

TEST REPORT

Product : WiFi module
Trade mark : wireless-tag
Model/Type reference : WT-01F
Serial Number : N/A
Report Number : EED32L00068901
FCC ID : 2AFOS-WT-01F
Date of Issue : May 14, 2019
Test Standards : 47 CFR Part 15Subpart C
Test result : PASS

Prepared for:

Wireless-tag Technology Co., LTD
Room 115-118, Building A, ChengshishanhaiCenter, No.11, Zhongxing
Road, Bantian Sub-district, Longgang District, Shenzhen

Prepared by:

Centre Testing International Group Co., Ltd.
Hongwei Industrial Zone, Bao'an 70 District,
Shenzhen, Guangdong, China
TEL: +86-755-3368 3668
FAX: +86-755-3368 3385

Tested By:

Jay Zheng

Compiled by:

Kevin Lan

Reviewed by:

Ware Xin

Approved by:

Kevin Yang

Kevin yang

Date:

May 14, 2019

Check No.:3757542804



2 Version

Version No.	Date	Description
00	May 14, 2019	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.

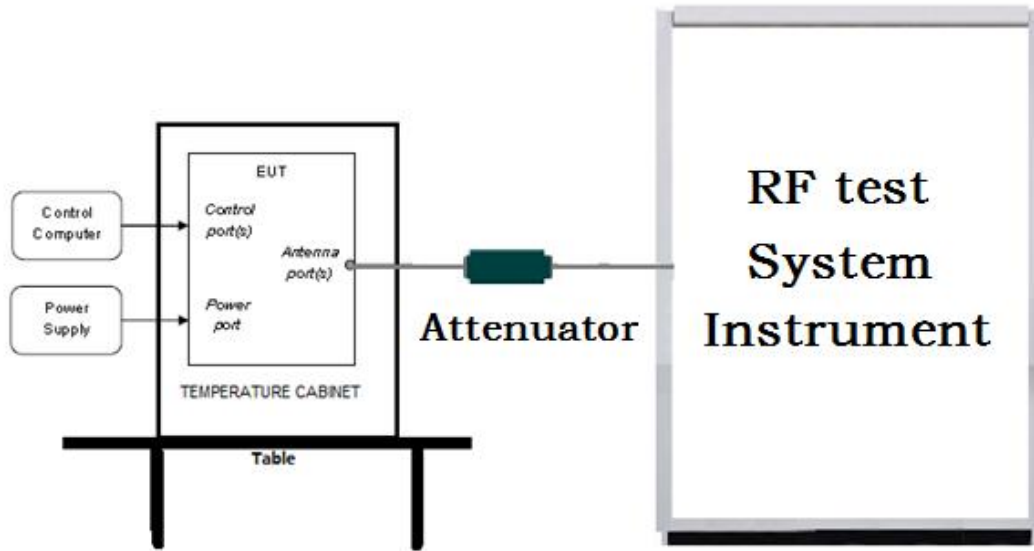
4 Content

1 COVER PAGE	1
2 VERSION	2
3 TEST SUMMARY	3
4 CONTENT	4
5 TEST REQUIREMENT	5
5.1 TEST SETUP.....	5
5.1.1 For Conducted test setup.....	5
5.1.2 For Radiated Emissions test setup.....	5
5.1.3 For Conducted Emissions test setup.....	6
5.2 TEST ENVIRONMENT.....	6
5.3 TEST CONDITION.....	6
6 GENERAL INFORMATION	8
6.1 CLIENT INFORMATION.....	8
6.2 GENERAL DESCRIPTION OF EUT.....	8
6.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD.....	8
6.4 DESCRIPTION OF SUPPORT UNITS.....	9
6.5 TEST LOCATION.....	9
6.6 DEVIATION FROM STANDARDS.....	9
6.7 ABNORMALITIES FROM STANDARD CONDITIONS.....	9
6.8 OTHER INFORMATION REQUESTED BY THE CUSTOMER.....	9
6.9 MEASUREMENT UNCERTAINTY (95% CONFIDENCE LEVELS, $K=2$).....	9
7 EQUIPMENT LIST	10
8 RADIO TECHNICAL REQUIREMENTS SPECIFICATION	12
Appendix A): Conducted Peak Output Power.....	13
Appendix B): 6dB Occupied Bandwidth.....	17
Appendix C): Band-edge for RF Conducted Emissions.....	21
Appendix D): RF Conducted Spurious Emissions.....	24
Appendix E): Power Spectral Density.....	31
Appendix F): Antenna Requirement.....	35
Appendix G): AC Power Line Conducted Emission.....	36
Appendix H): Restricted bands around fundamental frequency (Radiated).....	39
Appendix I): Radiated Spurious Emissions.....	53
PHOTOGRAPHS OF TEST SETUP	65
PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS	67

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:

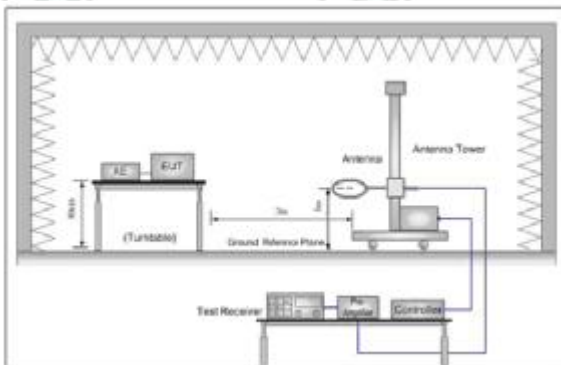


Figure 1. Below 30MHz

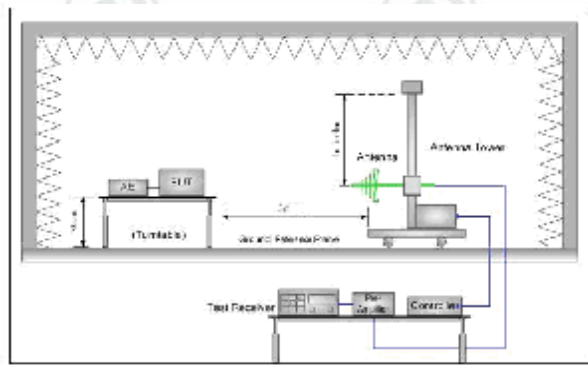


Figure 2. 30MHz to 1GHz

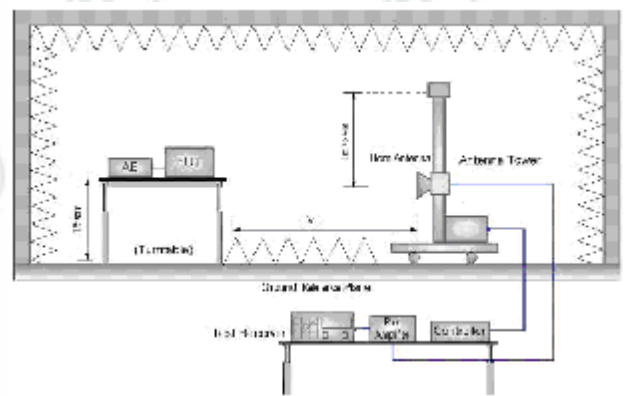
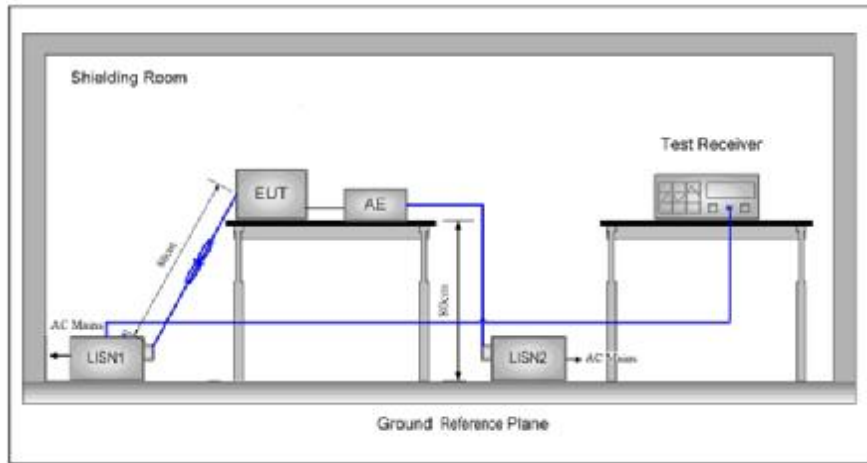


Figure 3. Above 1GHz

5.1.3 For Conducted Emissions test setup
Conducted Emissions setup



5.2 Test Environment

Operating Environment:	
Temperature:	25°C
Humidity:	52% RH
Atmospheric Pressure:	101kPa

5.3 Test Condition

Test channel:

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

Test mode:

Pre-scan under all rate at lowest channel 1

Mode	802.11b				X				
Data Rate	1Mbps	2Mbps	5.5Mbps	11Mbps					
Power(dBm)	17.15	17.22	17.31	17.37					
Mode	802.11g								
Data Rate	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps	
Power(dBm)	16.44	16.38	16.21	16.15	16.09	16.01	15.92	15.86	
Mode	802.11n (HT20)								
Data Rate	6.5Mbps	13Mbps	19.5Mbps	26Mbps	39Mbps	52Mbps	58.5Mbps	65Mbps	
Power(dBm)	15.54	15.47	15.42	15.33	15.27	15.21	15.17	15.10	

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

6 General Information

6.1 Client Information

Applicant:	Wireless-tag Technology Co., LTD
Address of Applicant:	Room 115-118, Building A, ChengshishanhaiCenter, No.11, Zhongxing Road, Bantian Sub-district, Longgang District, Shenzhen
Manufacturer:	Wireless-tag Technology Co., LTD
Address of Manufacturer:	Room 115-118, Building A, ChengshishanhaiCenter, No.11, Zhongxing Road, Bantian Sub-district, Longgang District, Shenzhen
Factory:	Wireless-tag Technology Co., LTD
Address of Factory:	Room 115-118, Building A, ChengshishanhaiCenter, No.11, Zhongxing Road, Bantian Sub-district, Longgang District, Shenzhen

6.2 General Description of EUT

Product Name:	WiFi module
Model No.(EUT):	WT-01E
Trade Mark:	wireless-tag
EUT Supports Radios application:	IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz
Power Supply:	DC 3.3V
Sample Received Date:	Mar. 29, 2019
Sample tested Date:	Apr. 04, 2019 to May 07, 2019

6.3 Product Specification subjective to this standard

Operation Frequency:	IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz
Channel Numbers:	IEEE 802.11b/g, IEEE 802.11n HT20: 11 Channels
Channel Separation:	5MHz
Type of Modulation:	IEEE for 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE for 802.11g :OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE for 802.11n(HT20) : OFDM (64QAM, 16QAM, QPSK,BPSK)
Test Power Grade:	N/A
Test Software of EUT:	ESP Series Modules FCC & CE Test Tool V2.2.3.exe (manufacturer declare)
Antenna Type and Gain:	Antenna Type: Spring Antenna, Antenna Gain: 2.5dBi
Test Voltage:	DC 3.3V

Operation Frequency each of channel(802.11b/g/n HT20)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2412MHz	4	2427MHz	7	2442MHz	10	2457MHz
2	2417MHz	5	2432MHz	8	2447MHz	11	2462MHz
3	2422MHz	6	2437MHz	9	2452MHz		

6.4 Description of Support Units

The EUT has been tested independently.

6.5 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd
Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China
Telephone: +86 (0) 755 33683668 Fax:+86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

6.6 Deviation from Standards

None.

6.7 Abnormalities from Standard Conditions

None.

6.8 Other Information Requested by the Customer

None.

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

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

7 Equipment List

RF test system					
Equipment	Manufacturer	Model No.	Serial Number	Cal. Date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
Signal Generator	Keysight	E8257D	MY53401106	03-01-2019	02-28-2020
Spectrum Analyzer	Keysight	N9010A	MY54510339	03-01-2019	02-28-2020
Signal Generator	Keysight	N5182B	MY53051549	03-01-2019	02-28-2020
High-pass filter	Sinoscite	FL3CX03WG1 8NM12-0398-002	---	01-09-2019	01-08-2020
High-pass filter	MICRO-TRONICS	SPA-F-63029-4	---	01-09-2019	01-08-2020
DC Power	Keysight	E3642A	MY54426035	03-01-2019	02-28-2020
PC-1	Lenovo	R4960d	---	03-01-2019	02-28-2020
BT&WI-FI Automatic control	R&S	OSP120	101374	03-01-2019	02-28-2020
RF control unit	JS Tonscend	JS0806-2	15860006	03-01-2019	02-28-2020
RF control unit	JS Tonscend	JS0806-1	15860004	03-01-2019	02-28-2020
RF control unit	JS Tonscend	JS0806-4	158060007	03-01-2019	02-28-2020
BT&WI-FI Automatic test software	JS Tonscend	JS1120-2	---	03-01-2019	02-28-2020
Temperature/ Humidity Indicator	biaozhi	HM10	1804186	10-12-2018	10-11-2019

Conducted disturbance Test					
Equipment	Manufacturer	Model No.	Serial Number	Cal. date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
Receiver	R&S	ESCI	100435	05-25-2018	05-24-2019
Temperature/ Humidity Indicator	Defu	TH128	/	07-02-2018	07-01-2019
Communication test set	Agilent	E5515C	GB47050 534	03-01-2019	02-28-2020
Communication test set	R&S	CMW500	102898	01-18-2019	01-17-2020
LISN	R&S	ENV216	100098	05-10-2018	05-10-2019
LISN	schwarzbeck	NNLK8121	8121-529	05-10-2018	05-10-2019
Voltage Probe	R&S	ESH2-Z3 0299.7810.5 6	100042	06-13-2017	06-11-2020
Current Probe	R&S	EZ-17 816.2063.03	100106	05-30-2018	05-29-2019
ISN	TESEQ	ISN T800	30297	01-06-2019	01-15-2020

3M Semi/full-anechoic Chamber					
Equipment	Manufacturer	Model No.	Serial Number	Cal. date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
3M Chamber & Accessory Equipment	TDK	SAC-3	---	06-04-2016	06-03-2019
TRILOG Broadband Antenna	Schwarzbeck	VULB9163	9163-401	12-21-2018	12-20-2019
TRILOG Broadband Antenna	Schwarzbeck	VULB9163	9163-618	07-30-2018	07-29-2019
Microwave Preamplifier	Agilent	8449B	3008A02425	08-21-2018	08-20-2019
Microwave Preamplifier	Tonscend	EMC051845SE	980380	01-16-2019	01-15-2020
Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-1869	04-25-2018	04-23-2021
Horn Antenna	ETS-LINDGREN	3117	00057410	06-05-2018	06-03-2021
Double ridge horn antenna	A.H.SYSTEMS	SAS-574	374	06-05-2018	06-04-2021
Pre-amplifier	A.H.SYSTEMS	PAP-1840-60	6041.6041	08-08-2018	08-07-2019
Loop Antenna	ETS	6502	00071730	06-22-2017	06-21-2019
Spectrum Analyzer	R&S	FSP40	100416	05-11-2018	05-10-2019
Receiver	R&S	ESCI	100435	05-25-2018	05-24-2019
Receiver	R&S	ESCI7	100938-003	11-23-2018	11-22-2019
Multi device Controller	maturio	NCD/070/10711112	---	01-09-2019	01-08-2020
LISN	schwarzbeck	NNBM8125	81251547	05-11-2018	05-10-2019
LISN	schwarzbeck	NNBM8125	81251548	05-11-2018	05-10-2019
Signal Generator	Agilent	E4438C	MY45095744	03-01-2019	02-28-2020
Signal Generator	Keysight	E8257D	MY53401106	03-01-2019	02-28-2020
Temperature/Humidity Indicator	Shanghai qixiang	HM10	1804298	10-12-2018	10-11-2019
Communication test set	Agilent	E5515C	GB47050534	03-01-2019	02-28-2020
Cable line	Fulai(7M)	SF106	5219/6A	01-09-2019	01-08-2020
Cable line	Fulai(6M)	SF106	5220/6A	01-09-2019	01-08-2020
Cable line	Fulai(3M)	SF106	5216/6A	01-09-2019	01-08-2020
Cable line	Fulai(3M)	SF106	5217/6A	01-09-2019	01-08-2020
Communication test set	R&S	CMW500	104466	01-18-2019	01-17-2020
High-pass filter	Sinoscite	FL3CX03WG18NM12-0398-002	---	01-09-2019	01-08-2020
High-pass filter	MICRO-TRONICS	SPA-F-63029-4	---	01-09-2019	01-08-2020
band rejection filter	Sinoscite	FL5CX01CA09CL12-0395-001	---	01-09-2019	01-08-2020
band rejection filter	Sinoscite	FL5CX01CA08CL12-0393-001	---	01-09-2019	01-08-2020
band rejection filter	Sinoscite	FL5CX02CA04CL12-0396-002	---	01-09-2019	01-08-2020
band rejection filter	Sinoscite	FL5CX02CA03CL12-0394-001	---	01-09-2019	01-08-2020

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 Unlicensed Wireless Devices

Test Results List:

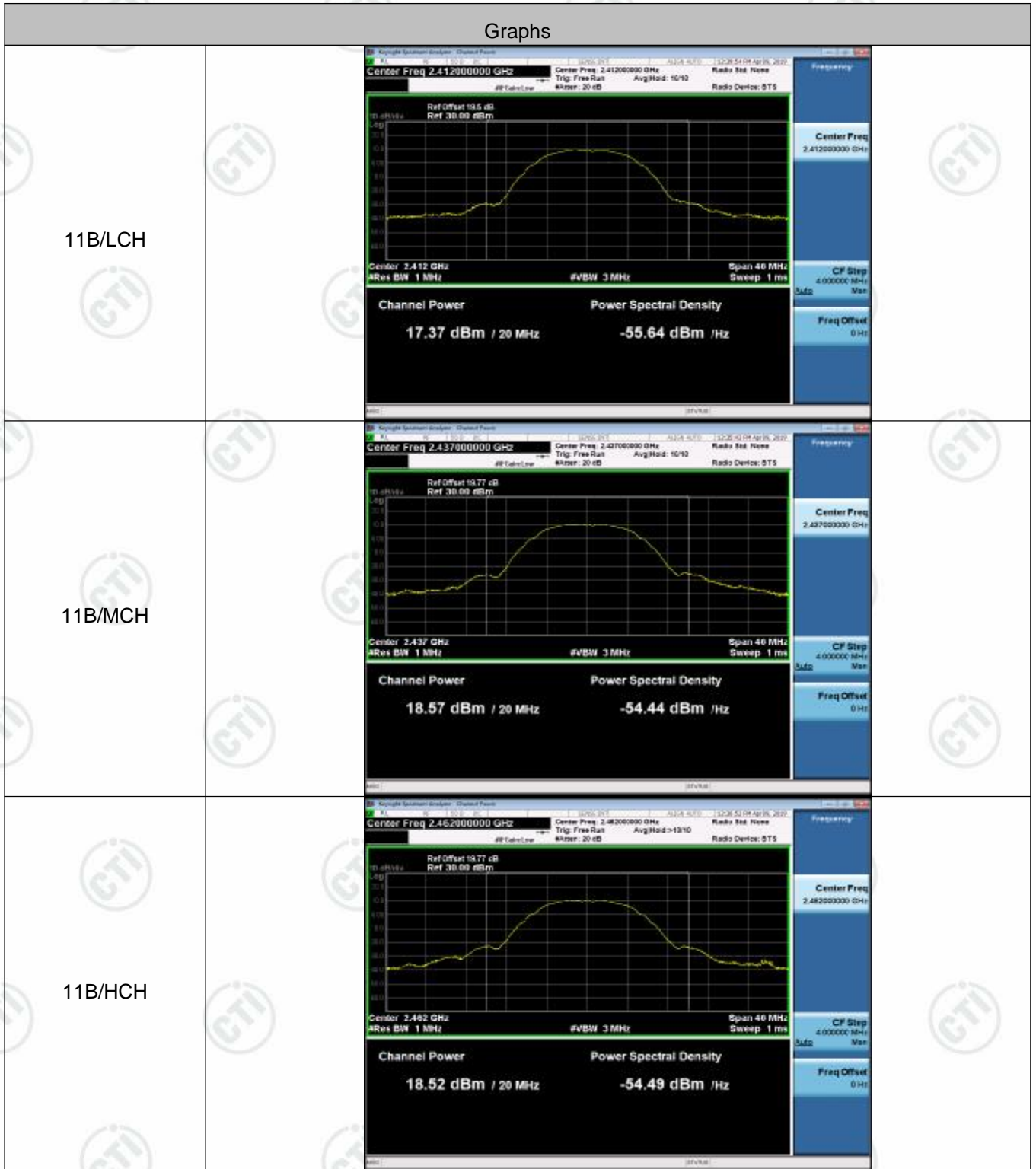
Test Requirement	Test method	Test item	Verdict	Note
Part15C Section 15.247 (b)(3)	ANSI C63.10	Conducted Peak Output Power	PASS	Appendix A)
Part15C Section 15.247 (a)(2)	ANSI C63.10	6dB Occupied Bandwidth	PASS	Appendix B)
Part15C Section 15.247(d)	ANSI C63.10	Band-edge for RF Conducted Emissions	PASS	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)

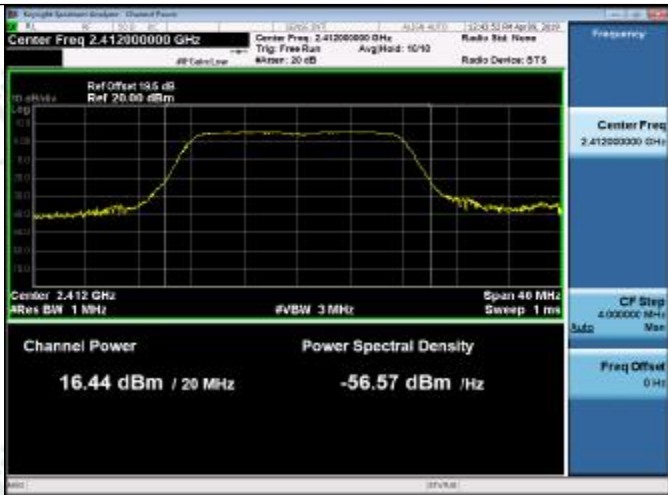
Appendix A): Conducted Peak Output Power

Result Table

Mode	Channel	Conducted Peak Output Power [dBm]	Verdict
11B	LCH	17.37	PASS
11B	MCH	18.57	PASS
11B	HCH	18.52	PASS
11G	LCH	16.44	PASS
11G	MCH	16.98	PASS
11G	HCH	17.44	PASS
11N20SISO	LCH	15.54	PASS
11N20SISO	MCH	15.98	PASS
11N20SISO	HCH	16.42	PASS

Test Graph



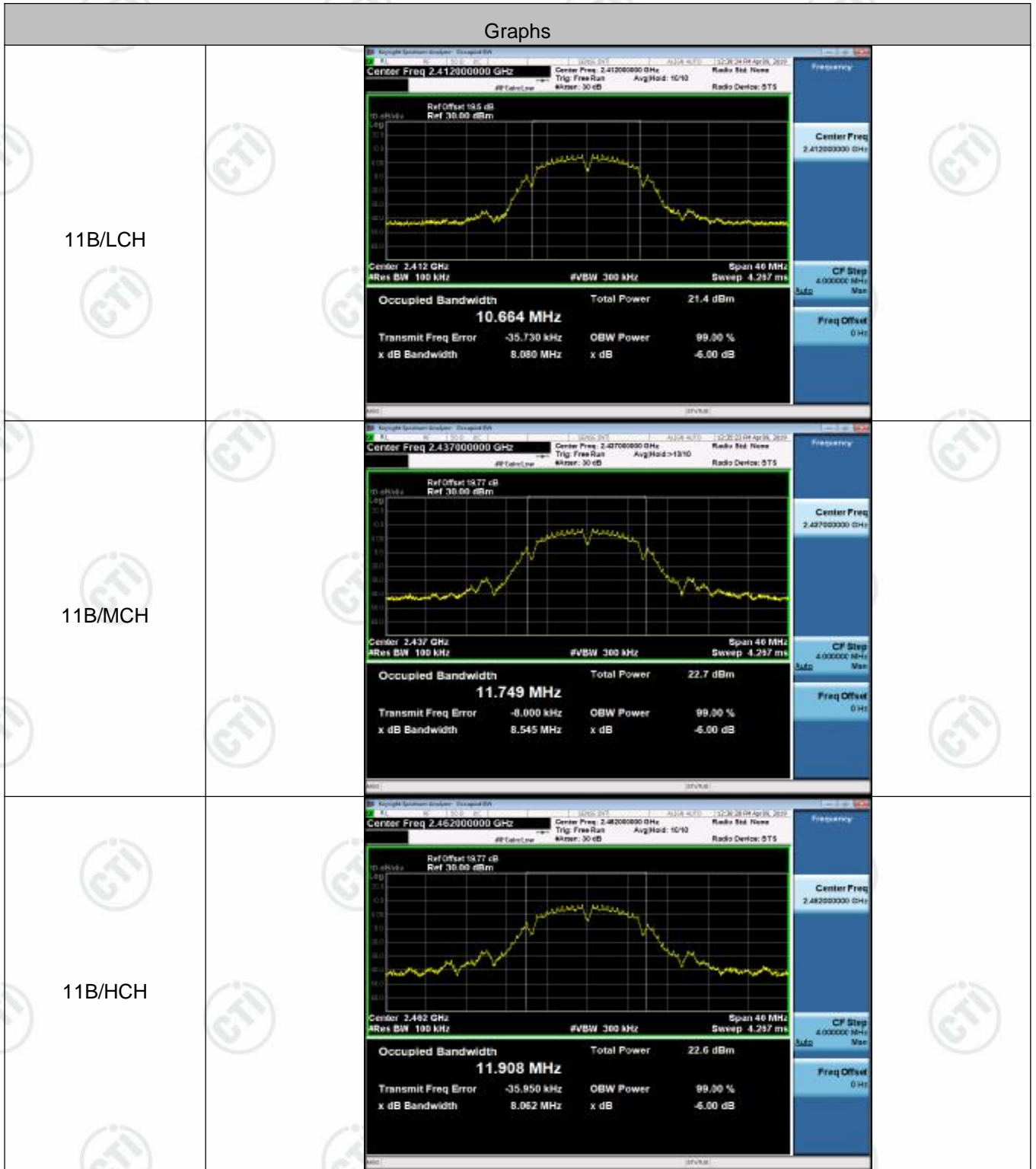
<p>11G/LCH</p>	 <p>Center Freq: 2.41200000 GHz</p> <p>Channel Power: 16.44 dBm / 20 MHz</p> <p>Power Spectral Density: -56.57 dBm / Hz</p>
<p>11G/MCH</p>	 <p>Center Freq: 2.43700000 GHz</p> <p>Channel Power: 16.98 dBm / 20 MHz</p> <p>Power Spectral Density: -56.03 dBm / Hz</p>
<p>11G/HCH</p>	 <p>Center Freq: 2.46200000 GHz</p> <p>Channel Power: 17.44 dBm / 20 MHz</p> <p>Power Spectral Density: -55.57 dBm / Hz</p>

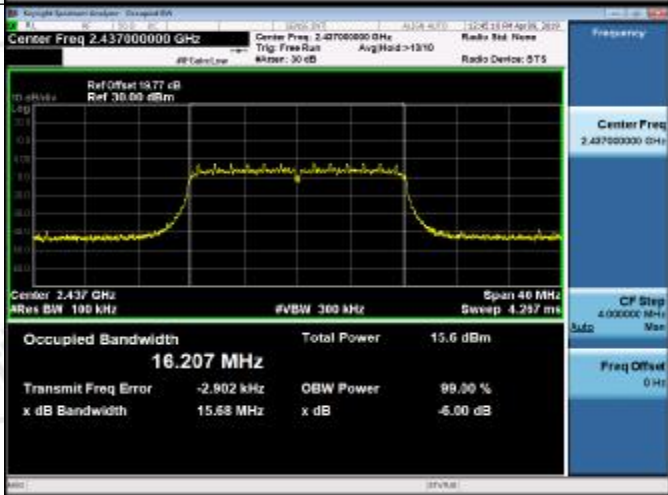
<p>11N20SISO/LCH</p>	 <p>Center Freq: 2.41200000 GHz</p> <p>Channel Power: 15.54 dBm / 20 MHz</p> <p>Power Spectral Density: -57.47 dBm / Hz</p>
<p>11N20SISO/MCH</p>	 <p>Center Freq: 2.43700000 GHz</p> <p>Channel Power: 15.98 dBm / 20 MHz</p> <p>Power Spectral Density: -57.03 dBm / Hz</p>
<p>11N20SISO/HCH</p>	 <p>Center Freq: 2.46200000 GHz</p> <p>Channel Power: 16.42 dBm / 20 MHz</p> <p>Power Spectral Density: -56.59 dBm / Hz</p>

**Appendix B): 6dB Occupied Bandwidth
Result Table**

Mode	Channel	6dB Bandwidth [MHz]	99% OBW [MHz]	Verdict
11B	LCH	8.080	10.664	PASS
11B	MCH	8.545	11.749	PASS
11B	HCH	8.062	11.908	PASS
11G	LCH	15.68	16.208	PASS
11G	MCH	15.68	16.207	PASS
11G	HCH	15.68	16.206	PASS
11N20SISO	LCH	15.39	17.056	PASS
11N20SISO	MCH	15.41	17.059	PASS
11N20SISO	HCH	15.39	17.043	PASS

Test Graph



11G/LCH	 <p>Center Freq 2.41200000 GHz</p> <p>Center Freq 2.41200000 GHz</p> <p>Ref Offset 19.6 dB</p> <p>Ref 30.00 dBm</p> <p>Center 2.412 GHz</p> <p>#Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 40 MHz</p> <p>Sweep 4.297 ms</p> <p>Occupied Bandwidth 16.208 MHz</p> <p>Total Power 15.1 dBm</p> <p>Transmit Freq Error -5.259 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 15.68 MHz</p> <p>x dB -6.00 dB</p>
11G/MCH	 <p>Center Freq 2.43700000 GHz</p> <p>Center Freq 2.43700000 GHz</p> <p>Ref Offset 19.77 dB</p> <p>Ref 30.00 dBm</p> <p>Center 2.437 GHz</p> <p>#Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 40 MHz</p> <p>Sweep 4.297 ms</p> <p>Occupied Bandwidth 16.207 MHz</p> <p>Total Power 15.6 dBm</p> <p>Transmit Freq Error -2.902 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 15.68 MHz</p> <p>x dB -6.00 dB</p>
11G/HCH	 <p>Center Freq 2.46200000 GHz</p> <p>Center Freq 2.46200000 GHz</p> <p>Ref Offset 19.77 dB</p> <p>Ref 30.00 dBm</p> <p>Center 2.462 GHz</p> <p>#Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 40 MHz</p> <p>Sweep 4.297 ms</p> <p>Occupied Bandwidth 16.206 MHz</p> <p>Total Power 16.0 dBm</p> <p>Transmit Freq Error -10.906 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 15.68 MHz</p> <p>x dB -6.00 dB</p>

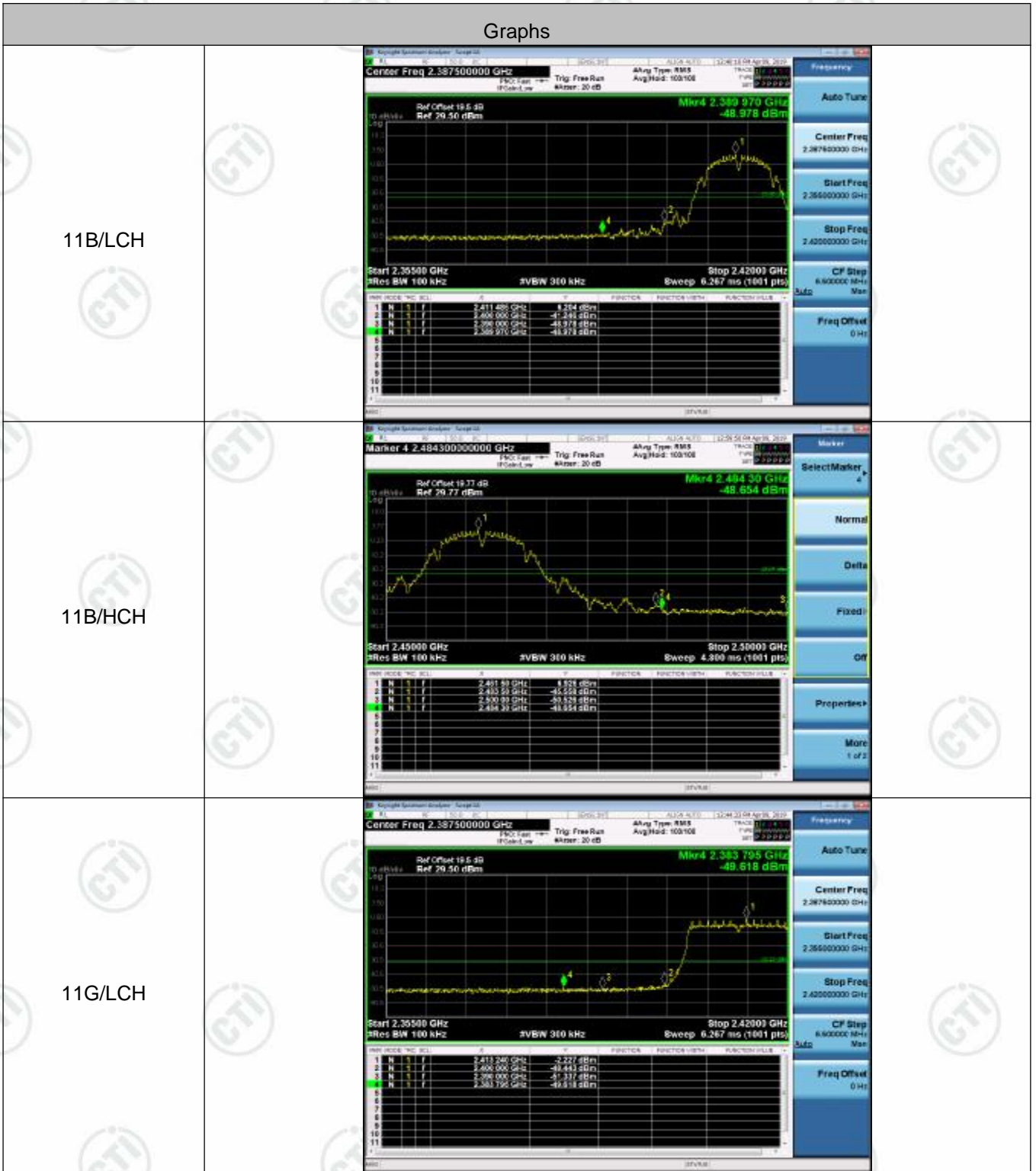
<p>11N20SISO/LCH</p>	<p>Center Freq 2.412000000 GHz</p> <p>Center Freq 2.412000000 GHz</p> <p>Ref Offset 19.6 dB</p> <p>Ref 30.00 dBm</p> <p>Center 2.412 GHz</p> <p>#Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 40 MHz</p> <p>Sweep 4.297 ms</p> <p>Occupied Bandwidth 17.056 MHz</p> <p>Total Power 14.2 dBm</p> <p>Transmit Freq Error 4.727 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 15.39 MHz</p> <p>x dB -6.00 dB</p>
<p>11N20SISO/MCH</p>	<p>Center Freq 2.437000000 GHz</p> <p>Center Freq 2.437000000 GHz</p> <p>Ref Offset 19.77 dB</p> <p>Ref 30.00 dBm</p> <p>Center 2.437 GHz</p> <p>#Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 40 MHz</p> <p>Sweep 4.297 ms</p> <p>Occupied Bandwidth 17.059 MHz</p> <p>Total Power 14.7 dBm</p> <p>Transmit Freq Error 6.294 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 15.41 MHz</p> <p>x dB -6.00 dB</p>
<p>11N20SISO/HCH</p>	<p>Center Freq 2.462000000 GHz</p> <p>Center Freq 2.462000000 GHz</p> <p>Ref Offset 19.77 dB</p> <p>Ref 30.00 dBm</p> <p>Center 2.462 GHz</p> <p>#Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 40 MHz</p> <p>Sweep 4.297 ms</p> <p>Occupied Bandwidth 17.043 MHz</p> <p>Total Power 15.2 dBm</p> <p>Transmit Freq Error -13.521 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 15.39 MHz</p> <p>x dB -6.00 dB</p>

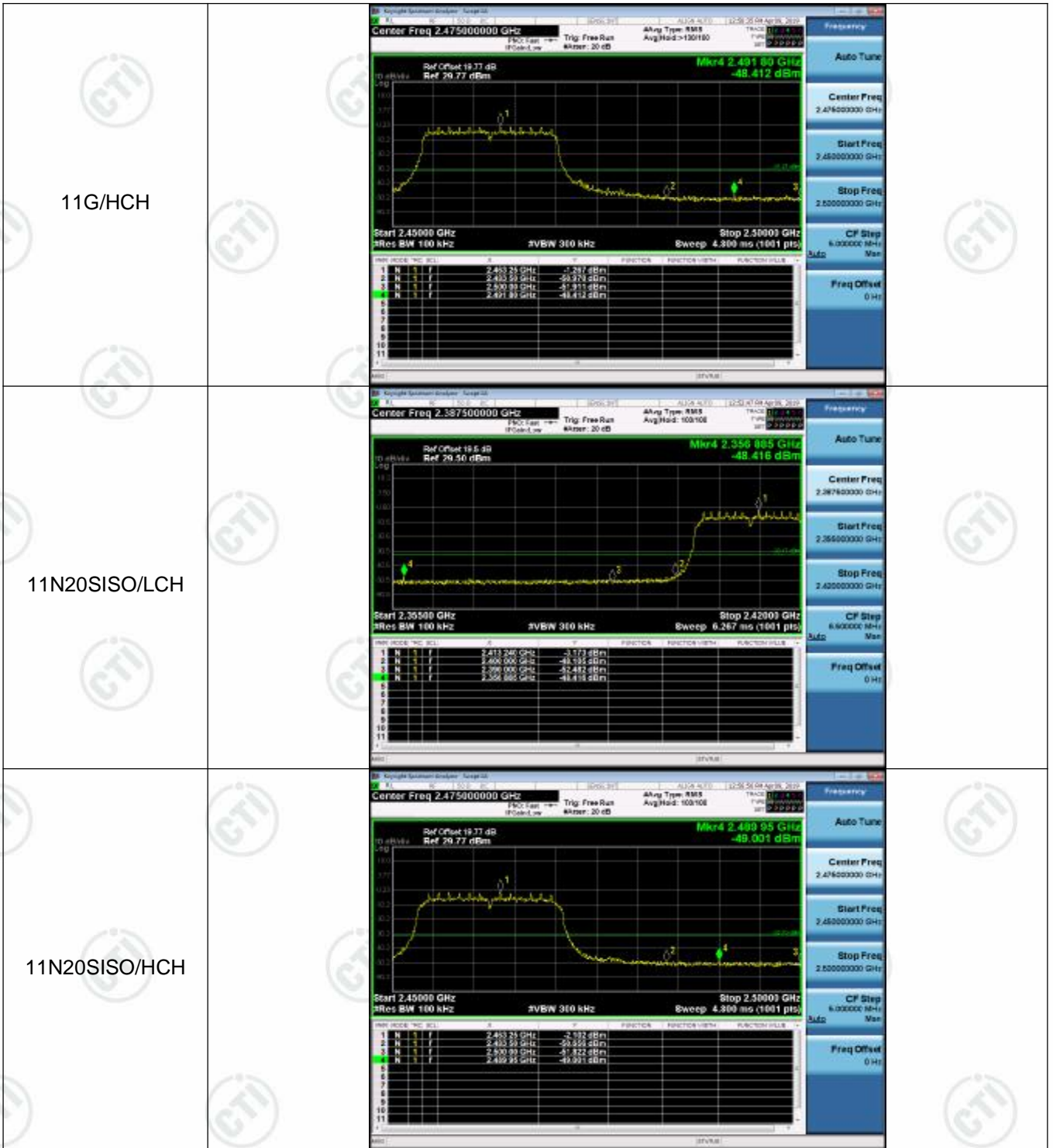
Appendix C): Band-edge for RF Conducted Emissions

Result Table

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	6.204	-48.978	-23.8	PASS
11B	HCH	6.926	-45.091	-23.07	PASS
11G	LCH	-2.227	-49.618	-32.23	PASS
11G	HCH	-1.267	-48.412	-31.27	PASS
11N20SISO	LCH	-3.173	-48.416	-33.17	PASS
11N20SISO	HCH	-2.102	-49.001	-32.1	PASS

Test Graph



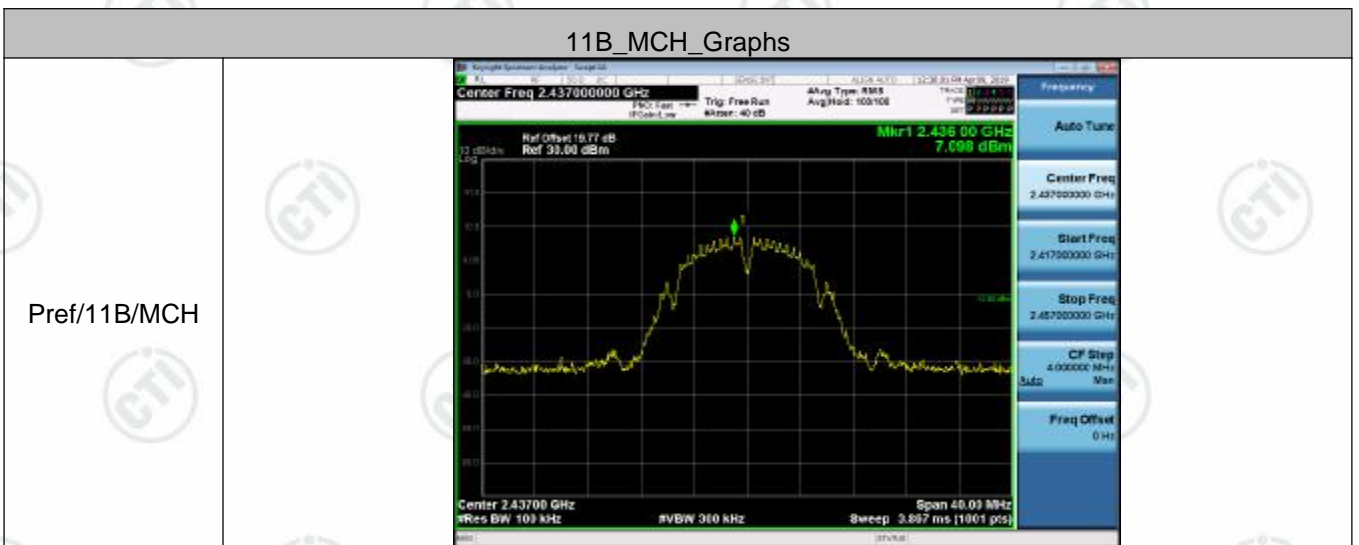


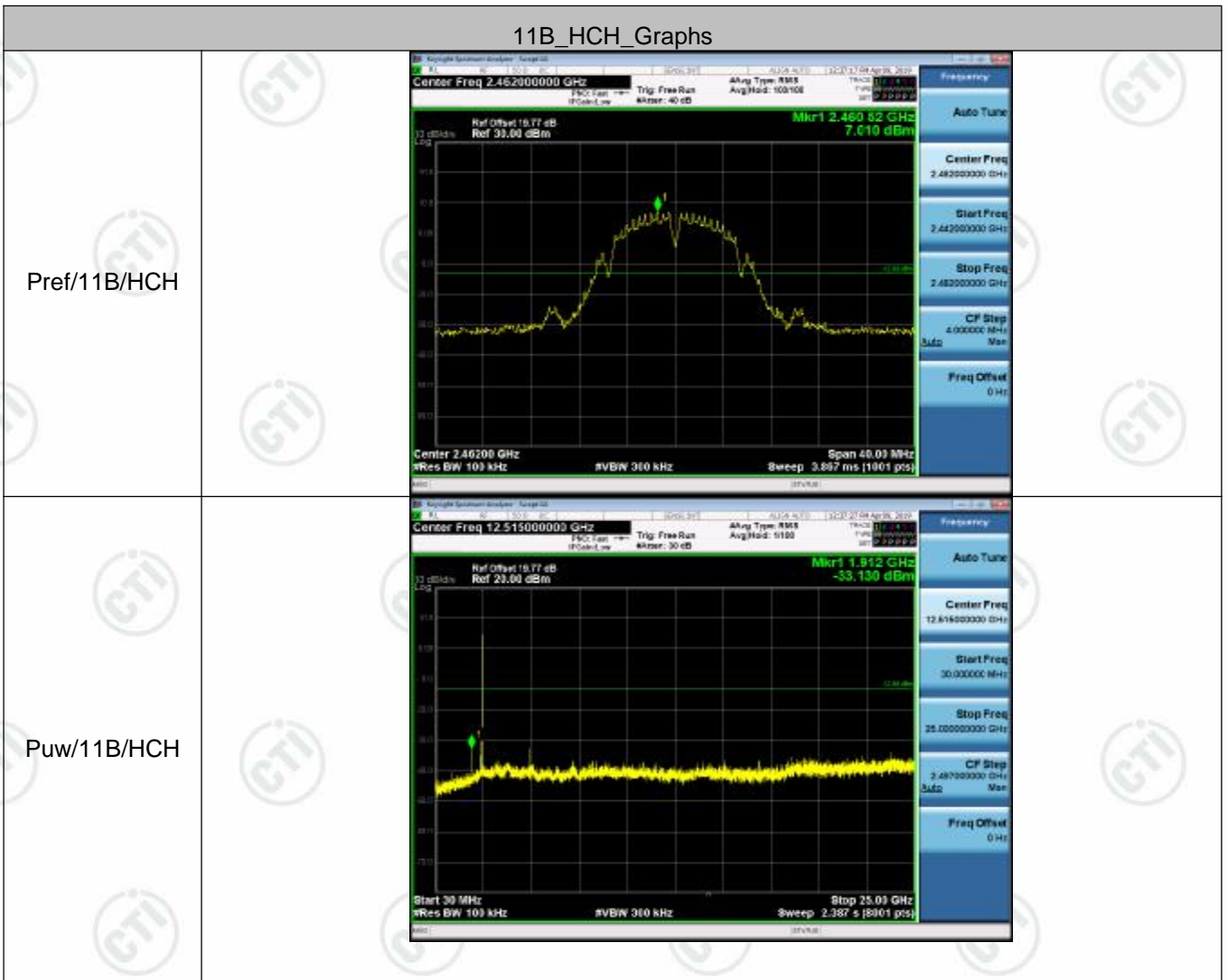
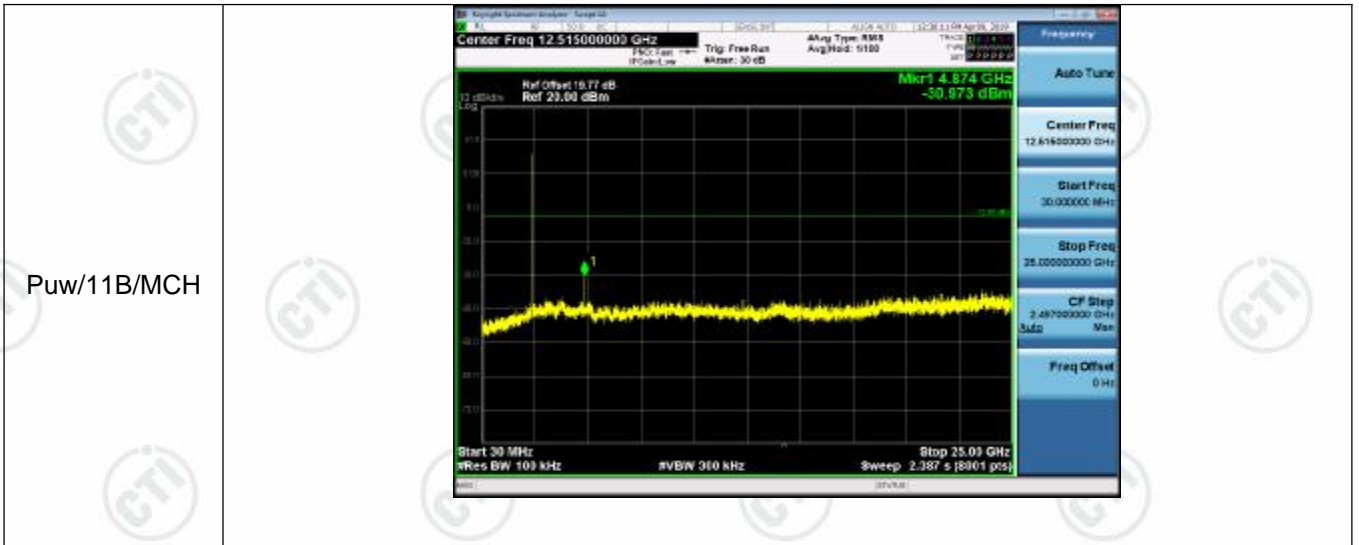
Appendix D): RF Conducted Spurious Emissions

Result Table

Mode	Channel	Pref [dBm]	Puw[dBm]	Verdict
11B	LCH	5.876	<Limit	PASS
11B	MCH	7.098	<Limit	PASS
11B	HCH	7.01	<Limit	PASS
11G	LCH	-2.331	<Limit	PASS
11G	MCH	-1.876	<Limit	PASS
11G	HCH	-1.277	<Limit	PASS
11N20SISO	LCH	-3.188	<Limit	PASS
11N20SISO	MCH	-2.647	<Limit	PASS
11N20SISO	HCH	-2.165	<Limit	PASS

Test Graph

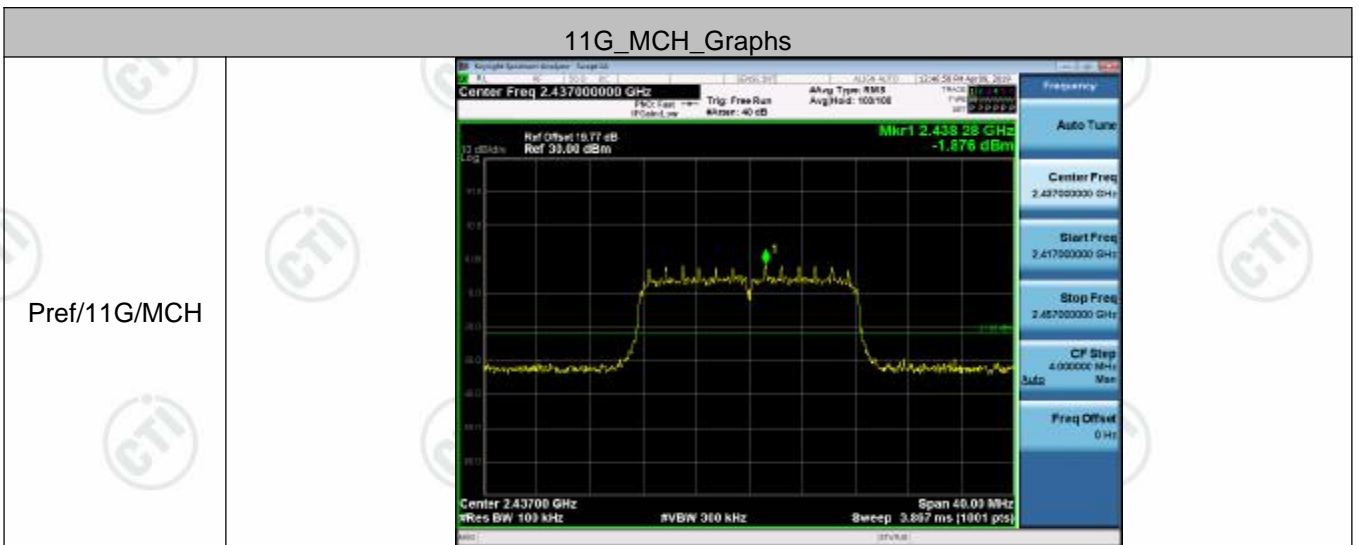


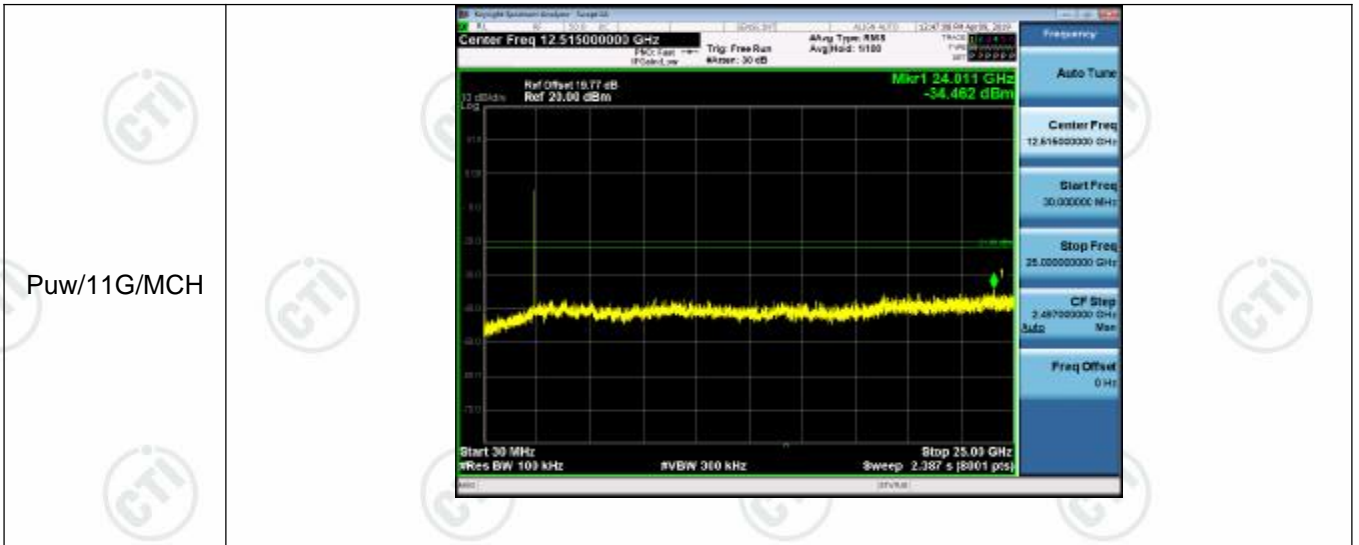


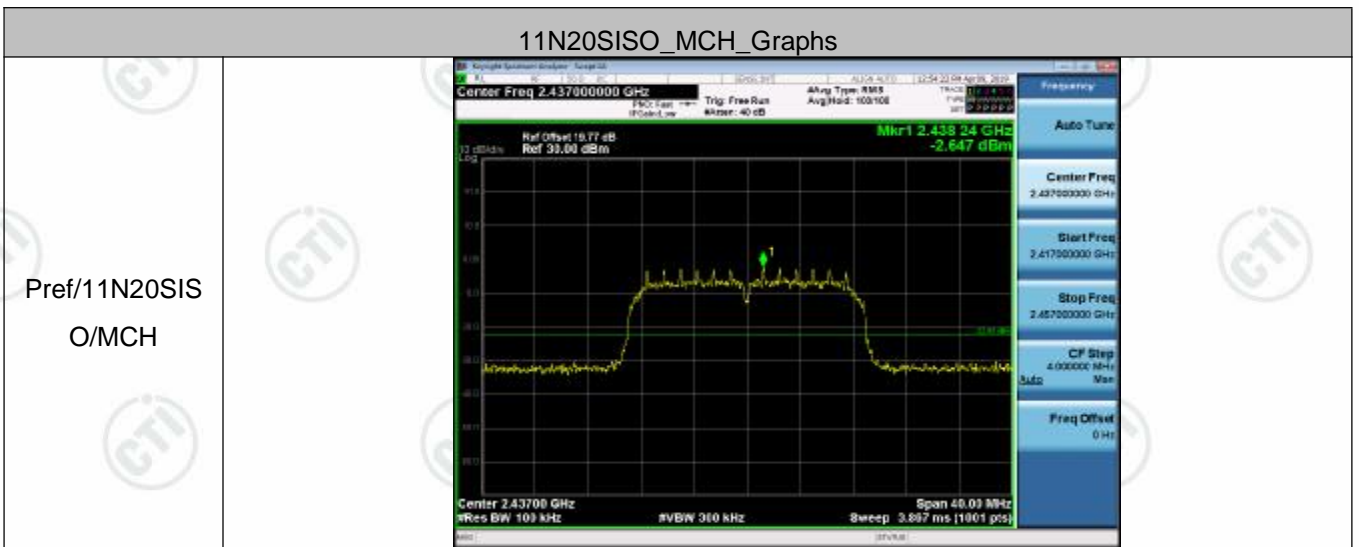
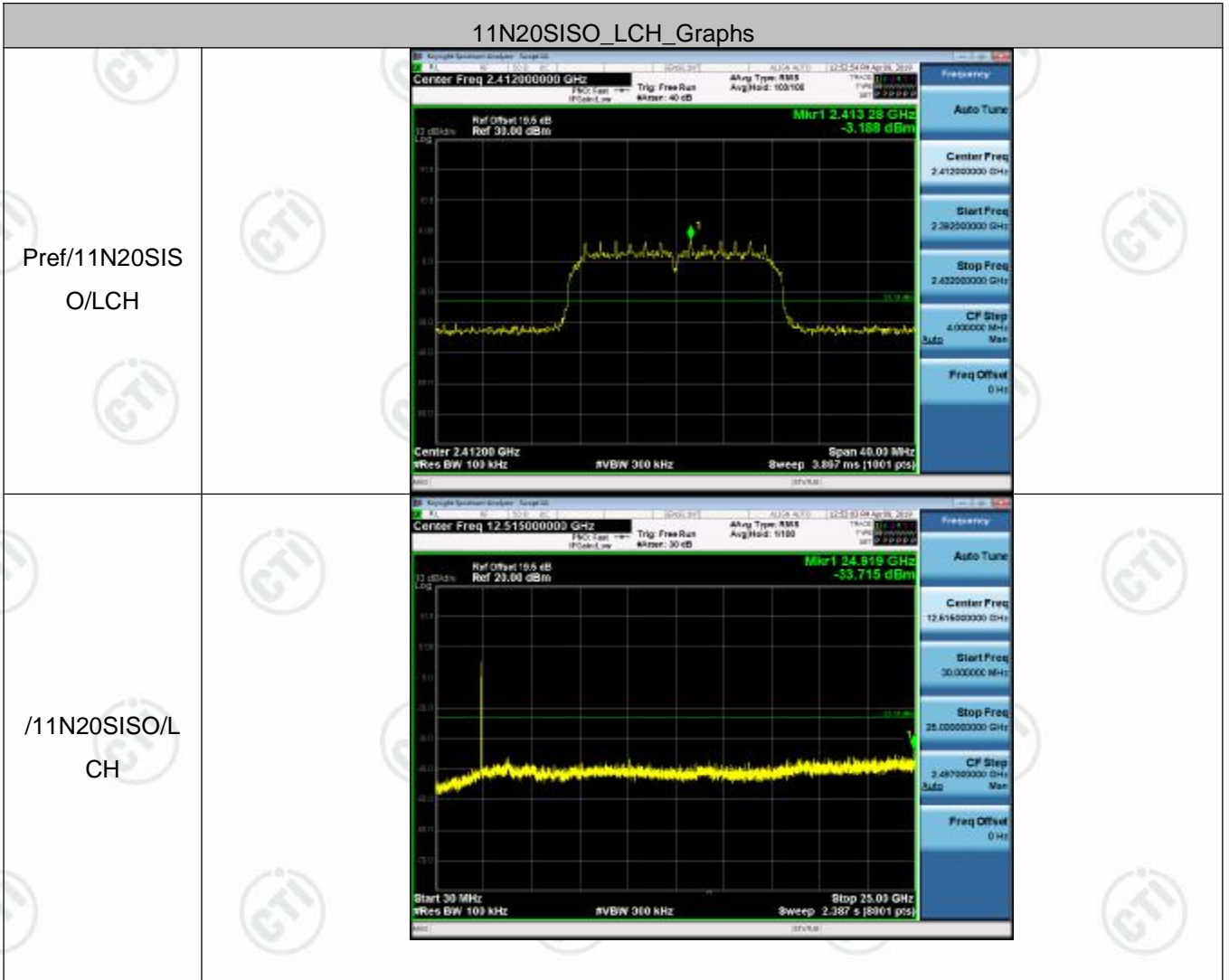
11G_LCH_Graphs

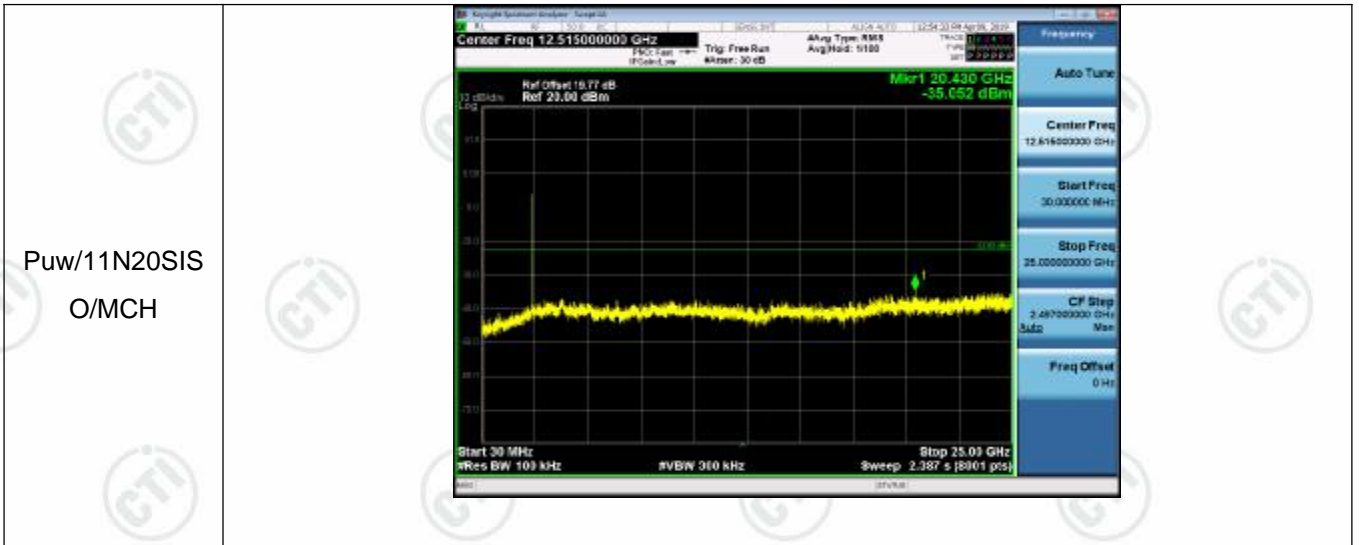


11G_MCH_Graphs







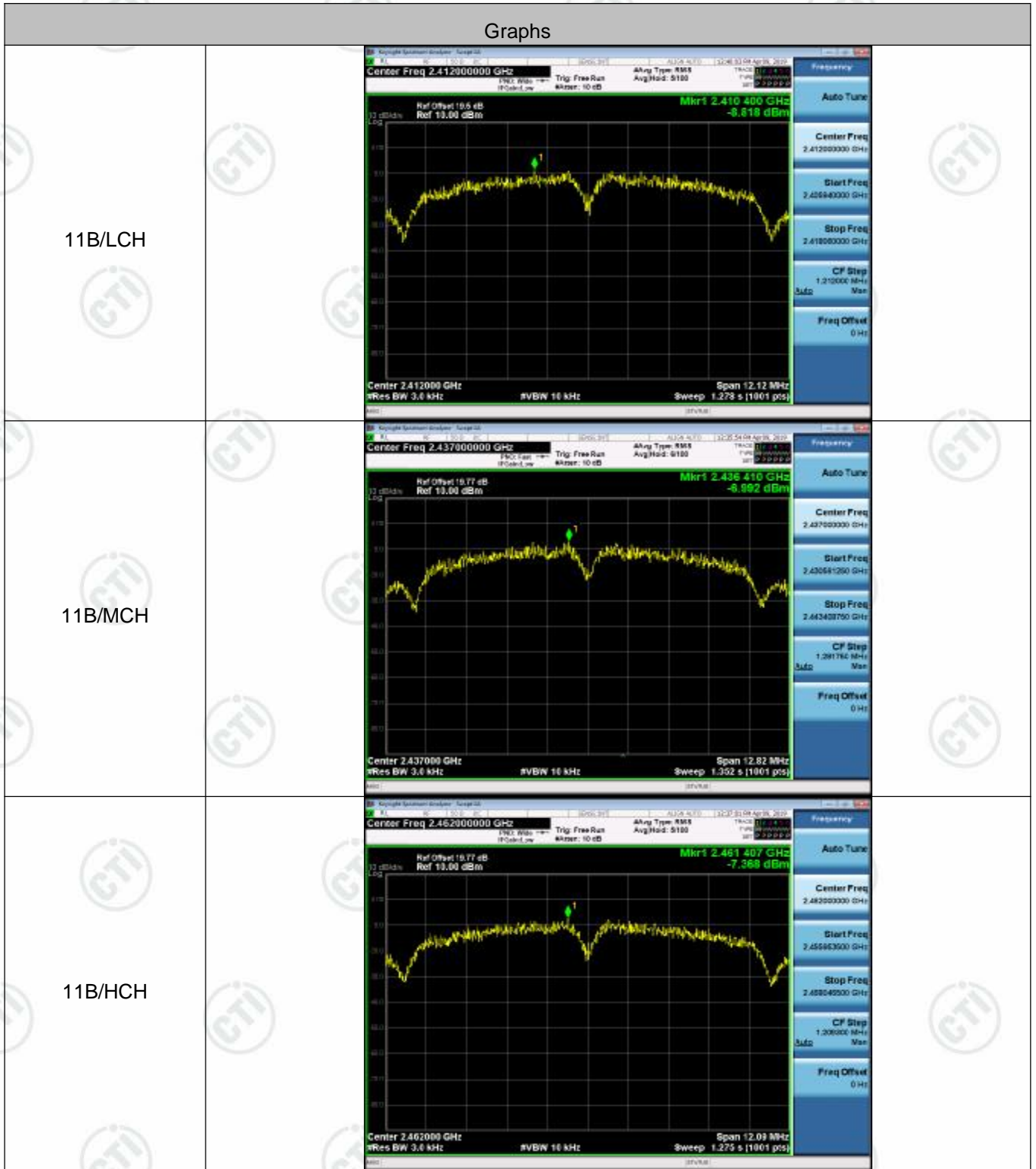


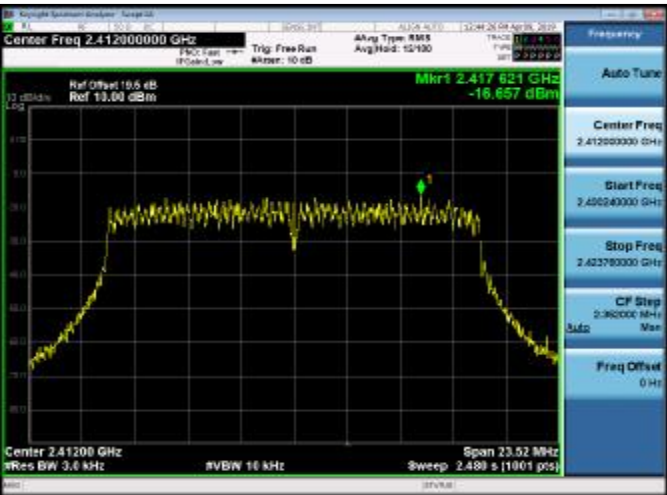
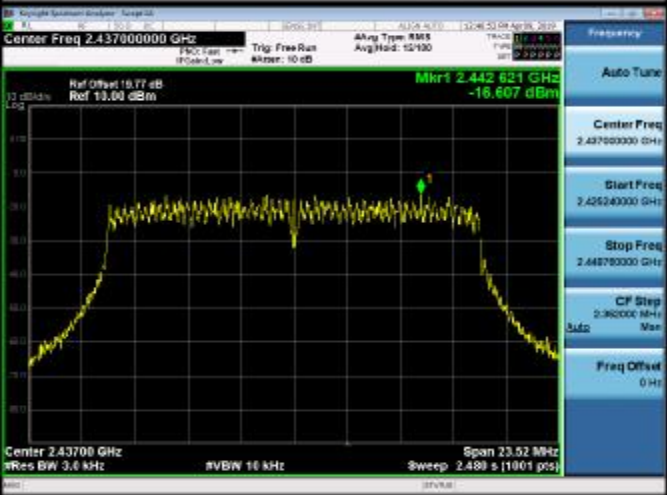
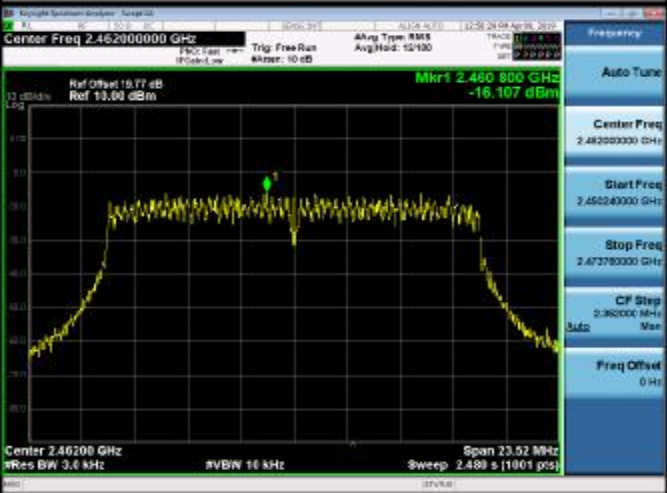
Appendix E): Power Spectral Density

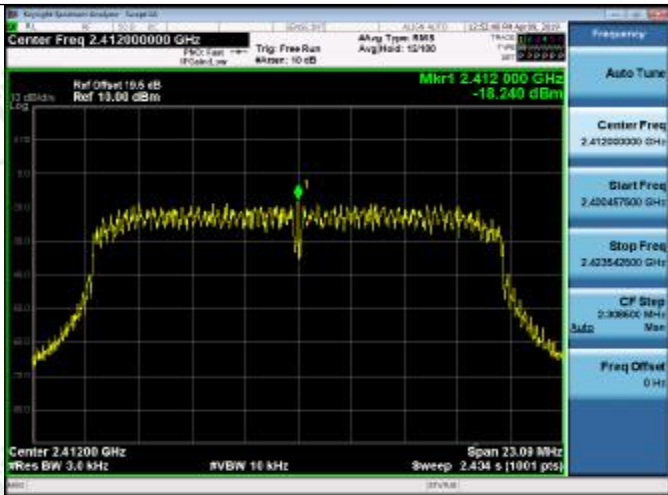
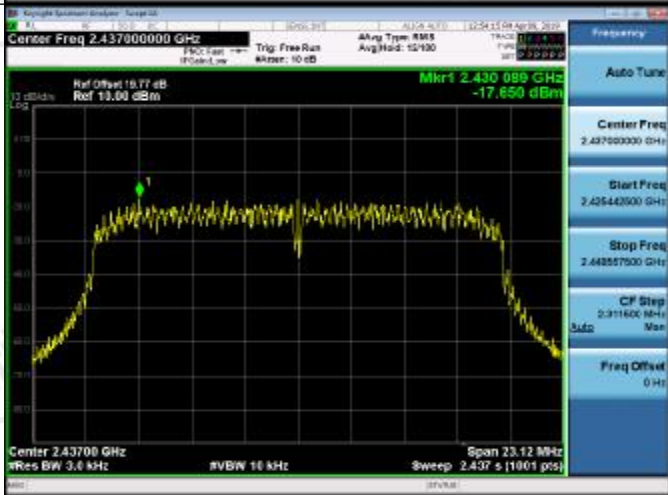
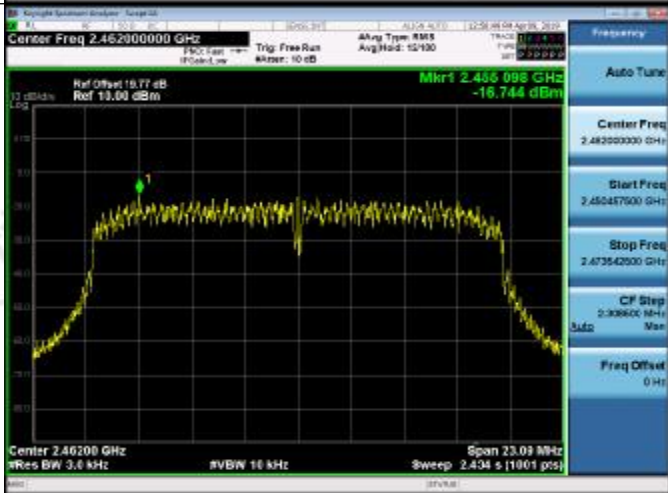
Result Table

Mode	Channel	Power Spectral Density [dBm]	Verdict
11B	LCH	-8.818	PASS
11B	MCH	-6.992	PASS
11B	HCH	-7.368	PASS
11G	LCH	-16.657	PASS
11G	MCH	-16.607	PASS
11G	HCH	-16.107	PASS
11N20SISO	LCH	-18.240	PASS
11N20SISO	MCH	-17.650	PASS
11N20SISO	HCH	-16.744	PASS

Test Graph



<p>11G/LCH</p>	
<p>11G/MCH</p>	
<p>11G/HCH</p>	

<p>11N20SISO/LCH</p>	
<p>11N20SISO/MCH</p>	
<p>11N20SISO/HCH</p>	

Appendix F): Antenna Requirement

15.203 requirement:

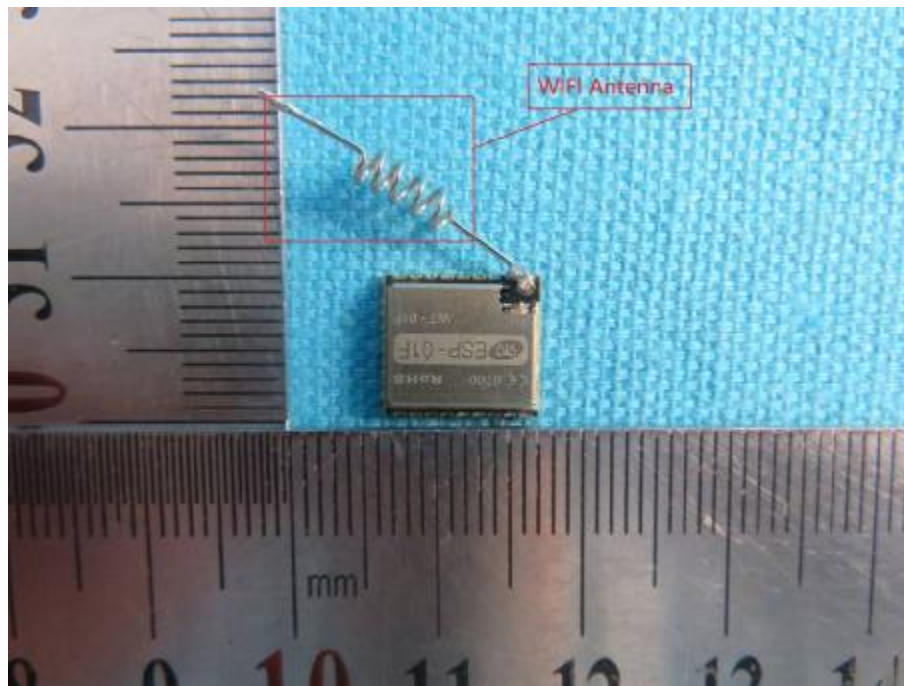
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit 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 Spring Antenna and no consideration of replacement. The best case gain of the antenna is 2.5dBi.



Appendix G): AC Power Line Conducted Emission

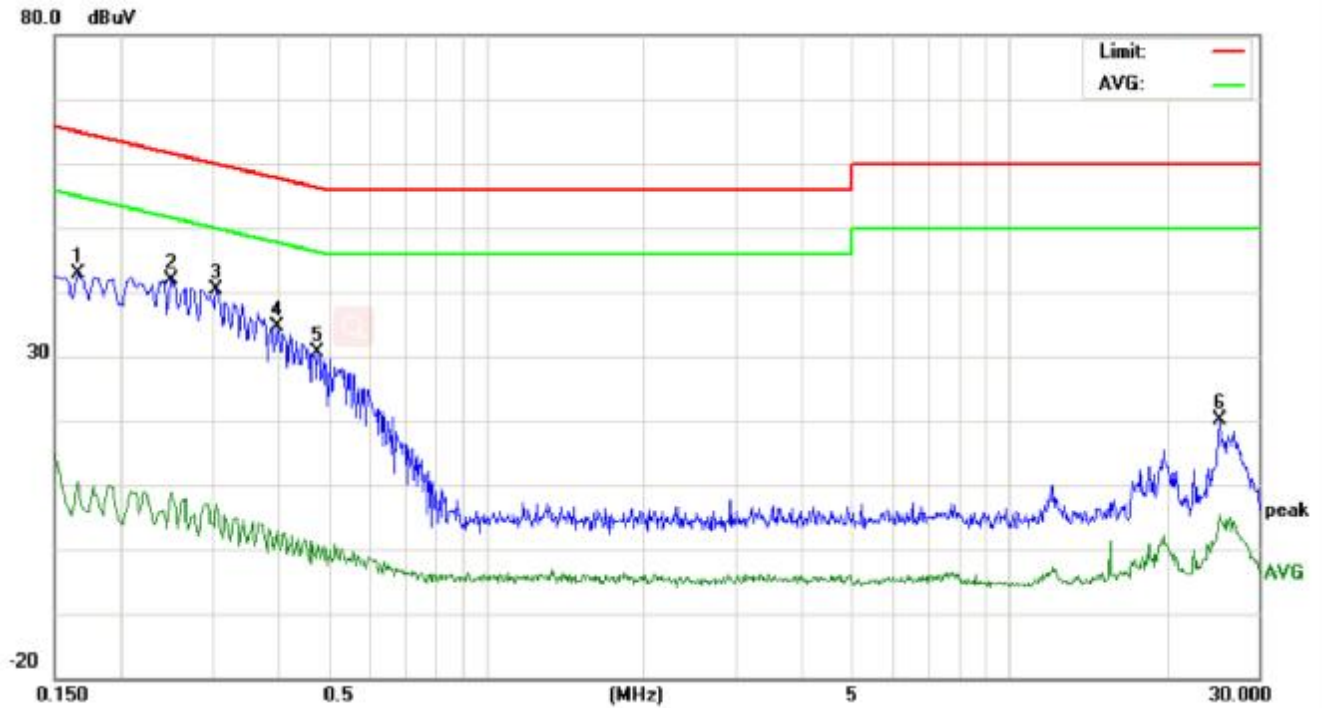
<p>Test Procedure:</p>	<p>Test frequency range :150KHz-30MHz</p> <ol style="list-style-type: none"> 1)The mains terminal disturbance voltage test was conducted in a shielded room. 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 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. 																
<p>Limit:</p>	<table border="1" data-bbox="464 1106 1331 1330"> <thead> <tr> <th rowspan="2">Frequency range (MHz)</th> <th colspan="2">Limit (dBμV)</th> </tr> <tr> <th>Quasi-peak</th> <th>Average</th> </tr> </thead> <tbody> <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> </tbody> </table> <p>* 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</p>			Frequency range (MHz)	Limit (dBμV)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	5-30	60	50
Frequency range (MHz)	Limit (dBμV)																
	Quasi-peak	Average															
0.15-0.5	66 to 56*	56 to 46*															
0.5-5	56	46															
5-30	60	50															
<p>Temperature:</p>	<p>25°C</p>	<p>Humidity:</p>	<p>52%</p>														

Measurement Data

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

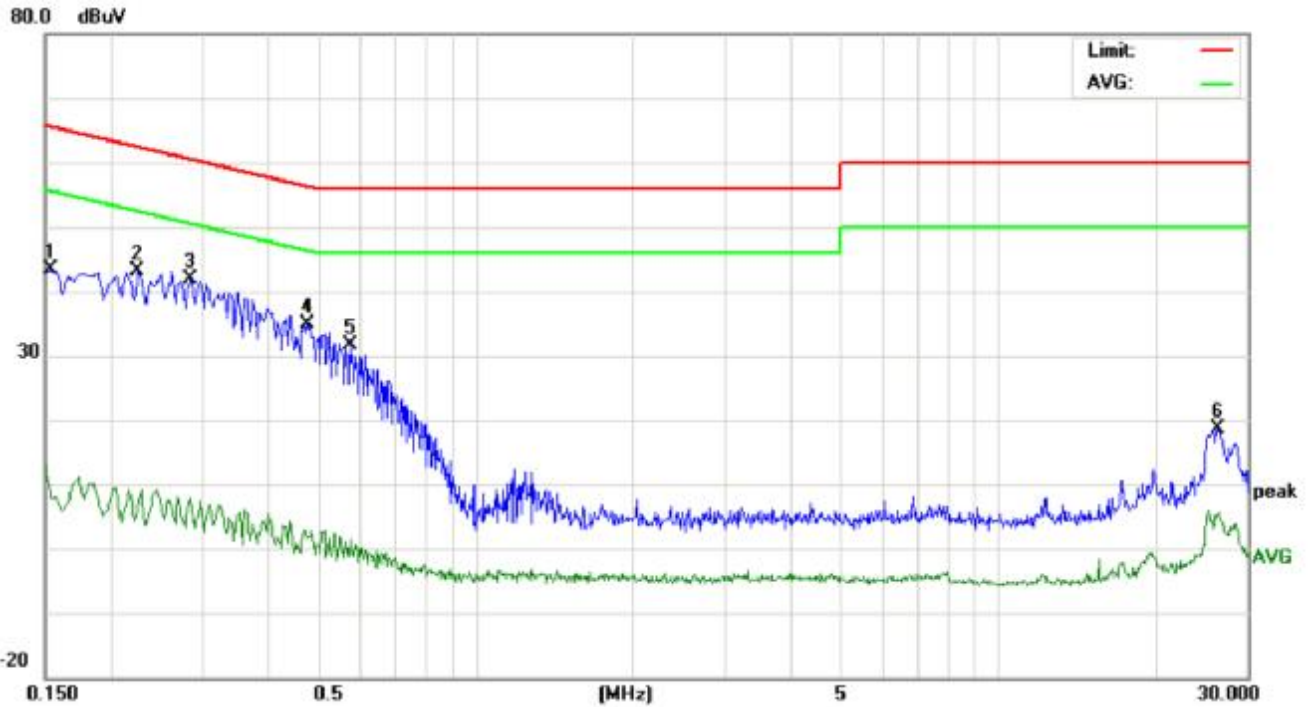
Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

Live line:



No.	Freq. MHz	Reading_Level (dBuV)			Correct Factor dB	Measurement (dBuV)			Limit (dBuV)		Margin (dB)		P/F	Comment
		Peak	QP	AVG		peak	QP	AVG	QP	AVG	QP	AVG		
1	0.1660	32.99	29.47	0.77	9.91	42.90	39.38	10.68	65.15	55.15	-25.77	-44.47	P	
2	0.2500	31.95	27.23	-1.08	9.96	41.91	37.19	8.88	61.75	51.75	-24.56	-42.87	P	
3	0.3060	30.32	26.14	-2.77	9.99	40.31	36.13	7.22	60.08	50.08	-23.95	-42.86	P	
4	0.3980	24.81	21.68	-6.90	9.89	34.70	31.57	2.99	57.89	47.89	-26.32	-44.90	P	
5	0.4780	20.77	16.96	-8.94	9.89	30.66	26.85	0.95	56.37	46.37	-29.52	-45.42	P	
6	25.2979	10.10	6.52	-4.58	9.94	20.04	16.46	5.36	60.00	50.00	-43.54	-44.64	P	

Neutral line:



No.	Freq. MHz	Reading_Level (dBuV)			Correct Factor dB	Measurement (dBuV)			Limit (dBuV)		Margin (dB)		P/F	Comment
		Peak	QP	AVG		peak	QP	AVG	QP	AVG	QP	AVG		
1	0.1539	33.34	30.45	-2.15	9.91	43.25	40.36	7.76	65.78	55.78	-25.42	-48.02	P	
2	0.2260	33.18	30.75	-3.21	9.93	43.11	40.68	6.72	62.59	52.59	-21.91	-45.87	P	
3	0.2860	32.01	29.63	-2.21	9.99	42.00	39.62	7.78	60.64	50.64	-21.02	-42.86	P	
4	0.4780	25.05	22.74	-8.36	9.89	34.94	32.63	1.53	56.37	46.37	-23.74	-44.84	P	
5	0.5780	21.55	18.69	-8.72	10.02	31.57	28.71	1.30	56.00	46.00	-27.29	-44.70	P	
6	26.3980	8.75	3.20	-4.52	9.94	18.69	13.14	5.42	60.00	50.00	-46.86	-44.58	P	

Notes:

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

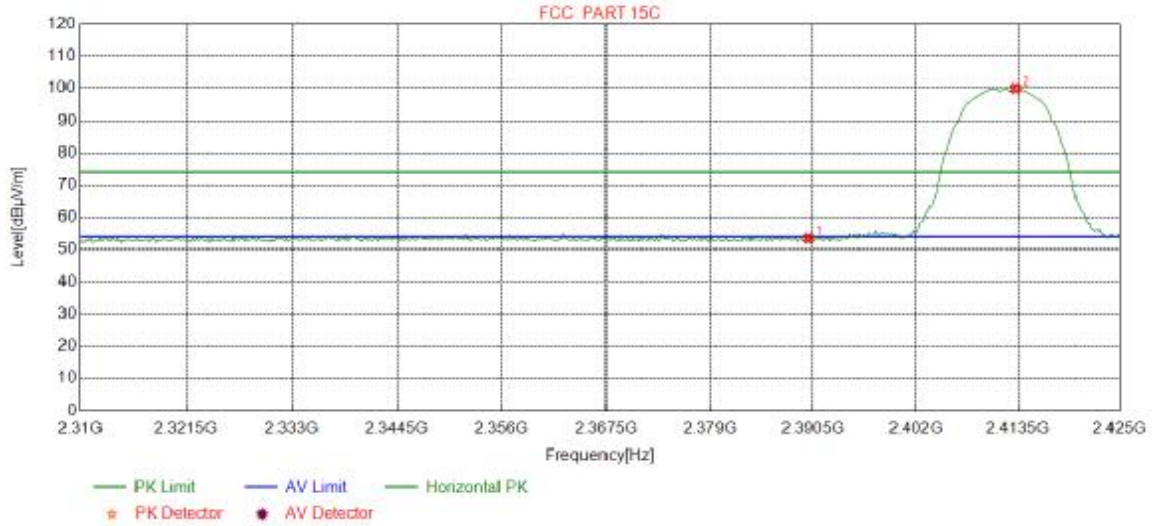
Appendix H): Restricted bands around fundamental frequency (Radiated)

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:	<p>Below 1GHz test procedure as below:</p> <ol style="list-style-type: none"> The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 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. 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. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 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 <p>Above 1GHz test procedure as below:</p> <ol style="list-style-type: none"> 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). Test the EUT in the lowest channel , the Highest channel 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. Repeat above procedures until all frequencies measured was complete. 				
Limit:	Frequency	Limit (dB μ V/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			
Temperature:	25°C	Humidity:	52%		

Test plot as follows:

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

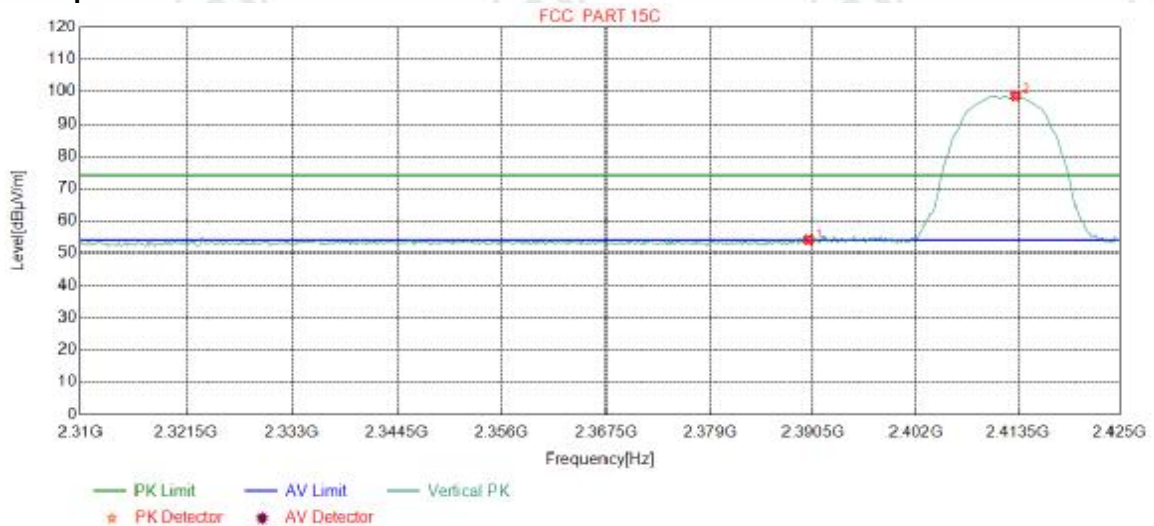
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2390.0000	32.25	13.37	-42.44	50.32	53.50	74.00	20.50	Pass	Horizontal
2	2413.1977	32.28	13.36	-42.43	96.78	99.99	74.00	-25.99	Pass	Horizontal

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

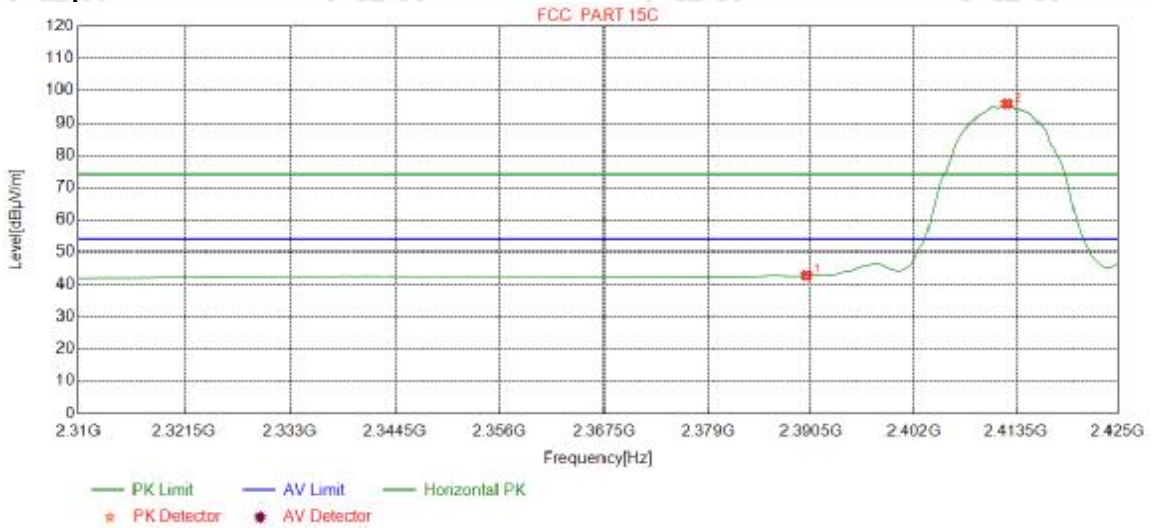
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2390.0000	32.25	13.37	-42.44	50.88	54.06	74.00	19.94	Pass	Vertical
2	2413.1977	32.28	13.36	-42.43	95.46	98.67	74.00	-24.67	Pass	Vertical

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

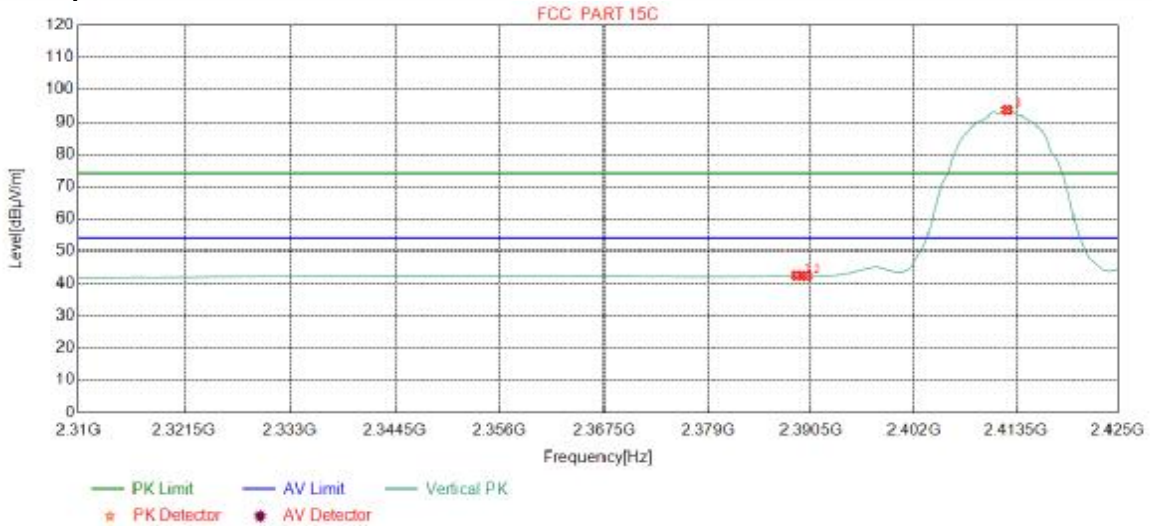
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2390.0000	32.25	13.37	-42.44	39.54	42.72	54.00	11.28	Pass	Horizontal
2	2412.4781	32.28	13.36	-42.43	92.63	95.84	54.00	-41.84	Pass	Horizontal

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

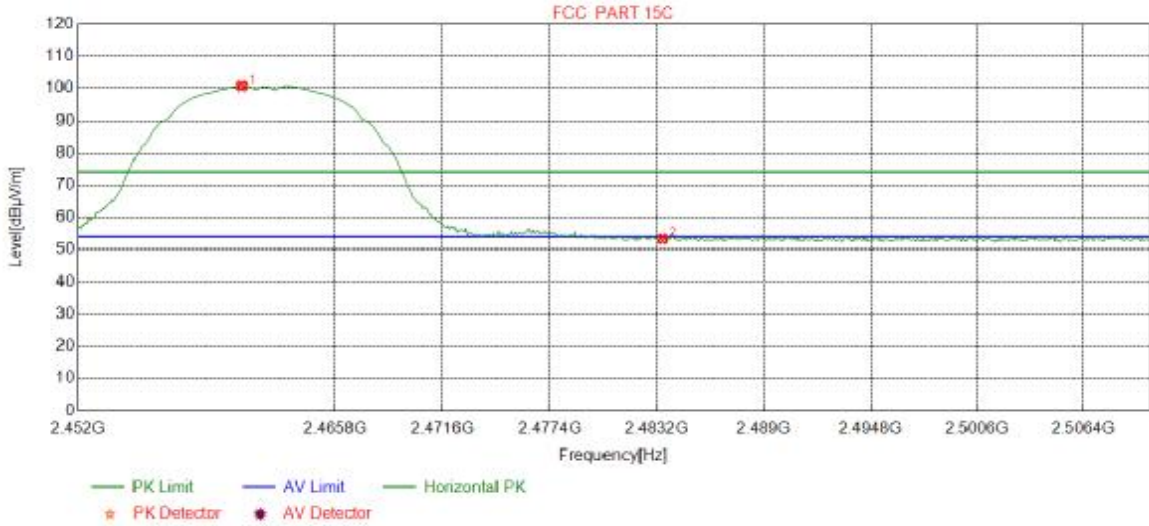
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2388.8736	32.24	13.38	-42.43	39.16	42.35	54.00	11.65	Pass	Vertical
2	2390.0000	32.25	13.37	-42.44	39.07	42.25	54.00	11.75	Pass	Vertical
3	2412.4781	32.28	13.36	-42.43	90.36	93.57	54.00	-39.57	Pass	Vertical

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

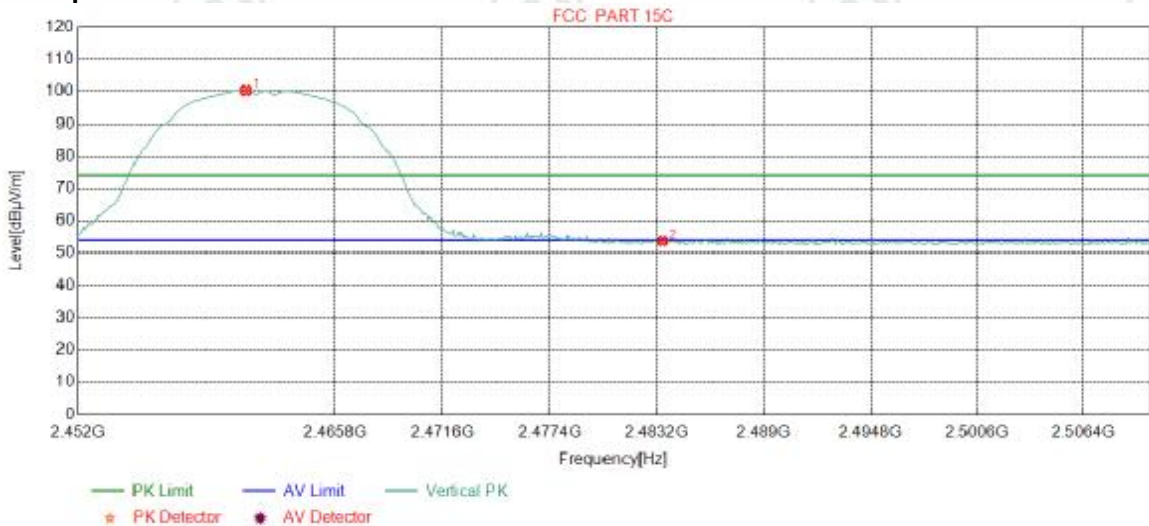
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2460.7835	32.35	13.48	-42.41	97.28	100.70	74.00	-26.70	Pass	Horizontal
2	2483.5000	32.38	13.38	-42.40	49.96	53.32	74.00	20.68	Pass	Horizontal

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

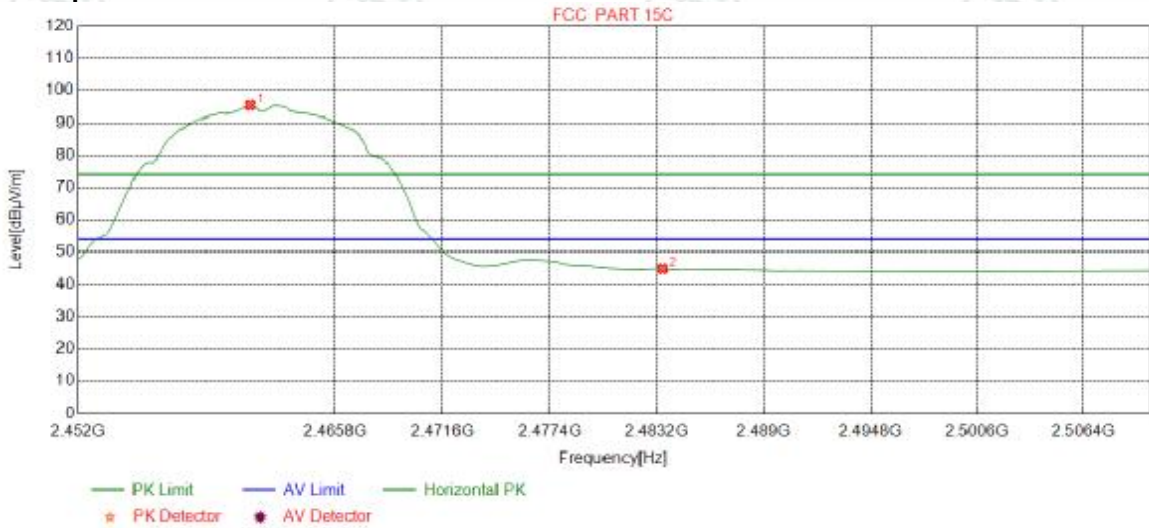
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2461.0013	32.35	13.48	-42.41	96.88	100.30	74.00	-26.30	Pass	Vertical
2	2483.5000	32.38	13.38	-42.40	50.36	53.72	74.00	20.28	Pass	Vertical

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

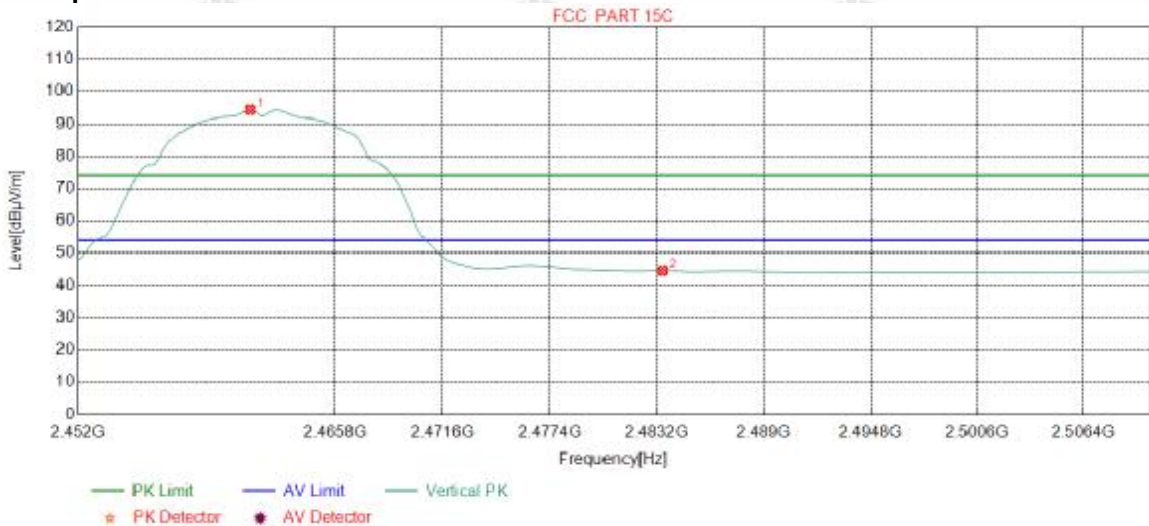
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2461.2190	32.35	13.48	-42.41	92.08	95.50	54.00	-41.50	Pass	Horizontal
2	2483.5000	32.38	13.38	-42.40	41.49	44.85	54.00	9.15	Pass	Horizontal

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

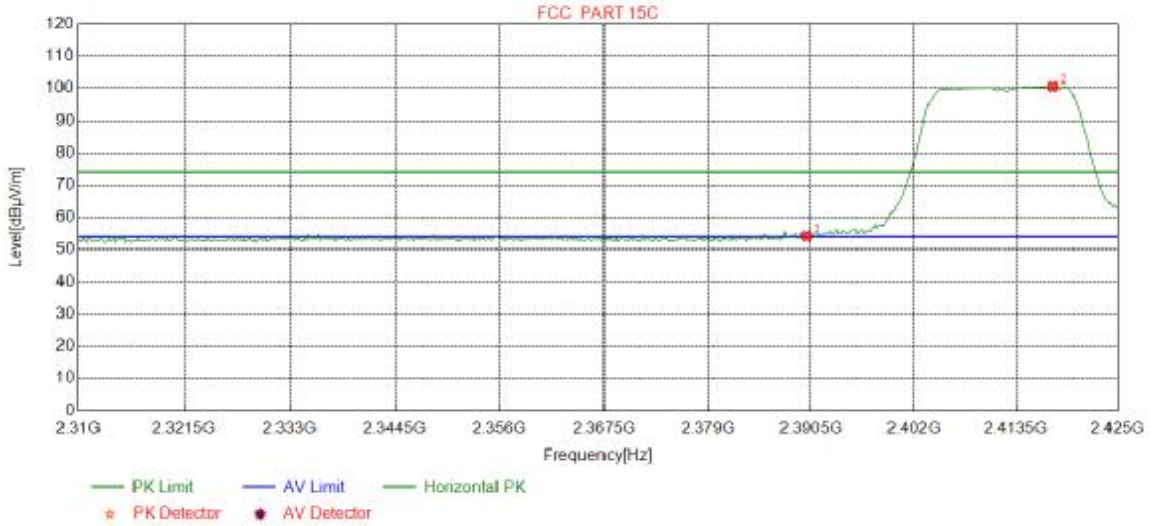
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2461.2190	32.35	13.48	-42.41	90.93	94.35	54.00	-40.35	Pass	Vertical
2	2483.5000	32.38	13.38	-42.40	41.17	44.53	54.00	9.47	Pass	Vertical

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

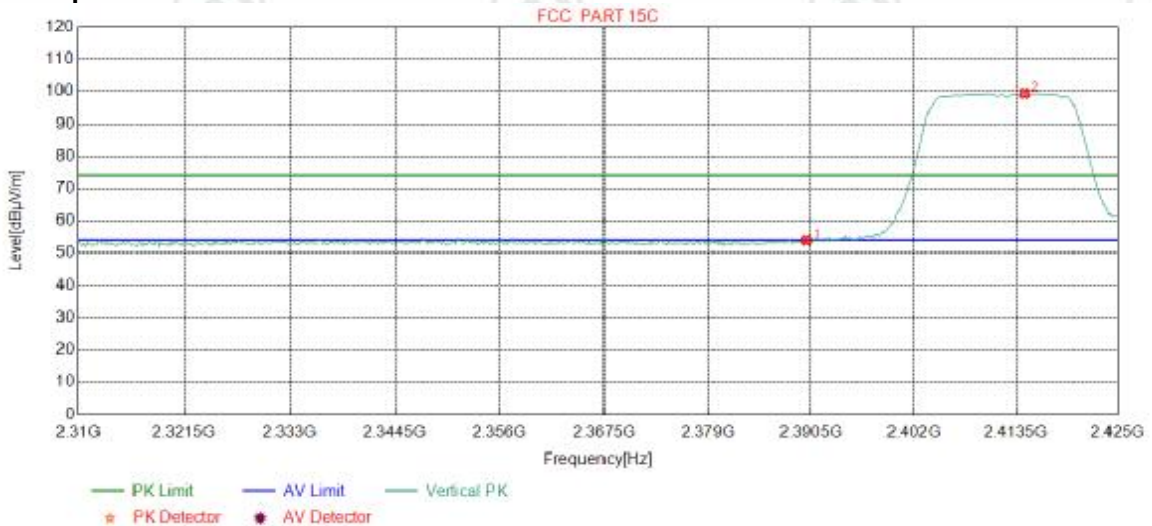
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2390.0000	32.25	13.37	-42.44	51.01	54.19	74.00	19.81	Pass	Horizontal
2	2417.6596	32.28	13.38	-42.42	97.28	100.52	74.00	-26.52	Pass	Horizontal

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

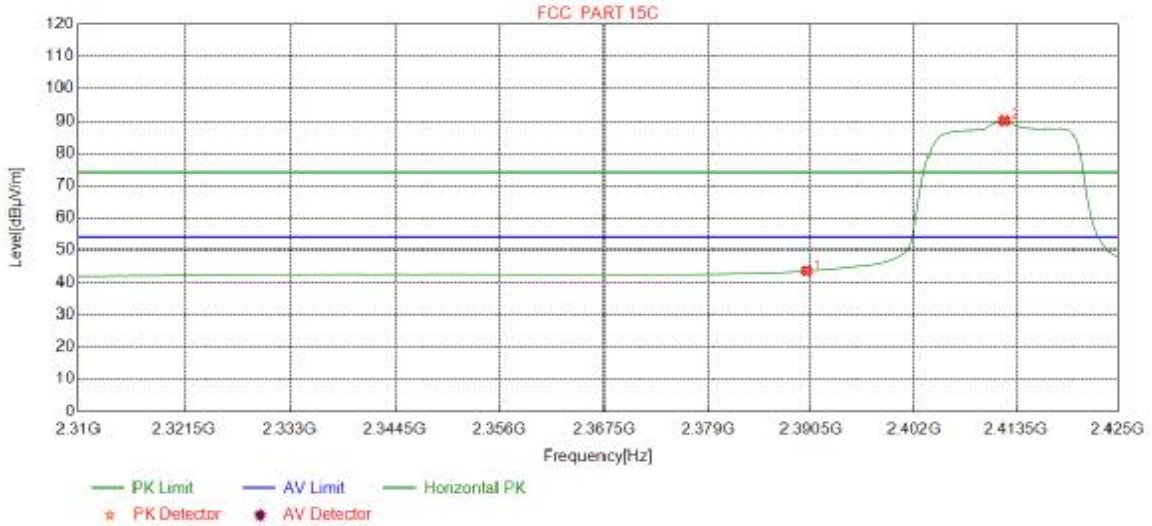
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2390.0000	32.25	13.37	-42.44	50.73	53.91	74.00	20.09	Pass	Vertical
2	2414.4931	32.28	13.37	-42.43	96.23	99.45	74.00	-25.45	Pass	Vertical

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

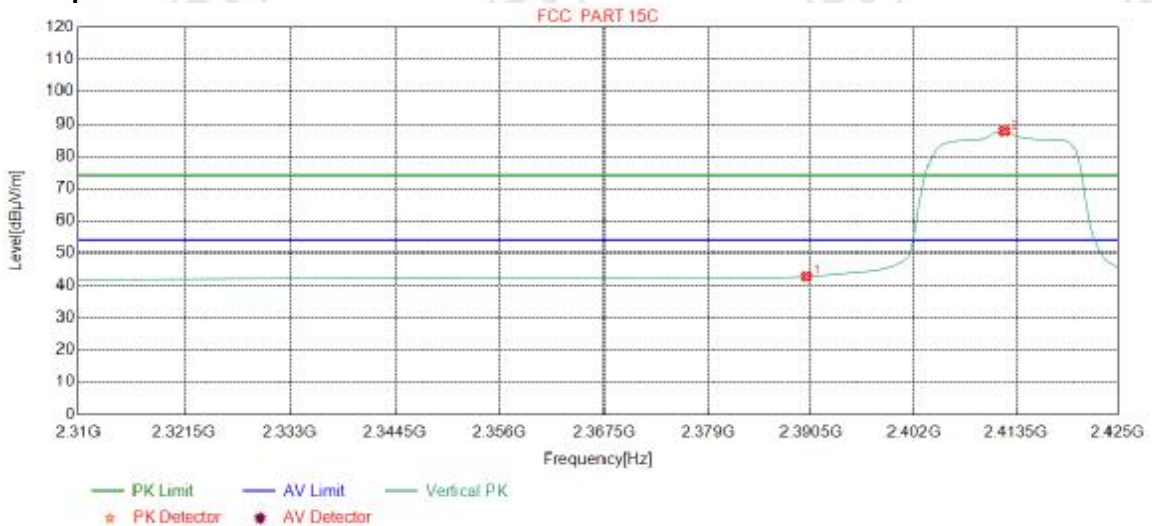
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2390.0000	32.25	13.37	-42.44	40.33	43.51	54.00	10.49	Pass	Horizontal
2	2412.1902	32.28	13.36	-42.44	86.88	90.08	54.00	-36.08	Pass	Horizontal

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

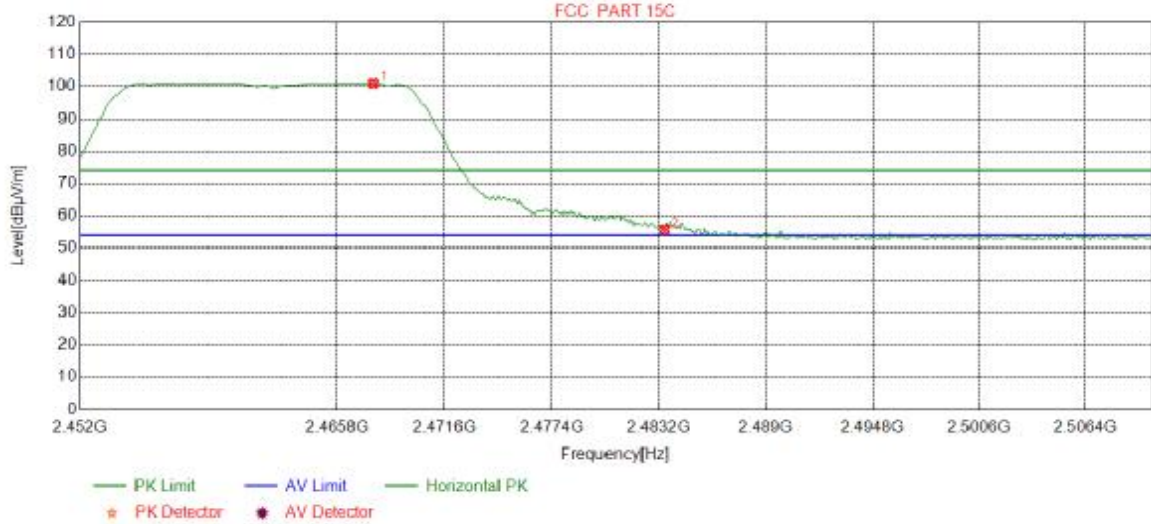
Test Graph



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2390.0000	32.25	13.37	-42.44	39.52	42.70	54.00	11.30	Pass	Vertical
2	2412.1902	32.28	13.36	-42.44	84.58	87.78	54.00	-33.78	Pass	Vertical

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

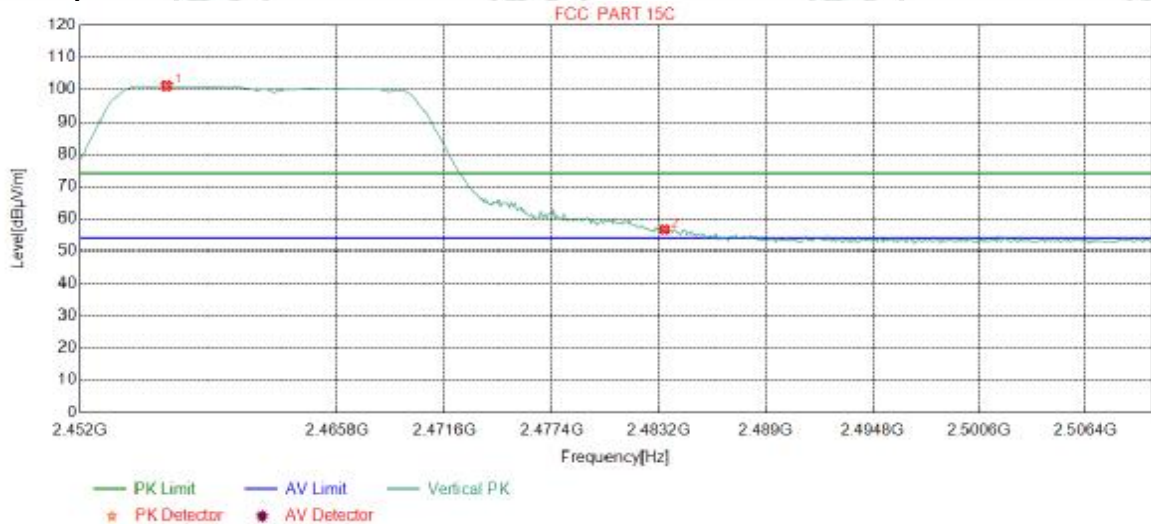
Test Graph



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	2467.7522	32.35	13.45	-42.40	97.53	100.93	74.00	-26.93	Pass	Horizontal
2	2483.5000	32.38	13.38	-42.40	52.35	55.71	74.00	18.29	Pass	Horizontal

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

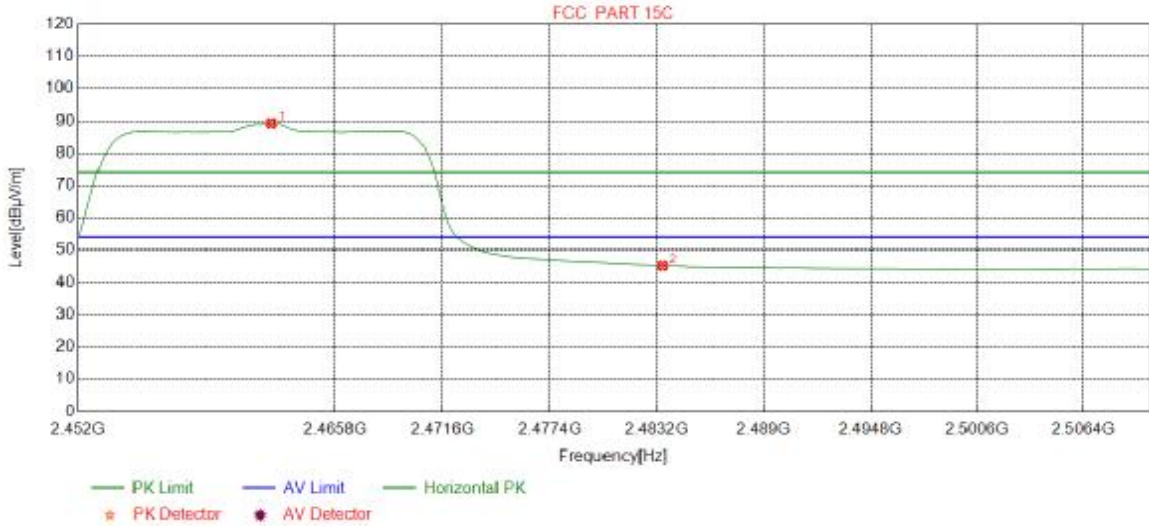
Test Graph



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	2456.6458	32.34	13.50	-42.41	97.69	101.12	74.00	-27.12	Pass	Vertical
2	2483.5000	32.38	13.38	-42.40	53.33	56.69	74.00	17.31	Pass	Vertical

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

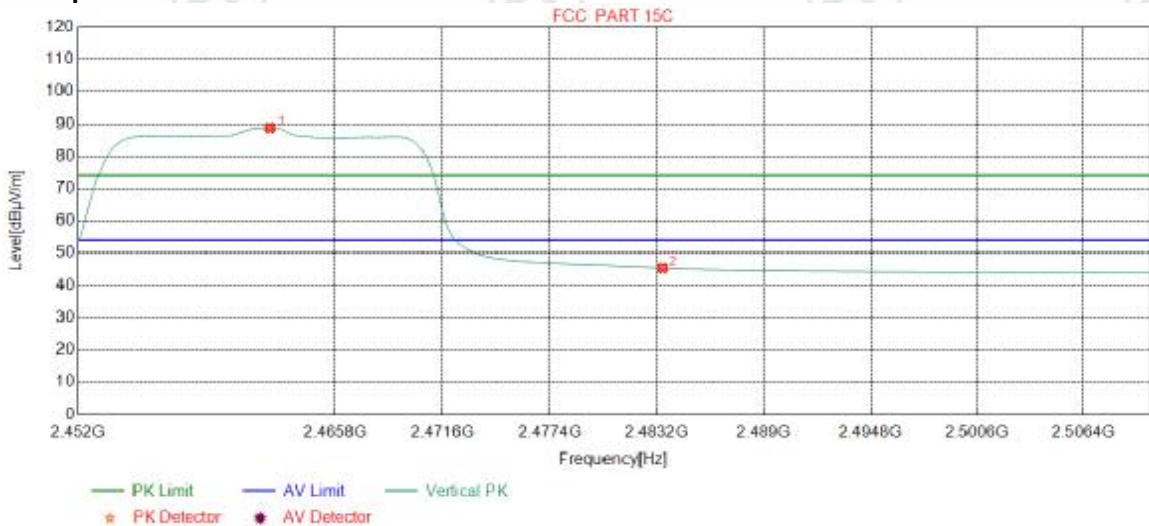
Test Graph



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	2462.3805	32.35	13.47	-42.41	85.84	89.25	54.00	-35.25	Pass	Horizontal
2	2483.5000	32.38	13.38	-42.40	41.83	45.19	54.00	8.81	Pass	Horizontal

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

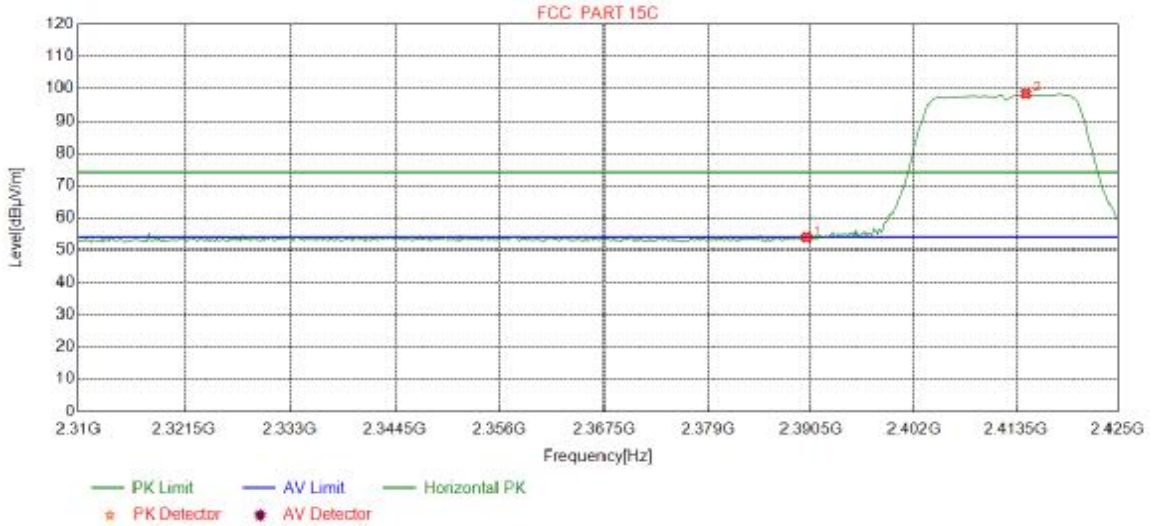
Test Graph



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	2462.3079	32.35	13.47	-42.41	85.33	88.74	54.00	-34.74	Pass	Vertical
2	2483.5000	32.38	13.38	-42.40	42.03	45.39	54.00	8.61	Pass	Vertical

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

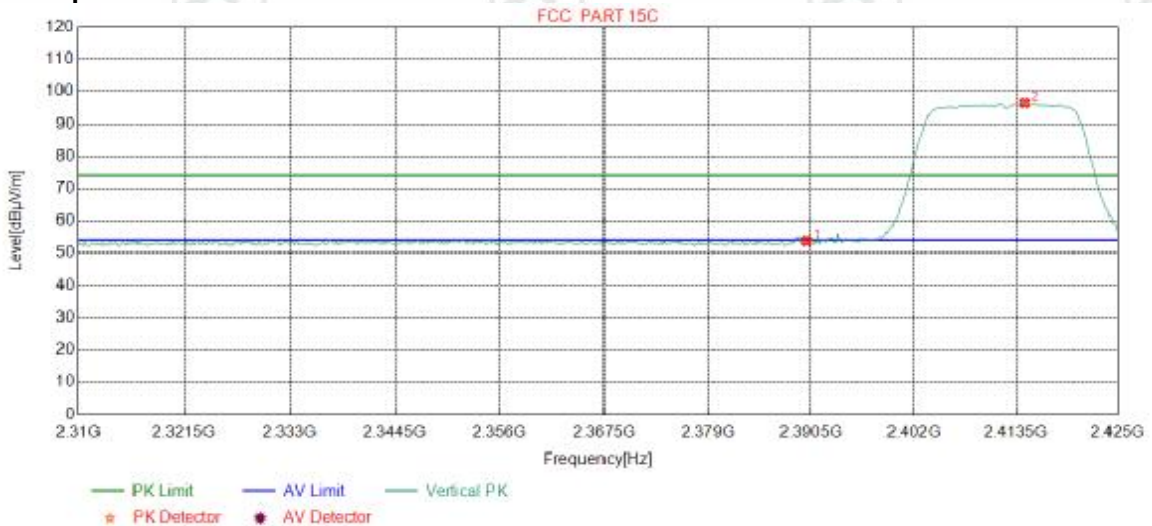
Test Graph



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	-42.44	50.73	53.91	74.00	20.09	Pass	Horizontal
2	2414.6370	32.28	13.37	-42.43	95.22	98.44	74.00	-24.44	Pass	Horizontal

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

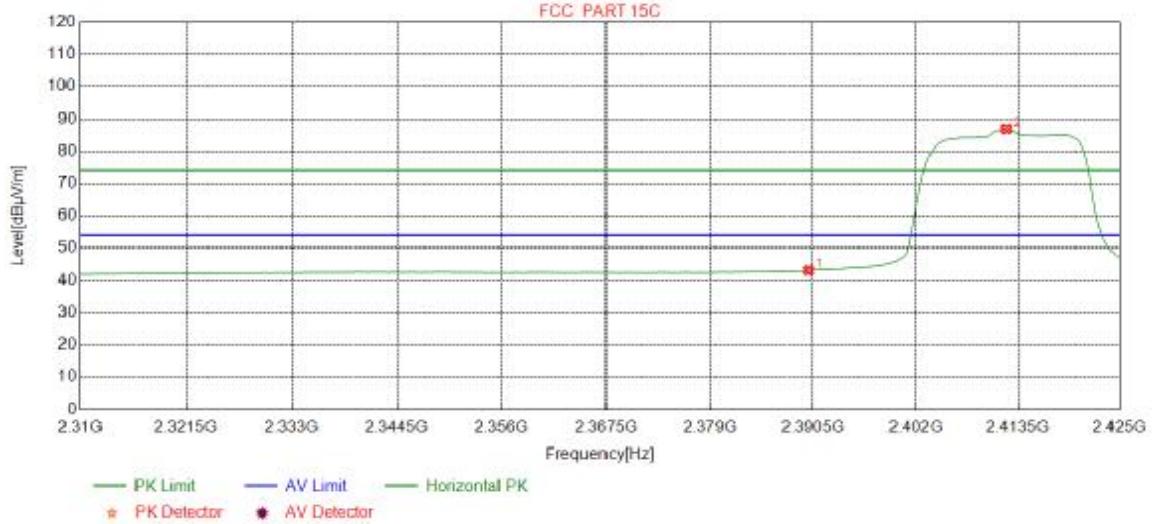
Test Graph



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	-42.44	50.53	53.71	74.00	20.29	Pass	Vertical
2	2414.4931	32.28	13.37	-42.43	93.25	96.47	74.00	-22.47	Pass	Vertical

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

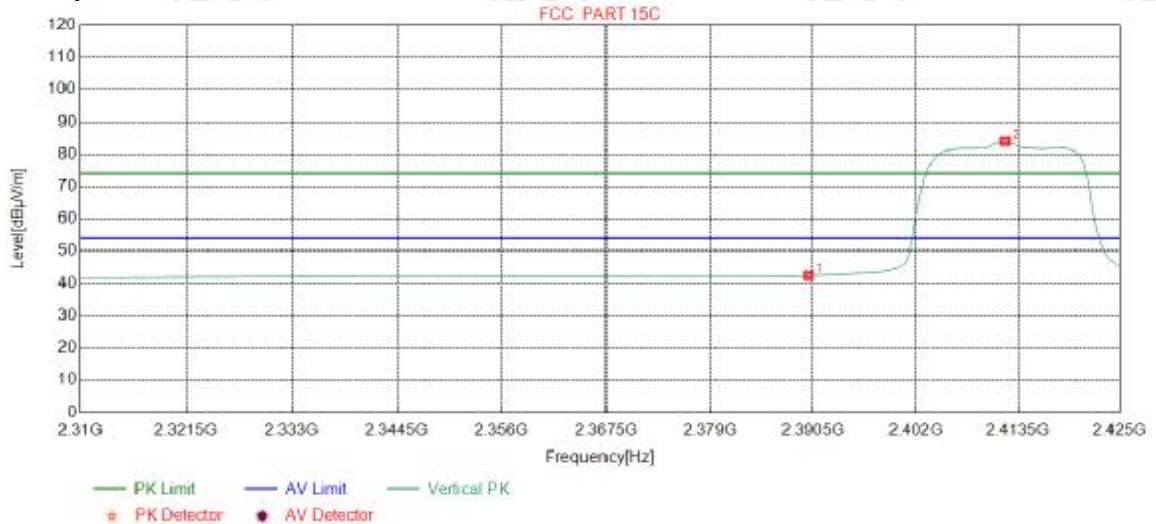
Test Graph



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	-42.44	39.95	43.13	54.00	10.87	Pass	Horizontal
2	2412.1902	32.28	13.36	-42.44	83.62	86.82	54.00	-32.82	Pass	Horizontal

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

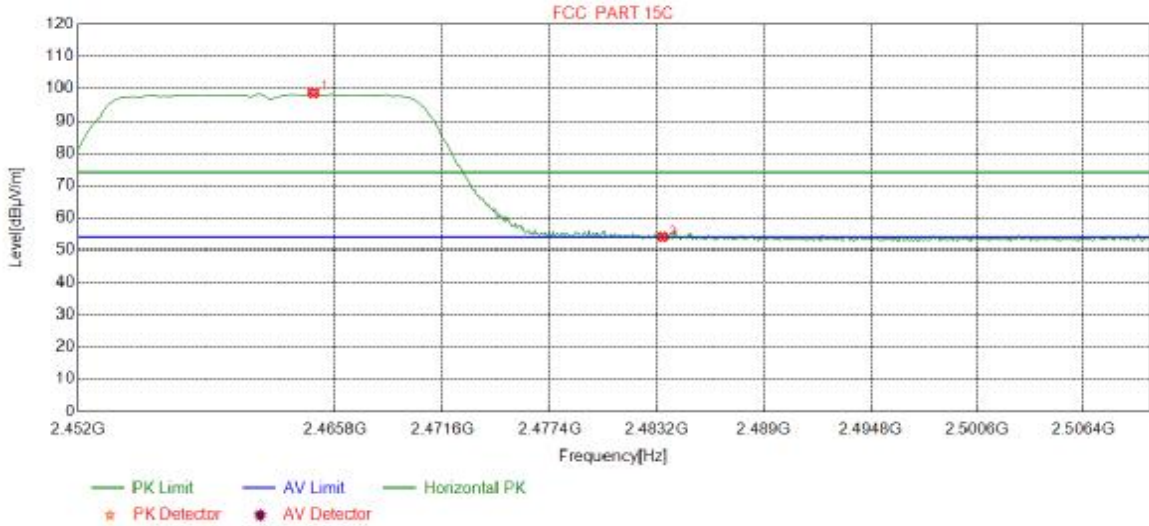
Test Graph



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	-42.44	39.20	42.38	54.00	11.62	Pass	Vertical
2	2412.0463	32.28	13.36	-42.44	80.75	83.95	54.00	-29.95	Pass	Vertical

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

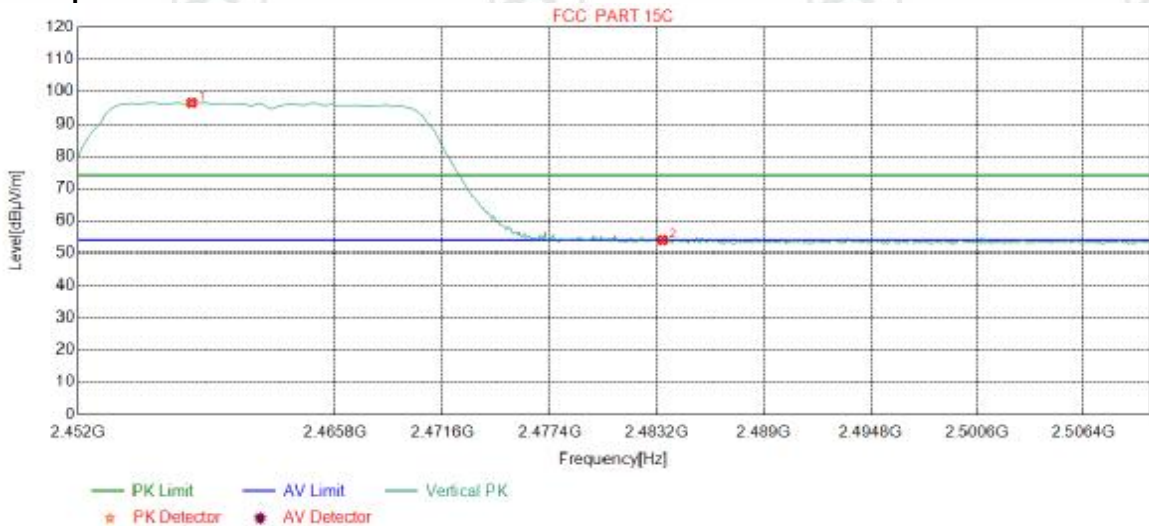
Test Graph



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	2464.6308	32.35	13.46	-42.40	95.27	98.68	74.00	-24.68	Pass	Horizontal
2	2483.5000	32.38	13.38	-42.40	50.71	54.07	74.00	19.93	Pass	Horizontal

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

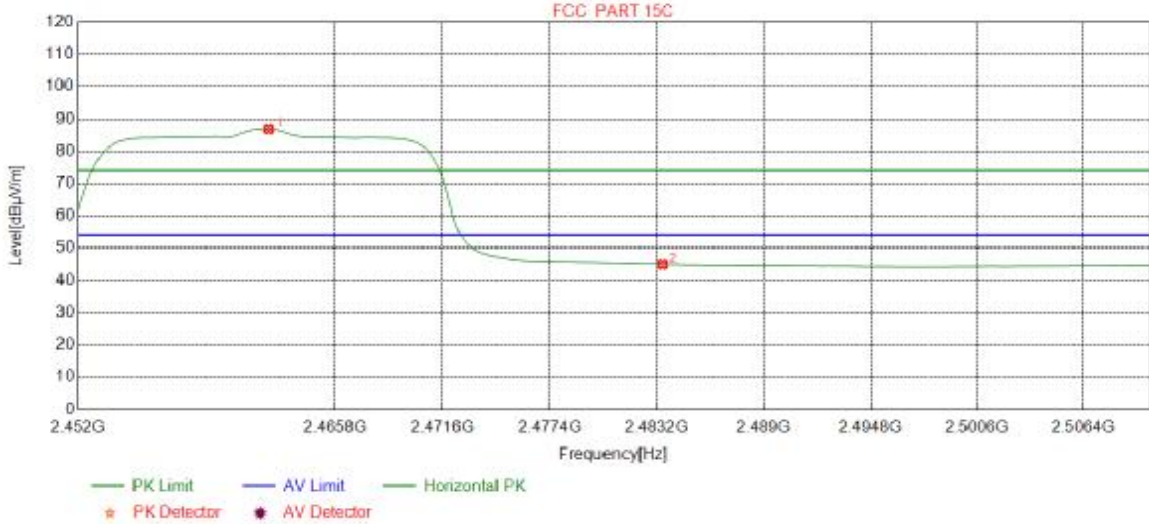
Test Graph



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	2458.0976	32.34	13.49	-42.40	93.07	96.50	74.00	-22.50	Pass	Vertical
2	2483.5000	32.38	13.38	-42.40	50.61	53.97	74.00	20.03	Pass	Vertical

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

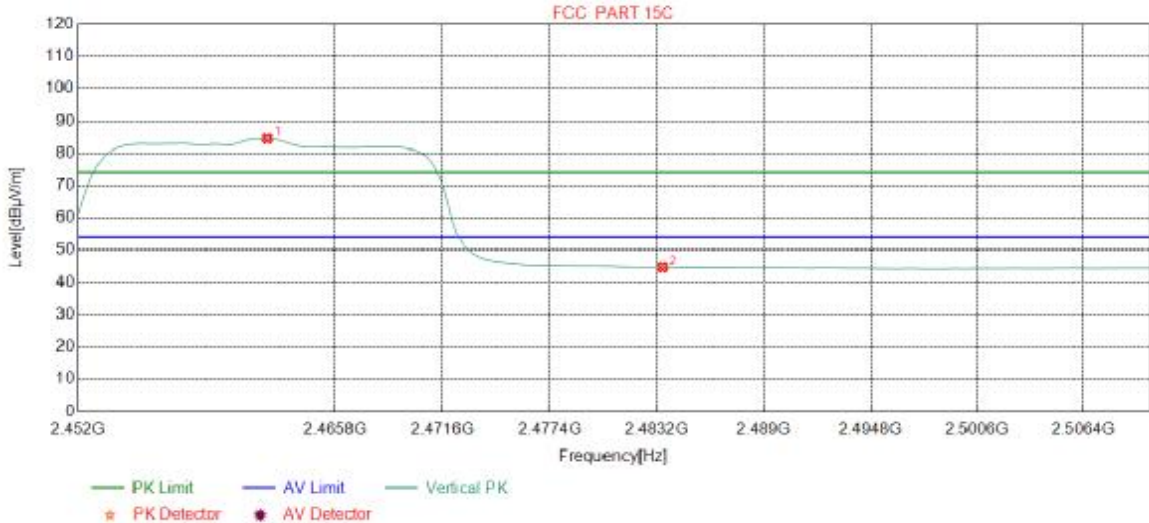
Test Graph



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	2462.2353	32.35	13.47	-42.41	83.39	86.80	54.00	-32.80	Pass	Horizontal
2	2483.5000	32.38	13.38	-42.40	41.64	45.00	54.00	9.00	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	2462.1627	32.35	13.47	-42.41	81.13	84.54	54.00	-30.54	Pass	Vertical
2	2483.5000	32.38	13.38	-42.40	41.35	44.71	54.00	9.29	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; 6Mbps of rate is the worst case of 802.11g; 6.5Mbps of rate is the worst case of 802.11n(HT20) ; and then Only the worst case is recorded in the report.

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

Final Test Level =Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor– Antenna Factor–Cable Factor

Appendix I): Radiated Spurious Emissions

Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak
	0.009MHz-0.090MHz	Average	10kHz	30kHz	Average
	0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak
	0.110MHz-0.490MHz	Average	10kHz	30kHz	Average
	0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
Peak		1MHz	10Hz	Average	
Test Procedure:					
Below 1GHz test procedure as below:					
<p>a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</p> <p>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.</p>					
Above 1GHz test procedure as below:					
<p>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)..</p> <p>h. Test the EUT in the lowest channel ,the middle channel ,the Highest channel</p> <p>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.</p> <p>j. Repeat above procedures until all frequencies measured was complete.</p>					
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.					
Temperature:	25℃		Humidity:	52%	

**Radiated Spurious Emissions test Data:
Radiated Emission below 1GHz**

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

Suspected List										
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Magin [dB]	Result	Polarity
1	37.5668	11.52	0.69	-32.12	37.34	17.43	40.00	22.57	Pass	Horizontal
2	159.9930	7.90	1.47	-31.98	52.92	30.31	43.50	13.19	Pass	Horizontal
3	192.0062	10.14	1.62	-31.96	51.22	31.02	43.50	12.48	Pass	Horizontal
4	320.0590	13.64	2.12	-31.83	49.48	33.41	46.00	12.59	Pass	Horizontal
5	408.0468	15.53	2.41	-31.82	49.95	36.07	46.00	9.93	Pass	Horizontal
6	456.0666	16.30	2.54	-31.86	49.21	36.19	46.00	9.81	Pass	Horizontal

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

Suspected List										
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Magin [dB]	Result	Polarity
1	55.3195	12.35	0.84	-32.07	39.79	20.91	40.00	19.09	Pass	Vertical
2	208.8859	11.13	1.71	-31.94	46.33	27.23	43.50	16.27	Pass	Vertical
3	320.0590	13.64	2.12	-31.83	44.88	28.81	46.00	17.19	Pass	Vertical
4	407.9498	15.53	2.41	-31.82	41.90	28.02	46.00	17.98	Pass	Vertical
5	600.0290	19.00	2.96	-31.99	41.52	31.49	46.00	14.51	Pass	Vertical
6	995.2465	22.67	3.79	-30.73	37.39	33.12	54.00	20.88	Pass	Vertical

Mode:	802.11 b(11Mbps) Transmitting	Channel:	2437
Remark:			

Suspected List										
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Magin [dB]	Result	Polarity
1	159.9930	7.90	1.47	-31.98	52.47	29.86	43.50	13.64	Pass	Horizontal
2	192.0062	10.14	1.62	-31.96	51.57	31.37	43.50	12.13	Pass	Horizontal
3	320.0590	13.64	2.12	-31.83	50.06	33.99	46.00	12.01	Pass	Horizontal
4	456.0666	16.30	2.54	-31.86	48.23	35.21	46.00	10.79	Pass	Horizontal
5	600.0290	19.00	2.96	-31.99	42.67	32.64	46.00	13.36	Pass	Horizontal
6	908.0348	22.15	3.60	-31.50	41.55	35.80	46.00	10.20	Pass	Horizontal

Mode:	802.11 b(11Mbps) Transmitting	Channel:	2437
Remark:			

Suspected List										
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dB μ V]	Level [dB μ V/m]	Limit [dB μ V/m]	Magin [dB]	Result	Polarity
1	55.2225	12.36	0.84	-32.07	38.29	19.42	40.00	20.58	Pass	Vertical
2	67.7368	9.59	0.94	-32.05	40.09	18.57	40.00	21.43	Pass	Vertical
3	208.8859	11.13	1.71	-31.94	46.18	27.08	43.50	16.42	Pass	Vertical
4	320.0590	13.64	2.12	-31.83	44.13	28.06	46.00	17.94	Pass	Vertical
5	408.0468	15.53	2.41	-31.82	41.72	27.84	46.00	18.16	Pass	Vertical
6	974.9715	22.55	3.75	-30.95	37.79	33.14	54.00	20.86	Pass	Vertical

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

Suspected List										
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dB μ V]	Level [dB μ V/m]	Limit [dB μ V/m]	Magin [dB]	Result	Polarity
1	37.6638	11.55	0.69	-32.11	37.05	17.18	40.00	22.82	Pass	Horizontal
2	159.9930	7.90	1.47	-31.98	53.15	30.54	43.50	12.96	Pass	Horizontal
3	192.0062	10.14	1.62	-31.96	51.59	31.39	43.50	12.11	Pass	Horizontal
4	320.0590	13.64	2.12	-31.83	50.34	34.27	46.00	11.73	Pass	Horizontal
5	480.0280	16.68	2.61	-31.90	48.66	36.05	46.00	9.95	Pass	Horizontal
6	974.9715	22.55	3.75	-30.95	39.22	34.57	54.00	19.43	Pass	Horizontal

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

Suspected List										
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dB μ V]	Level [dB μ V/m]	Limit [dB μ V/m]	Magin [dB]	Result	Polarity
1	54.5435	12.47	0.84	-32.08	38.42	19.65	40.00	20.35	Pass	Vertical
2	208.8859	11.13	1.71	-31.94	46.71	27.61	43.50	15.89	Pass	Vertical
3	320.0590	13.64	2.12	-31.83	44.11	28.04	46.00	17.96	Pass	Vertical
4	480.0280	16.68	2.61	-31.90	41.95	29.34	46.00	16.66	Pass	Vertical
5	974.9715	22.55	3.75	-30.95	39.20	34.55	54.00	19.45	Pass	Vertical

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

Suspected List										
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dB μ V]	Level [dB μ V/m]	Limit [dB μ V/m]	Magin [dB]	Result	Polarity
1	159.9930	7.90	1.47	-31.98	52.73	30.12	43.50	13.38	Pass	Horizontal
2	192.0062	10.14	1.62	-31.96	51.40	31.20	43.50	12.30	Pass	Horizontal
3	320.0590	13.64	2.12	-31.83	49.89	33.82	46.00	12.18	Pass	Horizontal
4	408.0468	15.53	2.41	-31.82	49.90	36.02	46.00	9.98	Pass	Horizontal
5	480.0280	16.68	2.61	-31.90	48.09	35.48	46.00	10.52	Pass	Horizontal
6	974.9715	22.55	3.75	-30.95	38.20	33.55	54.00	20.45	Pass	Horizontal

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

Suspected List										
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dB μ V]	Level [dB μ V/m]	Limit [dB μ V/m]	Magin [dB]	Result	Polarity
1	57.1627	12.05	0.87	-32.06	41.44	22.30	40.00	17.70	Pass	Vertical
2	120.0250	9.20	1.30	-32.07	41.69	20.12	43.50	23.38	Pass	Vertical
3	208.8859	11.13	1.71	-31.94	46.46	27.36	43.50	16.14	Pass	Vertical
4	320.0590	13.64	2.12	-31.83	44.85	28.78	46.00	17.22	Pass	Vertical
5	408.0468	15.53	2.41	-31.82	42.76	28.88	46.00	17.12	Pass	Vertical
6	600.0290	19.00	2.96	-31.99	41.72	31.69	46.00	14.31	Pass	Vertical

Mode:	802.11 g(6Mbps) Transmitting	Channel:	2437
Remark:			

Suspected List										
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dB μ V]	Level [dB μ V/m]	Limit [dB μ V/m]	Magin [dB]	Result	Polarity
1	96.0636	10.37	1.13	-32.07	41.03	20.46	43.50	23.04	Pass	Horizontal
2	159.9930	7.90	1.47	-31.98	52.71	30.10	43.50	13.40	Pass	Horizontal
3	192.0062	10.14	1.62	-31.96	51.57	31.37	43.50	12.13	Pass	Horizontal
4	320.0590	13.64	2.12	-31.83	50.51	34.44	46.00	11.56	Pass	Horizontal
5	456.0666	16.30	2.54	-31.86	48.09	35.07	46.00	10.93	Pass	Horizontal
6	600.0290	19.00	2.96	-31.99	43.14	33.11	46.00	12.89	Pass	Horizontal

Mode:	802.11 g(6Mbps) Transmitting	Channel:	2437
Remark:			

Suspected List										
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dB μ V]	Level [dB μ V/m]	Limit [dB μ V/m]	Magin [dB]	Result	Polarity
1	57.1627	12.05	0.87	-32.06	42.33	23.19	40.00	16.81	Pass	Vertical
2	208.8859	11.13	1.71	-31.94	46.92	27.82	43.50	15.68	Pass	Vertical
3	320.0590	13.64	2.12	-31.83	44.31	28.24	46.00	17.76	Pass	Vertical
4	456.0666	16.30	2.54	-31.86	41.56	28.54	46.00	17.46	Pass	Vertical
5	600.0290	19.00	2.96	-31.99	41.74	31.71	46.00	14.29	Pass	Vertical
6	974.9715	22.55	3.75	-30.95	38.73	34.08	54.00	19.92	Pass	Vertical

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

Suspected List										
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dB μ V]	Level [dB μ V/m]	Limit [dB μ V/m]	Magin [dB]	Result	Polarity
1	159.9930	7.90	1.47	-31.98	52.53	29.92	43.50	13.58	Pass	Horizontal
2	192.0062	10.14	1.62	-31.96	51.65	31.45	43.50	12.05	Pass	Horizontal
3	320.0590	13.64	2.12	-31.83	49.79	33.72	46.00	12.28	Pass	Horizontal
4	408.0468	15.53	2.41	-31.82	48.44	34.56	46.00	11.44	Pass	Horizontal
5	480.0280	16.68	2.61	-31.90	47.73	35.12	46.00	10.88	Pass	Horizontal
6	974.9715	22.55	3.75	-30.95	38.18	33.53	54.00	20.47	Pass	Horizontal

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

Suspected List										
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dB μ V]	Level [dB μ V/m]	Limit [dB μ V/m]	Magin [dB]	Result	Polarity
1	57.2597	12.04	0.87	-32.07	42.32	23.16	40.00	16.84	Pass	Vertical
2	208.8859	11.13	1.71	-31.94	47.06	27.96	43.50	15.54	Pass	Vertical
3	319.9620	13.64	2.12	-31.83	44.68	28.61	46.00	17.39	Pass	Vertical
4	480.0280	16.68	2.61	-31.90	40.25	27.64	46.00	18.36	Pass	Vertical
5	600.0290	19.00	2.96	-31.99	41.78	31.75	46.00	14.25	Pass	Vertical
6	974.9715	22.55	3.75	-30.95	38.37	33.72	54.00	20.28	Pass	Vertical

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

Suspected List										
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dB μ V]	Level [dB μ V/m]	Limit [dB μ V/m]	Magin [dB]	Result	Polarity
1	96.0636	10.37	1.13	-32.07	41.14	20.57	43.50	22.93	Pass	Horizontal
2	159.9930	7.90	1.47	-31.98	52.63	30.02	43.50	13.48	Pass	Horizontal
3	192.0062	10.14	1.62	-31.96	52.11	31.91	43.50	11.59	Pass	Horizontal
4	320.0590	13.64	2.12	-31.83	50.25	34.18	46.00	11.82	Pass	Horizontal
5	456.0666	16.30	2.54	-31.86	47.95	34.93	46.00	11.07	Pass	Horizontal
6	600.1260	19.00	2.96	-31.99	41.13	31.10	46.00	14.90	Pass	Horizontal

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

Suspected List										
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dB μ V]	Level [dB μ V/m]	Limit [dB μ V/m]	Magin [dB]	Result	Polarity
1	57.1627	12.05	0.87	-32.06	41.24	22.10	40.00	17.90	Pass	Vertical
2	208.8859	11.13	1.71	-31.94	46.92	27.82	43.50	15.68	Pass	Vertical
3	320.0590	13.64	2.12	-31.83	43.94	27.87	46.00	18.13	Pass	Vertical
4	408.0468	15.53	2.41	-31.82	43.87	29.99	46.00	16.01	Pass	Vertical
5	480.0280	16.68	2.61	-31.90	41.61	29.00	46.00	17.00	Pass	Vertical
6	974.9715	22.55	3.75	-30.95	38.09	33.44	54.00	20.56	Pass	Vertical

Mode:	802.11 n(HT20) (6.5Mbps) Transmitting	Channel:	2437
Remark:			

Suspected List										
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dB μ V]	Level [dB μ V/m]	Limit [dB μ V/m]	Magin [dB]	Result	Polarity
1	96.0636	10.37	1.13	-32.07	41.36	20.79	43.50	22.71	Pass	Horizontal
2	126.0396	8.29	1.32	-32.04	47.66	25.23	43.50	18.27	Pass	Horizontal
3	159.9930	7.90	1.47	-31.98	52.45	29.84	43.50	13.66	Pass	Horizontal
4	192.0062	10.14	1.62	-31.96	51.44	31.24	43.50	12.26	Pass	Horizontal
5	320.0590	13.64	2.12	-31.83	49.85	33.78	46.00	12.22	Pass	Horizontal
6	456.0666	16.30	2.54	-31.86	48.96	35.94	46.00	10.06	Pass	Horizontal

Mode:	802.11 n(HT20) (6.5Mbps) Transmitting	Channel:	2437
Remark:			

Suspected List										
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Magin [dB]	Result	Polarity
1	55.0285	12.40	0.84	-32.08	38.75	19.91	40.00	20.09	Pass	Vertical
2	67.3487	9.69	0.93	-32.04	40.43	19.01	40.00	20.99	Pass	Vertical
3	208.8859	11.13	1.71	-31.94	46.58	27.48	43.50	16.02	Pass	Vertical
4	320.0590	13.64	2.12	-31.83	43.98	27.91	46.00	18.09	Pass	Vertical
5	408.0468	15.53	2.41	-31.82	41.70	27.82	46.00	18.18	Pass	Vertical
6	974.9715	22.55	3.75	-30.95	38.65	34.00	54.00	20.00	Pass	Vertical

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

Suspected List										
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Magin [dB]	Result	Polarity
1	96.0636	10.37	1.13	-32.07	41.25	20.68	43.50	22.82	Pass	Horizontal
2	159.9930	7.90	1.47	-31.98	52.51	29.90	43.50	13.60	Pass	Horizontal
3	192.0062	10.14	1.62	-31.96	51.96	31.76	43.50	11.74	Pass	Horizontal
4	240.0260	11.94	1.84	-31.90	46.85	28.73	46.00	17.27	Pass	Horizontal
5	320.0590	13.64	2.12	-31.83	50.02	33.95	46.00	12.05	Pass	Horizontal
6	504.0864	17.08	2.68	-31.92	46.17	34.01	46.00	11.99	Pass	Horizontal

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

Suspected List										
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Magin [dB]	Result	Polarity
1	55.6106	12.30	0.85	-32.08	39.23	20.30	40.00	19.70	Pass	Vertical
2	120.0250	9.20	1.30	-32.07	41.28	19.71	43.50	23.79	Pass	Vertical
3	208.8859	11.13	1.71	-31.94	46.27	27.17	43.50	16.33	Pass	Vertical
4	320.0590	13.64	2.12	-31.83	45.47	29.40	46.00	16.60	Pass	Vertical
5	408.0468	15.53	2.41	-31.82	42.03	28.15	46.00	17.85	Pass	Vertical
6	974.9715	22.55	3.75	-30.95	37.43	32.78	54.00	21.22	Pass	Vertical

Transmitter Emission above 1GHz

Mode:			802.11 b(11Mbps) Transmitting				Channel:		2412		
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1793.6794	30.34	3.31	-42.71	59.75	50.69	74.00	23.31	Pass	H	PK
2	1999.0999	31.69	3.47	-42.61	57.12	49.67	74.00	24.33	Pass	H	PK
3	2996.1996	33.19	4.54	-42.12	53.10	48.71	74.00	25.29	Pass	H	PK
4	4824.0000	34.50	4.61	-40.65	59.35	57.81	74.00	16.19	Pass	H	PK
5	7236.0000	36.34	5.79	-40.99	45.03	46.17	74.00	27.83	Pass	H	PK
6	9648.0000	37.66	6.72	-40.73	44.89	48.54	74.00	25.46	Pass	H	PK
7	4823.5599	34.50	4.61	-40.64	53.52	51.99	54.00	2.01	Pass	H	AV
8	1293.4293	28.19	2.74	-42.79	59.48	47.62	74.00	26.38	Pass	V	PK
9	1593.6594	29.02	3.06	-42.88	58.83	48.03	74.00	25.97	Pass	V	PK
10	2200.3200	31.98	3.65	-42.52	57.06	50.17	74.00	23.83	Pass	V	PK
11	4824.0000	34.50	4.61	-40.65	56.57	55.03	74.00	18.97	Pass	V	PK
12	7236.0000	36.34	5.79	-40.99	44.68	45.82	74.00	28.18	Pass	V	PK
13	9648.0000	37.66	6.72	-40.73	44.44	48.09	74.00	25.91	Pass	V	PK
14	4823.5499	34.50	4.61	-40.64	51.41	49.88	54.00	4.12	Pass	V	AV

Mode:			802.11 b(11Mbps) Transmitting				Channel:		2437		
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1397.2397	28.30	2.90	-42.69	52.63	41.14	74.00	32.86	Pass	H	PK
2	1795.4795	30.35	3.31	-42.71	57.42	48.37	74.00	25.63	Pass	H	PK
3	2932.5933	33.09	4.39	-42.15	50.91	46.24	74.00	27.76	Pass	H	PK
4	4874.0000	34.50	4.78	-40.61	60.52	59.19	74.00	14.81	Pass	H	PK
5	7311.0000	36.41	5.85	-40.93	44.99	46.32	74.00	27.68	Pass	H	PK
6	9748.0000	37.70	6.77	-40.63	44.45	48.29	74.00	25.71	Pass	H	PK
7	4873.6859	34.50	4.77	-40.60	54.45	53.12	54.00	0.88	Pass	H	AV
8	1594.8595	29.03	3.07	-42.90	59.70	48.90	74.00	25.10	Pass	V	PK
9	1816.4816	30.49	3.34	-42.70	58.45	49.58	74.00	24.42	Pass	V	PK
10	3248.9666	33.30	4.45	-41.97	50.77	46.55	74.00	27.45	Pass	V	PK
11	4874.0000	34.50	4.78	-40.61	59.31	57.98	74.00	16.02	Pass	V	PK
12	7311.0000	36.41	5.85	-40.93	44.58	45.91	74.00	28.09	Pass	V	PK
13	9748.0000	37.70	6.77	-40.63	44.25	48.09	74.00	25.91	Pass	V	PK
14	4873.5899	34.50	4.77	-40.60	53.40	52.07	54.00	1.93	Pass	V	AV

Mode:			802.11 b(11Mbps) Transmitting				Channel:		2462			
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dB μ V]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Result	Polarity	Remark	
1	1593.6594	29.02	3.06	-42.88	54.53	43.73	74.00	30.27	Pass	H	PK	
2	1797.6798	30.36	3.32	-42.71	57.37	48.34	74.00	25.66	Pass	H	PK	
3	2969.5970	33.15	4.46	-42.14	50.70	46.17	74.00	27.83	Pass	H	PK	
4	4924.1283	34.50	4.85	-40.56	62.09	60.88	74.00	13.12	Pass	H	PK	
5	7386.0000	36.49	5.85	-40.87	45.03	46.50	74.00	27.50	Pass	H	PK	
6	9848.0000	37.74	6.83	-40.54	43.36	47.39	74.00	26.61	Pass	H	PK	
7	4923.5793	34.50	4.85	-40.56	54.62	53.41	54.00	0.59	Pass	H	AV	
8	1597.0597	29.04	3.07	-42.89	57.79	47.01	74.00	26.99	Pass	V	PK	
9	1919.4919	31.17	3.42	-42.65	57.05	48.99	74.00	25.01	Pass	V	PK	
10	2199.1199	31.98	3.65	-42.52	56.84	49.95	74.00	24.05	Pass	V	PK	
11	4924.0000	34.50	4.85	-40.56	60.45	59.24	74.00	14.76	Pass	V	PK	
12	7386.0000	36.49	5.85	-40.87	44.67	46.14	74.00	27.86	Pass	V	PK	
13	9848.0000	37.74	6.83	-40.54	44.77	48.80	74.00	25.20	Pass	V	PK	
14	4923.5399	34.50	4.85	-40.56	53.69	52.48	54.00	1.52	Pass	V	AV	

Mode:			802.11 g(6Mbps) Transmitting				Channel:		2412			
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dB μ V]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Result	Polarity	Remark	
1	1799.2799	30.38	3.32	-42.72	57.64	48.62	74.00	25.38	Pass	H	PK	
2	1992.2992	31.65	3.46	-42.61	57.48	49.98	74.00	24.02	Pass	H	PK	
3	3078.0052	33.23	4.77	-42.07	50.55	46.48	74.00	27.52	Pass	H	PK	
4	4824.0000	34.50	4.61	-40.65	57.09	55.55	74.00	18.45	Pass	H	PK	
5	7236.0000	36.34	5.79	-40.99	44.88	46.02	74.00	27.98	Pass	H	PK	
6	9648.0000	37.66	6.72	-40.73	44.01	47.66	74.00	26.34	Pass	H	PK	
7	4823.6979	34.50	4.61	-40.64	42.73	41.20	54.00	12.80	Pass	H	AV	
8	1594.6595	29.02	3.07	-42.89	59.07	48.27	74.00	25.73	Pass	V	PK	
9	2193.9194	31.97	3.65	-42.52	56.52	49.62	74.00	24.38	Pass	V	PK	
10	3195.0130	33.28	4.64	-42.00	51.48	47.40	74.00	26.60	Pass	V	PK	
11	4824.0000	34.50	4.61	-40.65	53.26	51.72	74.00	22.28	Pass	V	PK	
12	7236.0000	36.34	5.79	-40.99	44.57	45.71	74.00	28.29	Pass	V	PK	
13	9648.0000	37.66	6.72	-40.73	45.19	48.84	74.00	25.16	Pass	V	PK	

Mode:			802.11 g(6Mbps) Transmitting				Channel:		2437			
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark	
1	1000.0000	27.90	2.40	-42.57	50.01	37.74	74.00	36.26	Pass	H	PK	
2	1597.0597	29.04	3.07	-42.89	53.90	43.12	74.00	30.88	Pass	H	PK	
3	1796.8797	30.36	3.31	-42.70	56.08	47.05	74.00	26.95	Pass	H	PK	
4	3006.5004	33.20	4.92	-42.12	50.18	46.18	74.00	27.82	Pass	H	PK	
5	4870.0000	34.50	4.76	-40.61	58.37	57.02	74.00	16.98	Pass	H	PK	
6	7311.0000	36.41	5.85	-40.93	44.36	45.69	74.00	28.31	Pass	H	PK	
7	9748.0000	37.70	6.77	-40.63	44.21	48.05	74.00	25.95	Pass	H	PK	
8	4873.5813	34.50	4.77	-40.60	44.13	42.80	54.00	11.20	Pass	H	AV	
9	4873.5526	34.50	4.77	-40.60	42.02	40.69	54.00	13.31	Pass	V	PK	
10	4873.5526	34.50	4.77	-40.60	42.02	40.69	54.00	13.31	Pass	V	PK	
11	4873.5526	34.50	4.77	-40.60	42.02	40.69	54.00	13.31	Pass	V	PK	
12	4873.5526	34.50	4.77	-40.60	42.02	40.69	54.00	13.31	Pass	V	PK	
13	4873.5526	34.50	4.77	-40.60	42.02	40.69	54.00	13.31	Pass	V	PK	
14	4873.5526	34.50	4.77	-40.60	42.02	40.69	54.00	13.31	Pass	V	PK	
15	4873.5526	34.50	4.77	-40.60	42.02	40.69	54.00	13.31	Pass	V	AV	

Mode:			802.11 g(6Mbps) Transmitting				Channel:		2462			
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark	
1	1383.2383	28.28	2.87	-42.69	54.06	42.52	74.00	31.48	Pass	H	PK	
2	1794.6795	30.34	3.31	-42.70	57.57	48.52	74.00	25.48	Pass	H	PK	
3	3043.5529	33.22	4.84	-42.09	50.15	46.12	74.00	27.88	Pass	H	PK	
4	4926.0784	34.50	4.85	-40.56	57.48	56.27	74.00	17.73	Pass	H	PK	
5	7386.0000	36.49	5.85	-40.87	46.47	47.94	74.00	26.06	Pass	H	PK	
6	9848.0000	37.74	6.83	-40.54	44.06	48.09	74.00	25.91	Pass	H	PK	
7	4923.6619	34.50	4.85	-40.56	44.44	43.23	54.00	10.77	Pass	H	AV	
8	1593.2593	29.02	3.06	-42.88	57.78	46.98	74.00	27.02	Pass	V	PK	
9	1812.2812	30.46	3.33	-42.70	56.21	47.30	74.00	26.70	Pass	V	PK	
10	2193.7194	31.97	3.65	-42.52	56.17	49.27	74.00	24.73	Pass	V	PK	
11	4924.7783	34.50	4.85	-40.56	55.76	54.55	74.00	19.45	Pass	V	PK	
12	7386.0000	36.49	5.85	-40.87	43.81	45.28	74.00	28.72	Pass	V	PK	
13	9848.0000	37.74	6.83	-40.54	43.08	47.11	74.00	26.89	Pass	V	PK	
14	4924	33.08	4.39	-42.16	49.21	44.52	54.00	9.48	Pass	V	AV	

Mode:		802.11 n(HT20) (6.5Mbps) Transmitting					Channel:		2412		
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dB μ V]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Result	Polarity	Remark
1	1592.8593	29.01	3.06	-42.88	55.01	44.20	74.00	29.80	Pass	H	PK
2	1793.0793	30.33	3.31	-42.70	56.84	47.78	74.00	26.22	Pass	H	PK
3	3574.6383	33.46	4.39	-41.66	49.39	45.58	74.00	28.42	Pass	H	PK
4	4827.9219	34.50	4.62	-40.64	59.08	57.56	74.00	16.44	Pass	H	PK
5	7236.0000	36.34	5.79	-40.99	45.77	46.91	74.00	27.09	Pass	H	PK
6	9648.0000	37.66	6.72	-40.73	44.08	47.73	74.00	26.27	Pass	H	PK
7	4825.1494	34.50	4.61	-40.64	44.54	43.01	54.00	10.99	Pass	H	AV
8	1309.0309	28.21	2.76	-42.77	59.31	47.51	74.00	26.49	Pass	V	PK
9	1595.0595	29.03	3.07	-42.90	57.58	46.78	74.00	27.22	Pass	V	PK
10	2840.3840	32.94	4.23	-42.20	53.30	48.27	74.00	25.73	Pass	V	PK
11	4820.1213	34.50	4.60	-40.65	59.34	57.79	74.00	16.21	Pass	V	PK
12	7236.0000	36.34	5.79	-40.99	45.97	47.11	74.00	26.89	Pass	V	PK
13	9648.0000	37.66	6.72	-40.73	44.52	48.17	74.00	25.83	Pass	V	PK
14	4825.0826	34.50	4.61	-40.64	45.24	43.71	54.00	10.29	Pass	V	AV

Mode:		802.11 n(HT20) (6.5Mbps) Transmitting					Channel:		2437		
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dB μ V]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Result	Polarity	Remark
1	1595.8596	29.03	3.07	-42.89	53.74	42.95	74.00	31.05	Pass	H	PK
2	1795.6796	30.35	3.31	-42.70	57.39	48.35	74.00	25.65	Pass	H	PK
3	2838.1838	32.94	4.23	-42.20	53.62	48.59	74.00	25.41	Pass	H	PK
4	4870.8247	34.50	4.76	-40.60	56.11	54.77	74.00	19.23	Pass	H	PK
5	7311.0000	36.41	5.85	-40.93	45.19	46.52	74.00	27.48	Pass	H	PK
6	9748.0000	37.70	6.77	-40.63	44.28	48.12	74.00	25.88	Pass	H	PK
7	4870	34.50	4.76	-40.61	52.51	51.16	54.00	2.84	Pass	H	AV
8	1597.4597	29.04	3.07	-42.89	57.60	46.82	74.00	27.18	Pass	V	PK
9	1881.0881	30.92	3.40	-42.67	54.92	46.57	74.00	27.43	Pass	V	PK
10	2981.1981	33.17	4.49	-42.13	51.50	47.03	74.00	26.97	Pass	V	PK
11	4876.0251	34.50	4.78	-40.60	55.27	53.95	74.00	20.05	Pass	V	PK
12	7311.0000	36.41	5.85	-40.93	44.75	46.08	74.00	27.92	Pass	V	PK
13	9748.0000	37.70	6.77	-40.63	43.28	47.12	74.00	26.88	Pass	V	PK
14	4870	34.50	4.76	-40.61	51.82	50.47	54.00	3.53	Pass	V	AV

Mode:		802.11 n(HT20) (6.5Mbps) 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	1599.4599	29.06	3.07	-42.90	52.98	42.21	74.00	31.79	Pass	H	PK
2	1791.0791	30.32	3.30	-42.70	56.46	47.38	74.00	26.62	Pass	H	PK
3	2845.5846	32.95	4.23	-42.20	53.33	48.31	74.00	25.69	Pass	H	PK
4	4927.3785	34.50	4.85	-40.56	54.30	53.09	74.00	20.91	Pass	H	PK
5	7386.0000	36.49	5.85	-40.87	43.93	45.40	74.00	28.60	Pass	H	PK
6	9848.0000	37.74	6.83	-40.54	43.53	47.56	74.00	26.44	Pass	H	PK
7	4927.3785	34.50	4.85	-40.56	51.51	50.30	54.00	3.70	Pass	H	AV
8	1594.8595	29.03	3.07	-42.90	58.74	47.94	74.00	26.06	Pass	V	PK
9	1893.2893	31.00	3.41	-42.66	56.58	48.33	74.00	25.67	Pass	V	PK
10	3187.8625	33.28	4.63	-42.01	52.51	48.41	74.00	25.59	Pass	V	PK
11	4930.6287	34.50	4.84	-40.55	52.50	51.29	74.00	22.71	Pass	V	PK
12	7386.0000	36.49	5.85	-40.87	44.56	46.03	74.00	27.97	Pass	V	PK
13	9848.0000	37.74	6.83	-40.54	43.11	47.14	74.00	26.86	Pass	V	PK
14	4930.6287	34.50	4.84	-40.55	51.65	50.44	54.00	3.56	Pass	V	AV

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; 6Mbps of rate is the worst case of 802.11g; 6.5Mbps of rate is the worst case of 802.11n(HT20) ; and then Only the worst case is recorded in the report.

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

Final Test Level = Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor - Antenna Factor - Cable Factor

3) Scan from 9kHz to 25GHz, the disturbance above 10GHz 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 TEST SETUP

Test Model No.: WT-01F



Radiated spurious emission Test Setup-1(Below 1GHz)



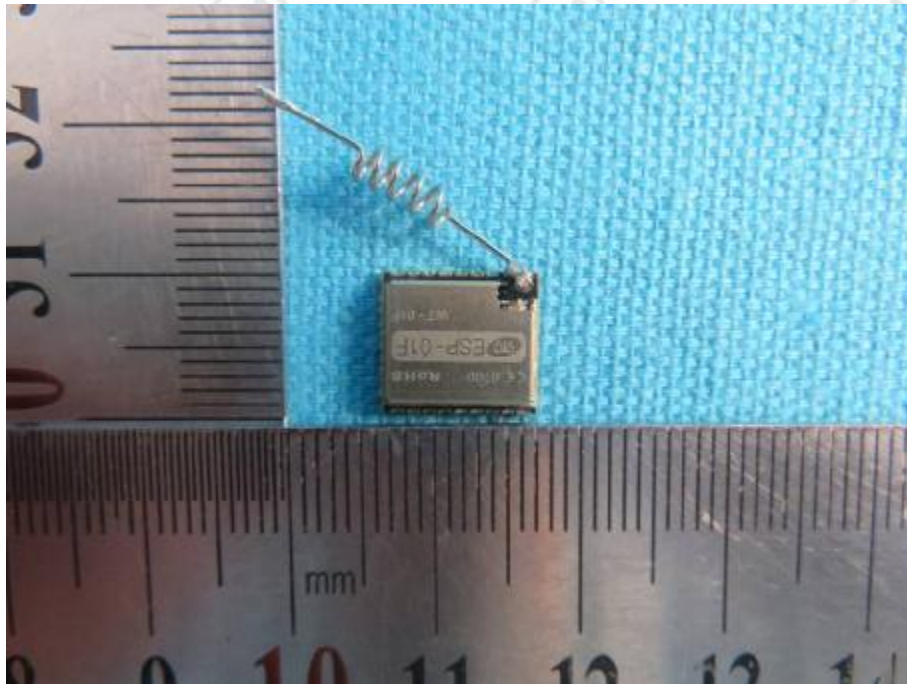
Radiated spurious emission Test Setup-2(Above 1GHz)



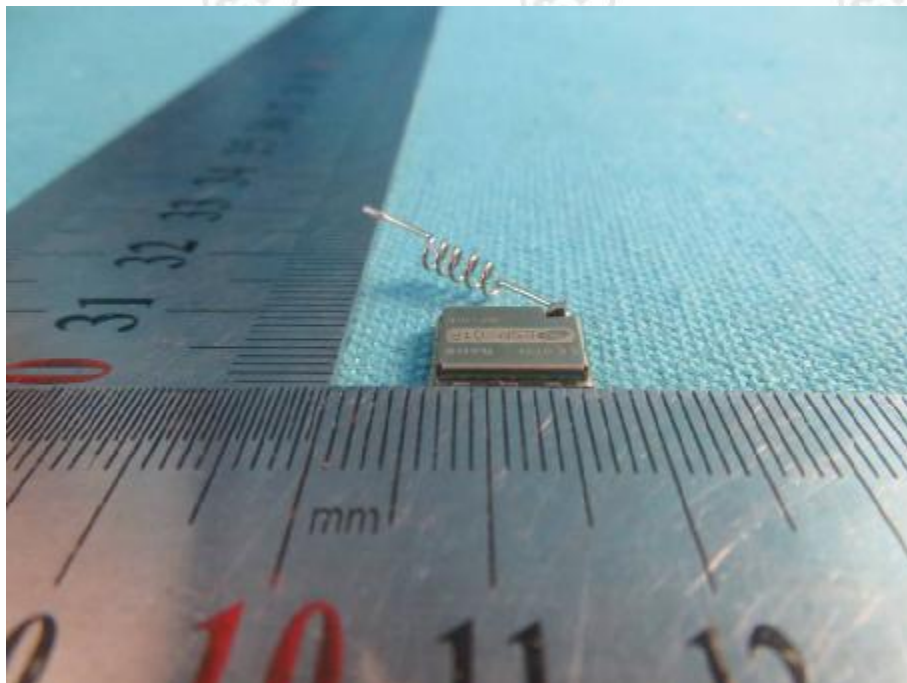
Conducted Emissions Test Setup

PHOTOGRAPHS OF EUT Constructional Details

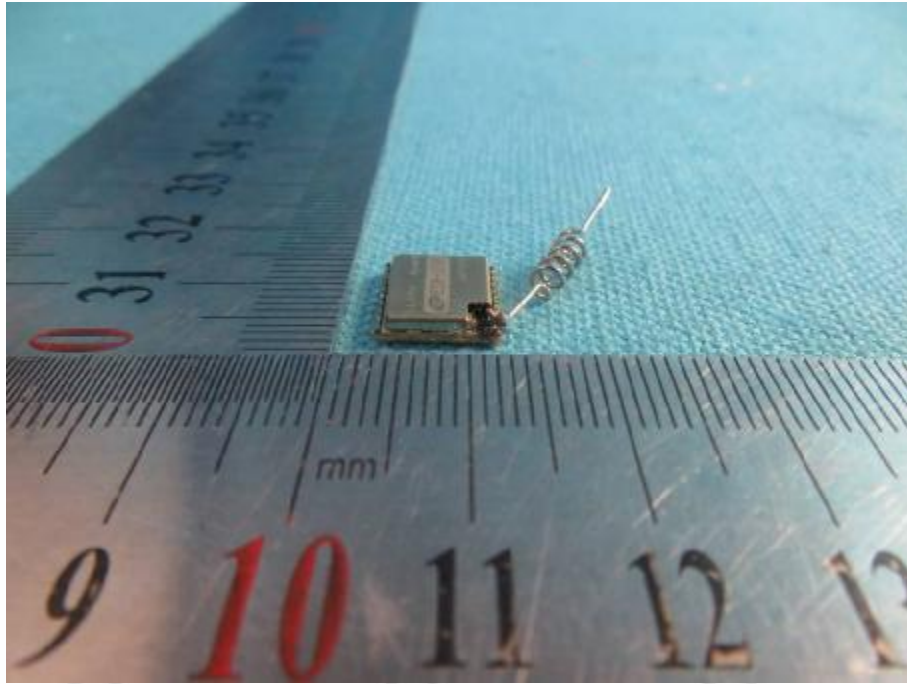
Test model No.: WT-01F



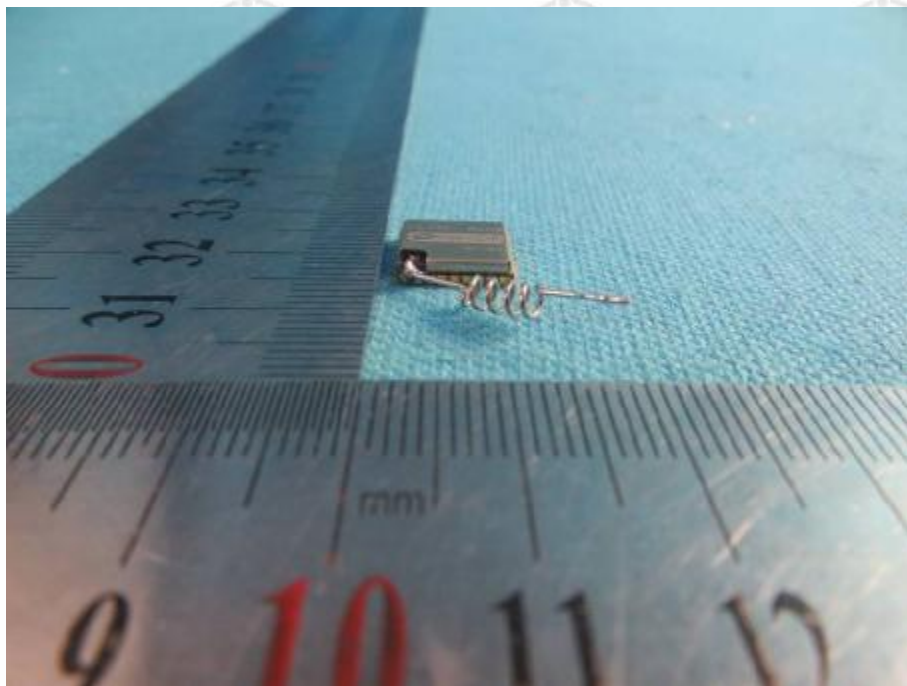
View of Product-1



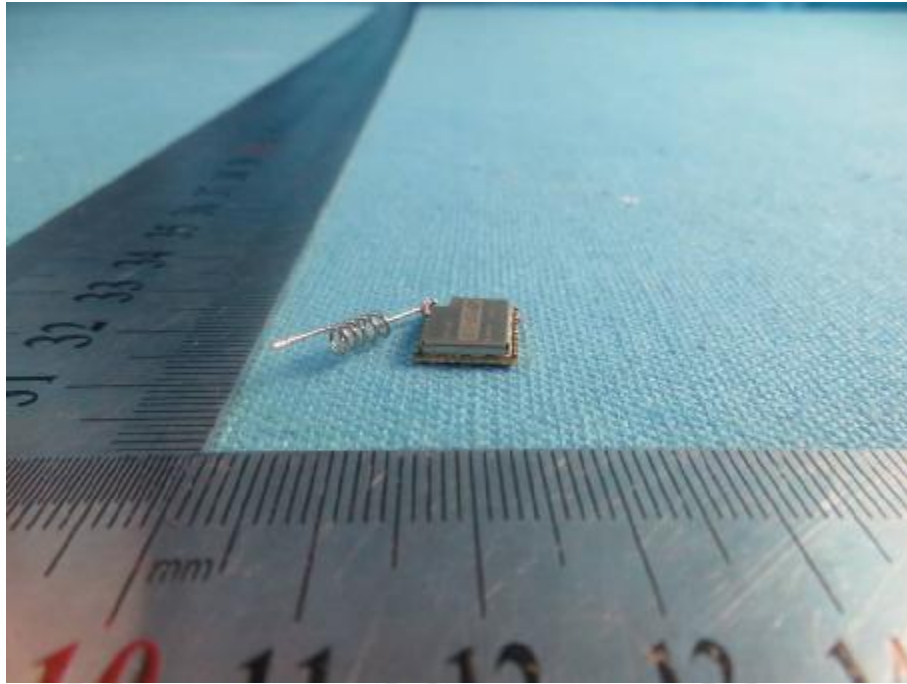
View of Product-2



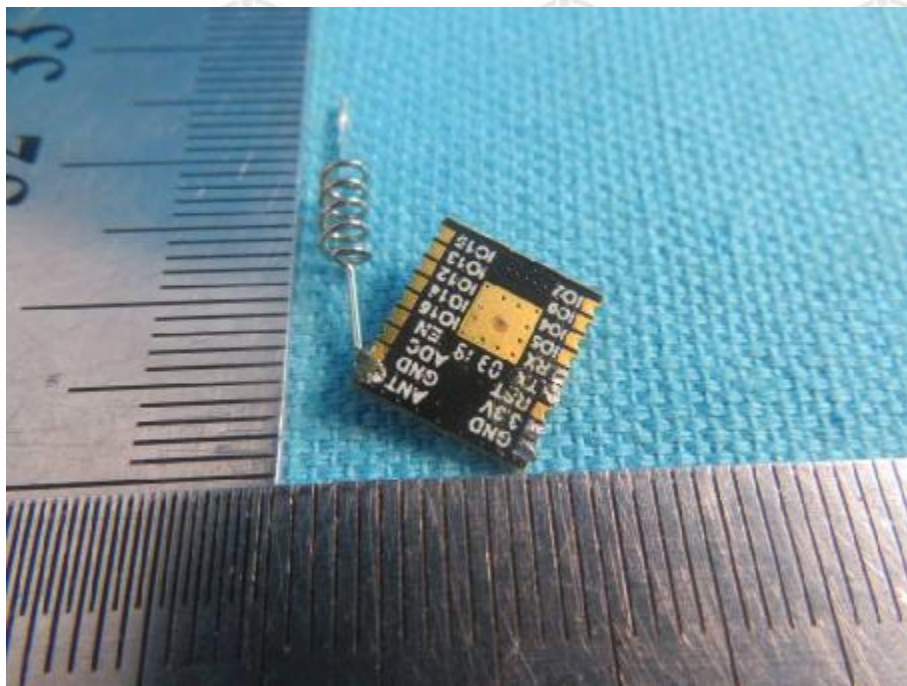
View of Product-3



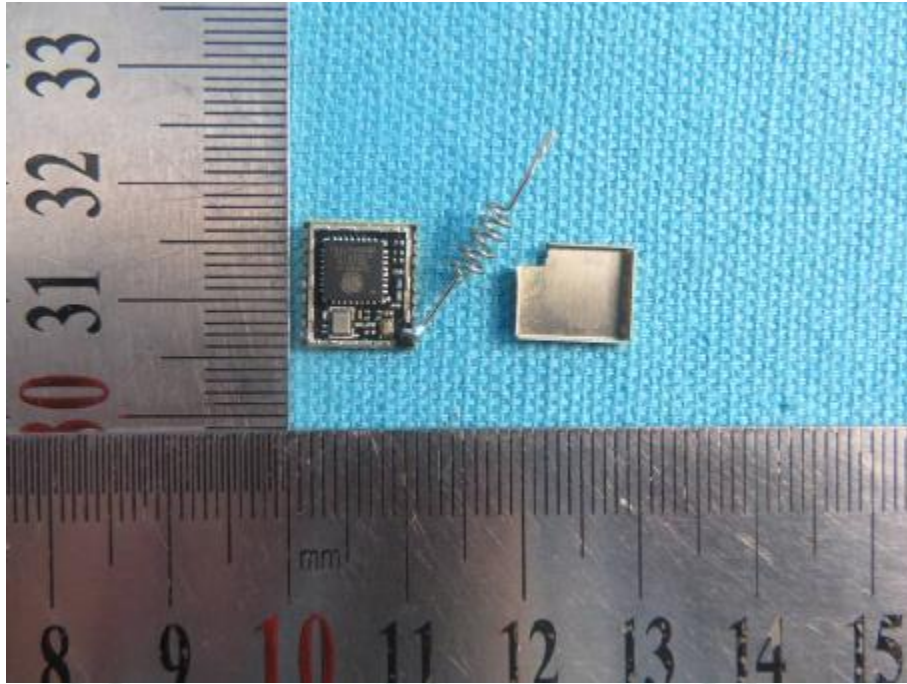
View of Product-4



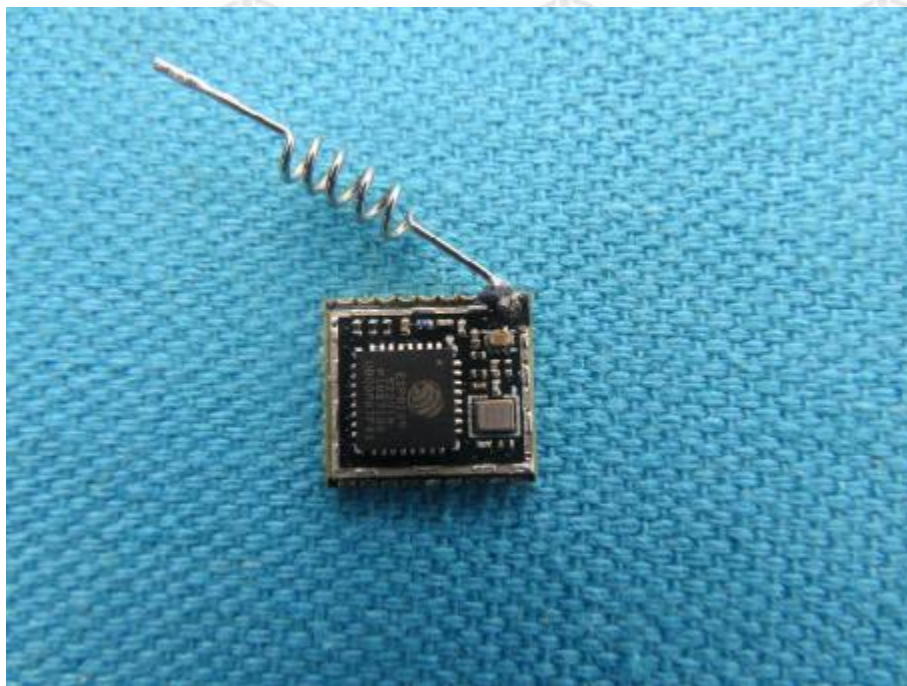
View of Product-5



View of Product-6



View of Product-7



View of Product-8

*** End of Report ***

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.