

TEST REPORT

Product : Memoo
Trade mark : N/A
Model/Type reference : CWMEMOOV01
Serial Number : N/A
Report Number : EED32J00168903
FCC ID : 2ANIH-CWAYMEMOOV01
Date of Issue : Oct. 31, 2017
Test Standards : 47 CFR Part 15Subpart C
Test result : PASS

Prepared for:

C-way

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Prepared by:

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Date:

Oct. 31, 2017

Check No.: 3043824796



2 Version

Version No.	Date	Description
00	Oct. 31, 2017	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 KDB 558074 D01v04	PASS
6dB Occupied Bandwidth	47 CFR Part 15 Subpart C Section 15.247 (a)(2)	ANSI C63.10-2013 KDB 558074 D01v04	PASS
Power Spectral Density	47 CFR Part 15 Subpart C Section 15.247 (e)	ANSI C63.10-2013 KDB 558074 D01v04	PASS
Band-edge for RF Conducted Emissions	47 CFR Part 15 Subpart C Section 15.247(d)	ANSI C63.10-2013 KDB 558074 D01v04	PASS
RF Conducted Spurious Emissions	47 CFR Part 15 Subpart C Section 15.247(d)	ANSI C63.10-2013 KDB 558074 D01v04	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.

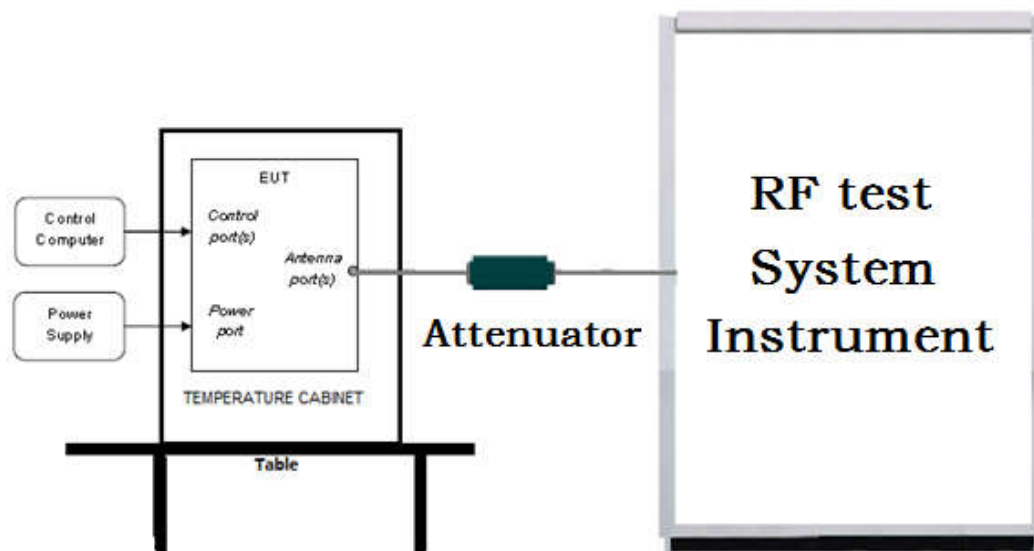
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5 Test Requirement

5.1 Test setup

5.1.1 For Conducted test setup



5.1.2 For Radiated Emissions test setup

Radiated Emissions setup:

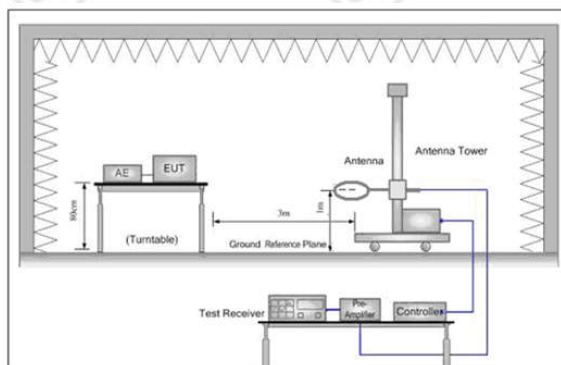


Figure 1. Below 30MHz

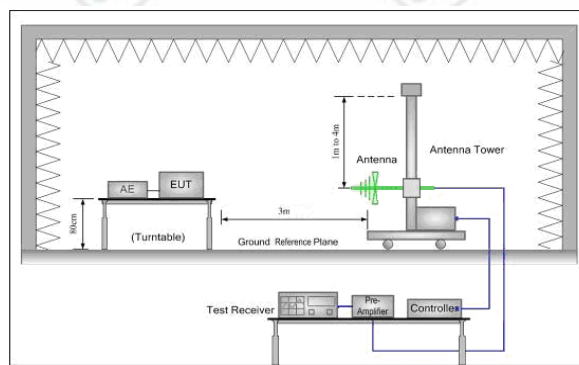


Figure 2. 30MHz to 1GHz

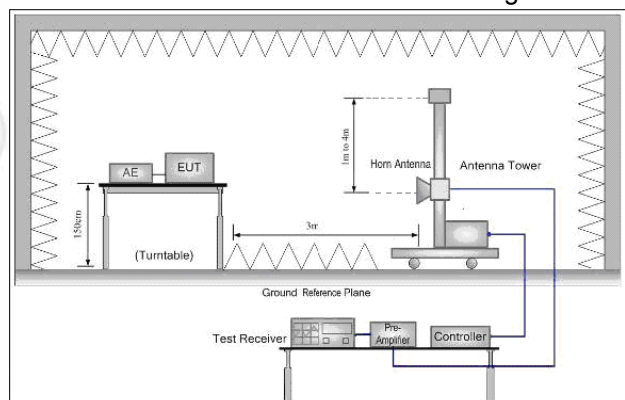
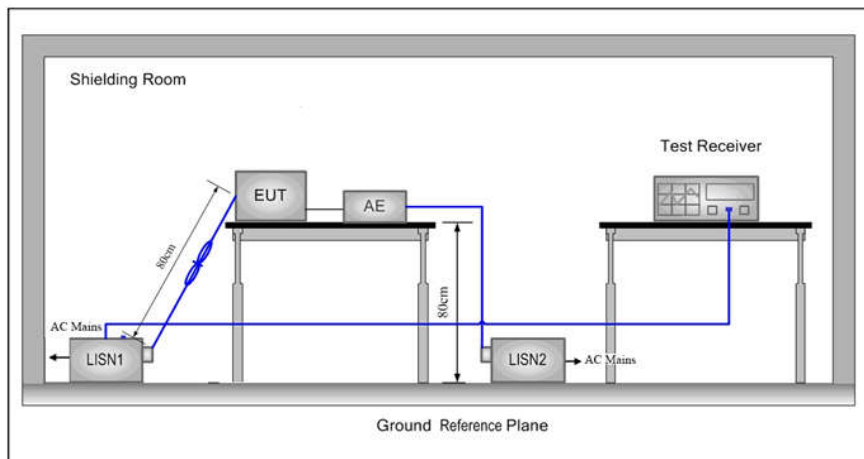


Figure 3. Above 1GHz

5.1.3 For Conducted Emissions test setup

Conducted Emissions setup



5.2 Test Environment

Operating Environment:	
Temperature:	24.7 °C
Humidity:	61 % RH
Atmospheric Pressure:	1010 mbar

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:	The EUT transmitted the continuous signal at the specific channel(s).			

Test mode:

Pre-scan under all rate at middle channel 1

Mode	802.11b							
Data Rate	1Mbps	2Mbps	5.5Mbps	11Mbps				
Power(dBm)	8.51	8.66	8.72	8.77				
Mode	802.11g							
Data Rate	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
Power(dBm)	13.43	13.31	13.25	13.18	13.07	12.94	12.88	12.71
Mode	802.11n (HT20)							
Data Rate	6.5Mbps	13Mbps	19.5Mbps	26Mbps	39Mbps	52Mbps	58.5Mbps	65Mbps
Power(dBm)	12.74	12.70	12.62	12.51	12.43	12.29	12.13	12.02
Mode	802.11n (HT40)							
Data Rate	13.5Mbps	27Mbps	40.5Mbps	54Mbps	81Mbps	108Mbps	121.5Mbps	135Mbps
Power(dBm)	13.08	12.95	12.85	12.80	12.73	12.69	12.60	12.51

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); 13.5Mbps of rate is the worst case of 802.11n(HT40).

6 General Information

6.1 Client Information

Applicant:	C-way
Address of Applicant:	55 Rue la boetie, Paris, France, 75008
Manufacturer:	Kaertech Limited
Address of Manufacturer:	Suite 1601-02, Seaview Commercial Building, 21-24 Connaught Road West, Sheung Wan, Hong Kong
Factory:	Kaertech Electronics Philippines, Inc.
Address of Factory:	Innovev Building 2A, 141 East Main Avenue, Loop, Phase 6A, Lot 3281-1, Laguna Technopark Inc., SEPZ, Binan, Laguna, Philippines 4024

6.2 General Description of EUT

Product Name:	Memoo
Model No.(EUT):	CWMEMOOV01
Trade Mark:	N/A
EUT Supports Radios application:	Bluetooth: 4.0 BT Dual mode Wi-Fi: IEEE 802.11b/g/n(HT20), IEEE 802.11n(HT40)
Power Supply:	Adapter MODEL:KSA29B0500200D5 Input: 100V-240V,50Hz/60Hz,0.5A Output: 5.0V---2.0A
Software version:	V1.07 (manufacturer declare)
Hardware version:	V4.1 (manufacturer declare)
Sample Received Date:	Aug. 04, 2017
Sample tested Date:	Aug. 04, 2017 to Oct. 27, 2017

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:	N/A
Test Software of EUT:	REALTEK 2.0.0.4 (manufacturer declare)
Antenna Type and Gain:	Antenna Type: Chip Antenna Gain: 2dBi
Test Voltage:	AC 120V, 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

None.

6.5 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd.

Hongwei Industrial Zone, Bao'an 70 District, Shenzhen, Guangdong, China 518101

Telephone: +86 (0) 755 3368 3668 Fax: +86 (0) 755 3368 3385

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	0.31dB (30MHz-1GHz)
		0.57dB (1GHz-18GHz)
3	Radiated Spurious emission test	4.5dB (30MHz-1GHz)
		4.8dB (1GHz-12.75GHz)
4	Conduction emission	3.6dB (9kHz to 150kHz)
		3.2dB (150kHz to 30MHz)
5	Temperature test	0.64°C
6	Humidity test	2.8%
7	DC power voltages	0.025%

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	03-14-2017	03-13-2018
Communication test set test set	Agilent	N4010A	MY51400230	03-14-2017	03-13-2018
Spectrum Analyzer	Keysight	N9010A	MY54510339	03-14-2017	03-13-2018
Signal Generator	Keysight	N5182B	MY53051549	03-14-2017	03-13-2018
High-pass filter	Sinoscite	FL3CX03WG18 NM12-0398-002	---	01-11-2017	01-10-2018
High-pass filter	MICRO-TRONICS	SPA-F-63029-4	---	01-11-2017	01-10-2018
band rejection filter	Sinoscite	FL5CX01CA09C L12-0395-001	---	01-11-2017	01-10-2018
band rejection filter	Sinoscite	FL5CX01CA08C L12-0393-001	---	01-11-2017	01-10-2018
band rejection filter	Sinoscite	FL5CX02CA04C L12-0396-002	---	01-11-2017	01-10-2018
band rejection filter	Sinoscite	FL5CX02CA03C L12-0394-001	---	01-11-2017	01-10-2018
DC Power	Keysight	E3642A	MY54436035	03-14-2017	03-13-2018
PC-1	Lenovo	R4960d	---	04-01-2017	03-31-2018
BT&WI-FI Automatic control	R&S	OSP120	101374	03-14-2017	03-13-2018
RF control unit	JS Tonscend	JS0806-2	158060006	03-14-2017	03-13-2018
BT&WI-FI Automatic test software	JS Tonscend	JS1120-2	---	03-14-2017	03-13-2018

Conducted disturbance Test					
Equipment	Manufacturer	Model No.	Serial Number	Cal. date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
Receiver	R&S	ESCI	100009	06-14-2017	06-13-2018
Temperature/ Humidity Indicator	TAYLOR	1451	1905	05-08-2017	05-07-2018
Communication test set	Agilent	E5515C	GB47050534	03-14-2017	03-13-2018
Communication test set	R&S	CMW500	152394	03-14-2017	03-13-2018
LISN	R&S	ENV216	100098	06-13-2017	06-12-2018
LISN	schwarzbeck	NNLK8121	8121-529	06-13-2017	06-12-2018
Voltage Probe	R&S	ESH2-Z3	--	06-13-2017	06-11-2020
Current Probe	R&S	EZ17	100106	06-13-2017	06-12-2018
ISN	TESEQ GmbH	ISN T800	30297	02-23-2017	02-22-2018

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	---	06-05-2016	06-05-2019
TRILOG Broadband Antenna	SCHWARZBEC K	VULB9163	9163-484	05-23-2017	05-22-2018
Microwave Preamplifier	Agilent	8449B	3008A02425	02-16-2017	02-15-2018
Horn Antenna	ETS-LINDGREN	3117	00057407	07-20-2015	07-18-2018
Loop Antenna	ETS	6502	00071730	06-22-2017	06-21-2019
Microwave Preamplifier	A.H.SYSTEMS	PAP-1840-60	6041.6042	06-30-2015	06-28-2018
Horn Antenna	A.H.SYSTEMS	SAS-574 374	---	06-30-2015	06-28-2018
Spectrum Analyzer	R&S	FSP40	100416	06-13-2017	06-12-2018
Receiver	R&S	ESCI	100435	06-14-2017	06-13-2018
Multi device Controller	maturo	NCD/070/10711 112	---	01-11-2017	01-10-2018
LISN	schwarzbeck	NNBM8125	81251547	06-13-2017	06-12-2018
LISN	schwarzbeck	NNBM8125	81251548	06-13-2017	06-12-2018
Signal Generator	Agilent	E4438C	MY45095744	03-14-2017	03-13-2018
Signal Generator	Keysight	E8257D	MY53401106	03-14-2017	03-13-2018
Temperature/ Humidity Indicator	TAYLOR	1451	1905	05-08-2017	05-07-2018
Communication test set	Agilent	E5515C	GB47050534	03-14-2017	03-13-2018
Cable line	Fulai(7M)	SF106	5219/6A	01-11-2017	01-10-2018
Cable line	Fulai(6M)	SF106	5220/6A	01-11-2017	01-10-2018
Cable line	Fulai(3M)	SF106	5216/6A	01-11-2017	01-10-2018
Cable line	Fulai(3M)	SF106	5217/6A	01-11-2017	01-10-2018
Communication test set	R&S	CMW500	152394	03-14-2017	03-13-2018
High-pass filter	Sinoscite	FL3CX03WG18 NM12-0398-002	---	01-11-2017	01-10-2018
High-pass filter	MICRO-TRONICS	SPA-F-63029-4	---	01-11-2017	01-10-2018
band rejection filter	Sinoscite	FL5CX01CA09 CL12-0395-001	---	01-11-2017	01-10-2018
band rejection filter	Sinoscite	FL5CX01CA08 CL12-0393-001	---	01-11-2017	01-10-2018
band rejection filter	Sinoscite	FL5CX02CA04 CL12-0396-002	---	01-11-2017	01-10-2018
band rejection filter	Sinoscite	FL5CX02CA03 CL12-0394-001	---	01-11-2017	01-10-2018

8 Radio Technical Requirements Specification

Reference documents for testing:

No.	Identity	Document Title
1	FCC Part15C (2015)	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)

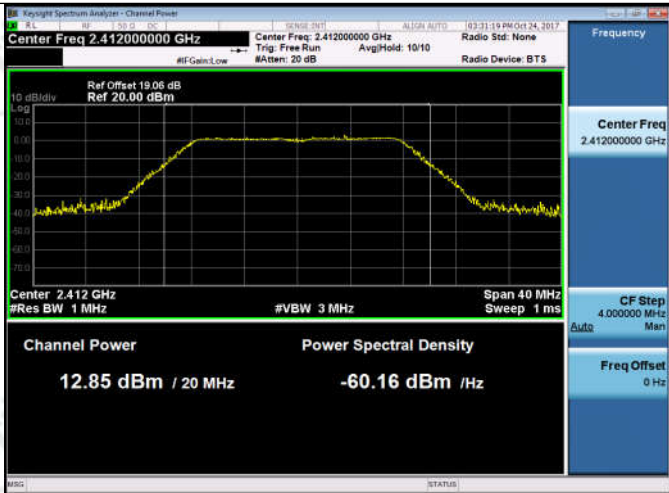
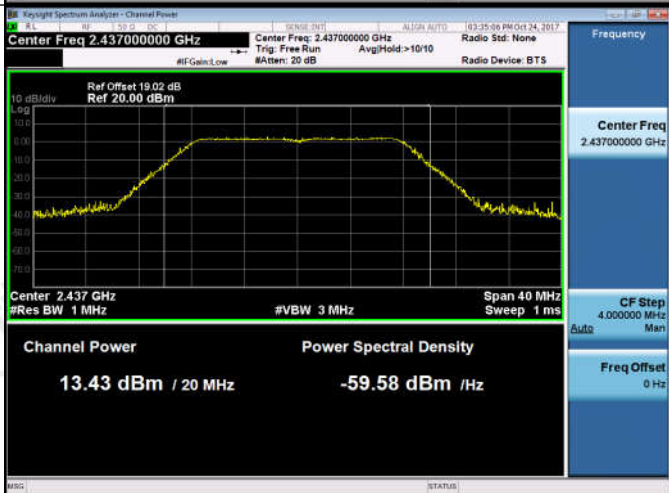
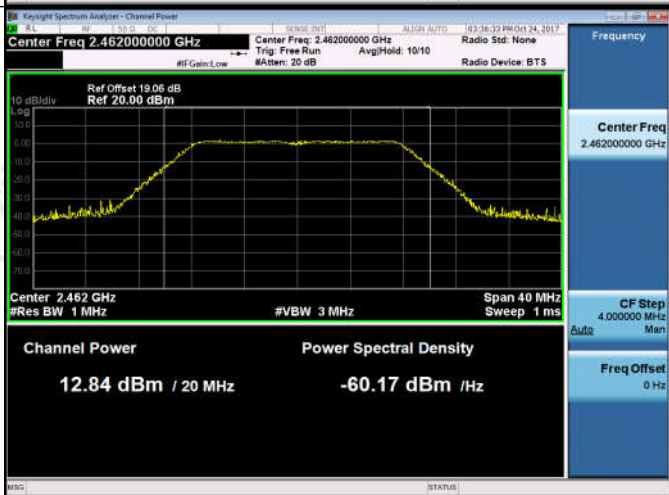
Appendix A): Conducted Peak Output Power

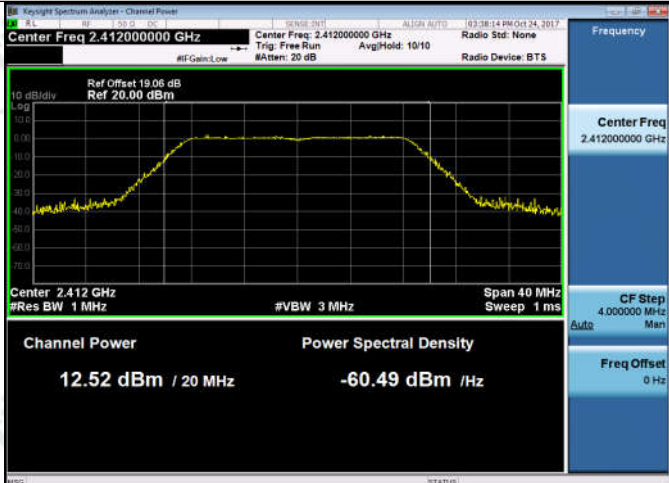
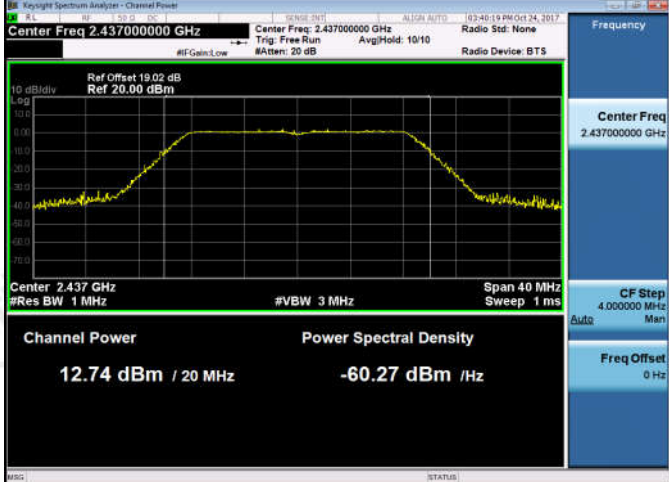
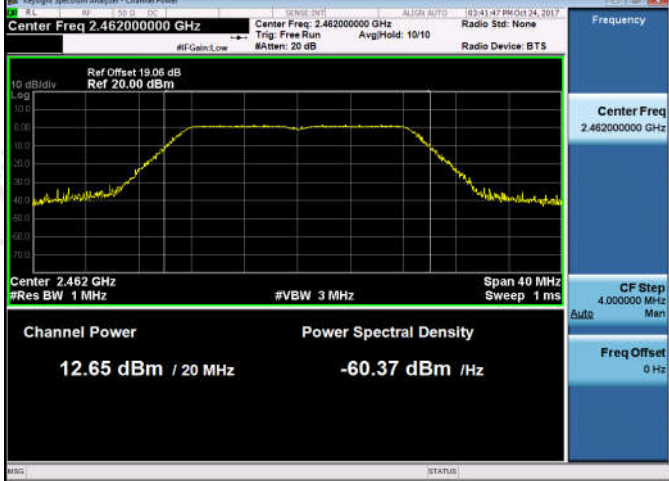
Result Table

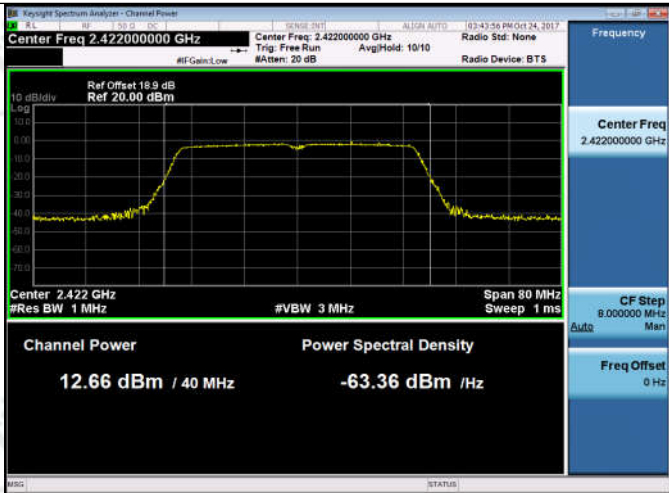
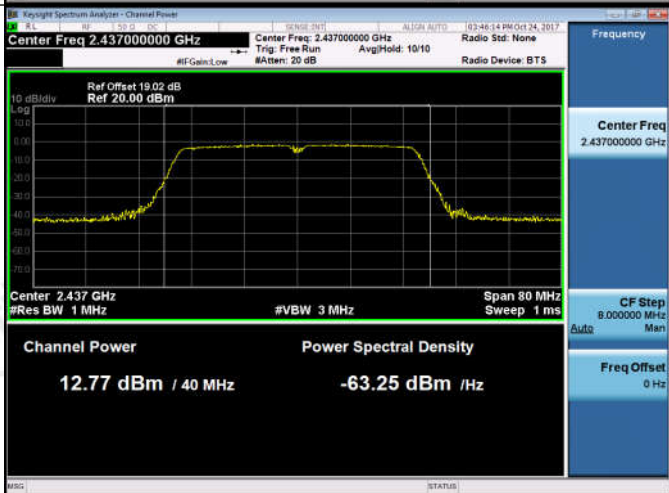
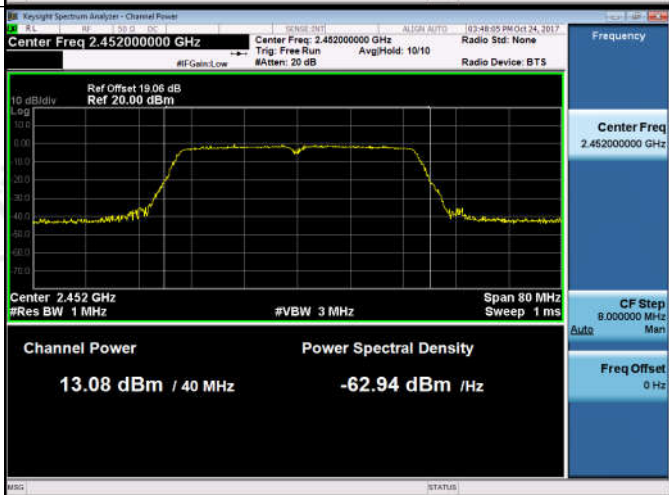
Mode	Channel	Conducted Peak Output Power [dBm]	Verdict
11B	LCH	8.6	PASS
11B	MCH	8.71	PASS
11B	HCH	8.77	PASS
11G	LCH	12.85	PASS
11G	MCH	13.43	PASS
11G	HCH	12.84	PASS
11N20SISO	LCH	12.52	PASS
11N20SISO	MCH	12.74	PASS
11N20SISO	HCH	12.65	PASS
11N40SISO	LCH	12.66	PASS
11N40SISO	MCH	12.77	PASS
11N40SISO	HCH	13.08	PASS

Test Graph

Graphs	
11B/LCH	Keygraph Spectrum Analyzer - Channel Power Center Freq 2.412000000 GHz Center Freq: 2.412000000 GHz Radio Std: None Trig: Free Run Avg/Hold: 10/10 #IF Gain: Low #Atten: 20 dB Radio Device: BTS Ref Offset 19.06 dB Ref 20.00 dBm 10 dB/div Center 2.412 GHz Span 40 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 1 ms Channel Power Power Spectral Density 8.60 dBm / 20 MHz -64.41 dBm / Hz Frequency Center Freq 2.412000000 GHz CF Step 4.000000 MHz Freq Offset 0 Hz
11B/MCH	Keygraph Spectrum Analyzer - Channel Power Center Freq 2.437000000 GHz Center Freq: 2.437000000 GHz Radio Std: None Trig: Free Run Avg/Hold: 10/10 #IF Gain: Low #Atten: 20 dB Radio Device: BTS Ref Offset 19.02 dB Ref 20.00 dBm 10 dB/div Center 2.437 GHz Span 40 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 1 ms Channel Power Power Spectral Density 8.71 dBm / 20 MHz -64.30 dBm / Hz Frequency Center Freq 2.437000000 GHz CF Step 4.000000 MHz Freq Offset 0 Hz
11B/HCH	Keygraph Spectrum Analyzer - Channel Power Center Freq 2.462000000 GHz Center Freq: 2.462000000 GHz Radio Std: None Trig: Free Run Avg/Hold: >10/10 #IF Gain: Low #Atten: 20 dB Radio Device: BTS Ref Offset 19.06 dB Ref 20.00 dBm 10 dB/div Center 2.462 GHz Span 40 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 1 ms Channel Power Power Spectral Density 8.77 dBm / 20 MHz -64.24 dBm / Hz Frequency Center Freq 2.462000000 GHz CF Step 4.000000 MHz Freq Offset 0 Hz

11G/LCH	 Keynote Spectrum Analyzer - Channel Power Center Freq 2.412000000 GHz Ref Offset 19.06 dB Ref 20.00 dBm Center Freq 2.412000000 GHz Trig: Free Run Avg/Hold: 10/10 Radio Std: None Radio Device: BTS 10 dB/div Log Center 2.412 GHz #Res BW 1 MHz #VBW 3 MHz Span 40 MHz Sweep 1 ms Channel Power 12.85 dBm / 20 MHz Power Spectral Density -60.16 dBm / Hz Frequency Center Freq 2.412000000 GHz CF Step 4.000000 MHz Auto Man Freq Offset 0 Hz
11G/MCH	 Keynote Spectrum Analyzer - Channel Power Center Freq 2.437000000 GHz Ref Offset 19.02 dB Ref 20.00 dBm Center Freq 2.437000000 GHz Trig: Free Run Avg/Hold: 10/10 Radio Std: None Radio Device: BTS 10 dB/div Log Center 2.437 GHz #Res BW 1 MHz #VBW 3 MHz Span 40 MHz Sweep 1 ms Channel Power 13.43 dBm / 20 MHz Power Spectral Density -59.58 dBm / Hz Frequency Center Freq 2.437000000 GHz CF Step 4.000000 MHz Auto Man Freq Offset 0 Hz
11G/HCH	 Keynote Spectrum Analyzer - Channel Power Center Freq 2.462000000 GHz Ref Offset 19.06 dB Ref 20.00 dBm Center Freq 2.462000000 GHz Trig: Free Run Avg/Hold: 10/10 Radio Std: None Radio Device: BTS 10 dB/div Log Center 2.462 GHz #Res BW 1 MHz #VBW 3 MHz Span 40 MHz Sweep 1 ms Channel Power 12.84 dBm / 20 MHz Power Spectral Density -60.17 dBm / Hz Frequency Center Freq 2.462000000 GHz CF Step 4.000000 MHz Auto Man Freq Offset 0 Hz

11N20SISO/LCH	 Center Freq 2.412000000 GHz Ref Offset 19.06 dB Ref 20.00 dBm Center 2.412 GHz #Res BW 1 MHz #VBW 3 MHz Span 40 MHz Sweep 1 ms Channel Power 12.52 dBm / 20 MHz Power Spectral Density -60.49 dBm / Hz Center Freq 2.412000000 GHz CF Step 4.000000 MHz Freq Offset 0 Hz
11N20SISO/MCH	 Center Freq 2.437000000 GHz Ref Offset 19.02 dB Ref 20.00 dBm Center 2.437 GHz #Res BW 1 MHz #VBW 3 MHz Span 40 MHz Sweep 1 ms Channel Power 12.74 dBm / 20 MHz Power Spectral Density -60.27 dBm / Hz Center Freq 2.437000000 GHz CF Step 4.000000 MHz Freq Offset 0 Hz
11N20SISO/HCH	 Center Freq 2.462000000 GHz Ref Offset 19.06 dB Ref 20.00 dBm Center 2.462 GHz #Res BW 1 MHz #VBW 3 MHz Span 40 MHz Sweep 1 ms Channel Power 12.65 dBm / 20 MHz Power Spectral Density -60.37 dBm / Hz Center Freq 2.462000000 GHz CF Step 4.000000 MHz Freq Offset 0 Hz

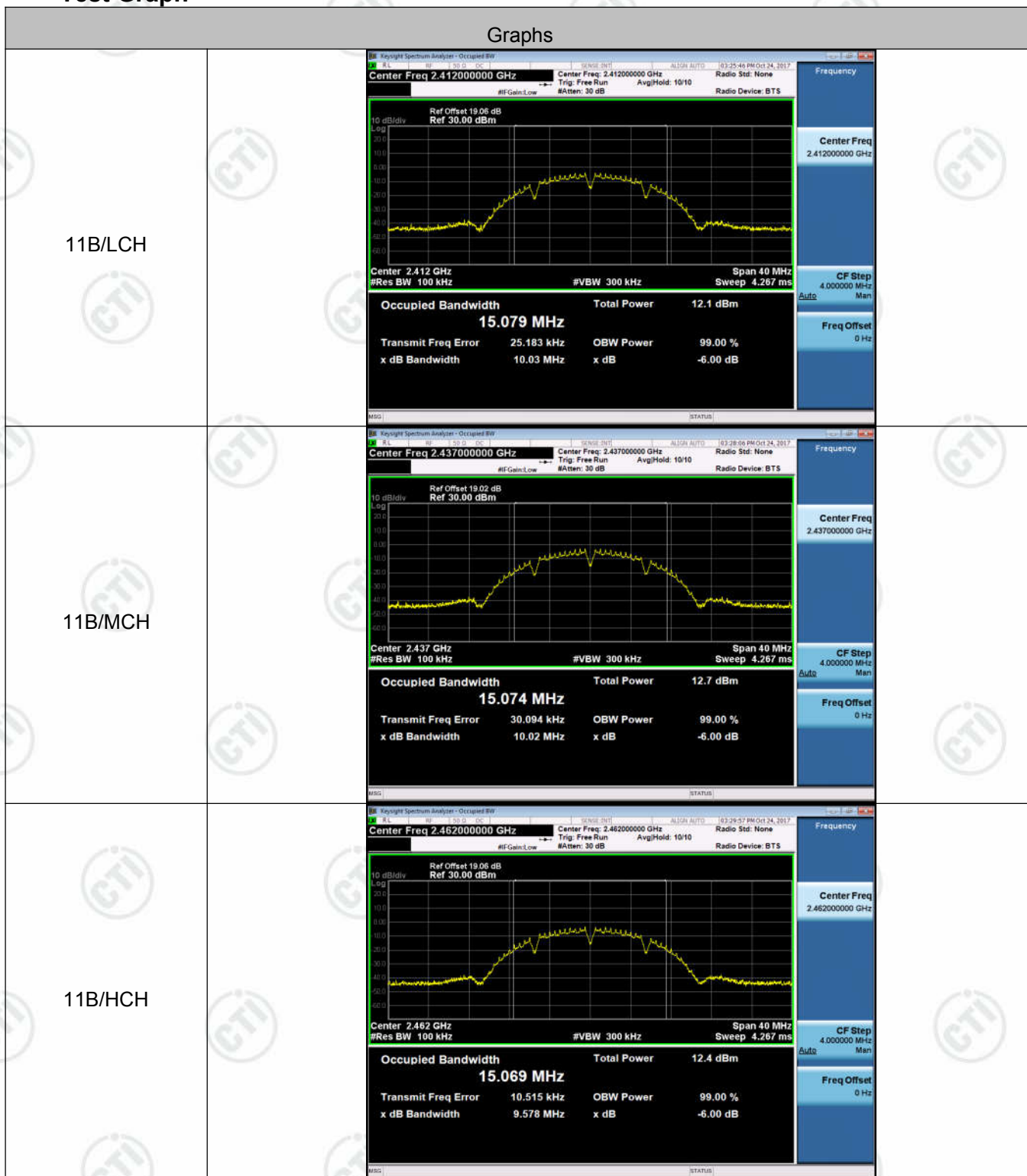
11N40SISO/LCH	 Center Freq 2.422000000 GHz Ref Offset 19.9 dB Ref 20.00 dBm Center 2.422 GHz #Res BW 1 MHz #VBW 3 MHz Span 80 MHz Sweep 1 ms Channel Power 12.66 dBm / 40 MHz Power Spectral Density -63.36 dBm / Hz
11N40SISO/MCH	 Center Freq 2.437000000 GHz Ref Offset 19.02 dB Ref 20.00 dBm Center 2.437 GHz #Res BW 1 MHz #VBW 3 MHz Span 80 MHz Sweep 1 ms Channel Power 12.77 dBm / 40 MHz Power Spectral Density -63.25 dBm / Hz
11N40SISO/HCH	 Center Freq 2.452000000 GHz Ref Offset 19.06 dB Ref 20.00 dBm Center 2.452 GHz #Res BW 1 MHz #VBW 3 MHz Span 80 MHz Sweep 1 ms Channel Power 13.08 dBm / 40 MHz Power Spectral Density -62.94 dBm / Hz

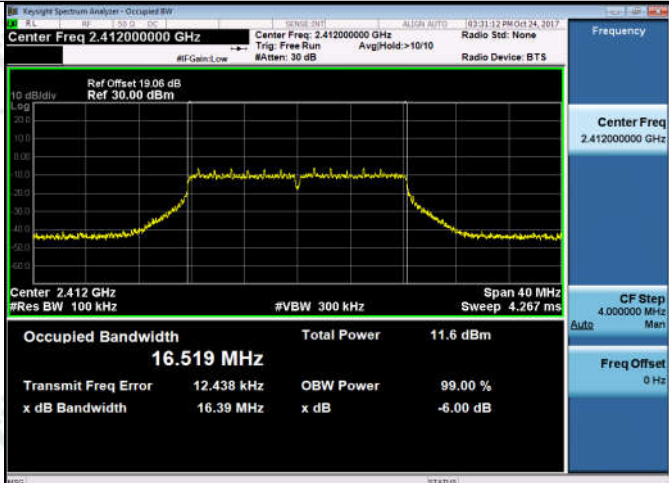
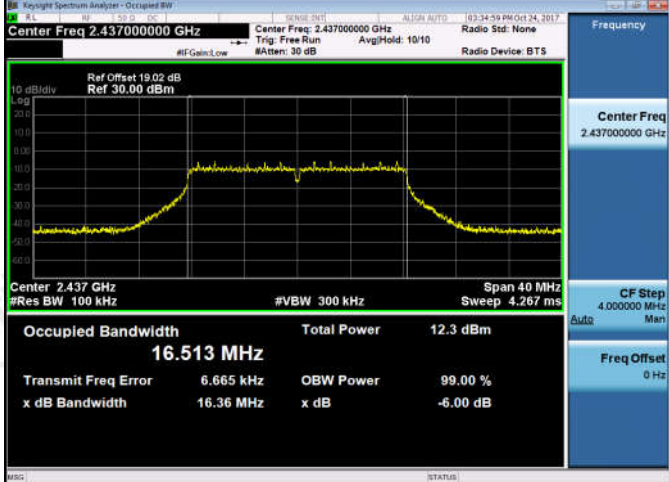
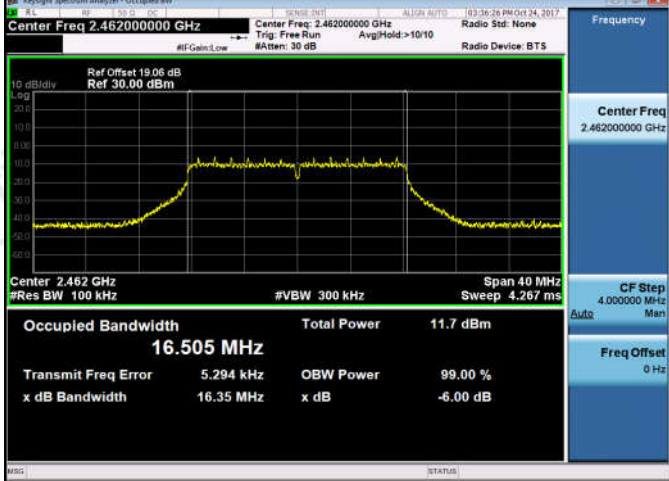
Appendix B): 6dB Occupied Bandwidth

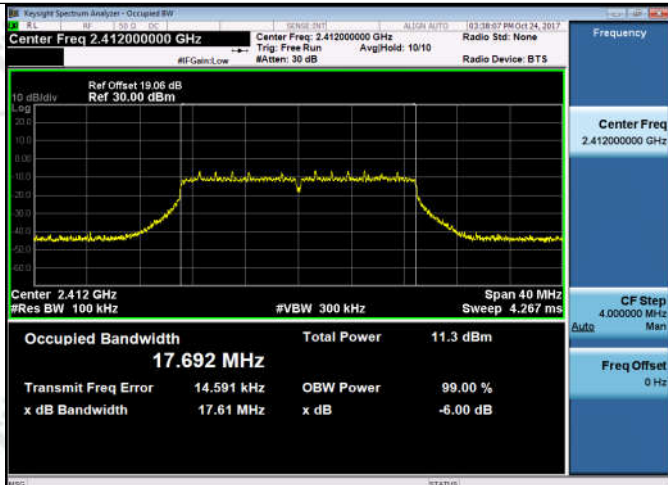
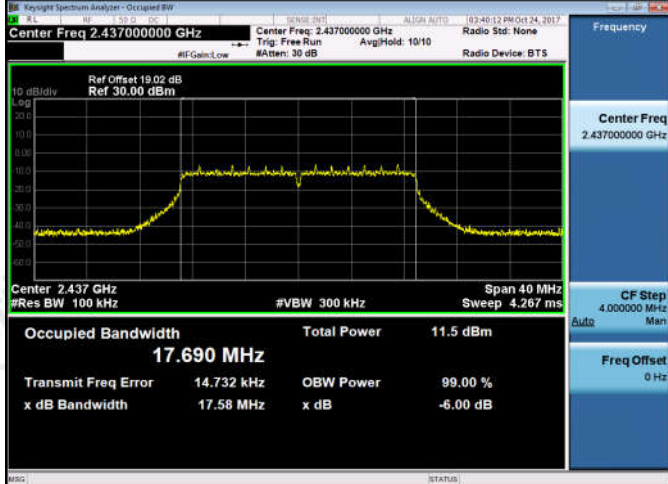
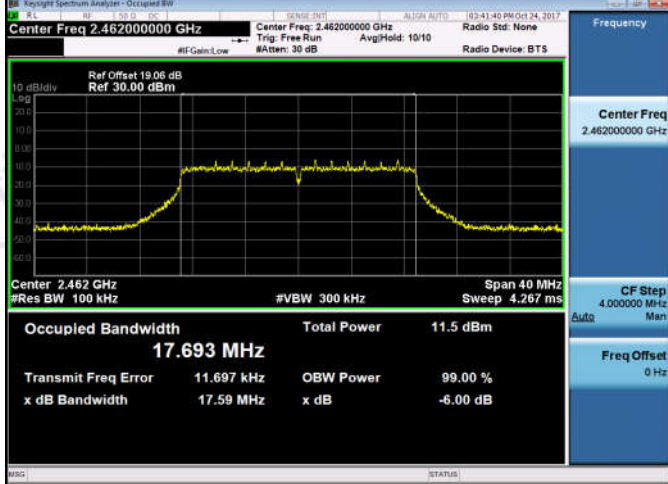
Result Table

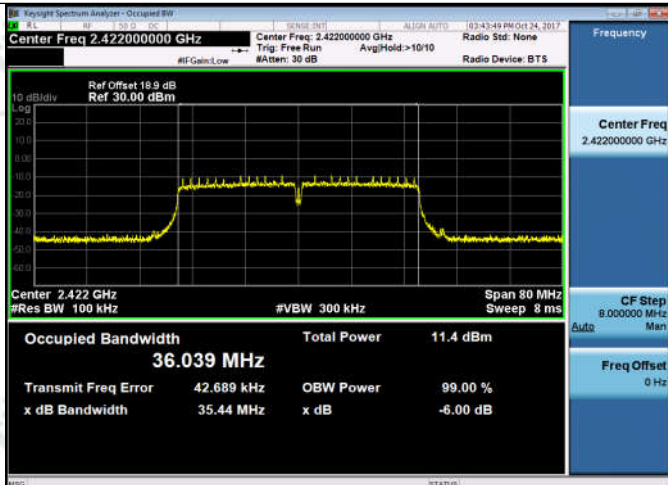
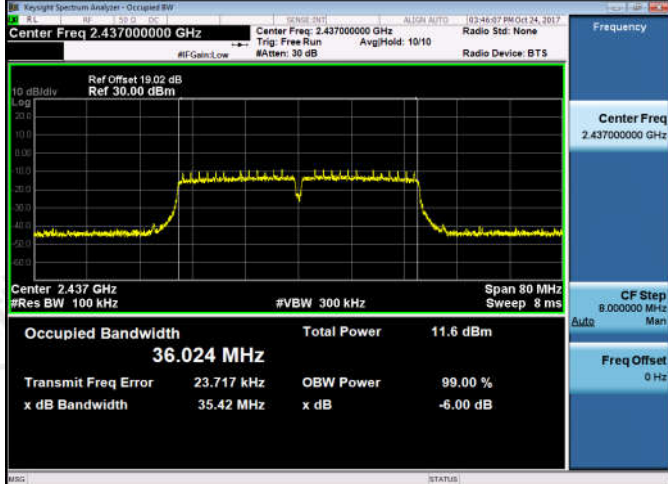
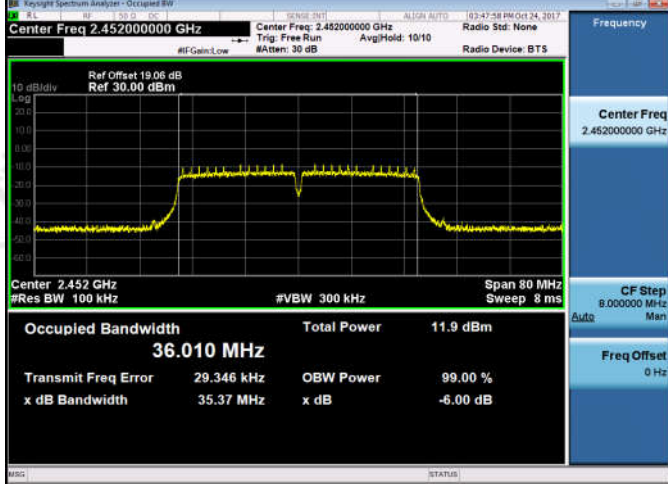
Mode	Channel	6dB Bandwidth [MHz]	99% OBW [MHz]	Verdict	Remark
11B	LCH	10.03	15.079	PASS	Peak detector
11B	MCH	10.02	15.074	PASS	
11B	HCH	9.578	15.069	PASS	
11G	LCH	16.39	16.519	PASS	
11G	MCH	16.36	16.513	PASS	
11G	HCH	16.35	16.505	PASS	
11N20SISO	LCH	17.61	17.692	PASS	
11N20SISO	MCH	17.58	17.690	PASS	
11N20SISO	HCH	17.59	17.693	PASS	
11N40SISO	LCH	35.44	36.039	PASS	
11N40SISO	MCH	35.42	36.024	PASS	
11N40SISO	HCH	35.37	36.010	PASS	

Test Graph



11G/LCH	 Keyight Spectrum Analyzer - Occupied BW Center Freq 2.412000000 GHz Ref Offset 19.06 dB Ref 30.00 dBm Center 2.412 GHz #Res BW 100 kHz Occupied Bandwidth 16.519 MHz Total Power 11.6 dBm Transmit Freq Error 12.438 kHz OBW Power 99.00 % x dB Bandwidth 16.39 MHz x dB -6.00 dB
11G/MCH	 Keyight Spectrum Analyzer - Occupied BW Center Freq 2.437000000 GHz Ref Offset 19.02 dB Ref 30.00 dBm Center 2.437 GHz #Res BW 100 kHz Occupied Bandwidth 16.513 MHz Total Power 12.3 dBm Transmit Freq Error 6.665 kHz OBW Power 99.00 % x dB Bandwidth 16.36 MHz x dB -6.00 dB
11G/HCH	 Keyight Spectrum Analyzer - Occupied BW Center Freq 2.462000000 GHz Ref Offset 19.06 dB Ref 30.00 dBm Center 2.462 GHz #Res BW 100 kHz Occupied Bandwidth 16.505 MHz Total Power 11.7 dBm Transmit Freq Error 5.294 kHz OBW Power 99.00 % x dB Bandwidth 16.35 MHz x dB -6.00 dB

11N20SISO/LCH	 Keyight Spectrum Analyzer - Occupied BW Center Freq 2.412000000 GHz Ref Offset 19.06 dB Ref 30.00 dBm Center Freq 2.412000000 GHz Trig: Free Run Avg/Hold: 10/10 Radio Std: None Radio Device: BTS Center 2.412 GHz #Res BW 100 kHz #VBW 300 kHz Span 40 MHz Sweep 4.267 ms Occupied Bandwidth 17.692 MHz Total Power 11.3 dBm Transmit Freq Error 14.591 kHz OBW Power 99.00 % x dB Bandwidth 17.61 MHz x dB -6.00 dB Frequency Center Freq 2.412000000 GHz CF Step 4.000000 MHz Auto Man Freq Offset 0 Hz
11N20SISO/MCH	 Keyight Spectrum Analyzer - Occupied BW Center Freq 2.437000000 GHz Ref Offset 19.02 dB Ref 30.00 dBm Center Freq 2.437000000 GHz Trig: Free Run Avg/Hold: 10/10 Radio Std: None Radio Device: BTS Center 2.437 GHz #Res BW 100 kHz #VBW 300 kHz Span 40 MHz Sweep 4.267 ms Occupied Bandwidth 17.690 MHz Total Power 11.5 dBm Transmit Freq Error 14.732 kHz OBW Power 99.00 % x dB Bandwidth 17.58 MHz x dB -6.00 dB Frequency Center Freq 2.437000000 GHz CF Step 4.000000 MHz Auto Man Freq Offset 0 Hz
11N20SISO/HCH	 Keyight Spectrum Analyzer - Occupied BW Center Freq 2.462000000 GHz Ref Offset 19.06 dB Ref 30.00 dBm Center Freq 2.462000000 GHz Trig: Free Run Avg/Hold: 10/10 Radio Std: None Radio Device: BTS Center 2.462 GHz #Res BW 100 kHz #VBW 300 kHz Span 40 MHz Sweep 4.267 ms Occupied Bandwidth 17.693 MHz Total Power 11.5 dBm Transmit Freq Error 11.697 kHz OBW Power 99.00 % x dB Bandwidth 17.59 MHz x dB -6.00 dB Frequency Center Freq 2.462000000 GHz CF Step 4.000000 MHz Auto Man Freq Offset 0 Hz

11N40SISO/LCH	 Keyight Spectrum Analyzer - Occupied BW Center Freq 2.422000000 GHz Ref Offset 19.9 dB Ref 30.00 dBm Center 2.422 GHz #Res BW 100 kHz Occupied Bandwidth 36.039 MHz Total Power 11.4 dBm Transmit Freq Error 42.689 kHz OBW Power 99.00 % x dB Bandwidth 35.44 MHz x dB -6.00 dB
11N40SISO/MCH	 Keyight Spectrum Analyzer - Occupied BW Center Freq 2.437000000 GHz Ref Offset 19.02 dB Ref 30.00 dBm Center 2.437 GHz #Res BW 100 kHz Occupied Bandwidth 36.024 MHz Total Power 11.6 dBm Transmit Freq Error 23.717 kHz OBW Power 99.00 % x dB Bandwidth 35.42 MHz x dB -6.00 dB
11N40SISO/HCH	 Keyight Spectrum Analyzer - Occupied BW Center Freq 2.452000000 GHz Ref Offset 19.06 dB Ref 30.00 dBm Center 2.452 GHz #Res BW 100 kHz Occupied Bandwidth 36.010 MHz Total Power 11.9 dBm Transmit Freq Error 29.346 kHz OBW Power 99.00 % x dB Bandwidth 35.37 MHz x dB -6.00 dB

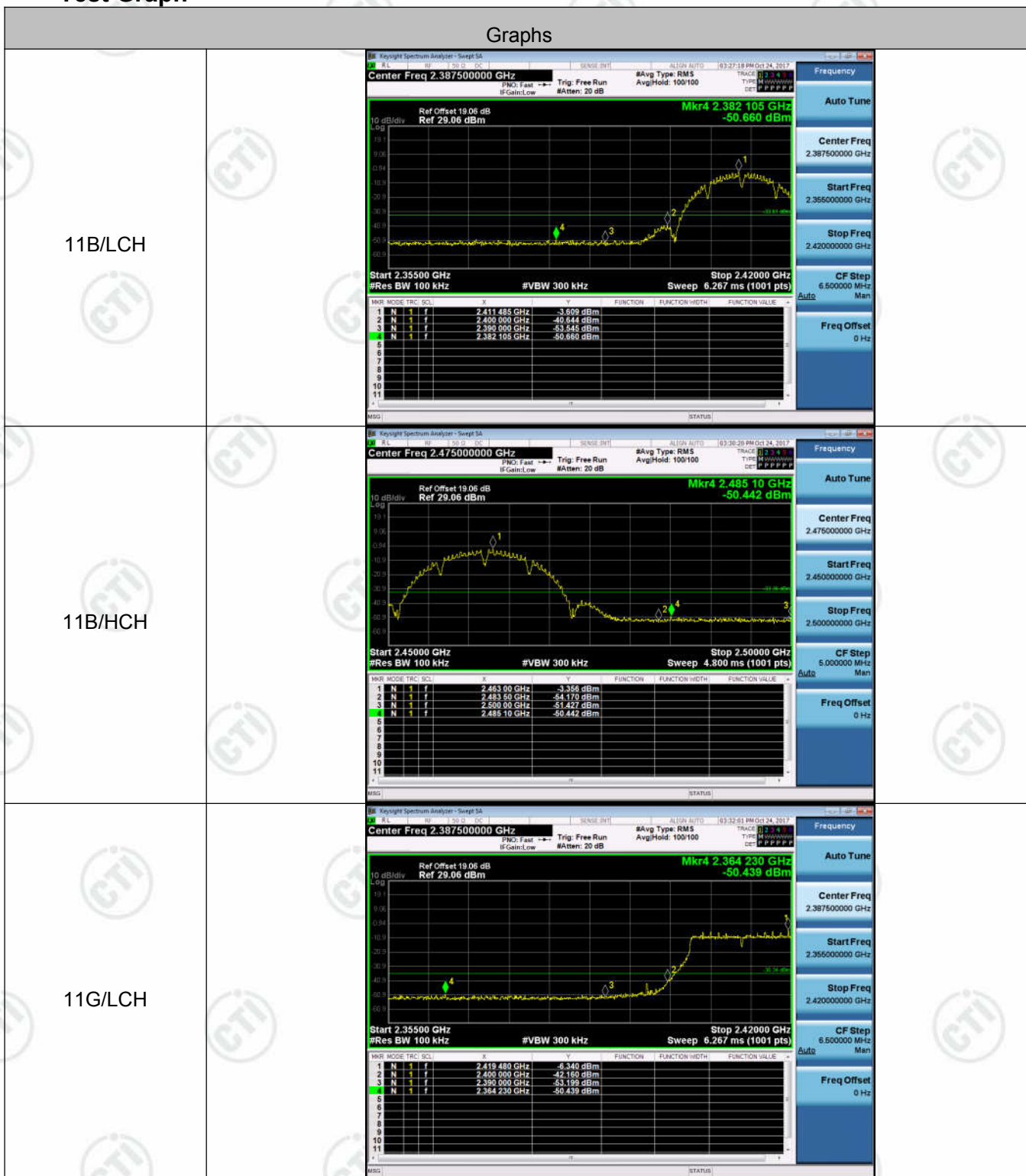
Appendix C): Band-edge for RF Conducted Emissions

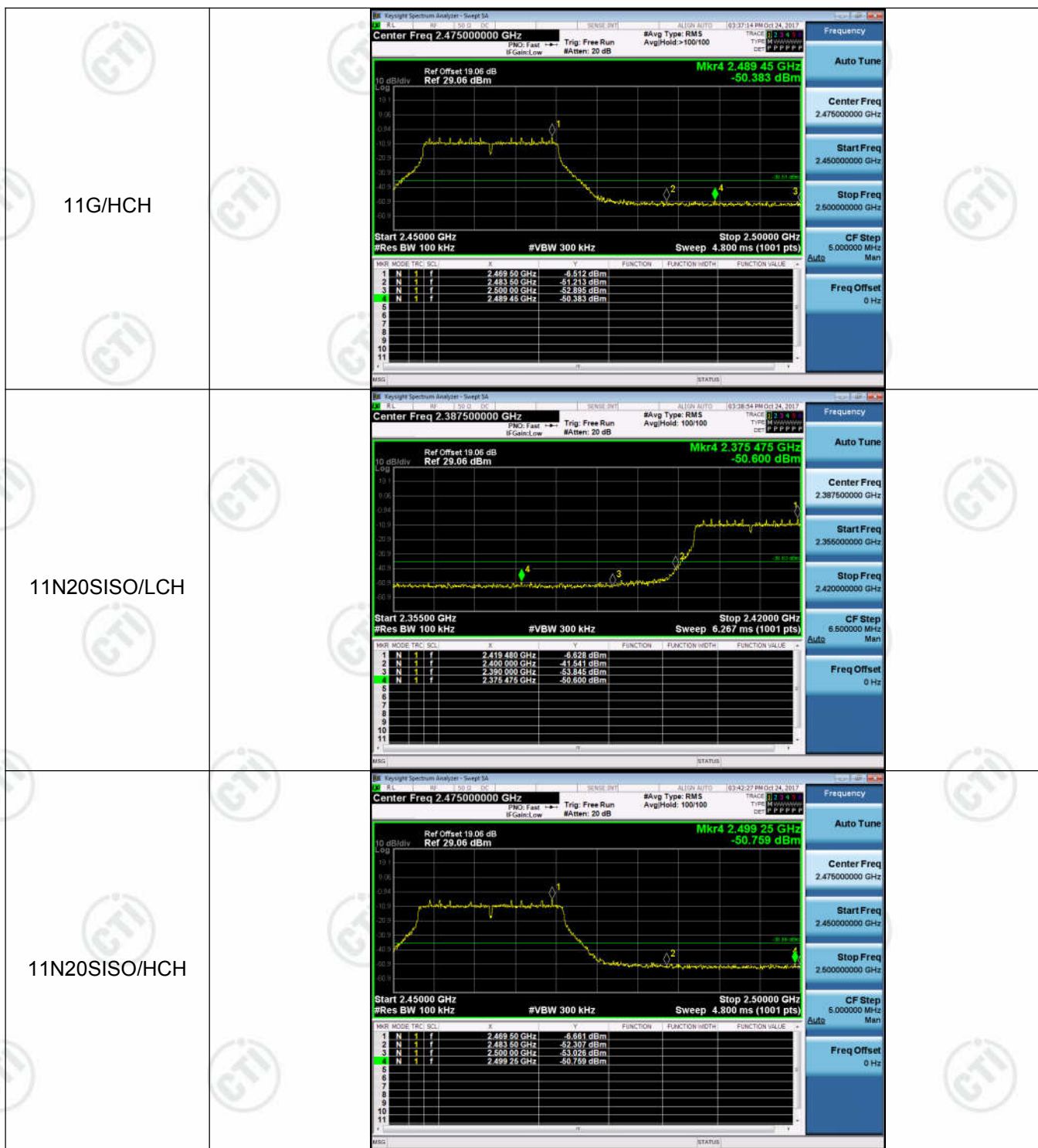
Result Table

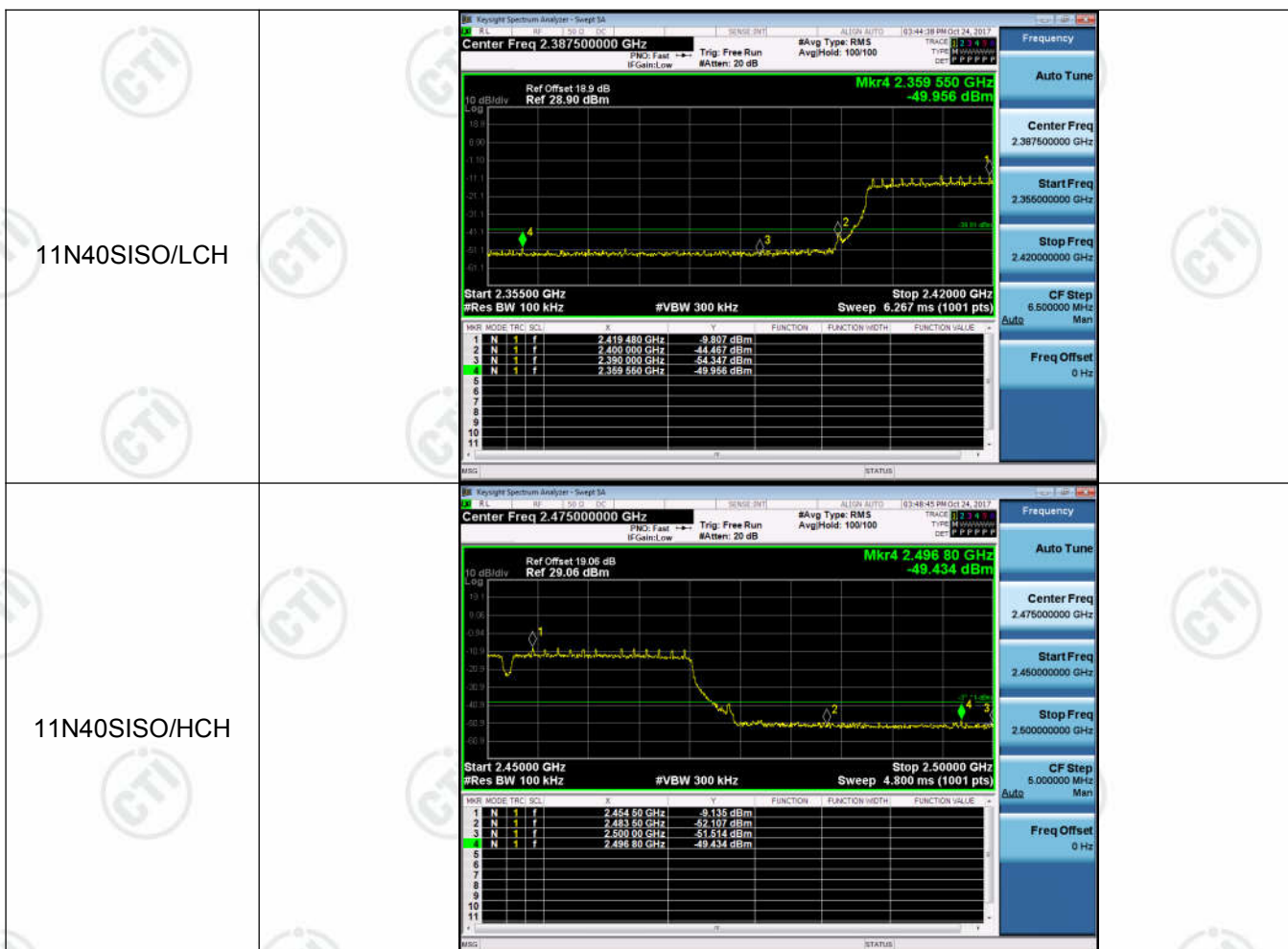
Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	-3.609	-50.660	-33.61	PASS
11B	HCH	-3.356	-50.442	-33.36	PASS
11G	LCH	-6.340	-50.439	-36.34	PASS
11G	HCH	-6.512	-50.383	-36.51	PASS
11N20SISO	LCH	-6.628	-50.600	-36.63	PASS
11N20SISO	HCH	-6.661	-50.759	-36.66	PASS
11N40SISO	LCH	-9.807	-49.956	-39.81	PASS
11N40SISO	HCH	-9.135	-49.434	-39.14	PASS

Test Graph

Graphs





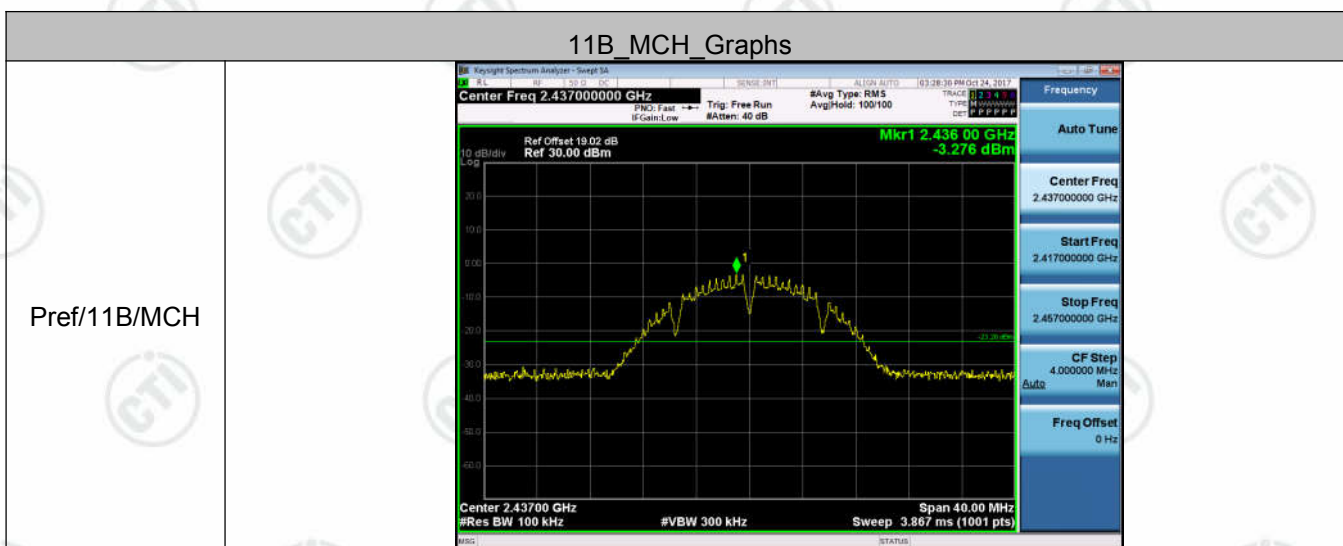


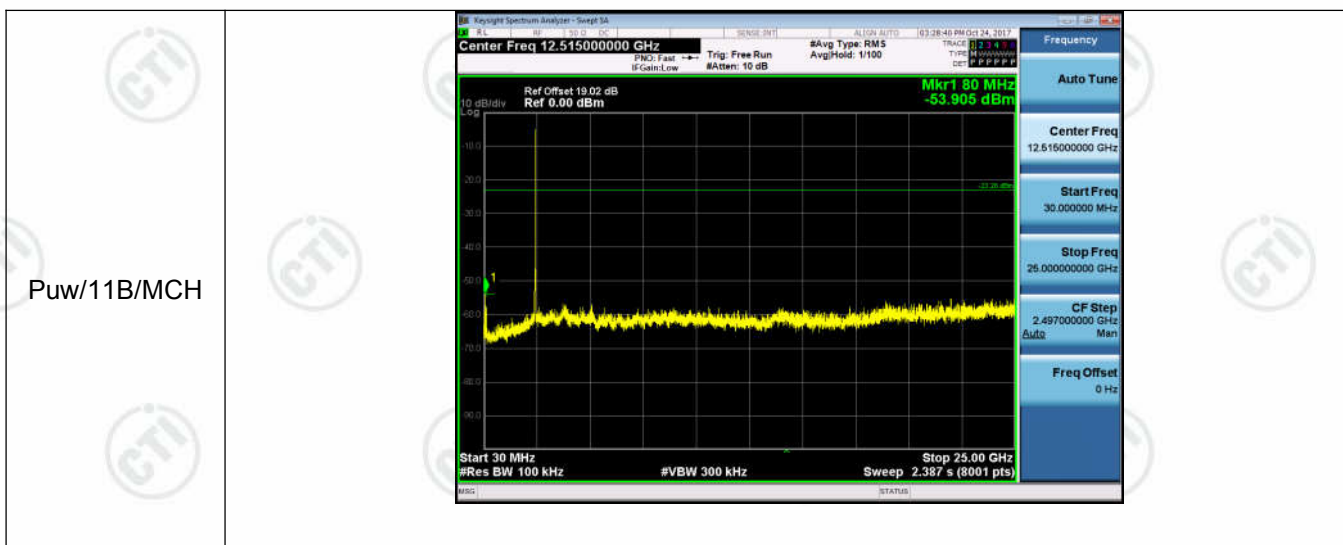
Appendix D): RF Conducted Spurious Emissions

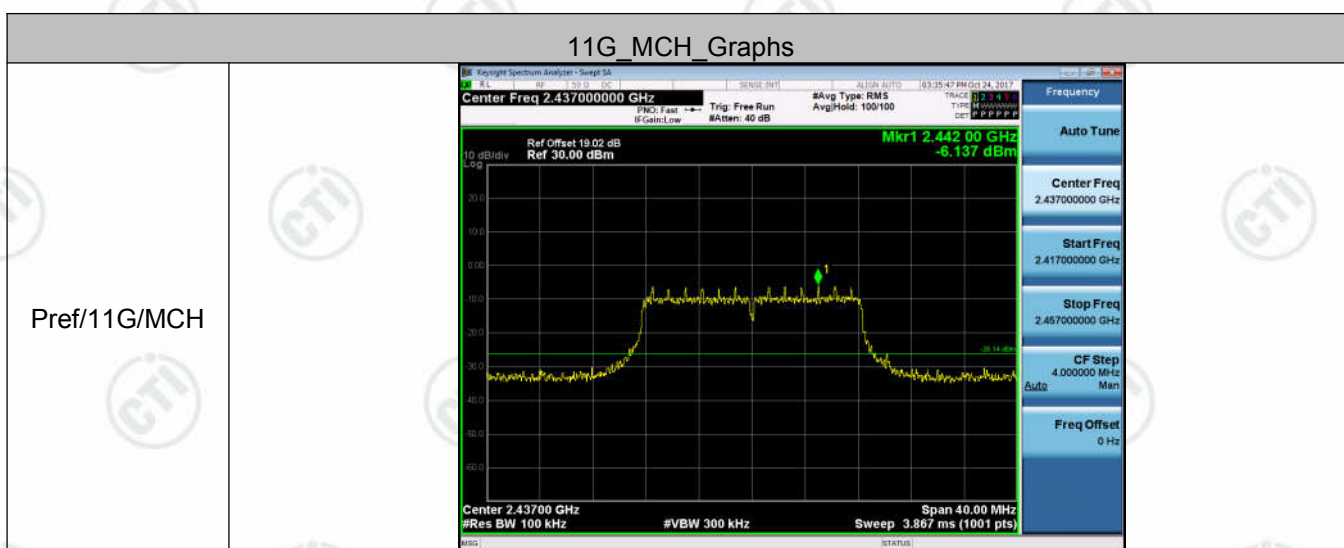
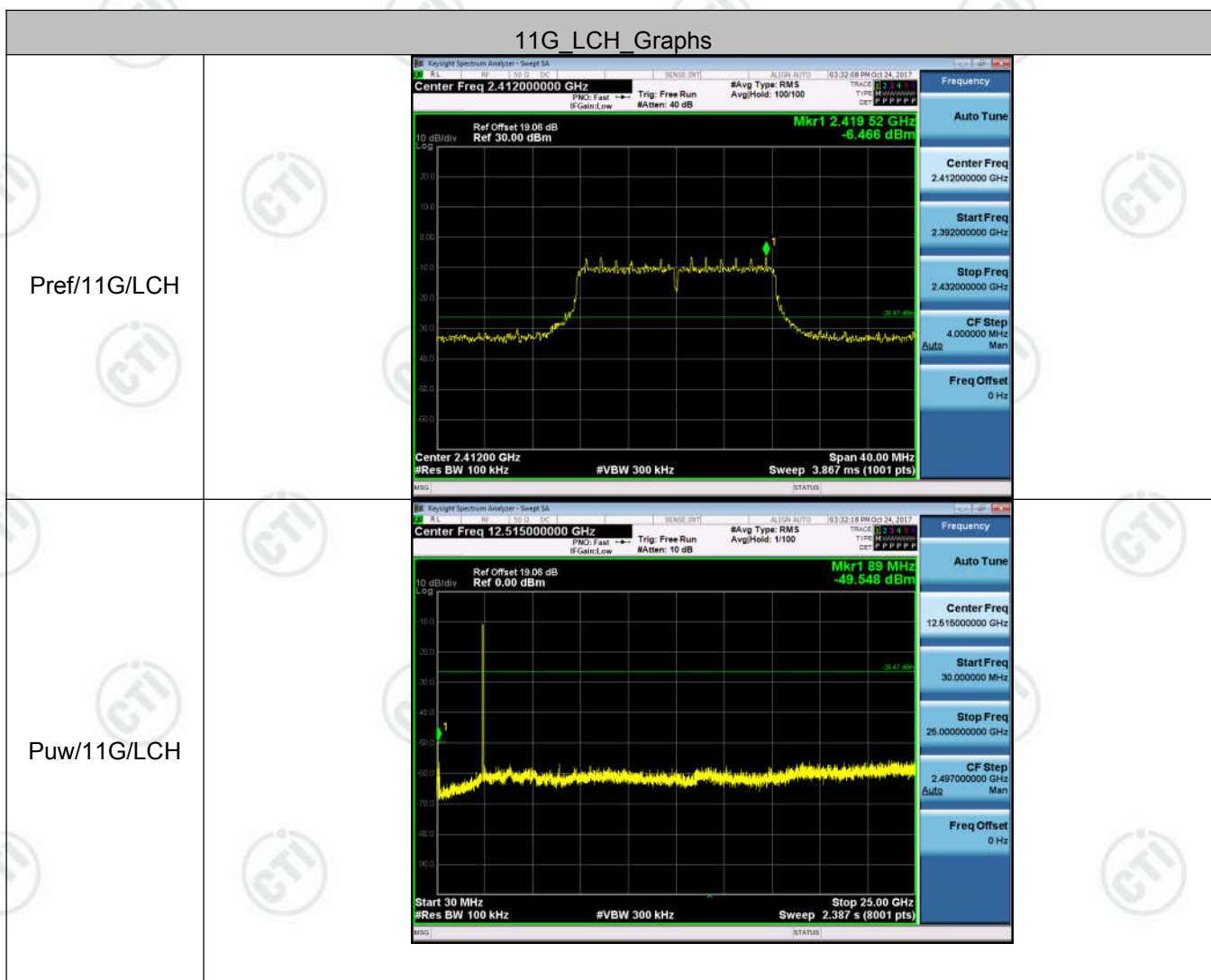
Result Table

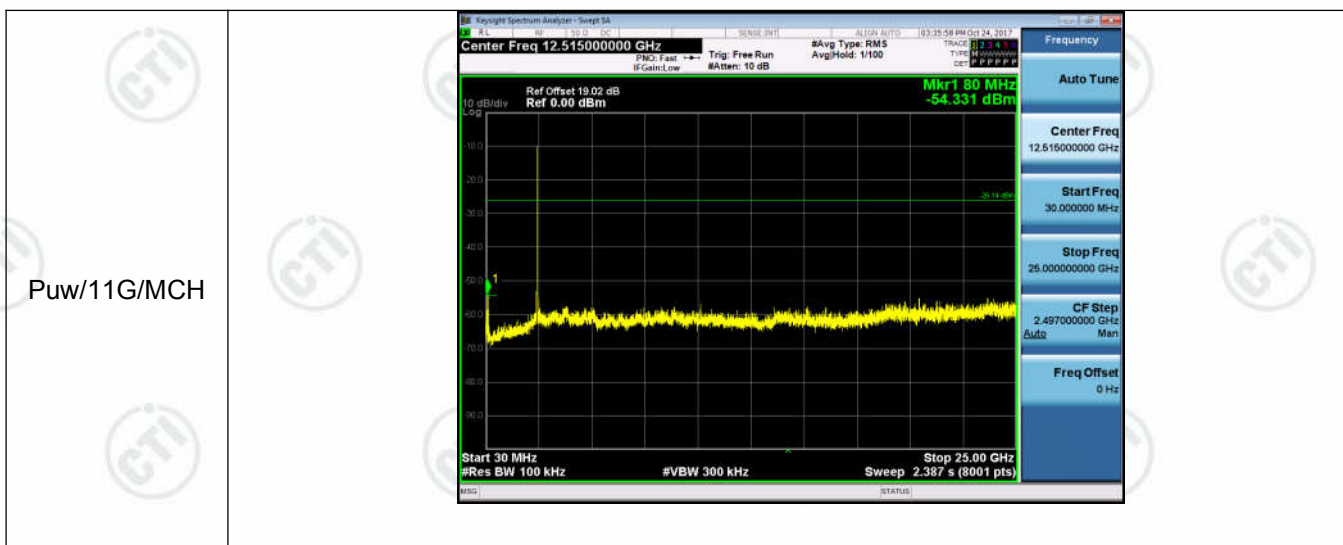
Mode	Channel	Pref [dBm]	Puw[dBm]	Verdict
11B	LCH	-3.753	<Limit	PASS
11B	MCH	-3.276	<Limit	PASS
11B	HCH	-3.53	<Limit	PASS
11G	LCH	-6.466	<Limit	PASS
11G	MCH	-6.137	<Limit	PASS
11G	HCH	-6.141	<Limit	PASS
11N20SISO	LCH	-6.698	<Limit	PASS
11N20SISO	MCH	-6.264	<Limit	PASS
11N20SISO	HCH	-6.319	<Limit	PASS
11N40SISO	LCH	-9.524	<Limit	PASS
11N40SISO	MCH	-9.108	<Limit	PASS
11N40SISO	HCH	-9.106	<Limit	PASS

Test Graph



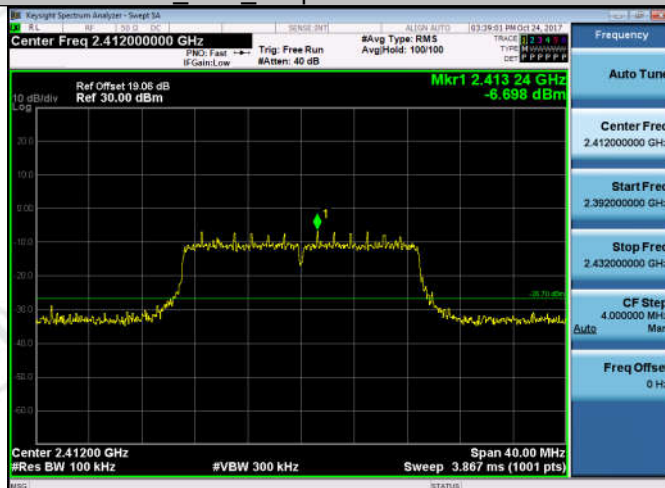




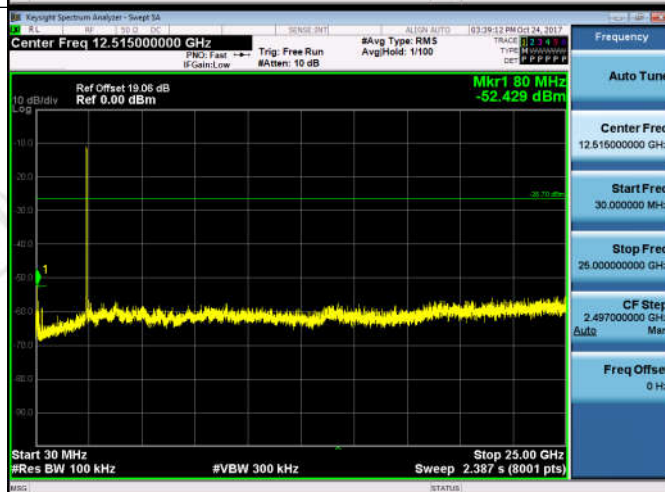


11N20SISO_LCH_Graphs

Pref/11N20SISO/LCH

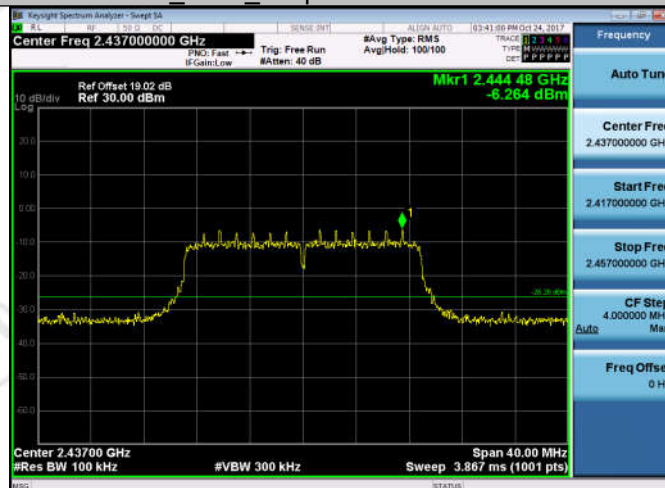


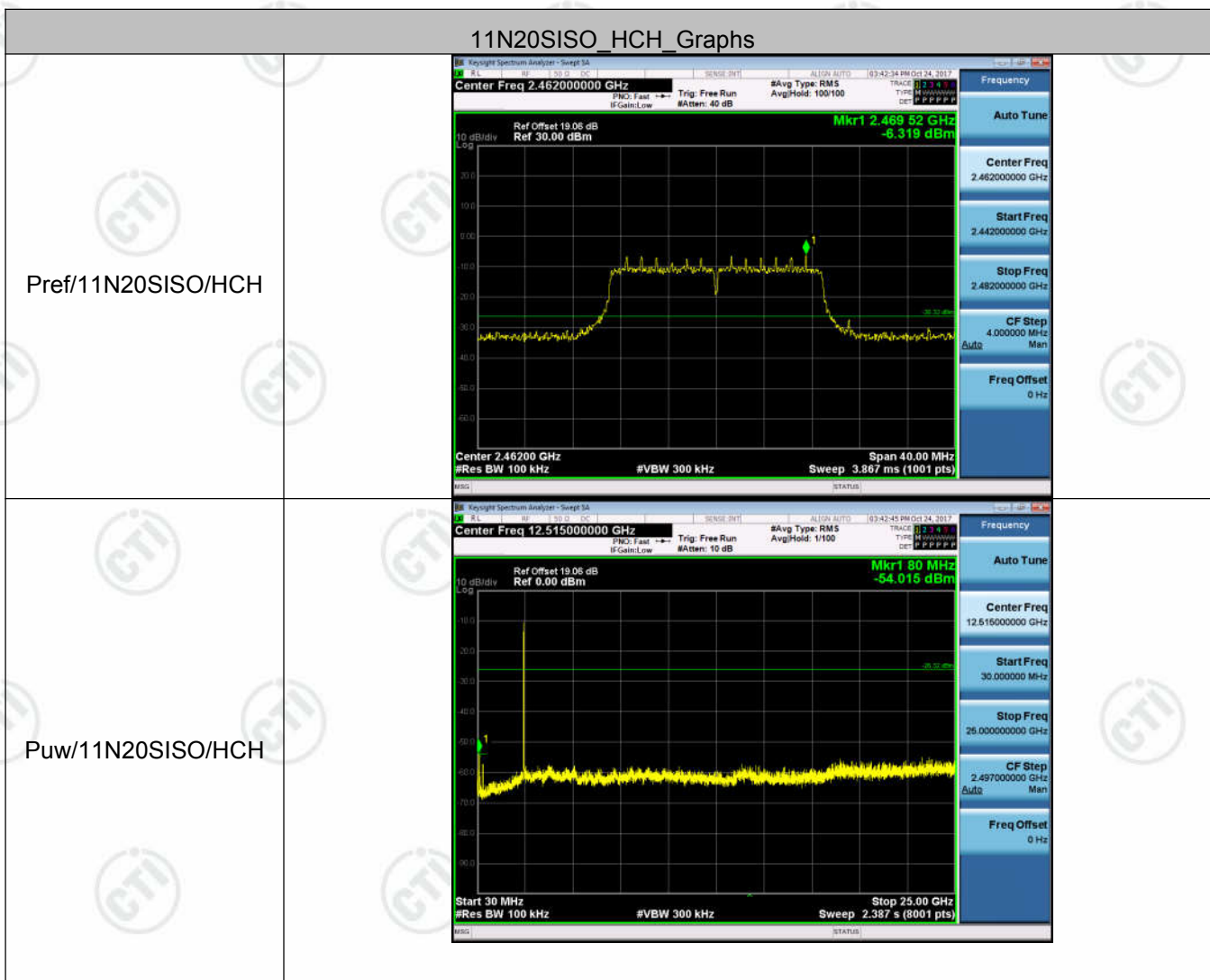
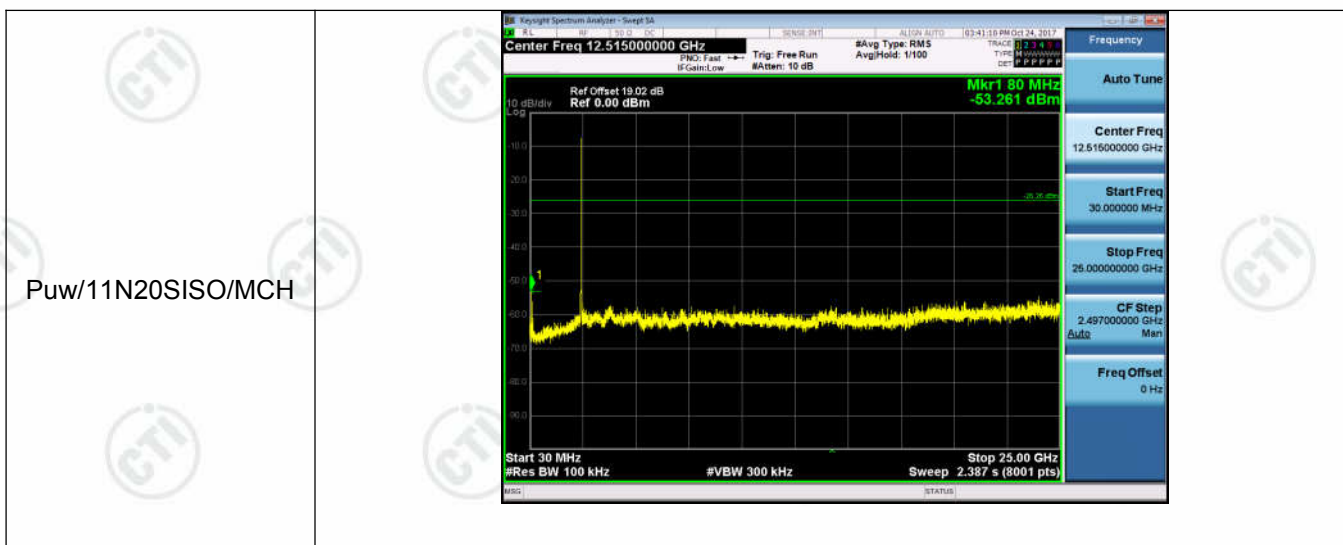
/11N20SISO/LCH



11N20SISO_MCH_Graphs

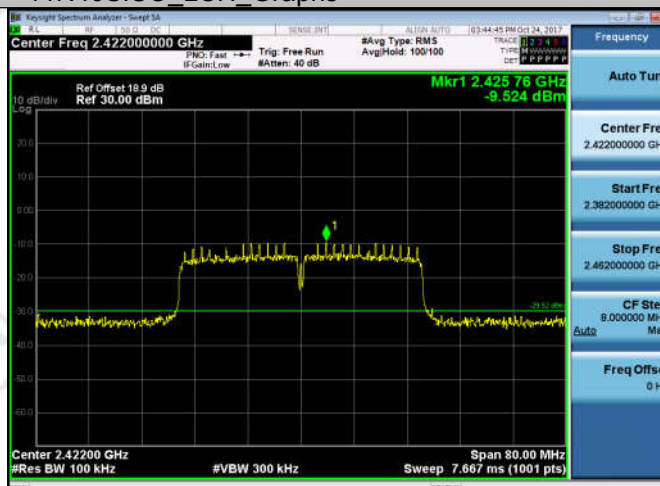
Pref/11N20SISO/MCH



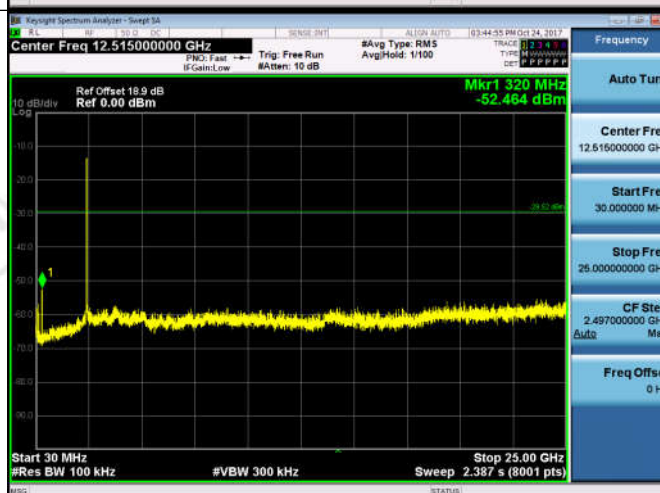


11N40SISO_LCH_Graphs

Pref/11N40SISO/LCH

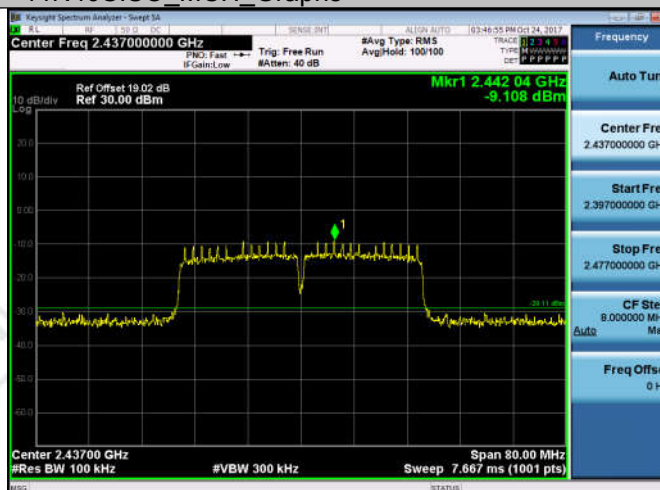


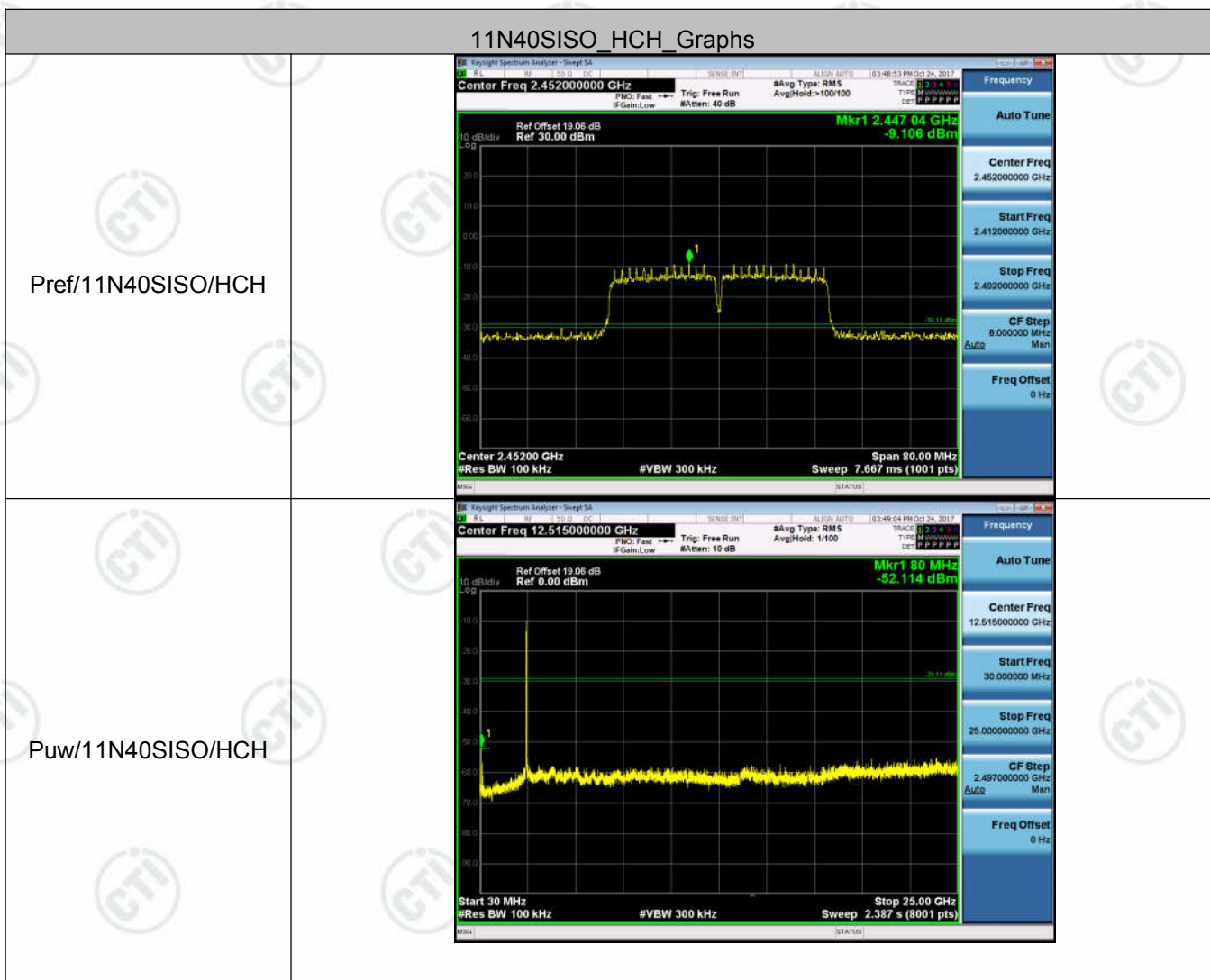
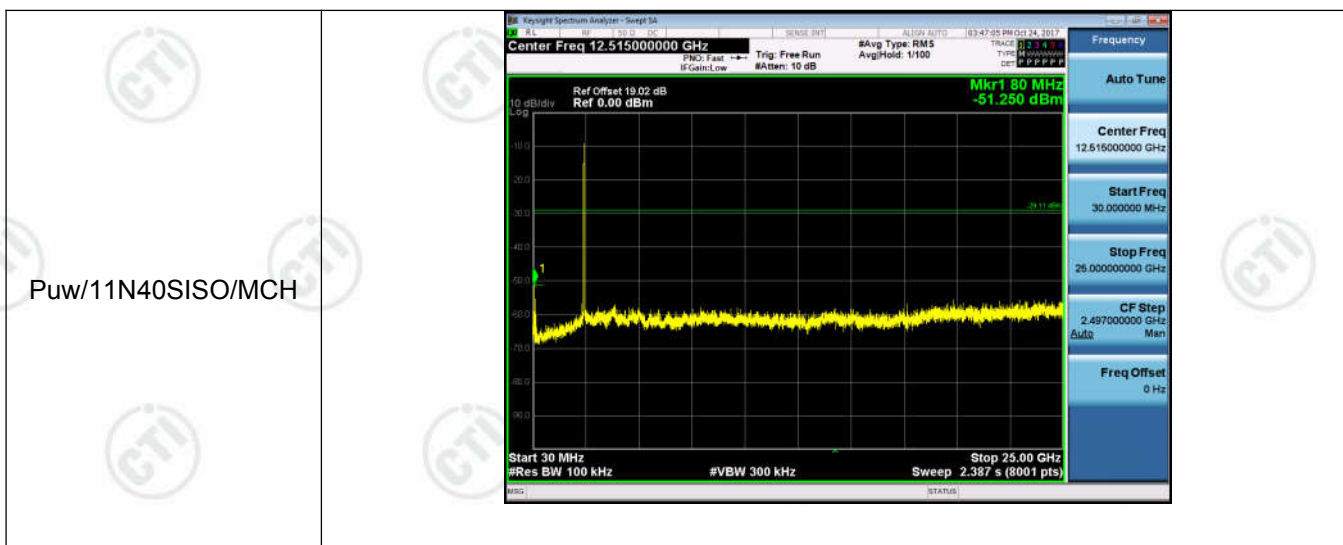
Puw/11N40SISO/LCH



11N40SISO_MCH_Graphs

Pref/11N40SISO/MCH





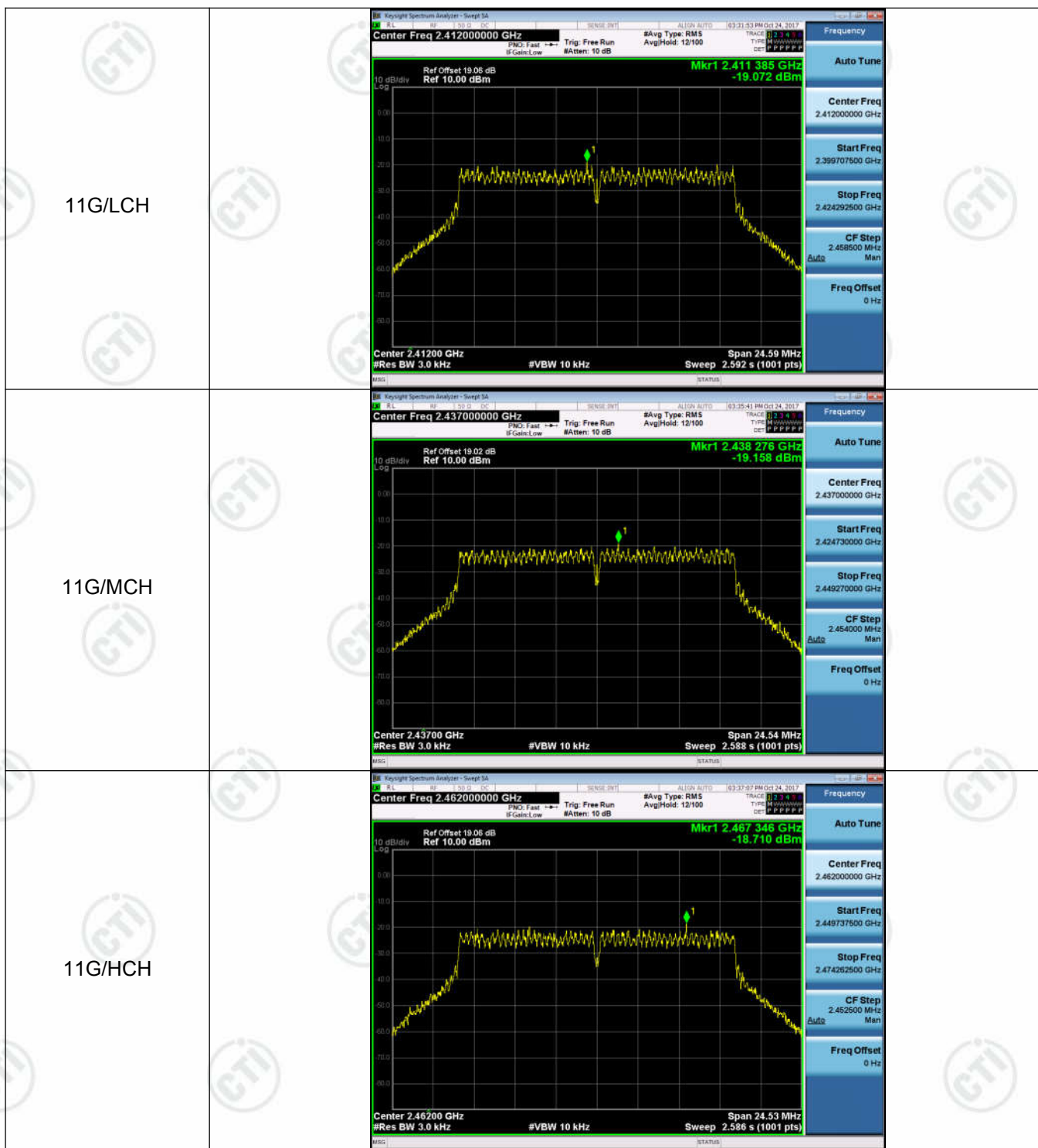
Appendix E): Power Spectral Density

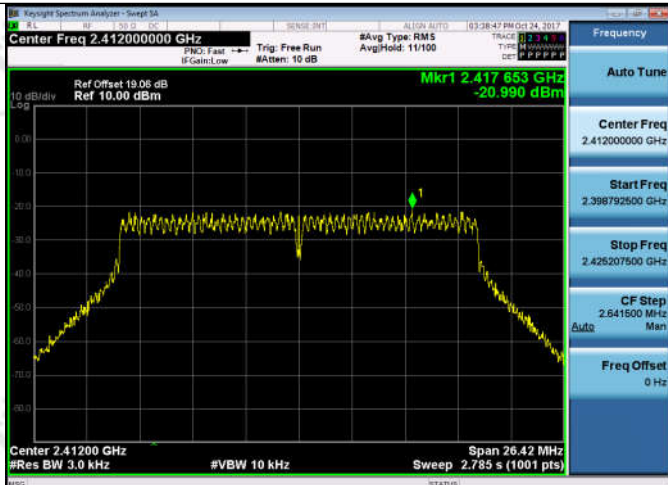
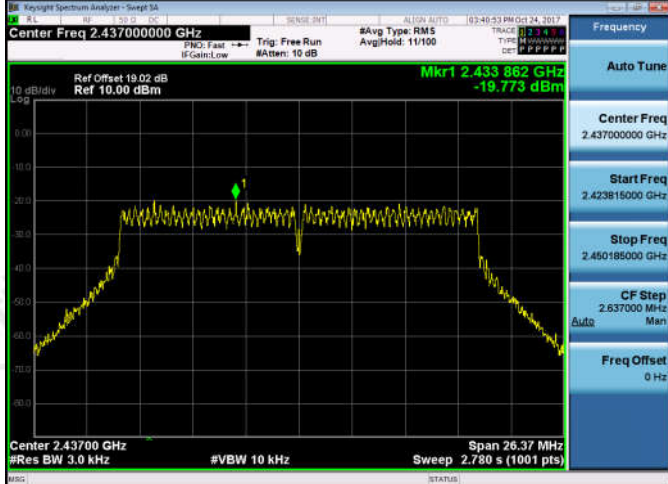
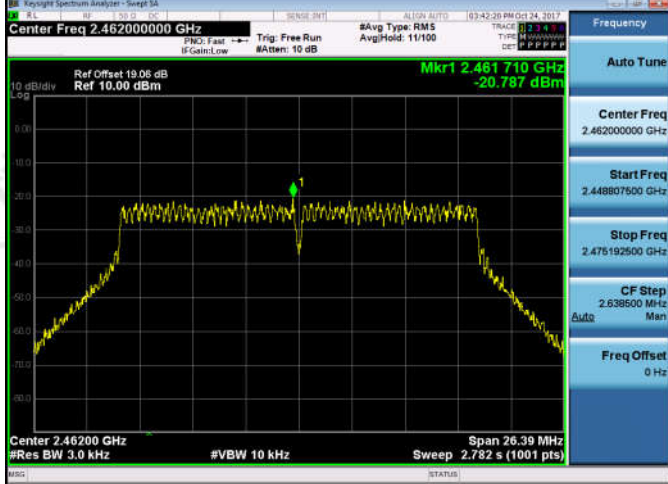
Result Table

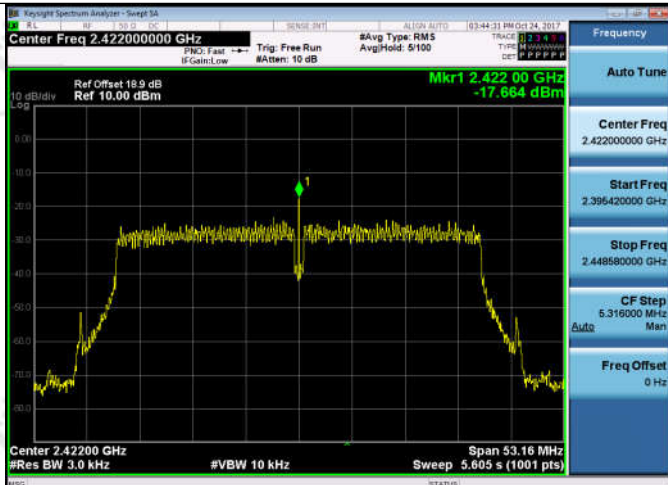
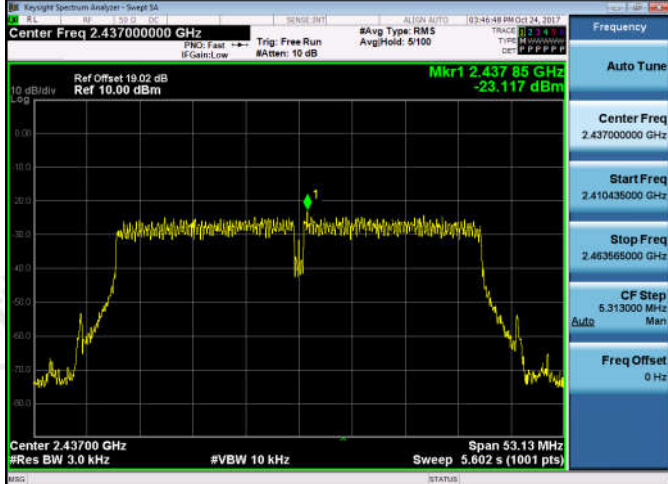
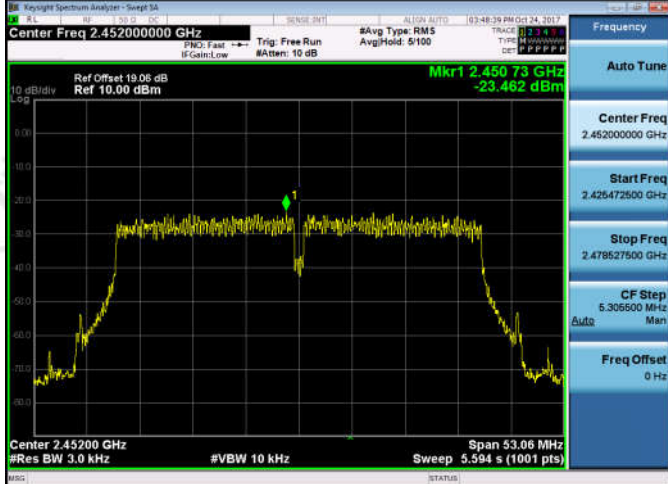
Mode	Channel	Power Spectral Density [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
11B	LCH	-16.649	8	PASS
11B	MCH	-17.626	8	PASS
11B	HCH	-18.191	8	PASS
11G	LCH	-19.072	8	PASS
11G	MCH	-19.158	8	PASS
11G	HCH	-18.710	8	PASS
11N20SISO	LCH	-20.990	8	PASS
11N20SISO	MCH	-19.773	8	PASS
11N20SISO	HCH	-20.787	8	PASS
11N40SISO	LCH	-17.664	8	PASS
11N40SISO	MCH	-23.117	8	PASS
11N40SISO	HCH	-23.462	8	PASS

Test Graph

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



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

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

Appendix F): Antenna Requirement

15.203 requirement:

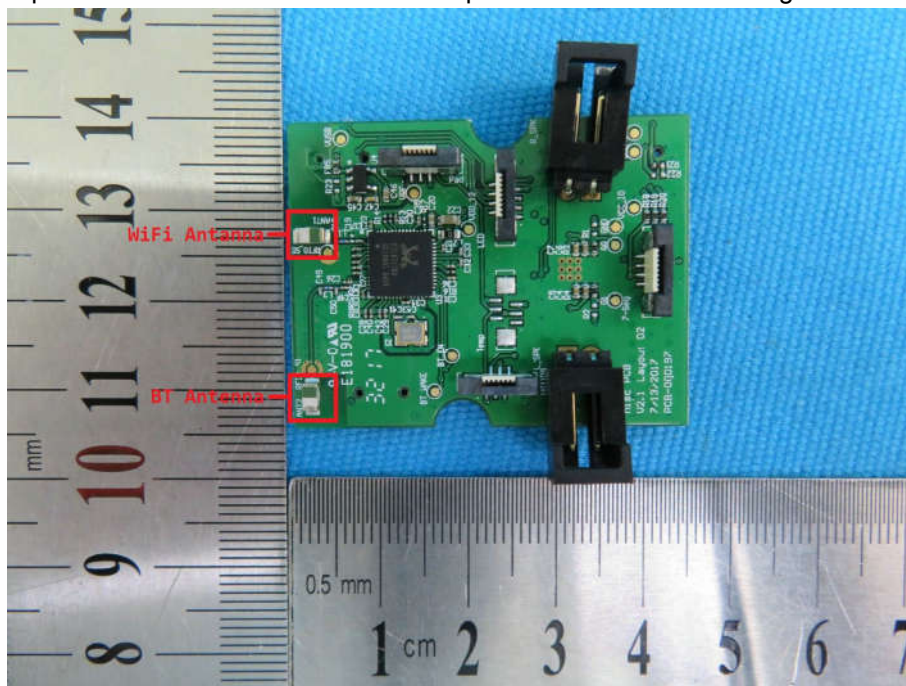
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(b) (4) requirement:

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

EUT Antenna:

The antenna is chip antenna and no consideration of replacement. The best case gain of the antenna is 2dBi.



Appendix G): AC Power Line Conducted Emission

Test Procedure:	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 $50\Omega/50\mu\text{H} + 5\Omega$ 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.															
Limit:	<table border="1"> <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> * 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		Frequency range (MHz)	Limit (dB μ V)		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 (dB μ V)															
	Quasi-peak	Average														
0.15-0.5	66 to 56*	56 to 46*														
0.5-5	56	46														
5-30	60	50														

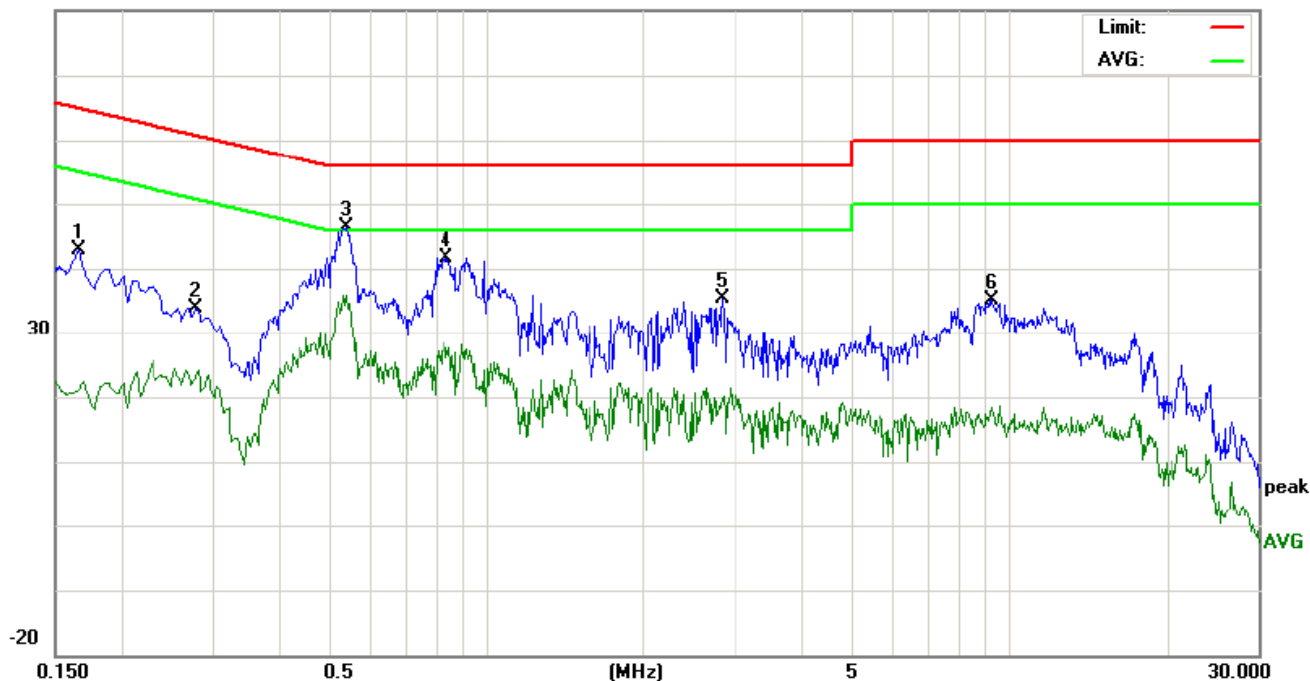
Measurement Data

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:

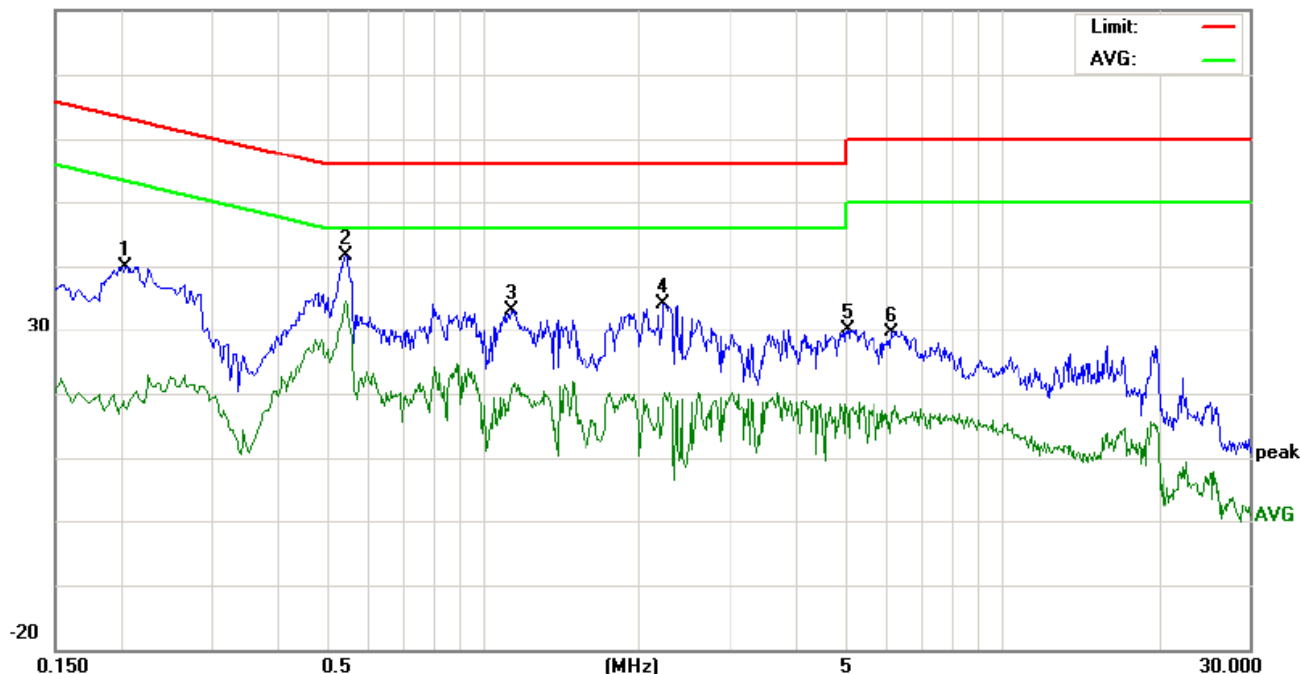
80.0 dBuV



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	33.02	27.40	11.02	9.75	42.77	37.15	20.77	65.15	55.15	-28.00	-34.38	P	
2	0.2779	24.14	21.30	13.23	9.76	33.90	31.06	22.99	60.88	50.88	-29.82	-27.89	P	
3	0.5420	36.69	33.37	24.01	9.73	46.42	43.10	33.74	56.00	46.00	-12.90	-12.26	P	
4	0.8380	31.80	18.76	7.12	9.74	41.54	28.50	16.86	56.00	46.00	-27.50	-29.14	P	
5	2.8340	25.68	18.60	7.99	9.69	35.37	28.29	17.68	56.00	46.00	-27.71	-28.32	P	
6	9.2860	25.47	18.39	8.66	9.75	35.22	28.14	18.41	60.00	50.00	-31.86	-31.59	P	

Neutral line:

80.0 dBuV



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	0.2039	30.28	23.70	9.84	9.71	39.99	33.41	19.55	63.45	53.45	-30.04	-33.90	P	
2	0.5460	31.96	30.11	22.55	9.73	41.69	39.84	32.28	56.00	46.00	-16.16	-13.72	P	
3	1.1380	23.35	16.38	7.83	9.72	33.07	26.10	17.55	56.00	46.00	-29.90	-28.45	P	
4	2.2340	24.51	14.66	7.22	9.71	34.22	24.37	16.93	56.00	46.00	-31.63	-29.07	P	
5	5.0459	20.53	12.56	5.55	9.62	30.15	22.18	15.17	60.00	50.00	-37.82	-34.83	P	
6	6.1259	20.05	12.98	5.35	9.62	29.67	22.60	14.97	60.00	50.00	-37.40	-35.03	P	

Notes:

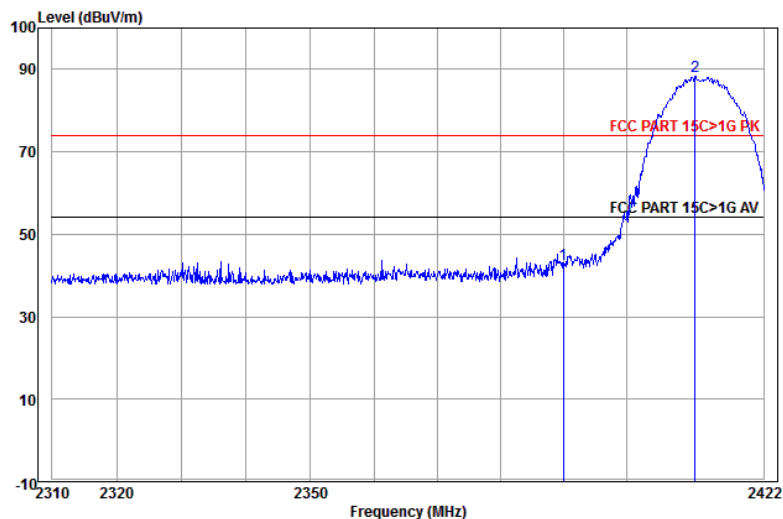
1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level = Receiver Reading + LISN Factor + Cable Loss.

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:	Below 1GHz test procedure as below: - 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 Above 1GHz test procedure as below: - 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 (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	

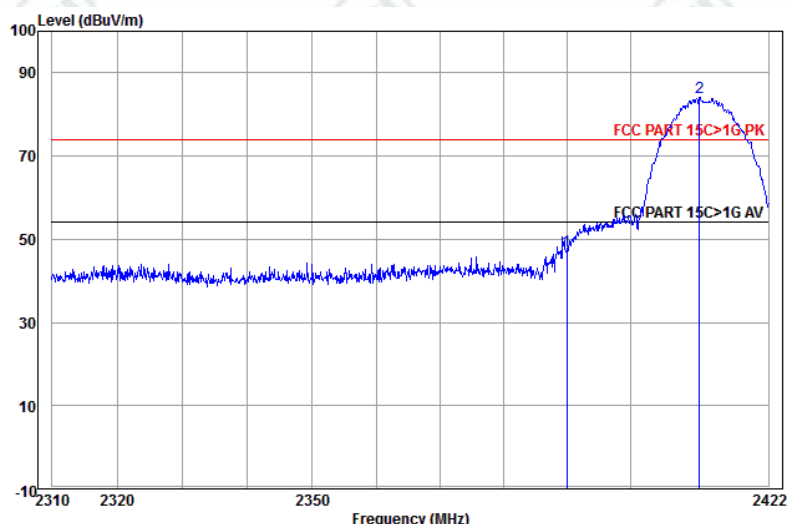
Test plot as follows:

Worse case mode:	802.11b (11Mbps)		
Frequency: 2390.0MHz	Test channel: Lowest	Polarization: Horizontal	Remark: Peak



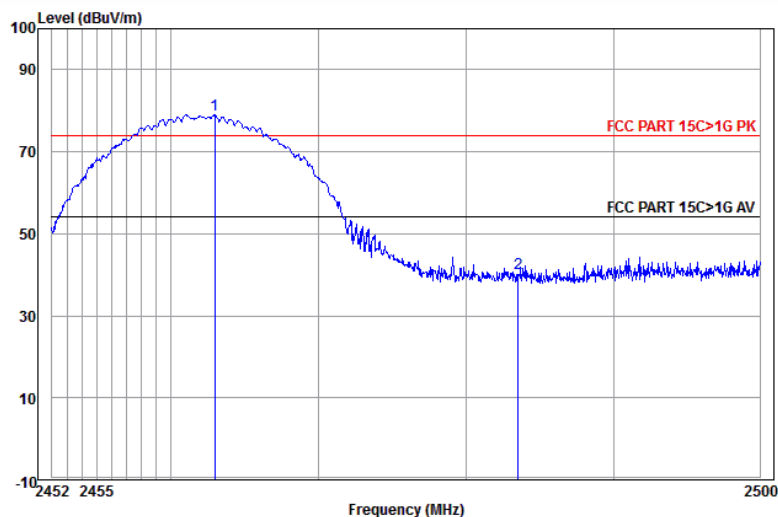
	Ant Freq	Cable Factor	Preamp Loss	Preamp Factor	Read Level	Read Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB		
1	2390.000	32.53	3.07	44.03	51.14	42.71	74.00	-31.29	Horizontal	
2 pp	2411.016	32.58	3.08	44.05	96.75	88.36	74.00	14.36	Horizontal	

Worse case mode:	802.11b (11Mbps)		
Frequency: 2390.0MHz	Test channel: Lowest	Polarization: Vertical	Remark: Peak



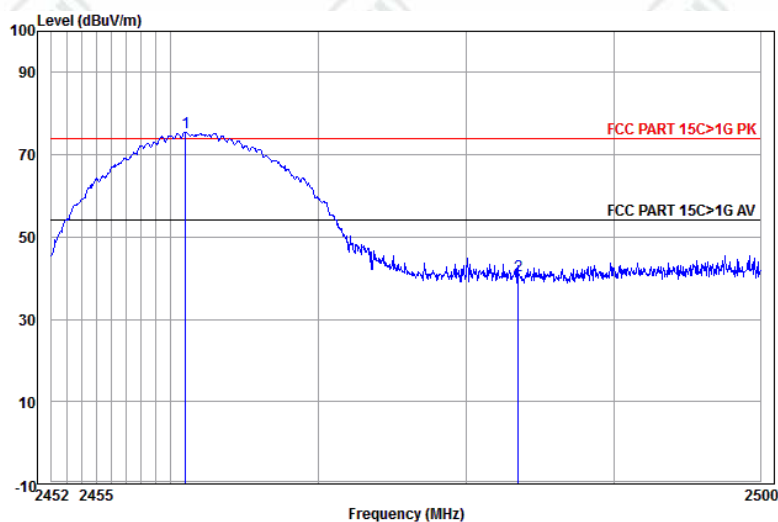
	Ant Freq	Cable Factor	Preamp Loss	Preamp Factor	Read Level	Read Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB		
1	2390.000	32.53	3.07	44.03	55.57	47.14	74.00	-26.86	Vertical	Peak
2 pp	2411.016	32.58	3.08	44.05	92.44	84.05	74.00	10.05	Vertical	Peak

Worse case mode:	802.11b (11Mbps)		
Frequency: 2483.5MHz	Test channel: Highest	Polarization: Horizontal	Remark: Peak



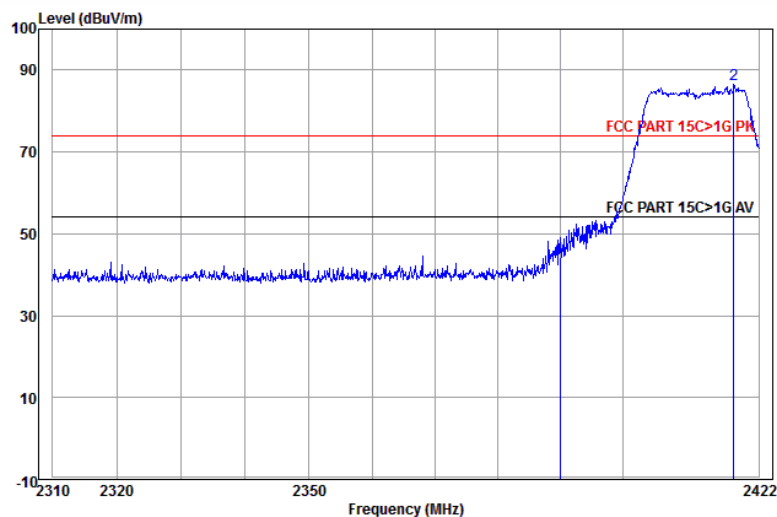
	Ant Freq	Cable Factor	Preamp Loss	Read Level	Read Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	2462.958	32.68	3.11	44.12	87.32	78.99	74.00	4.99	Horizontal Peak
2	2483.500	32.71	3.12	44.14	48.74	40.43	74.00	-33.57	Horizontal Peak

Worse case mode:	802.11b (11Mbps)		
Frequency: 2483.5MHz	Test channel: Highest	Polarization: Vertical	Remark: Peak



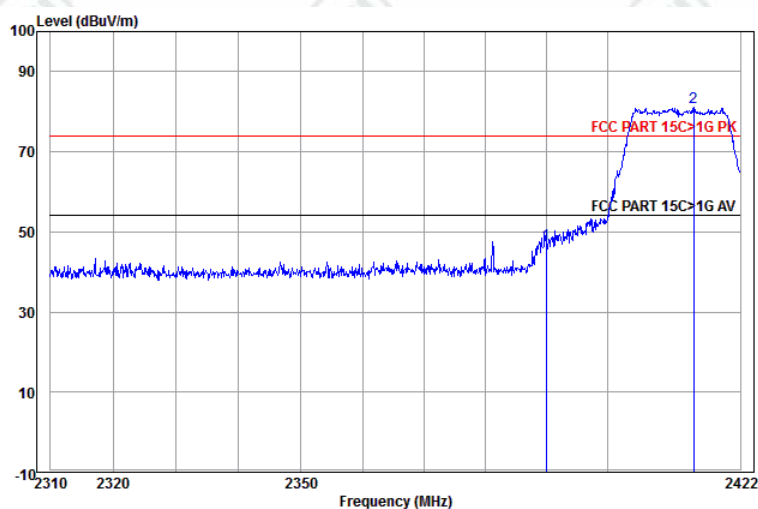
	Ant Freq	Cable Factor	Preamp Loss	Read Level	Read Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1 pp	2461.001	32.67	3.11	44.11	83.87	75.54	74.00	1.54	Vertical Peak
2	2483.500	32.71	3.12	44.14	48.94	40.63	74.00	-33.37	Vertical Peak

Worse case mode:	802.11g (6Mbps)		
Frequency: 2390.0MHz	Test channel: Lowest	Polarization: Horizontal	Remark: Peak



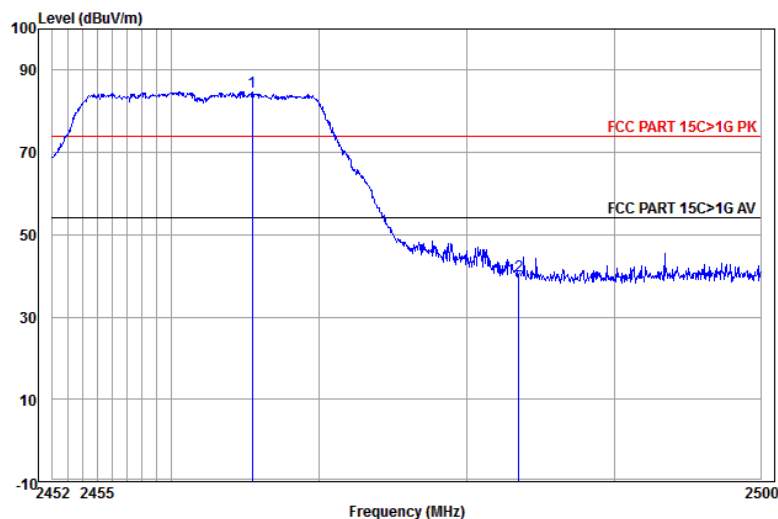
	Ant Freq	Cable Factor	Preamp Loss	Read Level	Read Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2390.000	32.53	3.07	44.03	52.60	44.17	74.00	-29.83	Horizontal Peak
2 pp	2417.990	32.59	3.08	44.06	94.83	86.44	74.00	12.44	Horizontal Peak

Worse case mode:	802.11g (6Mbps)		
Frequency: 2390.0MHz	Test channel: Lowest	Polarization: Vertical	Remark: Peak



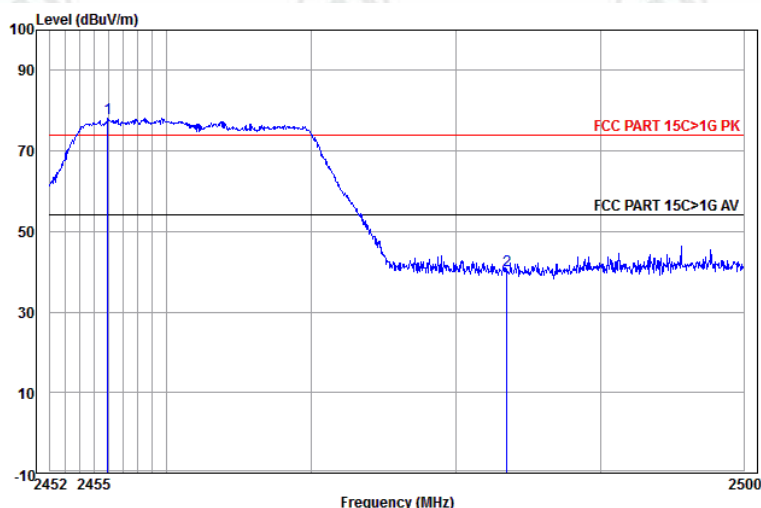
	Ant Freq	Cable Factor	Preamp Loss	Read Level	Read Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	2390.000	32.53	3.07	44.03	55.49	47.06	74.00	-26.94	Vertical Peak
2 pp	2414.329	32.58	3.08	44.06	89.62	81.22	74.00	7.22	Vertical Peak

Worse case mode:	802.11g (6Mbps)		
Frequency: 2483.5MHz	Test channel: Highest	Polarization: Horizontal	Remark: Peak



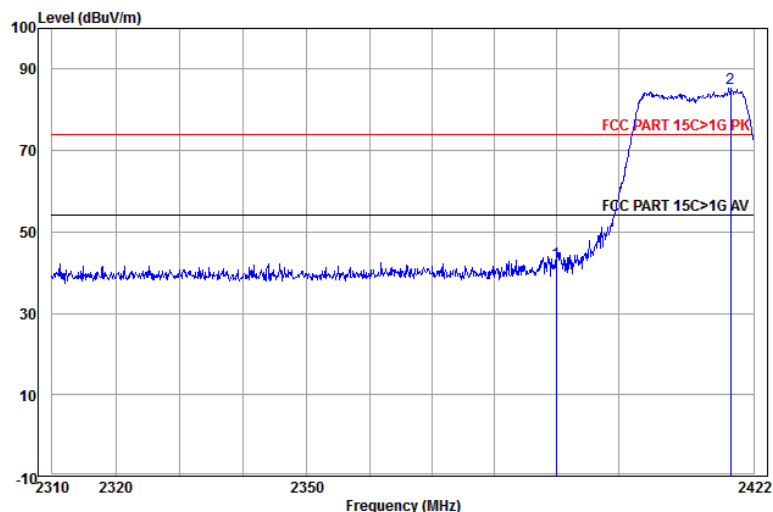
	Ant Freq	Cable Factor	Preamp Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dB		
1	pp 2465.442	32.68	3.11	44.12	93.13	84.80	74.00	10.80	Horizontal Peak
2	2483.500	32.71	3.12	44.14	48.43	40.12	74.00	-33.88	Horizontal Peak

Worse case mode:	802.11g (6Mbps)		
Frequency: 2483.5MHz	Test channel: Highest	Polarization: Vertical	Remark: Peak



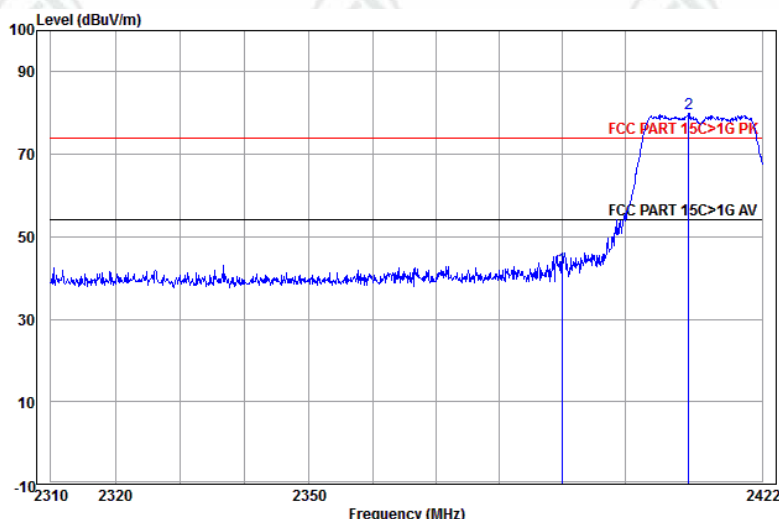
	Ant Freq	Cable Factor	Preamp Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dB		
1	pp 2455.949	32.66	3.10	44.11	86.43	78.08	74.00	4.08	Vertical Peak
2	2483.500	32.71	3.12	44.14	48.55	40.24	74.00	-33.76	Vertical Peak

Worse case mode:	802.11n(HT20) (6.5Mbps)		
Frequency: 2390.0MHz	Test channel: Lowest	Polarization: Horizontal	Remark: Peak



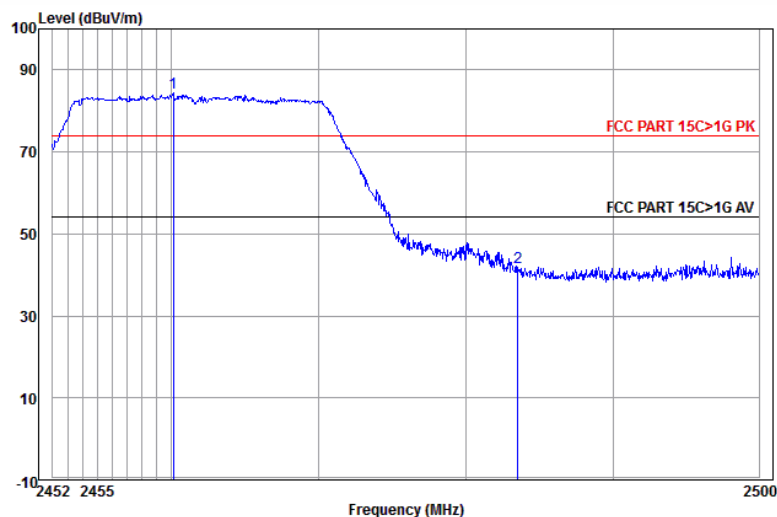
	Ant Freq	Cable Factor	Preamp Loss	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB		
1	2390.000	32.53	3.07	44.03	50.80	42.37	74.00	-31.63	Horizontal	Peak
2 pp	2418.219	32.59	3.08	44.06	93.84	85.45	74.00	11.45	Horizontal	Peak

Worse case mode:	802.11n(HT20) (6.5Mbps)		
Frequency: 2390.0MHz	Test channel: Lowest	Polarization: Vertical	Remark: Peak



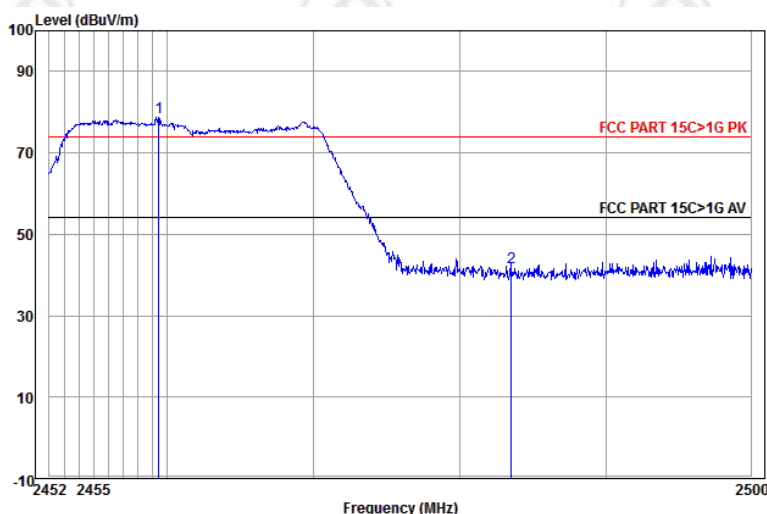
	Ant Freq	Cable Factor	Preamp Loss	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB		
1	2390.000	32.53	3.07	44.03	50.83	42.40	74.00	-31.60	Vertical	Peak
2 pp	2410.218	32.57	3.08	44.05	88.44	80.04	74.00	6.04	Vertical	Peak

Worse case mode:	802.11n(HT20) (6.5Mbps)		
Frequency: 2483.5MHz	Test channel: Highest	Polarization: Horizontal	Remark: Peak



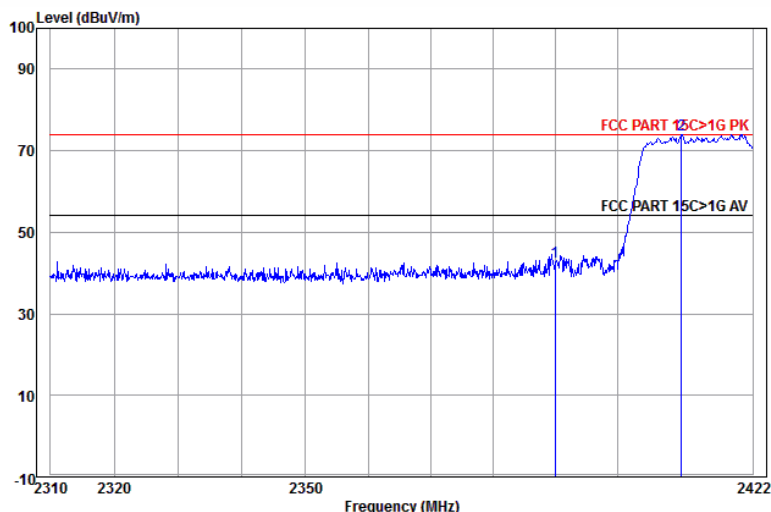
	Ant Freq	Cable Factor	Preamp Loss	Read Level	Level	Limit	Over	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dB		
1 pp	2460.142	32.67	3.11	44.11	92.60	84.27	74.00	10.27	Horizontal Peak
2	2483.500	32.71	3.12	44.14	50.30	41.99	74.00	-32.01	Horizontal Peak

Worse case mode:	802.11n(HT20) (6.5Mbps)		
Frequency: 2483.5MHz	Test channel: Highest	Polarization: Vertical	Remark: Peak



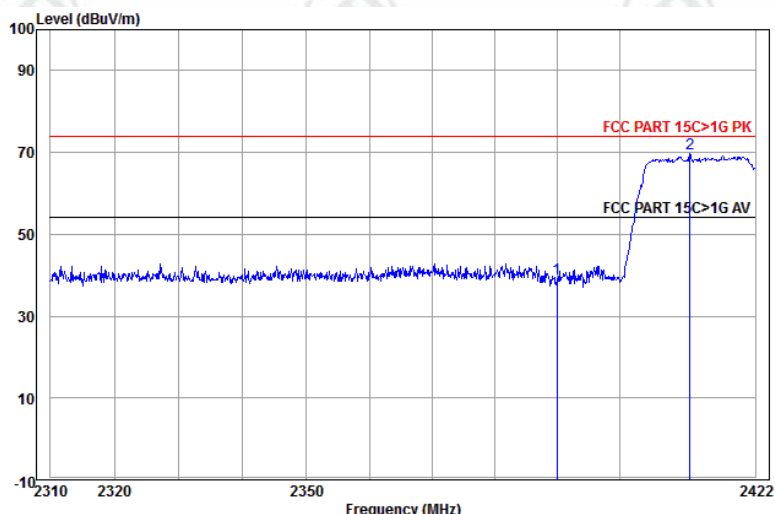
	Ant Freq	Cable Factor	Preamp Loss	Read Level	Level	Limit	Over	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dB		
1 pp	2459.427	32.67	3.11	44.11	86.93	78.60	74.00	4.60	Vertical Peak
2	2483.500	32.71	3.12	44.14	50.29	41.98	74.00	-32.02	Vertical Peak

Worse case mode:	802.11n(HT40) (13..5Mbps)		
Frequency: 2390.0MHz	Test channel: Lowest	Polarization: Horizontal	Remark: Peak



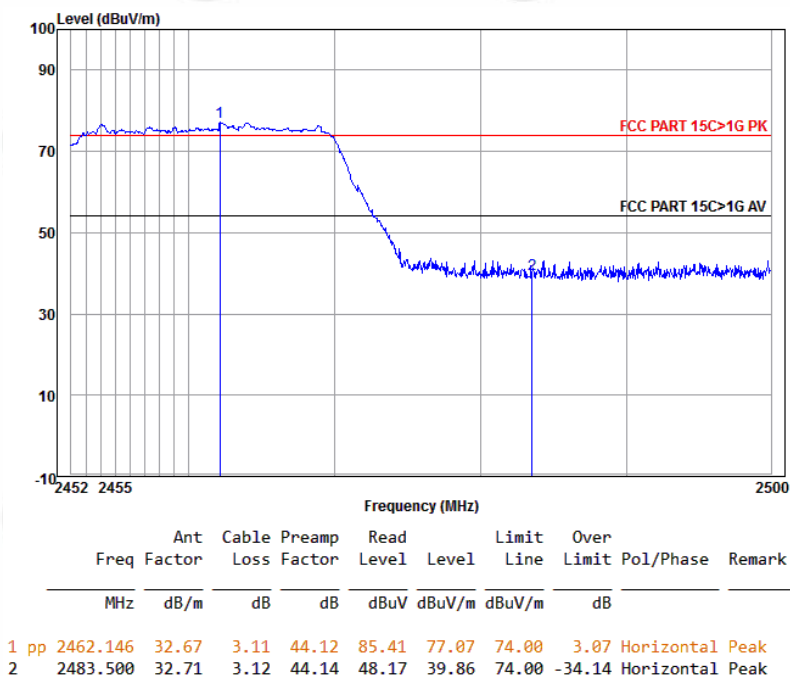
	Ant Freq	Cable Factor	Preamp Loss	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB		
1	2390.000	32.53	3.07	44.03	51.21	42.78	74.00	-31.22	Horizontal	Peak
2 pp	2410.446	32.57	3.08	44.05	82.30	73.90	74.00	-0.10	Horizontal	Peak

Worse case mode:	802.11n(HT40) (13..5Mbps)		
Frequency: 2390.0MHz	Test channel: Lowest	Polarization: Vertical	Remark: Peak

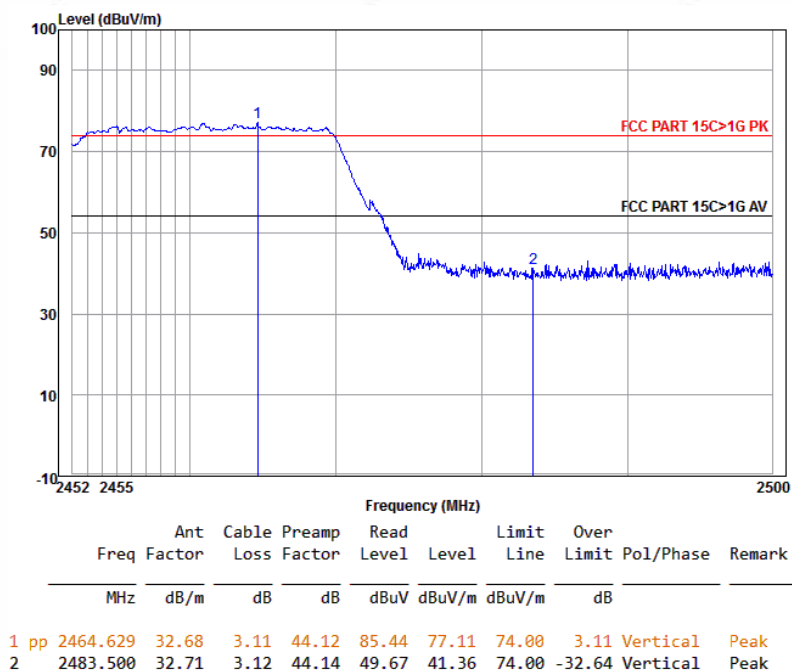


	Ant Freq	Cable Factor	Preamp Loss	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB		
1	2390.000	32.53	3.07	44.03	47.73	39.30	74.00	-34.70	Vertical	Peak
2 pp	2411.359	32.58	3.08	44.05	77.99	69.60	74.00	-4.40	Vertical	Peak

Worse case mode:	802.11n(HT40) (13..5Mbps)		
Frequency: 2483.5MHz	Test channel:Highest	Polarization: Horizontal	Remark: Peak



Worse case mode:	802.11n(HT40) (13..5Mbps)		
Frequency: 2483.5MHz	Test channel:Highest	Polarization: Vertical	Remark: Peak



Note:

1) Through Pre-scan transmitting mode and charge+transmitter mode with all kind of modulation and data rate, find the 11Mbps of rate is the worst case of 802.11b; 6Mbps of rate is the worst case of 802.11g; 6.5Mbps of rate is the worst case of 802.11n(HT20) ; 13.5Mbps of rate is the worst case of 802.11n(HT40), 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.

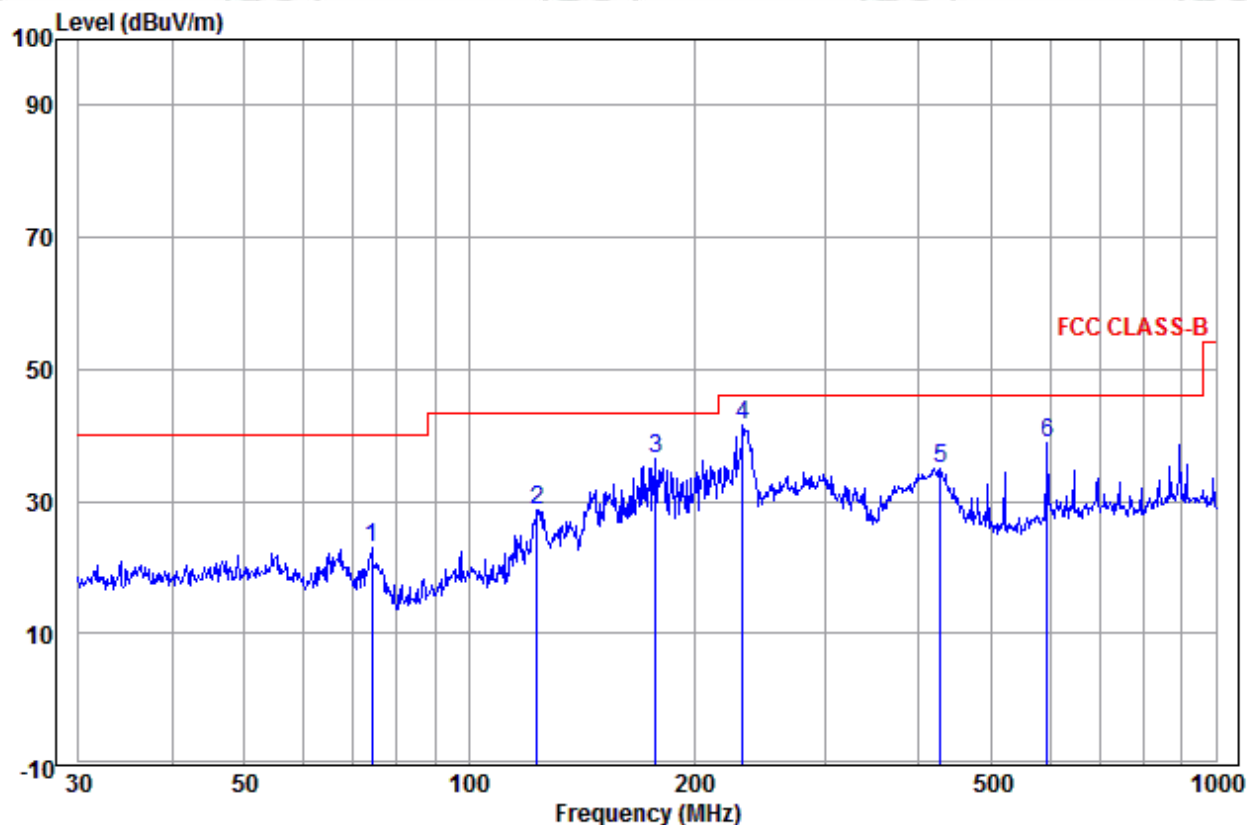
Limit:

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.

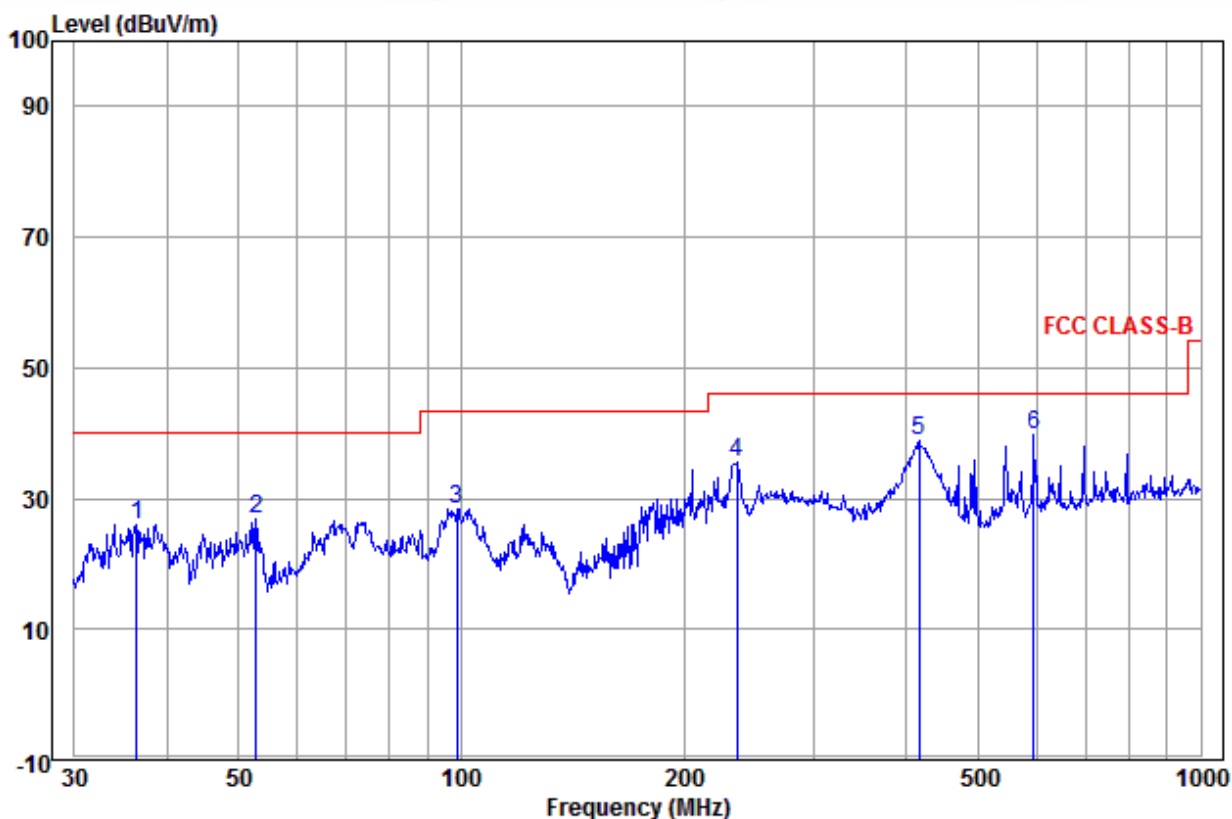
Radiated Spurious Emissions test Data:
Radiated Emission below 1GHz
802.11b

30MHz~1GHz (QP)		
Test mode:	Transmitting	Horizontal



	Ant Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	74.135	9.63	0.32	12.92	22.87	40.00	-17.13	Horizontal	QP
2	123.266	10.59	0.60	17.56	28.75	43.50	-14.75	Horizontal	QP
3	177.509	10.38	0.90	25.19	36.47	43.50	-7.03	Horizontal	QP
4 pp	232.532	12.24	1.26	27.92	41.42	46.00	-4.58	Horizontal	QP
5	428.019	15.77	1.41	17.82	35.00	46.00	-11.00	Horizontal	QP
6	595.133	18.62	1.80	18.36	38.78	46.00	-7.22	Horizontal	QP

Test mode:	Transmitting	Vertical
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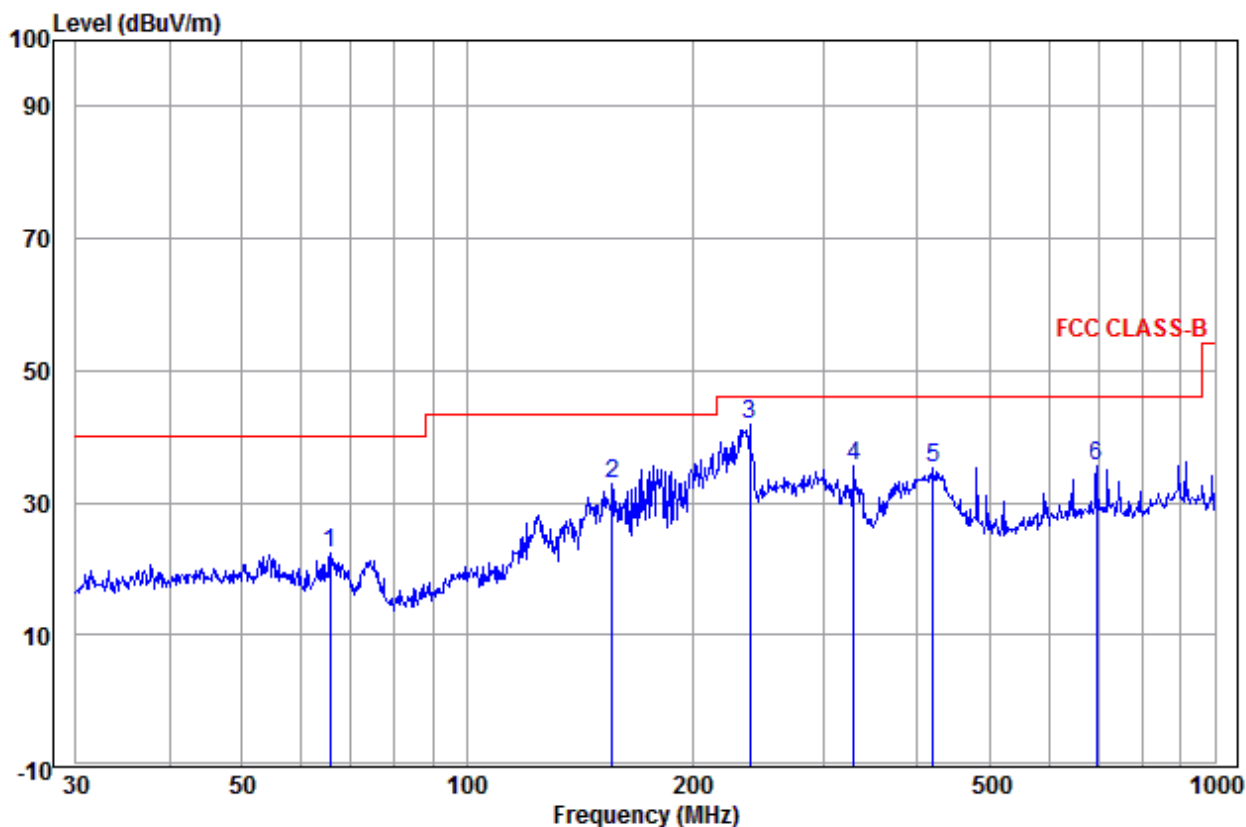


	Ant Freq	Cable Factor	Cable Loss	Read Level	Limit Level	Over Limit	Pol/Phase	Remark
	MHz		dB	dBuV	dBuV/m	dBuV/m	dB	
1	36.381	13.17	0.06	12.68	25.91	40.00	-14.09	Vertical QP
2	52.760	14.16	0.14	12.68	26.98	40.00	-13.02	Vertical QP
3	98.833	12.32	0.57	15.54	28.43	43.50	-15.07	Vertical QP
4	235.816	12.31	1.28	21.93	35.52	46.00	-10.48	Vertical QP
5	416.179	15.54	1.37	21.92	38.83	46.00	-7.17	Vertical QP
6 pp	595.133	18.62	1.80	19.26	39.68	46.00	-6.32	Vertical QP

802.11g

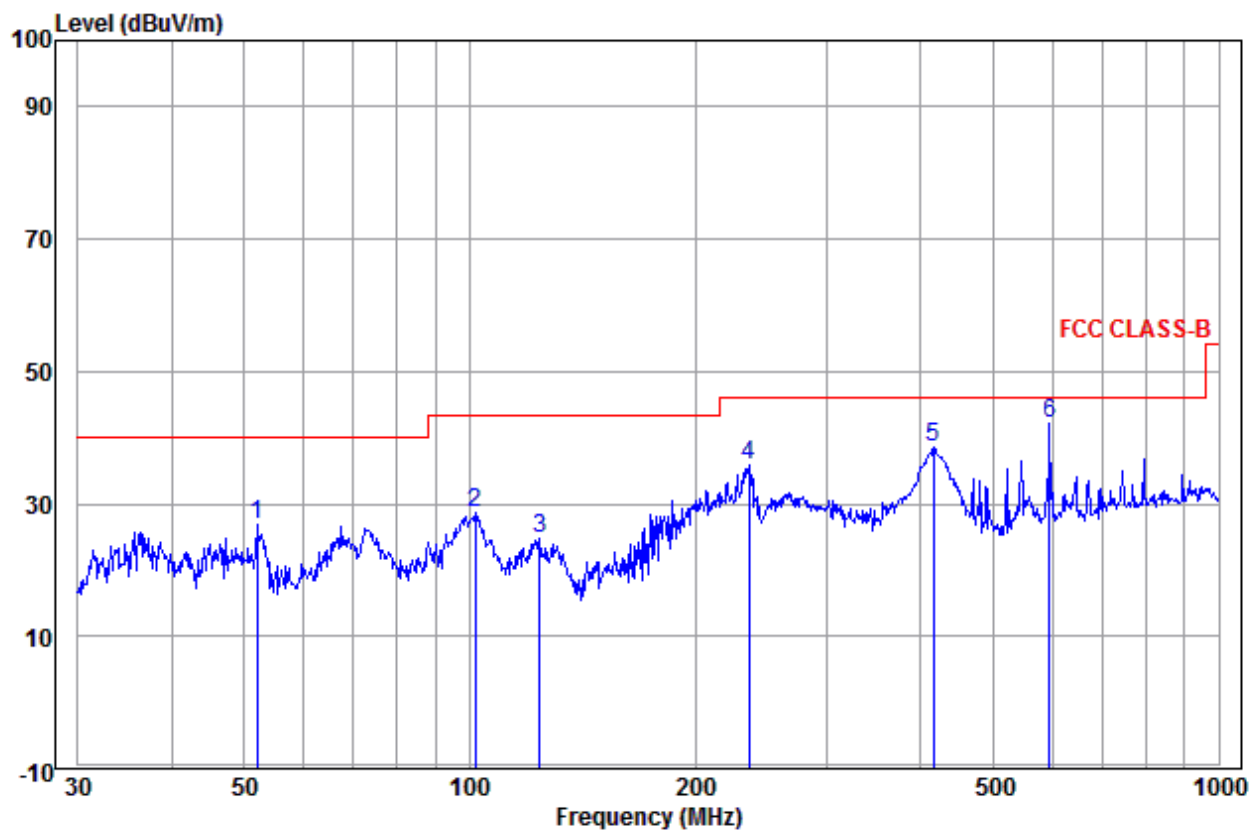
30MHz~1GHz (QP)

Test mode:	Transmitting	Horizontal
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	Ant Freq	Cable Factor	Read Loss	Level	Limit	Over	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	65.573	11.54	0.23	10.60	22.37	40.00	-17.63	Horizontal QP
2	156.458	9.20	0.68	22.86	32.74	43.50	-10.76	Horizontal QP
3 pp	239.147	12.38	1.29	28.16	41.83	46.00	-4.17	Horizontal QP
4	329.039	14.00	1.22	20.19	35.41	46.00	-10.59	Horizontal QP
5	420.580	15.63	1.38	18.20	35.21	46.00	-10.79	Horizontal QP
6	694.417	19.08	2.00	14.41	35.49	46.00	-10.51	Horizontal QP

Test mode:	Transmitting	Vertical
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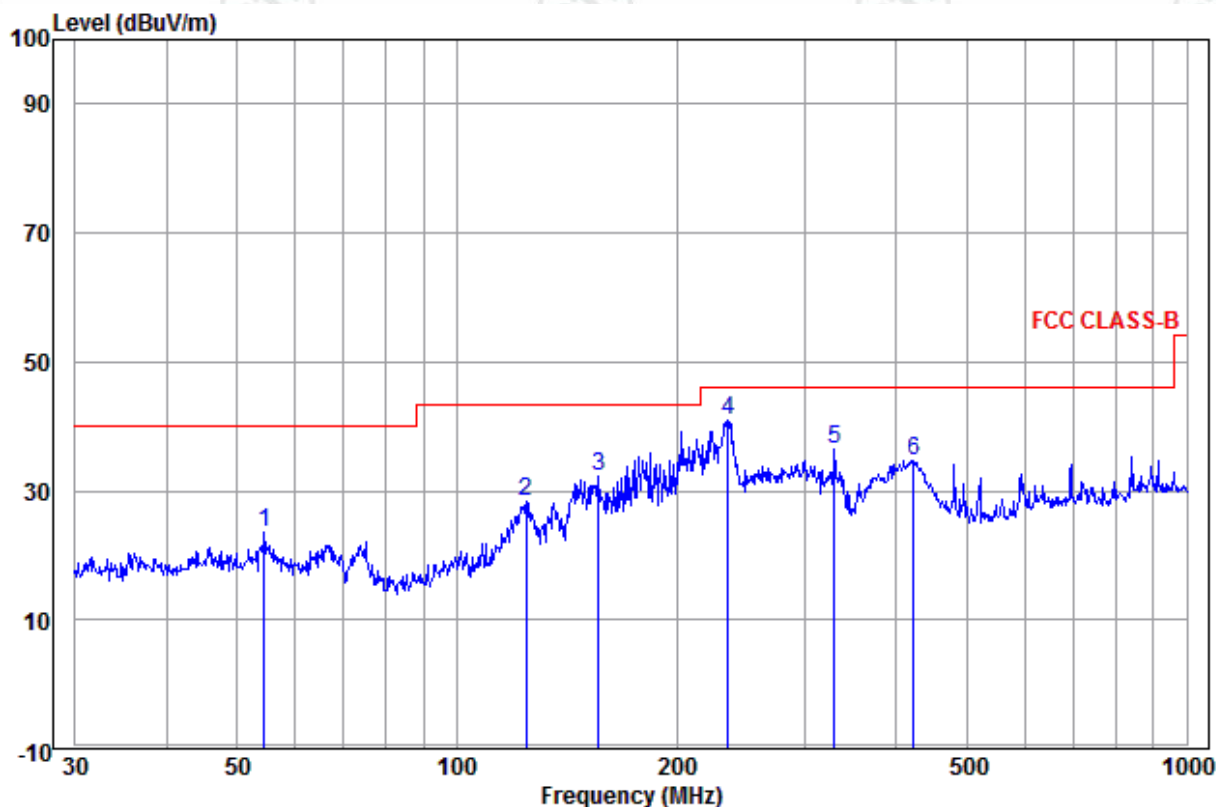


	Ant Freq	Cable Factor	Read Loss	Level Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	52.025	14.27	0.13	12.53	26.93	40.00	-13.07	Vertical QP
2	101.644	12.35	0.59	15.68	28.62	43.50	-14.88	Vertical QP
3	124.133	10.53	0.60	13.52	24.65	43.50	-18.85	Vertical QP
4	235.816	12.31	1.28	22.12	35.71	46.00	-10.29	Vertical QP
5	416.179	15.54	1.37	21.53	38.44	46.00	-7.56	Vertical QP
6 pp	595.133	18.62	1.80	21.61	42.03	46.00	-3.97	Vertical QP

802.11n(HT20)

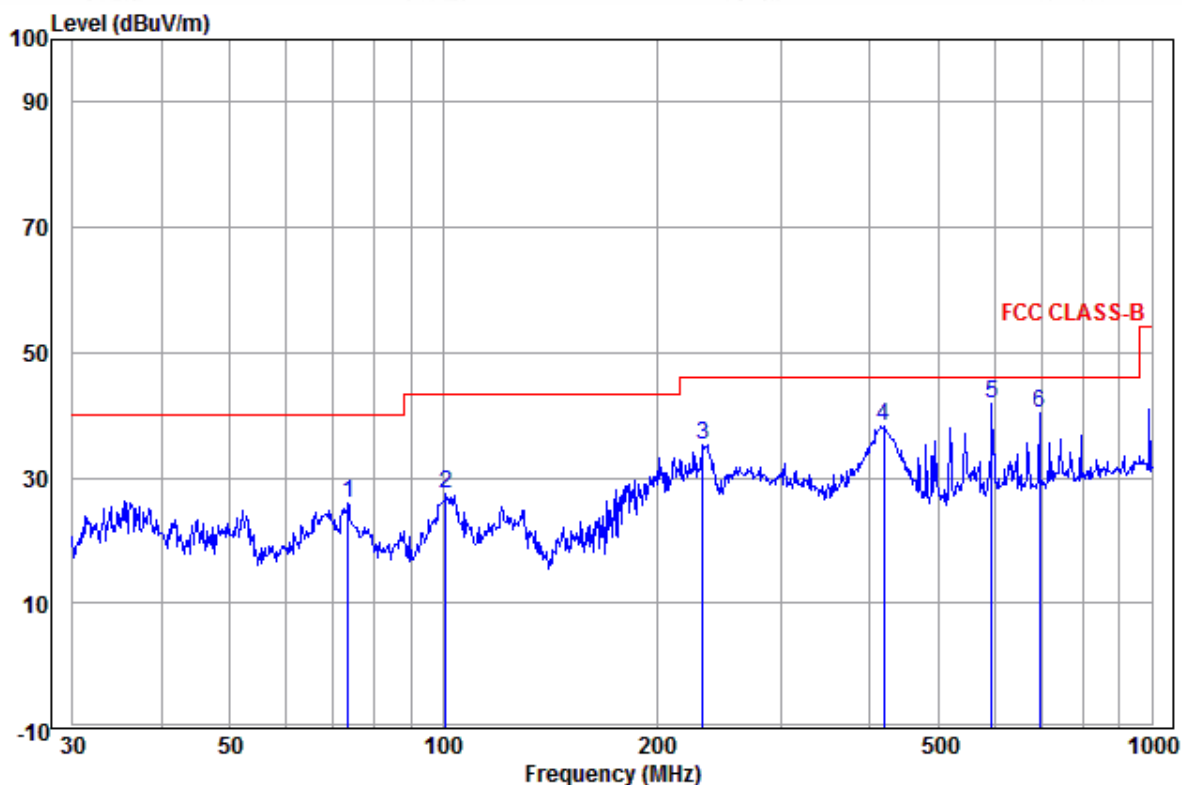
30MHz~1GHz (QP)

Test mode: Transmitting Horizontal



	Ant Freq	Factor	Cable Loss	Read Level	Limit Level	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	54.452	13.90	0.16	9.47	23.53	40.00	-16.47	Horizontal QP
2	124.569	10.50	0.60	17.26	28.36	43.50	-15.14	Horizontal QP
3	156.458	9.20	0.68	22.46	32.34	43.50	-11.16	Horizontal QP
4 pp	234.991	12.29	1.27	27.30	40.86	46.00	-5.14	Horizontal QP
5	329.039	14.00	1.22	21.13	36.35	46.00	-9.65	Horizontal QP
6	422.058	15.66	1.39	17.52	34.57	46.00	-11.43	Horizontal QP

Test mode:	Transmitting	Vertical
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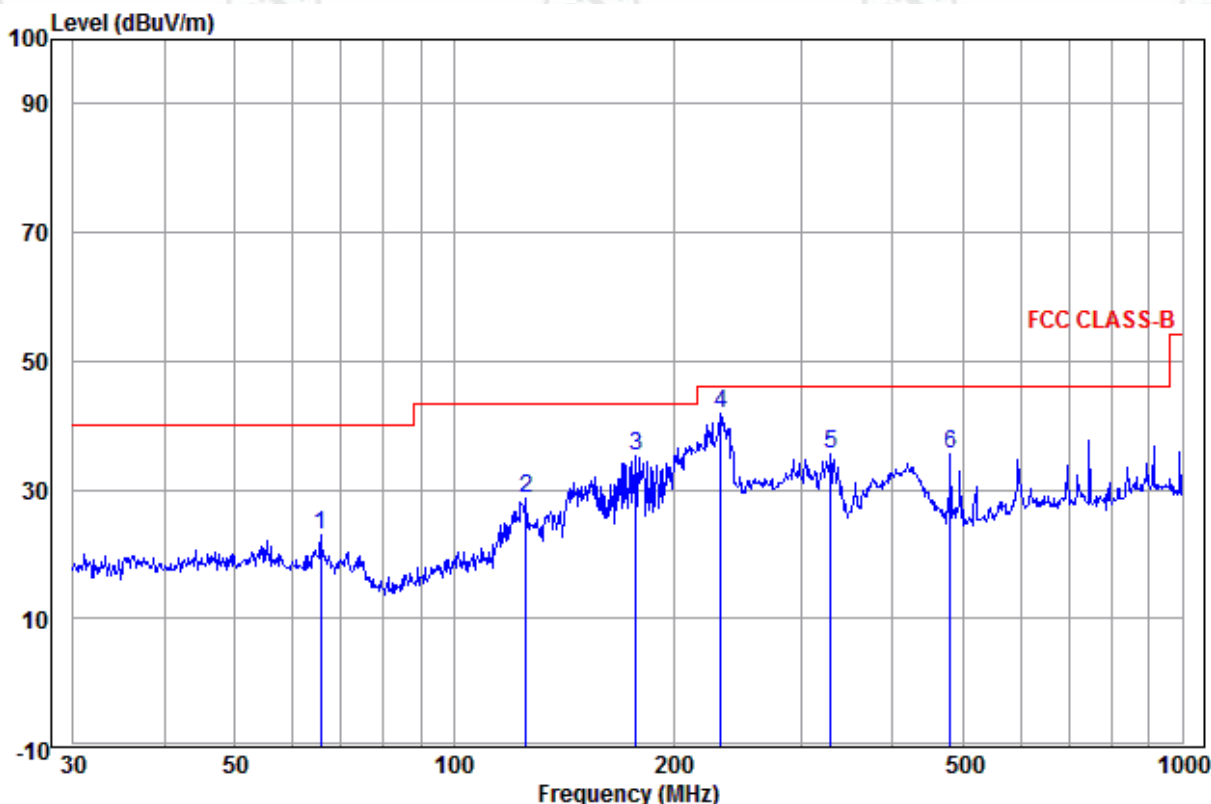


	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	73.359	9.77	0.31	15.74	25.82	40.00	-14.18	Vertical	QP
2	100.934	12.42	0.59	14.32	27.33	43.50	-16.17	Vertical	QP
3	232.532	12.24	1.26	21.83	35.33	46.00	-10.67	Vertical	QP
4	419.108	15.60	1.38	21.40	38.38	46.00	-7.62	Vertical	QP
5 pp	595.133	18.62	1.80	21.29	41.71	46.00	-4.29	Vertical	QP
6	694.417	19.08	2.00	19.17	40.25	46.00	-5.75	Vertical	QP

802.11n(HT40)

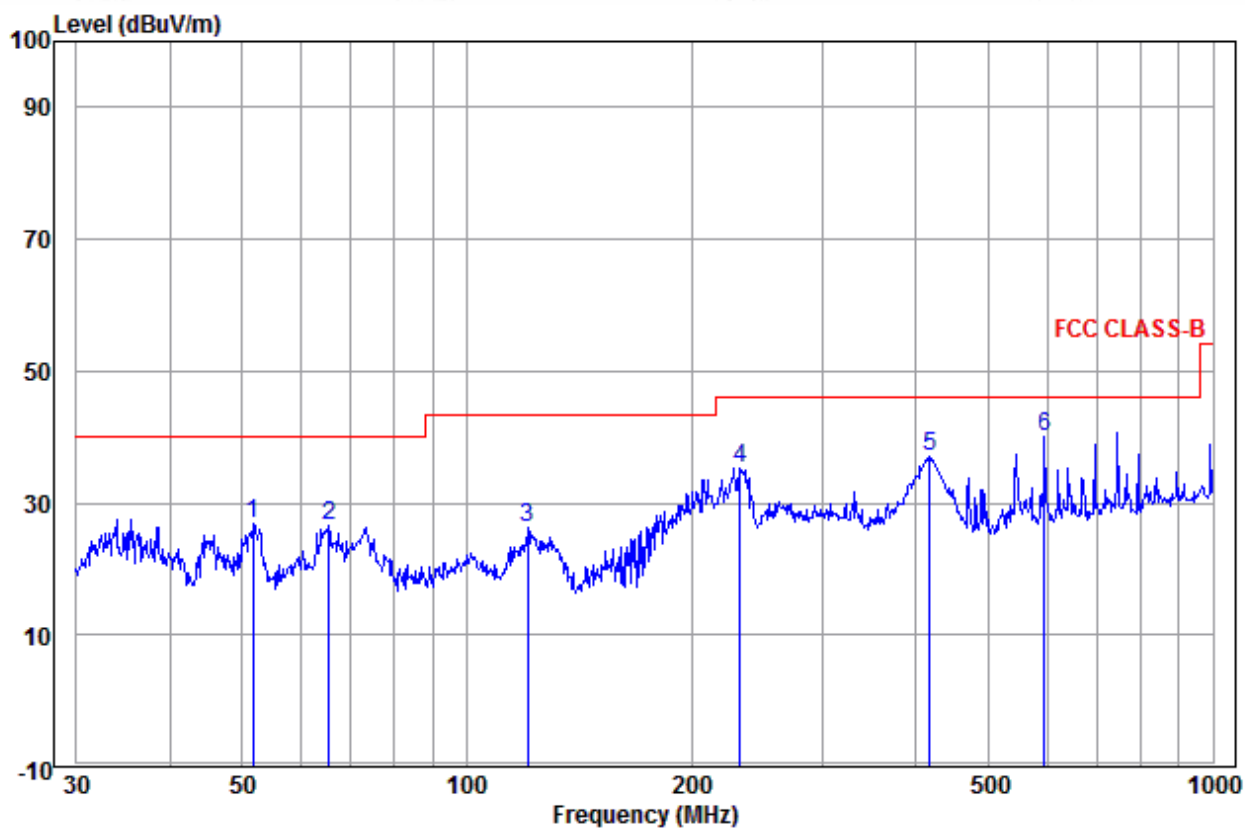
30MHz~1GHz (QP)

Test mode:	Transmitting	Horizontal
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	Ant Freq	Cable Factor	Cable Loss	Read Level	Limit Level	Over Limit	Pol/Phase	Remark
	MHz		dB	dBuV	dBuV/m	dBuV/m	dB	
1	65.573	11.54	0.23	11.26	23.03	40.00	-16.97	Horizontal QP
2	125.446	10.43	0.60	17.74	28.77	43.50	-14.73	Horizontal QP
3	177.509	10.38	0.90	24.00	35.28	43.50	-8.22	Horizontal QP
4 pp	232.532	12.24	1.26	28.30	41.80	46.00	-4.20	Horizontal QP
5	329.039	14.00	1.22	20.45	35.67	46.00	-10.33	Horizontal QP
6	480.528	16.64	1.50	17.33	35.47	46.00	-10.53	Horizontal QP

Test mode:	Transmitting	Vertical
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	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		
1	51.662	14.33	0.13	12.31	26.77	40.00	-13.23	Vertical	QP
2	65.343	11.61	0.23	14.70	26.54	40.00	-13.46	Vertical	QP
3	120.699	10.78	0.60	14.88	26.26	43.50	-17.24	Vertical	QP
4	232.532	12.24	1.26	21.84	35.34	46.00	-10.66	Vertical	QP
5	417.641	15.57	1.37	20.14	37.08	46.00	-8.92	Vertical	QP
6 pp	595.133	18.62	1.80	19.74	40.16	46.00	-5.84	Vertical	QP

Transmitter Emission above 1GHz

Test mode: 802.11b(11Mbps)			Test Frequency: 2412MHz			Remark: Peak			
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Gain (dB)	Read Level (dBμV)	Final test level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1182.943	30.18	1.83	44.41	47.48	35.08	74.00	-38.92	Pass	Horizontal
1561.221	30.99	2.36	43.93	47.45	36.87	74.00	-37.13	Pass	Horizontal
4824.000	34.73	6.02	44.60	43.42	39.57	74.00	-34.43	Pass	Horizontal
6363.645	36.09	7.34	44.54	46.59	45.48	74.00	-28.52	Pass	Horizontal
7236.000	36.42	6.94	44.80	44.69	43.25	74.00	-30.75	Pass	Horizontal
9648.000	37.93	7.01	45.57	44.34	43.71	74.00	-30.29	Pass	Horizontal
1098.763	29.97	1.69	44.54	47.77	34.89	74.00	-39.11	Pass	Vertical
1638.585	31.12	2.46	43.85	48.27	38.00	74.00	-36.00	Pass	Vertical
4824.000	34.73	6.02	44.60	43.05	39.20	74.00	-34.80	Pass	Vertical
5821.207	35.77	7.26	44.52	45.99	44.50	74.00	-29.50	Pass	Vertical
7236.000	36.42	6.94	44.80	43.88	42.44	74.00	-31.56	Pass	Vertical
9648.000	37.93	7.01	45.57	40.93	40.30	74.00	-33.70	Pass	Vertical

Test mode: 802.11b(11Mbps)			Test Frequency: 2437MHz			Remark: Peak			
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Gain (dB)	Read Level (dBμV)	Final test level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1101.563	29.98	1.70	44.53	47.36	34.51	74.00	-39.49	Pass	Horizontal
1428.142	30.73	2.19	44.08	46.75	35.59	74.00	-38.41	Pass	Horizontal
4874.000	34.84	6.12	44.60	42.33	38.69	74.00	-35.31	Pass	Horizontal
5806.408	35.76	7.25	44.52	45.65	44.14	74.00	-29.86	Pass	Horizontal
7311.000	36.43	6.86	44.86	43.66	42.09	74.00	-31.91	Pass	Horizontal
9748.000	38.03	7.10	45.55	43.04	42.62	74.00	-31.38	Pass	Horizontal
1041.569	29.82	1.59	44.63	48.01	34.79	74.00	-39.21	Pass	Vertical
1525.860	30.92	2.32	43.97	47.51	36.78	74.00	-37.22	Pass	Vertical
4874.000	34.84	6.12	44.60	42.61	38.97	74.00	-35.03	Pass	Vertical
5836.044	35.78	7.28	44.52	45.86	44.40	74.00	-29.60	Pass	Vertical
7311.000	36.43	6.86	44.86	43.67	42.10	74.00	-31.90	Pass	Vertical
9748.000	38.03	7.10	45.55	42.79	42.37	74.00	-31.63	Pass	Vertical

Test mode: 802.11b(11Mbps)			Test Frequency: 2462MHz			Remark: Peak			
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Gain (dB)	Read Level (dBμV)	Final test level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1309.737	30.48	2.03	44.23	47.96	36.24	74.00	-37.76	Pass	Horizontal
1693.716	31.22	2.52	43.79	46.33	36.28	74.00	-37.72	Pass	Horizontal
4924.000	34.94	6.22	44.60	44.29	40.85	74.00	-33.15	Pass	Horizontal
5791.646	35.74	7.23	44.52	47.52	45.97	74.00	-28.03	Pass	Horizontal
7386.000	36.44	6.78	44.92	42.40	40.70	74.00	-33.30	Pass	Horizontal
9848.000	38.14	7.19	45.53	43.76	43.56	74.00	-30.44	Pass	Horizontal
1101.563	29.98	1.70	44.53	47.59	34.74	74.00	-39.26	Pass	Vertical
1549.344	30.96	2.35	43.94	47.37	36.74	74.00	-37.26	Pass	Vertical
4924.000	34.94	6.22	44.60	44.91	41.47	74.00	-32.53	Pass	Vertical
6921.301	36.36	7.21	44.59	46.02	45.00	74.00	-29.00	Pass	Vertical
7386.000	36.44	6.78	44.92	42.64	40.94	74.00	-33.06	Pass	Vertical
9848.000	38.14	7.19	45.53	42.68	42.48	74.00	-31.52	Pass	Vertical

Test mode: 802.11g(6Mbps)			Test Frequency: 2412MHz			Remark: Peak			
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Gain (dB)	Read Level (dBμV)	Final test level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1296.469	30.45	2.01	44.25	47.09	35.30	74.00	-38.70	Pass	Horizontal
1800.416	31.40	2.64	43.68	46.48	36.84	74.00	-37.16	Pass	Horizontal
4824.000	34.73	6.02	44.60	42.36	38.51	74.00	-35.49	Pass	Horizontal
6063.190	35.93	7.42	44.51	45.88	44.72	74.00	-29.28	Pass	Horizontal
7236.000	36.42	6.94	44.80	44.42	42.98	74.00	-31.02	Pass	Horizontal
9648.000	37.93	7.01	45.57	41.45	40.82	74.00	-33.18	Pass	Horizontal
1201.149	30.23	1.86	44.38	47.42	35.13	74.00	-38.87	Pass	Vertical
1655.354	31.15	2.48	43.83	46.32	36.12	74.00	-37.88	Pass	Vertical
4824.000	34.73	6.02	44.60	43.21	39.36	74.00	-34.64	Pass	Vertical
5806.408	35.76	7.25	44.52	47.01	45.50	74.00	-28.50	Pass	Vertical
7236.000	36.42	6.94	44.80	44.45	43.01	74.00	-30.99	Pass	Vertical
9648.000	37.93	7.01	45.57	43.18	42.55	74.00	-31.45	Pass	Vertical

Test mode: 802.11g(6Mbps)			Test Frequency: 2437MHz			Remark: Peak			
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Final test level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1247.899	30.34	1.93	44.32	46.67	34.62	74.00	-39.38	Pass	Horizontal
1573.189	31.01	2.38	43.92	46.95	36.42	74.00	-37.58	Pass	Horizontal
4874.000	34.84	6.12	44.60	42.60	38.96	74.00	-35.04	Pass	Horizontal
6094.137	35.95	7.41	44.51	45.76	44.61	74.00	-29.39	Pass	Horizontal
7311.000	36.43	6.86	44.86	43.33	41.76	74.00	-32.24	Pass	Horizontal
9748.000	38.03	7.10	45.55	42.53	42.11	74.00	-31.89	Pass	Horizontal
1207.279	30.24	1.87	44.37	47.13	34.87	74.00	-39.13	Pass	Vertical
1581.218	31.02	2.39	43.91	46.95	36.45	74.00	-37.55	Pass	Vertical
4874.000	34.84	6.12	44.60	42.90	39.26	74.00	-34.74	Pass	Vertical
5836.044	35.78	7.28	44.52	46.13	44.67	74.00	-29.33	Pass	Vertical
7311.000	36.43	6.86	44.86	42.41	40.84	74.00	-33.16	Pass	Vertical
9748.000	38.03	7.10	45.55	42.03	41.61	74.00	-32.39	Pass	Vertical

Test mode: 802.11g(6Mbps)			Test Frequency: 2462MHz			Remark: Peak			
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Final test level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1170.959	30.16	1.81	44.43	47.79	35.33	74.00	-38.67	Pass	Horizontal
1549.344	30.96	2.35	43.94	47.39	36.76	74.00	-37.24	Pass	Horizontal
4924.000	34.94	6.22	44.60	43.27	39.83	74.00	-34.17	Pass	Horizontal
6363.645	36.09	7.34	44.54	46.60	45.49	74.00	-28.51	Pass	Horizontal
7386.000	36.44	6.78	44.92	42.68	40.98	74.00	-33.02	Pass	Horizontal
9848.000	38.14	7.19	45.53	42.01	41.81	74.00	-32.19	Pass	Horizontal
1204.210	30.24	1.87	44.38	47.91	35.64	74.00	-38.36	Pass	Vertical
1549.344	30.96	2.35	43.94	46.83	36.20	74.00	-37.80	Pass	Vertical
4924.000	34.94	6.22	44.60	44.06	40.62	74.00	-33.38	Pass	Vertical
6363.645	36.09	7.34	44.54	45.83	44.72	74.00	-29.28	Pass	Vertical
7386.000	36.44	6.78	44.92	41.89	40.19	74.00	-33.81	Pass	Vertical
9848.000	38.14	7.19	45.53	42.37	42.17	74.00	-31.83	Pass	Vertical

Test mode: 802.11n(HT20)(6.5Mbps)				Test Frequency: 2412MHz			Remark: Peak		
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Final test level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1201.149	30.23	1.86	44.38	46.98	34.69	74.00	-39.31	Pass	Horizontal
1525.860	30.92	2.32	43.97	47.18	36.45	74.00	-37.55	Pass	Horizontal
1856.261	31.48	2.70	43.63	47.43	37.98	74.00	-36.02	Pass	Horizontal
4824.000	34.73	6.02	44.60	43.87	40.02	74.00	-33.98	Pass	Horizontal
7236.000	36.42	6.94	44.80	44.31	42.87	74.00	-31.13	Pass	Horizontal
9648.000	37.93	7.01	45.57	42.42	41.79	74.00	-32.21	Pass	Horizontal
1121.367	30.03	1.73	44.50	47.64	34.90	74.00	-39.10	Pass	Vertical
1569.189	31.00	2.37	43.92	47.61	37.06	74.00	-36.94	Pass	Vertical
4824.000	34.73	6.02	44.60	43.08	39.23	74.00	-34.77	Pass	Vertical
5791.646	35.74	7.23	44.52	46.15	44.60	74.00	-29.40	Pass	Vertical
7236.000	36.42	6.94	44.80	44.95	43.51	74.00	-30.49	Pass	Vertical
9648.000	37.93	7.01	45.57	43.20	42.57	74.00	-31.43	Pass	Vertical

Test mode: 802.11n(HT20)(6.5Mbps)				Test Frequency: 2437MHz			Remark: Peak		
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Final test level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1270.334	30.39	1.97	44.29	47.57	35.64	74.00	-38.36	Pass	Horizontal
1506.563	30.88	2.30	43.99	47.23	36.42	74.00	-37.58	Pass	Horizontal
1851.542	31.48	2.69	43.63	47.22	37.76	74.00	-36.24	Pass	Horizontal
4874.000	34.84	6.12	44.60	42.75	39.11	74.00	-34.89	Pass	Horizontal
7311.000	36.43	6.86	44.86	42.83	41.26	74.00	-32.74	Pass	Horizontal
9748.000	38.03	7.10	45.55	42.79	42.37	74.00	-31.63	Pass	Horizontal
1188.980	30.20	1.84	44.40	46.51	34.15	74.00	-39.85	Pass	Vertical
1487.509	30.85	2.27	44.01	47.51	36.62	74.00	-37.38	Pass	Vertical
1856.261	31.48	2.70	43.63	46.63	37.18	74.00	-36.82	Pass	Vertical
4874.000	34.84	6.12	44.60	43.16	39.52	74.00	-34.48	Pass	Vertical
7311.000	36.43	6.86	44.86	42.61	41.04	74.00	-32.96	Pass	Vertical
9748.000	38.03	7.10	45.55	41.80	41.38	74.00	-32.62	Pass	Vertical

Test mode: 802.11n(HT20)(6.5Mbps)				Test Frequency: 2462MHz			Remark: Peak		
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Gain (dB)	Read Level (dBμV)	Final test level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1073.876	29.91	1.65	44.58	47.45	34.43	74.00	-39.57	Pass	Horizontal
1557.252	30.98	2.36	43.93	47.23	36.64	74.00	-37.36	Pass	Horizontal
1823.477	31.43	2.66	43.66	47.09	37.52	74.00	-36.48	Pass	Horizontal
4924.000	34.94	6.22	44.60	44.55	41.11	74.00	-32.89	Pass	Horizontal
7386.000	36.44	6.78	44.92	42.40	40.70	74.00	-33.30	Pass	Horizontal
9848.000	38.14	7.19	45.53	42.08	41.88	74.00	-32.12	Pass	Horizontal
1118.517	30.02	1.72	44.51	47.69	34.92	74.00	-39.08	Pass	Vertical
1521.981	30.91	2.32	43.97	46.47	35.73	74.00	-38.27	Pass	Vertical
1832.785	31.45	2.67	43.65	47.27	37.74	74.00	-36.26	Pass	Vertical
4924.000	34.94	6.22	44.60	43.32	39.88	74.00	-34.12	Pass	Vertical
7386.000	36.44	6.78	44.92	42.65	40.95	74.00	-33.05	Pass	Vertical
9848.000	38.14	7.19	45.53	41.86	41.66	74.00	-32.34	Pass	Vertical

Test mode: 802.11n(HT40)(13.5Mbps)				Test Frequency: 2422MHz			Remark: Peak		
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Gain (dB)	Read Level (dBμV)	Final test level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1254.268	30.35	1.94	44.31	46.96	34.94	74.00	-39.06	Pass	Horizontal
1759.638	31.33	2.59	43.72	46.23	36.43	74.00	-37.57	Pass	Horizontal
4824.000	34.73	6.02	44.60	41.67	37.82	74.00	-36.18	Pass	Horizontal
5821.207	35.77	7.26	44.52	45.56	44.07	74.00	-29.93	Pass	Horizontal
7236.000	36.42	6.94	44.80	43.37	41.93	74.00	-32.07	Pass	Horizontal
9648.000	37.93	7.01	45.57	39.00	38.37	74.00	-35.63	Pass	Horizontal
1095.969	29.96	1.69	44.54	46.89	34.00	74.00	-40.00	Pass	Vertical
1537.557	30.94	2.34	43.96	47.03	36.35	74.00	-37.65	Pass	Vertical
1889.633	31.54	2.73	43.60	46.96	37.63	74.00	-36.37	Pass	Vertical
4824.000	34.73	6.02	44.60	41.57	37.72	74.00	-36.28	Pass	Vertical
7236.000	36.42	6.94	44.80	43.04	41.60	74.00	-32.40	Pass	Vertical
9648.000	37.93	7.01	45.57	38.65	38.02	74.00	-35.98	Pass	Vertical

Test mode: 802.11n(HT40)(13.5Mbps)				Test Frequency: 2437MHz			Remark: Peak		
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Final test level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1104.371	29.99	1.70	44.53	47.28	34.44	74.00	-39.56	Pass	Horizontal
1529.749	30.93	2.33	43.96	46.71	36.01	74.00	-37.99	Pass	Horizontal
1823.477	31.43	2.66	43.66	47.88	38.31	74.00	-35.69	Pass	Horizontal
4874.000	34.84	6.12	44.60	42.86	39.22	74.00	-34.78	Pass	Horizontal
7311.000	36.43	6.86	44.86	41.85	40.28	74.00	-33.72	Pass	Horizontal
9748.000	38.03	7.10	45.55	40.58	40.16	74.00	-33.84	Pass	Horizontal
1219.635	30.27	1.89	44.36	47.50	35.30	74.00	-38.70	Pass	Vertical
1545.405	30.96	2.35	43.95	47.37	36.73	74.00	-37.27	Pass	Vertical
4874.000	34.84	6.12	44.60	43.05	39.41	74.00	-34.59	Pass	Vertical
5776.922	35.73	7.22	44.52	47.41	45.84	74.00	-28.16	Pass	Vertical
7311.000	36.43	6.86	44.86	41.17	39.60	74.00	-34.40	Pass	Vertical
9748.000	38.03	7.10	45.55	39.77	39.35	74.00	-34.65	Pass	Vertical

Test mode: 802.11n(HT40)(13.5Mbps)				Test Frequency: 2452MHz			Remark: Peak		
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Final test level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1232.117	30.30	1.91	44.34	47.01	34.88	74.00	-39.12	Pass	Horizontal
2118.973	31.97	2.91	43.67	46.58	37.79	74.00	-36.21	Pass	Horizontal
4904.000	34.90	6.18	44.60	42.92	39.40	74.00	-34.60	Pass	Horizontal
5791.646	35.74	7.23	44.52	46.12	44.57	74.00	-29.43	Pass	Horizontal
7356.000	36.44	6.81	44.90	41.32	39.67	74.00	-34.33	Pass	Horizontal
9808.000	38.10	7.16	45.54	39.99	39.71	74.00	-34.29	Pass	Horizontal
1267.104	30.38	1.96	44.29	46.20	34.25	74.00	-39.75	Pass	Vertical
1565.200	30.99	2.37	43.92	46.97	36.41	74.00	-37.59	Pass	Vertical
2146.115	32.03	2.93	43.71	46.39	37.64	74.00	-36.36	Pass	Vertical
4904.000	34.90	6.18	44.60	42.63	39.11	74.00	-34.89	Pass	Vertical
7356.000	36.44	6.81	44.90	40.51	38.86	74.00	-35.14	Pass	Vertical
9808.000	38.10	7.16	45.54	40.03	39.75	74.00	-34.25	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) ; 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

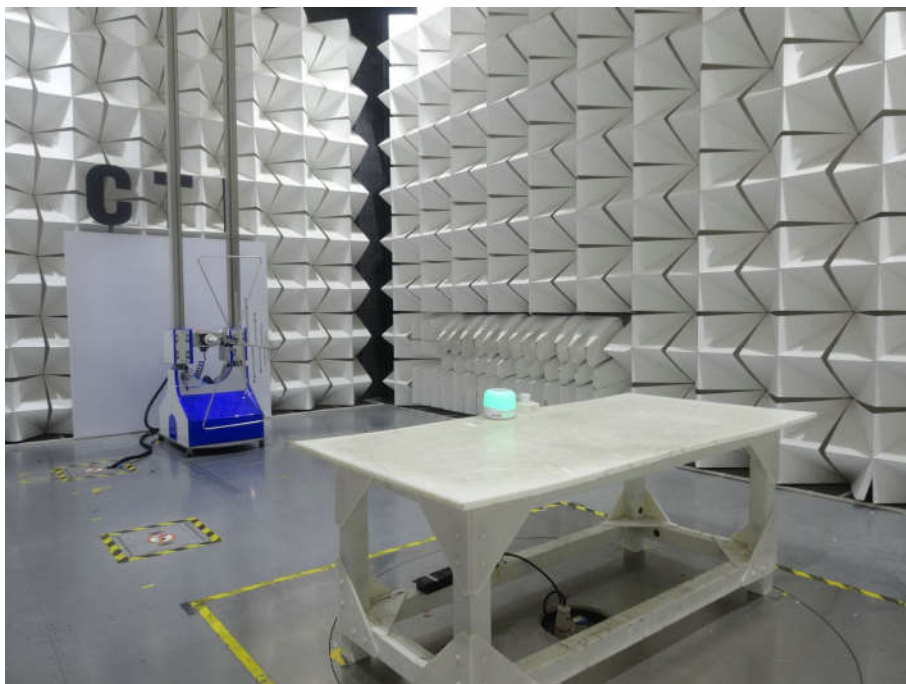
3) Scan from 9kHz to 25GHz, the disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below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

PHOTOGRAPHS OF TEST SETUP

Test Model No.: CWMEMOOV01



Radiated spurious emission Test Setup-1 (9KHz-30MHz)



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



Radiated spurious emission Test Setup-3 (Above 1GHz)



Conducted Emissions Test Setup

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No.EED32J00168901 for EUT external and internal photos.

*** 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.