TEST REPORT

Product	:	Artificial Intelligence Terminal Computer
Trade mark	:	N/A
Model/Type reference	:	PP23TQA
Serial Number	:	N/A
Report Number	:	EED32M00211503
FCC ID	:	2AWMI-PP23TQA
Date of Issue	:	Sep. 14, 2020
Test Standards	:	47 CFR Part 15Subpart C
Test result	:	PASS

Prepared for:

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Prepared by:

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Date: Sep. 14, 2020

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

Check No.:3915617794

2 Version

Version No.	Date	Description
00	Sep. 14, 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.
The tested sample(s) and the sample information are provided by the client.

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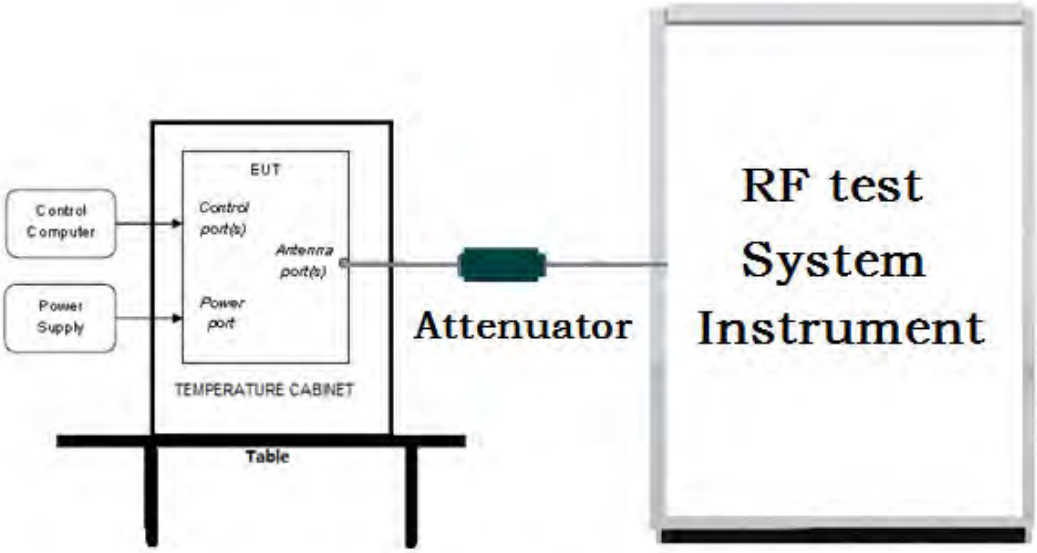
5 Test Requirement

5.1 Test setup

5.1.1 For Conducted test setup



5.1.2 For Radiated Emissions test setup

Radiated Emissions setup:

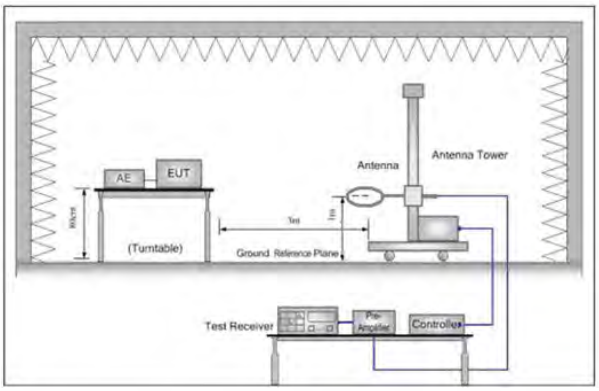


Figure 1. Below 30MHz

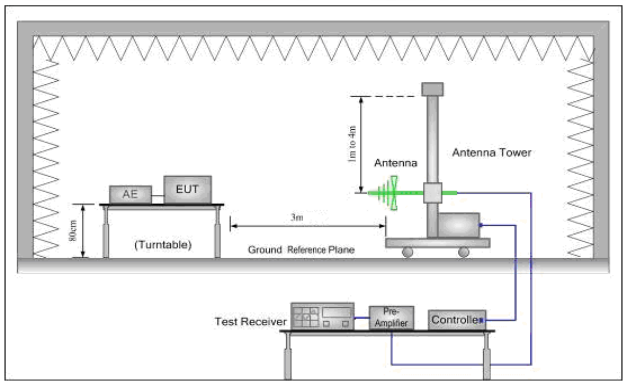


Figure 2. 30MHz to 1GHz

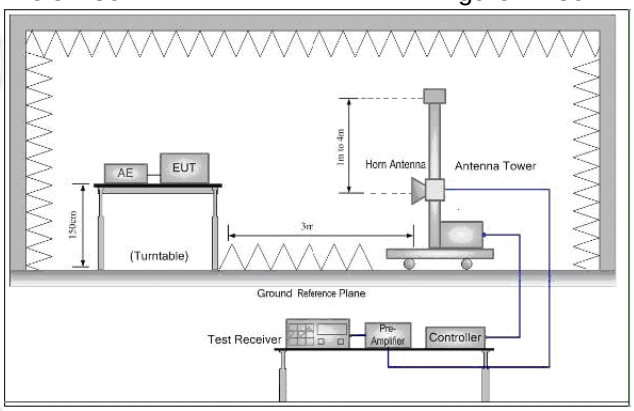
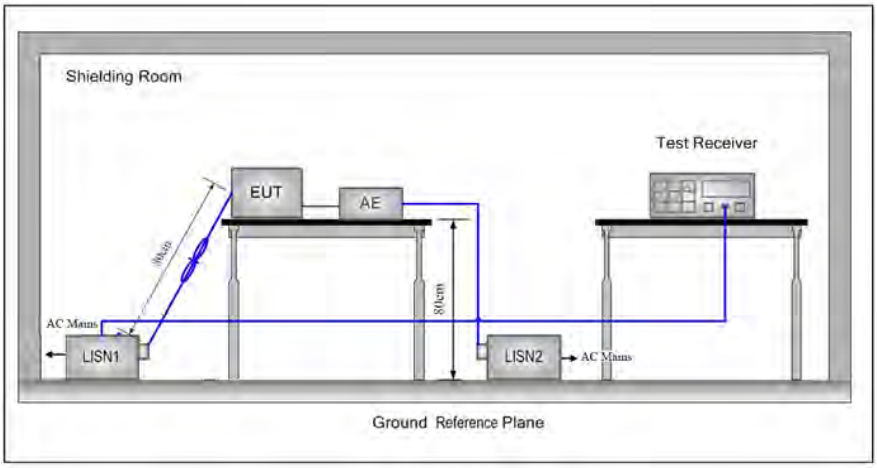


Figure 3. Above 1GHz

5.1.3 For Conducted Emissions test setup

Conducted Emissions setup



5.2 Test Environment

Operating Environment:	
Temperature:	24.0 °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:

Pre-scan under all rate at lowest channel 1

Mode	**802.11b**			
Data Rate	**1Mbps**	**2Mbps**	**5.5Mbps**	**11Mbps**
Power(dBm)	17.46	17.43	17.41	17.38

Mode	**802.11g**							
Data Rate	**6Mbps**	**9Mbps**	**12Mbps**	**18Mbps**	**24Mbps**	**36Mbps**	**48Mbps**	**54Mbps**
Power(dBm)	17.01	16.98	16.96	16.95	16.93	16.91	16.88	16.85

Mode	**802.11n (HT20)**							
Data Rate	**6.5Mbps**	**13Mbps**	**19.5Mbps**	**26Mbps**	**39Mbps**	**52Mbps**	**58.5Mbps**	**65Mbps**
Power(dBm)	16.8	16.77	16.75	16.73	16.7	16.68	16.66	16.63
Mode	**802.11n (HT40)**							
Data Rate	**13.5Mbps**	**27Mbps**	**40.5Mbps**	**54Mbps**	**81Mbps**	**108Mbps**	**121.5Mbps**	**135Mbps**
Power(dBm)	15.48	15.46	15.43	15.41	15.38	15.36	15.33	15.30

Through Pre-scan, 1Mbps of rate is the worst case of 802.11b; 6Mbps of rate is the worst case of802.11g; 6.5Mbps of rate is the worst case of 802.11n(HT20); 13.5Mbps of rate is the worst case of802.11n(HT40).

6 General Information

6.1 Client Information

Applicant:	Beijing Puppy Robotics Co., Ltd.
Address of Applicant:	Room 103, building 1, Yard 33, Yanqi Road, Huairou District, Beijing,China
Manufacturer:	Beijing Puppy Robotics Co., Ltd.
Address of Manufacturer:	Room 103, building 1, Yard 33, Yanqi Road, Huairou District, Beijing,China
Factory:	Zhangzhou Wanlida Technology Co., Ltd.
Address of Factory:	Wanlida Industrial Zone, Jingcheng Town, Nanjing, Zhangzhou, Fujian, China

6.2 General Description of EUT

Product Name:	Artificial Intelligence Terminal Computer	
Model No.(EUT):	PP23TQA	
Trade mark:	N/A	
EUT Supports Radios application:	802.11b/g/n(HT20)(HT40): 2412MHz ~2462 MHz	
Power Supply:	AC Adapter	MODEL:AP065G-19300 INPUT:100-240V~50/60Hz1.5AMax OUTPUT:19V⎓3A
Sample Received Date:	Jul. 16, 2020	
Sample tested Date:	Jul. 16, 2020 to Sep. 04, 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:	QRCT
Antenna Type and Gain:	Type: PIFA antenna Gain:4.1dBi
Test Voltage:	AC120V/60Hz

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	DELL	DELL 3490	D245DX2	DELL	CE&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	07-26-2019 06-29-2020	07-25-2020 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	07-26-2019 05-16-2020	07-25-2020 05-15-2021
Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-076	04-25-2018	04-24-2021
Receiver	R&S	ESCI7	100938-003	10-21-2019	10-20-2020
Multi device Controller	maturo	NCD/070/107 11112	---	---	---
Temperature/ Humidity Indicator	Shanghai qixiang	HM10	1804298	07-26-2019 06-29-2020	07-25-2020 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	980596	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	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
11B	Ant1	2412	12.43	12.51	99.32	---	PASS
	Ant2	2412	12.43	12.51	99.35	---	PASS
	Ant1	2437	12.43	12.51	99.35	---	PASS
	Ant2	2437	12.43	12.51	99.35	---	PASS
	Ant1	2462	12.43	12.51	99.35	---	PASS
	Ant2	2462	12.43	12.51	99.32	---	PASS
11G	Ant1	2412	2.06	2.10	98.19	---	PASS
	Ant2	2412	2.06	2.10	98.19	---	PASS
	Ant1	2437	2.06	2.10	98.19	---	PASS
	Ant2	2437	2.06	2.10	98.13	---	PASS
	Ant1	2462	2.06	2.10	98.19	---	PASS
	Ant2	2462	2.06	2.09	98.73	---	PASS
11N20SISO	Ant1	2412	1.92	1.94	99.22	---	PASS
	Ant2	2412	1.92	1.96	98.06	---	PASS
	Ant1	2437	1.92	1.96	98.06	---	PASS
	Ant2	2437	1.92	1.96	98.06	---	PASS
	Ant1	2462	1.92	1.96	98.06	---	PASS
	Ant2	2462	1.92	1.96	98.06	---	PASS
11N40SISO	Ant1	2422	1.81	1.87	94.67	---	PASS
	Ant2	2422	1.40	1.45	94.42	---	PASS
	Ant1	2437	1.25	1.30	94.43	---	PASS
	Ant2	2437	1.60	1.65	94.42	---	PASS
	Ant1	2452	1.39	1.44	94.43	---	PASS
	Ant2	2452	1.86	1.91	94.42	---	PASS

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：

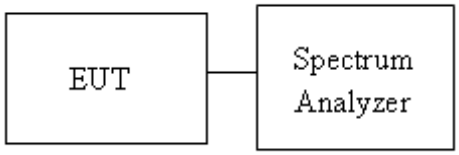
Average output power：For reporting purposes only.

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	Antenna	Channel	Conducted Peak Output Power [dBm]	Verdict
11B	Ant1	LCH	17.46	PASS
11B	Ant2	LCH	18.02	PASS
11B	Ant1	MCH	17.25	PASS
11B	Ant2	MCH	18.73	PASS
11B	Ant1	HCH	17.32	PASS
11B	Ant2	HCH	18.34	PASS
11G	Ant1	LCH	17.01	PASS
11G	Ant2	LCH	17.6	PASS
11G	Ant1	MCH	17.56	PASS
11G	Ant2	MCH	17.31	PASS
11G	Ant1	HCH	16.33	PASS
11G	Ant2	HCH	17.14	PASS
11N20SISO	Ant1	LCH	16.8	PASS
11N20SISO	Ant2	LCH	16.46	PASS
11N20SISO	Ant1	MCH	16.51	PASS
11N20SISO	Ant2	MCH	16.28	PASS
11N20SISO	Ant1	HCH	15.39	PASS
11N20SISO	Ant2	HCH	16.13	PASS
11N20MIMO	Ant1	LCH	12.11	PASS
11N20MIMO	Ant2	LCH	14.53	PASS
11N20MIMO	Ant1+2	LCH	16.50	PASS
11N20MIMO	Ant1	MCH	14.35	PASS
11N20MIMO	Ant2	MCH	12.65	PASS
11N20MIMO	Ant1+2	MCH	16.59	PASS
11N20MIMO	Ant1	HCH	13.64	PASS
11N20MIMO	Ant2	HCH	12.98	PASS
11N20MIMO	Ant1+2	HCH	16.33	PASS
11N40SISO	Ant1	LCH	15.48	PASS
11N40SISO	Ant2	LCH	15.5	PASS
11N40SISO	Ant1	MCH	15.34	PASS
11N40SISO	Ant2	MCH	15.39	PASS
11N40SISO	Ant1	HCH	15.17	PASS
11N40SISO	Ant2	HCH	15.27	PASS

11N40MIMO	Ant1	LCH	11.88	PASS
11N40MIMO	Ant2	LCH	13.11	PASS
11N40MIMO	Ant1+2	LCH	15.55	PASS
11N40MIMO	Ant1	MCH	12.92	PASS
11N40MIMO	Ant2	MCH	11.89	PASS
11N40MIMO	Ant1+2	MCH	15.45	PASS
11N40MIMO	Ant1	HCH	12.51	PASS
11N40MIMO	Ant2	HCH	11.44	PASS
11N40MIMO	Ant1+2	HCH	15.02	PASS

Test Graph

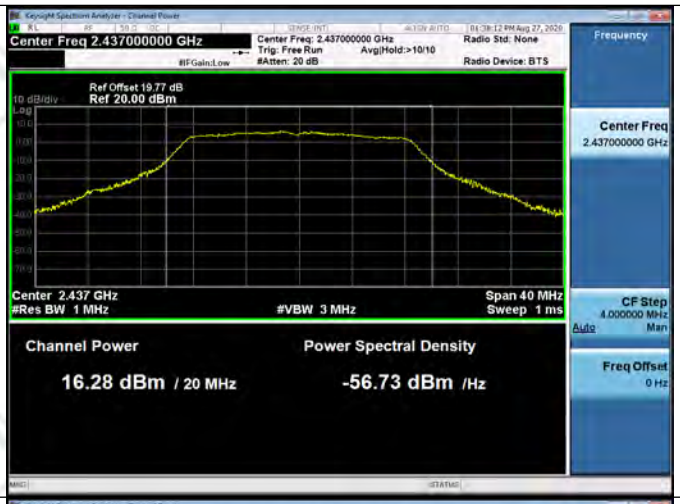
Graphs			
11B/LCH_Ant1			
11B/LCH_Ant2			
11B/MCH_Ant1			

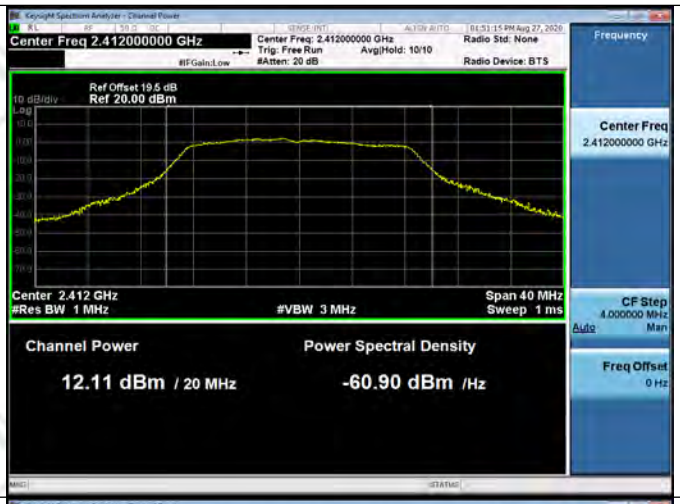
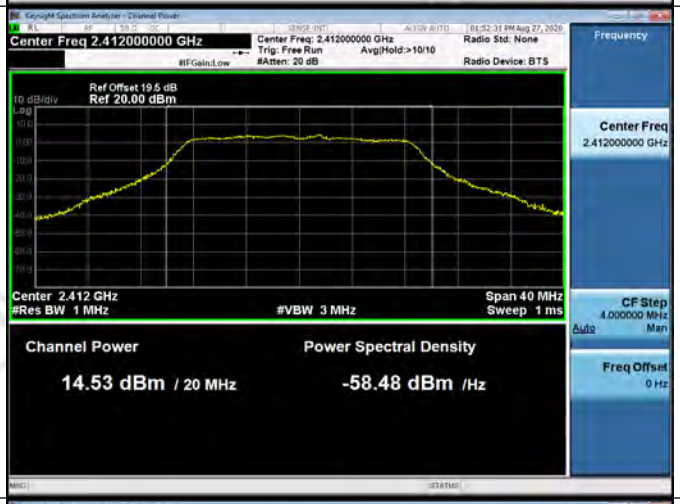
11B/MCH_Ant2			
11B/HCH_Ant1			
11B/HCH_Ant2			

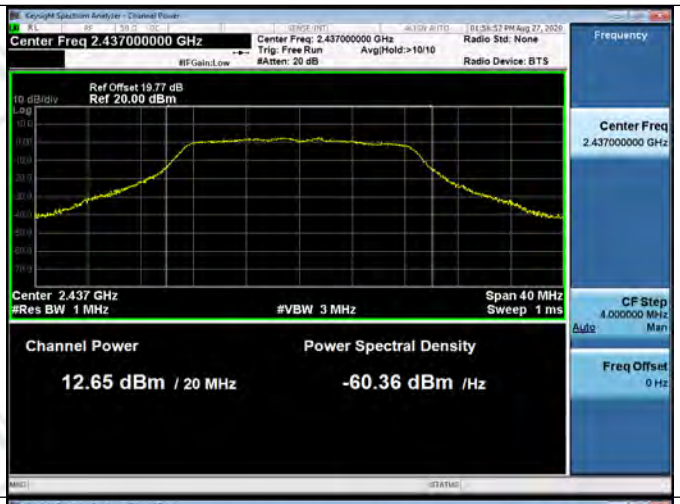
11G/LCH_Ant1			
11G/LCH_Ant2			
11G/MCH_Ant1			

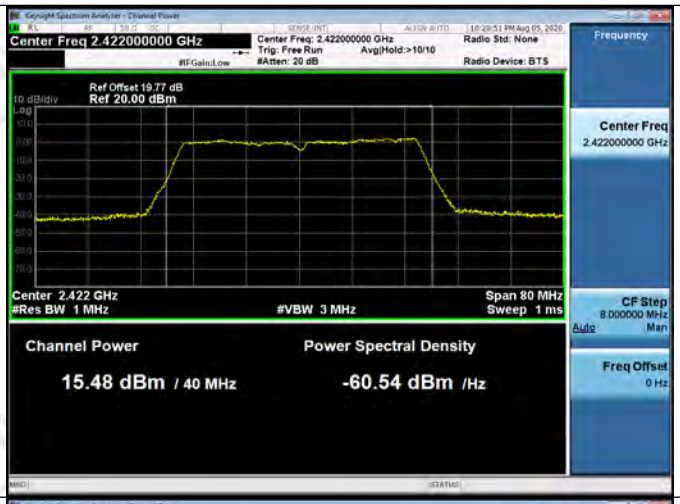
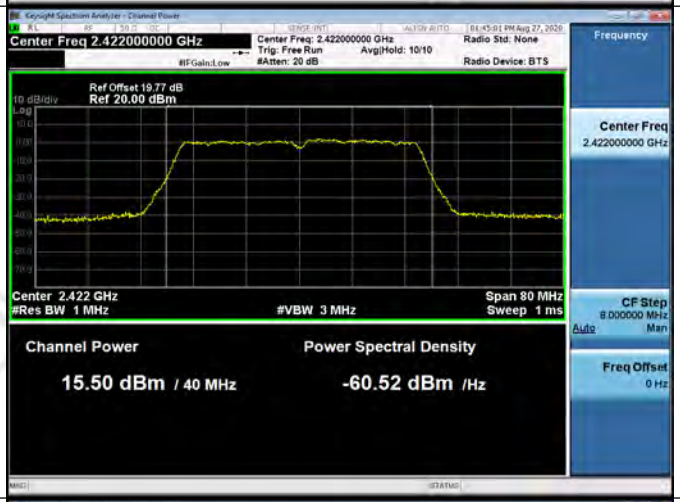
11G/MCH_Ant2			
11G/HCH_Ant1			
11G/HCH_Ant2			

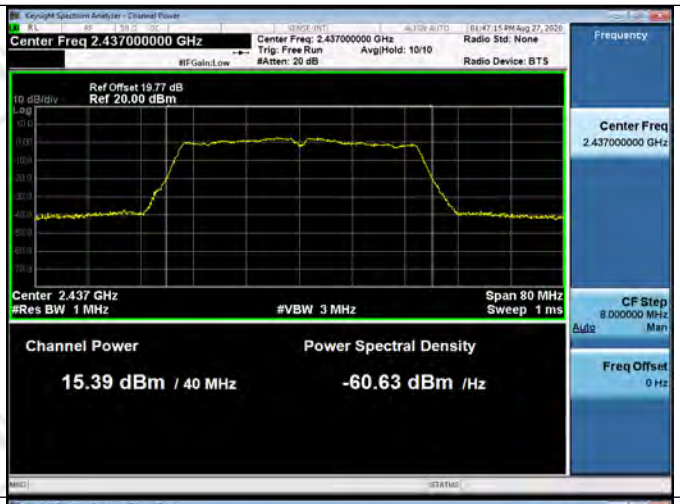
11N20SISO/LCH_Ant1			
11N20SISO/LCH_Ant2			
11N20SISO/MCH_Ant1			

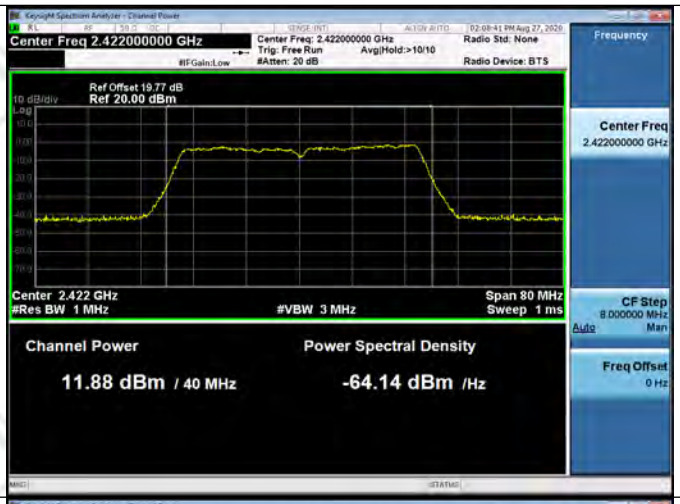
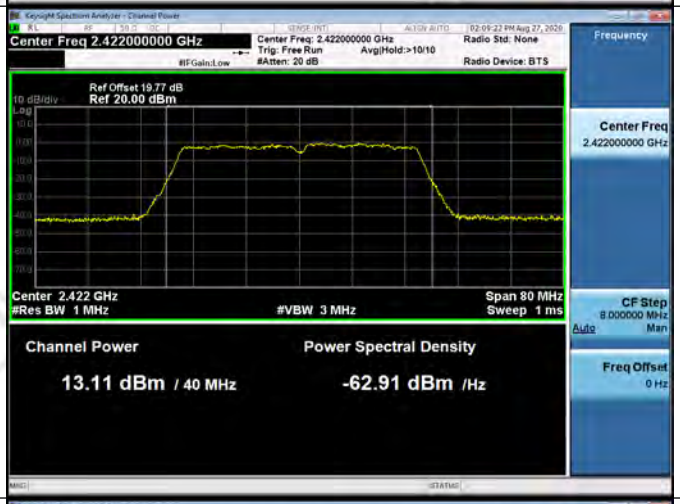
11N20SISO/MCH_Ant2			
11N20SISO/HCH_Ant1			
11N20SISO/HCH_Ant2			

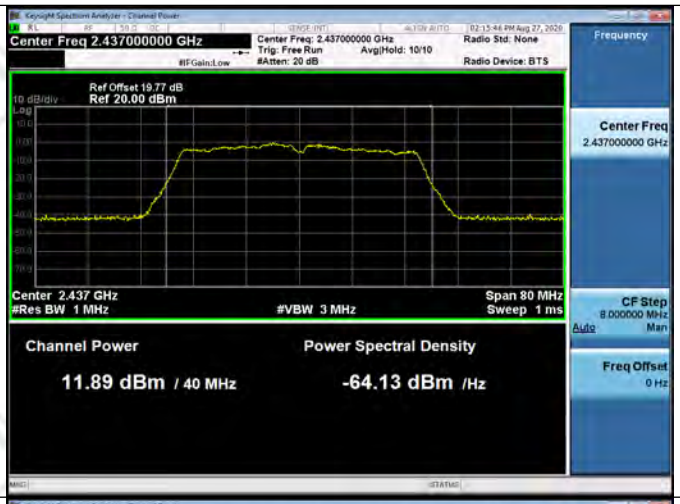
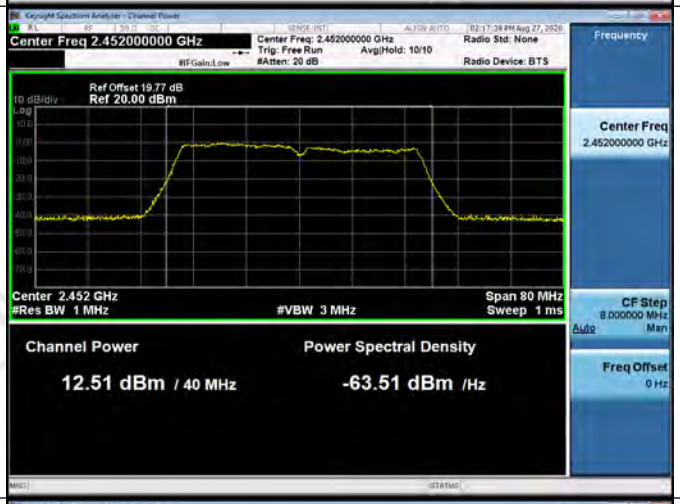
11N20MIMO/LCH_Ant1			
11N20MIMO/LCH_Ant2			
11N20MIMO/MCH_Ant1			

11N20MIMO/MCH_Ant2			
11N20MIMO/HCH_Ant1			
11N20MIMO/HCH_Ant2			

11N40SISO/LCH_Ant1			
11N40SISO/LCH_Ant2			
11N40SISO/MCH_Ant1			

11N40SISO/MCH_Ant2			
11N40SISO/HCH_Ant1			
11N40SISO/HCH_Ant2			

11N40MIMO/LCH_Ant1			
11N40MIMO/LCH_Ant2			
11N40MIMO/MCH_Ant1			

11N40MIMO/MCH_Ant2			
11N40MIMO/HCH_Ant1			
11N40MIMO/HCH_Ant2			

Appendix B): 6dB Occupied Bandwidth

Test Limit

According to §15.247(a)(2),

6 dB Bandwidth :

Limit	Shall be at least 500kHz

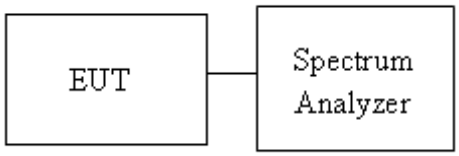
Occupied Bandwidth(99%) : For reporting purposes only.

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

6dB Occupied Bandwidth

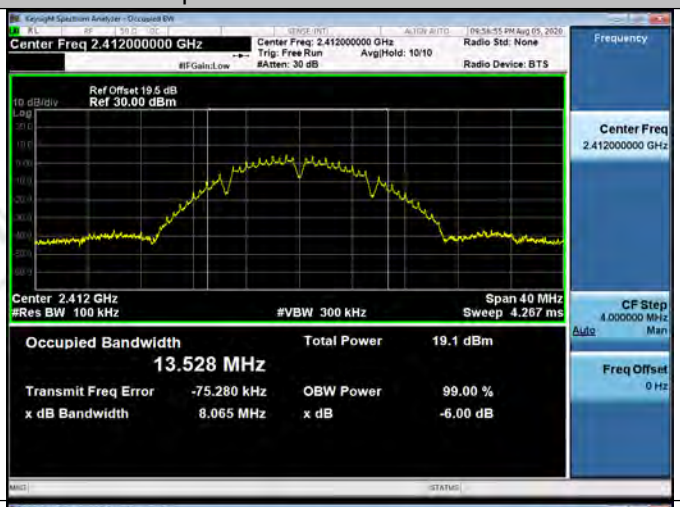
Mode	Antenna	Channel	6dB Bandwidth [MHz]	Verdict
11B	Ant1	LCH	8.065	PASS
11B	Ant2	LCH	8.082	PASS
11B	Ant1	MCH	8.071	PASS
11B	Ant2	MCH	8.078	PASS
11B	Ant1	HCH	8.090	PASS
11B	Ant2	HCH	8.081	PASS
11G	Ant1	LCH	15.13	PASS
11G	Ant2	LCH	15.33	PASS
11G	Ant1	MCH	13.86	PASS
11G	Ant2	MCH	15.43	PASS
11G	Ant1	HCH	15.92	PASS
11G	Ant2	HCH	15.35	PASS
11N20SISO	Ant1	LCH	14.97	PASS
11N20SISO	Ant2	LCH	15.45	PASS
11N20SISO	Ant1	MCH	15.10	PASS
11N20SISO	Ant2	MCH	15.39	PASS
11N20SISO	Ant1	HCH	16.05	PASS
11N20SISO	Ant2	HCH	15.70	PASS
11N40SISO	Ant1	LCH	35.63	PASS
11N40SISO	Ant2	LCH	35.42	PASS
11N40SISO	Ant1	MCH	35.05	PASS
11N40SISO	Ant2	MCH	35.07	PASS
11N40SISO	Ant1	HCH	35.74	PASS
11N40SISO	Ant2	HCH	35.94	PASS

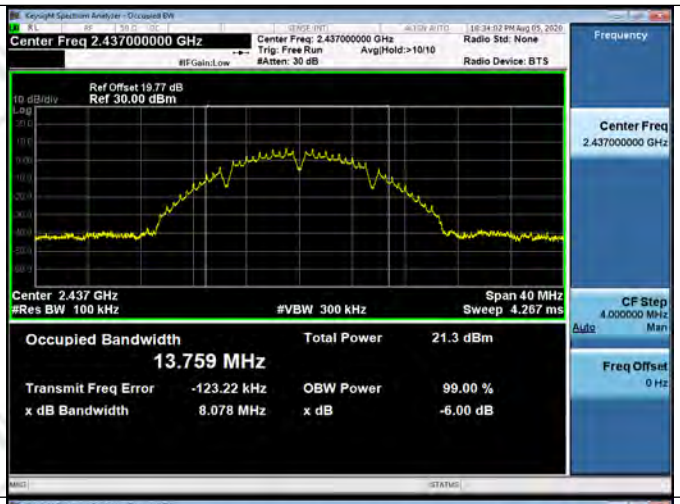
99% Occupied Bandwidth

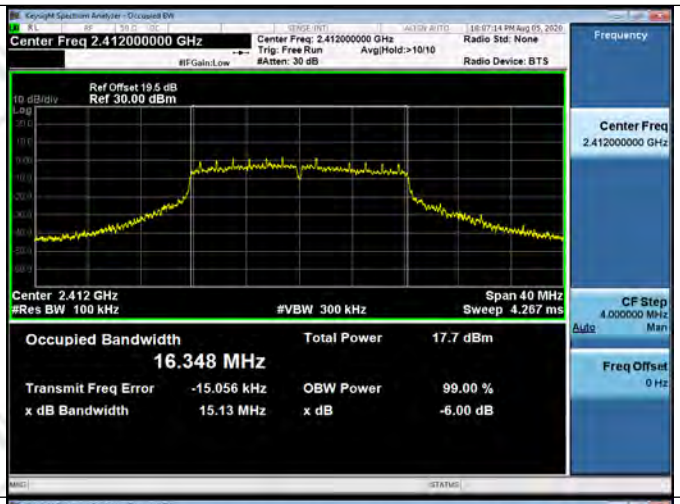
Test Mode	Antenna	Channel	OCB [MHz]	Limit[MHz]	Verdict
11B	Ant1	LCH	14.677	---	PASS
11B	Ant2	LCH	14.319	---	PASS
11B	Ant1	MCH	14.647	---	PASS
11B	Ant2	MCH	14.614	---	PASS
11B	Ant1	HCH	14.922	---	PASS
11B	Ant2	HCH	14.519	---	PASS
11G	Ant1	LCH	17.106	---	PASS
11G	Ant2	LCH	17.388	---	PASS
11G	Ant1	MCH	16.792	---	PASS
11G	Ant2	MCH	17.378	---	PASS
11G	Ant1	HCH	17.104	---	PASS
11G	Ant2	HCH	17.604	---	PASS
11N20SISO	Ant1	LCH	21.012	---	PASS
11N20SISO	Ant2	LCH	18.492	---	PASS
11N20SISO	Ant1	MCH	18.176	---	PASS
11N20SISO	Ant2	MCH	18.408	---	PASS
11N20SISO	Ant1	HCH	19.038	---	PASS
11N20SISO	Ant2	HCH	18.629	---	PASS
11N40SISO	Ant1	LCH	40.137	---	PASS
11N40SISO	Ant2	LCH	37.516	---	PASS
11N40SISO	Ant1	MCH	37.026	---	PASS
11N40SISO	Ant2	MCH	37.240	---	PASS
11N40SISO	Ant1	HCH	37.592	---	PASS
11N40SISO	Ant2	HCH	37.834	---	PASS

Test Graph

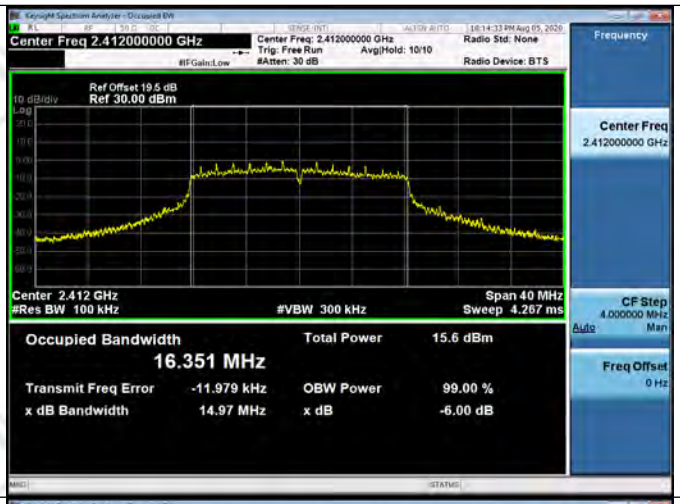
6dB Occupied Bandwidth

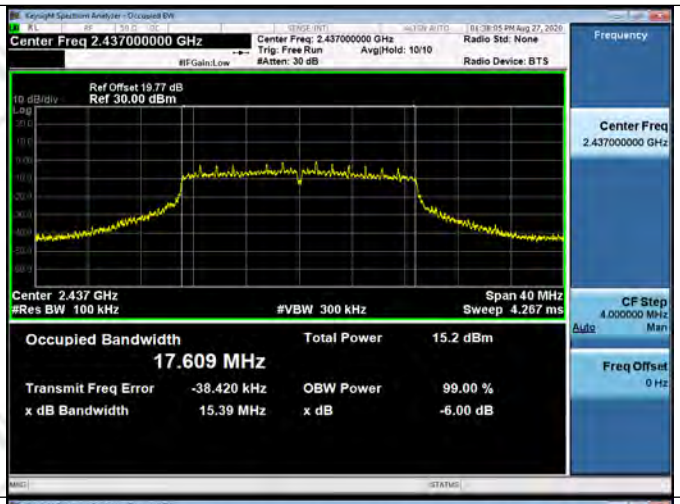
Graphs			
11B/LCH_Ant1			
11B/LCH_Ant2			
11B/MCH_Ant1			

11B/MCH_Ant2			
11B/HCH_Ant1			
11B/HCH_Ant2			

11G/LCH_Ant1			
11G/LCH_Ant2			
11G/MCH_Ant1			

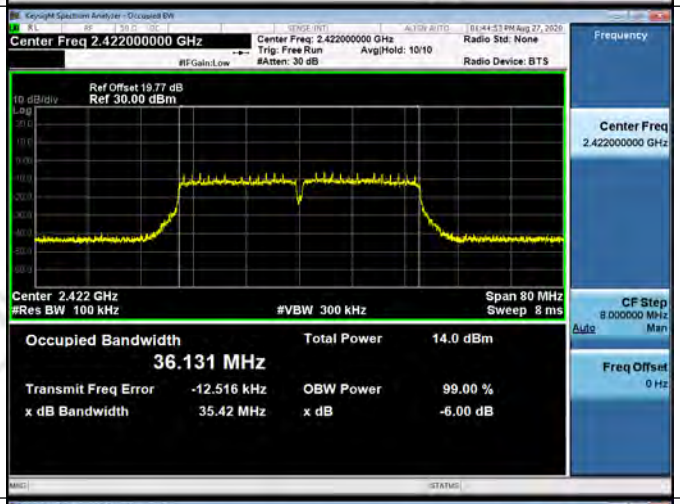
11G/MCH_Ant2			
11G/HCH_Ant1			
11G/HCH_Ant2			

11N20SISO/LCH_Ant1			
11N20SISO/LCH_Ant2			
11N20SISO/MCH_Ant1			

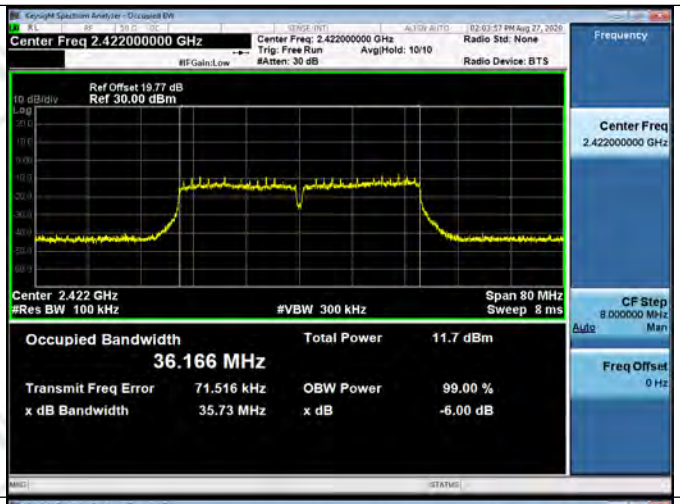
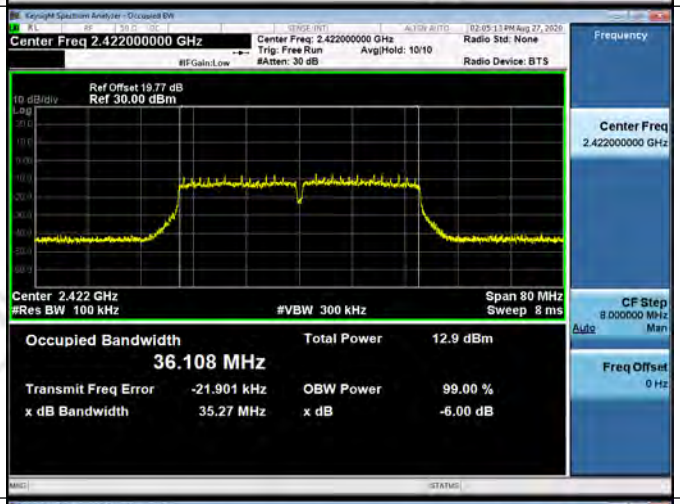
11N20SISO/MCH_Ant2			
11N20SISO/HCH_Ant1			
11N20SISO/HCH_Ant2			

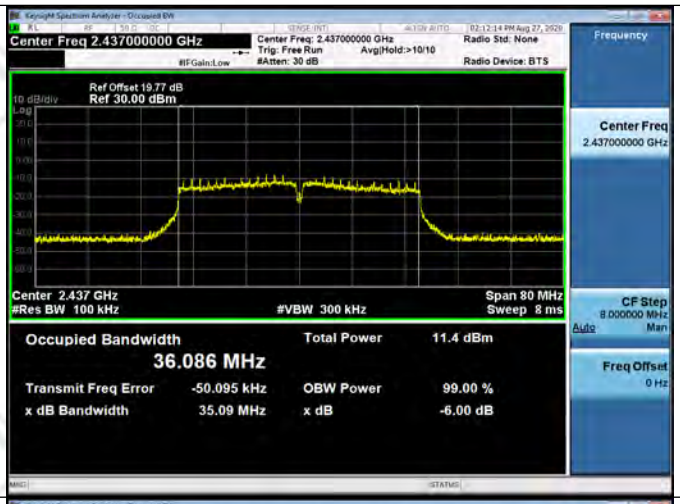
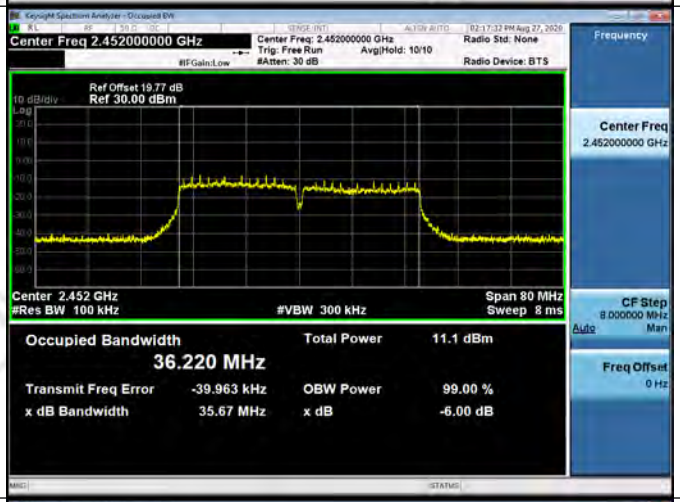
11N20MIMO/LCH_Ant1			
11N20MIMO/LCH_Ant2			
11N20MIMO/MCH_Ant1			

11N20MIMO/MCH_Ant2			
11N20MIMO/HCH_Ant1			
11N20MIMO/HCH_Ant2			

11N40SISO/LCH_Ant1			
11N40SISO/LCH_Ant2			
11N40SISO/MCH_Ant1			

11N40SISO/MCH_Ant2			
11N40SISO/HCH_Ant1			
11N40SISO/HCH_Ant2			

11N40MIMO/LCH_Ant1			
11N40MIMO/LCH_Ant2			
11N40MIMO/MCH_Ant1			

11N40MIMO/MCH_Ant2			
11N40MIMO/HCH_Ant1			
11N40MIMO/HCH_Ant2			

99% Occupied Bandwidth

Graphs			
11B/LCH_Ant1			
11B/LCH_Ant2			
11B/MCH_Ant1			

11B/MCH_Ant2		
11B/HCH_Ant1		
11B/HCH_Ant2		

11G/LCH_Ant1			
11G/LCH_Ant2			
11G/MCH_Ant1			

11G/MCH_Ant2			
11G/HCH_Ant1			
11G/HCH_Ant2			

11N20SISO/LCH_Ant1			
11N20SISO/LCH_Ant2			
11N20SISO/MCH_Ant1			

11N20SISO/MCH_Ant2			
11N20SISO/HCH_Ant1			
11N20SISO/HCH_Ant2			

11N40SISO/LCH_Ant1			
11N40SISO/LCH_Ant2			
11N40SISO/MCH_Ant1			

11N40SISO/MCH_Ant2			
11N40SISO/HCH_Ant1			
11N40SISO/HCH_Ant2			

Appendix C): Band-edge for RF Conducted Emissions

Test Limit

According to §15.247(d),

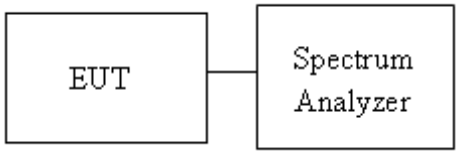
In any 100 kHz bandwidth outside the authorized frequency band,
Non-restricted bands shall be attenuated at least 20 dB/30 dB relative to the maximum PSD level in 100 kHz by RF conducted or a radiated measurement which fall in the restricted bands, as defined in §15.205(a), must also comply with the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

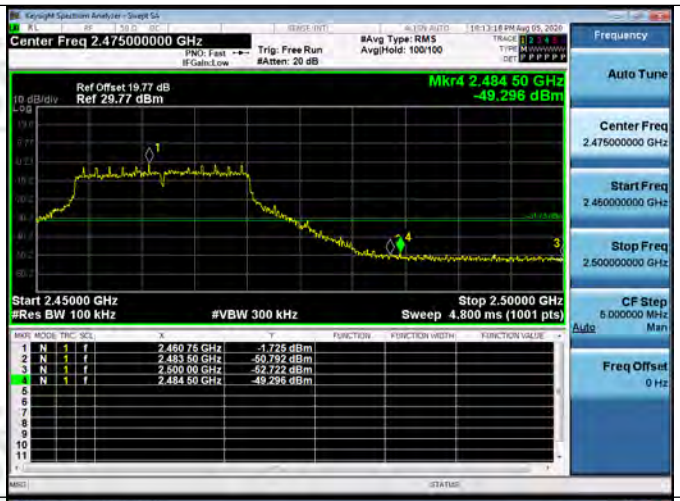


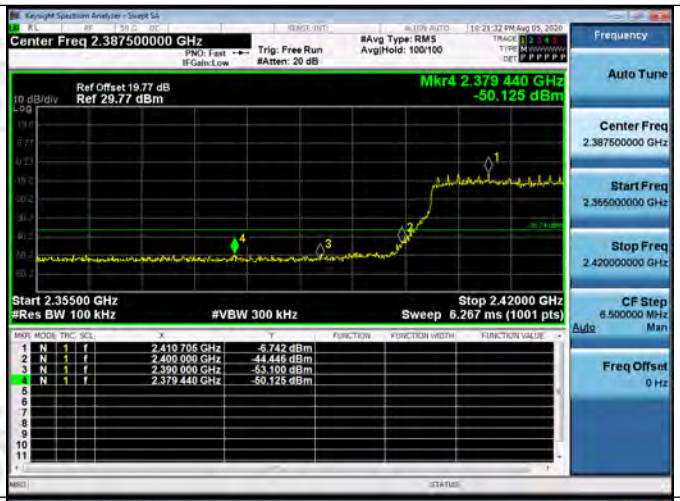
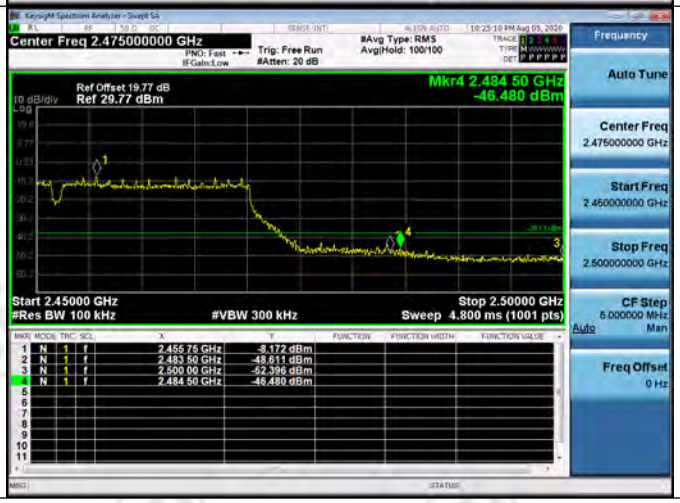
Result Table

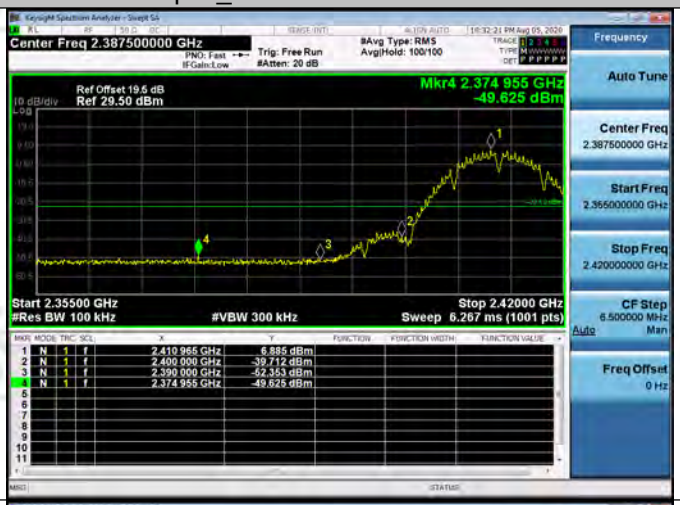
Mode	Antenna	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	Ant1	LCH	6.567	-49.957	-23.43	PASS
11B	Ant2	LCH	6.885	-49.625	-23.12	PASS
11B	Ant1	HCH	5.987	-49.928	-24.01	PASS
11B	Ant2	HCH	7.181	-49.794	-22.82	PASS
11G	Ant1	LCH	-2.070	-49.862	-32.07	PASS
11G	Ant2	LCH	-0.688	-50.051	-30.69	PASS
11G	Ant1	HCH	-1.725	-49.296	-31.73	PASS
11G	Ant2	HCH	-0.599	-46.932	-30.6	PASS
11N20SISO	Ant1	LCH	-0.655	-50.108	-30.66	PASS
11N20SISO	Ant2	LCH	-0.584	-50.146	-30.58	PASS
11N20SISO	Ant1	HCH	-2.763	-49.284	-32.76	PASS
11N20SISO	Ant2	HCH	-0.540	-48.414	-30.54	PASS
11N40SISO	Ant1	LCH	-6.742	-50.125	-36.74	PASS
11N40SISO	Ant2	LCH	-6.974	-49.894	-36.97	PASS
11N40SISO	Ant1	HCH	-8.172	-46.480	-38.17	PASS
11N40SISO	Ant2	HCH	-6.460	-49.470	-36.46	PASS

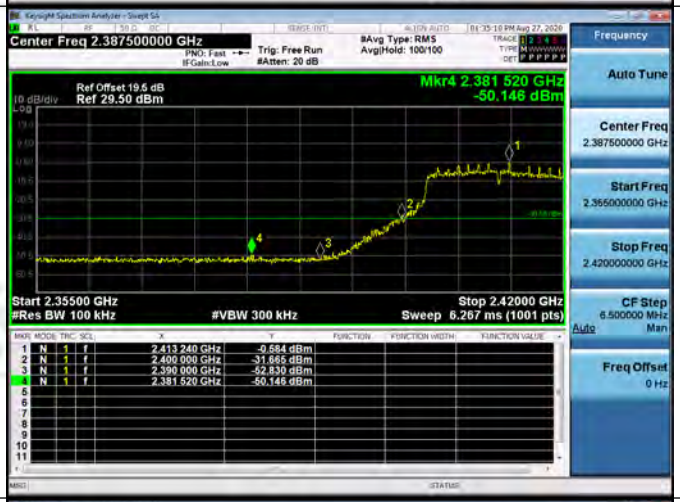
Test Graph

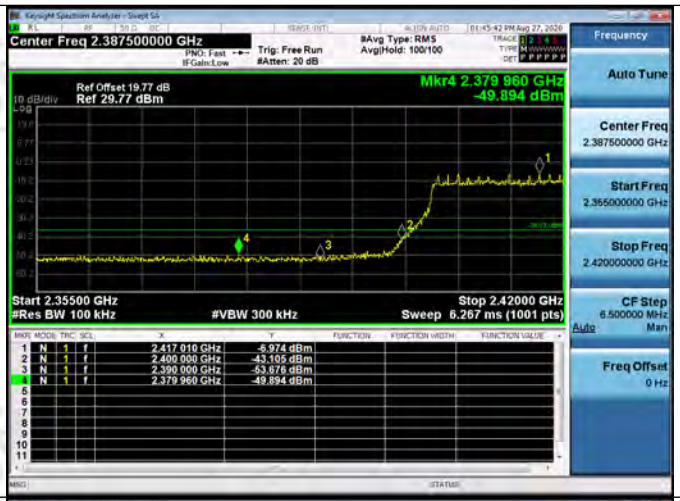
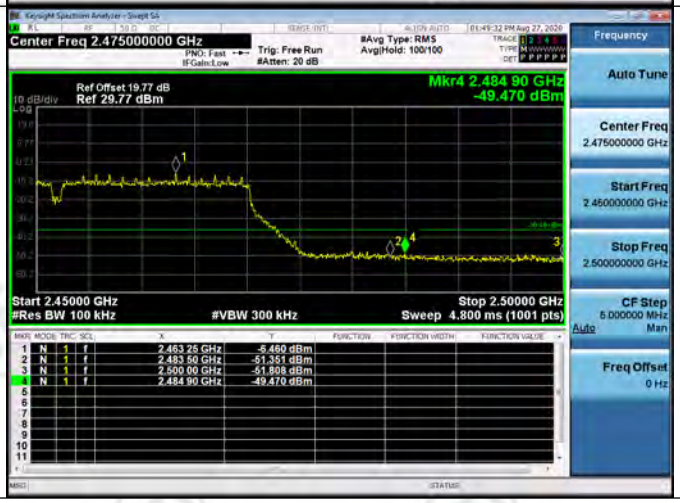
Graphs_Ant1			
11B/LCH			
11B/HCH			
11G/LCH			

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

11N40SISO/LCH			
11N40SISO/HCH			

Graphs_Ant2			
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),

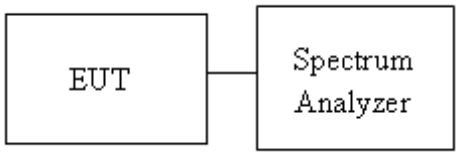
In any 100 kHz bandwidth outside the authorized frequency band,
Non-restricted bands shall be attenuated at least 20 dB/30 dB relative to the maximum PSD level in 100 kHz by RF conducted or a radiated measurement which fall in the restricted bands, as defined in §15.205(a), must also comply with the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

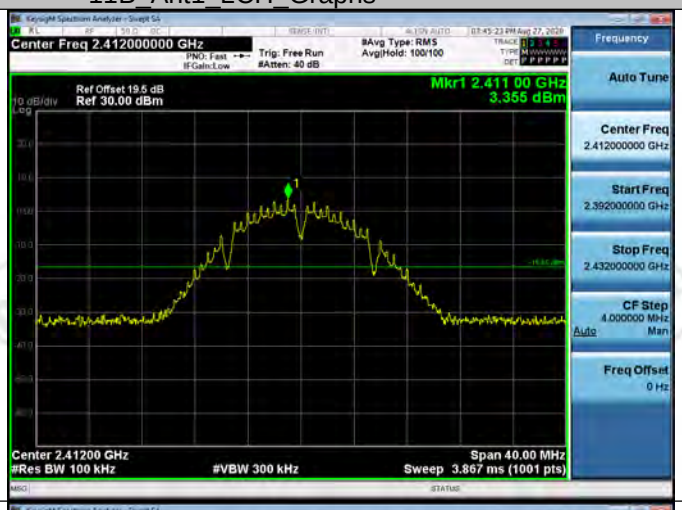
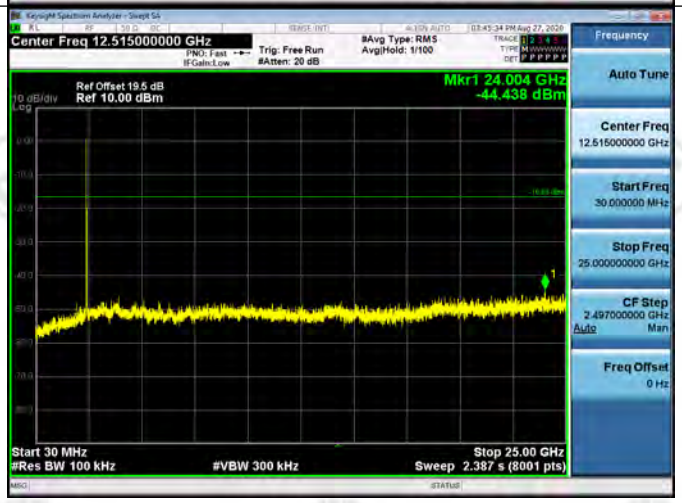
Test Setup

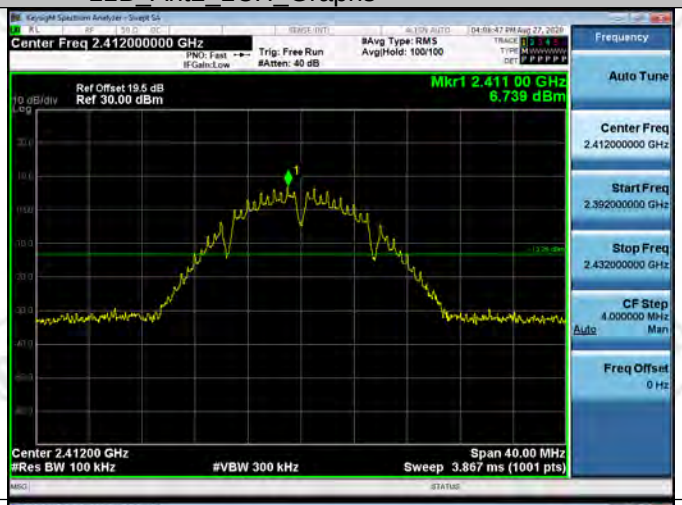
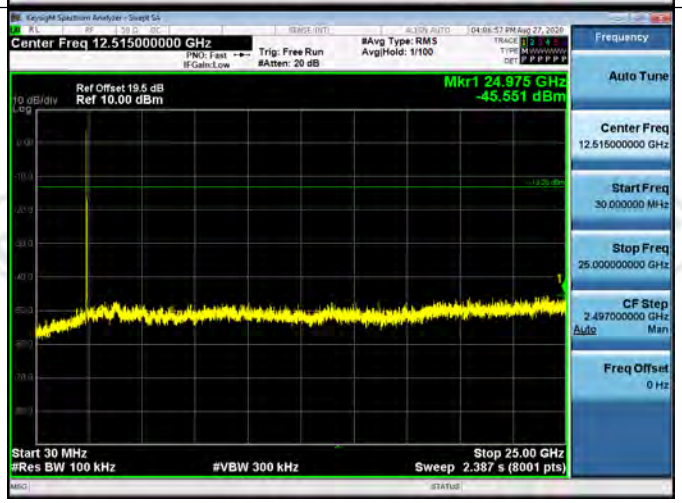


Result Table

Mode	Antenna	Channel	Pref [dBm]	Puw[dBm]	Verdict
11B	Ant1	LCH	3.355	<Limit	PASS
11B	Ant2	LCH	6.739	<Limit	PASS
11B	Ant1	MCH	5.561	<Limit	PASS
11B	Ant2	MCH	7.132	<Limit	PASS
11B	Ant1	HCH	5.987	<Limit	PASS
11B	Ant2	HCH	6.922	<Limit	PASS
11G	Ant1	LCH	4.695	<Limit	PASS
11G	Ant2	LCH	5.941	<Limit	PASS
11G	Ant1	MCH	2.188	<Limit	PASS
11G	Ant2	MCH	5.243	<Limit	PASS
11G	Ant1	HCH	-0.503	<Limit	PASS
11G	Ant2	HCH	4.906	<Limit	PASS
11N20SISO	Ant1	LCH	-4.533	<Limit	PASS
11N20SISO	Ant2	LCH	5.482	<Limit	PASS
11N20SISO	Ant1	MCH	-1.667	<Limit	PASS
11N20SISO	Ant2	MCH	-0.775	<Limit	PASS
11N20SISO	Ant1	HCH	-4.586	<Limit	PASS
11N20SISO	Ant2	HCH	-0.493	<Limit	PASS
11N40SISO	Ant1	LCH	-29.019	<Limit	PASS
11N40SISO	Ant2	LCH	-6.154	<Limit	PASS
11N40SISO	Ant1	MCH	-4.515	<Limit	PASS
11N40SISO	Ant2	MCH	-4.955	<Limit	PASS
11N40SISO	Ant1	HCH	-5.31	<Limit	PASS
11N40SISO	Ant2	HCH	-6.406	<Limit	PASS

Test Graph

11B_Ant1_LCH_Graphs		
Pref/11B/LCH		
Puw/11B/LCH		

11B_Ant2_LCH_Graphs			
Pref/11B/LCH			
Puw/11B/LCH			

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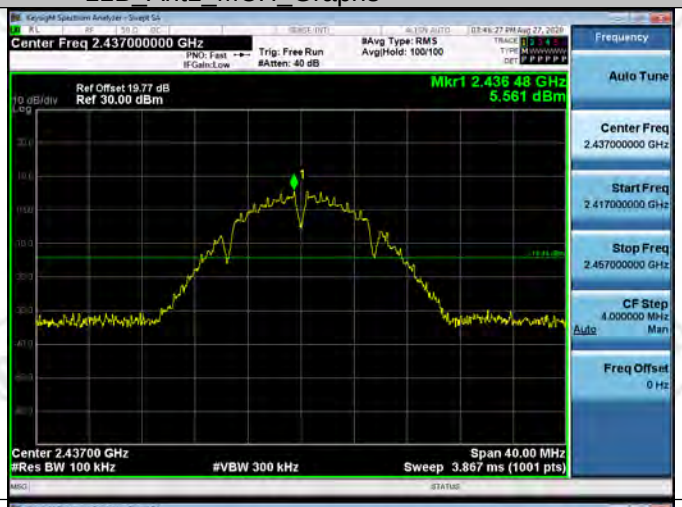
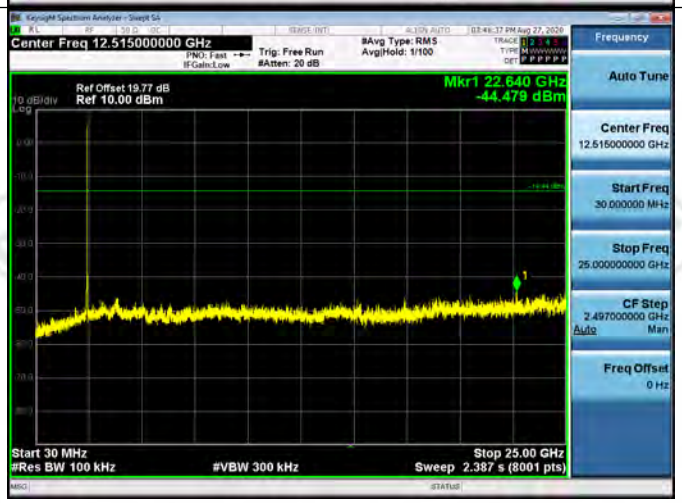
Pref/11B/MCH	
Puw/11B/MCH	

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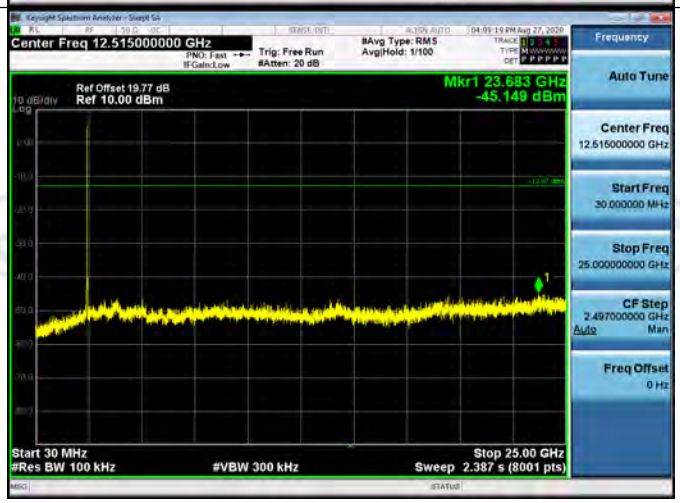
Puw/11B/MCH		

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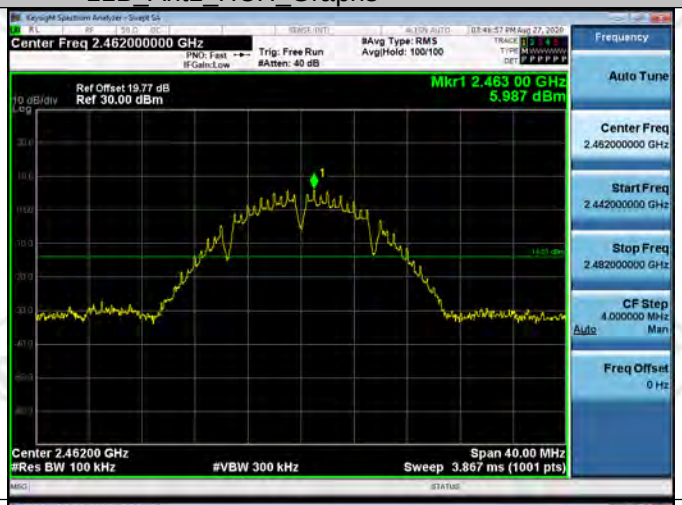
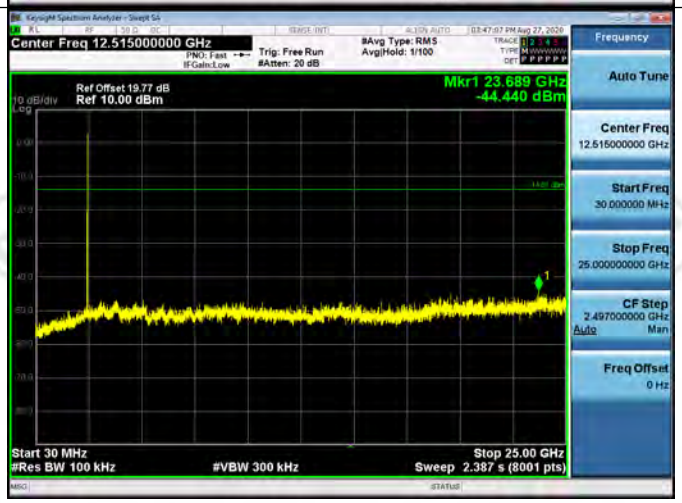
Pref/11B/HCH			
Puw/11B/HCH			

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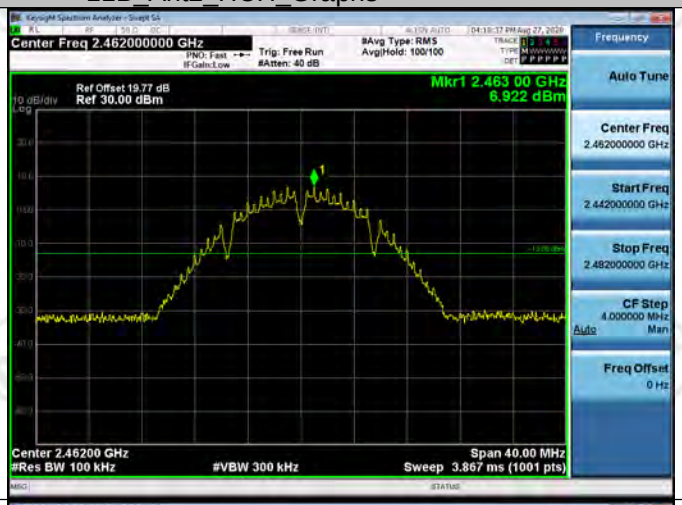
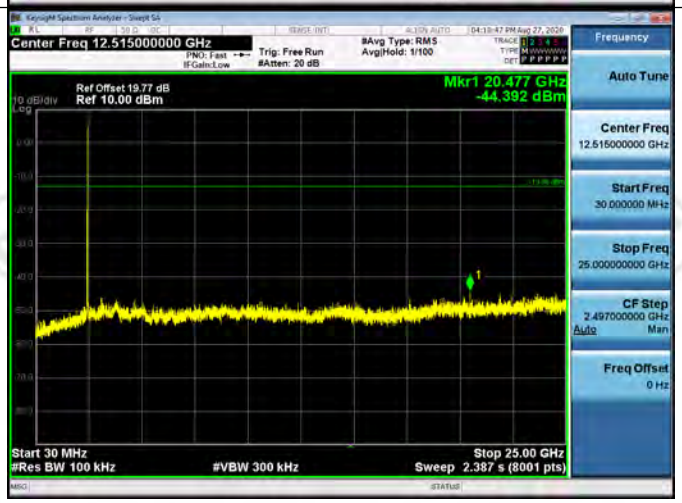
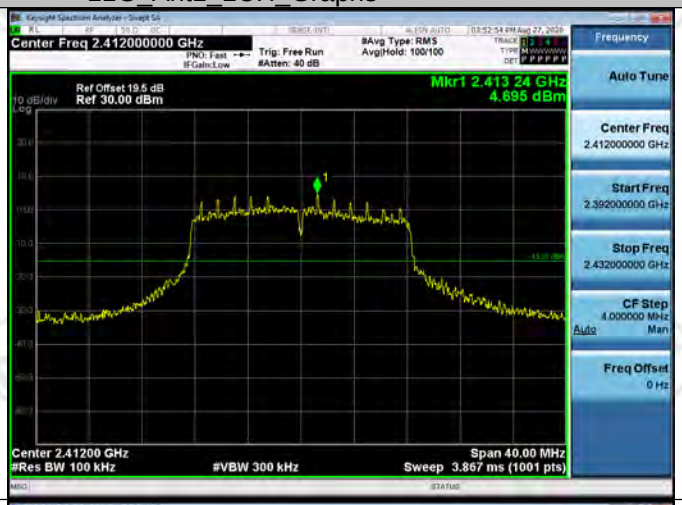
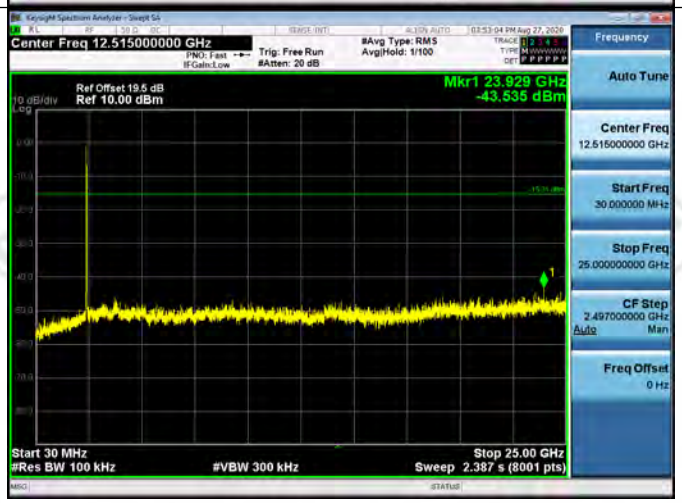
Pref/11B/HCH	
Puw/11B/HCH	

11G_Ant1_LCH_Graphs		
Pref/11G/LCH		
Puw/11G/LCH		

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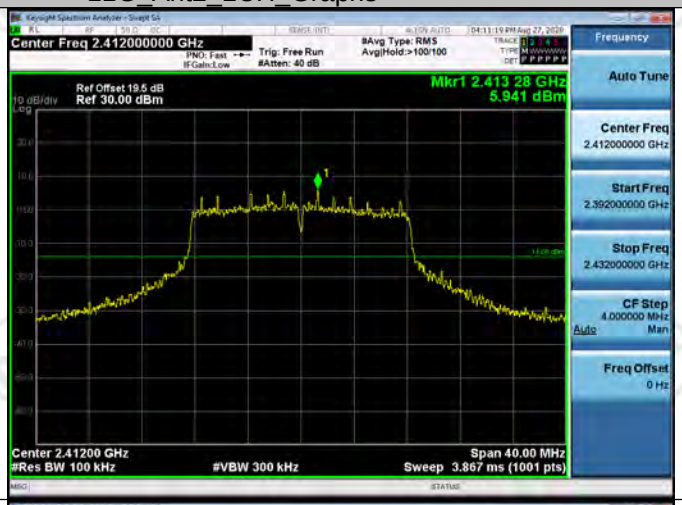
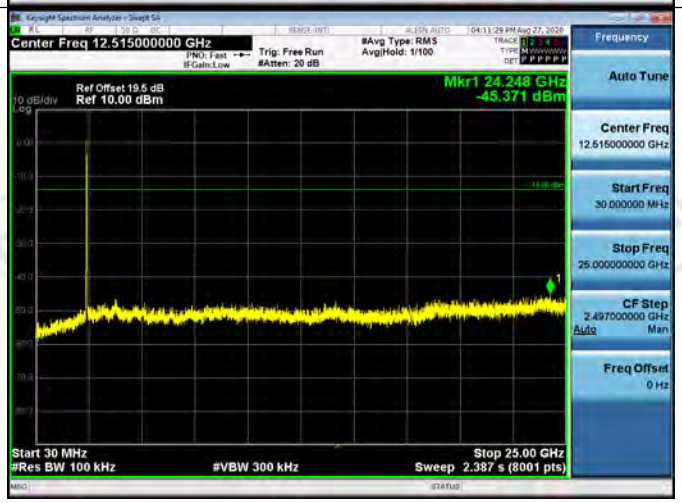
Pref/11G/LCH			
Puw/11G/LCH			

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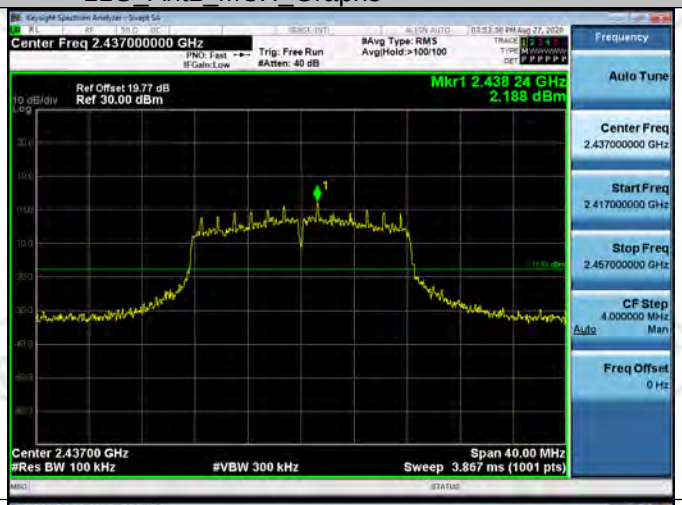
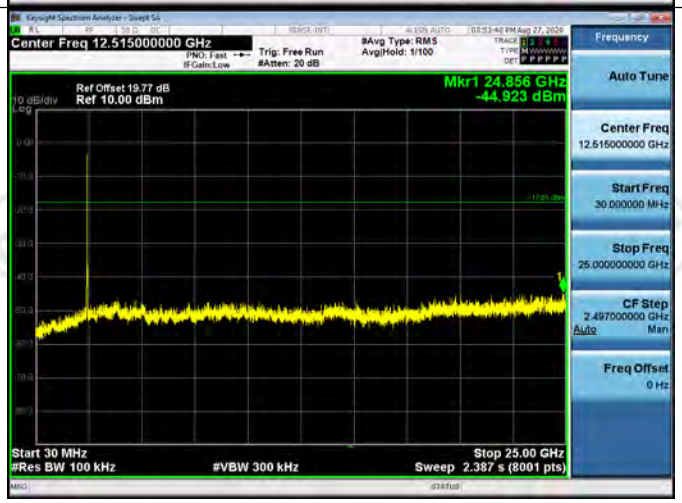
Pref/11G/MCH			
Puw/11G/MCH			

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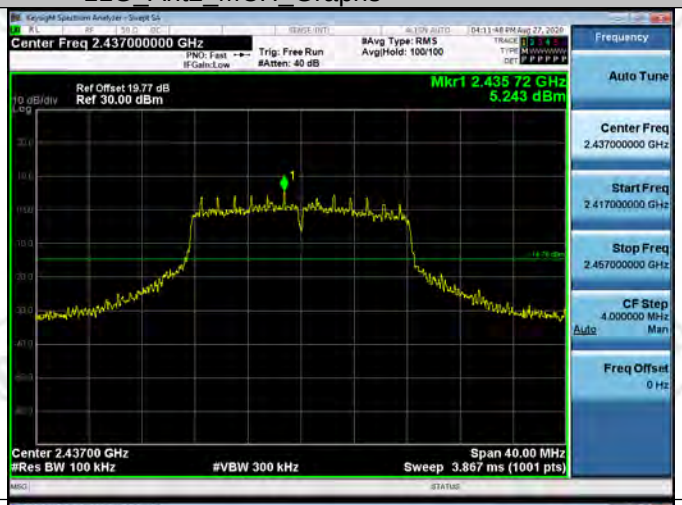
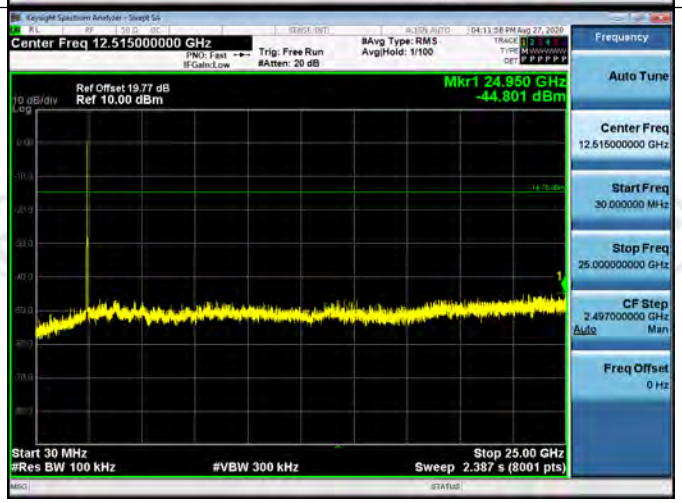
Pref/11G/MCH		
Puw/11G/MCH		

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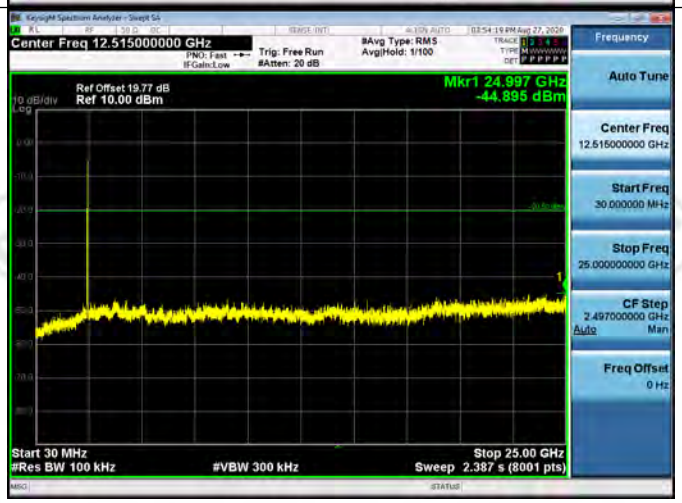
Puw/11G/HCH			

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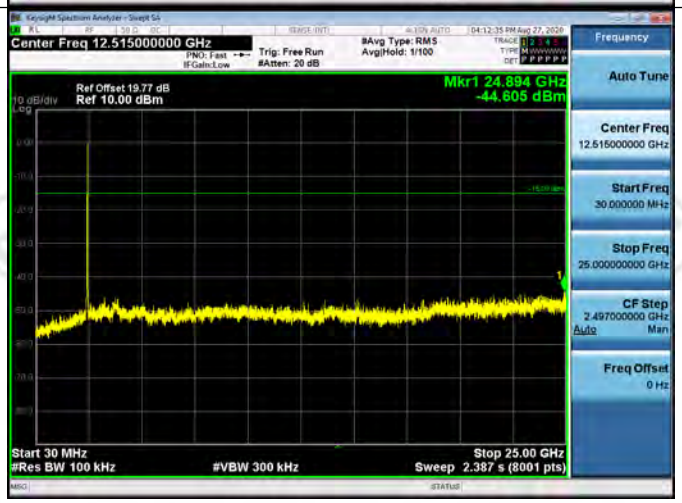
Puw/11G/HCH		

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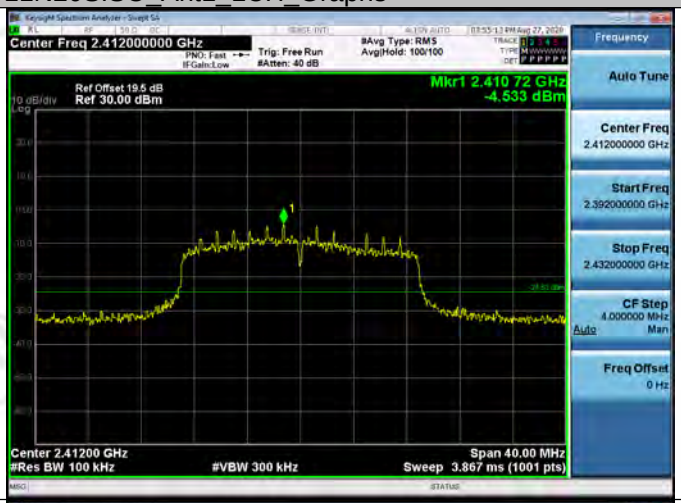
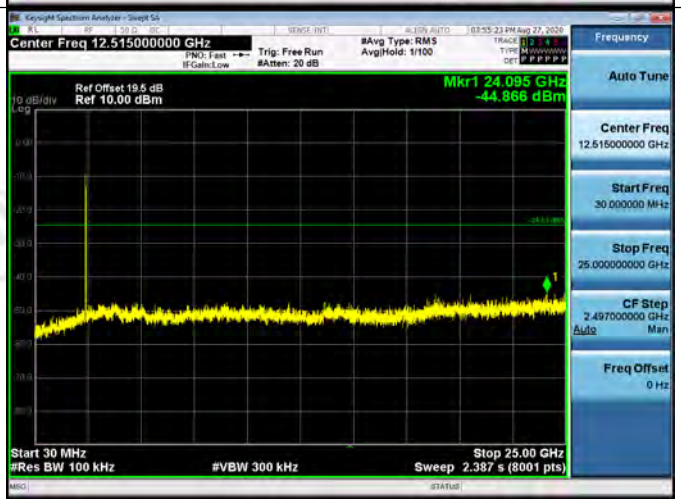
Pref/11N20SISO/LCH		
Puw/11N20SISO/LCH		

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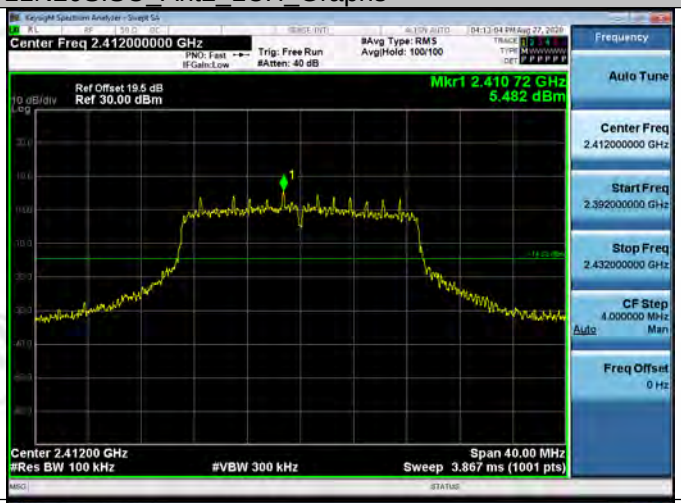
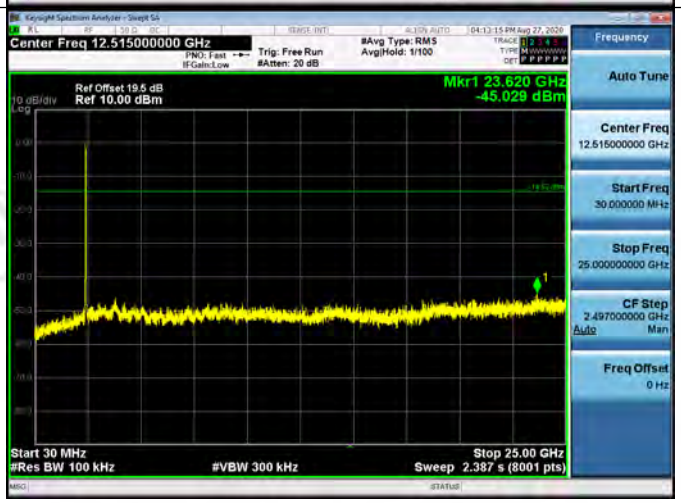
Pref/11N20SISO/LCH		
Puw/11N20SISO/LCH		

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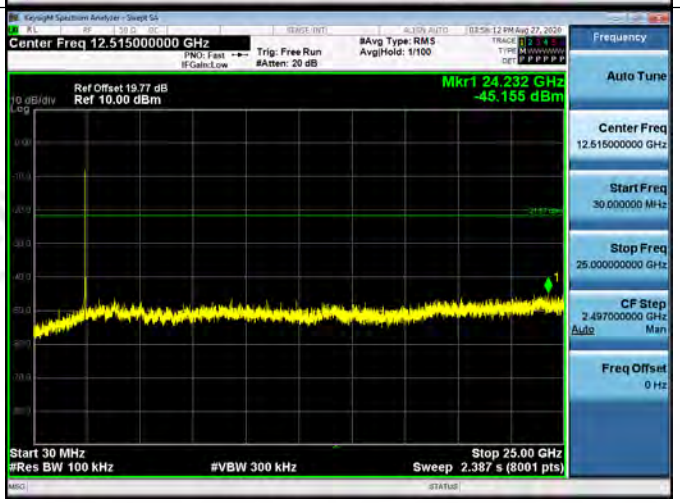
Puw/11N20SISO/MCH		

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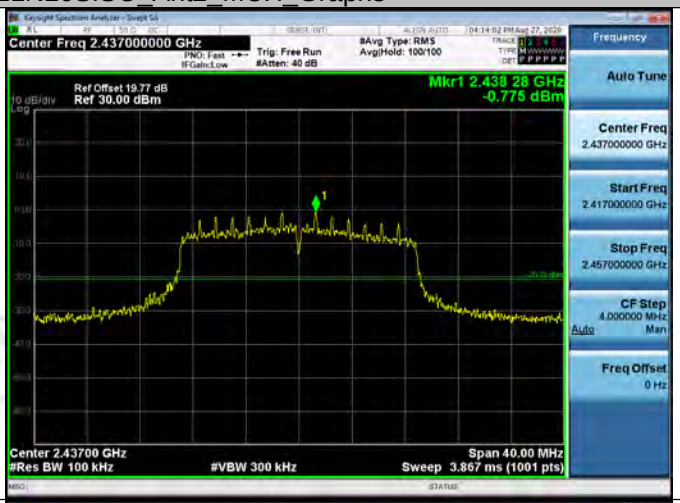
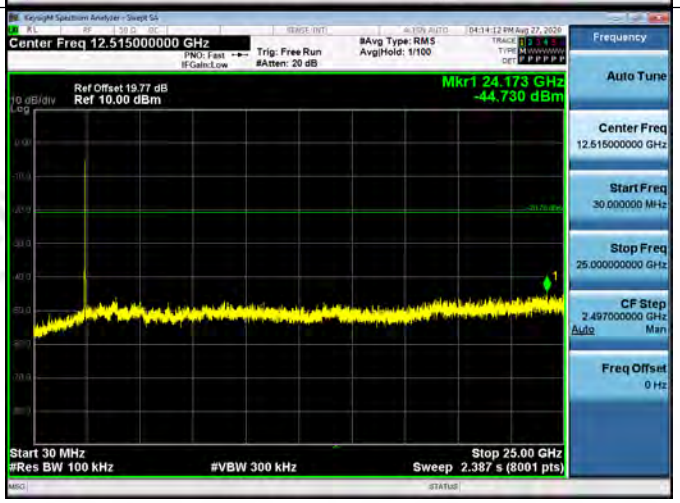
Pref/11N20SISO/MCH		
Puw/11N20SISO/MCH		

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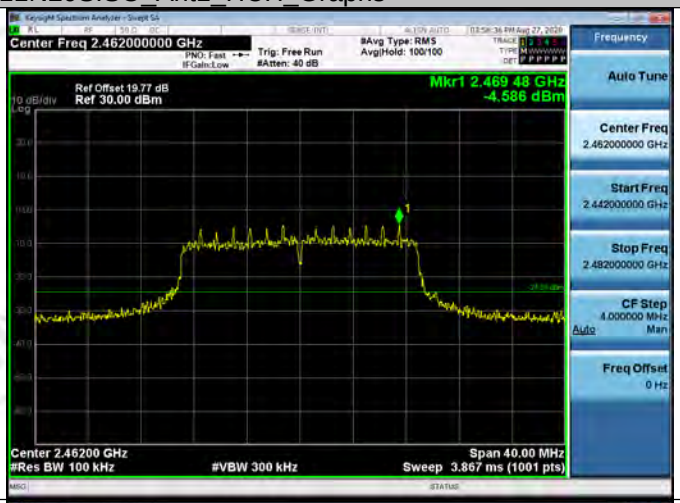
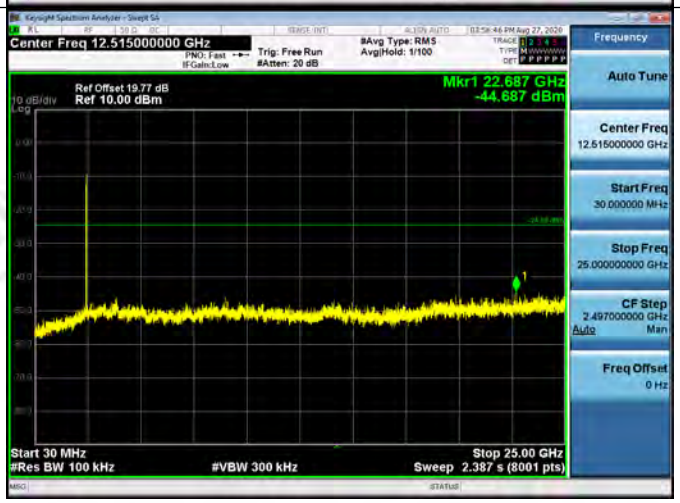
Pref/11N20SISO/HCH		
Puw/11N20SISO/HCH		

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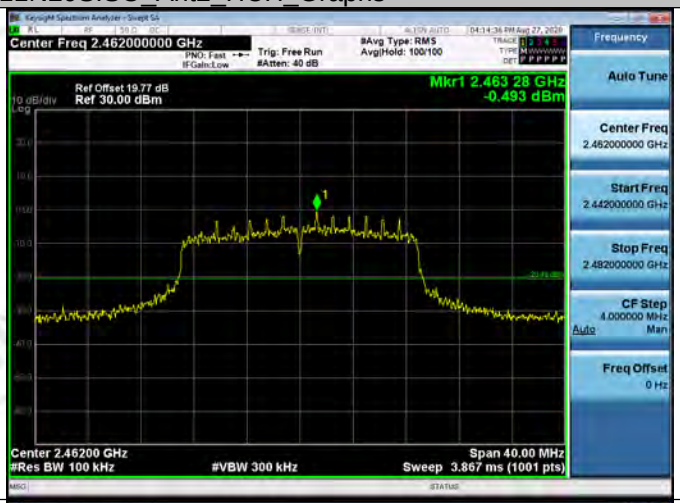
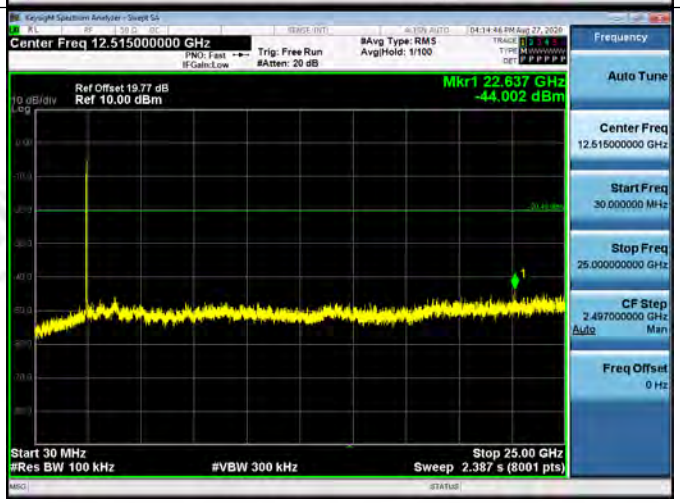
Pref/11N20SISO/HCH		
Puw/11N20SISO/HCH		

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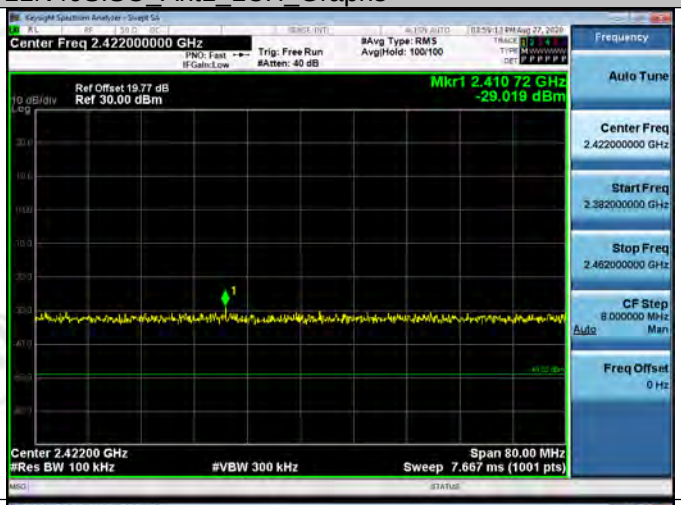
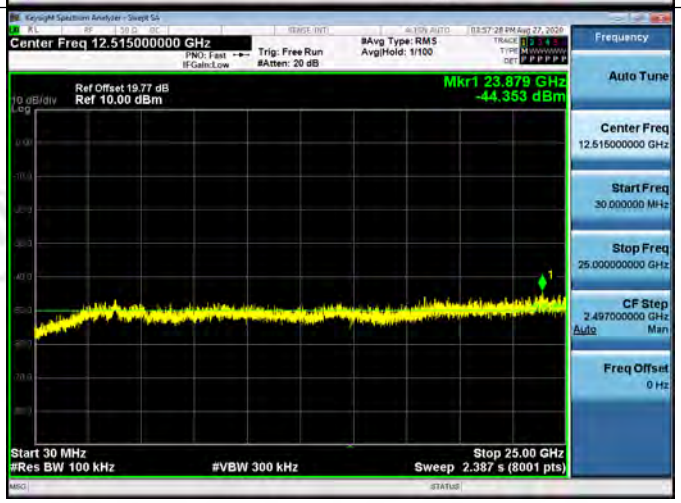
Pref/11N40SISO/LCH		
Puw/11N40SISO/LCH		

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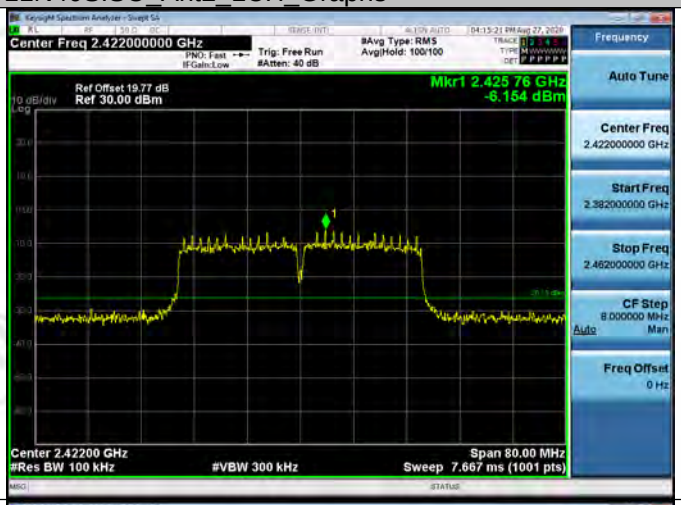
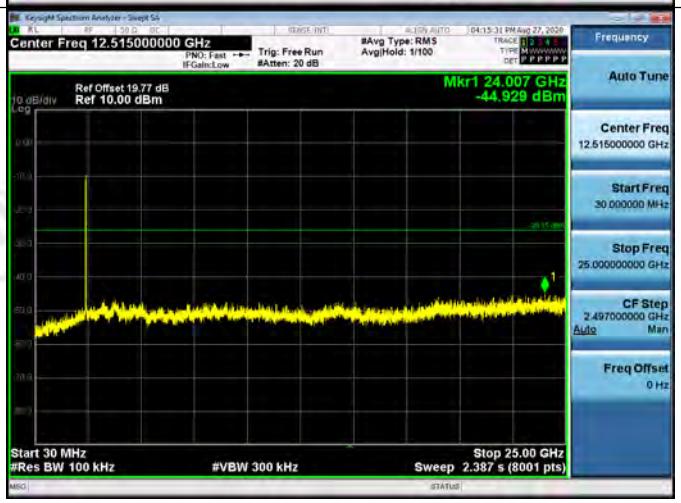
Pref/11N40SISO/LCH		
Puw/11N40SISO/LCH		

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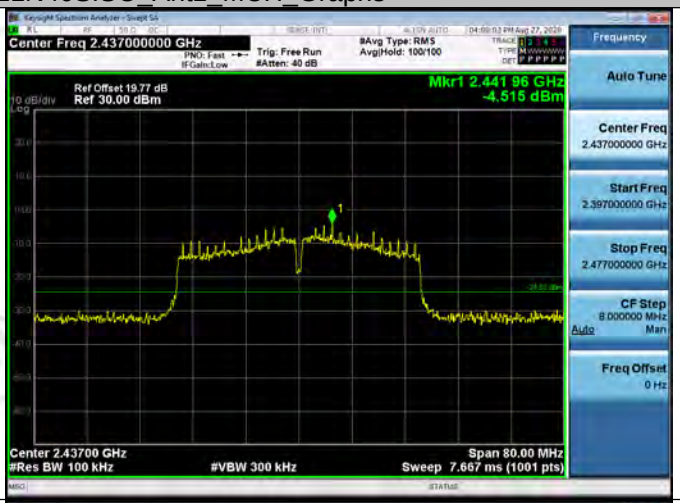
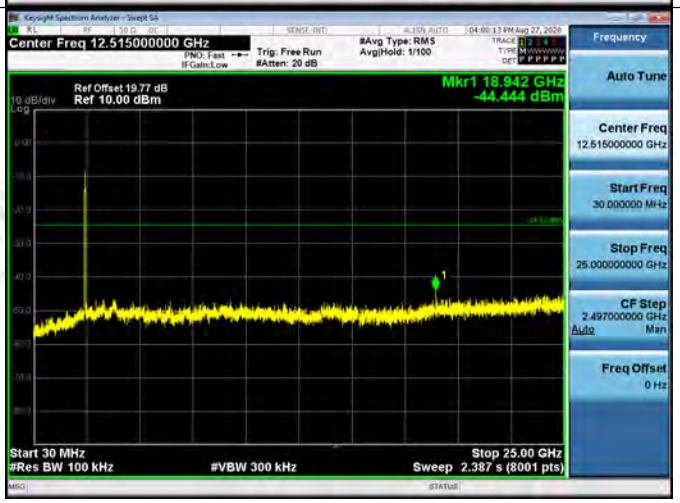
Pref/11N40SISO/MCH		
Puw/11N40SISO/MCH		

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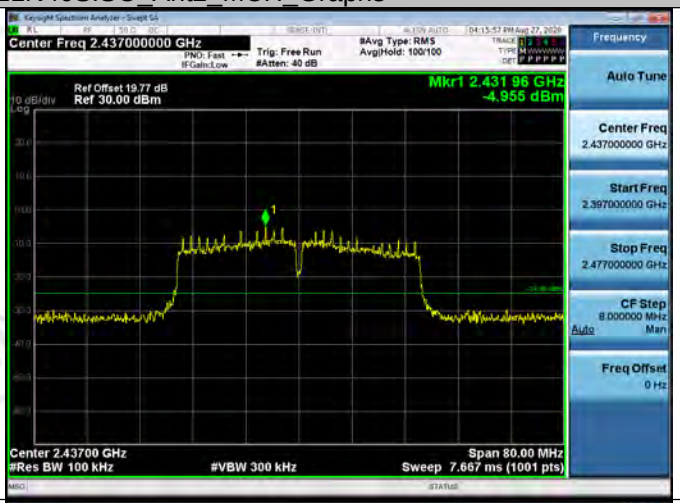
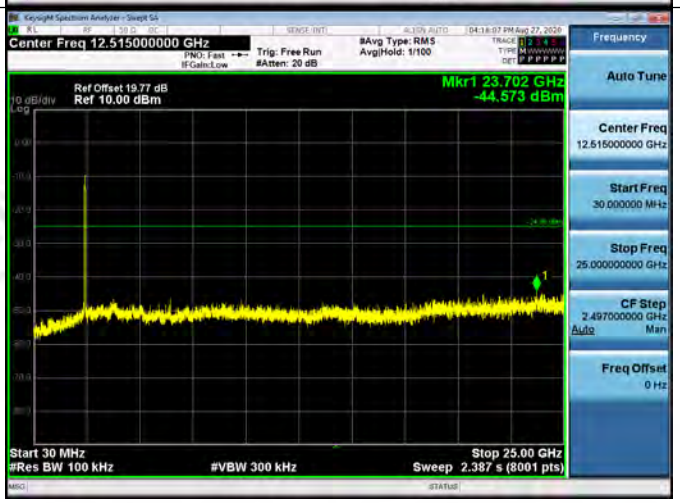
Pref/11N40SISO/MCH		
Puw/11N40SISO/MCH		

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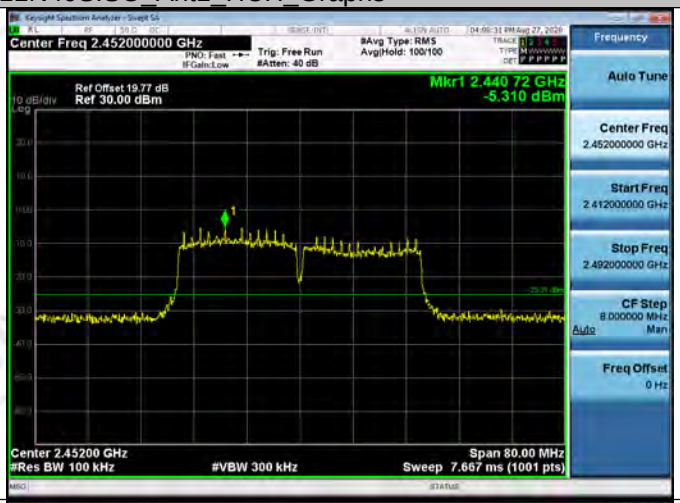
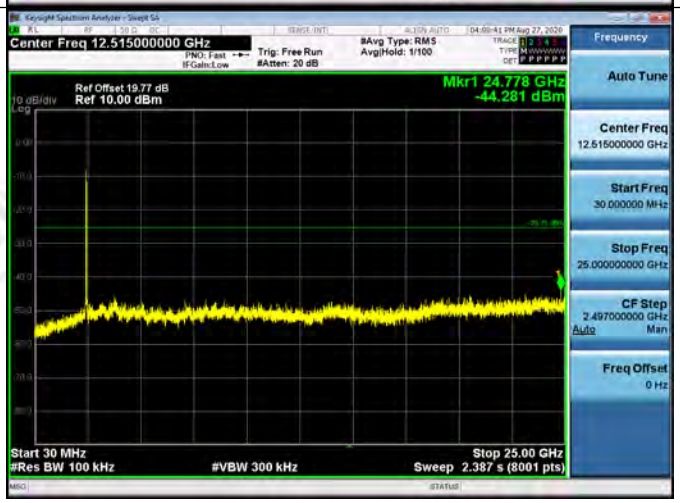
Pref/11N40SISO/HCH		
Puw/11N40SISO/HCH		

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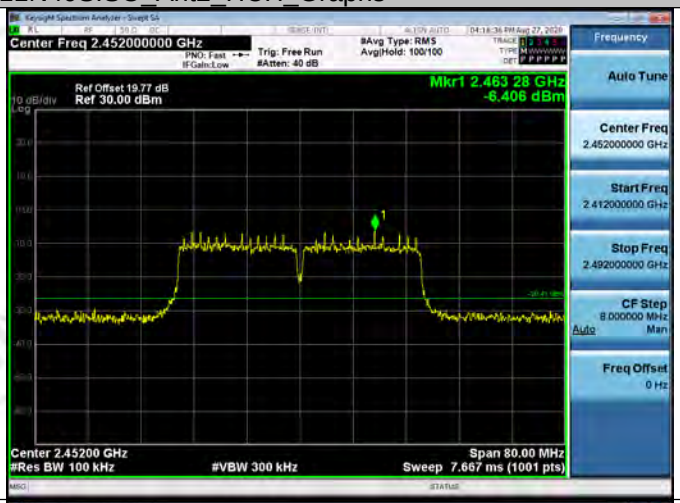
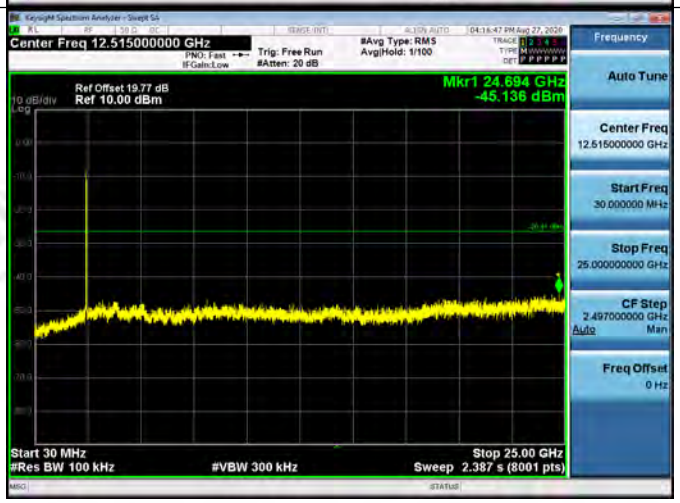
Pref/11N40SISO/HCH		
Puw/11N40SISO/HCH		

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.

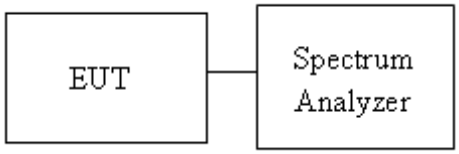
Limit	☒ Antenna not exceed 6 dBi：8dBm ☐ Antenna with DG greater than 6 dBi： [Limit = 8 – (DG – 6)] ☐ Point-to-point operation：

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



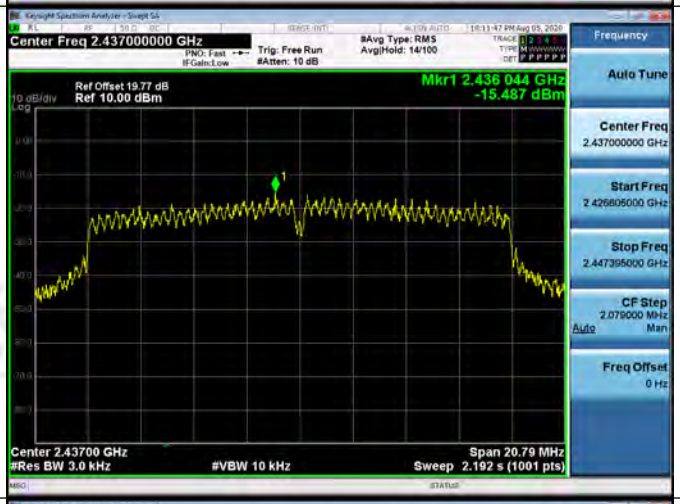
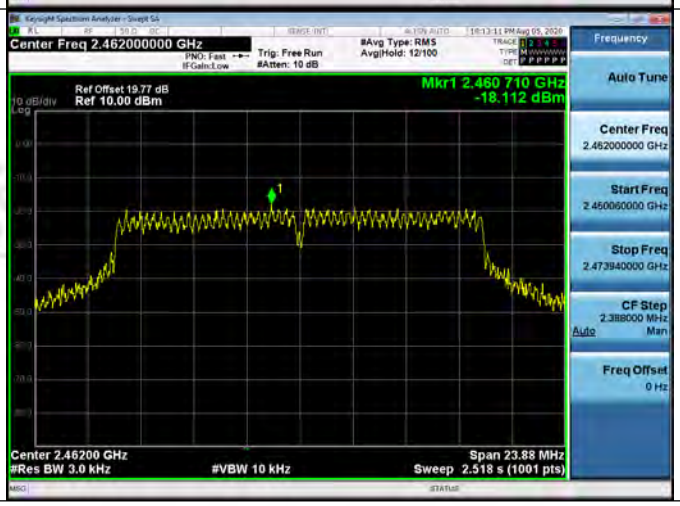
Result Table

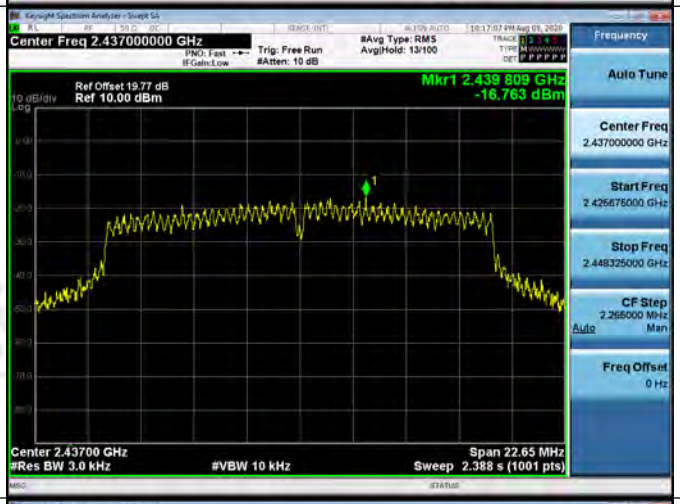
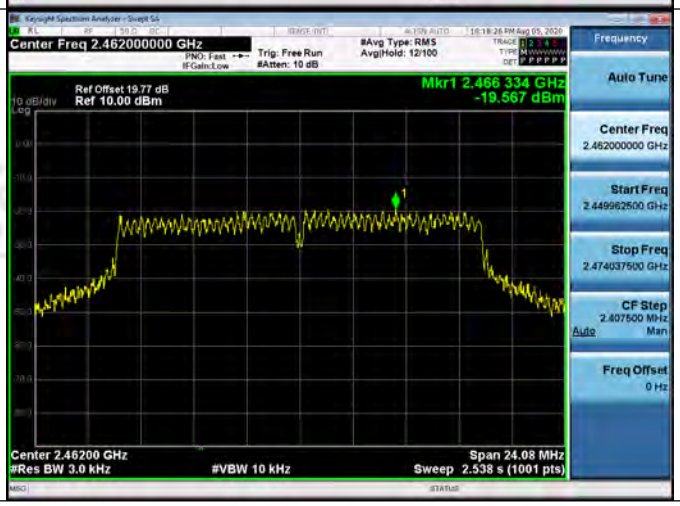
Mode	Antenna	Channel	Power Spectral Density [dBm]	Verdict
11B	Ant1	LCH	-11.026	PASS
11B	Ant2	LCH	-11.223	PASS
11B	Ant1	MCH	-10.556	PASS
11B	Ant2	MCH	-10.222	PASS
11B	Ant1	HCH	-10.882	PASS
11B	Ant2	HCH	-11.409	PASS
11G	Ant1	LCH	-17.185	PASS
11G	Ant2	LCH	-16.485	PASS
11G	Ant1	MCH	-15.487	PASS
11G	Ant2	MCH	-16.251	PASS
11G	Ant1	HCH	-18.112	PASS
11G	Ant2	HCH	-17.190	PASS
11N20SISO	Ant1	LCH	-16.676	PASS
11N20SISO	Ant2	LCH	-17.552	PASS
11N20SISO	Ant1	MCH	-16.763	PASS
11N20SISO	Ant2	MCH	-16.888	PASS
11N20SISO	Ant1	HCH	-19.567	PASS
11N20SISO	Ant2	HCH	-18.072	PASS
11N20MIMO	Ant1	LCH	-21.467	PASS
11N20MIMO	Ant2	LCH	-19.727	PASS
11N20MIMO	Ant1+2	LCH	-17.50	PASS
11N20MIMO	Ant1	MCH	-18.832	PASS
11N20MIMO	Ant2	MCH	-20.840	PASS
11N20MIMO	Ant1+2	MCH	-16.71	PASS
11N20MIMO	Ant1	HCH	-20.227	PASS
11N20MIMO	Ant2	HCH	-20.747	PASS
11N20MIMO	Ant1+2	HCH	-17.47	PASS
11N40SISO	Ant1	LCH	-20.318	PASS
11N40SISO	Ant2	LCH	-22.005	PASS
11N40SISO	Ant1	MCH	-20.381	PASS
11N40SISO	Ant2	MCH	-20.664	PASS
11N40SISO	Ant1	HCH	-20.741	PASS
11N40SISO	Ant2	HCH	-22.295	PASS
11N40MIMO	Ant1	LCH	-24.979	PASS

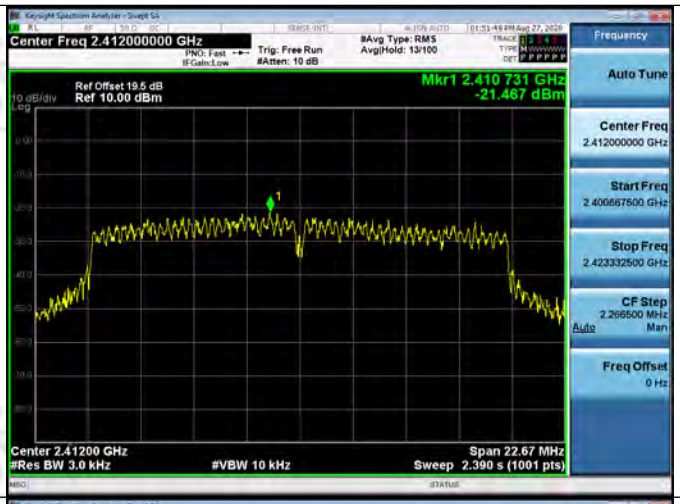
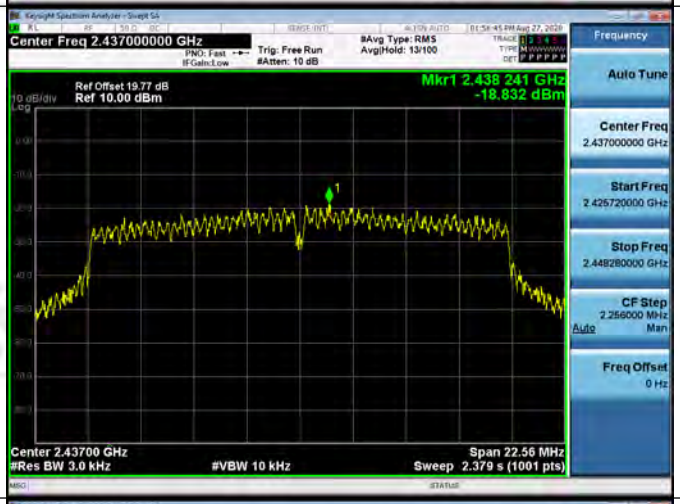
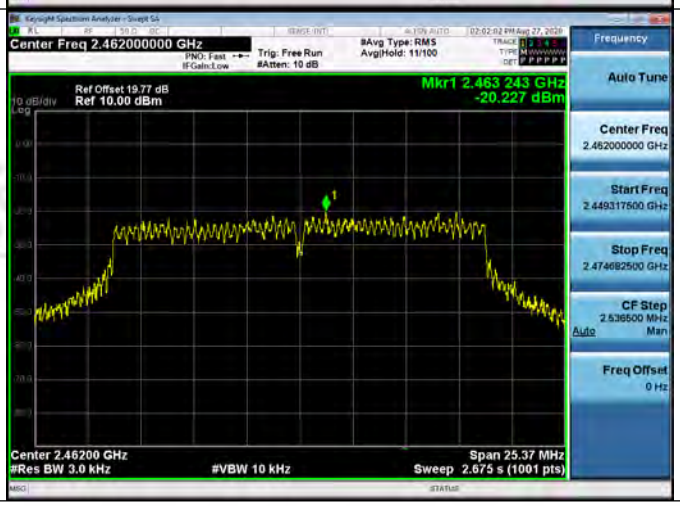
11N40MIMO	Ant2	LCH	-24.407	PASS
11N40MIMO	Ant1+2	LCH	-21.67	PASS
11N40MIMO	Ant1	MCH	-23.486	PASS
11N40MIMO	Ant2	MCH	-24.327	PASS
11N40MIMO	Ant1+2	MCH	-20.88	PASS
11N40MIMO	Ant1	HCH	-23.929	PASS
11N40MIMO	Ant2	HCH	-25.905	PASS
11N40MIMO	Ant1+2	HCH	-21.80	PASS

Test Graph

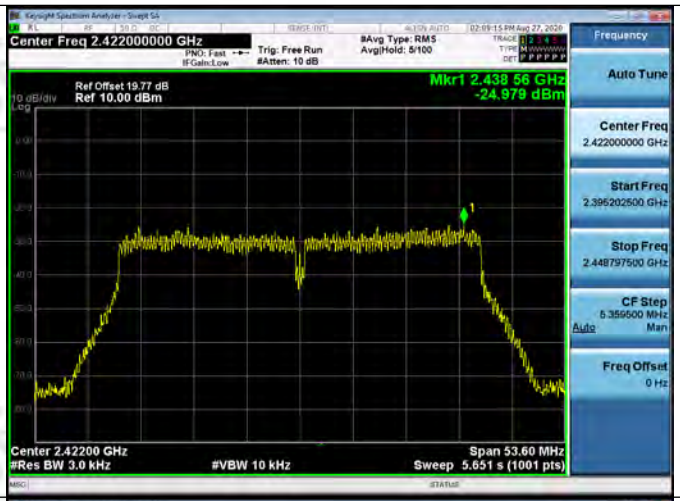
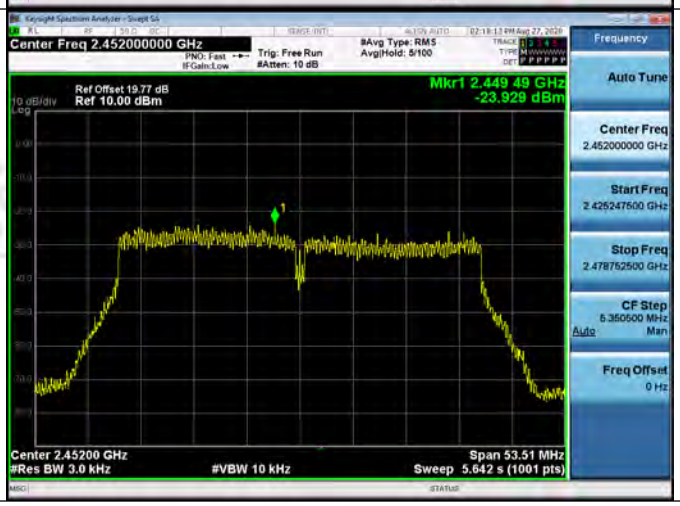
Graphs_Ant1			
11B/LCH			
11B/MCH			
11B/HCH			

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

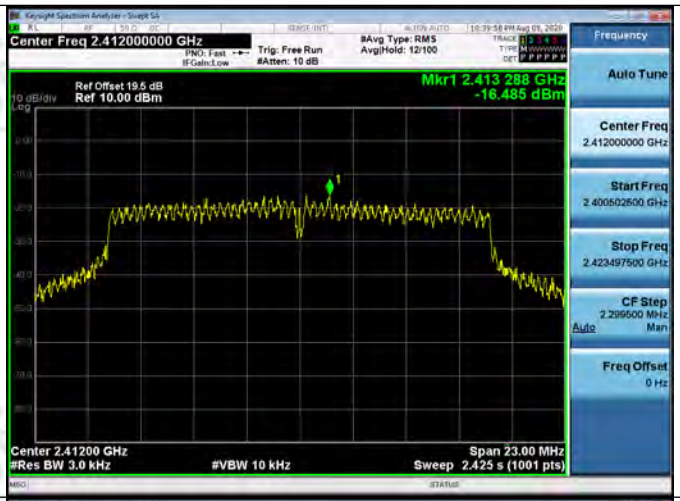
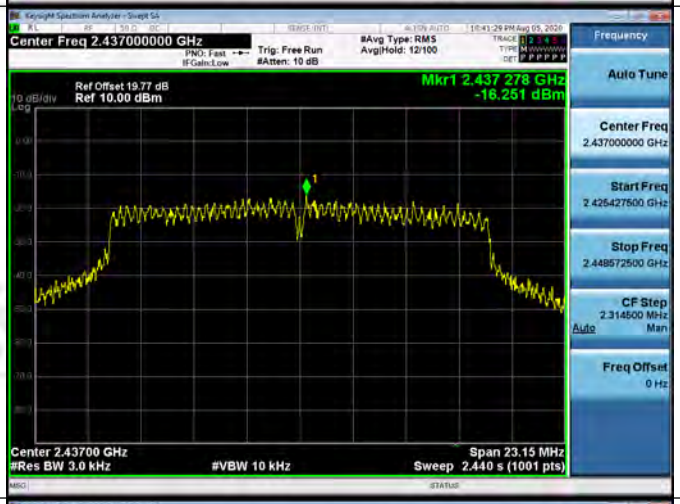
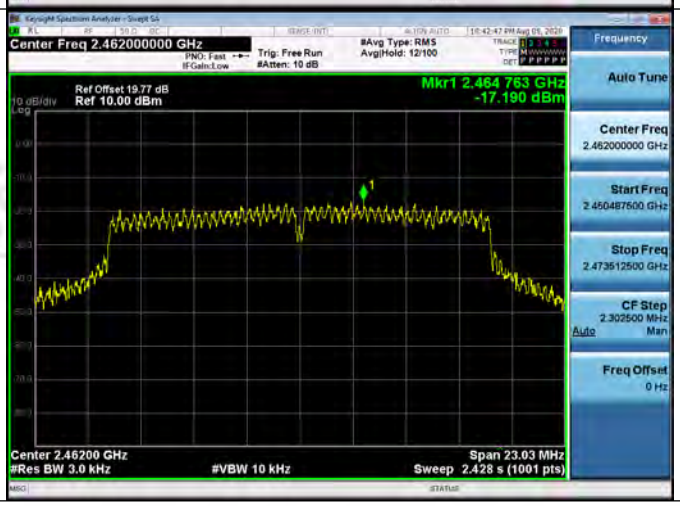
11N20SISO/LCH			
11N20SISO/MCH			
11N20SISO/HCH			

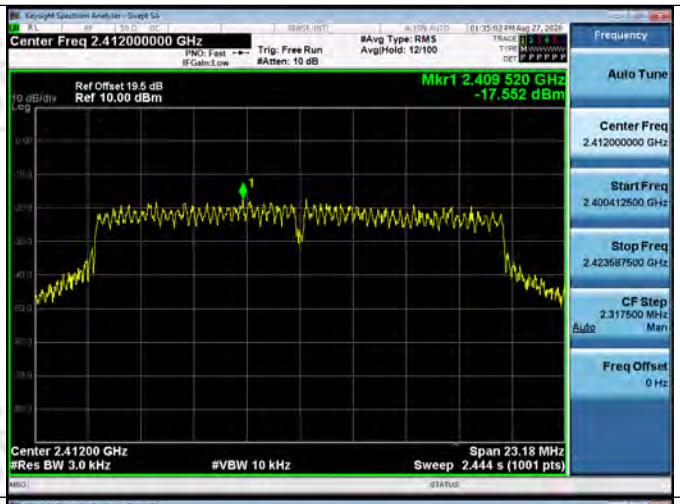
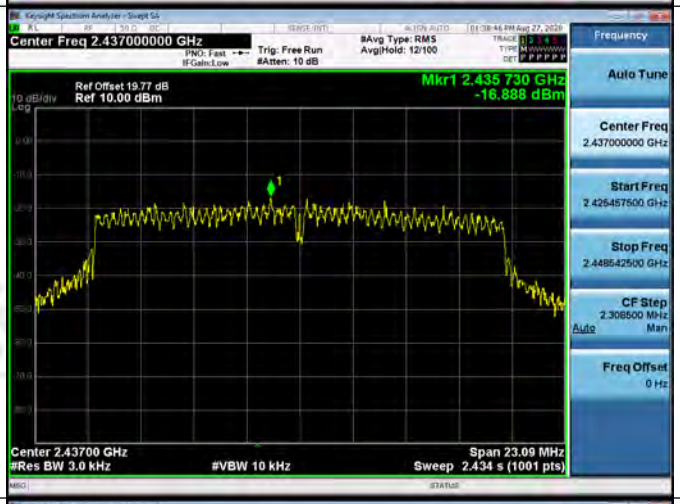
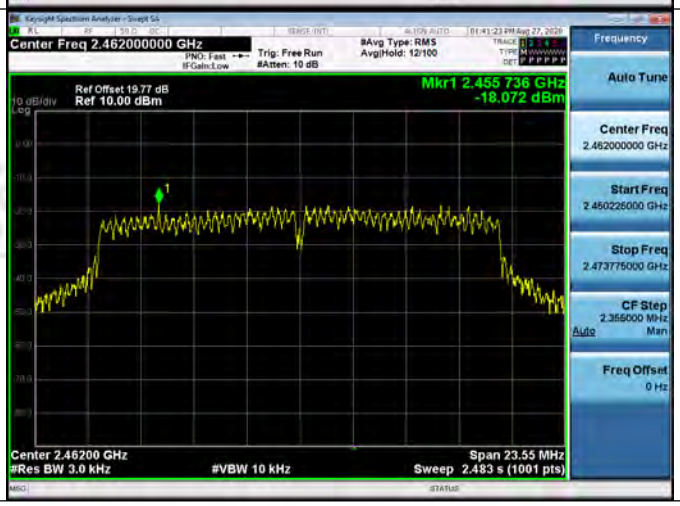
11N20MIMO/LCH			
11N20MIMO/MCH			
11N20MIMO/HCH			

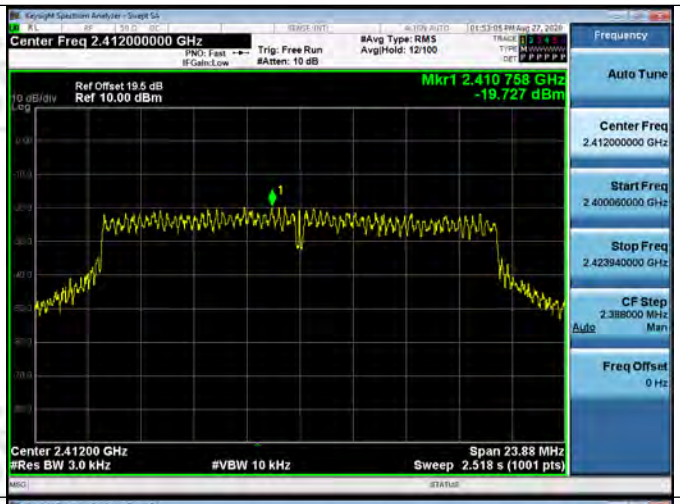
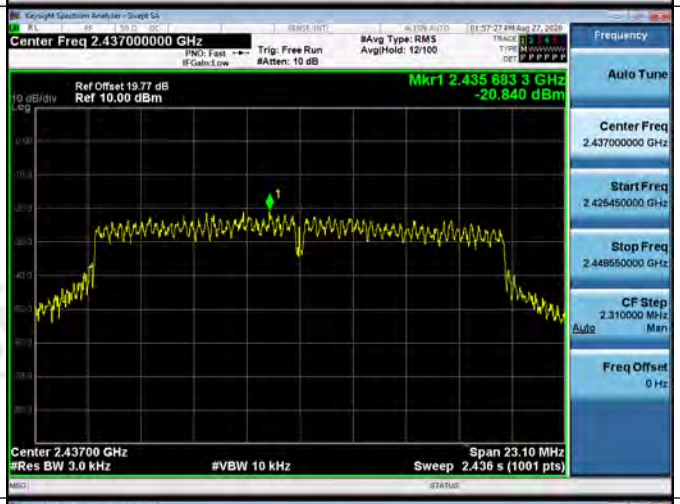
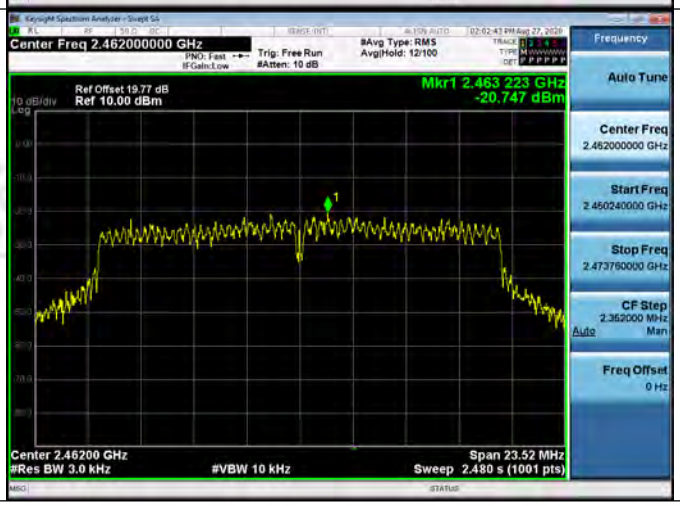
11N40SISO/LCH			
11N40SISO/MCH			
11N40SISO/HCH			

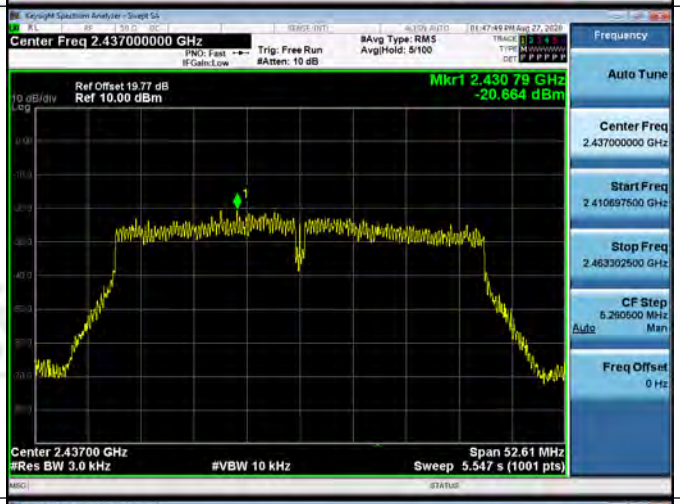
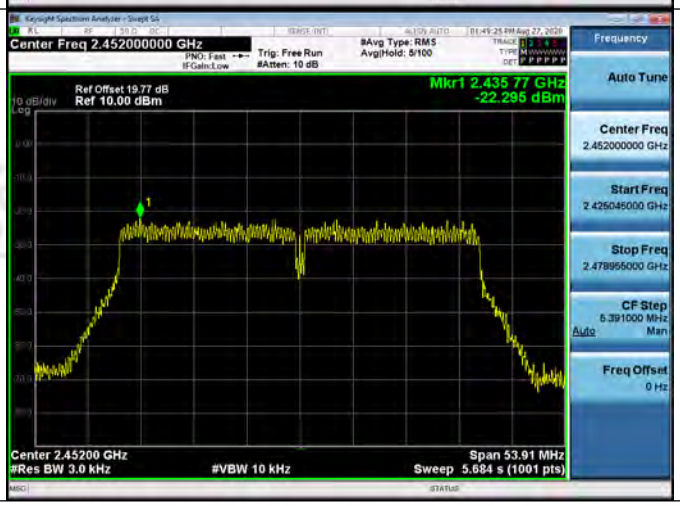
11N40MIMO/LCH			
11N40MIMO/MCH			
11N40MIMO/HCH			

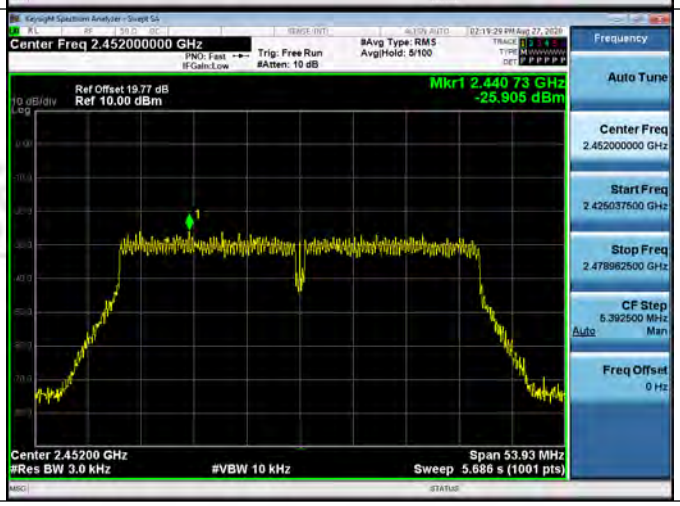
Graphs_Ant2			
11B/LCH			
11B/MCH			
11B/HCH			

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

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

11N20MIMO/LCH			
11N20MIMO/MCH			
11N20MIMO/HCH			

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

11N40MIMO/LCH			
11N40MIMO/MCH			
11N40MIMO/HCH			

Appendix F): Antenna Requirement

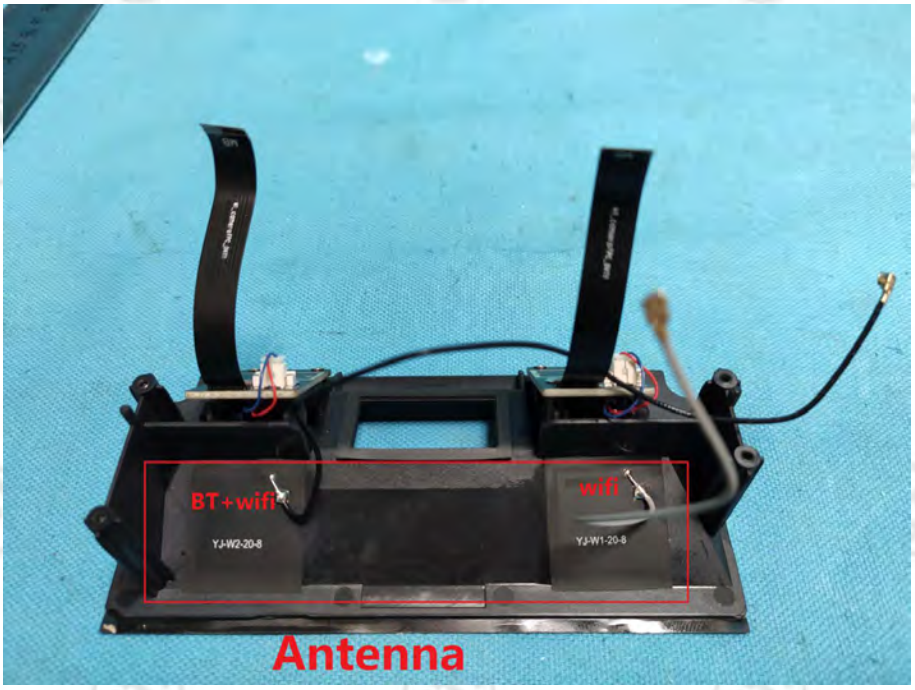
15.203 requirement:

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 4.1 dBi.

Appendix G): AC Power Line Conducted Emission

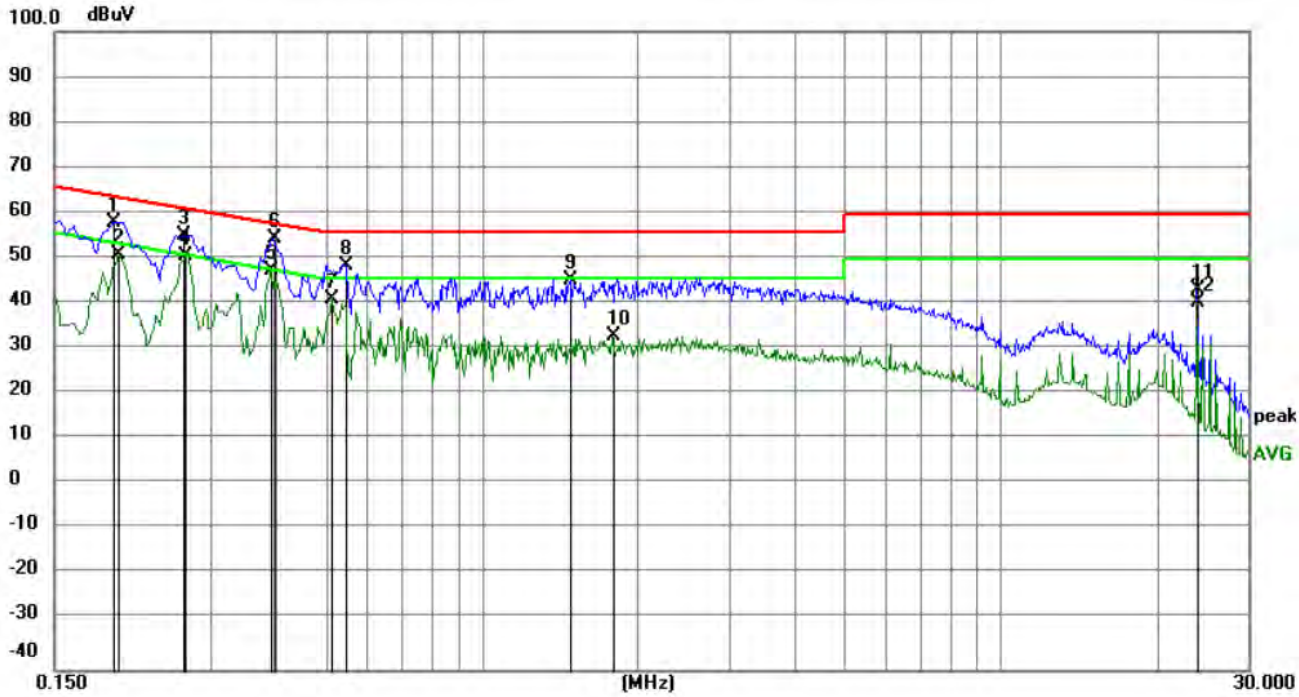
<table>
<tr><td>Test Procedure:</td><td>Test frequency range :150KHz-30MHz
1) The mains terminal disturbance voltage test was conducted in a shielded room.
2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance.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

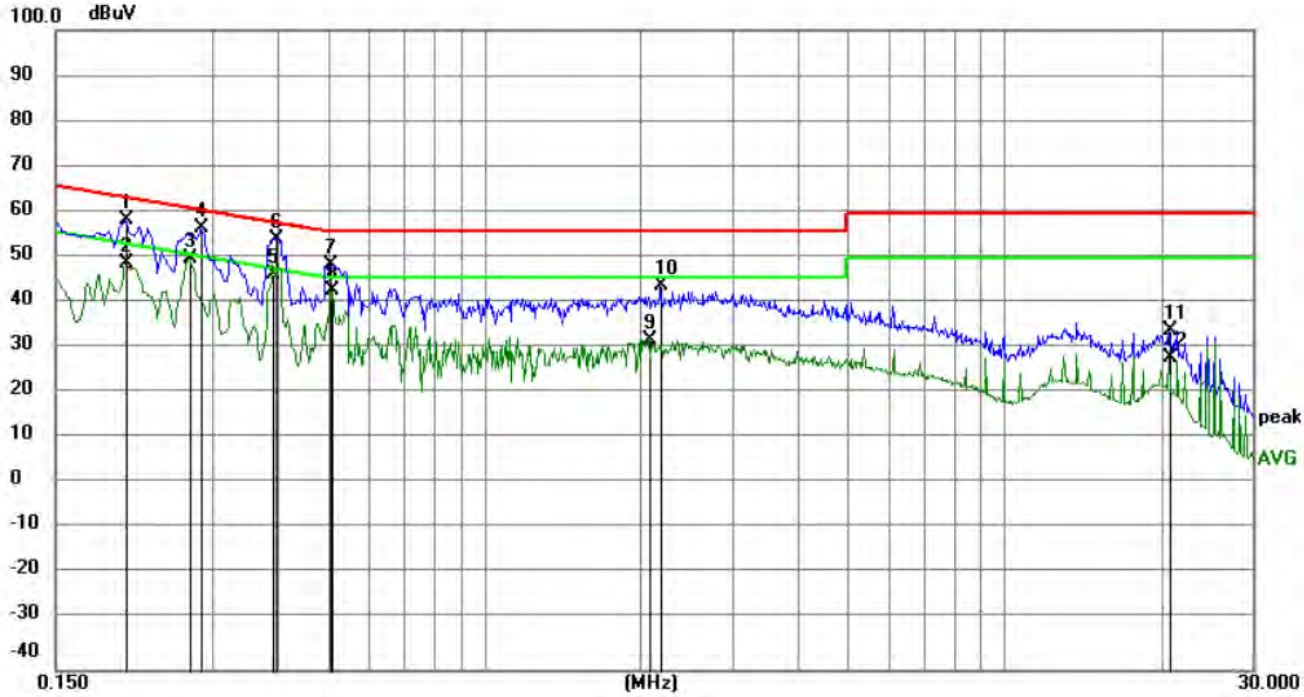
Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

Live line:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1949	48.29	9.89	58.18	63.83	-5.65	QP	
2		0.1995	41.14	9.87	51.01	53.63	-2.62	AVG	
3		0.2670	45.64	9.84	55.48	61.21	-5.73	QP	
4		0.2686	40.85	9.84	50.69	51.16	-0.47	AVG	
5	*	0.3930	37.78	9.77	47.55	48.00	-0.45	AVG	
6		0.3975	44.78	9.77	54.55	57.91	-3.36	QP	
7		0.5155	31.74	9.71	41.45	46.00	-4.55	AVG	
8		0.5460	39.16	9.69	48.85	56.00	-7.15	QP	
9		1.4819	35.91	9.61	45.52	56.00	-10.48	QP	
10		1.7880	23.76	9.62	33.38	46.00	-12.62	AVG	
11		24.0000	33.22	10.11	43.33	60.00	-16.67	QP	
12		24.0000	30.63	10.11	40.74	50.00	-9.26	AVG	

Neutral line:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.2040	48.62	9.87	58.49	63.45	-4.96	QP	
2		0.2040	39.29	9.87	49.16	53.45	-4.29	AVG	
3	*	0.2714	40.29	9.83	50.12	51.07	-0.95	AVG	
4		0.2850	46.87	9.83	56.70	60.67	-3.97	QP	
5		0.3930	37.00	9.77	46.77	48.00	-1.23	AVG	
6		0.3975	44.73	9.77	54.50	57.91	-3.41	QP	
7		0.5055	39.16	9.72	48.88	56.00	-7.12	QP	
8		0.5100	33.52	9.71	43.23	46.00	-2.77	AVG	
9		2.0670	22.82	9.63	32.45	46.00	-13.55	AVG	
10		2.1795	34.49	9.64	44.13	56.00	-11.87	QP	
11		20.7375	24.47	10.06	34.53	60.00	-25.47	QP	
12		20.7375	18.44	10.06	28.50	50.00	-21.50	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:

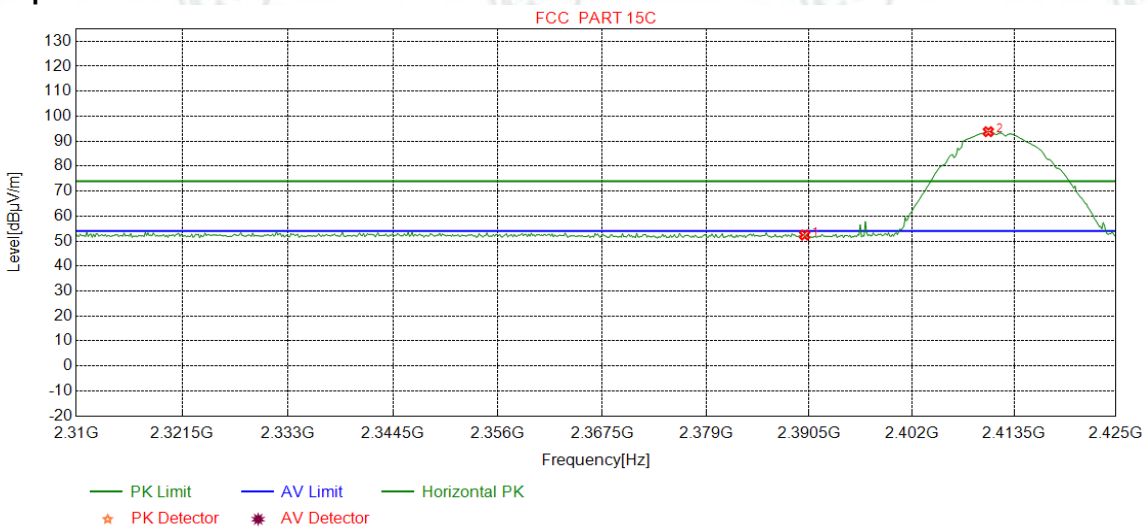
Frequency	Limit (dBµV/m @3m)	Remark
30MHz-88MHz	40.0	Quasi-peak Value
88MHz-216MHz	43.5	Quasi-peak Value
216MHz-960MHz	46.0	Quasi-peak Value
960MHz-1GHz	54.0	Quasi-peak Value
Above 1GHz	54.0	Average Value
	74.0	Peak Value

Test plot as follows:

Antenna 1

Mode:	802.11 b(1Mbps) Transmitting	Channel:	2412
Remark:	PK		

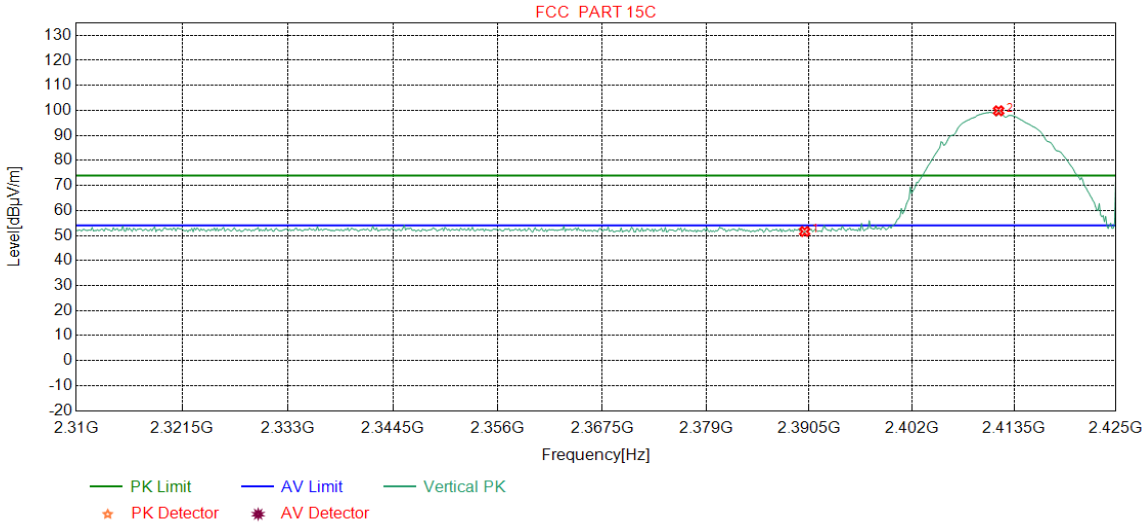
Test Graph



1	2390.0000	32.25	13.37	-43.12	49.91	52.41	74.00	21.59	Pass	Horizontal
2	2410.6070	32.27	13.35	-43.11	91.29	93.80	74.00	-19.80	Pass	Horizontal

Mode:	802.11 b(1Mbps) Transmitting	Channel:	2412
Remark:	PK		

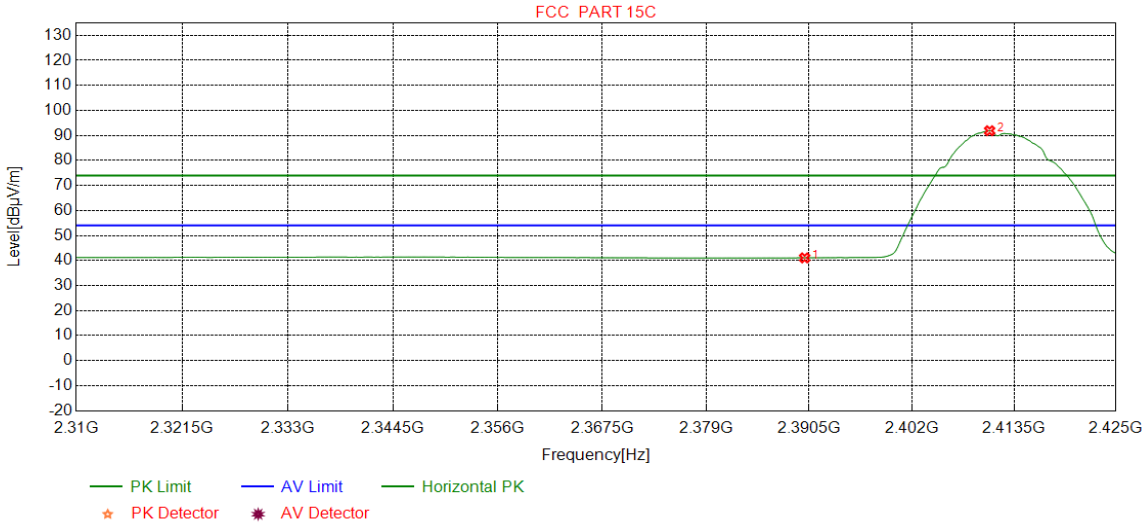
Test Graph



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	49.11	51.61	74.00	22.39	Pass	Vertical
2	2411.7584	32.28	13.35	-43.12	97.34	99.85	74.00	-25.85	Pass	Vertical

Mode:	802.11 b(1Mbps) Transmitting	Channel:	2412
Remark:	AV		

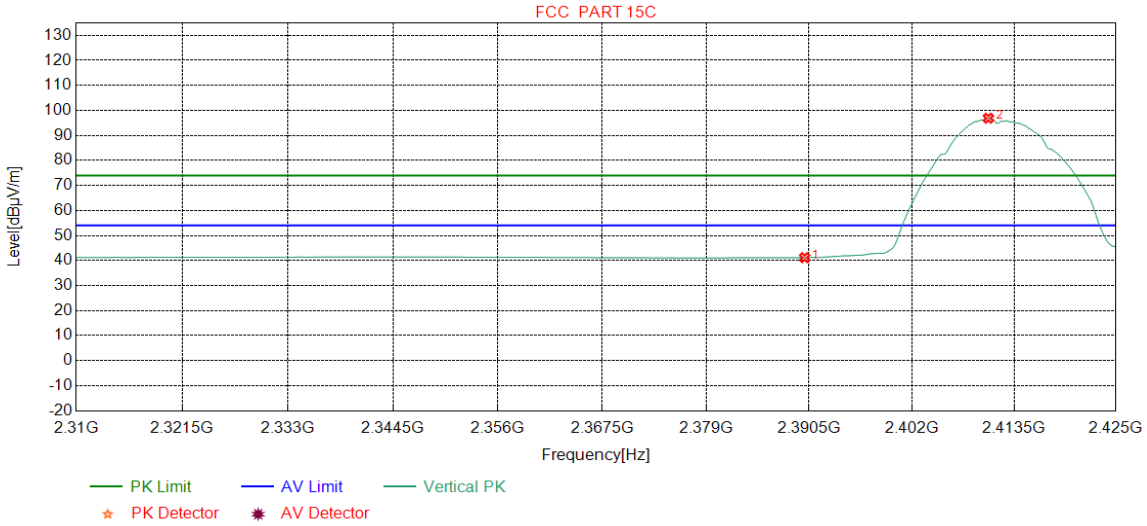
Test Graph



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	38.56	41.06	54.00	12.94	Pass	Horizontal
2	2410.7509	32.28	13.35	-43.12	89.36	91.87	54.00	-37.87	Pass	Horizontal

Mode:	802.11 b(1Mbps) Transmitting	Channel:	2412
Remark:	AV		

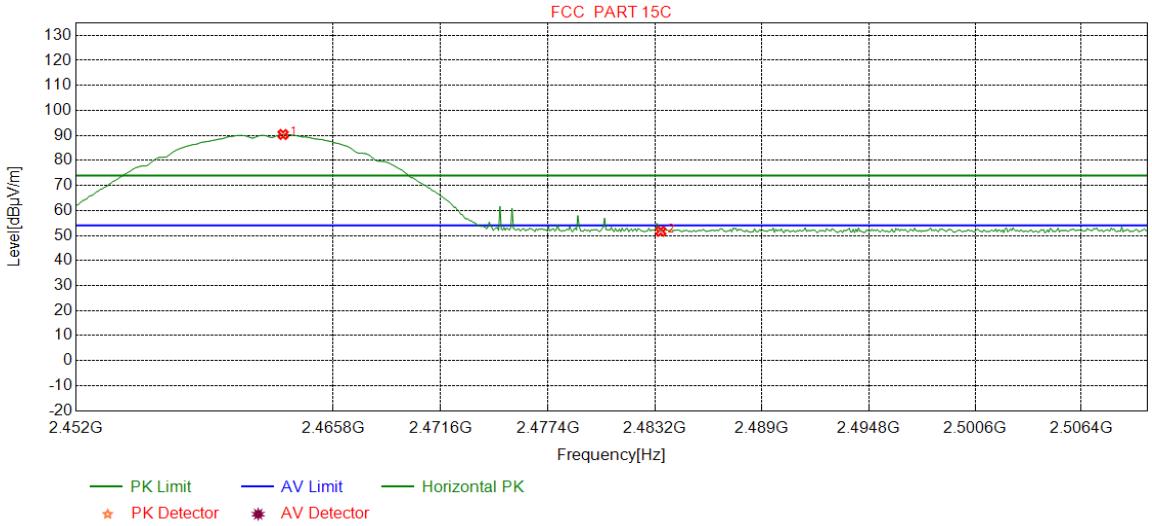
Test Graph



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	38.63	41.13	54.00	12.87	Pass	Vertical
2	2410.6070	32.27	13.35	-43.11	94.39	96.90	54.00	-42.90	Pass	Vertical

Mode:	802.11 b(1Mbps) Transmitting	Channel:	2462
Remark:	PK		

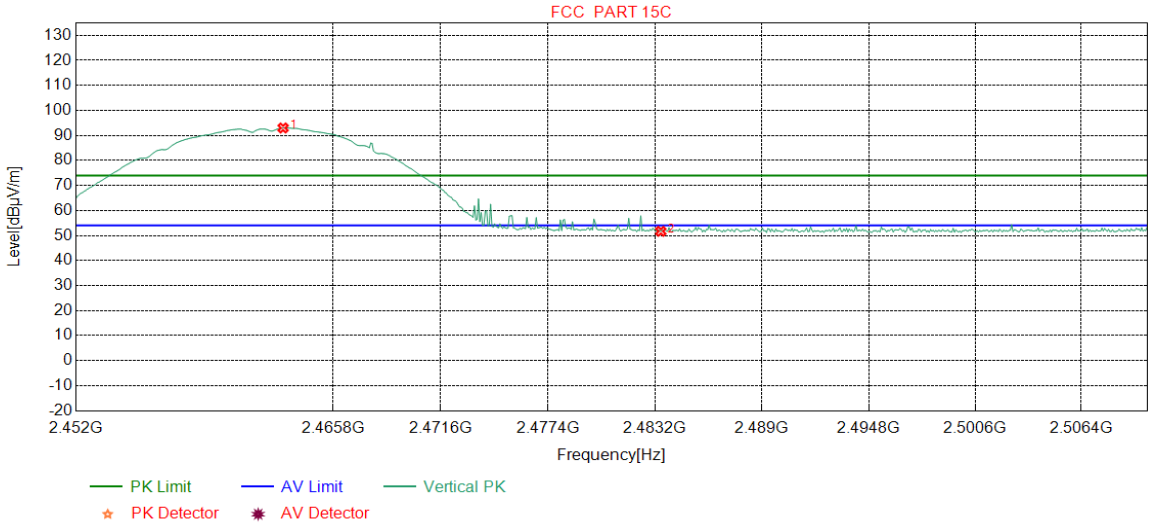
Test Graph



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	2463.1064	32.35	13.47	-43.11	87.67	90.38	74.00	-16.38	Pass	Horizontal
2	2483.5000	32.38	13.38	-43.11	49.00	51.65	74.00	22.35	Pass	Horizontal

Mode:	802.11 b(1Mbps) Transmitting	Channel:	2462
Remark:	PK		

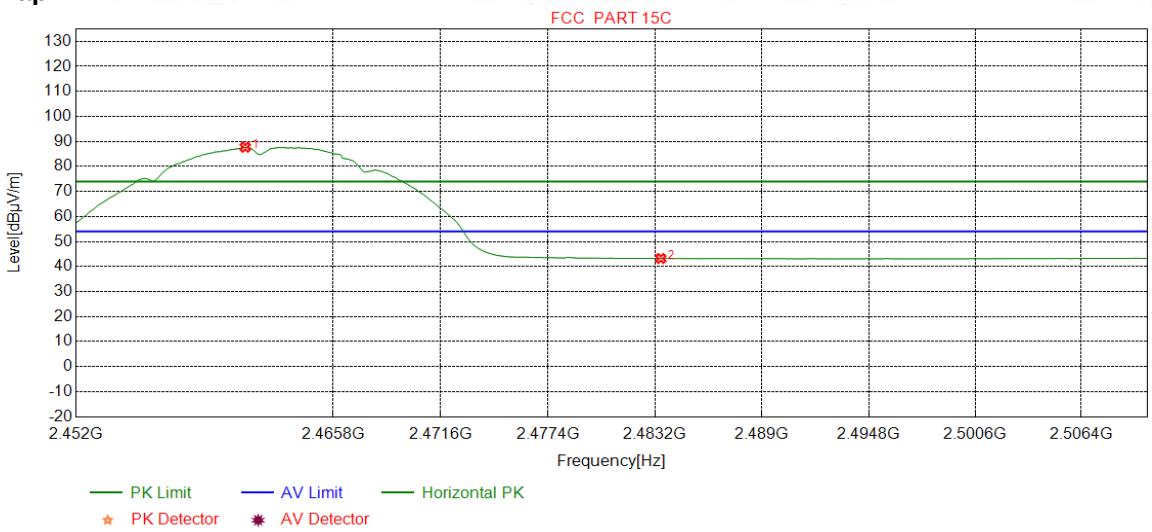
Test Graph



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	2463.1064	32.35	13.47	-43.11	90.27	92.98	74.00	-18.98	Pass	Vertical
2	2483.5000	32.38	13.38	-43.11	49.03	51.68	74.00	22.32	Pass	Vertical

Mode:	802.11 b(1Mbps) Transmitting	Channel:	2462
Remark:	AV		

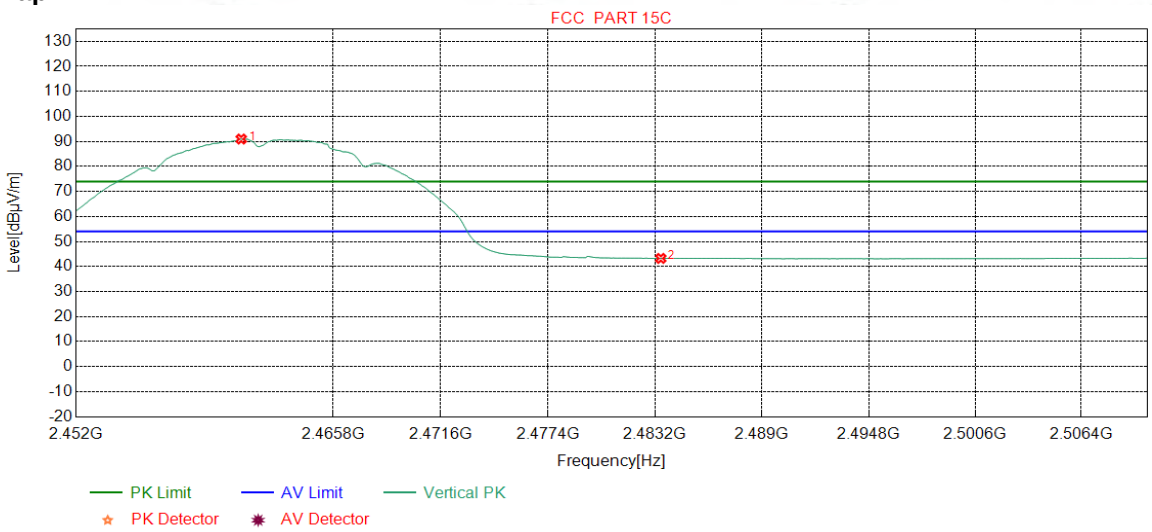
Test Graph



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	2461.0738	32.35	13.48	-43.11	84.97	87.69	54.00	-33.69	Pass	Horizontal
2	2483.5000	32.38	13.38	-43.11	40.57	43.22	54.00	10.78	Pass	Horizontal

Mode:	802.11 b(1Mbps) Transmitting	Channel:	2462
Remark:	AV		

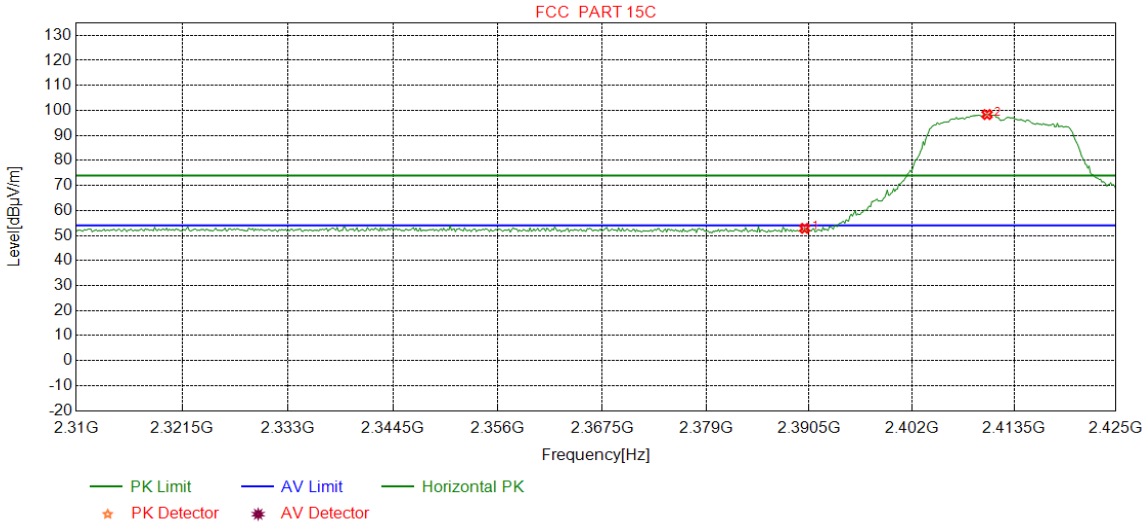
Test Graph



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	-43.11	88.23	90.95	54.00	-36.95	Pass	Vertical
2	2483.5000	32.38	13.38	-43.11	40.59	43.24	54.00	10.76	Pass	Vertical

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

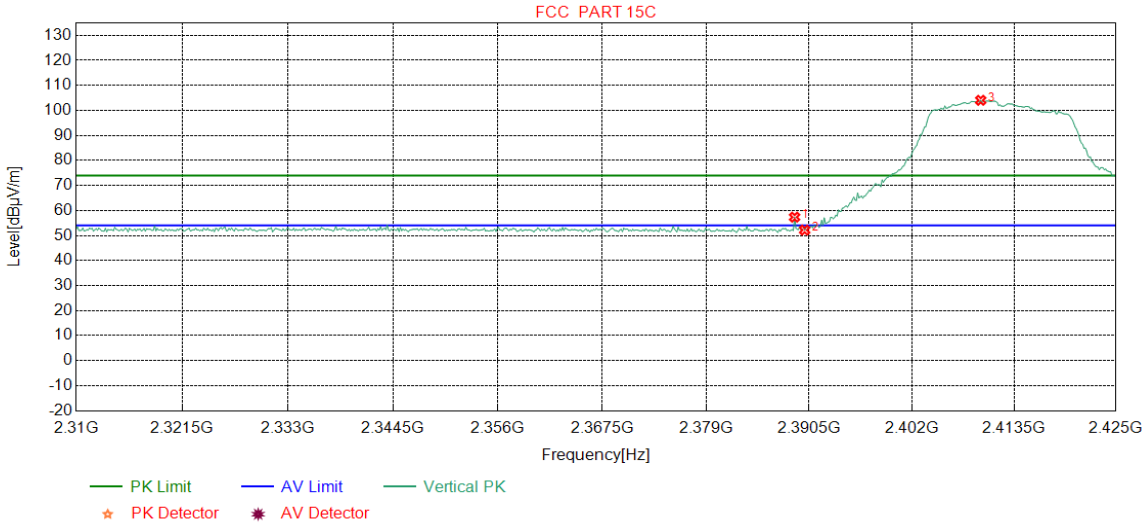
Test Graph



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	-43.12	50.35	52.85	74.00	21.15	Pass	Horizontal
2	2410.4631	32.27	13.35	-43.12	95.85	98.35	74.00	-24.35	Pass	Horizontal

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

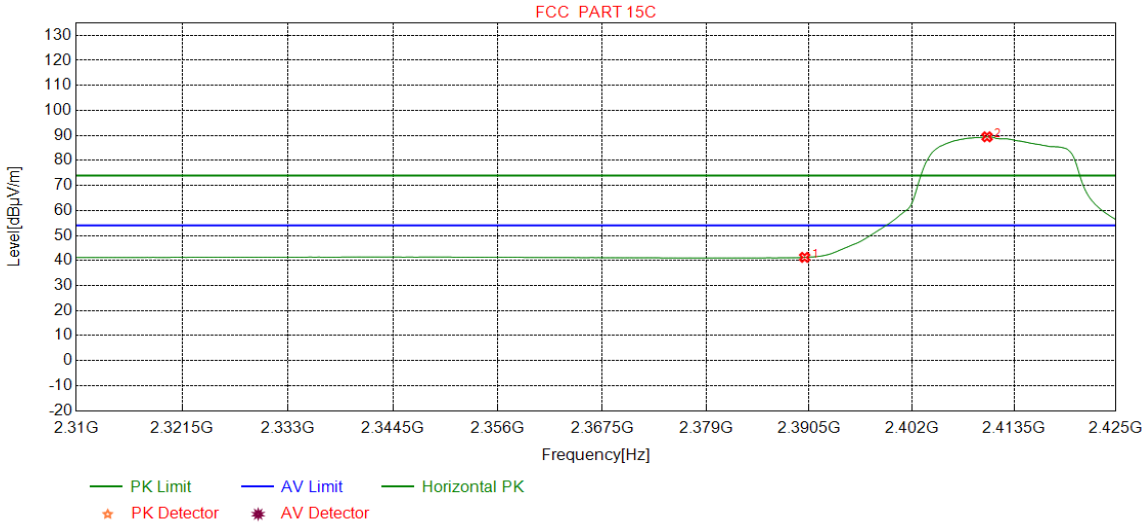
Test Graph



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	2388.8736	32.24	13.38	-43.12	54.83	57.33	74.00	16.67	Pass	Vertical
2	2390.0000	32.25	13.37	-43.12	49.66	52.16	74.00	21.84	Pass	Vertical
3	2409.7434	32.27	13.34	-43.11	101.54	104.04	74.00	-30.04	Pass	Vertical

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

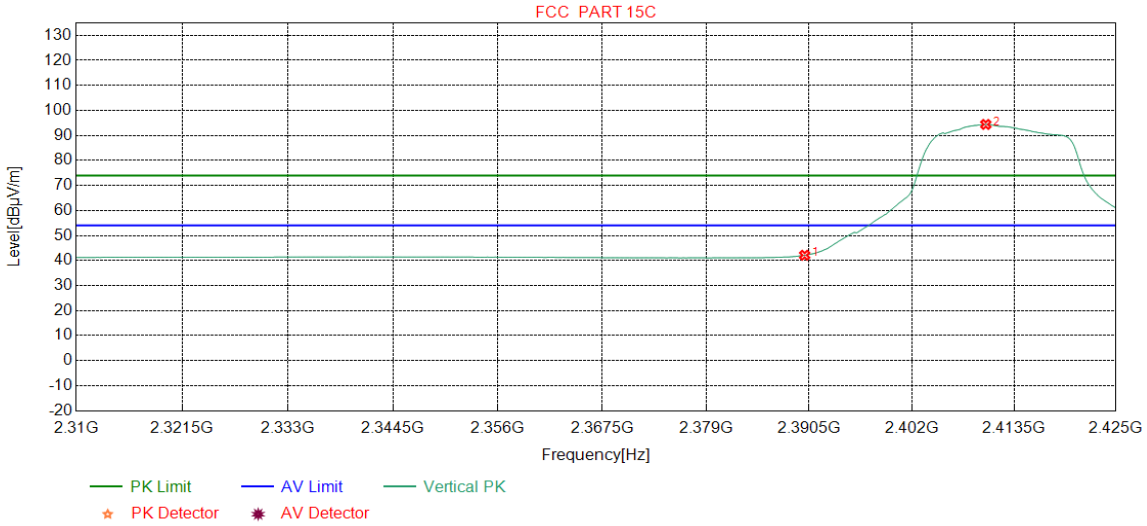
Test Graph



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	-43.12	38.77	41.27	54.00	12.73	Pass	Horizontal
2	2410.4631	32.27	13.35	-43.12	86.94	89.44	54.00	-35.44	Pass	Horizontal

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

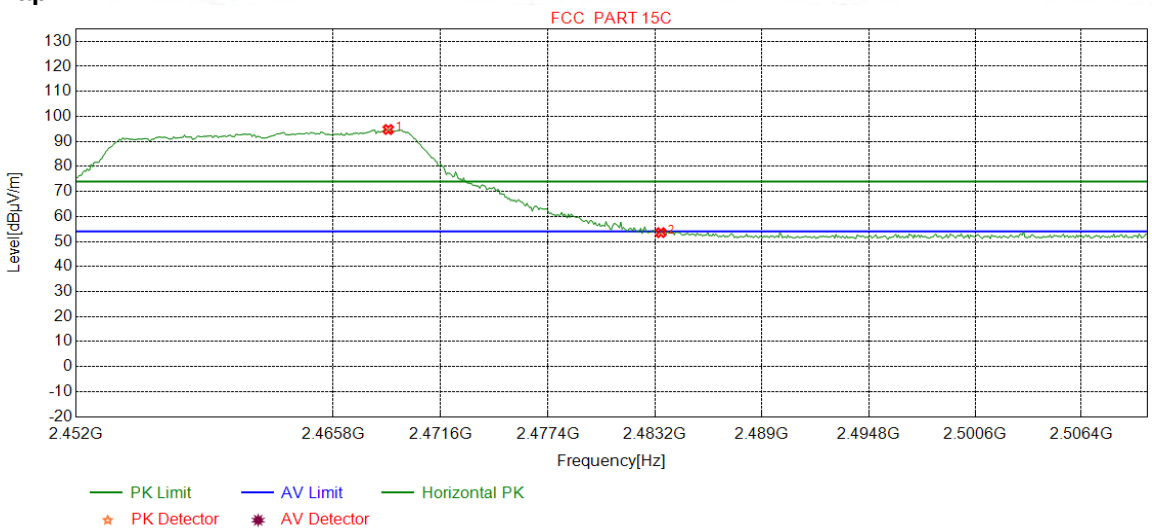
Test Graph



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	-43.12	39.62	42.12	54.00	11.88	Pass	Vertical
2	2410.3191	32.27	13.35	-43.12	91.89	94.39	54.00	-40.39	Pass	Vertical

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

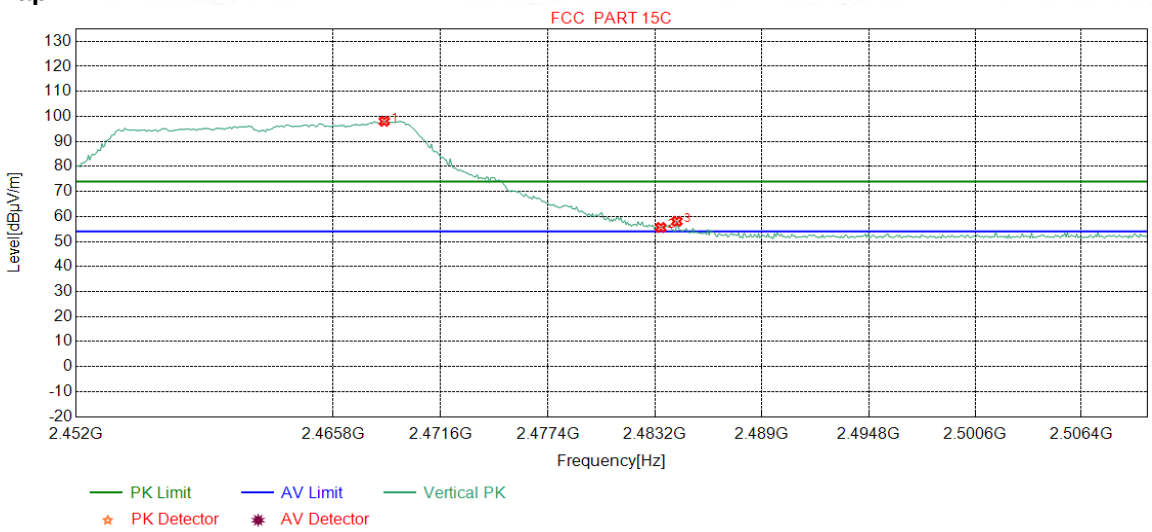
Test Graph



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	2468.7685	32.36	13.44	-43.11	92.07	94.76	74.00	-20.76	Pass	Horizontal
2	2483.5000	32.38	13.38	-43.11	50.89	53.54	74.00	20.46	Pass	Horizontal

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

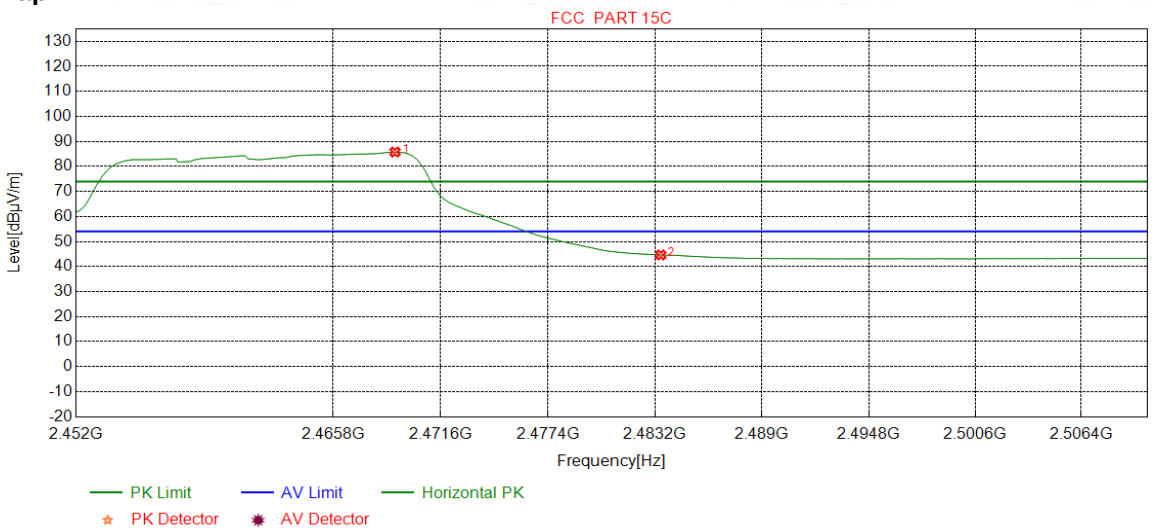
Test Graph



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	2468.5507	32.36	13.44	-43.11	95.36	98.05	74.00	-24.05	Pass	Vertical
2	2483.5000	32.38	13.38	-43.11	52.95	55.60	74.00	18.40	Pass	Vertical
3	2484.3755	32.38	13.37	-43.10	55.40	58.05	74.00	15.95	Pass	Vertical

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

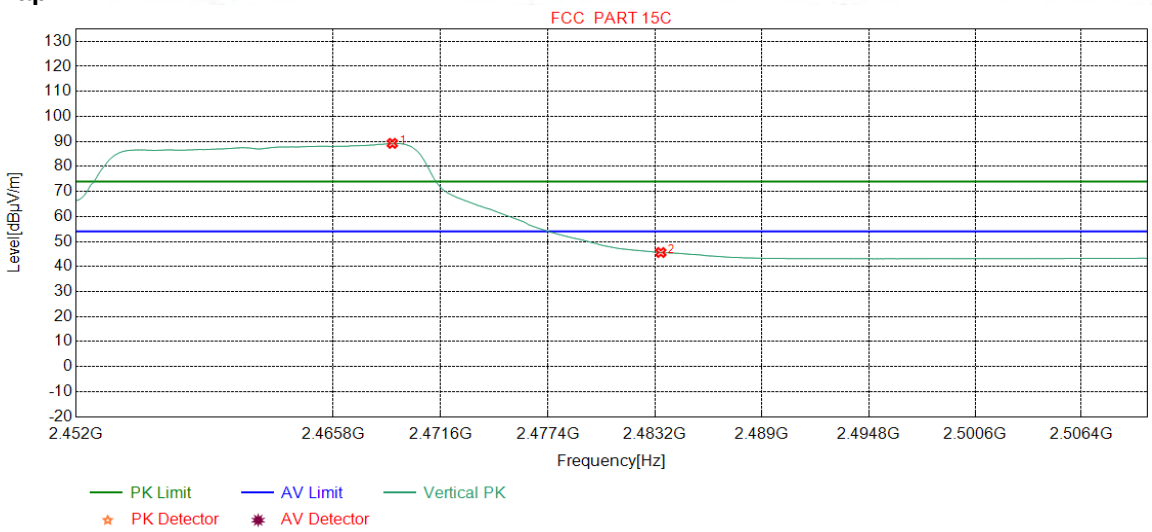
Test Graph



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	2469.1314	32.36	13.44	-43.11	83.07	85.76	54.00	-31.76	Pass	Horizontal
2	2483.5000	32.38	13.38	-43.11	41.98	44.63	54.00	9.37	Pass	Horizontal

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

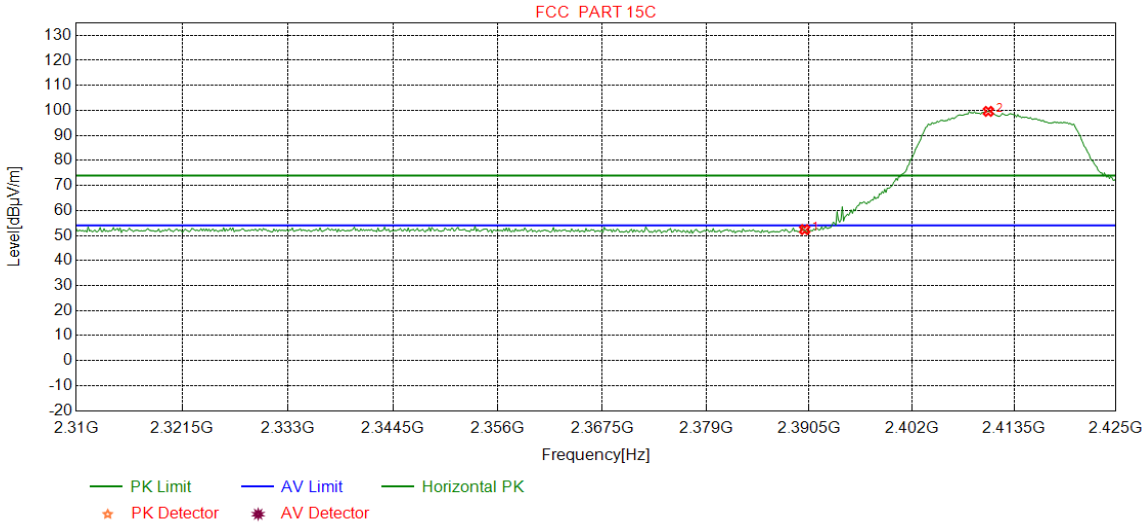
Test Graph



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	2468.9862	32.36	13.44	-43.11	86.54	89.23	54.00	-35.23	Pass	Vertical
2	2483.5000	32.38	13.38	-43.11	42.96	45.61	54.00	8.39	Pass	Vertical

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

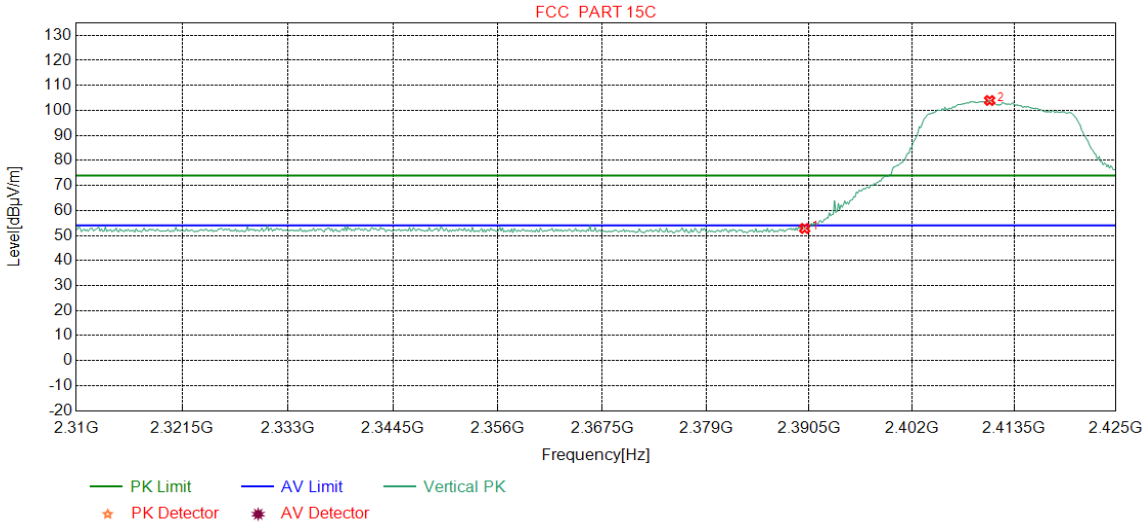
Test Graph



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	49.86	52.36	74.00	21.64	Pass	Horizontal
2	2410.6070	32.27	13.35	-43.11	97.11	99.62	74.00	-25.62	Pass	Horizontal

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

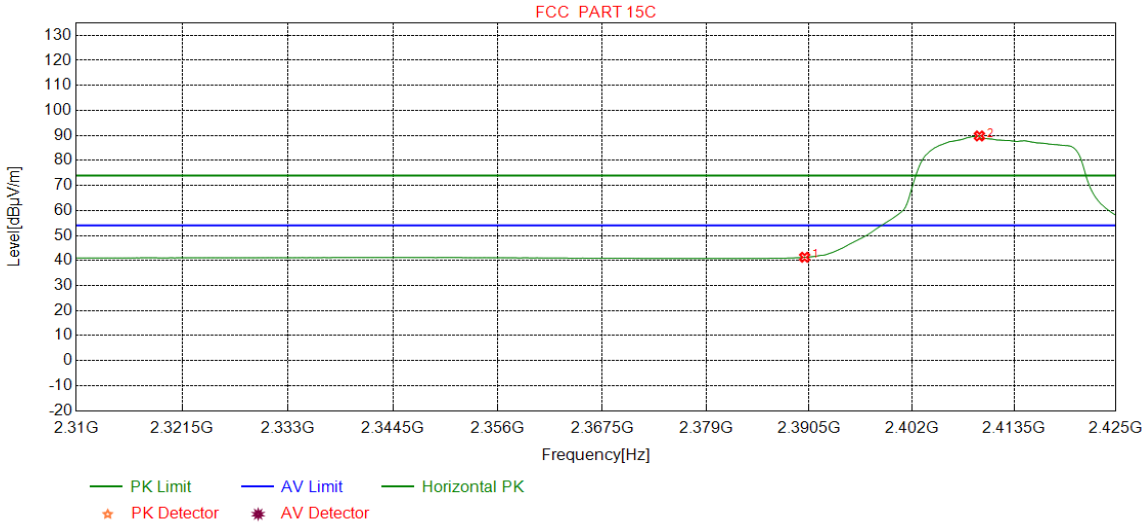
Test Graph



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	50.32	52.82	74.00	21.18	Pass	Vertical
2	2410.7509	32.28	13.35	-43.12	101.45	103.96	74.00	-29.96	Pass	Vertical

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

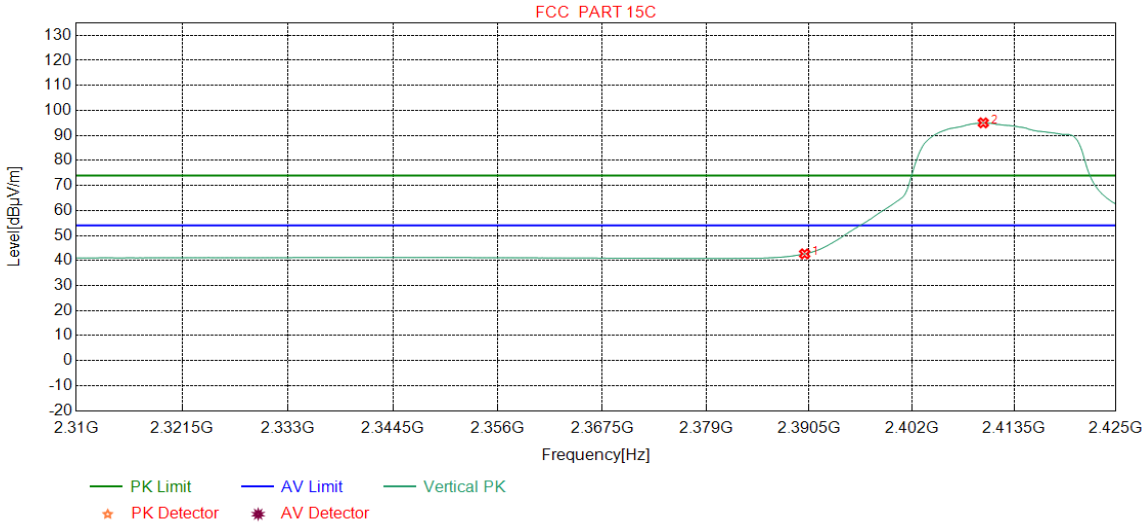
Test Graph



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	38.81	41.31	54.00	12.69	Pass	Horizontal
2	2409.5995	32.27	13.34	-43.11	87.28	89.78	54.00	-35.78	Pass	Horizontal

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

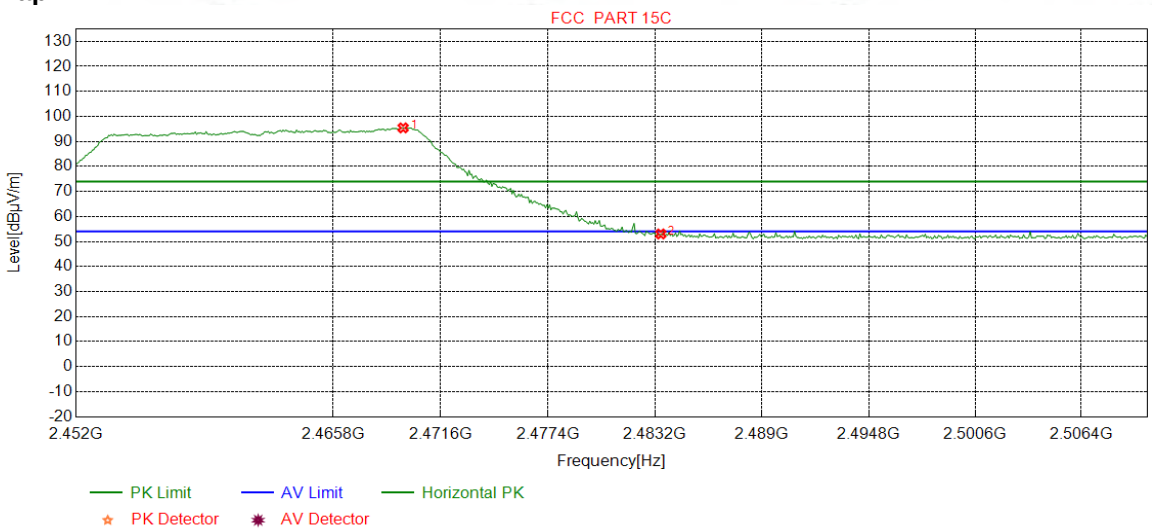
Test Graph



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	40.17	42.67	54.00	11.33	Pass	Vertical
2	2410.0313	32.27	13.35	-43.12	92.53	95.03	54.00	-41.03	Pass	Vertical

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

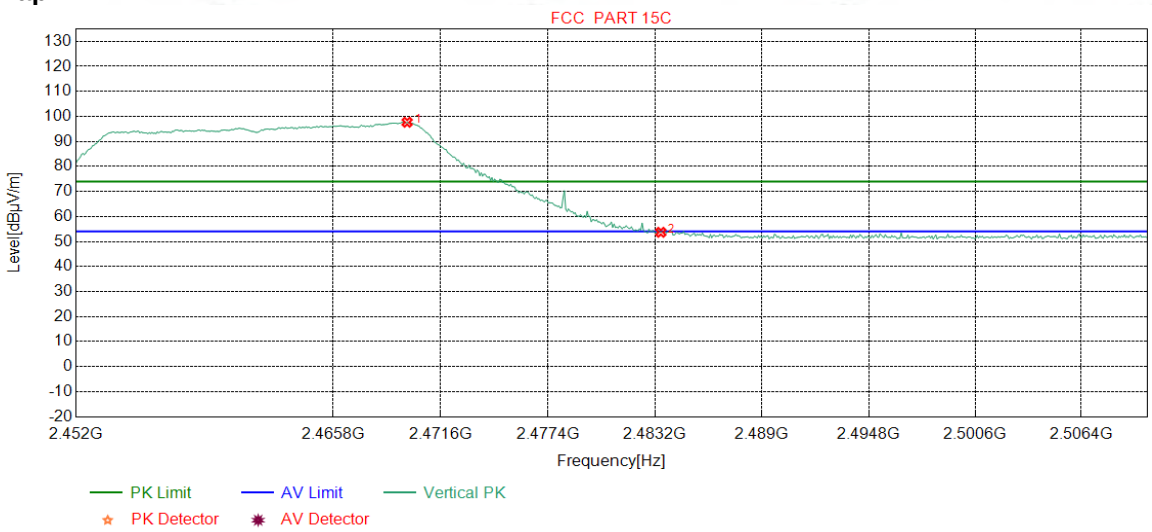
Test Graph



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	2469.5670	32.36	13.44	-43.11	92.73	95.42	74.00	-21.42	Pass	Horizontal
2	2483.5000	32.38	13.38	-43.11	50.36	53.01	74.00	20.99	Pass	Horizontal

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

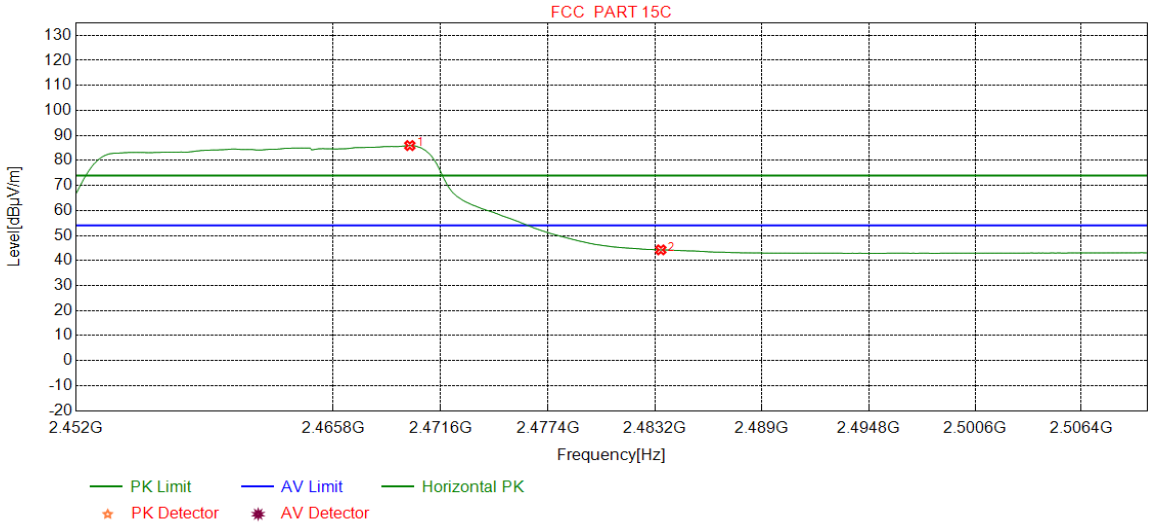
Test Graph



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	2469.7847	32.36	13.44	-43.11	94.98	97.67	74.00	-23.67	Pass	Vertical
2	2483.5000	32.38	13.38	-43.11	51.03	53.68	74.00	20.32	Pass	Vertical

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

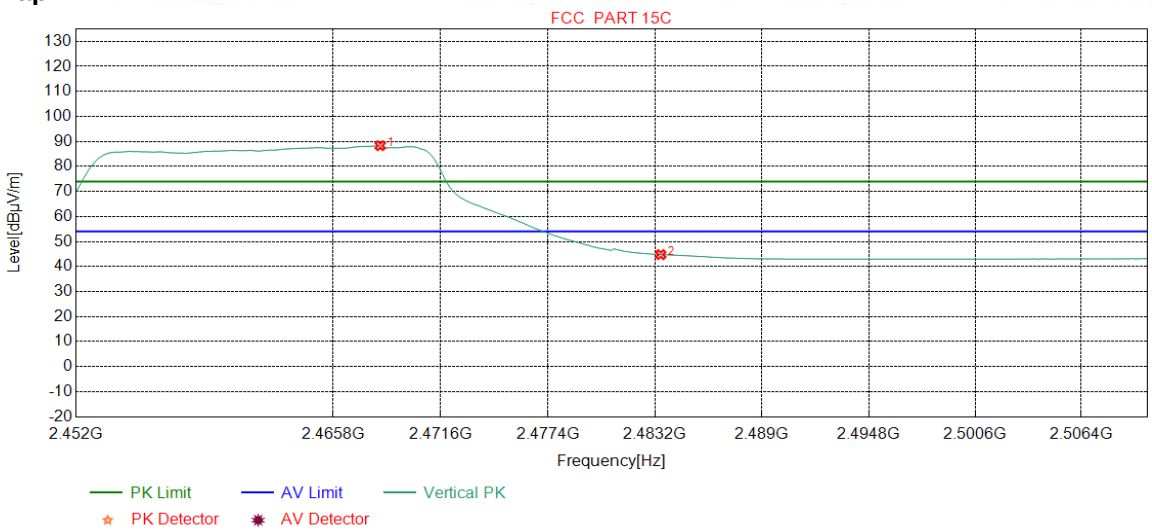
Test Graph



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	2469.9299	32.36	13.44	-43.11	83.26	85.95	54.00	-31.95	Pass	Horizontal
2	2483.5000	32.38	13.38	-43.11	41.61	44.26	54.00	9.74	Pass	Horizontal

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

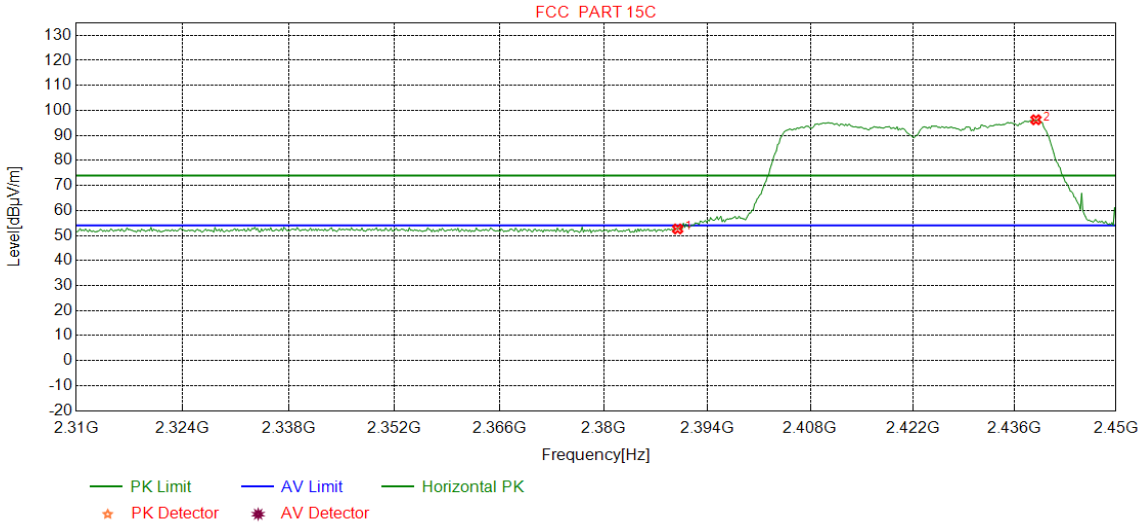
Test Graph



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	2468.3329	32.36	13.45	-43.11	85.62	88.32	54.00	-34.32	Pass	Vertical
2	2483.5000	32.38	13.38	-43.11	42.12	44.77	54.00	9.23	Pass	Vertical

Mode:	802.11 n(HT40) (13.5Mbps) Transmitting	Channel:	2422
Remark:	PK		

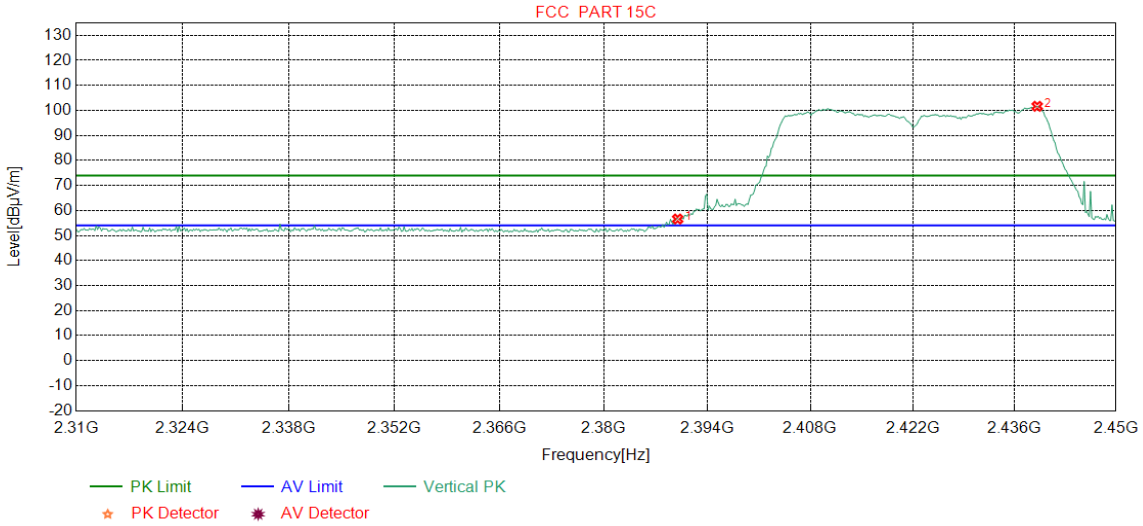
Test Graph



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	50.13	52.63	74.00	21.37	Pass	Horizontal
2	2438.9612	32.31	13.48	-43.11	93.59	96.27	74.00	-22.27	Pass	Horizontal

Mode:	802.11 n(HT40) (13.5Mbps) Transmitting	Channel:	2422
Remark:	PK		

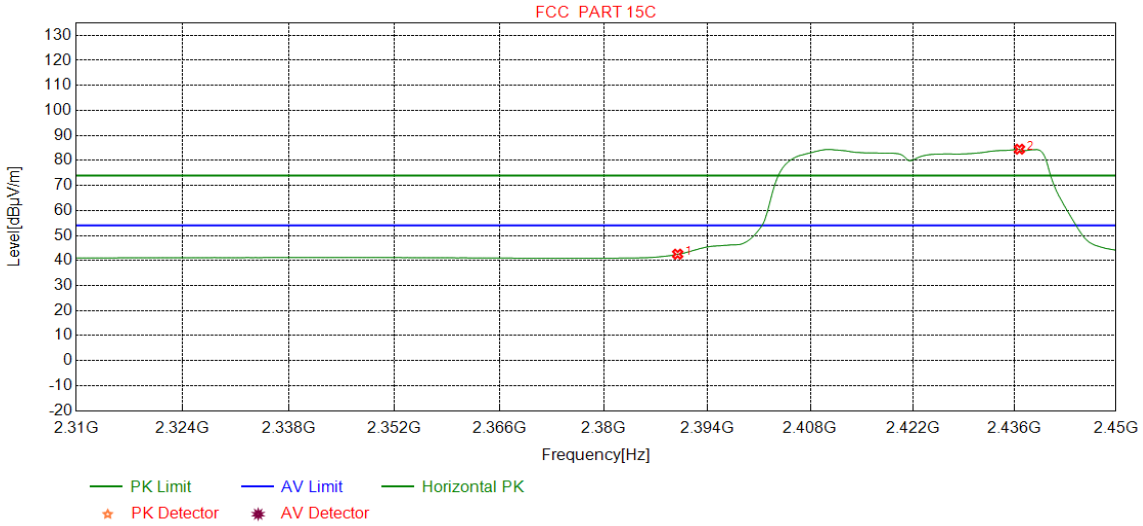
Test Graph



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	54.09	56.59	74.00	17.41	Pass	Vertical
2	2439.1364	32.31	13.48	-43.11	98.96	101.64	74.00	-27.64	Pass	Vertical

Mode:	802.11 n(HT40) (13.5Mbps) Transmitting	Channel:	2422
Remark:	AV		

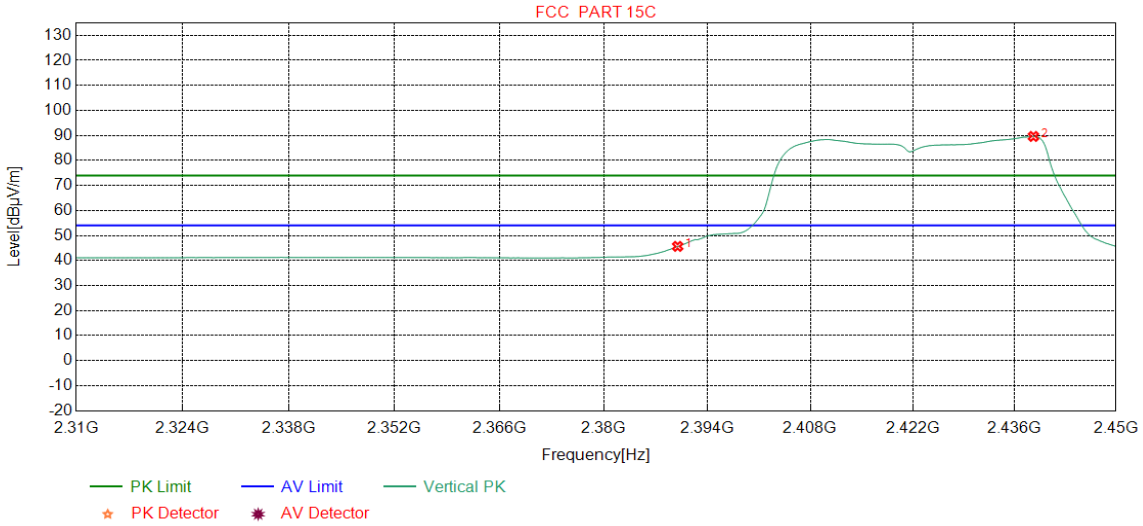
Test Graph



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	40.06	42.56	54.00	11.44	Pass	Horizontal
2	2436.6834	32.31	13.47	-43.11	81.83	84.50	54.00	-30.50	Pass	Horizontal

Mode:	802.11 n(HT40) (13.5Mbps) Transmitting	Channel:	2422
Remark:	AV		

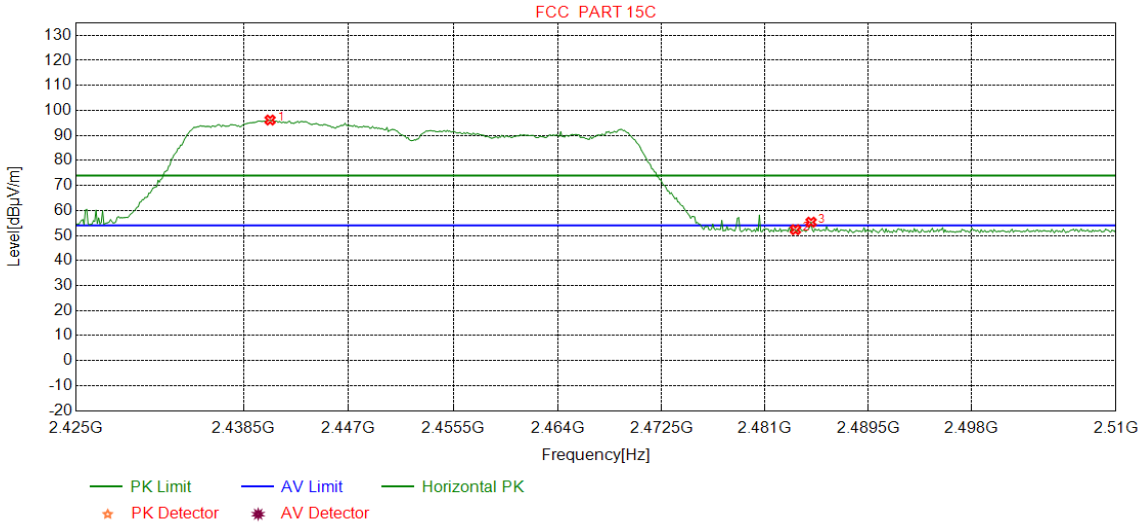
Test Graph



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	43.16	45.66	54.00	8.34	Pass	Vertical
2	2438.6108	32.31	13.48	-43.11	86.91	89.59	54.00	-35.59	Pass	Vertical

Mode:	802.11 n(HT40) (13.5Mbps) Transmitting	Channel:	2452
Remark:	PK		

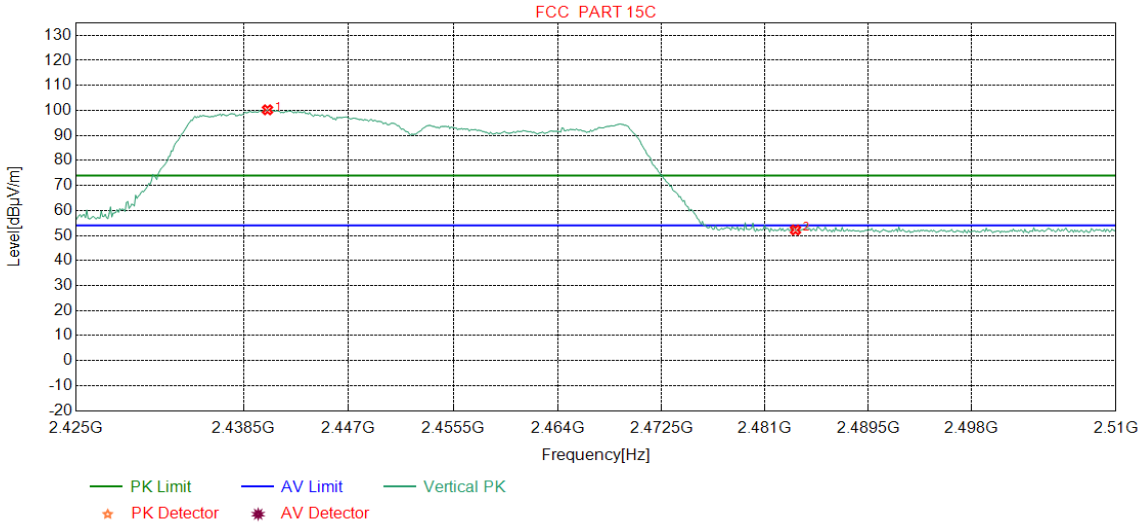
Test Graph



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	2440.6383	32.32	13.49	-43.12	93.47	96.16	74.00	-22.16	Pass	Horizontal
2	2483.5000	32.38	13.38	-43.11	49.68	52.33	74.00	21.67	Pass	Horizontal
3	2484.7872	32.38	13.37	-43.10	52.69	55.34	74.00	18.66	Pass	Horizontal

Mode:	802.11 n(HT40) (13.5Mbps) Transmitting	Channel:	2452
Remark:	PK		

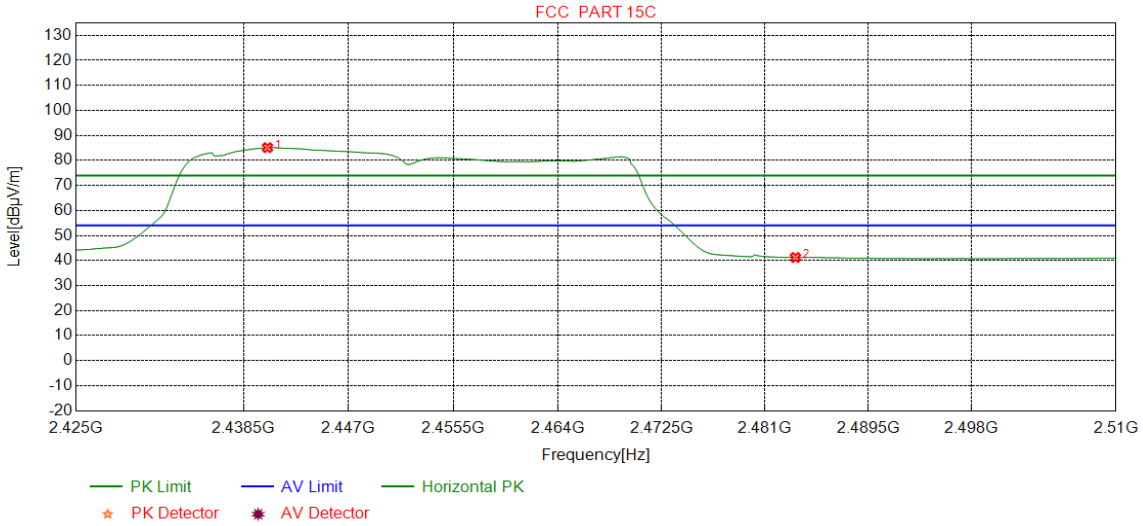
Test Graph



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	2440.4255	32.32	13.49	-43.12	97.55	100.24	74.00	-26.24	Pass	Vertical
2	2483.5000	32.38	13.38	-43.11	49.57	52.22	74.00	21.78	Pass	Vertical

Mode:	802.11 n(HT40) (13.5Mbps) Transmitting	Channel:	2452
Remark:	AV		

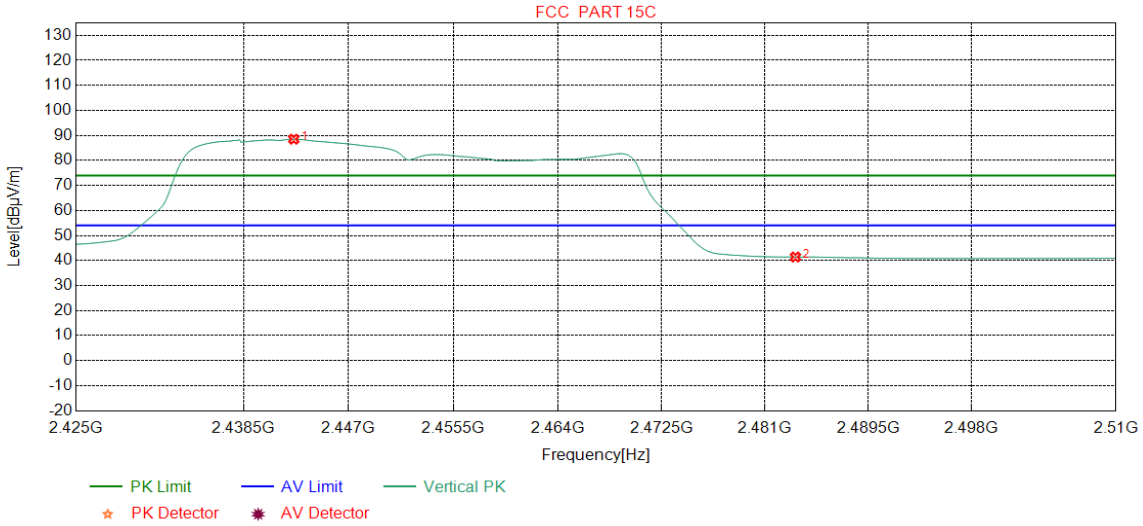
Test Graph



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	2440.4255	32.32	13.49	-43.12	82.43	85.12	54.00	-31.12	Pass	Horizontal
2	2483.5000	32.38	13.38	-43.11	38.57	41.22	54.00	12.78	Pass	Horizontal

Mode:	802.11 n(HT40) (13.5Mbps) Transmitting	Channel:	2452
Remark:	AV		

Test Graph

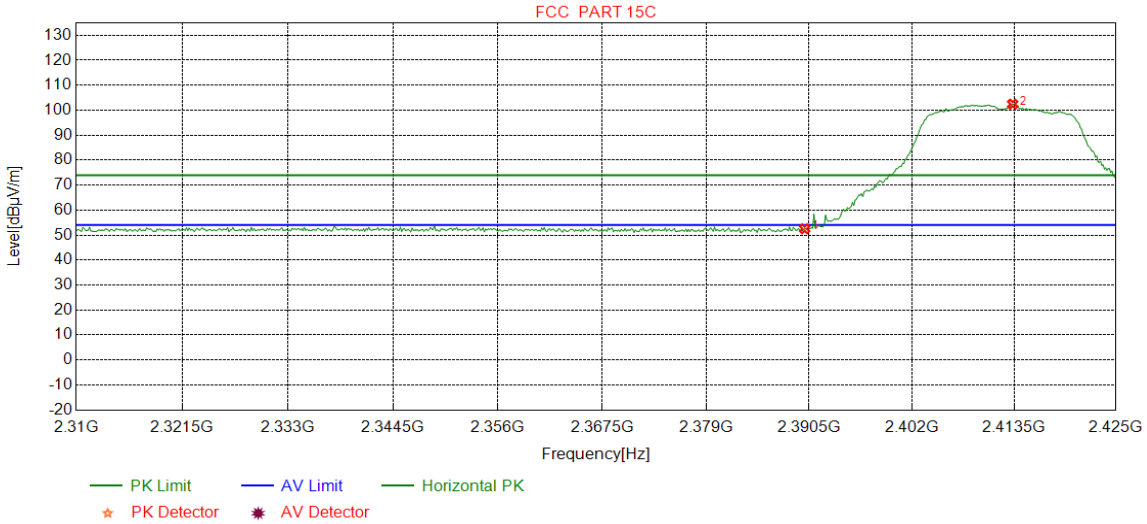


NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2442.5532	32.32	13.50	-43.12	85.80	88.50	54.00	-34.50	Pass	Vertical
2	2483.5000	32.38	13.38	-43.11	38.76	41.41	54.00	12.59	Pass	Vertical

MIMO

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

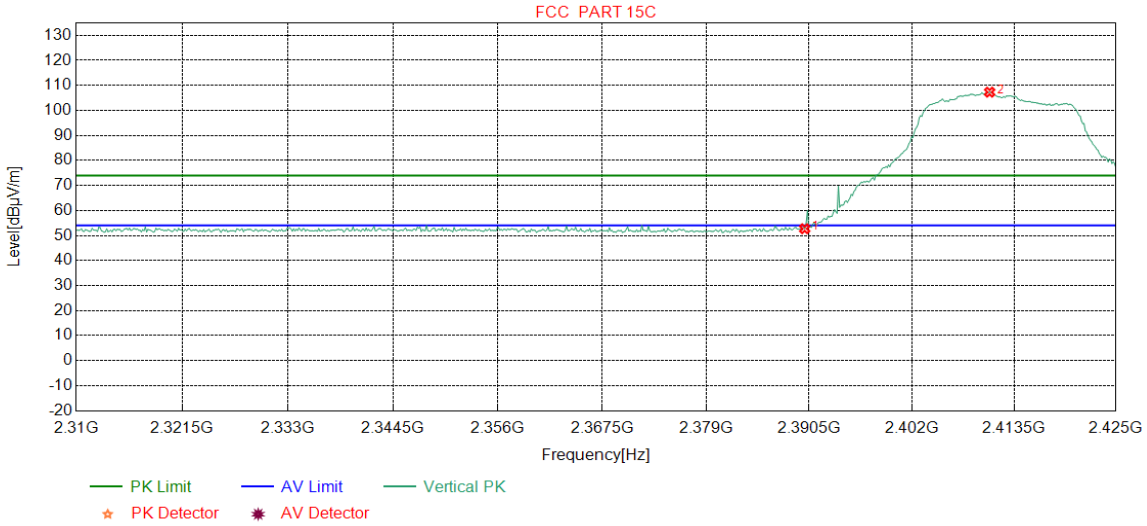
Test Graph



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	50.01	52.51	74.00	21.49	Pass	Horizontal
2	2413.3417	32.28	13.36	-43.12	99.93	102.45	74.00	-28.45	Pass	Horizontal

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

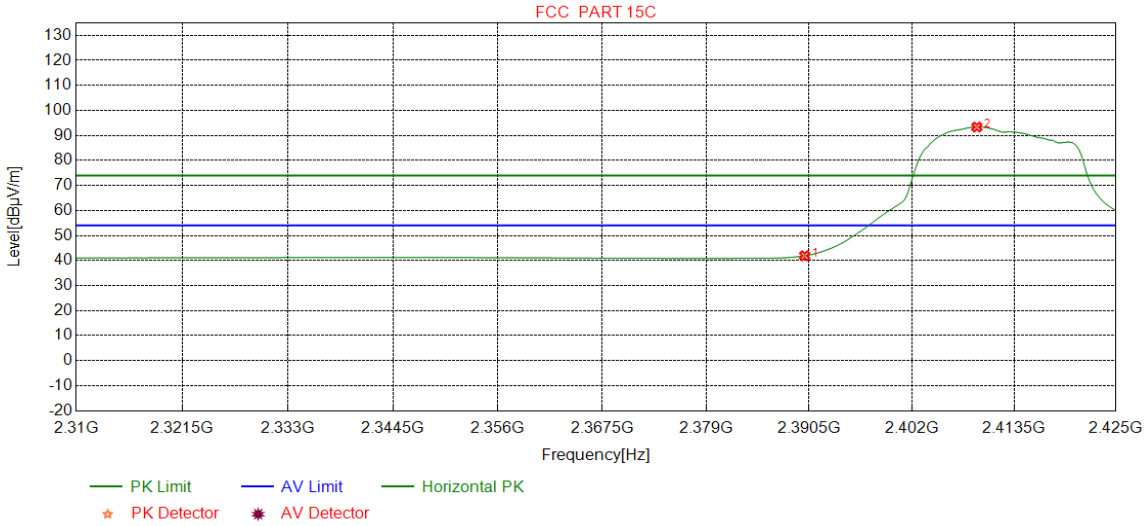
Test Graph



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	50.21	52.71	74.00	21.29	Pass	Vertical
2	2410.7509	32.28	13.35	-43.12	104.78	107.29	74.00	-33.29	Pass	Vertical

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

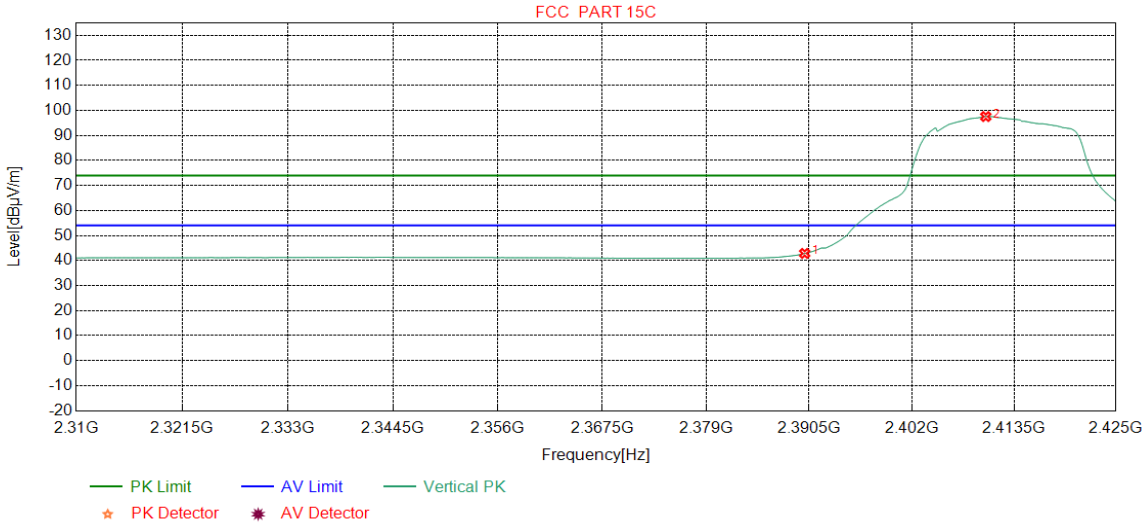
Test Graph



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	39.40	41.90	54.00	12.10	Pass	Horizontal
2	2409.3116	32.27	13.34	-43.11	90.85	93.35	54.00	-39.35	Pass	Horizontal

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

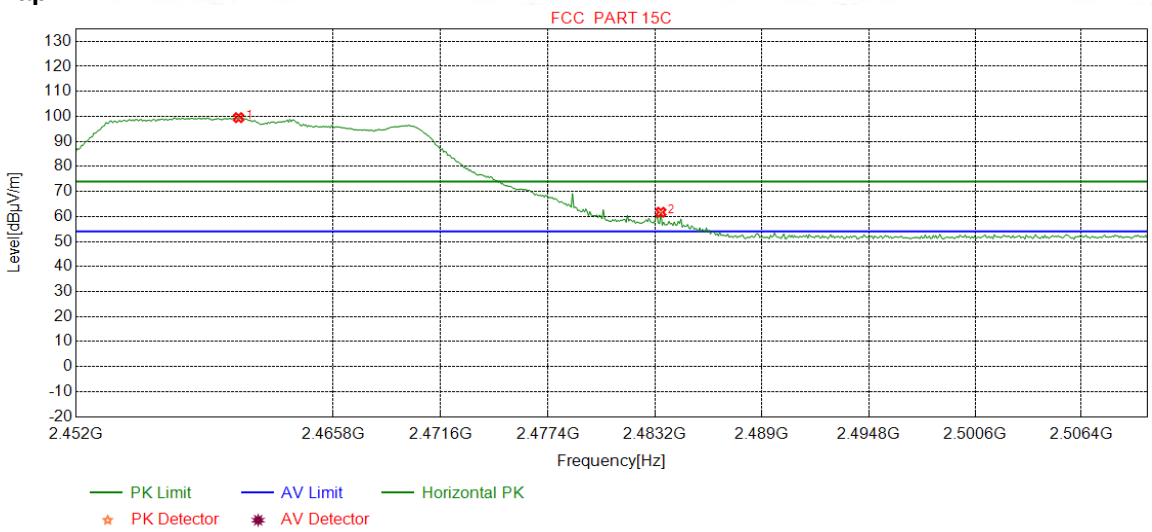
Test Graph



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	40.34	42.84	54.00	11.16	Pass	Vertical
2	2410.3191	32.27	13.35	-43.12	95.04	97.54	54.00	-43.54	Pass	Vertical

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

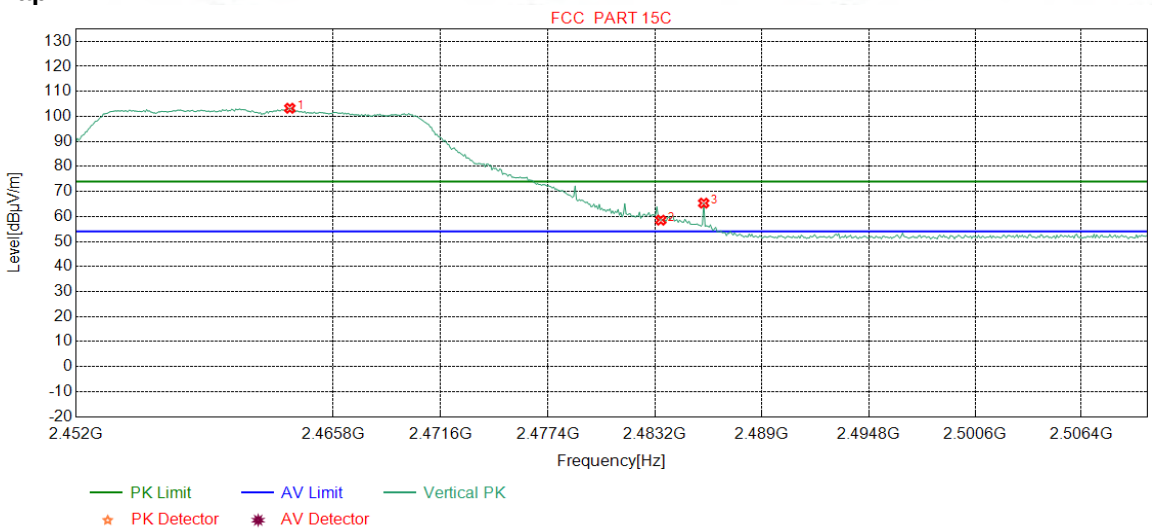
Test Graph



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	2460.7109	32.34	13.48	-43.10	96.79	99.51	74.00	-25.51	Pass	Horizontal
2	2483.5000	32.38	13.38	-43.11	59.05	61.70	74.00	12.30	Pass	Horizontal

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

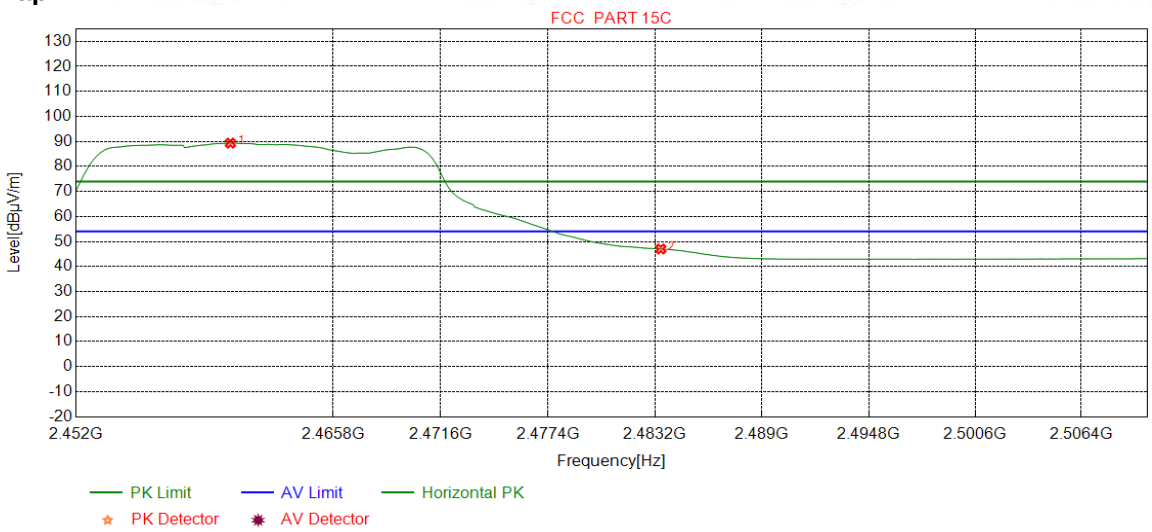
Test Graph



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	2463.4693	32.35	13.47	-43.11	100.55	103.26	74.00	-29.26	Pass	Vertical
2	2483.5000	32.38	13.38	-43.11	55.88	58.53	74.00	15.47	Pass	Vertical
3	2485.8273	32.38	13.37	-43.11	62.70	65.34	74.00	8.66	Pass	Vertical

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

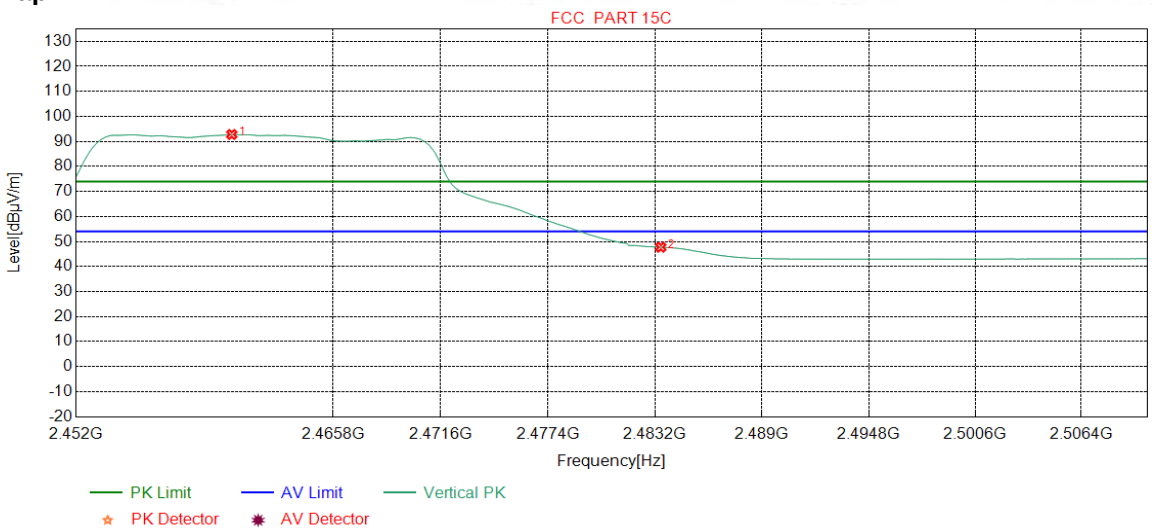
Test Graph



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	2460.2753	32.34	13.48	-43.10	86.62	89.34	54.00	-35.34	Pass	Horizontal
2	2483.5000	32.38	13.38	-43.11	44.37	47.02	54.00	6.98	Pass	Horizontal

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

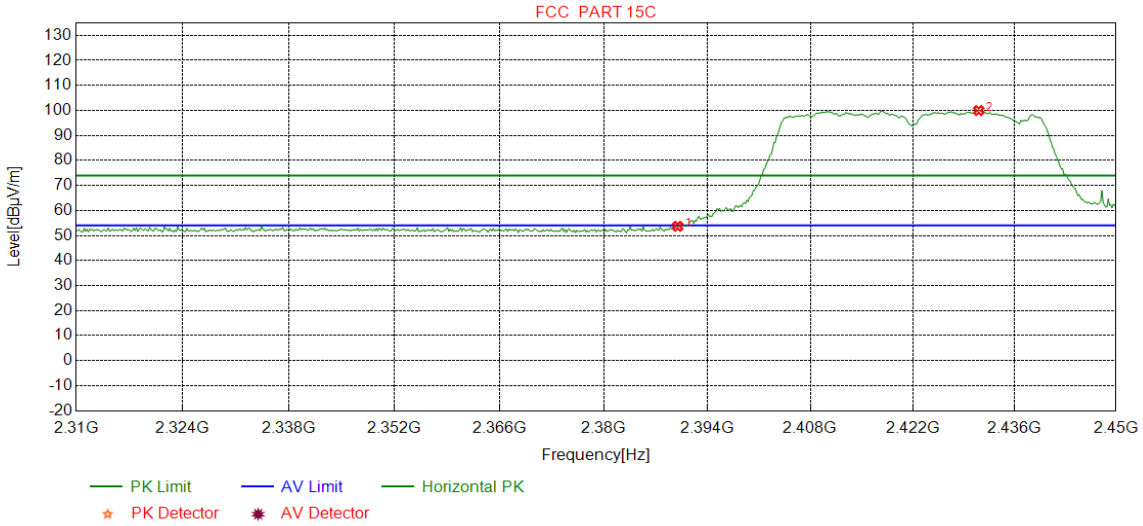
Test Graph



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	2460.3479	32.34	13.48	-43.10	90.05	92.77	54.00	-38.77	Pass	Vertical
2	2483.5000	32.38	13.38	-43.11	45.07	47.72	54.00	6.28	Pass	Vertical

Mode:	802.11n(HT40) (13.5Mbps) Transmitting	Channel:	2422
Remark:	PK		

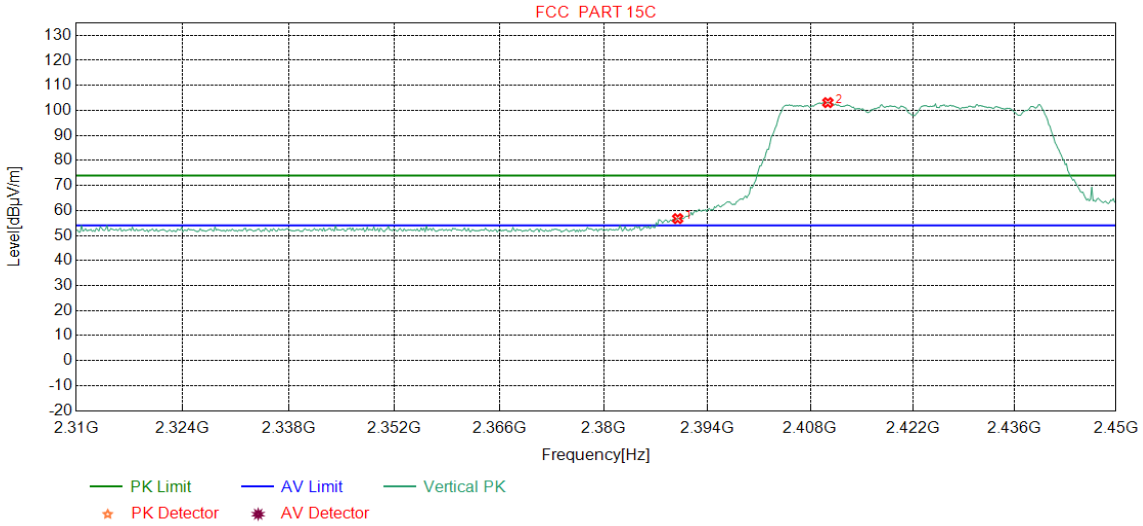
Test Graph



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	51.18	53.68	74.00	20.32	Pass	Horizontal
2	2431.0763	32.30	13.44	-43.11	97.33	99.96	74.00	-25.96	Pass	Horizontal

Mode:	802.11n(HT40) (13.5Mbps) Transmitting	Channel:	2422
Remark:	PK		

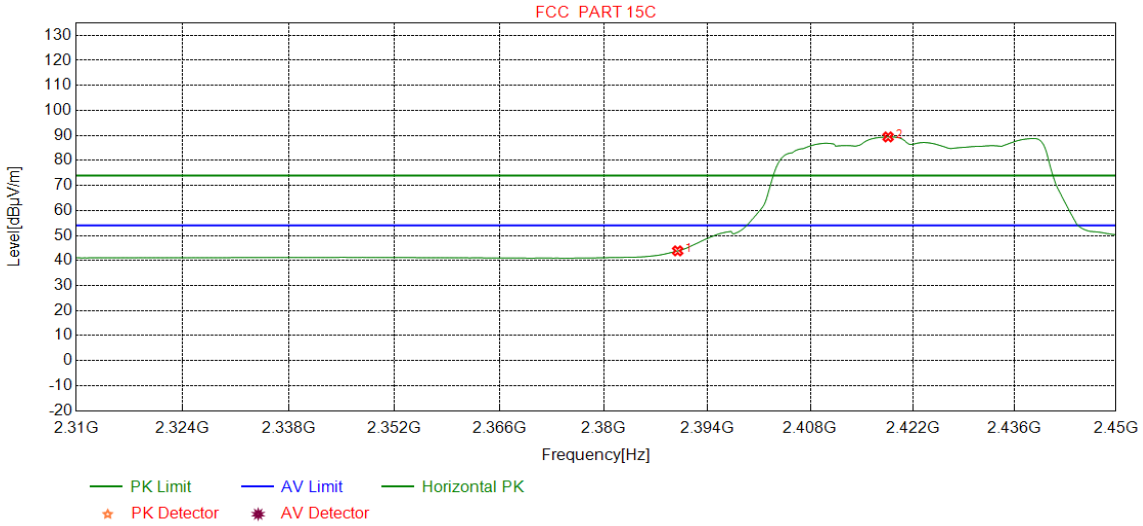
Test Graph



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	54.26	56.76	74.00	17.24	Pass	Vertical
2	2410.4005	32.27	13.35	-43.12	100.62	103.12	74.00	-29.12	Pass	Vertical

Mode:	802.11n(HT40) (13.5Mbps) Transmitting	Channel:	2422
Remark:	AV		

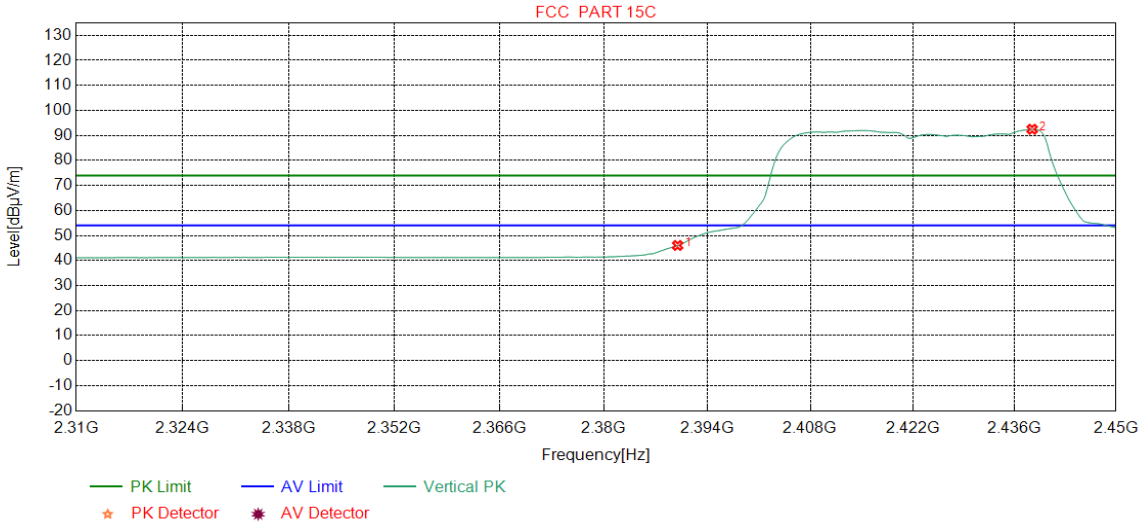
Test Graph



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	41.36	43.86	54.00	10.14	Pass	Horizontal
2	2418.6358	32.29	13.39	-43.12	86.84	89.40	54.00	-35.40	Pass	Horizontal

Mode:	802.11n(HT40) (13.5Mbps) Transmitting	Channel:	2422
Remark:	AV		

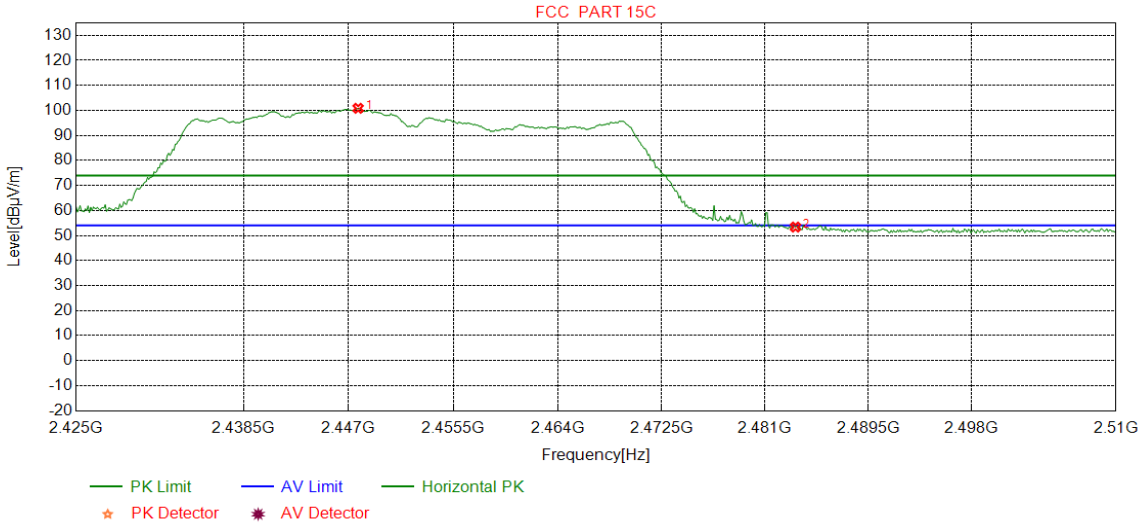
Test Graph



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	43.53	46.03	54.00	7.97	Pass	Vertical
2	2438.4355	32.31	13.48	-43.11	89.79	92.47	54.00	-38.47	Pass	Vertical

Mode:	802.11n(HT40) (13.5Mbps) Transmitting	Channel:	2452
Remark:	PK		

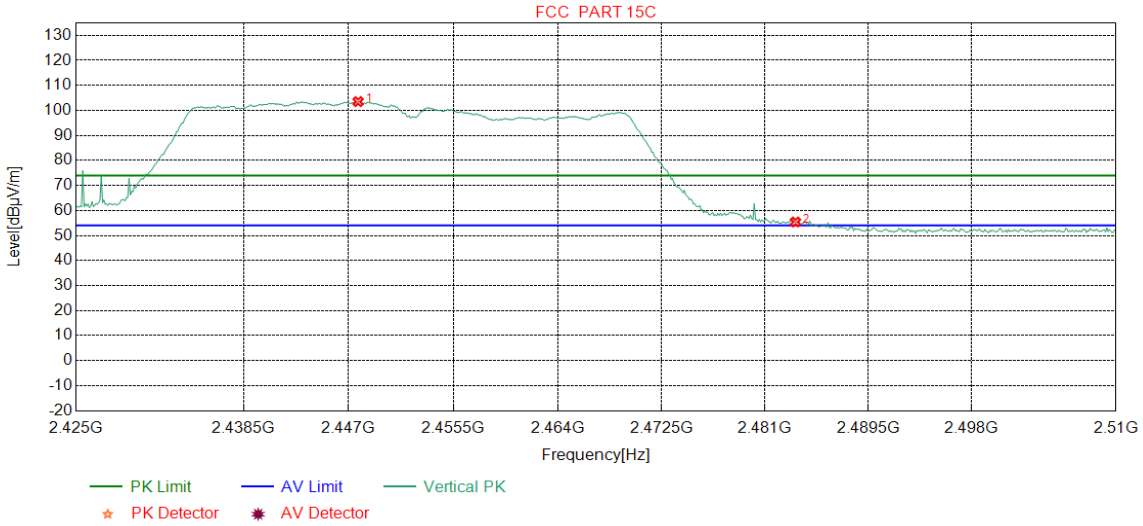
Test Graph



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	2447.7660	32.33	13.52	-43.11	98.11	100.85	74.00	-26.85	Pass	Horizontal
2	2483.5000	32.38	13.38	-43.11	50.73	53.38	74.00	20.62	Pass	Horizontal

Mode:	802.11n(HT40) (13.5Mbps) Transmitting	Channel:	2452
Remark:	PK		

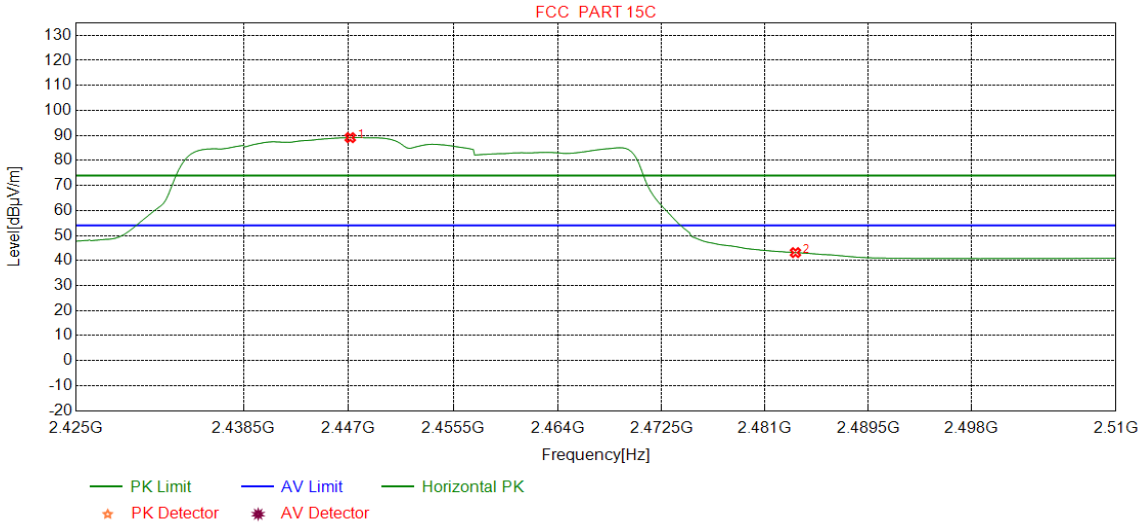
Test Graph



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	2447.7660	32.33	13.52	-43.11	100.78	103.52	74.00	-29.52	Pass	Vertical
2	2483.5000	32.38	13.38	-43.11	52.75	55.40	74.00	18.60	Pass	Vertical

Mode:	802.11n(HT40) (13.5Mbps) Transmitting	Channel:	2452
Remark:	AV		

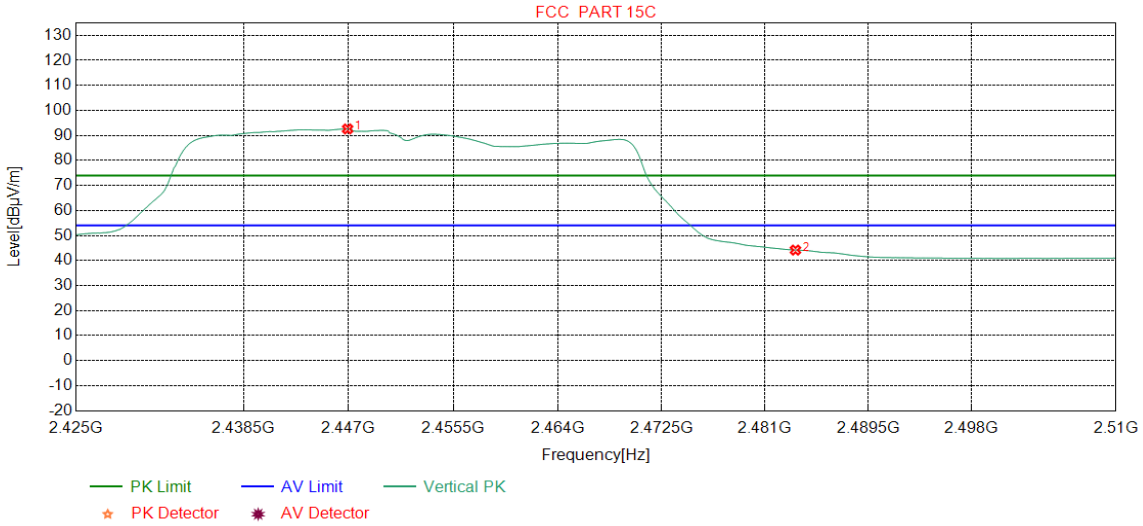
Test Graph



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	2447.1277	32.33	13.52	-43.12	86.38	89.11	54.00	-35.11	Pass	Horizontal
2	2483.5000	32.38	13.38	-43.11	40.51	43.16	54.00	10.84	Pass	Horizontal

Mode:	802.11n(HT40) (13.5Mbps) 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	2446.9149	32.33	13.52	-43.12	89.87	92.60	54.00	-38.60	Pass	Vertical
2	2483.5000	32.38	13.38	-43.11	41.52	44.17	54.00	9.83	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, 11N20MIMO, Channel 2437MHz was selected as the worst condition. The test data of the worst-case condition was recorded in this report.

MIMO

Mode:		802.11n(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	127.9798	8.00	1.32	-32.02	49.94	27.24	43.50	16.26	Pass	H
2	266.9947	12.54	1.95	-31.88	58.68	41.29	46.00	4.71	Pass	H
3	324.8125	13.75	2.14	-31.80	58.77	42.86	46.00	3.14	Pass	H
4	532.0252	17.64	2.77	-31.92	47.60	36.09	46.00	9.91	Pass	H
5	649.9890	19.40	3.10	-32.07	43.49	33.92	46.00	12.08	Pass	H
6	840.2250	21.38	3.50	-31.88	48.77	41.77	46.00	4.23	Pass	H
7	56.8717	12.10	0.86	-31.90	40.05	21.11	40.00	18.89	Pass	V
8	150.0010	7.55	1.45	-32.01	46.49	23.48	43.50	20.02	Pass	V
9	240.8021	11.96	1.84	-31.90	56.51	38.41	46.00	7.59	Pass	V
10	330.6331	13.87	2.16	-31.76	58.66	42.93	46.00	3.07	Pass	V
11	532.0252	17.64	2.77	-31.92	46.32	34.81	46.00	11.19	Pass	V
12	649.9890	19.40	3.10	-32.07	43.70	34.13	46.00	11.87	Pass	V

Transmitter Emission above 1GHz

During the test, the Radiates Emission above was performed in all modes with all channels, Antenna1 SISO and MIMO mode were selected as the worst condition. The test data of the worst-case condition was recorded in this report.

Antenna 1

Mode:		802.11 b (1Mbps) 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	1331.4331	28.23	2.79	-42.75	56.07	44.34	74.00	29.66	Pass	H	Peak
2	1777.8778	30.23	3.28	-42.69	53.97	44.79	74.00	29.21	Pass	H	Peak
3	3931.0621	33.74	4.34	-43.01	50.77	45.84	74.00	28.16	Pass	H	Peak
4	4824.0000	34.50	4.61	-42.80	46.79	43.10	74.00	30.90	Pass	H	Peak
5	7236.0000	36.34	5.79	-42.16	47.09	47.06	74.00	26.94	Pass	H	Peak
6	9648.0000	37.66	6.72	-42.10	46.81	49.09	74.00	24.91	Pass	H	Peak
7	1597.4597	29.04	3.07	-42.90	59.71	48.92	74.00	25.08	Pass	V	Peak
8	1996.2996	31.68	3.47	-43.20	58.14	50.09	74.00	23.91	Pass	V	Peak
9	3192.0128	33.28	4.64	-43.11	54.87	49.68	74.00	24.32	Pass	V	Peak
10	4824.0000	34.50	4.61	-42.80	47.60	43.91	74.00	30.09	Pass	V	Peak
11	7236.0000	36.34	5.79	-42.16	45.69	45.66	74.00	28.34	Pass	V	Peak
12	9648.0000	37.66	6.72	-42.10	49.59	51.87	74.00	22.13	Pass	V	Peak

Mode:		802.11 b (1Mbps) 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	1778.8779	30.24	3.28	-42.70	55.36	46.18	74.00	27.82	Pass	H	Peak
2	1995.4996	31.67	3.47	-43.19	55.74	47.69	74.00	26.31	Pass	H	Peak
3	3956.0637	33.76	4.34	-43.01	49.82	44.91	74.00	29.09	Pass	H	Peak
4	4874.0000	34.50	4.78	-42.80	47.57	44.05	74.00	29.95	Pass	H	Peak
5	7311.0000	36.41	5.85	-42.14	46.79	46.91	74.00	27.09	Pass	H	Peak
6	9748.0000	37.70	6.77	-42.10	49.07	51.44	74.00	22.56	Pass	H	Peak
7	1662.4662	29.47	3.15	-42.74	57.38	47.26	74.00	26.74	Pass	V	Peak
8	1993.4994	31.66	3.46	-43.18	58.54	50.48	74.00	23.52	Pass	V	Peak
9	2997.7998	33.20	4.54	-43.10	55.18	49.82	74.00	24.18	Pass	V	Peak
10	4874.0000	34.50	4.78	-42.80	46.57	43.05	74.00	30.95	Pass	V	Peak
11	7311.0000	36.41	5.85	-42.14	46.10	46.22	74.00	27.78	Pass	V	Peak
12	9748.4499	37.70	6.77	-42.10	50.19	52.56	74.00	21.44	Pass	V	Peak

Mode:		802.11 b (1Mbps) 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	1462.2462	28.36	2.96	-42.94	54.66	43.04	74.00	30.96	Pass	H	Peak
2	1992.8993	31.65	3.46	-43.18	55.75	47.68	74.00	26.32	Pass	H	Peak
3	3187.0125	33.27	4.63	-43.10	51.69	46.49	74.00	27.51	Pass	H	Peak
4	4924.0000	34.50	4.85	-42.80	48.42	44.97	74.00	29.03	Pass	H	Peak
5	7386.0000	36.49	5.85	-42.13	46.18	46.39	74.00	27.61	Pass	H	Peak
6	9848.0000	37.74	6.83	-42.10	47.98	50.45	74.00	23.55	Pass	H	Peak
7	1592.6593	29.01	3.06	-42.91	58.33	47.49	74.00	26.51	Pass	V	Peak
8	1990.4991	31.64	3.46	-43.18	58.43	50.35	74.00	23.65	Pass	V	Peak
9	3188.0125	33.28	4.63	-43.10	53.09	47.90	74.00	26.10	Pass	V	Peak
10	4924.0000	34.50	4.85	-42.80	49.43	45.98	74.00	28.02	Pass	V	Peak
11	7386.0000	36.49	5.85	-42.13	46.24	46.45	74.00	27.55	Pass	V	Peak
12	9848.0000	37.74	6.83	-42.10	49.21	51.68	74.00	22.32	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	Remak
1	1418.2418	28.32	2.92	-42.76	53.92	42.40	74.00	31.60	Pass	H	Peak
2	1996.6997	31.68	3.47	-43.20	55.72	47.67	74.00	26.33	Pass	H	Peak
3	4263.0842	34.17	4.48	-42.90	51.90	47.65	74.00	26.35	Pass	H	Peak
4	4824.0000	34.50	4.61	-42.80	47.23	43.54	74.00	30.46	Pass	H	Peak
5	7236.0000	36.34	5.79	-42.16	46.49	46.46	74.00	27.54	Pass	H	Peak
6	9648.0000	37.66	6.72	-42.10	48.33	50.61	74.00	23.39	Pass	H	Peak
7	1593.8594	29.02	3.07	-42.92	57.37	46.54	74.00	27.46	Pass	V	Peak
8	3192.0128	33.28	4.64	-43.11	53.58	48.39	74.00	25.61	Pass	V	Peak
9	4260.0840	34.16	4.49	-42.89	55.74	51.50	74.00	22.50	Pass	V	Peak
10	4824.0000	34.50	4.61	-42.80	47.38	43.69	74.00	30.31	Pass	V	Peak
11	7236.0000	36.34	5.79	-42.16	45.72	45.69	74.00	28.31	Pass	V	Peak
12	9648.0000	37.66	6.72	-42.10	51.46	53.74	74.00	20.26	Pass	V	Peak

Mode:		802.11 g (6Mbps) Transmitting				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	Remak
1	1417.2417	28.32	2.92	-42.76	54.55	43.03	74.00	30.97	Pass	H	Peak
2	1991.2991	31.64	3.46	-43.17	54.35	46.28	74.00	27.72	Pass	H	Peak
3	4260.0840	34.16	4.49	-42.89	53.19	48.95	74.00	25.05	Pass	H	Peak
4	4874.0000	34.50	4.78	-42.80	47.57	44.05	74.00	29.95	Pass	H	Peak
5	7311.0000	36.41	5.85	-42.14	46.47	46.59	74.00	27.41	Pass	H	Peak
6	9748.0000	37.70	6.77	-42.10	47.86	50.23	74.00	23.77	Pass	H	Peak
7	1597.0597	29.04	3.07	-42.91	56.04	45.24	74.00	28.76	Pass	V	Peak
8	1999.0999	31.69	3.47	-43.19	56.27	48.24	74.00	25.76	Pass	V	Peak
9	3189.0126	33.28	4.63	-43.10	53.90	48.71	74.00	25.29	Pass	V	Peak
10	4874.0000	34.50	4.78	-42.80	46.93	43.41	74.00	30.59	Pass	V	Peak
11	7311.0000	36.41	5.85	-42.14	47.55	47.67	74.00	26.33	Pass	V	Peak
12	9747.4498	37.70	6.77	-42.10	50.24	52.61	74.00	21.39	Pass	V	Peak

Mode:		802.11 g (6Mbps) Transmitting				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	Remak
1	1242.6243	28.14	2.68	-42.85	52.58	40.55	74.00	33.45	Pass	H	Peak
2	1993.6994	31.66	3.46	-43.18	55.46	47.40	74.00	26.60	Pass	H	Peak
3	4255.0837	34.16	4.50	-42.90	52.26	48.02	74.00	25.98	Pass	H	Peak
4	4924.0000	34.50	4.85	-42.80	47.04	43.59	74.00	30.41	Pass	H	Peak
5	7386.0000	36.49	5.85	-42.13	46.32	46.53	74.00	27.47	Pass	H	Peak
6	9848.0000	37.74	6.83	-42.10	46.87	49.34	74.00	24.66	Pass	H	Peak
7	1594.8595	29.03	3.07	-42.92	57.23	46.41	74.00	27.59	Pass	V	Peak
8	1994.8995	31.67	3.46	-43.19	57.93	49.87	74.00	24.13	Pass	V	Peak
9	3190.0127	33.28	4.63	-43.10	54.22	49.03	74.00	24.97	Pass	V	Peak
10	4924.0000	34.50	4.85	-42.80	47.43	43.98	74.00	30.02	Pass	V	Peak
11	7386.0000	36.49	5.85	-42.13	47.78	47.99	74.00	26.01	Pass	V	Peak
12	9848.0000	37.74	6.83	-42.10	48.39	50.86	74.00	23.14	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	Remak
1	1062.2062	27.96	2.52	-43.03	54.72	42.17	74.00	31.83	Pass	H	Peak
2	1327.2327	28.23	2.79	-42.76	54.46	42.72	74.00	31.28	Pass	H	Peak
3	1995.6996	31.67	3.47	-43.19	54.99	46.94	74.00	27.06	Pass	H	Peak
4	4824.0000	34.50	4.61	-42.80	47.67	43.98	74.00	30.02	Pass	H	Peak
5	7236.0000	36.34	5.79	-42.16	47.97	47.94	74.00	26.06	Pass	H	Peak
6	9647.4432	37.66	6.71	-42.10	50.01	52.28	74.00	21.72	Pass	H	Peak
7	1592.4592	29.01	3.06	-42.91	59.03	48.19	74.00	25.81	Pass	V	Peak
8	1998.2998	31.69	3.47	-43.20	59.60	51.56	74.00	22.44	Pass	V	Peak
9	3194.0129	33.28	4.64	-43.10	54.10	48.92	74.00	25.08	Pass	V	Peak
10	4824.0000	34.50	4.61	-42.80	47.51	43.82	74.00	30.18	Pass	V	Peak
11	7236.0000	36.34	5.79	-42.16	46.46	46.43	74.00	27.57	Pass	V	Peak
12	9648.0000	37.66	6.72	-42.10	50.94	53.22	74.00	20.78	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	Remak
1	1329.6330	28.23	2.79	-42.75	53.33	41.60	74.00	32.40	Pass	H	Peak
2	1999.5000	31.70	3.47	-43.20	55.65	47.62	74.00	26.38	Pass	H	Peak
3	4252.0835	34.15	4.51	-42.90	54.38	50.14	74.00	23.86	Pass	H	Peak
4	4874.0000	34.50	4.78	-42.80	46.92	43.40	74.00	30.60	Pass	H	Peak
5	7311.0000	36.41	5.85	-42.14	47.07	47.19	74.00	26.81	Pass	H	Peak
6	9748.0000	37.70	6.77	-42.10	47.06	49.43	74.00	24.57	Pass	H	Peak
7	1593.2593	29.02	3.06	-42.91	58.80	47.97	74.00	26.03	Pass	V	Peak
8	1997.8998	31.69	3.47	-43.20	57.01	48.97	74.00	25.03	Pass	V	Peak
9	4255.0837	34.16	4.50	-42.90	53.69	49.45	74.00	24.55	Pass	V	Peak
10	4874.0000	34.50	4.78	-42.80	47.79	44.27	74.00	29.73	Pass	V	Peak
11	7311.0000	36.41	5.85	-42.14	46.63	46.75	74.00	27.25	Pass	V	Peak
12	9748.0000	37.70	6.77	-42.10	48.84	51.21	74.00	22.79	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	Remak
1	1329.6330	28.23	2.79	-42.75	54.70	42.97	74.00	31.03	Pass	H	Peak
2	1991.8992	31.65	3.46	-43.18	55.92	47.85	74.00	26.15	Pass	H	Peak
3	4254.0836	34.16	4.50	-42.90	51.85	47.61	74.00	26.39	Pass	H	Peak
4	4924.0000	34.50	4.85	-42.80	47.31	43.86	74.00	30.14	Pass	H	Peak
5	7386.0000	36.49	5.85	-42.13	46.96	47.17	74.00	26.83	Pass	H	Peak
6	9848.0000	37.74	6.83	-42.10	48.36	50.83	74.00	23.17	Pass	H	Peak
7	1777.0777	30.23	3.28	-42.70	58.70	49.51	74.00	24.49	Pass	V	Peak
8	1998.0998	31.69	3.47	-43.20	60.97	52.93	74.00	21.07	Pass	V	Peak
9	4259.0839	34.16	4.49	-42.89	53.90	49.66	74.00	24.34	Pass	V	Peak
10	4924.0000	34.50	4.85	-42.80	46.79	43.34	74.00	30.66	Pass	V	Peak
11	7386.0000	36.49	5.85	-42.13	46.64	46.85	74.00	27.15	Pass	V	Peak
12	9848.0000	37.74	6.83	-42.10	48.28	50.75	74.00	23.25	Pass	V	Peak

Mode:		802.11 n (HT40) (13.5Mbps)				Channel:		2422			
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	Remak
1	1242.8243	28.14	2.68	-42.85	54.79	42.76	74.00	31.24	Pass	H	Peak
2	1780.6781	30.25	3.29	-42.70	55.10	45.94	74.00	28.06	Pass	H	Peak
3	4250.0833	34.15	4.51	-42.90	51.64	47.40	74.00	26.60	Pass	H	Peak
4	4844.0000	34.50	4.66	-42.80	46.91	43.27	74.00	30.73	Pass	H	Peak
5	7266.0000	36.37	5.80	-42.15	45.59	45.61	74.00	28.39	Pass	H	Peak
6	9687.4458	37.67	6.62	-42.09	49.80	52.00	74.00	22.00	Pass	H	Peak
7	1248.2248	28.15	2.68	-42.84	54.76	42.75	74.00	31.25	Pass	V	Peak
8	1592.0592	29.01	3.06	-42.91	56.90	46.06	74.00	27.94	Pass	V	Peak
9	4252.0835	34.15	4.51	-42.90	56.29	52.05	74.00	21.95	Pass	V	Peak
10	4844.0000	34.50	4.66	-42.80	47.91	44.27	74.00	29.73	Pass	V	Peak
11	7266.0000	36.37	5.80	-42.15	46.02	46.04	74.00	27.96	Pass	V	Peak
12	9688.0000	37.68	6.62	-42.10	49.82	52.02	74.00	21.98	Pass	V	Peak

Mode:		802.11 n (HT40) (13.5Mbps)				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	Remak
1	1775.4775	30.22	3.28	-42.70	55.50	46.30	74.00	27.70	Pass	H	Peak
2	1993.6994	31.66	3.46	-43.18	54.27	46.21	74.00	27.79	Pass	H	Peak
3	3186.0124	33.27	4.63	-43.10	50.30	45.10	74.00	28.90	Pass	H	Peak
4	4874.0000	34.50	4.78	-42.80	46.51	42.99	74.00	31.01	Pass	H	Peak
5	7311.0000	36.41	5.85	-42.14	46.50	46.62	74.00	27.38	Pass	H	Peak
6	9748.0000	37.70	6.77	-42.10	47.97	50.34	74.00	23.66	Pass	H	Peak
7	1246.6247	28.15	2.68	-42.85	56.52	44.50	74.00	29.50	Pass	V	Peak
8	1779.4779	30.24	3.28	-42.69	55.91	46.74	74.00	27.26	Pass	V	Peak
9	4252.0835	34.15	4.51	-42.90	55.62	51.38	74.00	22.62	Pass	V	Peak
10	4874.0000	34.50	4.78	-42.80	47.00	43.48	74.00	30.52	Pass	V	Peak
11	7311.0000	36.41	5.85	-42.14	47.23	47.35	74.00	26.65	Pass	V	Peak
12	9748.0000	37.70	6.77	-42.10	49.17	51.54	74.00	22.46	Pass	V	Peak

Mode:		802.11 n (HT40) (13.5Mbps)				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	1780.0780	30.2	3.28	-42.70	55.07	45.90	74.00	28.10	Pass	H	Peak
2	2000.1000	31.7	3.47	-43.20	55.24	47.21	74.00	26.79	Pass	H	Peak
3	4259.0839	34.1	4.49	-42.89	53.68	49.44	74.00	24.56	Pass	H	Peak
4	4904.0000	34.5	4.88	-42.80	46.61	43.19	74.00	30.81	Pass	H	Peak
5	7356.0000	36.4	5.85	-42.13	46.56	46.74	74.00	27.26	Pass	H	Peak
6	9808.0000	37.7	6.59	-42.10	47.48	49.69	74.00	24.31	Pass	H	Peak
7	1595.4595	29.0	3.07	-42.91	58.52	47.71	74.00	26.29	Pass	V	Peak
8	1997.2997	31.6	3.47	-43.19	60.48	52.44	74.00	21.56	Pass	V	Peak
9	4257.0838	34.1	4.49	-42.89	55.23	50.99	74.00	23.01	Pass	V	Peak
10	4904.0000	34.5	4.88	-42.80	46.97	43.55	74.00	30.45	Pass	V	Peak
11	7356.0000	36.4	5.85	-42.13	46.49	46.67	74.00	27.33	Pass	V	Peak
12	9808.0000	37.7	6.59	-42.10	49.93	52.14	74.00	21.86	Pass	V	Peak

MIMO

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	Remak
1	1329.6330	28.23	2.79	-42.75	54.85	43.12	74.00	30.88	Pass	H	Peak
2	1992.6993	31.65	3.46	-43.18	56.69	48.62	74.00	25.38	Pass	H	Peak
3	4258.0839	34.16	4.49	-42.89	53.75	49.51	74.00	24.49	Pass	H	Peak
4	4824.0000	34.50	4.61	-42.80	47.22	43.53	74.00	30.47	Pass	H	Peak
5	7236.0000	36.34	5.79	-42.16	46.86	46.83	74.00	27.17	Pass	H	Peak
6	9648.4432	37.66	6.72	-42.10	53.49	55.77	74.00	18.23	Pass	H	Peak
7	9648.4423	37.66	6.72	-42.10	42.56	44.84	54.00	9.16	Pass	V	Average
8	1599.8600	29.06	3.07	-42.90	57.20	46.43	74.00	27.57	Pass	V	Peak
9	3187.0125	33.27	4.63	-43.10	53.36	48.16	74.00	25.84	Pass	V	Peak
10	4824.0000	34.50	4.61	-42.80	48.78	45.09	74.00	28.91	Pass	V	Peak
11	6376.2251	35.88	5.38	-42.53	54.42	53.15	74.00	20.85	Pass	V	Peak
12	7236.0000	36.34	5.79	-42.16	46.40	46.37	74.00	27.63	Pass	V	Peak
13	9648.4432	37.66	6.72	-42.10	56.58	58.86	74.00	15.14	Pass	V	Peak
14	9648.4429	37.66	6.72	-42.10	49.11	51.39	54.00	2.61	Pass	V	Average

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	Remak
1	1778.2778	30.24	3.28	-42.70	54.45	45.27	74.00	28.73	Pass	H	Peak
2	1999.5000	31.70	3.47	-43.20	56.56	48.53	74.00	25.47	Pass	H	Peak
3	4250.0833	34.15	4.51	-42.90	52.12	47.88	74.00	26.12	Pass	H	Peak
4	4874.0000	34.50	4.78	-42.80	46.23	42.71	74.00	31.29	Pass	H	Peak
5	7311.0000	36.41	5.85	-42.14	46.51	46.63	74.00	27.37	Pass	H	Peak
6	9747.4498	37.70	6.77	-42.10	51.56	53.93	74.00	20.07	Pass	H	Peak
7	1593.4593	29.02	3.06	-42.91	56.42	45.59	74.00	28.41	Pass	V	Peak
8	1999.9000	31.70	3.47	-43.20	57.43	49.40	74.00	24.60	Pass	V	Peak
9	4261.0841	34.17	4.49	-42.90	54.37	50.13	74.00	23.87	Pass	V	Peak
10	4874.0000	34.50	4.78	-42.80	48.07	44.55	74.00	29.45	Pass	V	Peak
11	7311.0000	36.41	5.85	-42.14	46.36	46.48	74.00	27.52	Pass	V	Peak
12	9747.4498	37.70	6.77	-42.10	51.20	53.57	74.00	20.43	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	Remak
1	1599.0599	29.05	3.07	-42.90	54.51	43.73	74.00	30.27	Pass	H	Peak
2	1775.8776	30.22	3.28	-42.70	53.18	43.98	74.00	30.02	Pass	H	Peak
3	4256.0837	34.16	4.50	-42.90	51.38	47.14	74.00	26.86	Pass	H	Peak
4	4924.0000	34.50	4.85	-42.80	47.07	43.62	74.00	30.38	Pass	H	Peak
5	7386.0000	36.49	5.85	-42.13	46.94	47.15	74.00	26.85	Pass	H	Peak
6	9848.4566	37.74	6.83	-42.10	51.04	53.51	74.00	20.49	Pass	H	Peak
7	1595.4595	29.03	3.07	-42.91	58.29	47.48	74.00	26.52	Pass	V	Peak
8	3194.0129	33.28	4.64	-43.10	55.98	50.80	74.00	23.20	Pass	V	Peak
9	4255.0837	34.16	4.50	-42.90	56.26	52.02	74.00	21.98	Pass	V	Peak
10	4924.0000	34.50	4.85	-42.80	48.32	44.87	74.00	29.13	Pass	V	Peak
11	7386.0000	36.49	5.85	-42.13	47.07	47.28	74.00	26.72	Pass	V	Peak
12	9848.4566	37.74	6.83	-42.10	50.86	53.33	74.00	20.67	Pass	V	Peak

Mode:		802.11 n (HT40) (13.5Mbps)				Channel:		2422			
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	Remak
1	1779.4779	30.24	3.28	-42.69	56.75	47.58	74.00	26.42	Pass	H	Peak
2	1994.2994	31.66	3.46	-43.18	55.53	47.47	74.00	26.53	Pass	H	Peak
3	4251.0834	34.15	4.51	-42.90	52.72	48.48	74.00	25.52	Pass	H	Peak
4	4844.0000	34.50	4.66	-42.80	47.44	43.80	74.00	30.20	Pass	H	Peak
5	7266.0000	36.37	5.80	-42.15	45.56	45.58	74.00	28.42	Pass	H	Peak
6	9688.0000	37.68	6.62	-42.10	51.16	53.36	74.00	20.64	Pass	H	Peak
7	1995.8996	31.67	3.47	-43.19	59.19	51.14	74.00	22.86	Pass	V	Peak
8	2909.9910	33.06	4.38	-43.10	54.09	48.43	74.00	25.57	Pass	V	Peak
9	4263.0842	34.17	4.48	-42.90	55.88	51.63	74.00	22.37	Pass	V	Peak
10	4844.0000	34.50	4.66	-42.80	48.01	44.37	74.00	29.63	Pass	V	Peak
11	7266.0000	36.37	5.80	-42.15	46.02	46.04	74.00	27.96	Pass	V	Peak
12	9688.4459	37.68	6.62	-42.10	56.28	58.48	74.00	15.52	Pass	V	Peak
13	9688.5656	37.68	6.62	-42.11	46.54	48.73	54.00	5.27	Pass	V	Average

Mode:		802.11 n (HT40) (13.5Mbps)				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	Remak
1	1776.8777	30.23	3.28	-42.70	55.11	45.92	74.00	28.08	Pass	H	Peak
2	1994.4995	31.66	3.46	-43.18	55.32	47.26	74.00	26.74	Pass	H	Peak
3	4258.0839	34.16	4.49	-42.89	55.88	51.64	74.00	22.36	Pass	H	Peak
4	4874.0000	34.50	4.78	-42.80	47.11	43.59	74.00	30.41	Pass	H	Peak
5	7311.0000	36.41	5.85	-42.14	46.46	46.58	74.00	27.42	Pass	H	Peak
6	9748.0000	37.70	6.77	-42.10	50.33	52.70	74.00	21.30	Pass	H	Peak
7	1595.0595	29.03	3.07	-42.92	58.04	47.22	74.00	26.78	Pass	V	Peak
8	1998.4999	31.69	3.47	-43.20	60.63	52.59	74.00	21.41	Pass	V	Peak
9	4249.0833	34.15	4.51	-42.90	54.87	50.63	74.00	23.37	Pass	V	Peak
10	4874.0000	34.50	4.78	-42.80	47.94	44.42	74.00	29.58	Pass	V	Peak
11	7311.0000	36.41	5.85	-42.14	46.44	46.56	74.00	27.44	Pass	V	Peak
12	9747.4498	37.70	6.77	-42.10	54.86	57.23	74.00	16.77	Pass	V	Peak
13	9747.4508	37.70	6.77	-42.10	46.45	48.82	54.00	5.18	Pass	V	Average

Mode:		802.11 n (HT40) (13.5Mbps)				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	1776.6777	30.23	3.28	-42.70	53.81	44.62	74.00	29.38	Pass	H	Peak
2	1994.2994	31.66	3.46	-43.18	56.24	48.18	74.00	25.82	Pass	H	Peak
3	4250.0833	34.15	4.51	-42.90	54.37	50.13	74.00	23.87	Pass	H	Peak
4	4904.0000	34.50	4.88	-42.80	47.55	44.13	74.00	29.87	Pass	H	Peak
5	7356.0000	36.46	5.85	-42.13	47.51	47.69	74.00	26.31	Pass	H	Peak
6	9807.4538	37.72	6.58	-42.09	51.34	53.55	74.00	20.45	Pass	H	Peak
7	1595.6596	29.03	3.07	-42.91	57.55	46.74	74.00	27.26	Pass	V	Peak
8	1990.4991	31.64	3.46	-43.18	58.70	50.62	74.00	23.38	Pass	V	Peak
9	4257.0838	34.16	4.49	-42.89	55.09	50.85	74.00	23.15	Pass	V	Peak
10	4904.0000	34.50	4.88	-42.80	47.09	43.67	74.00	30.33	Pass	V	Peak
11	7356.0000	36.46	5.85	-42.13	46.58	46.76	74.00	27.24	Pass	V	Peak
12	9807.4538	37.72	6.58	-42.09	55.04	57.25	74.00	16.75	Pass	V	Peak
13	9807.4547	37.72	6.58	-42.10	46.25	48.45	54.00	5.55	Pass	V	Average

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.

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32M00211501 for EUT external and internal photos.

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*** End of Report ***