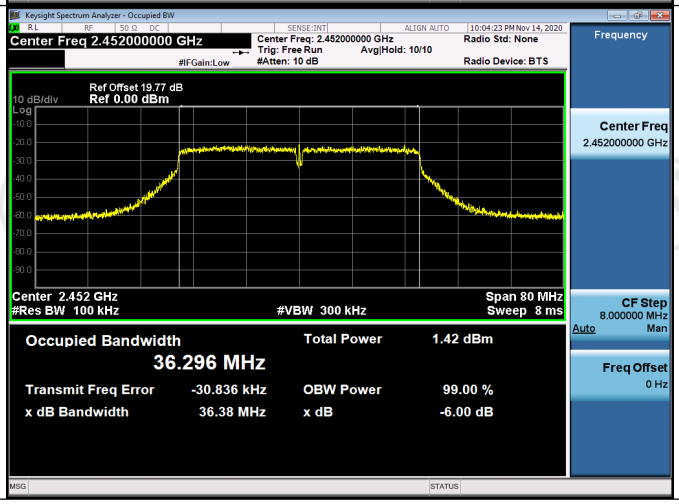
Test Graph

6 dB Bandwidth

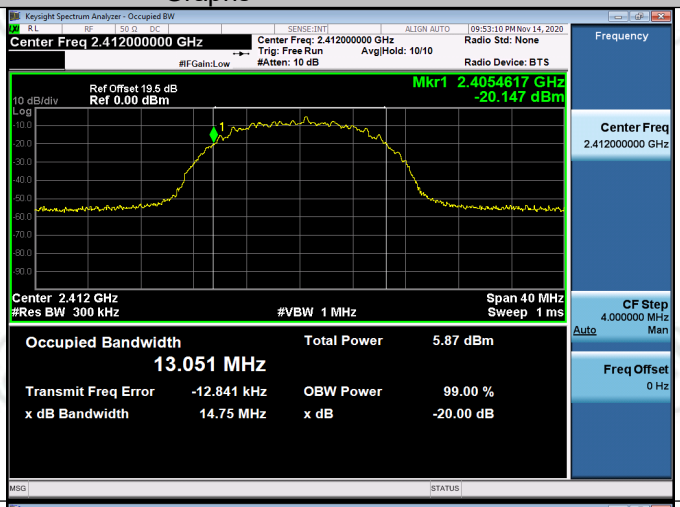
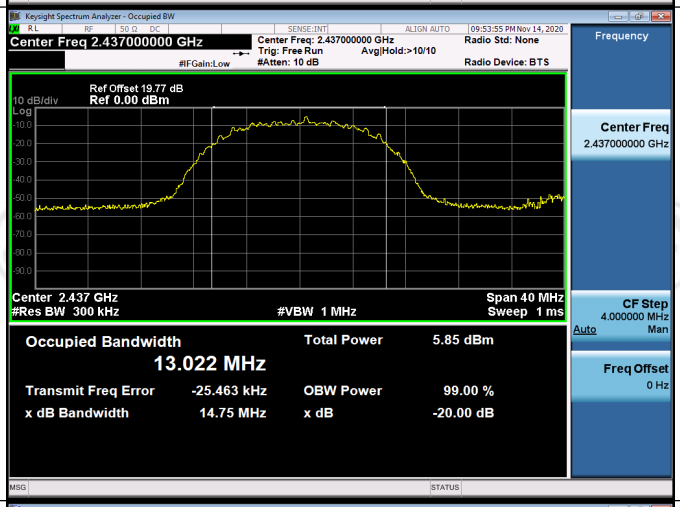
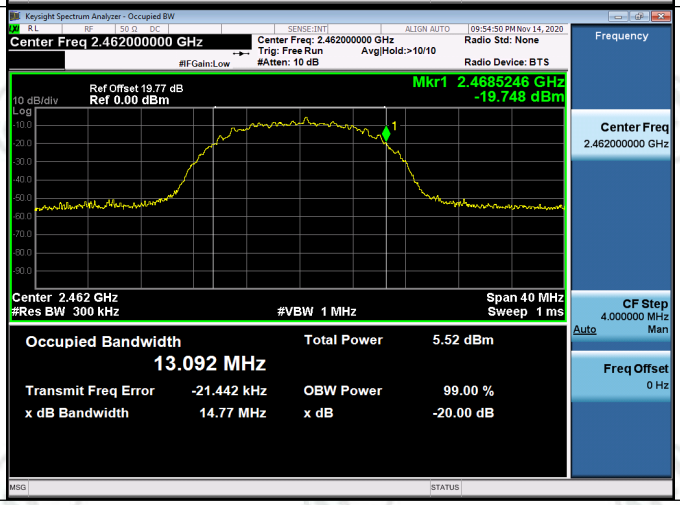
Graphs		
11B/LCH		
11B/MCH		
11B/HCH		

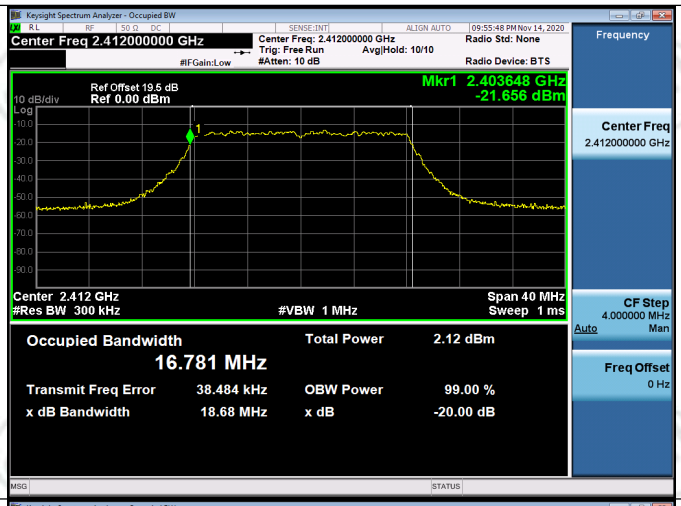
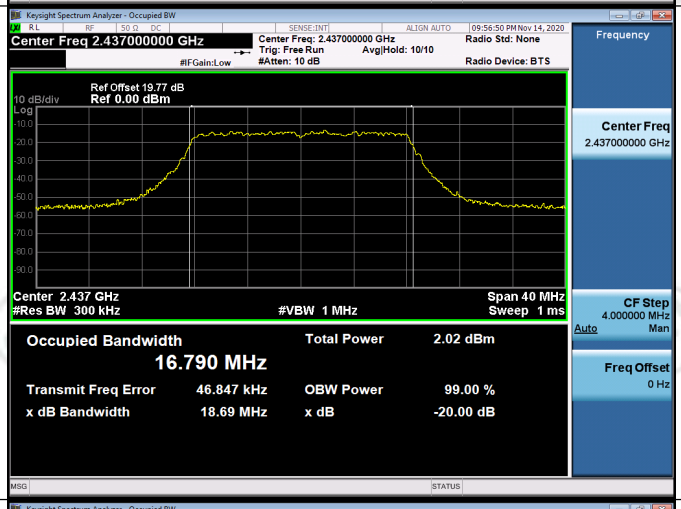
11G/LCH		
11G/MCH		
11G/HCH		

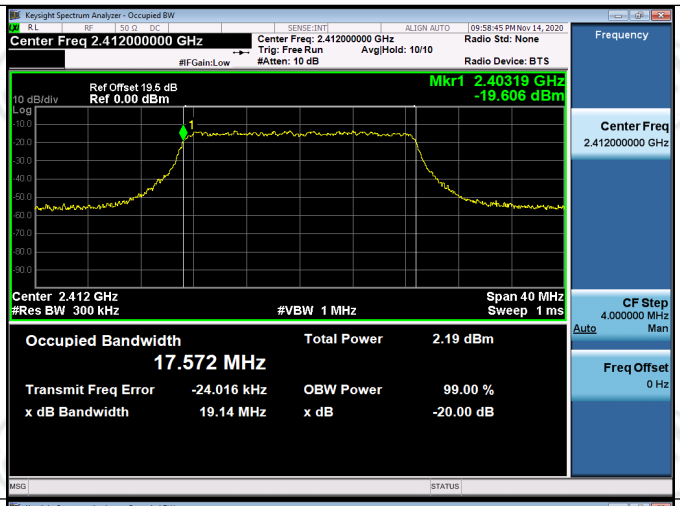
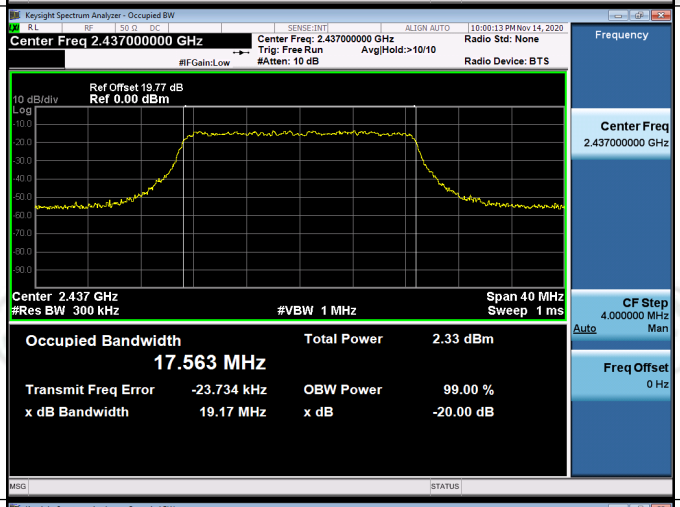
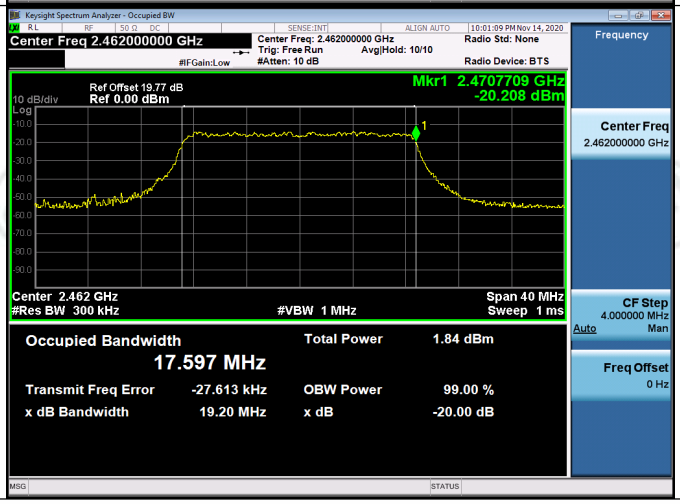
11N20SISO/LCH		
11N20SISO/MCH		
11N20SISO/HCH		

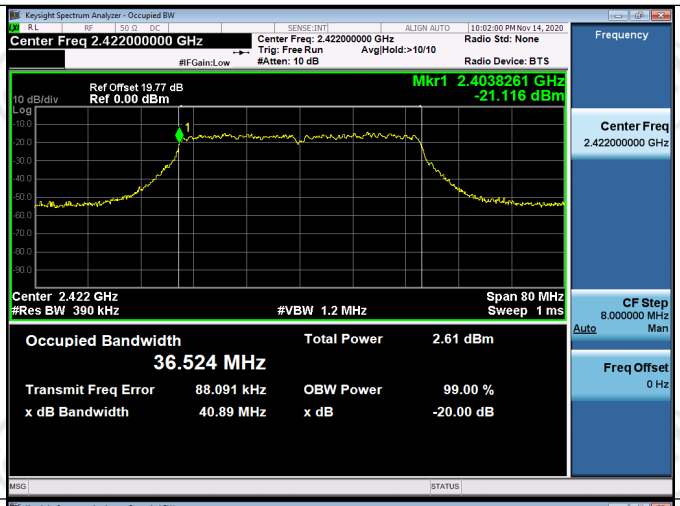
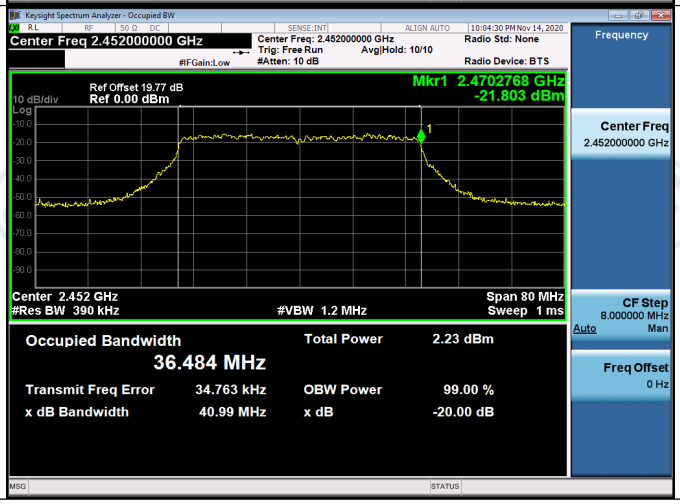
11N40SISO/LCH		
11N40SISO/MCH		
11N40SISO/HCH		

Occupied Bandwidth(99%)

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

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

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

11N40SISO/LCH		
11N40SISO/MCH		
11N40SISO/HCH		

Appendix C): Band-edge for RF Conducted Emissions

Test Limit

According to §15.247(d),

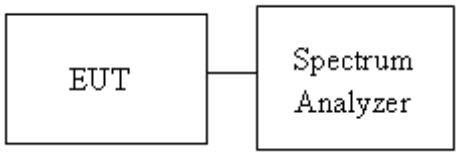
In any 100 kHz bandwidth outside the authorized frequency band,
Non-restricted bands shall be attenuated at least 20 dB/30 dB relative to the maximum PSD level in 100 kHz by RF conducted or a radiated measurement which fall in the restricted bands, as defined in §15.205(a), must also comply with the 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.

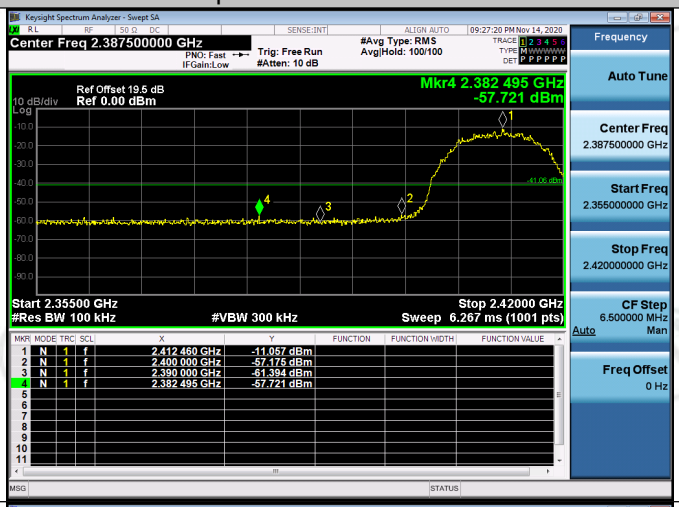
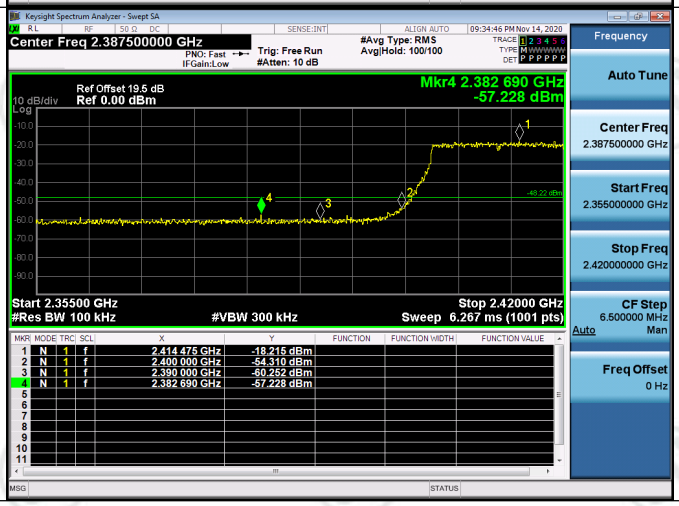
Test Setup

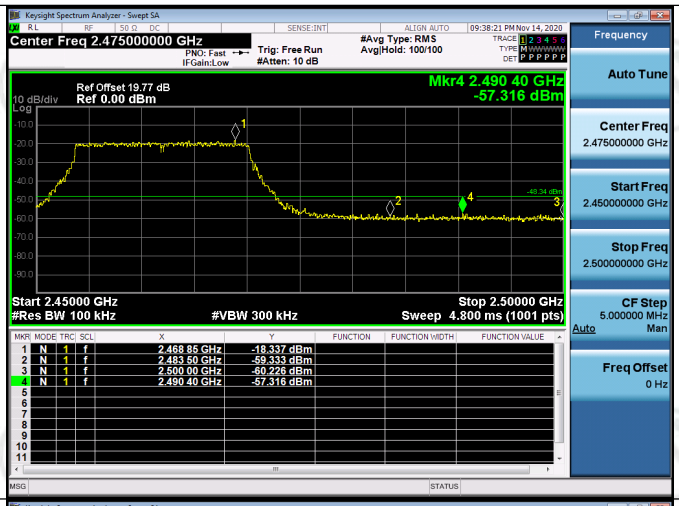
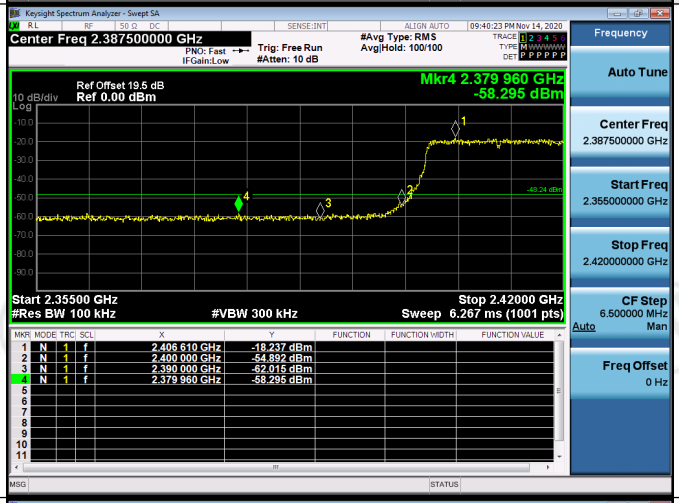
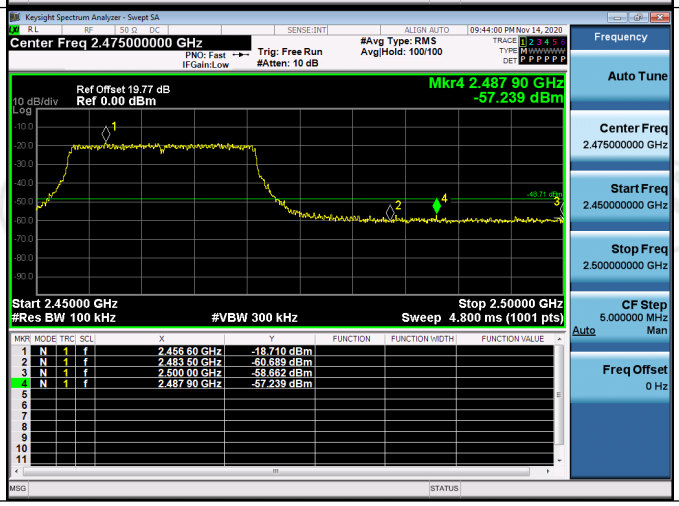


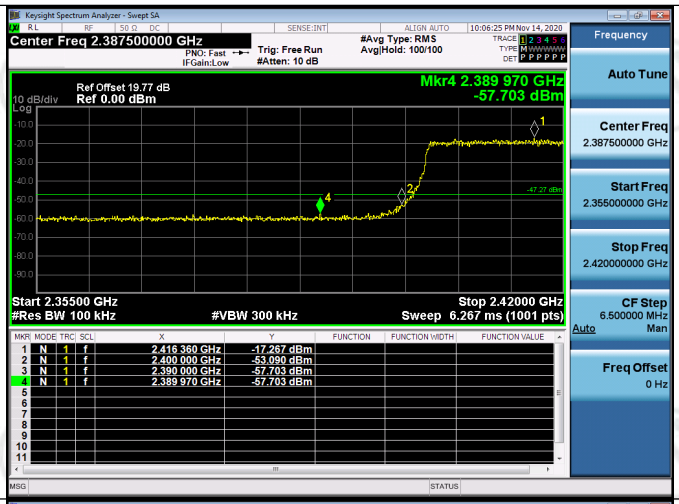
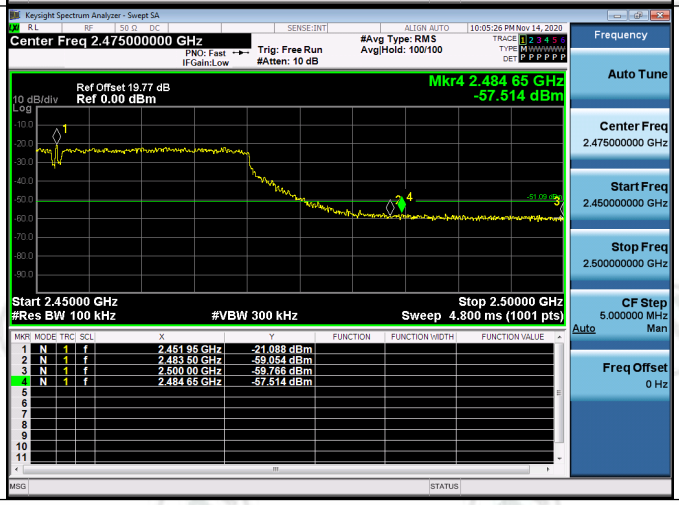
Result Table

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	-11.057	-57.721	-41.06	PASS
11B	HCH	-11.431	-56.934	-41.43	PASS
11G	LCH	-18.215	-57.228	-48.22	PASS
11G	HCH	-18.337	-57.316	-48.34	PASS
11N20SISO	LCH	-18.237	-58.295	-48.24	PASS
11N20SISO	HCH	-18.710	-57.239	-48.71	PASS
11N40SISO	LCH	-17.267	-57.703	-47.27	PASS
11N40SISO	HCH	-21.088	-57.514	-51.09	PASS

Test Graph

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

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

11N40SISO/LCH		
11N40SISO/HCH		

Appendix D): RF Conducted Spurious Emissions

Test Limit

According to §15.247(d),

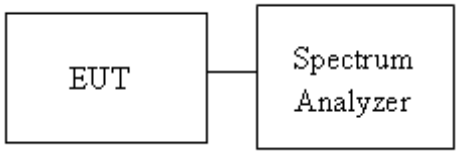
In any 100 kHz bandwidth outside the authorized frequency band,
Non-restricted bands shall be attenuated at least 20 dB/30 dB relative to the maximum PSD level in 100 kHz by RF conducted or a radiated measurement which fall in the restricted bands, as defined in §15.205(a), must also comply with the 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.

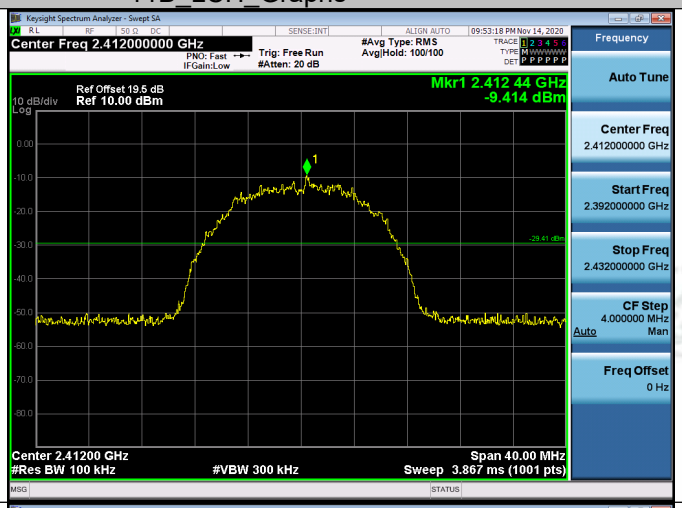
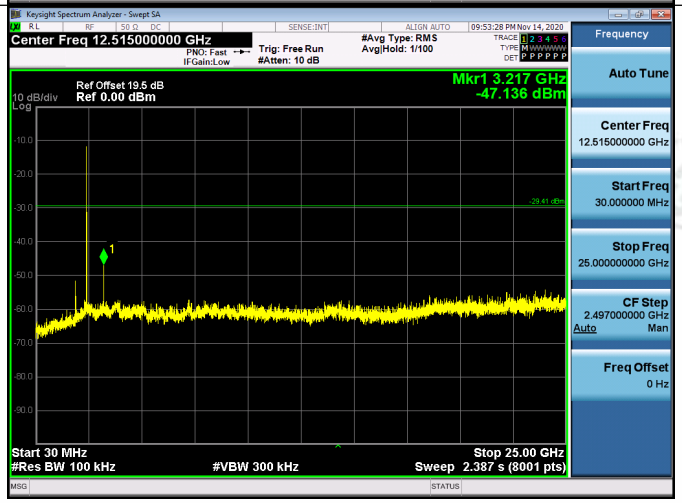
Test Setup

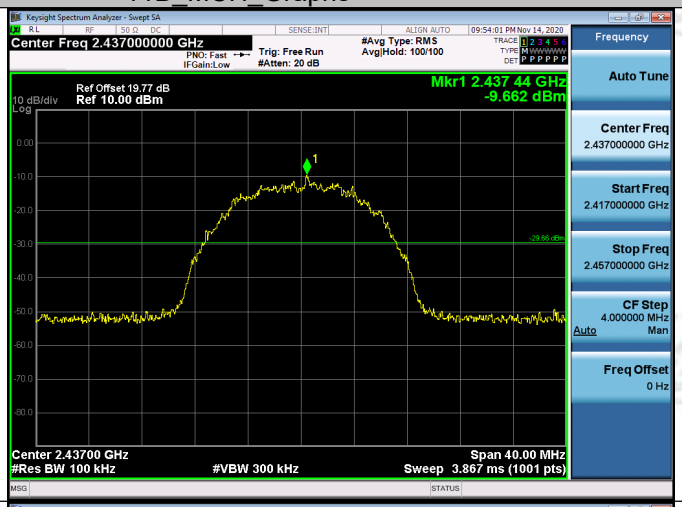
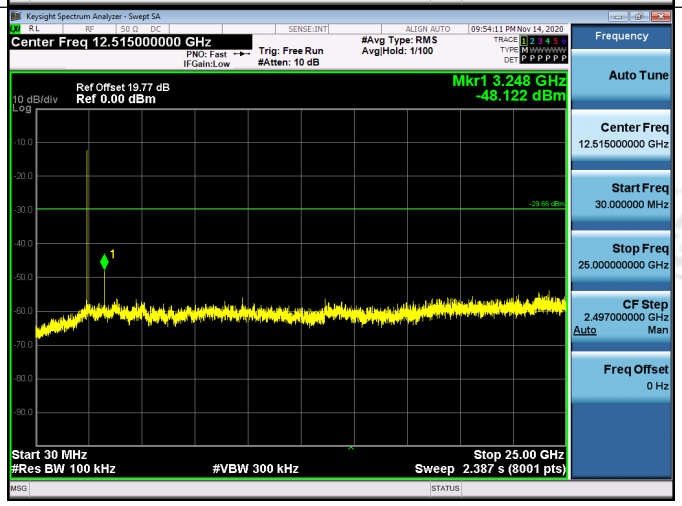


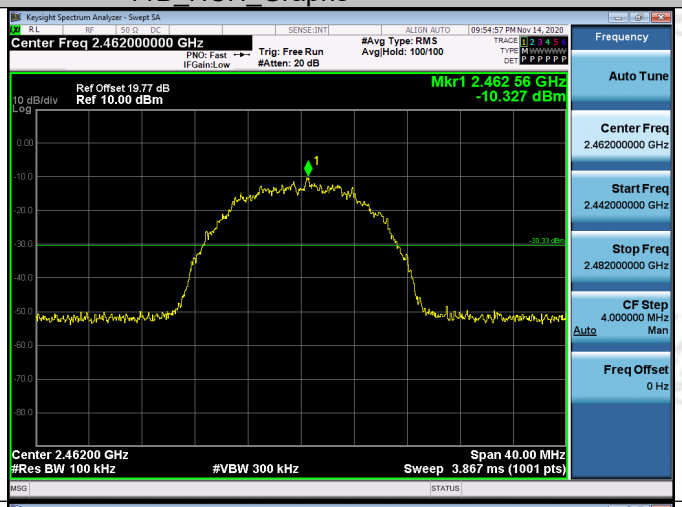
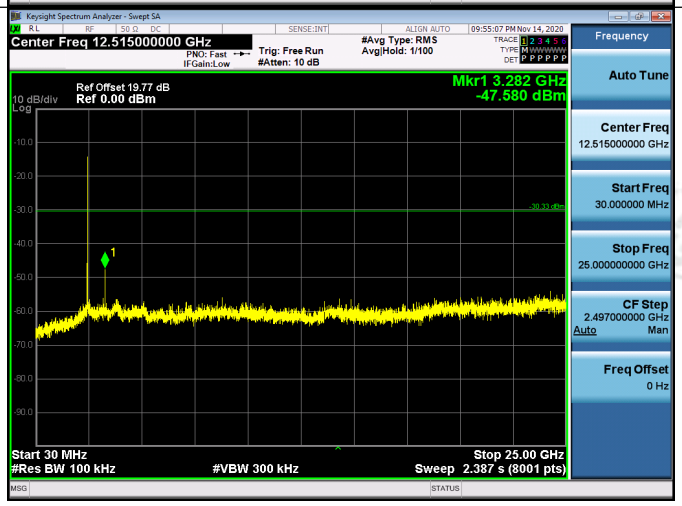
Result Table

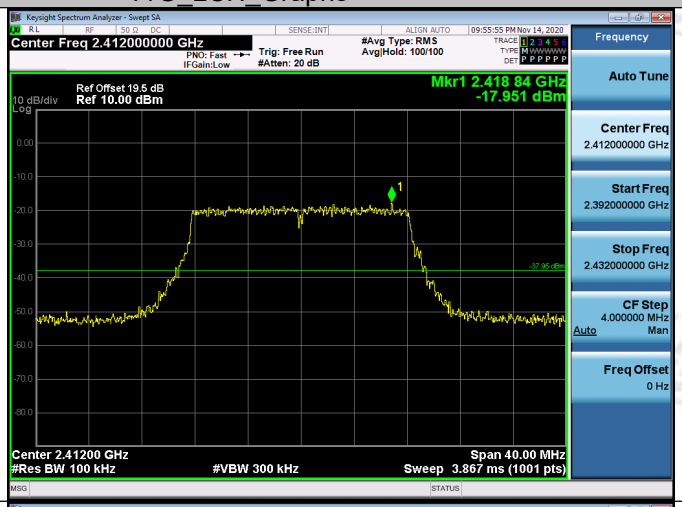
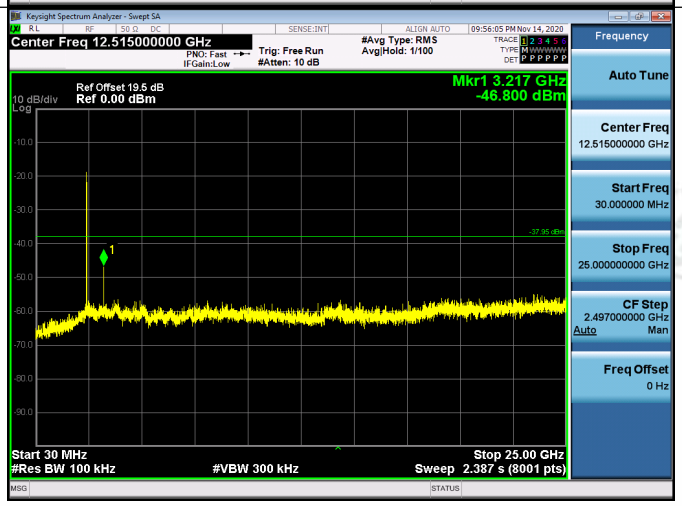
Mode	Channel	Pref [dBm]	Puw[dBm]	Verdict
11B	LCH	-9.414	<Limit	PASS
11B	MCH	-9.662	<Limit	PASS
11B	HCH	-10.327	<Limit	PASS
11G	LCH	-17.951	<Limit	PASS
11G	MCH	-18.038	<Limit	PASS
11G	HCH	-18.175	<Limit	PASS
11N20SISO	LCH	-18.083	<Limit	PASS
11N20SISO	MCH	-17.68	<Limit	PASS
11N20SISO	HCH	-18.64	<Limit	PASS
11N40SISO	LCH	-21.236	<Limit	PASS
11N40SISO	MCH	-21.63	<Limit	PASS
11N40SISO	HCH	-21.138	<Limit	PASS

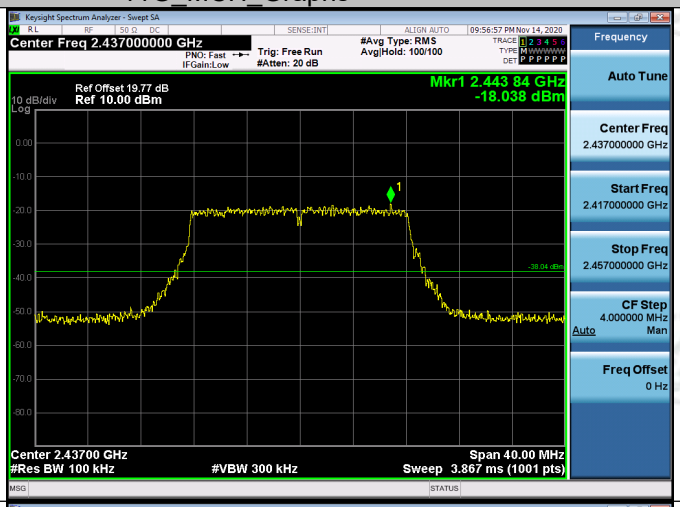
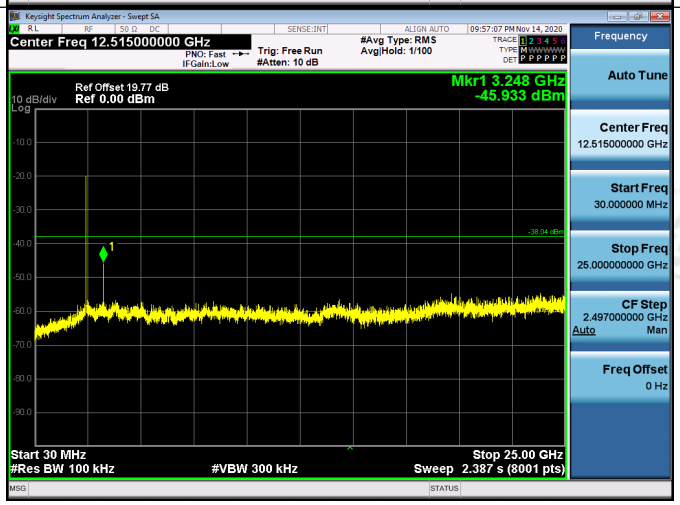
Test Graph

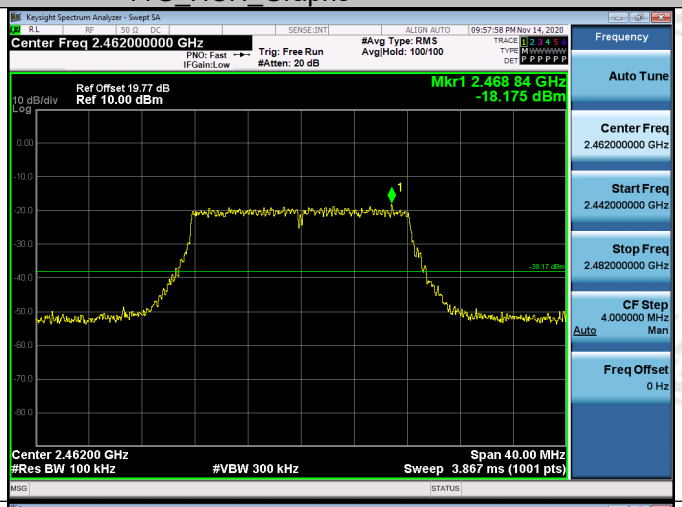
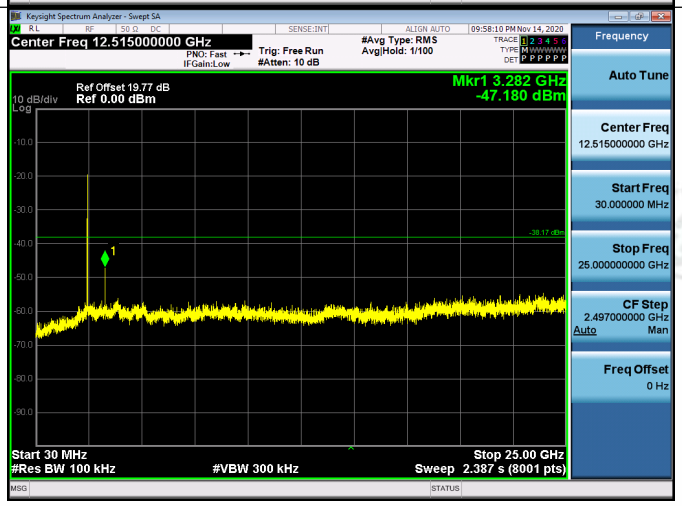
11B_LCH_Graphs	
Pref/11B/LCH	
Puw/11B/LCH	

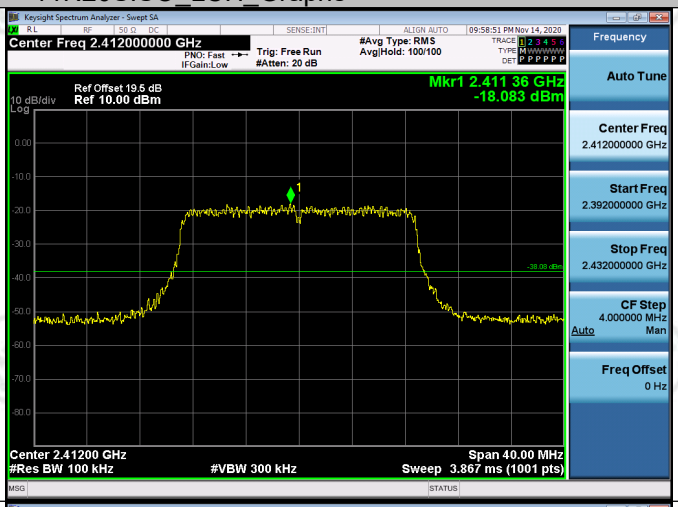
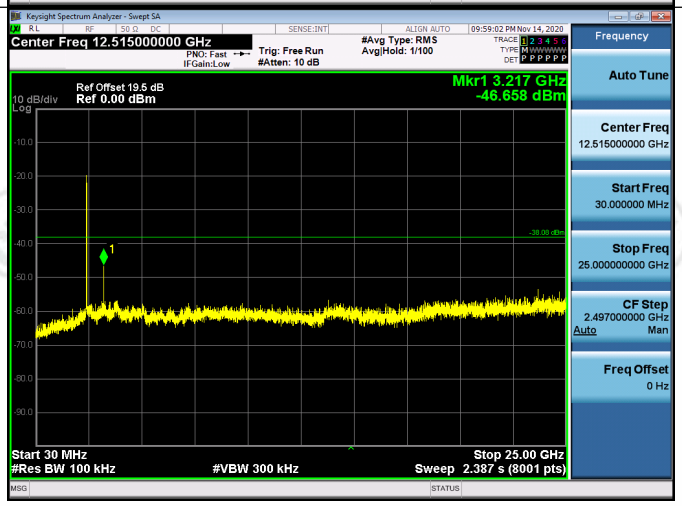
11B_MCH_Graphs		
Pref/11B/MCH		
Puw/11B/MCH		

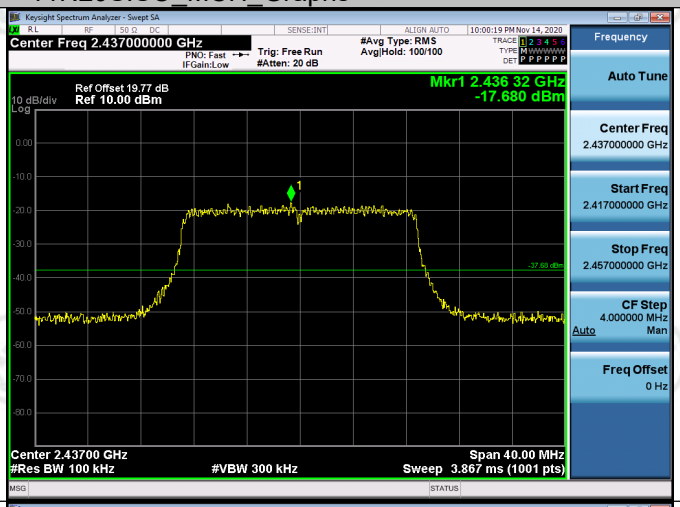
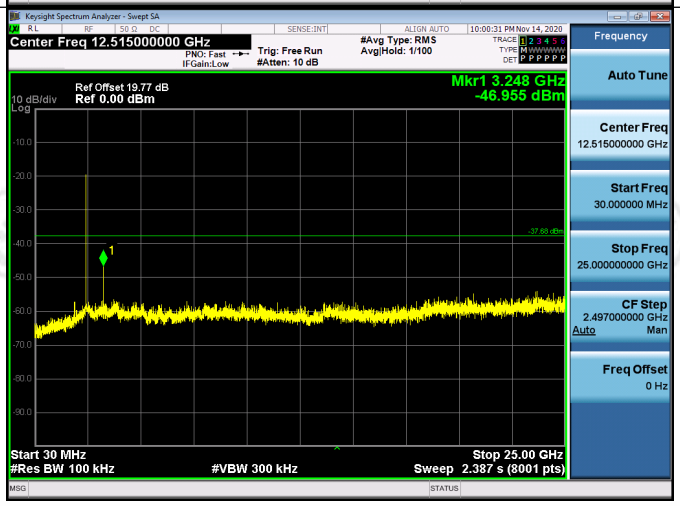
11B_HCH_Graphs		
Pref/11B/HCH		
Puw/11B/HCH		

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	
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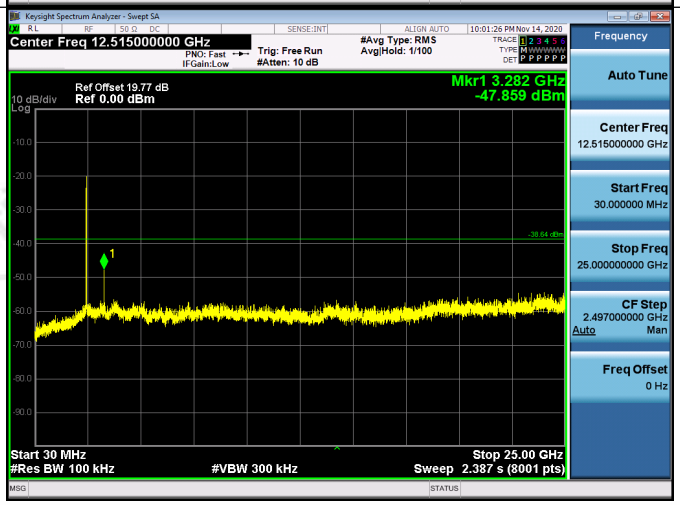
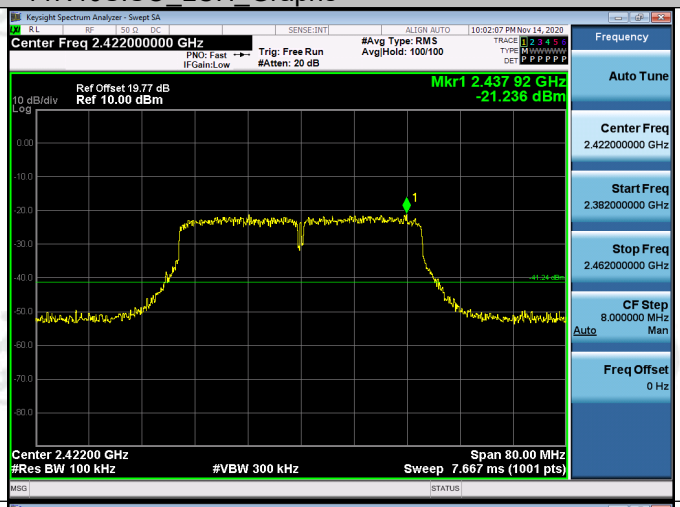
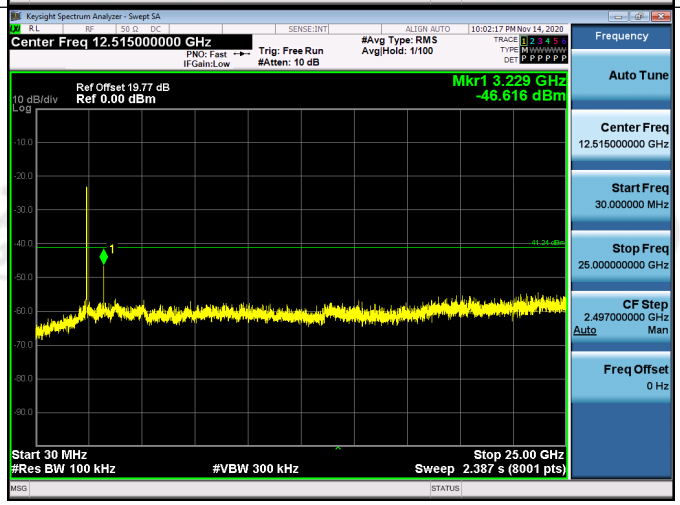
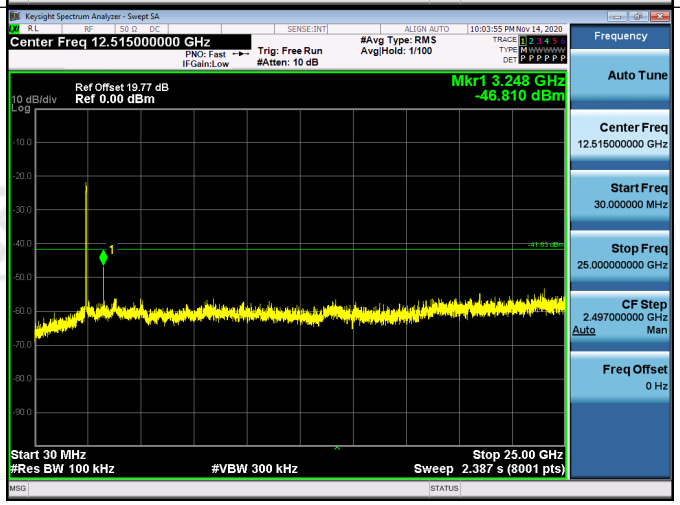
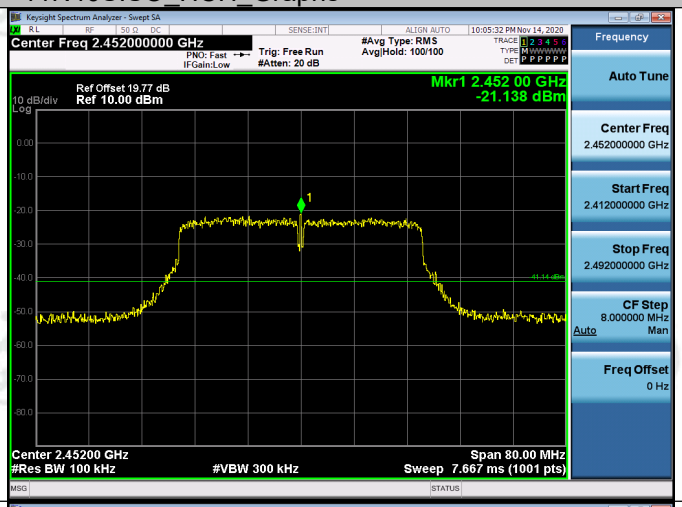
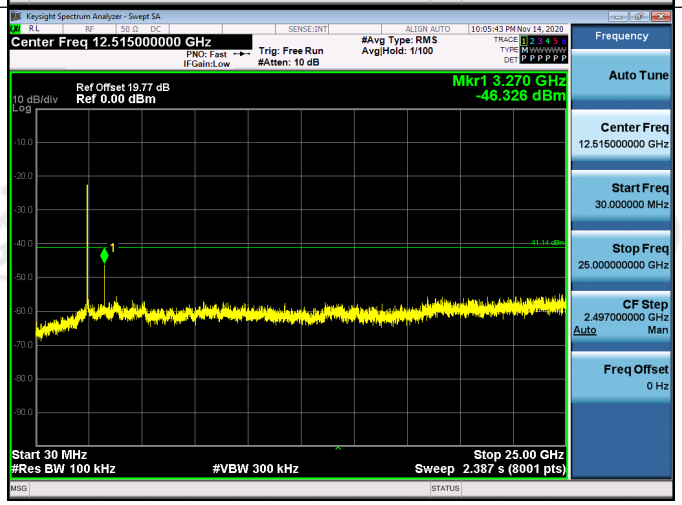
Puw/11N20SISO/HCH	

11N40SISO_LCH_Graphs	
Pref/11N40SISO/LCH	
Puw/11N40SISO/LCH	

11N40SISO_MCH_Graphs		
Pref/11N40SISO/MCH		
Puw/11N40SISO/MCH		

11N40SISO_HCH_Graphs	
Pref/11N40SISO/HCH	
Puw/11N40SISO/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.

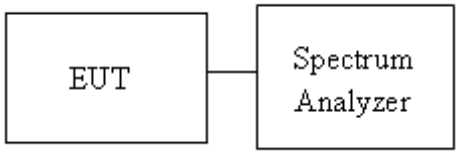
Limit	☒ Antenna not exceed 6 dBi：8dBm ☐ Antenna with DG greater than 6 dBi： [Limit = 8 – (DG – 6)] ☐ Point-to-point operation：

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.

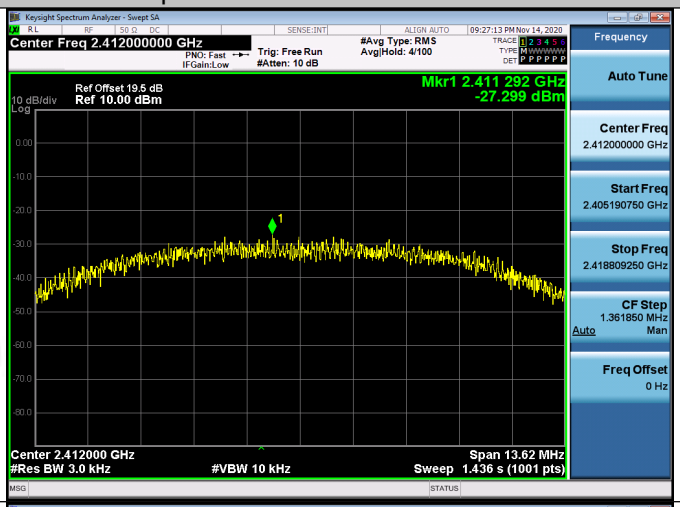
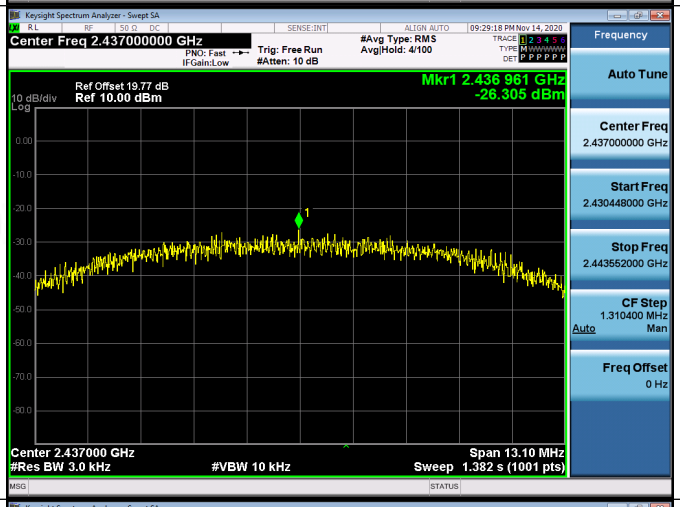
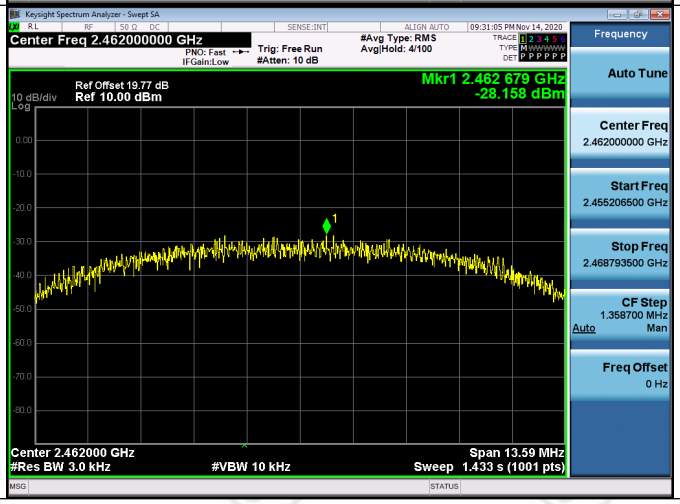
Test Setup

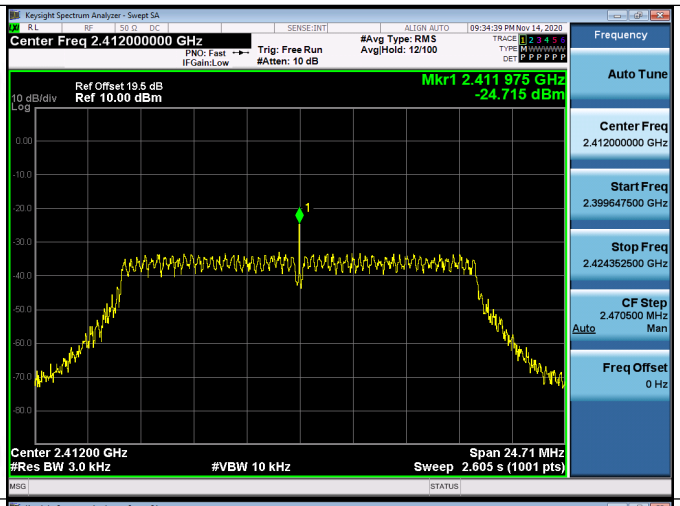
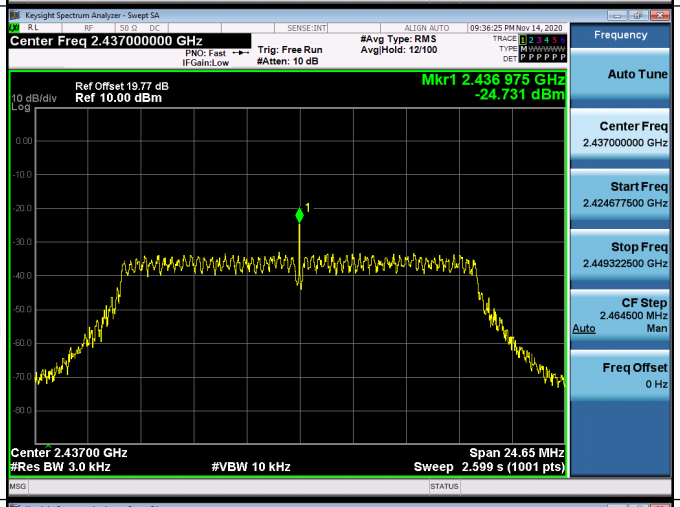
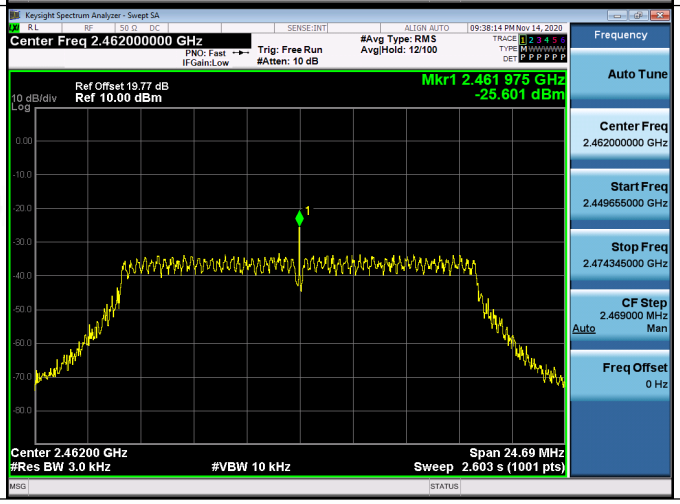


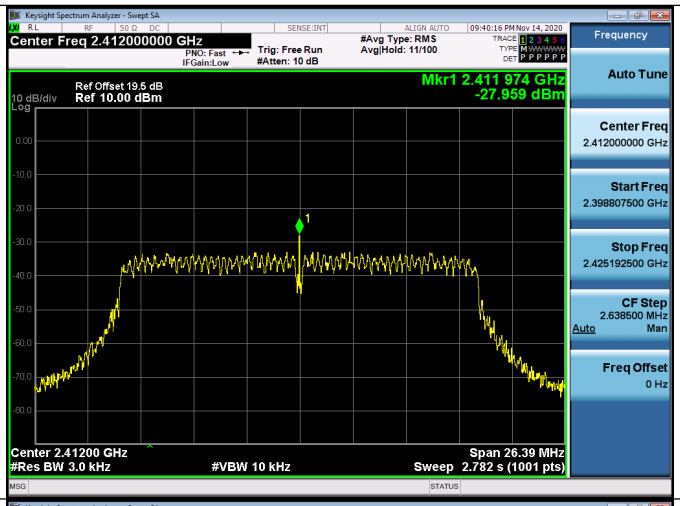
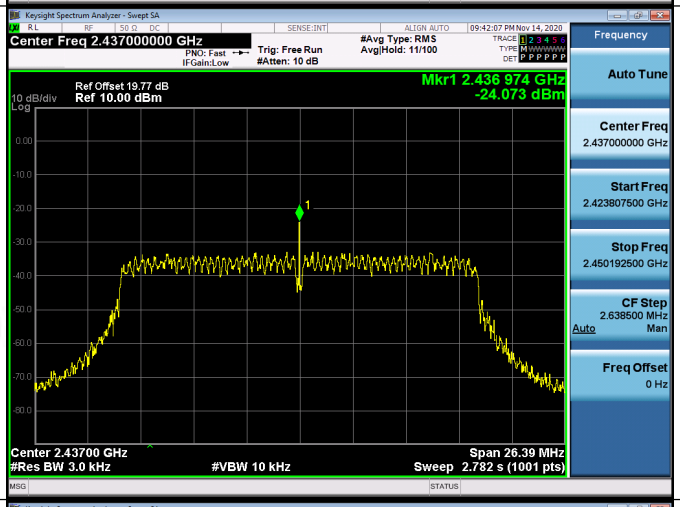
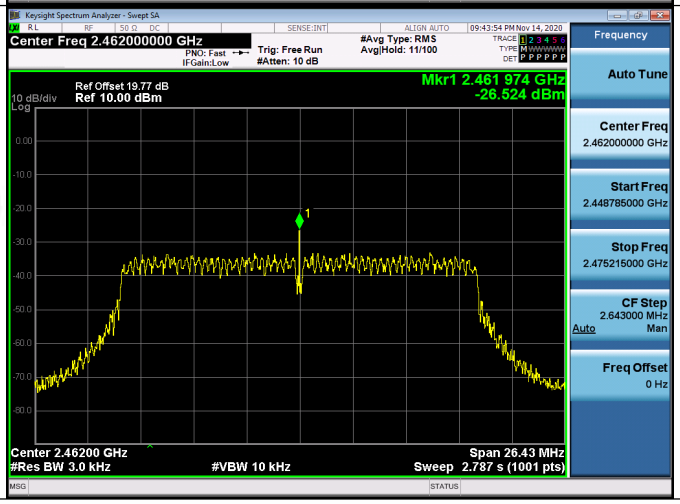
Result Table

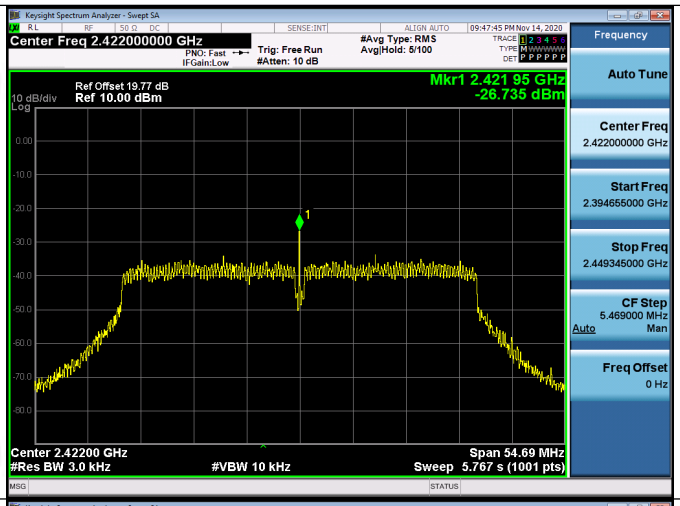
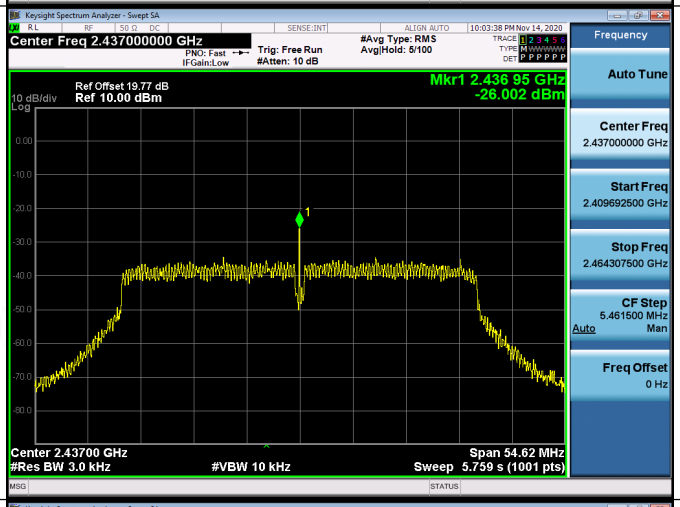
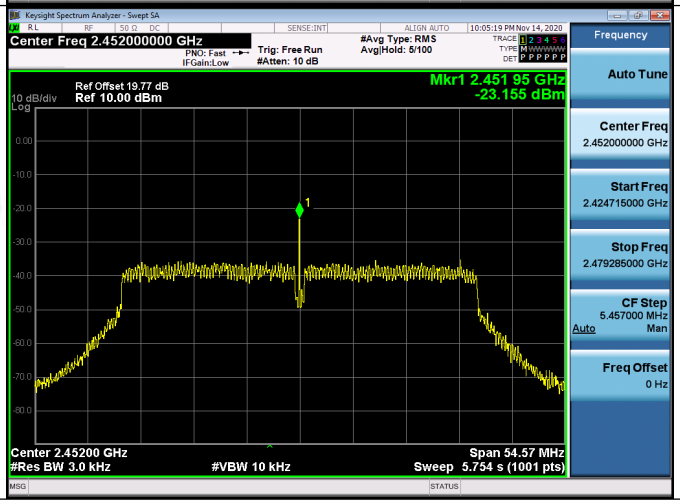
Mode	Channel	Power Spectral Density [dBm]	Verdict
11B	LCH	-27.299	PASS
11B	MCH	-26.305	PASS
11B	HCH	-28.158	PASS
11G	LCH	-24.715	PASS
11G	MCH	-24.731	PASS
11G	HCH	-25.601	PASS
11N20SISO	LCH	-27.959	PASS
11N20SISO	MCH	-24.073	PASS
11N20SISO	HCH	-26.524	PASS
11N40SISO	LCH	-26.735	PASS
11N40SISO	MCH	-26.002	PASS
11N40SISO	HCH	-23.155	PASS

Test Graph

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

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

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

11N40SISO/LCH		
11N40SISO/MCH		
11N40SISO/HCH		

Appendix F): Antenna Requirement

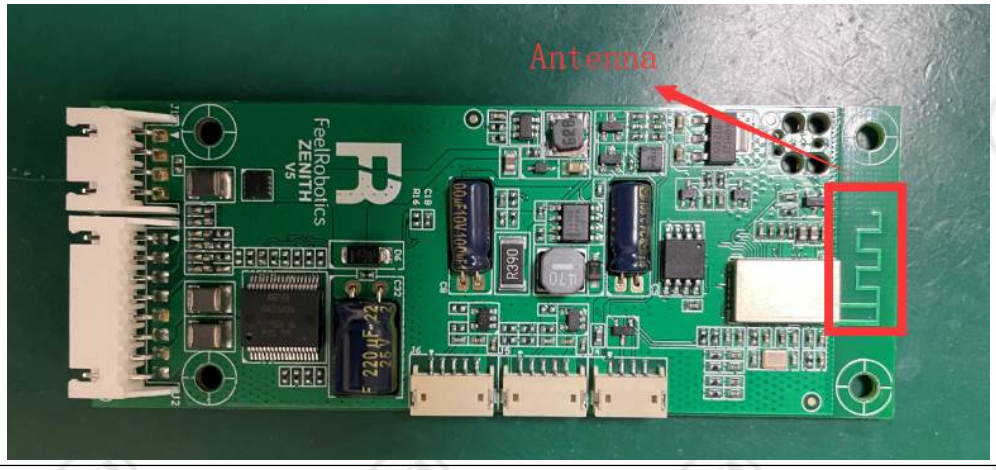
15.203 requirement:

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 2dBi.

Appendix G): AC Power Line Conducted Emission

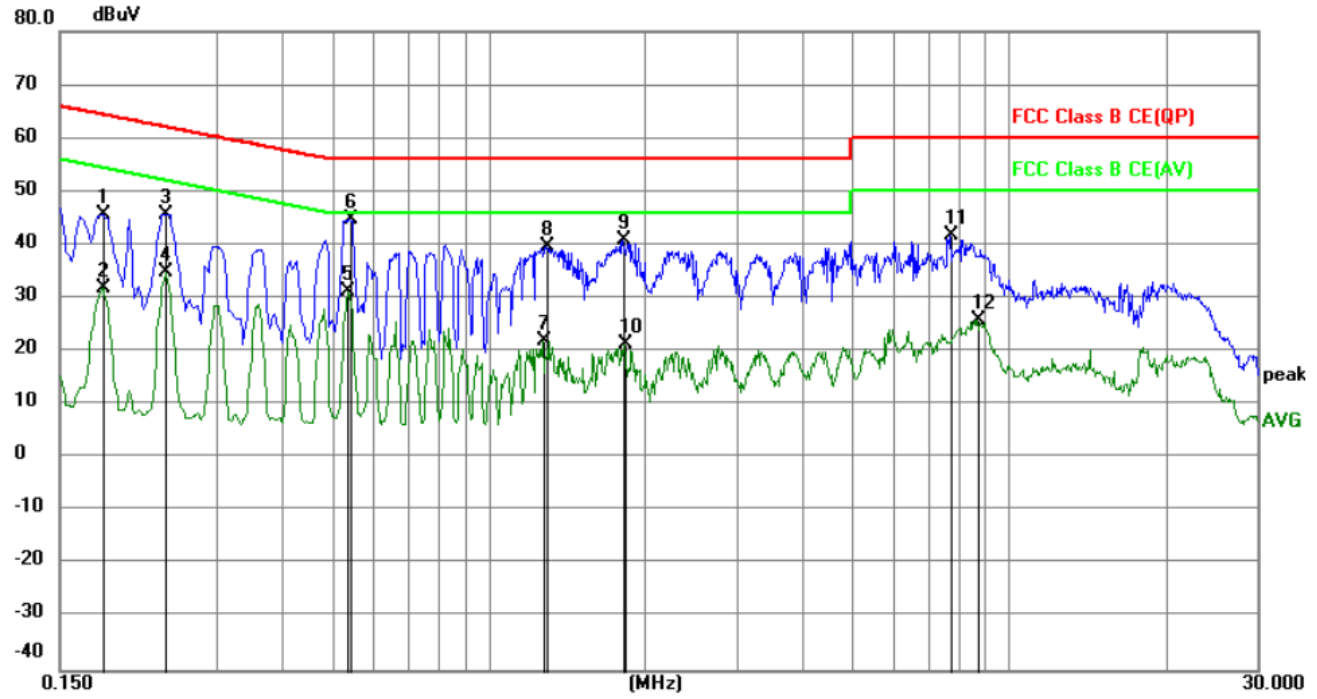
<table>
<tr><td>Test Procedure:</td><td>Test frequency range :150KHz-30MHz
1) The mains terminal disturbance voltage test was conducted in a shielded room.
2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. 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.

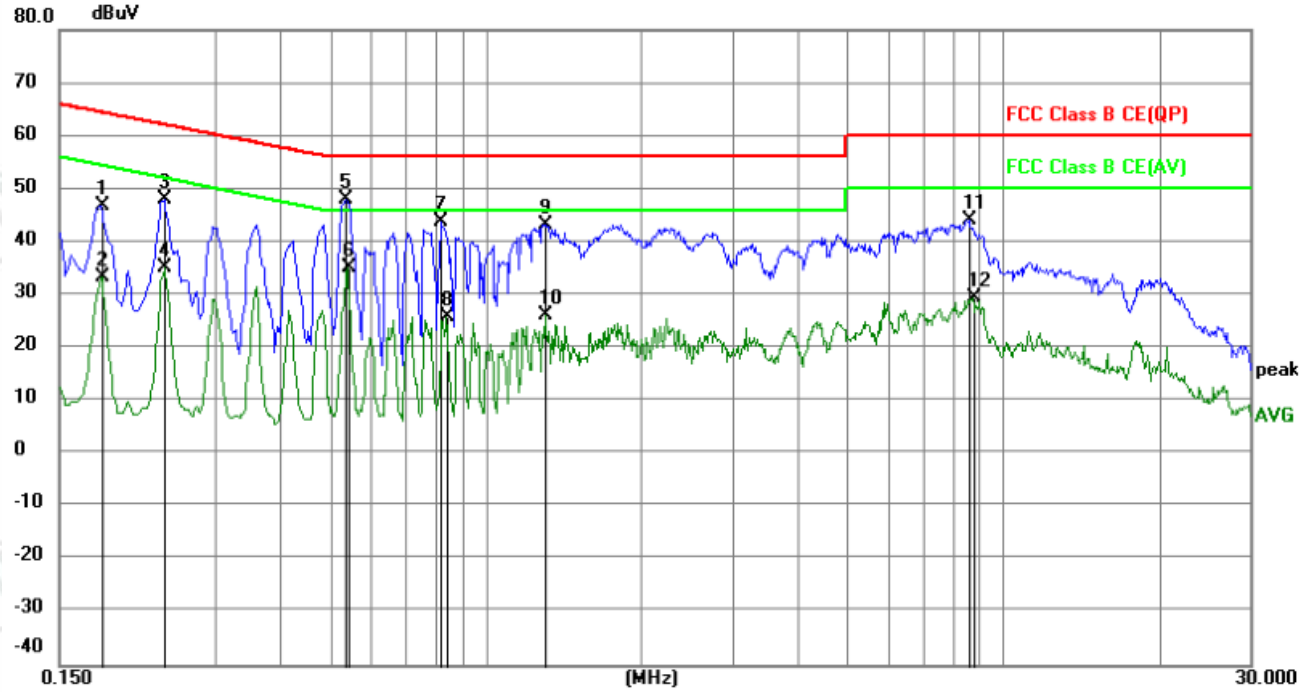
Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

Live line:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1815	35.81	9.87	45.68	64.42	-18.74	QP	
2		0.1815	21.95	9.87	31.82	54.42	-22.60	AVG	
3		0.2400	35.81	9.95	45.76	62.10	-16.34	QP	
4		0.2400	24.95	9.95	34.90	52.10	-17.20	AVG	
5		0.5370	21.25	9.99	31.24	46.00	-14.76	AVG	
6	*	0.5415	34.78	10.00	44.78	56.00	-11.22	QP	
7		1.2705	12.16	9.82	21.98	46.00	-24.02	AVG	
8		1.2930	29.76	9.82	39.58	56.00	-16.42	QP	
9		1.8105	31.17	9.80	40.97	56.00	-15.03	QP	
10		1.8285	11.57	9.80	21.37	46.00	-24.63	AVG	
11		7.6965	32.02	9.79	41.81	60.00	-18.19	QP	
12		8.7000	16.20	9.78	25.98	50.00	-24.02	AVG	

Neutral line:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1815	37.07	9.87	46.94	64.42	-17.48	QP	
2		0.1815	23.50	9.87	33.37	54.42	-21.05	AVG	
3		0.2400	38.11	9.95	48.06	62.10	-14.04	QP	
4		0.2400	25.13	9.95	35.08	52.10	-17.02	AVG	
5	*	0.5370	38.11	9.99	48.10	56.00	-7.90	QP	
6		0.5415	25.20	10.00	35.20	46.00	-10.80	AVG	
7		0.8205	33.93	9.85	43.78	56.00	-12.22	QP	
8		0.8430	16.15	9.85	26.00	46.00	-20.00	AVG	
9		1.3065	33.55	9.82	43.37	56.00	-12.63	QP	
10		1.3065	16.44	9.82	26.26	46.00	-19.74	AVG	
11		8.6370	34.39	9.78	44.17	60.00	-15.83	QP	
12		8.7585	19.65	9.78	29.43	50.00	-20.57	AVG	

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:

Test method Refer as KDB 558074 D01

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.

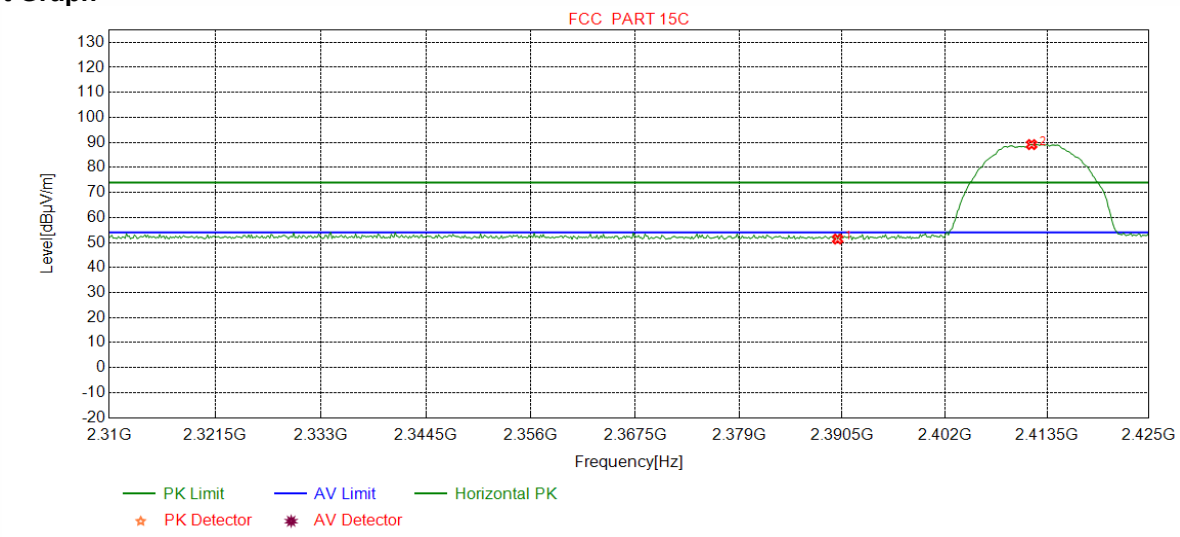
Limit:

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 Transmitting	Channel:	2412
Remark:	PK		

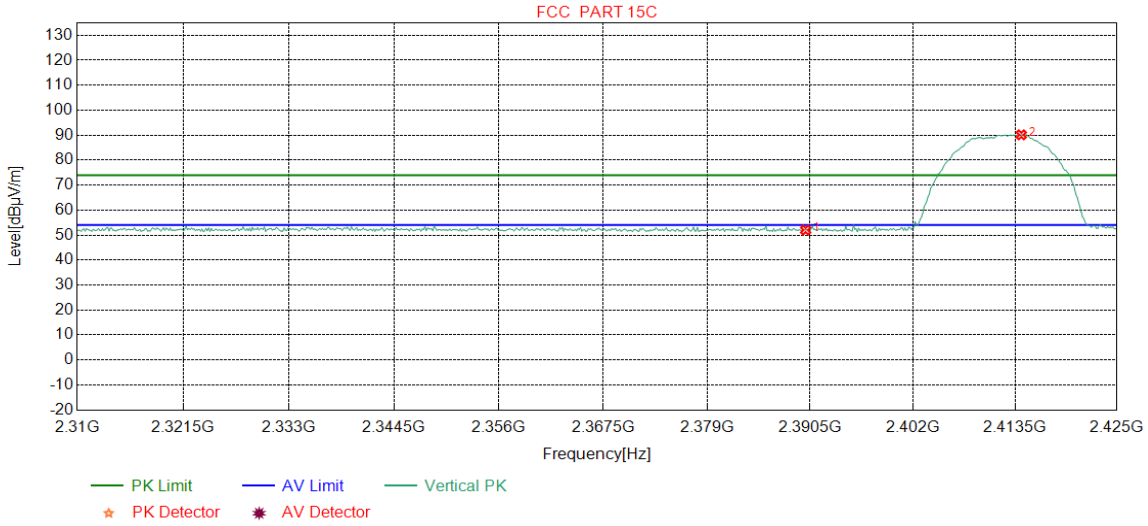
Test Graph



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	-43.12	48.88	51.38	74.00	22.62	Pass	Horizontal
2	2411.7584	32.28	13.35	-43.12	86.63	89.14	74.00	-15.14	Pass	Horizontal

Mode:	802.11 b Transmitting	Channel:	2412
Remark:	PK		

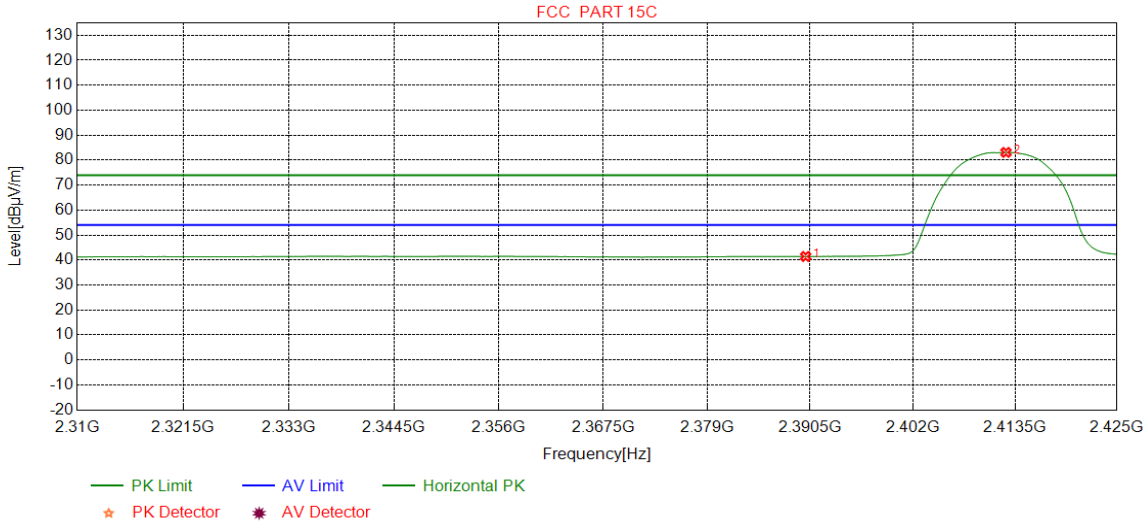
Test Graph



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	-43.12	49.51	52.01	74.00	21.99	Pass	Vertical
2	2414.2053	32.28	13.37	-43.12	87.60	90.13	74.00	-16.13	Pass	Vertical

Mode:	802.11 b Transmitting	Channel:	2412
Remark:	AV		

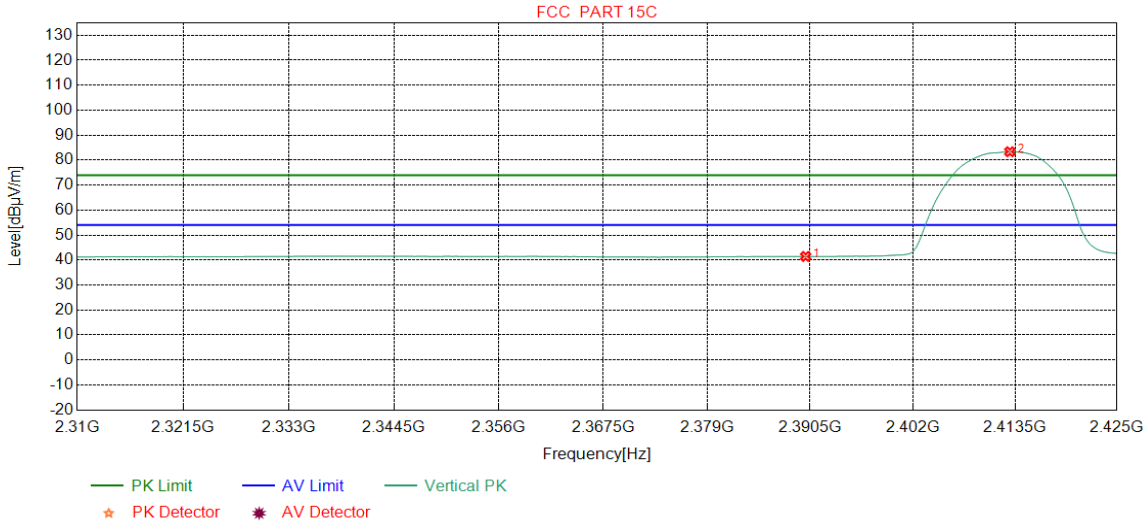
Test Graph



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	-43.12	38.92	41.42	54.00	12.58	Pass	Horizontal
2	2412.4781	32.28	13.36	-43.12	80.59	83.11	54.00	-29.11	Pass	Horizontal

Mode:	802.11 b Transmitting	Channel:	2412
Remark:	AV		

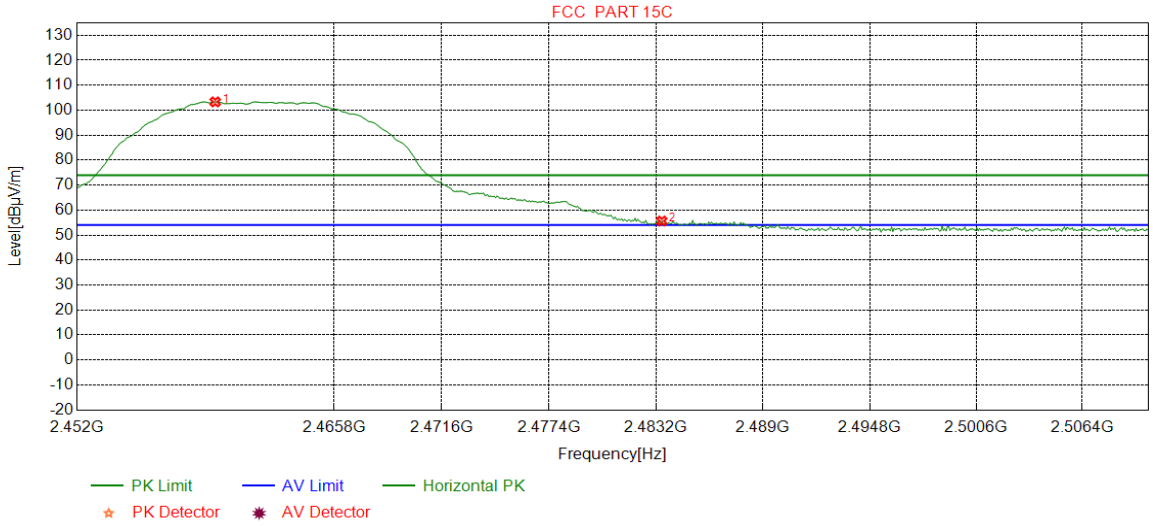
Test Graph



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	-43.12	38.93	41.43	54.00	12.57	Pass	Vertical
2	2412.9099	32.28	13.36	-43.12	80.85	83.37	54.00	-29.37	Pass	Vertical

Mode:	802.11 b Transmitting	Channel:	2462
Remark:	PK		

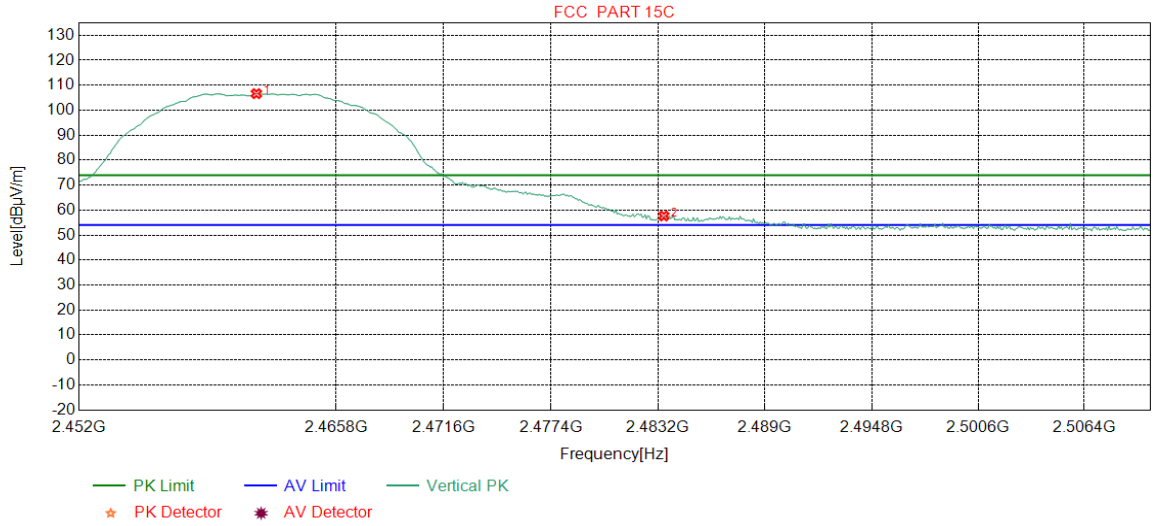
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Preamp gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2459.4043	32.34	13.49	-43.11	100.60	103.32	74.00	-29.32	Pass	Horizontal
2	2483.5000	32.38	13.38	-43.11	52.98	55.63	74.00	18.37	Pass	Horizontal

Mode:	802.11 b Transmitting	Channel:	2462
Remark:	PK		

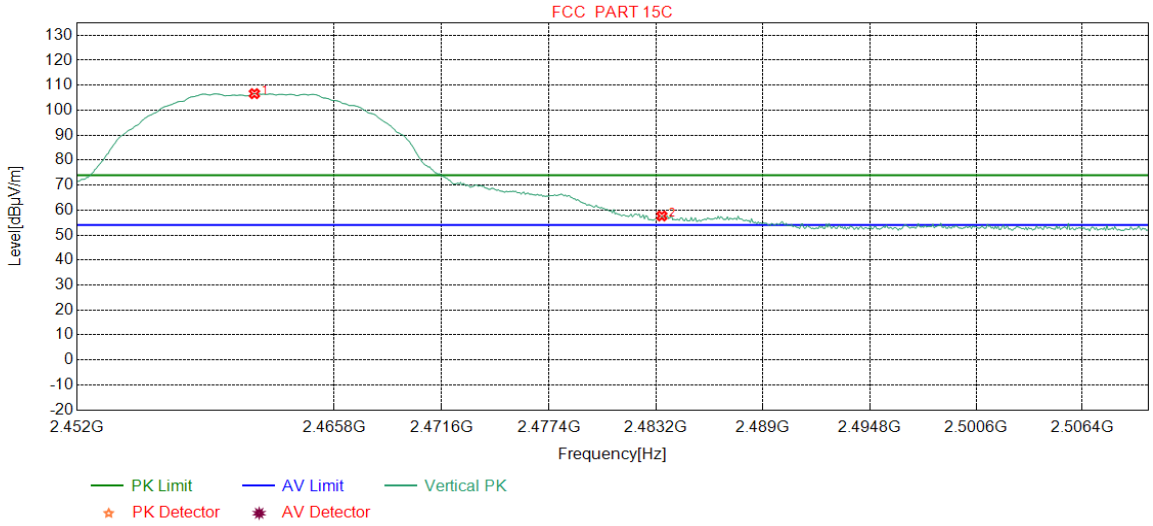
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Preamp gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2461.5094	32.35	13.48	-43.11	103.90	106.62	74.00	-32.62	Pass	Vertical
2	2483.5000	32.38	13.38	-43.11	54.99	57.64	74.00	16.36	Pass	Vertical

Mode:	802.11 b Transmitting	Channel:	2462
Remark:	AV		

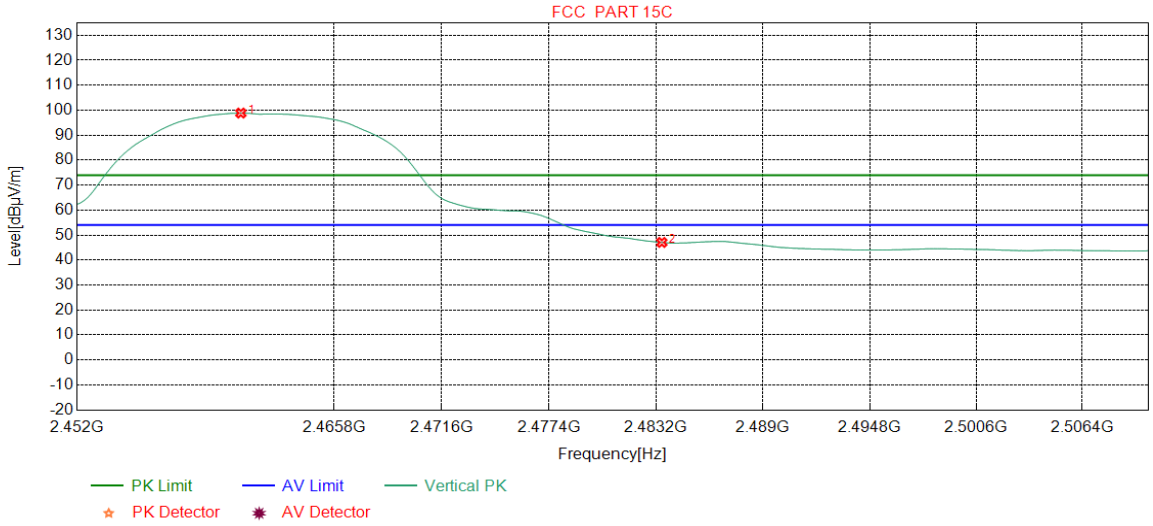
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Preamp gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2461.5094	32.35	13.48	-43.11	103.90	106.62	74.00	-32.62	Pass	Horizontal
2	2483.5000	32.38	13.38	-43.11	54.99	57.64	74.00	16.36	Pass	Horizontal

Mode:	802.11 b Transmitting	Channel:	2462
Remark:	AV		

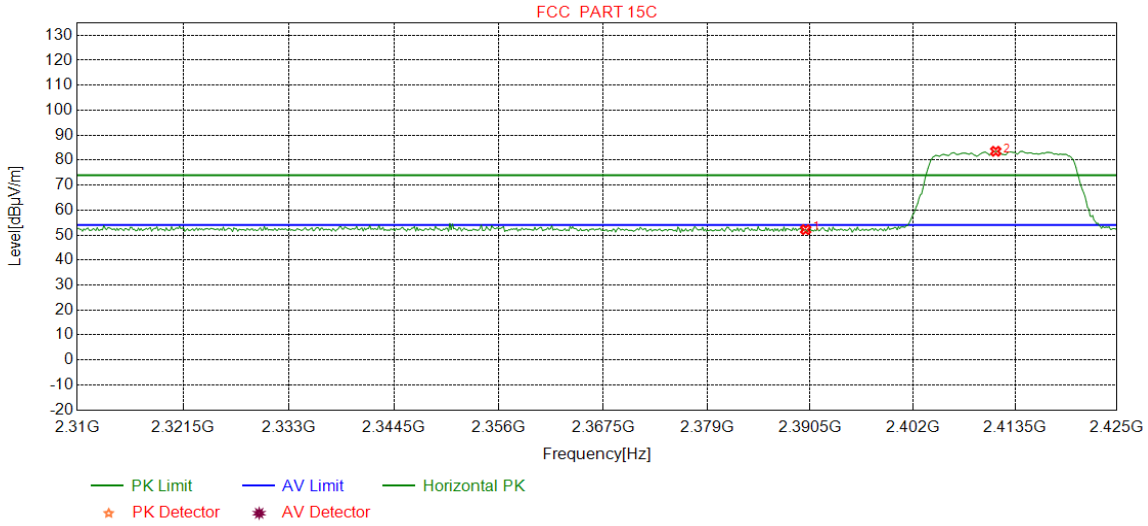
Test Graph



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	2460.7835	32.35	13.48	-43.11	96.14	98.86	54.00	-44.86	Pass	Vertical
2	2483.5000	32.38	13.38	-43.11	44.41	47.06	54.00	6.94	Pass	Vertical

Mode:	802.11 g Transmitting	Channel:	2412
Remark:	PK		

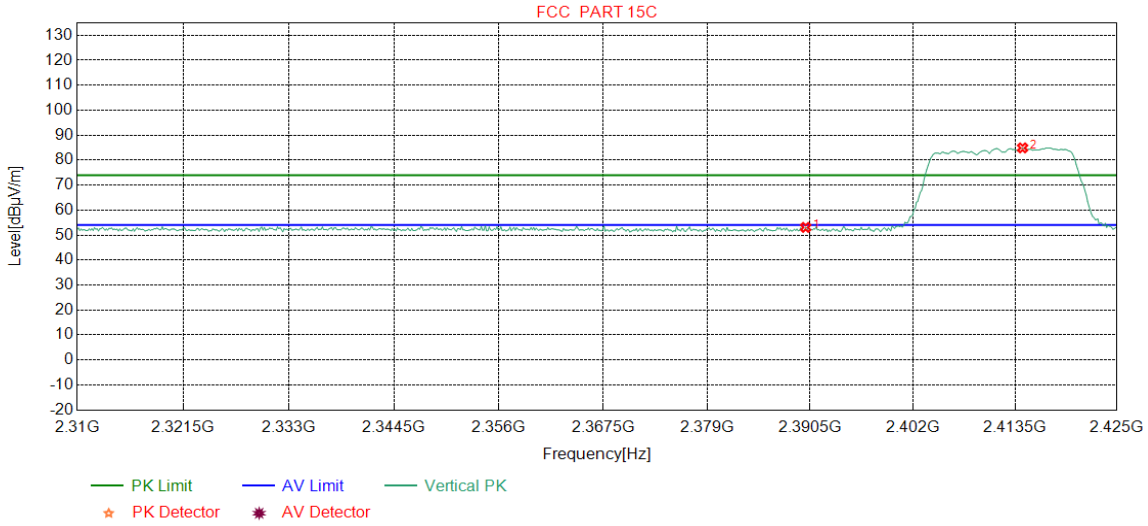
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Preamp gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2390.0000	32.25	13.37	-43.12	49.67	52.17	74.00	21.83	Pass	Horizontal
2	2411.3267	32.28	13.35	-43.12	81.03	83.54	74.00	-9.54	Pass	Horizontal

Mode:	802.11 g Transmitting	Channel:	2412
Remark:	PK		

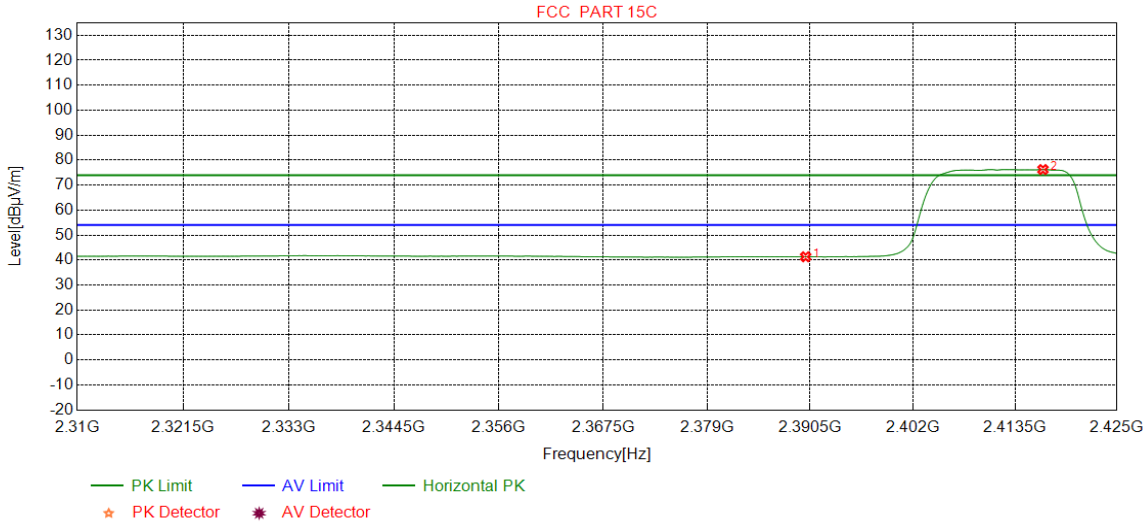
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Preamp gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2390.0000	32.25	13.37	-43.12	50.57	53.07	74.00	20.93	Pass	Vertical
2	2414.3492	32.28	13.37	-43.12	82.38	84.91	74.00	-10.91	Pass	Vertical

Mode:	802.11 g Transmitting	Channel:	2412
Remark:	AV		

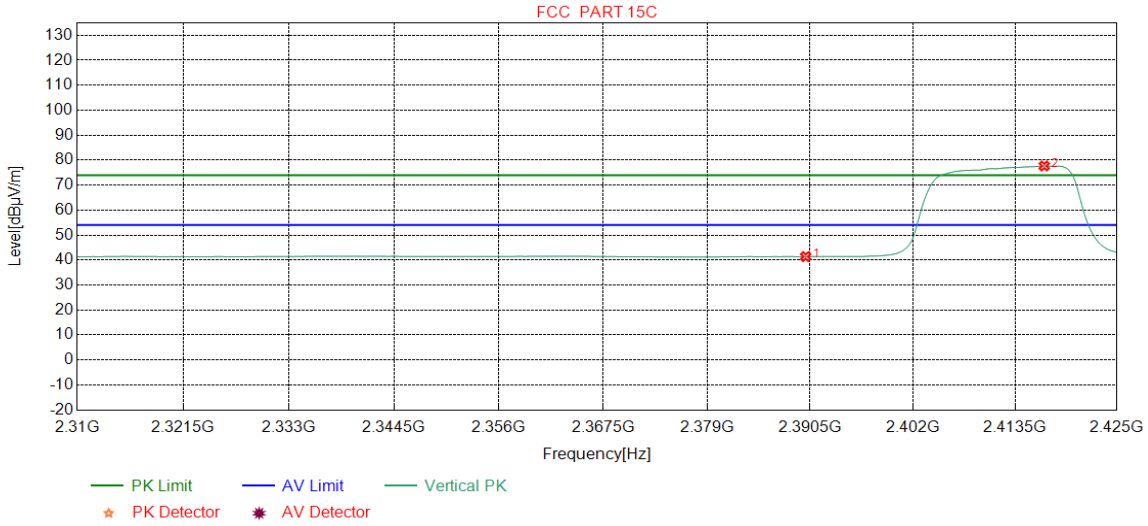
Test Graph



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	-43.12	38.80	41.30	54.00	12.70	Pass	Horizontal
2	2416.6521	32.28	13.38	-43.12	73.70	76.24	54.00	-22.24	Pass	Horizontal

Mode:	802.11 g Transmitting	Channel:	2412
Remark:	AV		

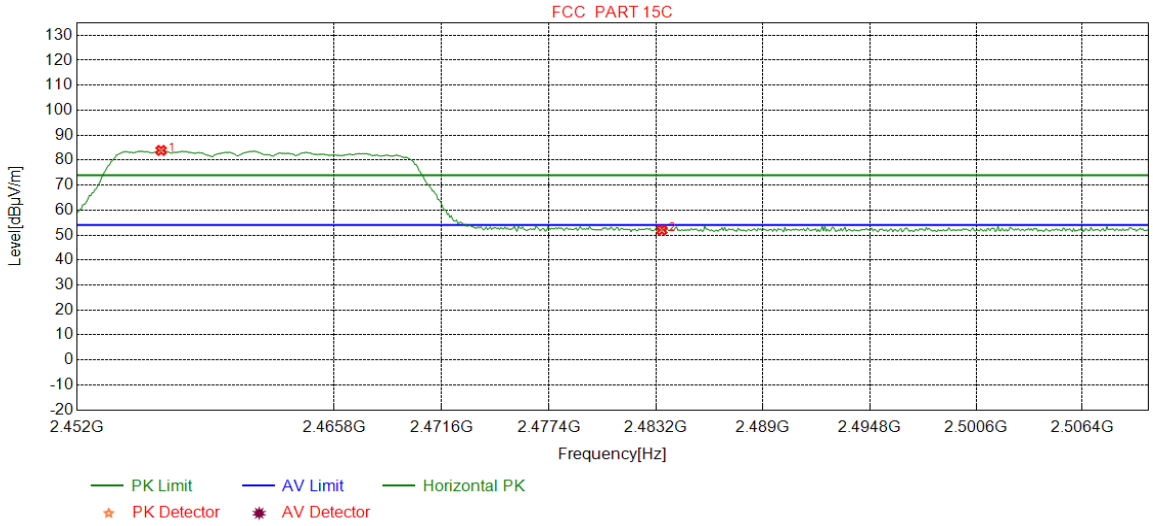
Test Graph



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	-43.12	38.87	41.37	54.00	12.63	Pass	Vertical
2	2416.7960	32.28	13.38	-43.12	75.12	77.66	54.00	-23.66	Pass	Vertical

Mode:	802.11 g Transmitting	Channel:	2462
Remark:	PK		

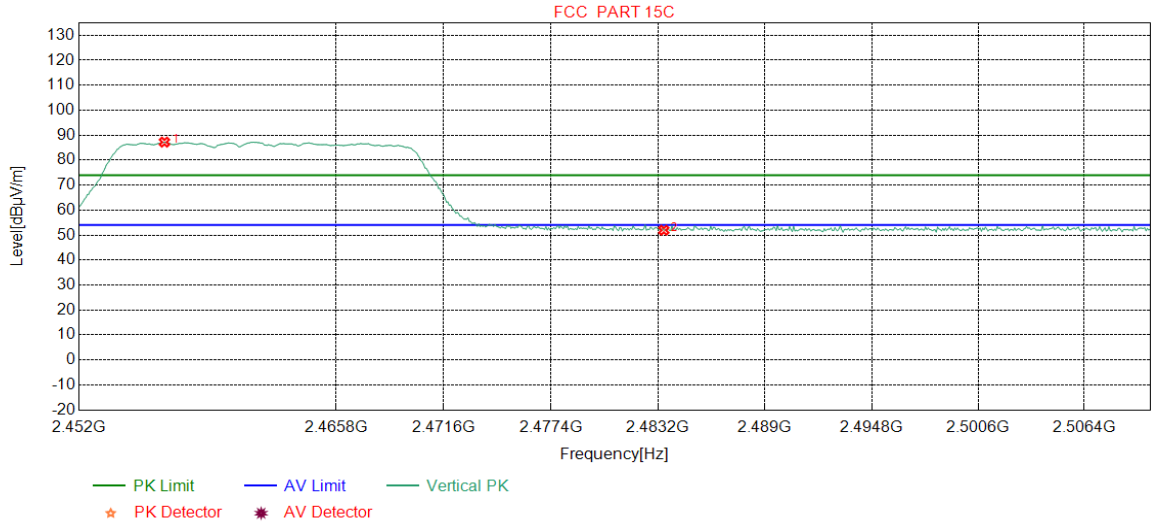
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Preamp gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2456.5006	32.34	13.50	-43.11	81.17	83.90	74.00	-9.90	Pass	Horizontal
2	2483.5000	32.38	13.38	-43.11	49.31	51.96	74.00	22.04	Pass	Horizontal

Mode:	802.11 g Transmitting	Channel:	2462
Remark:	PK		

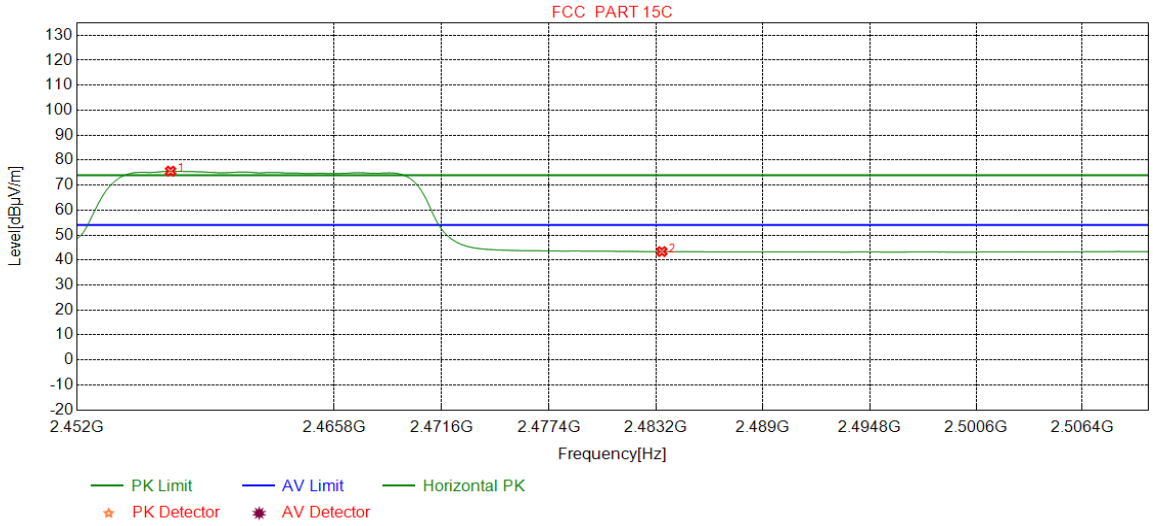
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Preamp gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2456.5732	32.34	13.50	-43.11	84.49	87.22	74.00	-13.22	Pass	Vertical
2	2483.5000	32.38	13.38	-43.11	49.28	51.93	74.00	22.07	Pass	Vertical

Mode:	802.11 g Transmitting	Channel:	2462
Remark:	AV		

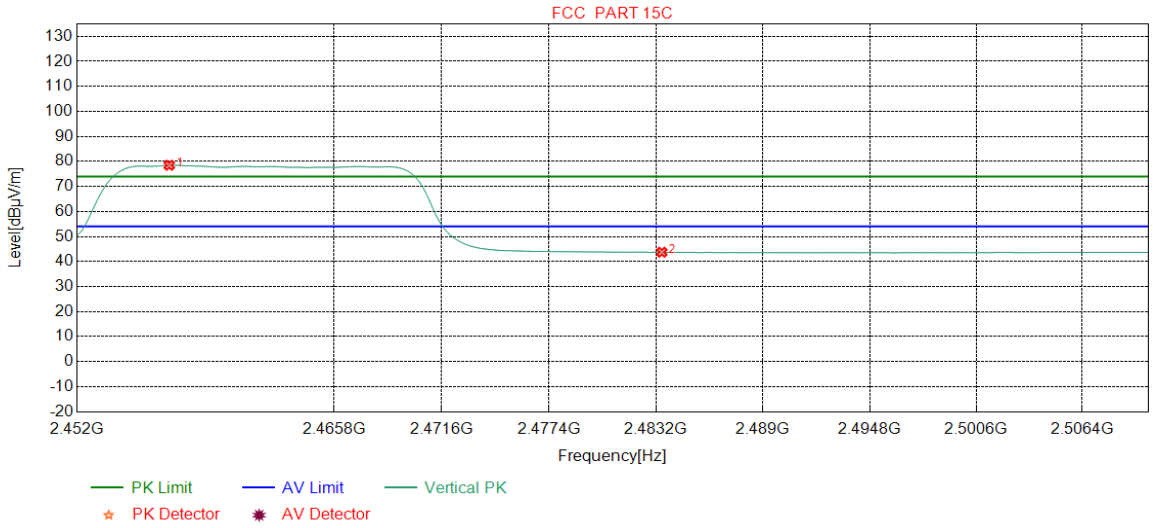
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Preamp gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2457.0088	32.34	13.50	-43.11	72.86	75.59	54.00	-21.59	Pass	Horizontal
2	2483.5000	32.38	13.38	-43.11	40.73	43.38	54.00	10.62	Pass	Horizontal

Mode:	802.11 g Transmitting	Channel:	2462
Remark:	AV		

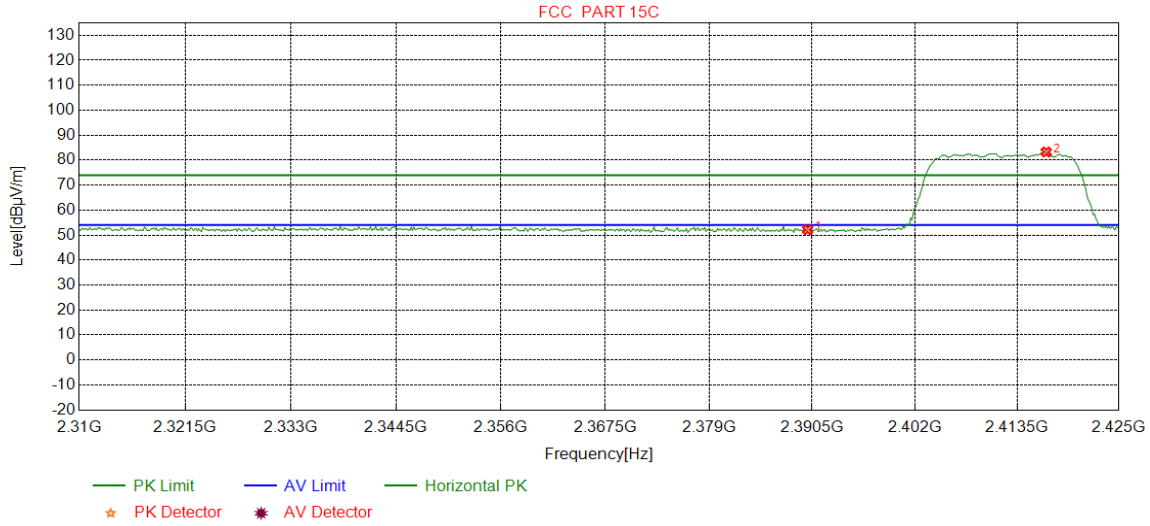
Test Graph



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	2456.9362	32.34	13.50	-43.11	75.74	78.47	54.00	-24.47	Pass	Vertical
2	2483.5000	32.38	13.38	-43.11	41.07	43.72	54.00	10.28	Pass	Vertical

Mode:	802.11 n(HT20) Transmitting	Channel:	2412
Remark:	PK		

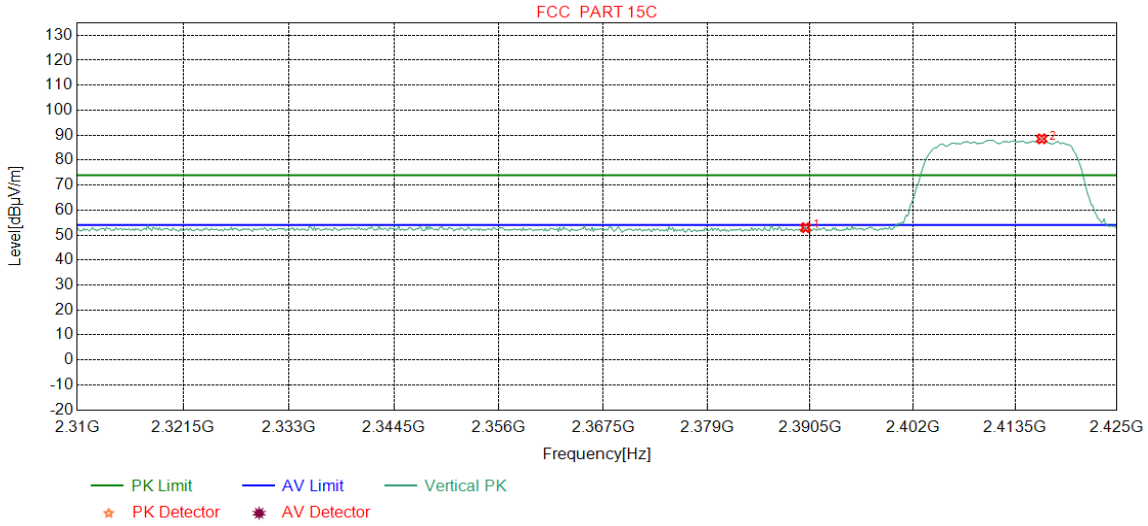
Test Graph



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	-43.12	49.63	52.13	74.00	21.87	Pass	Horizontal
2	2416.7960	32.28	13.38	-43.12	80.73	83.27	74.00	-9.27	Pass	Horizontal

Mode:	802.11 n(HT20) Transmitting	Channel:	2412
Remark:	PK		

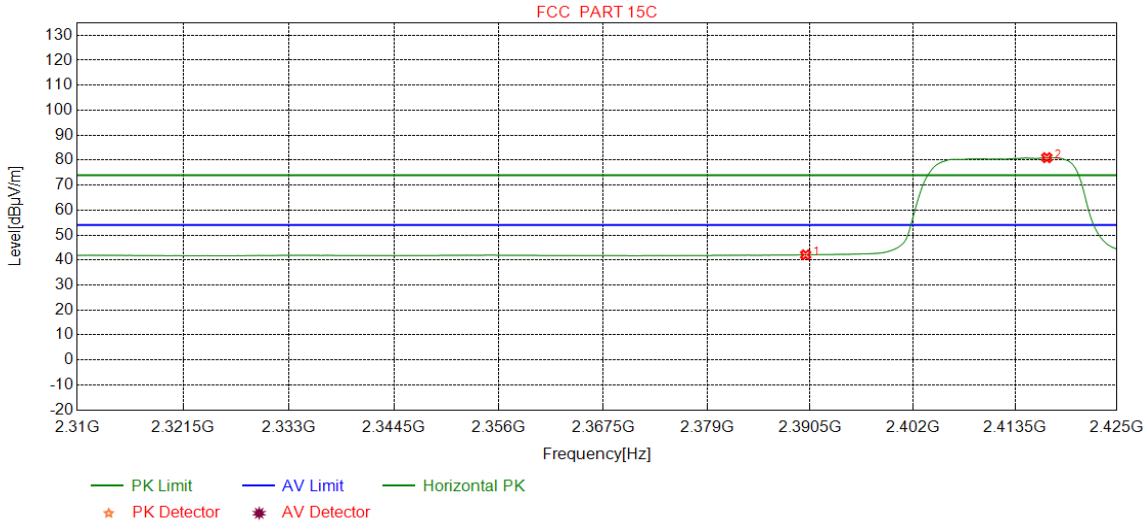
Test Graph



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	-43.12	50.48	52.98	74.00	21.02	Pass	Vertical
2	2416.5081	32.28	13.38	-43.12	86.00	88.54	74.00	-14.54	Pass	Vertical

Mode:	802.11 n(HT20) Transmitting	Channel:	2412
Remark:	AV		

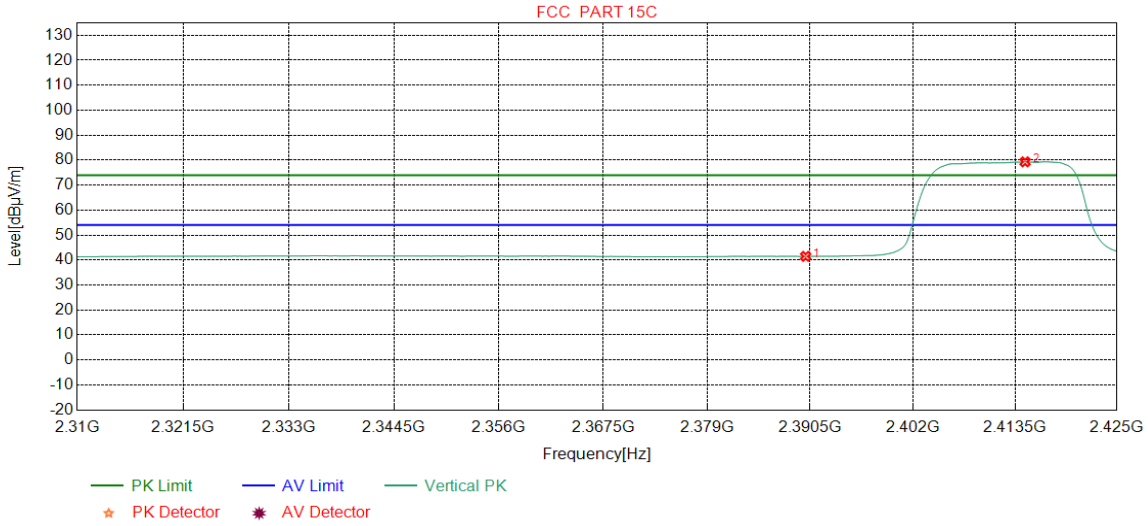
Test Graph



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	-43.12	39.59	42.09	54.00	11.91	Pass	Horizontal
2	2417.0839	32.28	13.38	-43.11	78.44	80.99	54.00	-26.99	Pass	Horizontal

Mode:	802.11 n(HT20) Transmitting	Channel:	2412
Remark:	AV		

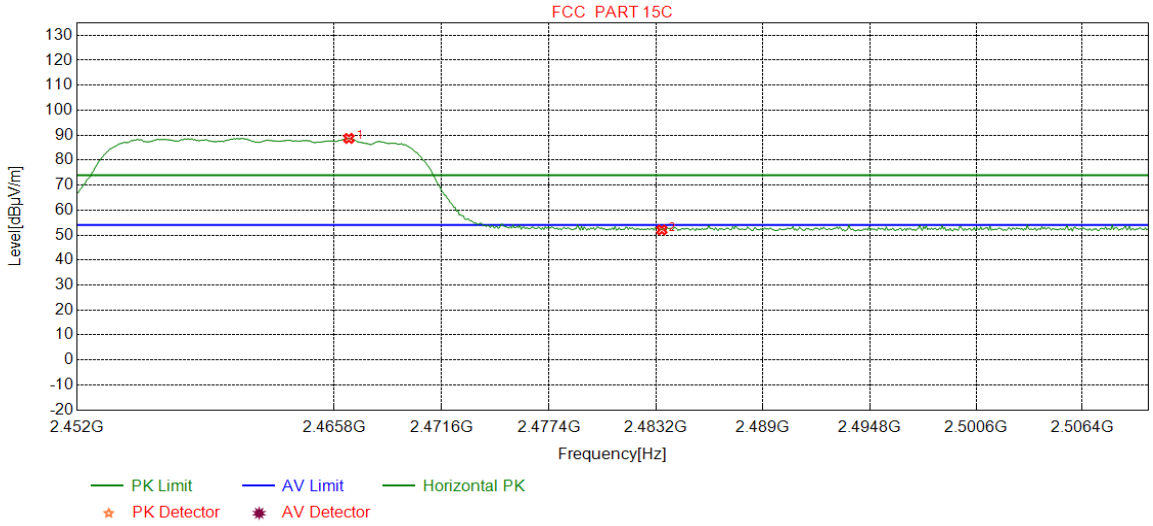
Test Graph



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	-43.12	38.97	41.47	54.00	12.53	Pass	Vertical
2	2414.6370	32.28	13.37	-43.12	76.79	79.32	54.00	-25.32	Pass	Vertical

Mode:	802.11 n(HT20) Transmitting	Channel:	2462
Remark:	PK		

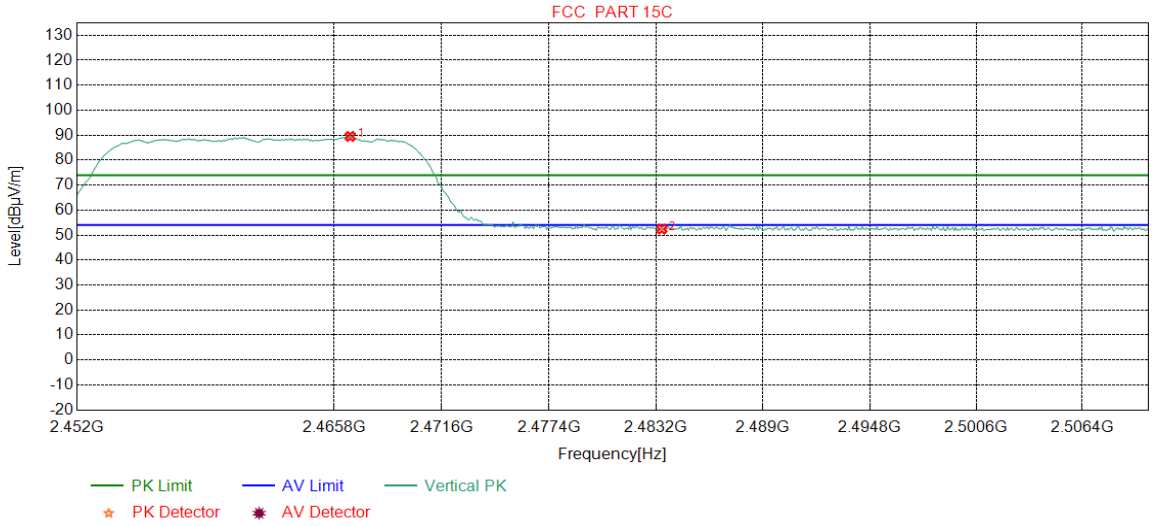
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Preamp gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2466.5907	32.35	13.45	-43.10	86.01	88.71	74.00	-14.71	Pass	Horizontal
2	2483.5000	32.38	13.38	-43.11	49.41	52.06	74.00	21.94	Pass	Horizontal

Mode:	802.11 n(HT20) Transmitting	Channel:	2462
Remark:	PK		

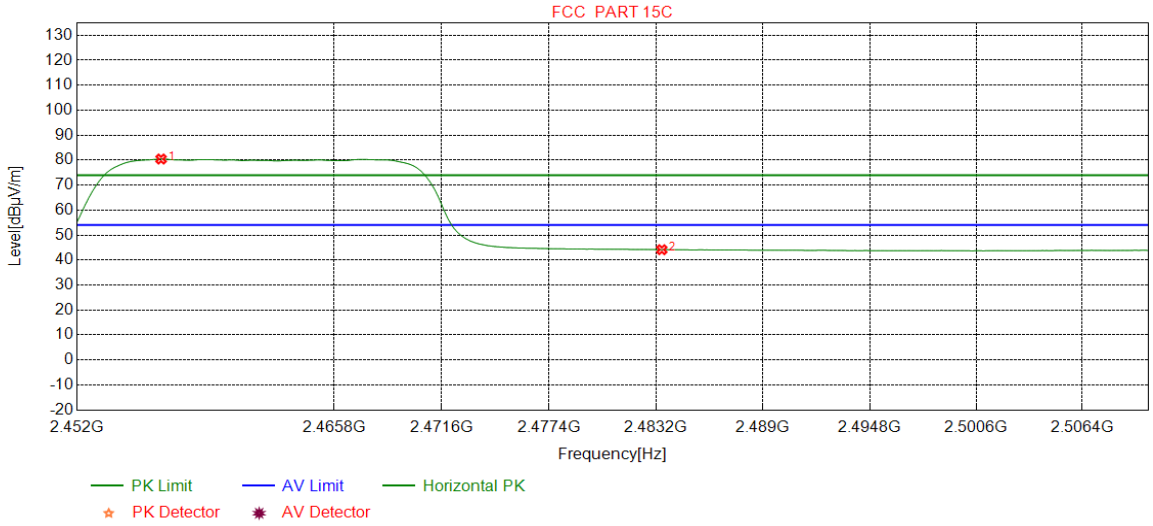
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Preamp gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2466.6633	32.35	13.45	-43.10	86.80	89.50	74.00	-15.50	Pass	Vertical
2	2483.5000	32.38	13.38	-43.11	49.76	52.41	74.00	21.59	Pass	Vertical

Mode:	802.11 n(HT20) Transmitting	Channel:	2462
Remark:	AV		

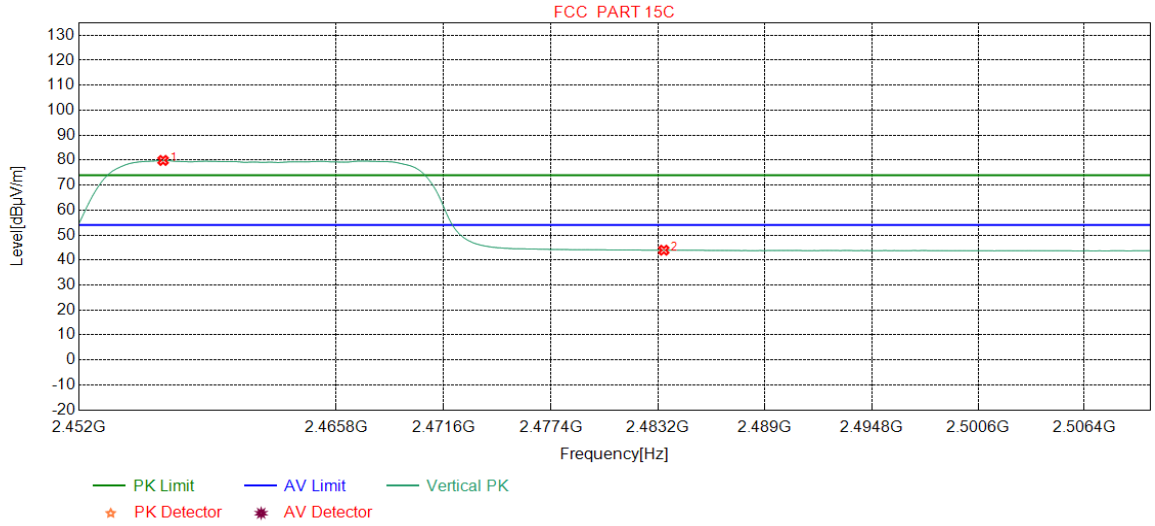
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Preamp gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2456.5006	32.34	13.50	-43.11	77.72	80.45	54.00	-26.45	Pass	Horizontal
2	2483.5000	32.38	13.38	-43.11	41.49	44.14	54.00	9.86	Pass	Horizontal

Mode:	802.11 n(HT20) Transmitting	Channel:	2462
Remark:	AV		

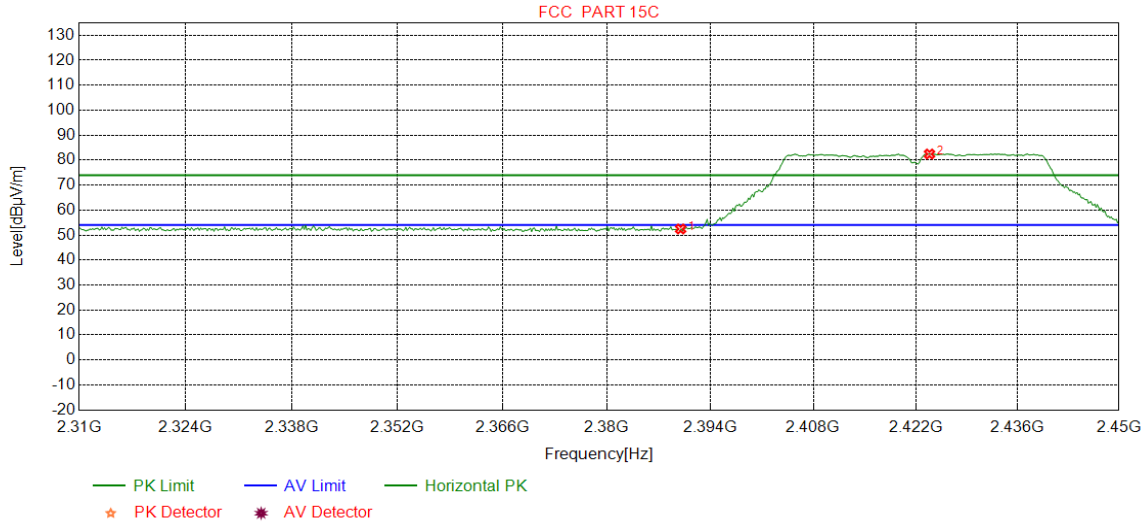
Test Graph



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	2456.5006	32.34	13.50	-43.11	77.15	79.88	54.00	-25.88	Pass	Vertical
2	2483.5000	32.38	13.38	-43.11	41.29	43.94	54.00	10.06	Pass	Vertical

Mode:	802.11 n(HT40) Transmitting	Channel:	2422
Remark:	PK		

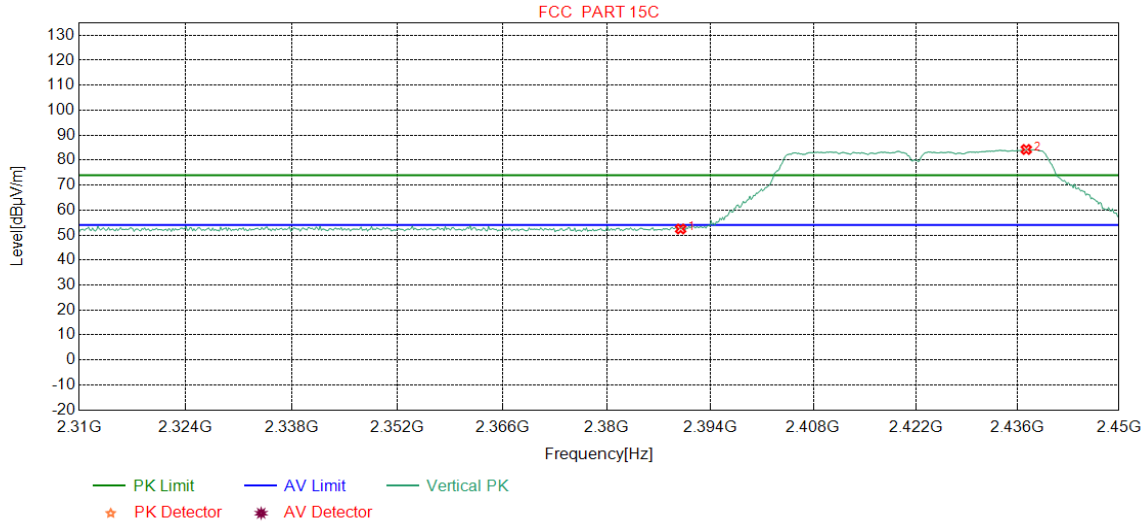
Test Graph



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	-43.12	49.94	52.44	74.00	21.56	Pass	Horizontal
2	2423.8924	32.29	13.41	-43.11	79.86	82.45	74.00	-8.45	Pass	Horizontal

Mode:	802.11 n(HT40) Transmitting	Channel:	2422
Remark:	PK		

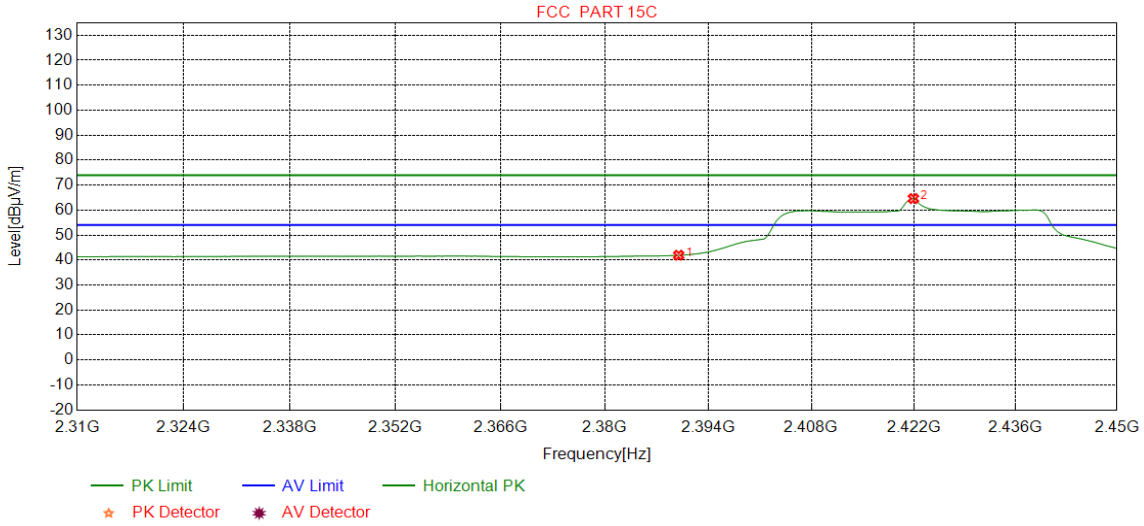
Test Graph



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	-43.12	49.94	52.44	74.00	21.31	Pass	Vertical
2	2437.2090	32.31	13.47	-43.11	81.60	84.27	74.00	-12.69	Pass	Vertical

Mode:	802.11 n(HT40) Transmitting	Channel:	2422
Remark:	AV		

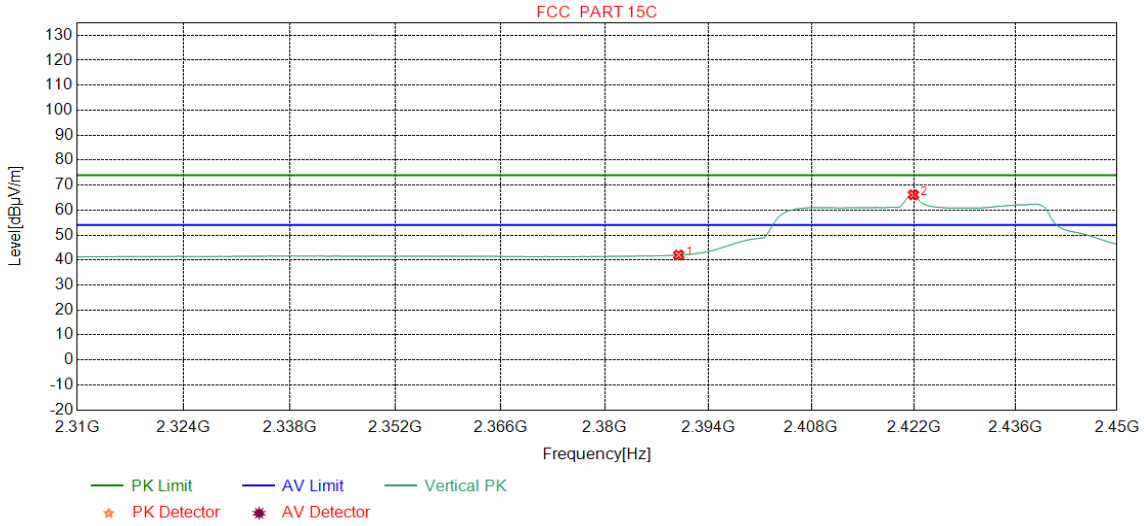
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Preamp gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2390.0000	32.25	13.37	-43.12	39.43	41.93	54.00	12.07	Pass	Horizontal
2	2421.9650	32.29	13.40	-43.11	62.02	64.60	54.00	-10.60	Pass	Horizontal

Mode:	802.11 n(HT40) Transmitting	Channel:	2422
Remark:	AV		

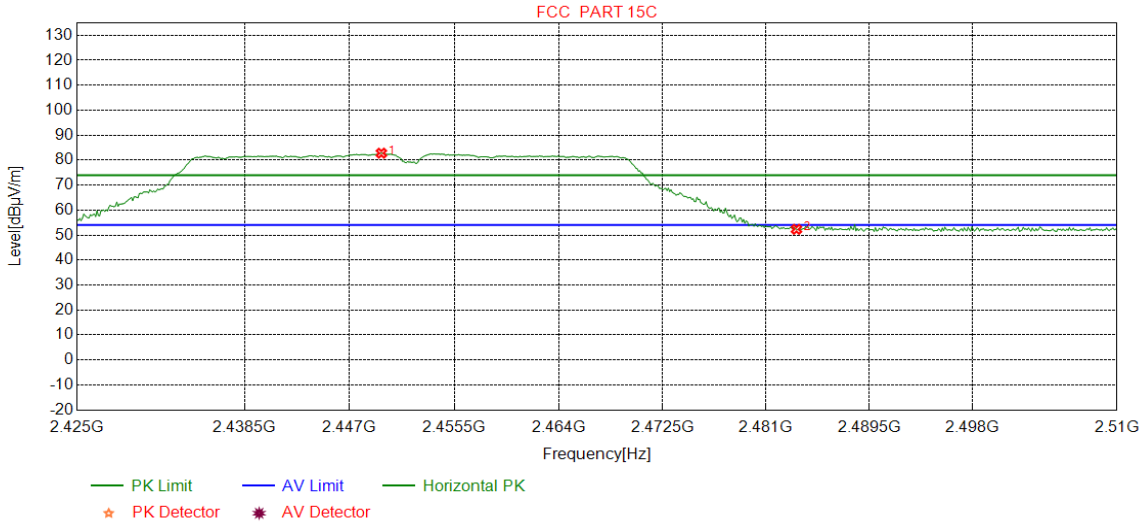
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Preamp gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2390.0000	32.25	13.37	-43.12	39.52	42.02	54.00	11.98	Pass	Vertical
2	2421.9650	32.29	13.40	-43.11	63.55	66.13	54.00	-12.13	Pass	Vertical

Mode:	802.11 n(HT40) Transmitting	Channel:	2452
Remark:	PK		

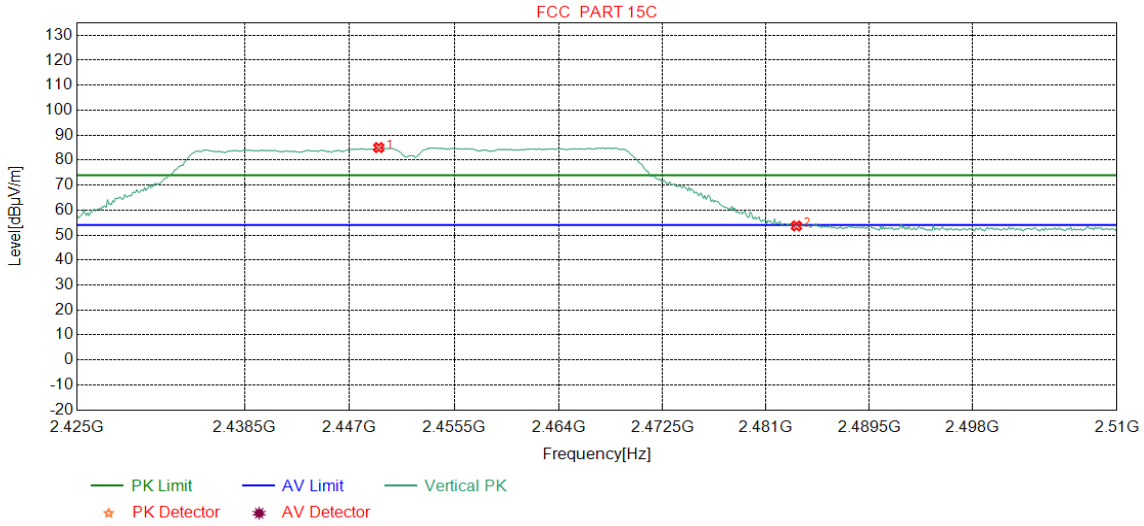
Test Graph



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	2449.5745	32.33	13.53	-43.11	80.04	82.79	74.00	-8.79	Pass	Horizontal
2	2483.5000	32.38	13.38	-43.11	49.66	52.31	74.00	21.69	Pass	Horizontal

Mode:	802.11 n(HT40) Transmitting	Channel:	2452
Remark:	PK		

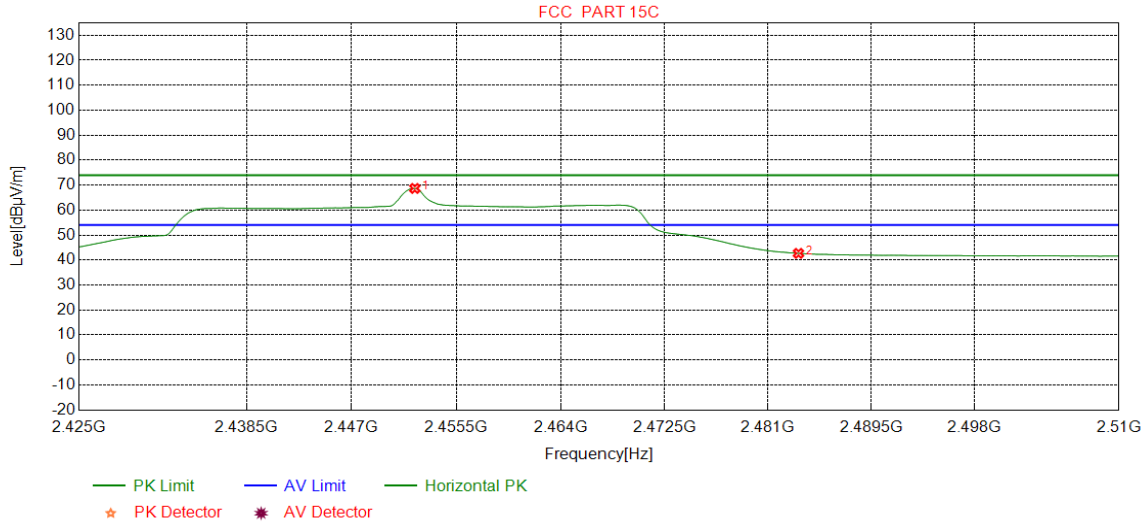
Test Graph



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	2449.3617	32.33	13.53	-43.11	82.29	85.04	74.00	-11.04	Pass	Vertical
2	2483.5000	32.38	13.38	-43.11	51.00	53.65	74.00	20.35	Pass	Vertical

Mode:	802.11 n(HT40) Transmitting	Channel:	2452
Remark:	AV		

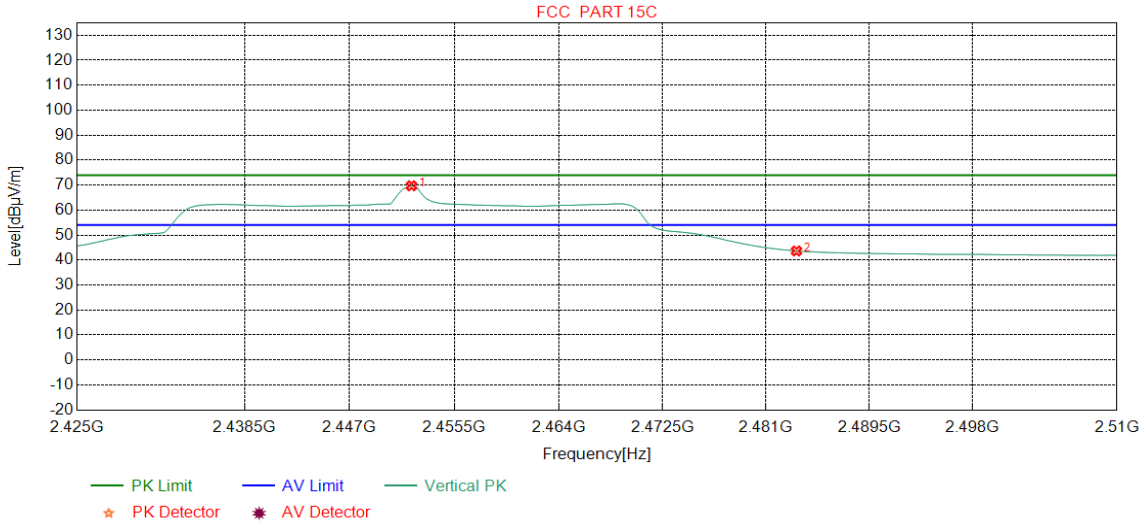
Test Graph



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	2452.1277	32.33	13.52	-43.11	65.94	68.68	54.00	-14.68	Pass	Horizontal
2	2483.5000	32.38	13.38	-43.11	40.03	42.68	54.00	11.32	Pass	Horizontal

Mode:	802.11 n(HT40) Transmitting	Channel:	2452
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	2452.0213	32.33	13.52	-43.11	66.99	69.73	54.00	-15.73	Pass	Vertical
2	2483.5000	32.38	13.38	-43.11	40.98	43.63	54.00	10.37	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) ; 13.5Mbps of rate is the worst case of 802.11n(HT40),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:

Radiated Emission below 1GHz

During the test, the Radiates Emission from 30MHz to 1GHz was performed in all modes with all channels, 11b, Channel 2437MHz was selected as the worst condition. The test data of the worst-case condition was recorded in this report.

Mode:		802.11 b 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	36.5967	11.21	0.67	-31.38	45.24	25.74	40.00	14.26	Pass	H
2	44.3574	13.08	0.75	-31.66	46.36	28.53	40.00	11.47	Pass	H
3	109.4509	10.91	1.24	-32.07	51.57	31.65	43.50	11.85	Pass	H
4	173.7684	8.66	1.55	-31.98	59.77	38.00	43.50	5.50	Pass	H
5	319.9620	13.64	2.12	-31.83	55.54	39.47	46.00	6.53	Pass	H
6	639.9970	19.32	3.07	-32.11	46.07	36.35	46.00	9.65	Pass	H
7	36.5967	11.21	0.67	-31.38	45.01	25.51	40.00	14.49	Pass	V
8	173.6714	8.65	1.55	-31.97	52.31	30.54	43.50	12.96	Pass	V
9	319.9620	13.64	2.12	-31.83	51.23	35.16	46.00	10.84	Pass	V
10	480.0280	16.68	2.61	-31.90	40.42	27.81	46.00	18.19	Pass	V
11	639.9970	19.32	3.07	-32.11	42.67	32.95	46.00	13.05	Pass	V
12	836.0536	21.33	3.49	-31.92	47.69	40.59	46.00	5.41	Pass	V

Transmitter Emission above 1GHz

Mode:		802.11 b 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	1761.4761	30.13	3.25	-42.69	50.76	41.45	74.00	32.55	Pass	H	Peak
2	3216.0144	33.29	4.59	-43.11	51.86	46.63	74.00	27.37	Pass	H	Peak
3	5002.1335	34.50	4.82	-42.79	49.89	46.42	74.00	27.58	Pass	H	Peak
4	5550.1700	35.08	5.16	-42.60	49.15	46.79	74.00	27.21	Pass	H	Peak
5	8252.3502	36.50	6.21	-42.10	49.09	49.70	74.00	24.30	Pass	H	Peak
6	9622.4415	37.65	6.66	-42.10	49.37	51.58	74.00	22.42	Pass	H	Peak
7	1990.6991	31.64	3.46	-43.18	55.79	47.71	74.00	26.29	Pass	V	Peak
8	3216.0144	33.29	4.59	-43.11	52.29	47.06	74.00	26.94	Pass	V	Peak
9	5063.1375	34.56	4.85	-42.77	50.11	46.75	74.00	27.25	Pass	V	Peak
10	6984.2656	36.09	5.72	-42.20	49.37	48.98	74.00	25.02	Pass	V	Peak
11	8842.3895	37.35	6.41	-41.99	49.09	50.86	74.00	23.14	Pass	V	Peak
12	10311.4874	38.24	6.87	-42.04	49.76	52.83	74.00	21.17	Pass	V	Peak

Mode:		802.11 b 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	2084.1084	31.82	3.57	-43.18	50.95	43.16	74.00	30.84	Pass	H	Peak
2	3249.0166	33.30	4.45	-43.10	53.25	47.90	74.00	26.10	Pass	H	Peak
3	5015.1343	34.52	4.84	-42.80	50.33	46.89	74.00	27.11	Pass	H	Peak
4	6923.2616	36.07	5.85	-42.25	49.20	48.87	74.00	25.13	Pass	H	Peak
5	9151.4101	37.67	6.45	-42.03	49.05	51.14	74.00	22.86	Pass	H	Peak
6	10663.5109	38.53	7.01	-41.99	48.96	52.51	74.00	21.49	Pass	H	Peak
7	1990.8991	31.64	3.46	-43.18	55.22	47.14	74.00	26.86	Pass	V	Peak
8	3249.0166	33.30	4.45	-43.10	51.87	46.52	74.00	27.48	Pass	V	Peak
9	5006.1337	34.51	4.83	-42.80	50.10	46.64	74.00	27.36	Pass	V	Peak
10	6491.2327	35.90	5.48	-42.50	49.81	48.69	74.00	25.31	Pass	V	Peak
11	7681.3121	36.53	6.22	-42.14	49.23	49.84	74.00	24.16	Pass	V	Peak
12	9226.4151	37.65	6.52	-42.04	49.22	51.35	74.00	22.65	Pass	V	Peak

Mode:		802.11 b 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	1945.0945	31.34	3.42	-43.07	51.22	42.91	74.00	31.09	Pass	H	Peak
2	3282.0188	33.31	4.53	-43.09	52.11	46.86	74.00	27.14	Pass	H	Peak
3	5005.1337	34.51	4.83	-42.81	50.54	47.07	74.00	26.93	Pass	H	Peak
4	7657.3105	36.54	6.17	-42.14	48.84	49.41	74.00	24.59	Pass	H	Peak
5	9230.4154	37.65	6.54	-42.04	49.46	51.61	74.00	22.39	Pass	H	Peak
6	10317.4878	38.24	6.88	-42.03	49.77	52.86	74.00	21.14	Pass	H	Peak
7	1797.6798	30.36	3.32	-42.71	55.57	46.54	74.00	27.46	Pass	V	Peak
8	3283.0189	33.31	4.54	-43.10	54.41	49.16	74.00	24.84	Pass	V	Peak
9	5026.1351	34.53	4.85	-42.79	51.21	47.80	74.00	26.20	Pass	V	Peak
10	6477.2318	35.90	5.49	-42.51	49.15	48.03	74.00	25.97	Pass	V	Peak
11	7599.3066	36.56	6.10	-42.12	49.45	49.99	74.00	24.01	Pass	V	Peak
12	9230.4154	37.65	6.54	-42.04	49.21	51.36	74.00	22.64	Pass	V	Peak

Mode:		802.11 g 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	Remak
1	1977.8978	31.55	3.45	-43.14	50.98	42.84	74.00	31.16	Pass	H	Peak
2	3216.0144	33.29	4.59	-43.11	54.36	49.13	74.00	24.87	Pass	H	Peak
3	5027.1351	34.53	4.85	-42.79	51.22	47.81	74.00	26.19	Pass	H	Peak
4	5994.1996	35.79	5.34	-42.60	49.19	47.72	74.00	26.28	Pass	H	Peak
5	7529.3020	36.59	5.90	-42.11	49.29	49.67	74.00	24.33	Pass	H	Peak
6	9102.4068	37.68	6.44	-42.02	48.94	51.04	74.00	22.96	Pass	H	Peak
7	1796.0796	30.35	3.31	-42.70	54.03	44.99	74.00	29.01	Pass	V	Peak
8	3216.0144	33.29	4.59	-43.11	52.97	47.74	74.00	26.26	Pass	V	Peak
9	4555.1037	34.50	4.78	-42.80	50.10	46.58	74.00	27.42	Pass	V	Peak
10	5970.1980	35.75	5.33	-42.60	48.81	47.29	74.00	26.71	Pass	V	Peak
11	7647.3098	36.54	6.15	-42.13	48.87	49.43	74.00	24.57	Pass	V	Peak
12	10214.4810	38.10	6.85	-42.06	49.42	52.31	74.00	21.69	Pass	V	Peak

Mode:		802.11 g 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	Remak
1	1794.0794	30.34	3.31	-42.71	50.08	41.02	74.00	32.98	Pass	H	Peak
2	3249.0166	33.30	4.45	-43.10	53.23	47.88	74.00	26.12	Pass	H	Peak
3	5010.1340	34.51	4.83	-42.79	51.29	47.84	74.00	26.16	Pass	H	Peak
4	6472.2315	35.89	5.50	-42.50	48.82	47.71	74.00	26.29	Pass	H	Peak
5	7652.3102	36.54	6.16	-42.14	48.80	49.36	74.00	24.64	Pass	H	Peak
6	10150.4767	38.01	6.86	-42.07	48.85	51.65	74.00	22.35	Pass	H	Peak
7	1797.8798	30.37	3.32	-42.72	54.77	45.74	74.00	28.26	Pass	V	Peak
8	3249.0166	33.30	4.45	-43.10	52.10	46.75	74.00	27.25	Pass	V	Peak
9	5032.1355	34.53	4.86	-42.79	50.24	46.84	74.00	27.16	Pass	V	Peak
10	6695.2464	35.98	5.49	-42.38	49.69	48.78	74.00	25.22	Pass	V	Peak
11	7733.3156	36.51	6.25	-42.15	48.94	49.55	74.00	24.45	Pass	V	Peak
12	9679.4453	37.67	6.64	-42.09	49.42	51.64	74.00	22.36	Pass	V	Peak

Mode:		802.11 g 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	Remak
1	1965.6966	31.47	3.44	-43.12	51.35	43.14	74.00	30.86	Pass	H	Peak
2	4126.0751	33.98	4.42	-42.95	49.72	45.17	74.00	28.83	Pass	H	Peak
3	5007.1338	34.51	4.83	-42.80	50.69	47.23	74.00	26.77	Pass	H	Peak
4	6253.2169	35.85	5.36	-42.55	49.47	48.13	74.00	25.87	Pass	H	Peak
5	7820.3214	36.47	6.06	-42.17	48.96	49.32	74.00	24.68	Pass	H	Peak
6	9266.4178	37.65	6.61	-42.05	49.00	51.21	74.00	22.79	Pass	H	Peak
7	1796.0796	30.35	3.31	-42.70	54.62	45.58	74.00	28.42	Pass	V	Peak
8	3283.0189	33.31	4.54	-43.10	53.39	48.14	74.00	25.86	Pass	V	Peak
9	4997.1331	34.50	4.82	-42.80	50.95	47.47	74.00	26.53	Pass	V	Peak
10	6457.2305	35.89	5.51	-42.50	49.22	48.12	74.00	25.88	Pass	V	Peak
11	8571.3714	36.76	6.33	-42.00	49.54	50.63	74.00	23.37	Pass	V	Peak
12	10400.4934	38.36	7.20	-42.02	49.63	53.17	74.00	20.83	Pass	V	Peak

Mode:		802.11 n (HT20)				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	Remak
1	1864.2864	30.80	3.39	-42.86	51.12	42.45	74.00	31.55	Pass	H	Peak
2	2562.3562	32.50	4.09	-43.10	51.82	45.31	74.00	28.69	Pass	H	Peak
3	5038.1359	34.54	4.87	-42.79	50.38	47.00	74.00	27.00	Pass	H	Peak
4	6473.2315	35.89	5.50	-42.50	49.04	47.93	74.00	26.07	Pass	H	Peak
5	7621.3081	36.55	6.12	-42.12	49.59	50.14	74.00	23.86	Pass	H	Peak
6	9299.4200	37.64	6.64	-42.06	49.32	51.54	74.00	22.46	Pass	H	Peak
7	1800.2800	30.38	3.32	-42.71	54.73	45.72	74.00	28.28	Pass	V	Peak
8	3216.0144	33.29	4.59	-43.11	53.34	48.11	74.00	25.89	Pass	V	Peak
9	3939.0626	33.75	4.34	-43.01	50.11	45.19	74.00	28.81	Pass	V	Peak
10	5058.1372	34.56	4.86	-42.77	49.95	46.60	74.00	27.40	Pass	V	Peak
11	7504.3003	36.60	5.95	-42.10	49.56	50.01	74.00	23.99	Pass	V	Peak
12	9209.4140	37.66	6.47	-42.04	49.50	51.59	74.00	22.41	Pass	V	Peak

Mode:		802.11 n (HT20)				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	Remak
1	2134.7135	31.89	3.63	-43.18	51.06	43.40	74.00	30.60	Pass	H	Peak
2	3249.0166	33.30	4.45	-43.10	52.42	47.07	74.00	26.93	Pass	H	Peak
3	5006.1337	34.51	4.83	-42.80	50.49	47.03	74.00	26.97	Pass	H	Peak
4	6427.2285	35.89	5.42	-42.51	49.60	48.40	74.00	25.60	Pass	H	Peak
5	7785.3190	36.49	6.14	-42.16	50.54	51.01	74.00	22.99	Pass	H	Peak
6	9238.4159	37.65	6.56	-42.04	49.33	51.50	74.00	22.50	Pass	H	Peak
7	1798.8799	30.37	3.32	-42.71	53.38	44.36	74.00	29.64	Pass	V	Peak
8	3249.0166	33.30	4.45	-43.10	51.44	46.09	74.00	27.91	Pass	V	Peak
9	5037.1358	34.54	4.86	-42.78	50.49	47.11	74.00	26.89	Pass	V	Peak
10	6822.2548	36.03	5.58	-42.31	48.94	48.24	74.00	25.76	Pass	V	Peak
11	7578.3052	36.57	5.99	-42.12	49.34	49.78	74.00	24.22	Pass	V	Peak
12	9159.4106	37.67	6.45	-42.04	49.02	51.10	74.00	22.90	Pass	V	Peak

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	Remak
1	1822.2822	30.53	3.35	-42.77	51.71	42.82	74.00	31.18	Pass	H	Peak
2	2194.9195	31.97	3.65	-43.16	51.22	43.68	74.00	30.32	Pass	H	Peak
3	5052.1368	34.55	4.88	-42.78	50.92	47.57	74.00	26.43	Pass	H	Peak
4	6464.2309	35.89	5.51	-42.51	49.42	48.31	74.00	25.69	Pass	H	Peak
5	8394.3596	36.56	6.31	-42.04	49.32	50.15	74.00	23.85	Pass	H	Peak
6	10565.5044	38.51	6.97	-42.00	48.86	52.34	74.00	21.66	Pass	H	Peak
7	1798.6799	30.37	3.32	-42.71	54.71	45.69	74.00	28.31	Pass	V	Peak
8	3283.0189	33.31	4.54	-43.10	53.21	47.96	74.00	26.04	Pass	V	Peak
9	5064.1376	34.56	4.85	-42.77	51.52	48.16	74.00	25.84	Pass	V	Peak
10	6402.2268	35.88	5.32	-42.52	50.12	48.80	74.00	25.20	Pass	V	Peak
11	7785.3190	36.49	6.14	-42.16	48.86	49.33	74.00	24.67	Pass	V	Peak
12	9227.4152	37.65	6.53	-42.04	49.38	51.52	74.00	22.48	Pass	V	Peak

Mode:		802.11 n (HT40) (13.5Mbps)				Channel:		2422			
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remak
1	2029.9030	31.74	3.52	-43.19	50.66	42.73	74.00	31.27	Pass	H	Peak
2	3229.0153	33.29	4.53	-43.09	52.55	47.28	74.00	26.72	Pass	H	Peak
3	5024.1349	34.52	4.85	-42.79	51.14	47.72	74.00	26.28	Pass	H	Peak
4	6967.2645	36.09	5.77	-42.23	49.83	49.46	74.00	24.54	Pass	H	Peak
5	8486.3658	36.59	6.47	-42.01	48.88	49.93	74.00	24.07	Pass	H	Peak
6	9714.4476	37.69	6.64	-42.10	49.41	51.64	74.00	22.36	Pass	H	Peak
7	1797.8798	30.37	3.32	-42.72	54.48	45.45	74.00	28.55	Pass	V	Peak
8	2501.1501	32.40	4.03	-43.09	54.59	47.93	74.00	26.07	Pass	V	Peak
9	3032.0021	33.21	4.87	-43.10	51.16	46.14	74.00	27.86	Pass	V	Peak
10	5014.1343	34.51	4.84	-42.79	50.85	47.41	74.00	26.59	Pass	V	Peak
11	6936.2624	36.07	5.83	-42.23	49.44	49.11	74.00	24.89	Pass	V	Peak
12	9225.4150	37.65	6.52	-42.04	49.38	51.51	74.00	22.49	Pass	V	Peak

Mode:		802.11 n (HT40)				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	Remak
1	1810.6811	30.45	3.33	-42.73	50.66	41.71	74.00	32.29	Pass	H	Peak
2	3249.0166	33.30	4.45	-43.10	53.70	48.35	74.00	25.65	Pass	H	Peak
3	5002.1335	34.50	4.82	-42.79	51.26	47.79	74.00	26.21	Pass	H	Peak
4	6927.2618	36.07	5.84	-42.24	49.11	48.78	74.00	25.22	Pass	H	Peak
5	8520.3680	36.64	6.42	-41.99	48.63	49.70	74.00	24.30	Pass	H	Peak
6	10346.4898	38.29	6.92	-42.04	49.56	52.73	74.00	21.27	Pass	H	Peak
7	1796.0796	30.35	3.31	-42.70	54.34	45.30	74.00	28.70	Pass	V	Peak
8	3249.0166	33.30	4.45	-43.10	51.93	46.58	74.00	27.42	Pass	V	Peak
9	5031.1354	34.53	4.86	-42.79	50.73	47.33	74.00	26.67	Pass	V	Peak
10	6454.2303	35.89	5.52	-42.51	49.34	48.24	74.00	25.76	Pass	V	Peak
11	8512.3675	36.63	6.45	-42.00	49.47	50.55	74.00	23.45	Pass	V	Peak
12	10398.4932	38.36	7.19	-42.02	49.38	52.91	74.00	21.09	Pass	V	Peak

Mode:		802.11 n (HT40)				Channel:		2452			
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remak
1	2173.5174	31.94	3.65	-43.16	51.41	43.84	74.00	30.16	Pass	H	Peak
2	3269.0179	33.31	4.50	-43.10	51.49	46.20	74.00	27.80	Pass	H	Peak
3	5541.1694	35.07	5.16	-42.60	49.71	47.34	74.00	26.66	Pass	H	Peak
4	6950.2634	36.08	5.81	-42.23	49.82	49.48	74.00	24.52	Pass	H	Peak
5	9346.4231	37.63	6.61	-42.07	48.92	51.09	74.00	22.91	Pass	H	Peak
6	11309.5540	38.79	7.34	-42.01	48.96	53.08	74.00	20.92	Pass	H	Peak
7	1797.2797	30.36	3.32	-42.71	54.61	45.58	74.00	28.42	Pass	V	Peak
8	3269.0179	33.31	4.50	-43.10	52.87	47.58	74.00	26.42	Pass	V	Peak
9	5056.1371	34.56	4.87	-42.78	51.27	47.92	74.00	26.08	Pass	V	Peak
10	7024.2683	36.12	5.69	-42.19	49.81	49.43	74.00	24.57	Pass	V	Peak
11	9265.4177	37.65	6.61	-42.05	49.22	51.43	74.00	22.57	Pass	V	Peak
12	10969.5313	38.59	7.45	-41.99	48.52	52.57	74.00	21.43	Pass	V	Peak

Note:

1) 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

2) 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.