

FCC Test Report

FCC ID : MXF-C4000BG
Equipment : Residential Gateway Products
Model No. : C4000BG
Brand Name : CenturyLink
Applicant : Gemtek Technology Co., Ltd.
Address : No. 15-1 Zhonghua Road, Hsinchu Industrial Park,
Hukou, Hsinchu, Taiwan, 30352.
Standard : 47 CFR FCC Part 15.247
Received Date : Aug. 22, 2020
Tested Date : Sep. 18 ~ Oct. 20, 2020

We, International Certification Corp., would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by:



Along Chen / Assistant Manager

Approved by:



Gary Chang / Manager



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Release Record

Report No.	Version	Description	Issued Date
FR082201AC	Rev. 01	Initial issue	Dec. 15, 2020

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 1.040MHz 40.01 (Margin -15.99dB) - QP	Pass
15.247(d) 15.209	Radiated Emissions	[dBuV/m at 3m]: 4824.00MHz 53.87 (Margin -0.13dB) - AV	Pass
15.247(b)(3)	Maximum Output Power	Max Power [dBm]: Non-beamforming mode 29.88 Beamforming mode 29.65	Pass
15.247(a)(2)	6dB Bandwidth	Meet the requirement of limit	Pass
15.247(e)	Power Spectral Density	Meet the requirement of limit	Pass
15.203	Antenna Requirement	Meet the requirement of limit	Pass

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1 General Description

1.1 Information

1.1.1 Specification of the Equipment under Test (EUT)

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N _{TX})	Data Rate / MCS
2400-2483.5	b	2412-2462	1-11 [11]	2	1-11 Mbps
2400-2483.5	g	2412-2462	1-11 [11]	2	6-54 Mbps
2400-2483.5	n (HT20)	2412-2462	1-11 [11]	2	MCS 0-15
2400-2483.5	n (HT40)	2422-2452	3-9 [7]	2	MCS 0-15
2400-2483.5	ac (VHT20)	2412-2462	1-11 [11]	2	MCS 0-9
2400-2483.5	ac (VHT40)	2422-2452	3-9 [7]	2	MCS 0-9
2400-2483.5	ax (HE20)	2412-2462	1-11 [11]	2	MCS 0-11
2400-2483.5	ax (HE40)	2422-2452	3-9 [7]	2	MCS 0-11

Note 1: RF output power specifies that Maximum Conducted (Average) Output Power.
 Note 2: DSSS-DBPSK, DQPSK, CCK modulation
 OFDM/OFDMA- BPSK, QPSK, 16QAM, 64QAM, 256QAM and 1024QAM modulation.
 Note 3: 802.11an / ac / ax supports beamforming function.

1.1.2 Antenna Details

Ant. No.	Model	Type	Connector	Operating Frequencies (MHz) / Antenna Gain (dBi)				
				2400~2483.5	5150~5250	5250~5350	5470~5725	5725~5850
1	G_Ant1	Panel	UFL	1.75	1.83	2.29	2.93	2.73
2	G_Ant2	Panel	UFL	2.55	3.05	3.91	4.99	4.6

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	12 Vdc from AC adapter
-------------------	------------------------

1.1.4 Accessories

Accessories		
No.	Equipment	Description
1	AC adapter 1	Brand: LEI Model: ML30B1120250-A1 I/P: 100-120Vac, 50/60Hz, 0.8A O/P: 12Vdc, 2.5A Power Line: 1.8m non-shielded without core
2	AC adapter 2	Brand: MOSO Model: MSS-V2500WR120-030E0-US I/P: 100-240Vac, 50 / 60Hz, 1.0A O/P: 12Vdc, 2.5A Power Line: 1.8m non-shielded without core
3	RJ45 (WAN) (White)	1.7m non-shielded without core
4	RJ 45 (LAN) (Yellow)	1.7m non-shielded without core
5	RJ11 (Green)	3.6m non-shielded without core

1.1.5 Channel List

Frequency band (MHz)		2400~2483.5	
802.11bg / n HT20 / ac VHT20 / ax HE20		802.11n HT40 / ac VHT40 / ax HE40	
Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	2412	3	2422
2	2417	4	2427
3	2422	5	2432
4	2427	6	2437
5	2432	7	2442
6	2437	8	2447
7	2442	9	2452
8	2447	---	---
9	2452	---	---
10	2457	---	---
11	2462	---	---

1.1.6 Test Tool and Duty Cycle

Test Tool	Intel DUT GUI, Version: V610.26		
Duty Cycle and Duty Factor	Mode	Duty Cycle (%)	Duty Factor (dB)
	11b	100.00%	0.00
	11g	100.00%	0.00
	ax (HE20)	100.00%	0.00
	ax (HE40)	100.00%	0.00

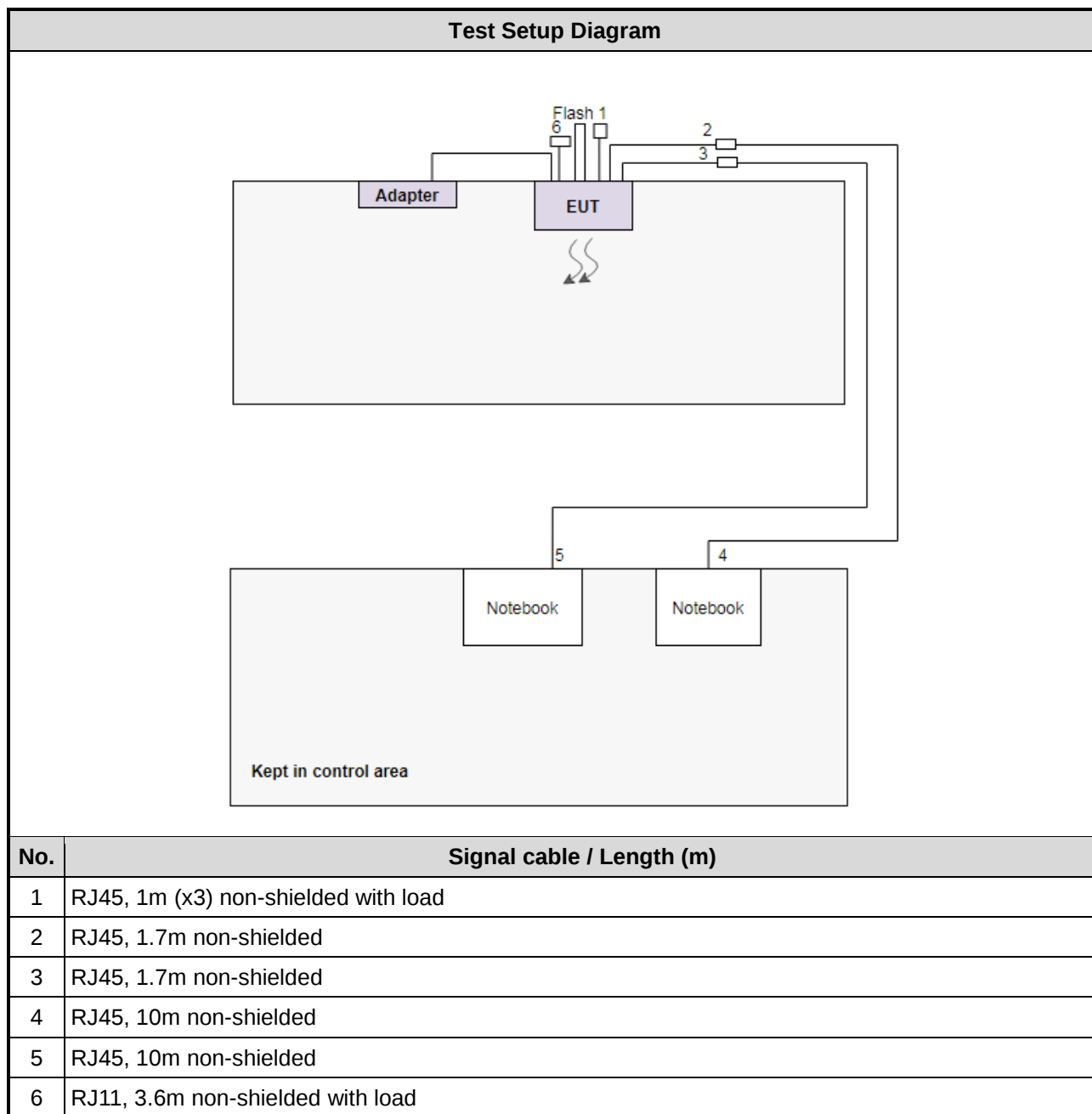
1.1.7 Power Index of Test Tool

Modulation Mode	Test Frequency (MHz)	Power Index	
		Non- beamforming	Beamforming
11b	2412	24	---
11b	2437	25	---
11b	2462	25	---
11g	2412	23	---
11g	2417	24	---
11g	2437	28	---
11g	2457	24	---
11g	2462	22.5	---
HT20	2412	21	21
HT20	2417	22	22
HT20	2437	27.5	27.5
HT20	2457	23	23
HT20	2462	21	21
HT40	2422	19.5	19.5
HT40	2437	22.5	22.5
HT40	2452	20.5	20.5
ax (HE20)	2412	21	21
ax (HE20)	2417	22	22
ax (HE20)	2437	27.5	27.5
ax (HE20)	2457	23	23
ax (HE20)	2462	21	21
ax (HE40)	2422	19.5	19.5
ax (HE40)	2437	22.5	22.5
ax (HE40)	2452	20.5	20.5

1.2 Local Support Equipment List

Support Equipment List					
No.	Equipment	Brand	Model	FCC ID	Remarks
1	WAN (White)	---	---	---	Provided by applicant.
2	LAN (Yellow)	---	---	---	Provided by applicant.
3	RJ45	ICC	RJ45-10m	---	---
4	RJ45	ICC	RJ45-10m	---	---
5	RJ45	ICC	RJ45-1.3m	---	---
6	RJ45	ICC	RJ45-1.3m	---	---
7	RJ11 (Green)	---	---	---	Provided by applicant.
8	RJ45 Connector	ICC	RJ45 Connector	---	---
9	RJ45 Connector	ICC	RJ45 Connector	---	---
10	RJ45 Load	ICC	---	---	---
11	RJ11 Load	ICC	---	---	---
12	Notebook	DELL	Latitude E6430	DoC	---
13	Notebook	DELL	Latitude E6440	DoC	---
14	USB 3.0 Flash	Transcend	JetFlash 700	---	---
14	RJ45	ICC	RJ45-1.3m	---	---

1.3 Test Setup Chart



1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Test Date	Oct. 19, 2020				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Receiver	R&S	ESR3	101658	Dec. 12, 2019	Dec. 11, 2020
LISN	R&S	ENV216	101579	Mar. 12, 2020	Mar. 11, 2021
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Oct. 22, 2019	Oct. 21, 2020
Measurement Software	AUDIX	e3	6.120210k	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission below 1GHz				
Test Site	966 chamber1 / (03CH01-WS)				
Test Date	Oct. 20, 2020				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101498	Dec. 17, 2019	Dec. 16, 2020
Receiver	R&S	ESR3	101657	Feb. 14, 2020	Feb. 13, 2021
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Jul. 10, 2020	Jul. 09, 2021
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 12, 2019	Dec. 11, 2020
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 15, 2019	Nov. 14, 2020
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 13, 2019	Nov. 12, 2020
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 06, 2020	Oct. 05, 2021
Preamplifier	EMC	EMC02325	980225	Jul. 03, 2020	Jul. 02, 2021
Preamplifier	Agilent	83017A	MY39501308	Sep. 26, 2020	Sep. 25, 2021
Preamplifier	EMC	EMC184045B	980192	Jul. 21, 2020	Jul. 20, 2021
RF Cable	EMC	EMC104-SM-SM-8000	181106	Oct. 06, 2020	Oct. 05, 2021
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Oct. 06, 2020	Oct. 05, 2021
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Oct. 06, 2020	Oct. 05, 2021
LF cable 1M	EMC	EMCCFD400-NM-N M-1000	160502	Oct. 06, 2020	Oct. 05, 2021
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Oct. 06, 2020	Oct. 05, 2021
LF cable 11M	EMC	EMCCFD400-NW-N W-11000	200801	Oct. 06, 2020	Oct. 05, 2021
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission above 1GHz				
Test Site	966 chamber1 / (03CH01-WS)				
Test Date	Sep. 18 ~ Sep. 23, 2020				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101498	Dec. 17, 2019	Dec. 16, 2020
Receiver	R&S	ESR3	101657	Feb. 14, 2020	Feb. 13, 2021
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Jul. 10, 2020	Jul. 09, 2021
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 12, 2019	Dec. 11, 2020
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 15, 2019	Nov. 14, 2020
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 13, 2019	Nov. 12, 2020
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 07, 2019	Oct. 06, 2020
Preamplifier	EMC	EMC02325	980225	Jul. 03, 2020	Jul. 02, 2021
Preamplifier	Agilent	83017A	MY39501308	Oct. 08, 2019	Oct. 07, 2020
Preamplifier	EMC	EMC184045B	980192	Jul. 21, 2020	Jul. 20, 2021
RF Cable	EMC	EMC104-SM-SM-80 00	181106	Oct. 07, 2019	Oct. 06, 2020
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Oct. 07, 2019	Oct. 06, 2020
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Oct. 07, 2019	Oct. 06, 2020
LF cable 1M	EMC	EMCCFD400-NM-N M-1000	160502	Oct. 07, 2019	Oct. 06, 2020
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Oct. 07, 2019	Oct. 06, 2020
LF cable 11M	EMC	EMCCFD400-NW-N W-11000	200801	Aug. 13, 2020	Aug. 12, 2021
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Test Date	Oct. 20, 2020				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101063	Apr. 30, 2020	Apr. 29, 2021
Power Meter	Anritsu	ML2495A	1241002	Oct. 23, 2019	Oct. 22, 2020
Power Sensor	Anritsu	MA2411B	1207366	Oct. 23, 2019	Oct. 22, 2020
AC POWER SOURCE	APC	AFC-500W	F312060012	Dec. 02, 2019	Dec. 01, 2020
Measurement Software	Sporton	SENSE-15247_DTS	V5.9	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

1.5 Test Standards

47 CFR FCC Part 15.247

ANSI C63.10-2013

1.6 Reference Guidance

FCC KDB 558074 D01 15.247 Meas Guidance v05r02

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

1.7 Deviation from Test Standard and Measurement Procedure

None

1.8 Measurement Uncertainty

The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor ($k=2$)).

Measurement Uncertainty	
Parameters	Uncertainty
Bandwidth	± 34.130 Hz
Conducted power	± 0.808 dB
Power density	± 0.583 dB
Conducted emission	± 2.715 dB
AC conducted emission	± 2.92 dB
Radiated emission ≤ 1 GHz	± 3.41 dB
Radiated emission > 1 GHz	± 4.59 dB

2 Test Configuration

2.1 Testing Facility

Test Laboratory	International Certification Corp.
Test Site	CO01-WS, 03CH01-WS, TH01-WS
Address of Test Site	No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan District, Tao Yuan City 333, Taiwan, R.O.C.

- FCC Designation No.: TW2732
- FCC site registration No.: 181692
- ISED#: 10807A
- CAB identifier: TW2732

2.2 The Worst Test Modes and Channel Details

Test item	Modulation Mode	Test Frequency (MHz)	Data Rate (Mbps) / MCS	Test Configuration
Conducted Emissions	11g	2437	6 Mbps	Non-beamforming
Radiated Emissions ≤1GHz	11g	2437	6 Mbps	Non-beamforming
Maximum Output Power	11b	2412 / 2437 / 2462	1 Mbps	Non-beamforming
	11g	2412 / 2417 / 2437 / 2457 / 2462	6 Mbps	
	HT20	2412 / 2417 / 2437 / 2457 / 2462	MCS 0	
	HT40	2422 / 2437 / 2452	MCS 0	
	ax HE20	2412 / 2417 / 2437 / 2457 / 2462	MCS 0	
Maximum Output Power	ax HE40	2422 / 2437 / 2452	MCS 0	Beamforming
	HT20	2412 / 2417 / 2437 / 2457 / 2462	MCS 0	
	HT40	2422 / 2437 / 2452	MCS 0	
	ax HE20	2412 / 2417 / 2437 / 2457 / 2462	MCS 0	
Radiated Emissions >1GHz 6dB bandwidth Power spectral density	ax HE40	2422 / 2437 / 2452	MCS 0	Non-beamforming
	11b	2412 / 2437 / 2462	1 Mbps	
	11g	2412 / 2417 / 2437 / 2457 / 2462	6 Mbps	

NOTE:

- Adapter 1 (Brand: LEI) and Adapter 2 (Brand: MOSO) had been covered during the pretest. The worst adapter is **Adapter 2 (Brand: MOSO)**, and only its data was record in this test report for conducted emissions test.
- Adapter 1 (Brand: LEI) and Adapter 2 (Brand: MOSO) had been covered during the pretest. The worst adapter is **Adapter 1 (Brand: LEI)**, and only its data was record in this test report for radiated emissions test.
- Non-beamforming and beamforming mode had been covered during the pretest. The worst mode is Non-beamforming thus Non-beamforming is tested for all test items.

3 Transmitter Test Results

3.1 Conducted Emissions

3.1.1 Limit of Conducted Emissions

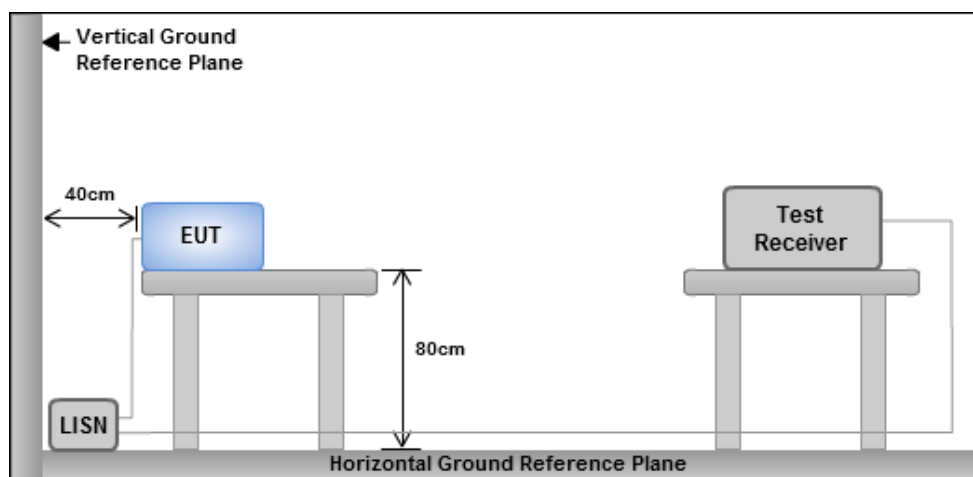
Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

Note 1: * Decreases with the logarithm of the frequency.

3.1.2 Test Procedures

1. The device is placed on a test table, raised 80 cm above the reference ground plane. The vertical conducting plane is located 40 cm to the rear of the device.
2. The device is connected to line impedance stabilization network (LISN) and other accessories are connected to other LISN. Measured levels of AC power line conducted emission are across the 50 Ω LISN port.
3. AC conducted emission measurements is made over frequency range from 150 kHz to 30 MHz.
4. This measurement was performed with AC 120V / 60Hz.

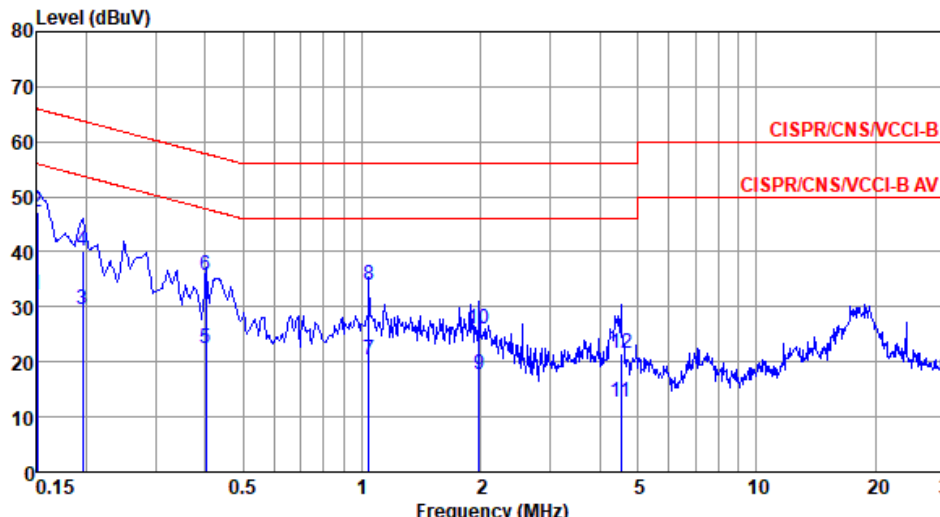
3.1.3 Test Setup



- Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

3.1.4 Test Result of Conducted Emissions

Modulation	11g	Test Freq. (MHz)	2437																																																																																																																																				
Power Phase	Line																																																																																																																																						
Test by : Alex Tsai Temperature: 24°C Humidity: 63%																																																																																																																																							
Level (dBuV) <table><thead><tr><th>Freq</th><th>Level</th><th>Limit</th><th>Over</th><th>Read</th><th>LISN</th><th>cable</th><th></th></tr><tr><th>MHz</th><th>dBuV</th><th>Line</th><th>Limit</th><th>Level</th><th>factor</th><th>loss</th><th>Remark</th></tr><tr><th></th><th></th><th>dBuV</th><th>dB</th><th>dBuV</th><th>dB</th><th>dB</th><th></th></tr></thead><tbody><tr><td>1</td><td>0.150</td><td>32.89</td><td>56.00</td><td>-23.11</td><td>23.04</td><td>9.64</td><td>0.05</td><td>Average</td></tr><tr><td>2</td><td>0.150</td><td>47.47</td><td>66.00</td><td>-18.53</td><td>37.62</td><td>9.64</td><td>0.05</td><td>QP</td></tr><tr><td>3</td><td>0.204</td><td>32.58</td><td>53.45</td><td>-20.87</td><td>22.70</td><td>9.63</td><td>0.06</td><td>Average</td></tr><tr><td>4</td><td>0.204</td><td>43.79</td><td>63.45</td><td>-19.66</td><td>33.91</td><td>9.63</td><td>0.06</td><td>QP</td></tr><tr><td>5</td><td>0.410</td><td>24.59</td><td>47.64</td><td>-23.05</td><td>14.63</td><td>9.63</td><td>0.08</td><td>Average</td></tr><tr><td>6</td><td>0.410</td><td>36.36</td><td>57.64</td><td>-21.28</td><td>26.40</td><td>9.63</td><td>0.08</td><td>QP</td></tr><tr><td>7</td><td>1.040</td><td>23.65</td><td>46.00</td><td>-22.35</td><td>13.58</td><td>9.63</td><td>0.12</td><td>Average</td></tr><tr><td>8*</td><td>1.040</td><td>40.01</td><td>56.00</td><td>-15.99</td><td>29.94</td><td>9.63</td><td>0.12</td><td>QP</td></tr><tr><td>9</td><td>1.980</td><td>21.95</td><td>46.00</td><td>-24.05</td><td>11.79</td><td>9.64</td><td>0.18</td><td>Average</td></tr><tr><td>10</td><td>1.980</td><td>32.85</td><td>56.00</td><td>-23.15</td><td>22.69</td><td>9.64</td><td>0.18</td><td>QP</td></tr><tr><td>11</td><td>18.820</td><td>16.05</td><td>50.00</td><td>-33.95</td><td>5.10</td><td>9.72</td><td>0.65</td><td>Average</td></tr><tr><td>12</td><td>18.820</td><td>23.70</td><td>60.00</td><td>-36.30</td><td>12.75</td><td>9.72</td><td>0.65</td><td>QP</td></tr></tbody></table>				Freq	Level	Limit	Over	Read	LISN	cable		MHz	dBuV	Line	Limit	Level	factor	loss	Remark			dBuV	dB	dBuV	dB	dB		1	0.150	32.89	56.00	-23.11	23.04	9.64	0.05	Average	2	0.150	47.47	66.00	-18.53	37.62	9.64	0.05	QP	3	0.204	32.58	53.45	-20.87	22.70	9.63	0.06	Average	4	0.204	43.79	63.45	-19.66	33.91	9.63	0.06	QP	5	0.410	24.59	47.64	-23.05	14.63	9.63	0.08	Average	6	0.410	36.36	57.64	-21.28	26.40	9.63	0.08	QP	7	1.040	23.65	46.00	-22.35	13.58	9.63	0.12	Average	8*	1.040	40.01	56.00	-15.99	29.94	9.63	0.12	QP	9	1.980	21.95	46.00	-24.05	11.79	9.64	0.18	Average	10	1.980	32.85	56.00	-23.15	22.69	9.64	0.18	QP	11	18.820	16.05	50.00	-33.95	5.10	9.72	0.65	Average	12	18.820	23.70	60.00	-36.30	12.75	9.72	0.65	QP
Freq	Level	Limit	Over	Read	LISN	cable																																																																																																																																	
MHz	dBuV	Line	Limit	Level	factor	loss	Remark																																																																																																																																
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1	0.150	32.89	56.00	-23.11	23.04	9.64	0.05	Average																																																																																																																															
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7	1.040	23.65	46.00	-22.35	13.58	9.63	0.12	Average																																																																																																																															
8*	1.040	40.01	56.00	-15.99	29.94	9.63	0.12	QP																																																																																																																															
9	1.980	21.95	46.00	-24.05	11.79	9.64	0.18	Average																																																																																																																															
10	1.980	32.85	56.00	-23.15	22.69	9.64	0.18	QP																																																																																																																															
11	18.820	16.05	50.00	-33.95	5.10	9.72	0.65	Average																																																																																																																															
12	18.820	23.70	60.00	-36.30	12.75	9.72	0.65	QP																																																																																																																															
Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB). 2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).																																																																																																																																							

Modulation	11g	Test Freq. (MHz)	2437																																																																																																																																							
Power Phase	Neutral																																																																																																																																									
Test by : Alex Tsai Temperature: 24°C Humidity: 63%																																																																																																																																										
Level (dBUV)  Frequency (MHz) <table><tr><th></th><th>Freq</th><th>Level</th><th>Limit</th><th>Over</th><th>Read</th><th>LISN</th><th>cable</th><th></th></tr><tr><th></th><th>MHz</th><th>dBuV</th><th>Line</th><th>Limit</th><th>Level</th><th>factor</th><th>loss</th><th>Remark</th></tr><tr><th></th><th></th><th></th><th>dBuV</th><th>dB</th><th>dBuV</th><th>dB</th><th>dB</th><th></th></tr><tr><td>1</td><td>0.150</td><td>32.14</td><td>56.00</td><td>-23.86</td><td>22.31</td><td>9.66</td><td>0.05</td><td>Average</td></tr><tr><td>2*</td><td>0.150</td><td>47.29</td><td>66.00</td><td>-18.71</td><td>37.46</td><td>9.66</td><td>0.05</td><td>QP</td></tr><tr><td>3</td><td>0.195</td><td>29.49</td><td>53.80</td><td>-24.31</td><td>19.63</td><td>9.65</td><td>0.06</td><td>Average</td></tr><tr><td>4</td><td>0.195</td><td>40.09</td><td>63.80</td><td>-23.71</td><td>30.23</td><td>9.65</td><td>0.06</td><td>QP</td></tr><tr><td>5</td><td>0.402</td><td>22.32</td><td>47.81</td><td>-25.49</td><td>12.42</td><td>9.65</td><td>0.08</td><td>Average</td></tr><tr><td>6</td><td>0.402</td><td>35.80</td><td>57.81</td><td>-22.01</td><td>25.90</td><td>9.65</td><td>0.08</td><td>QP</td></tr><tr><td>7</td><td>1.043</td><td>20.22</td><td>46.00</td><td>-25.78</td><td>10.25</td><td>9.65</td><td>0.12</td><td>Average</td></tr><tr><td>8</td><td>1.043</td><td>33.98</td><td>56.00</td><td>-22.02</td><td>24.01</td><td>9.65</td><td>0.12</td><td>QP</td></tr><tr><td>9</td><td>1.980</td><td>17.67</td><td>46.00</td><td>-28.33</td><td>7.57</td><td>9.66</td><td>0.18</td><td>Average</td></tr><tr><td>10</td><td>1.980</td><td>26.06</td><td>56.00</td><td>-29.94</td><td>15.96</td><td>9.66</td><td>0.18</td><td>QP</td></tr><tr><td>11</td><td>4.525</td><td>12.65</td><td>46.00</td><td>-33.35</td><td>2.40</td><td>9.68</td><td>0.30</td><td>Average</td></tr><tr><td>12</td><td>4.525</td><td>21.69</td><td>56.00</td><td>-34.31</td><td>11.44</td><td>9.68</td><td>0.30</td><td>QP</td></tr></table>					Freq	Level	Limit	Over	Read	LISN	cable			MHz	dBuV	Line	Limit	Level	factor	loss	Remark				dBuV	dB	dBuV	dB	dB		1	0.150	32.14	56.00	-23.86	22.31	9.66	0.05	Average	2*	0.150	47.29	66.00	-18.71	37.46	9.66	0.05	QP	3	0.195	29.49	53.80	-24.31	19.63	9.65	0.06	Average	4	0.195	40.09	63.80	-23.71	30.23	9.65	0.06	QP	5	0.402	22.32	47.81	-25.49	12.42	9.65	0.08	Average	6	0.402	35.80	57.81	-22.01	25.90	9.65	0.08	QP	7	1.043	20.22	46.00	-25.78	10.25	9.65	0.12	Average	8	1.043	33.98	56.00	-22.02	24.01	9.65	0.12	QP	9	1.980	17.67	46.00	-28.33	7.57	9.66	0.18	Average	10	1.980	26.06	56.00	-29.94	15.96	9.66	0.18	QP	11	4.525	12.65	46.00	-33.35	2.40	9.68	0.30	Average	12	4.525	21.69	56.00	-34.31	11.44	9.68	0.30	QP
	Freq	Level	Limit	Over	Read	LISN	cable																																																																																																																																			
	MHz	dBuV	Line	Limit	Level	factor	loss	Remark																																																																																																																																		
			dBuV	dB	dBuV	dB	dB																																																																																																																																			
1	0.150	32.14	56.00	-23.86	22.31	9.66	0.05	Average																																																																																																																																		
2*	0.150	47.29	66.00	-18.71	37.46	9.66	0.05	QP																																																																																																																																		
3	0.195	29.49	53.80	-24.31	19.63	9.65	0.06	Average																																																																																																																																		
4	0.195	40.09	63.80	-23.71	30.23	9.65	0.06	QP																																																																																																																																		
5	0.402	22.32	47.81	-25.49	12.42	9.65	0.08	Average																																																																																																																																		
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11	4.525	12.65	46.00	-33.35	2.40	9.68	0.30	Average																																																																																																																																		
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Note 1: Level (dBUV) = Read Level (dBUV) + LISN Factor (dB) + Cable Loss (dB). 2: Over Limit (dB) = Level (dBUV) – Limit Line (dBUV).																																																																																																																																										

3.2 6dB and Occupied Bandwidth

3.2.1 Limit of 6dB Bandwidth

The minimum 6dB bandwidth shall be at least 500 kHz.

3.2.2 Test Procedures

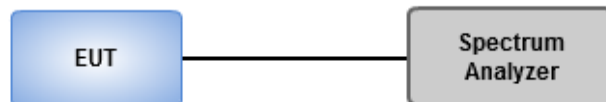
6dB Bandwidth

1. Set resolution bandwidth (RBW) = 100 kHz, Video bandwidth = 300 kHz.
2. Detector = Peak, Trace mode = max hold.
3. Sweep = auto couple, Allow the trace to stabilize.
4. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6dB relative to the maximum level measured in the fundamental emission.

Occupied Bandwidth

1. Set resolution bandwidth (RBW) = 1% ~ 5 % of OBW, Video bandwidth = 3 x RBW
2. Detector = Sample, Trace mode = max hold.
3. Sweep = auto couple, Allow the trace to stabilize.
4. Use the OBW measurement function of spectrum analyzer to measure the occupied bandwidth.

3.2.3 Test Setup



3.2.4 Test Result of 6dB and Occupied Bandwidth

Ambient Condition	22°C / 66%	Tested By	Aska Huang
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Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11b_Nss1,(1Mbps)_1TX	8.116M	11.751M	11M8G1D	8.043M	11.288M
802.11g_Nss1,(6Mbps)_2TX	16.522M	17.308M	17M3D1D	16.522M	16.556M
11ax20_Nss1,(MCS0)_2TX	19.13M	19.161M	19M2D1D	18.913M	18.987M
11ax40_Nss1,(MCS0)_2TX	38.261M	38.205M	38M2D1D	37.971M	37.742M

Max-N dB = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;

Min-N dB = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

Result

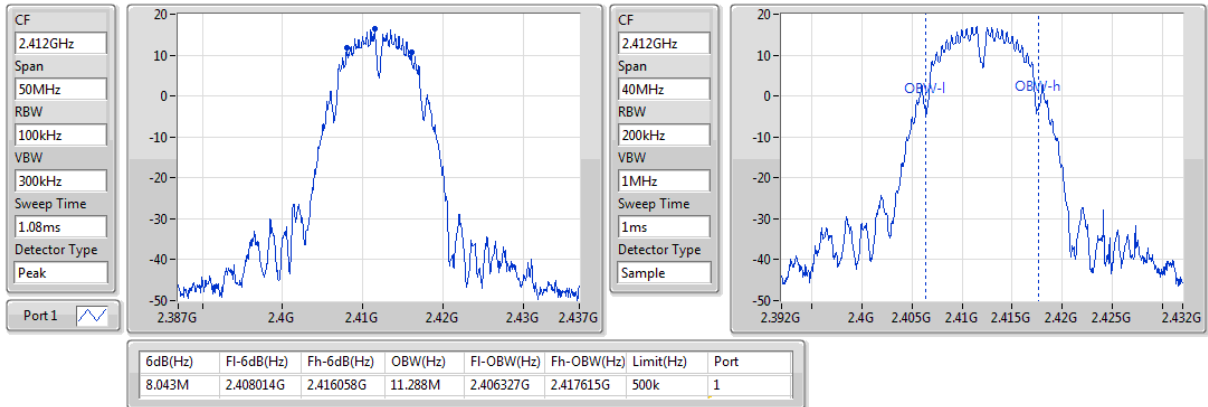
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-	-
2412MHz	Pass	500k	8.043M	11.288M	-	-
2437MHz	Pass	500k	8.043M	11.404M	-	-
2462MHz	Pass	500k	8.116M	11.751M	-	-
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	16.522M	16.671M	16.522M	16.556M
2417MHz	Pass	500k	16.522M	16.671M	16.522M	16.729M
2437MHz	Pass	500k	16.522M	17.308M	16.522M	17.192M
2457MHz	Pass	500k	16.522M	16.729M	16.522M	16.671M
2462MHz	Pass	500k	16.522M	16.614M	16.522M	16.614M
11ax20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	19.13M	18.987M	19.13M	18.987M
2417MHz	Pass	500k	19.13M	18.987M	19.13M	18.987M
2437MHz	Pass	500k	18.913M	19.161M	19.058M	19.103M
2457MHz	Pass	500k	19.058M	19.045M	19.058M	18.987M
2462MHz	Pass	500k	18.986M	19.103M	18.986M	18.987M
11ax40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	38.116M	38.205M	38.261M	38.09M
2437MHz	Pass	500k	38.116M	37.974M	37.971M	37.742M
2452MHz	Pass	500k	38.116M	37.858M	38.116M	37.858M

Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

802.11b_Nss1,(1Mbps)_1TX

EBW

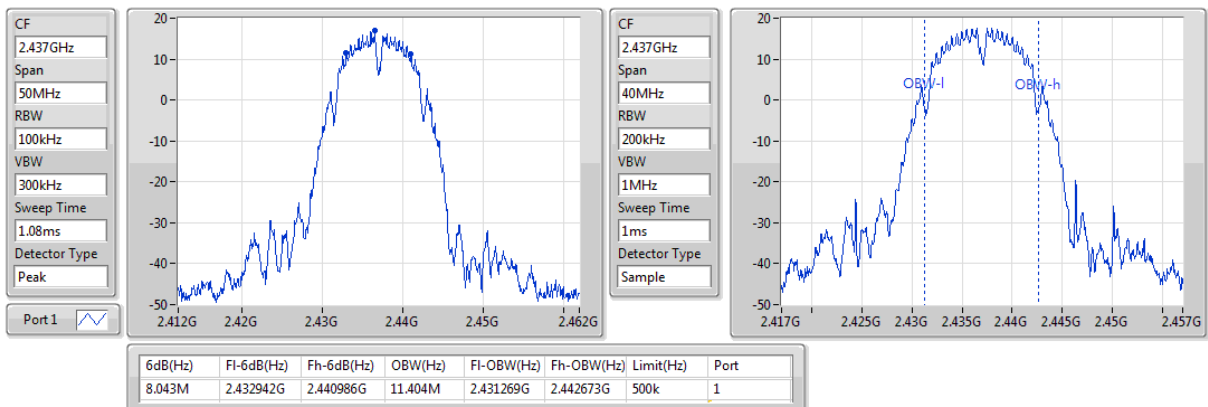
2412MHz



802.11b_Nss1,(1Mbps)_1TX

EBW

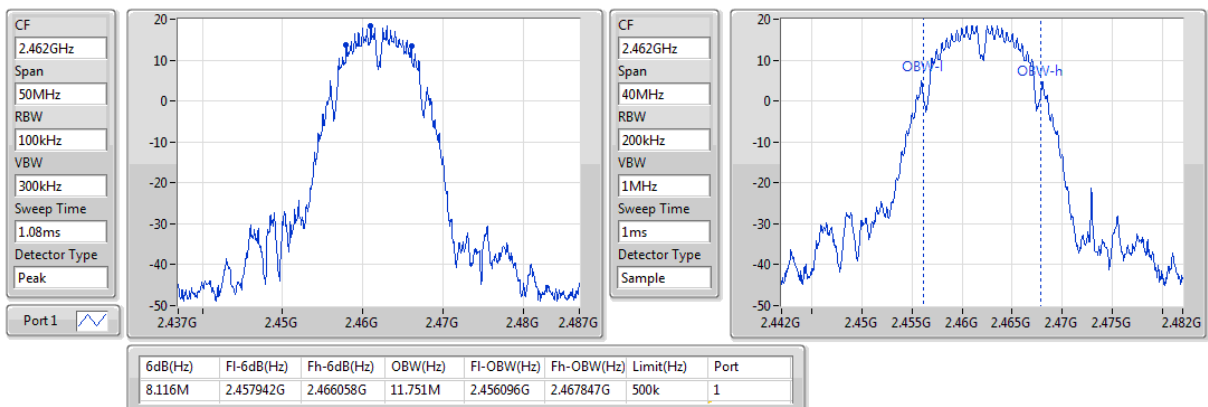
2437MHz



802.11b_Nss1,(1Mbps)_1TX

EBW

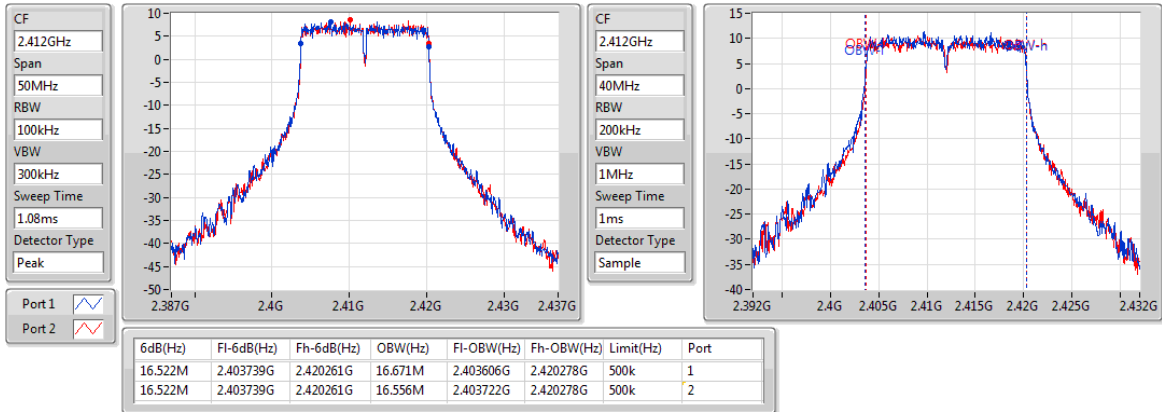
2462MHz



802.11g_Nss1,(6Mbps)_2TX

EBW

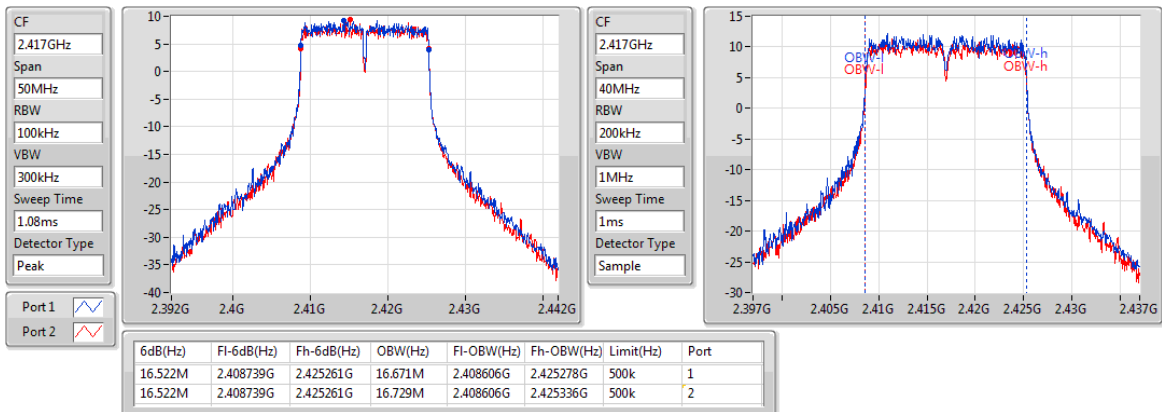
2412MHz



802.11g_Nss1,(6Mbps)_2TX

EBW

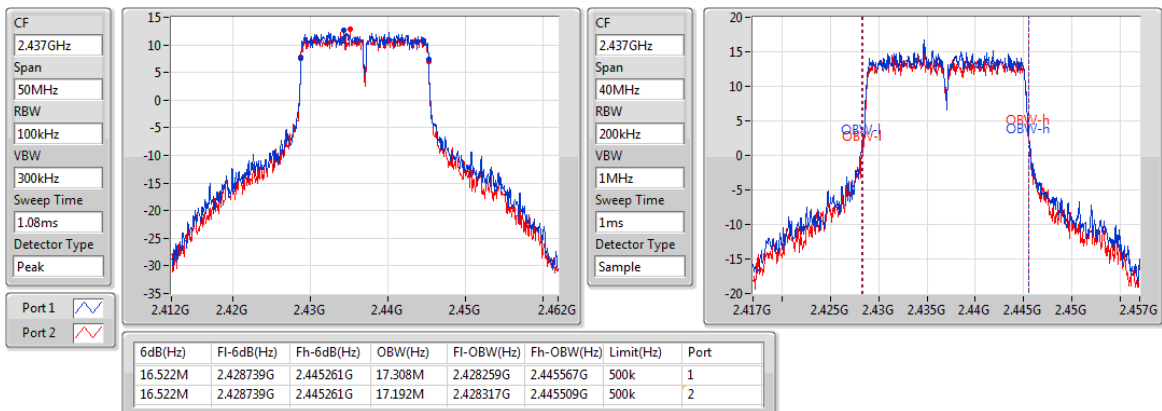
2417MHz



802.11g_Nss1,(6Mbps)_2TX

EBW

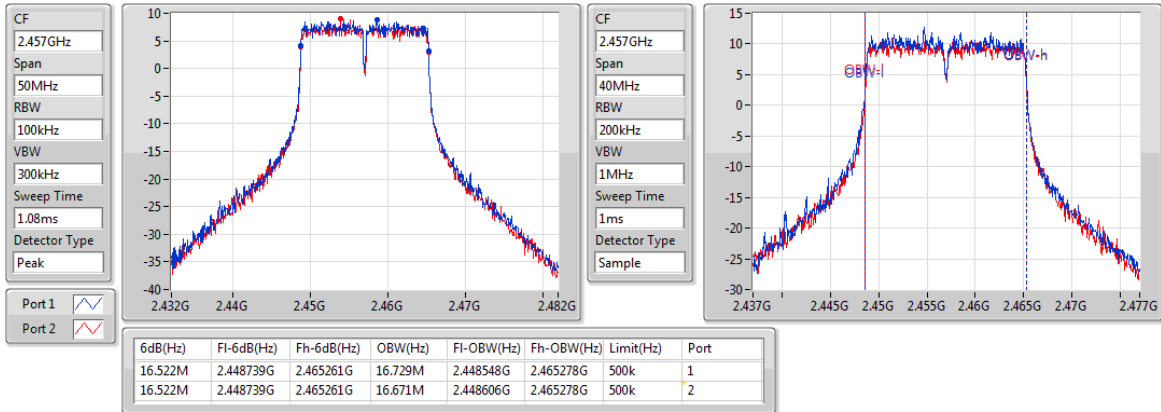
2437MHz



802.11g_Nss1,(6Mbps)_2TX

EBW

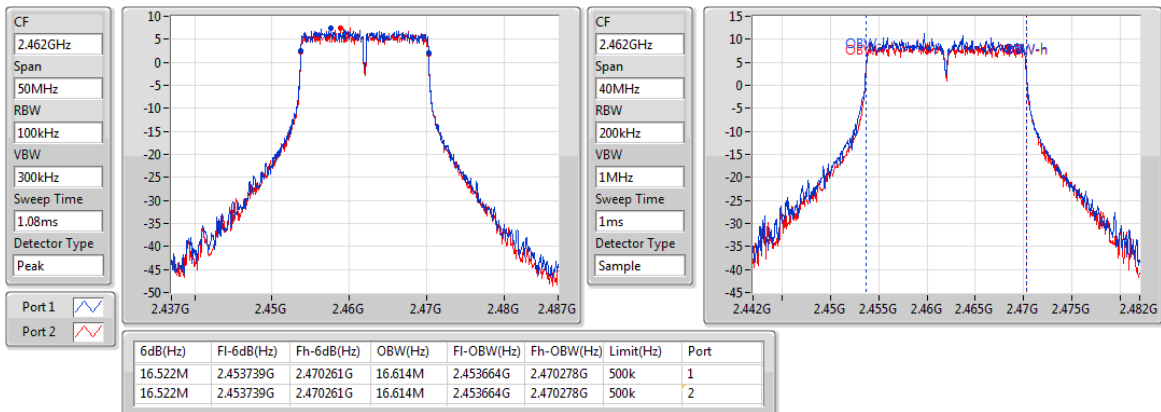
2457MHz



802.11g_Nss1,(6Mbps)_2TX

EBW

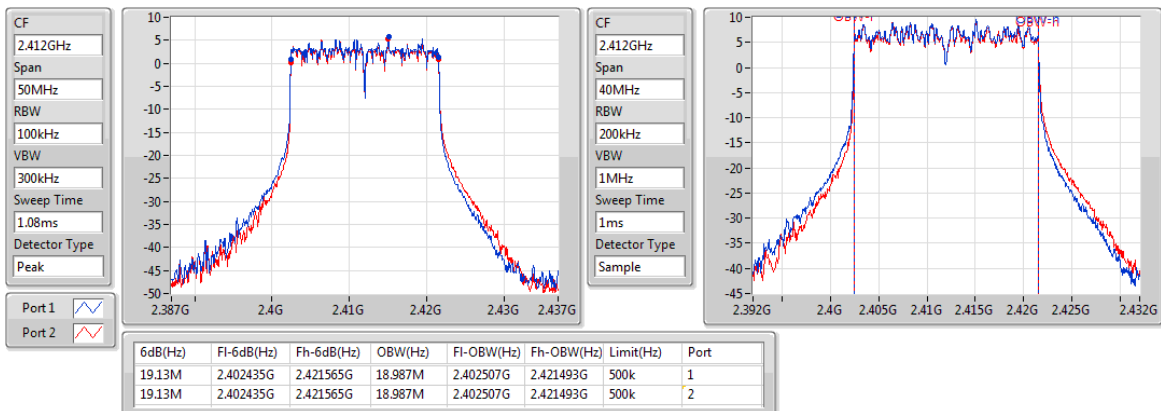
2462MHz



11ax20_Nss1,(MCS0)_2TX

EBW

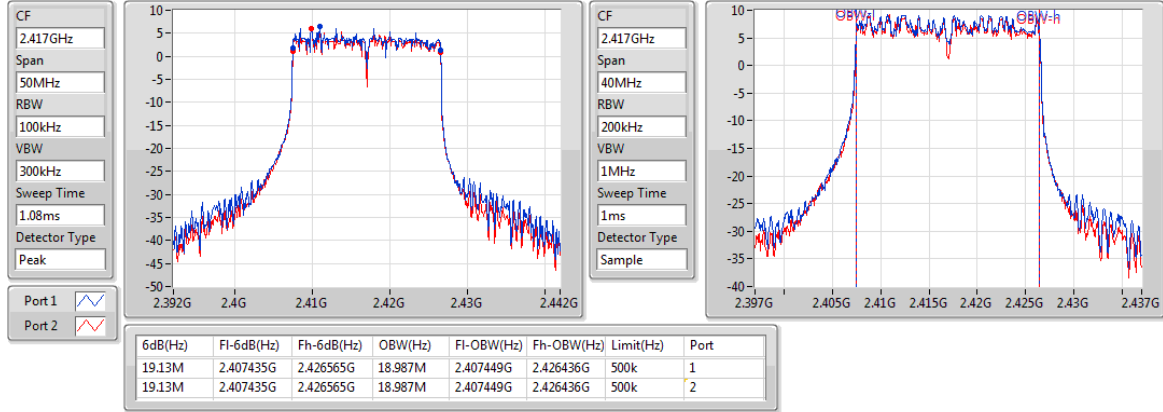
2412MHz



11ax20_Nss1,(MCS0)_2TX

EBW

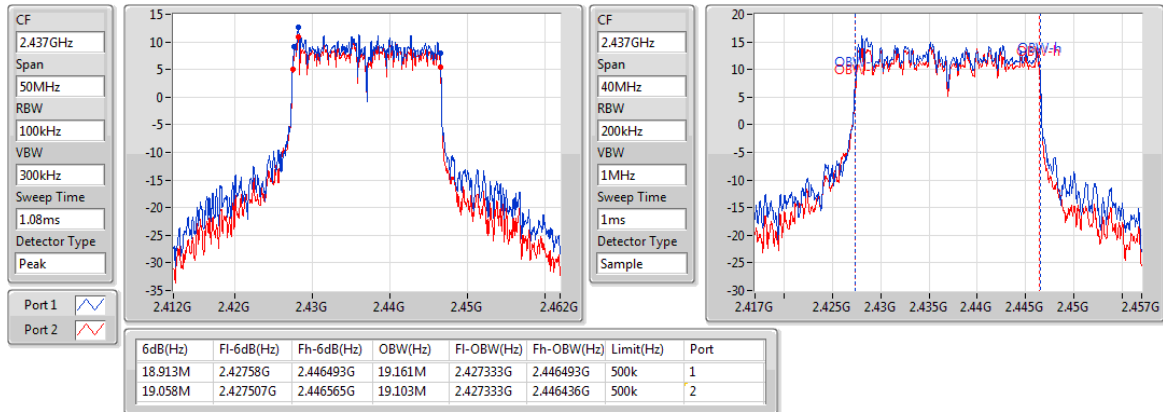
2417MHz



11ax20_Nss1,(MCS0)_2TX

EBW

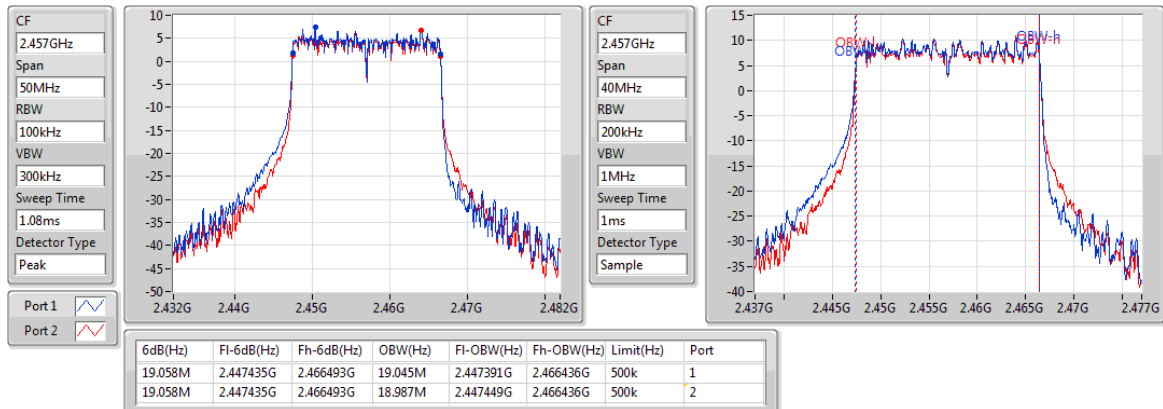
2437MHz



11ax20_Nss1,(MCS0)_2TX

EBW

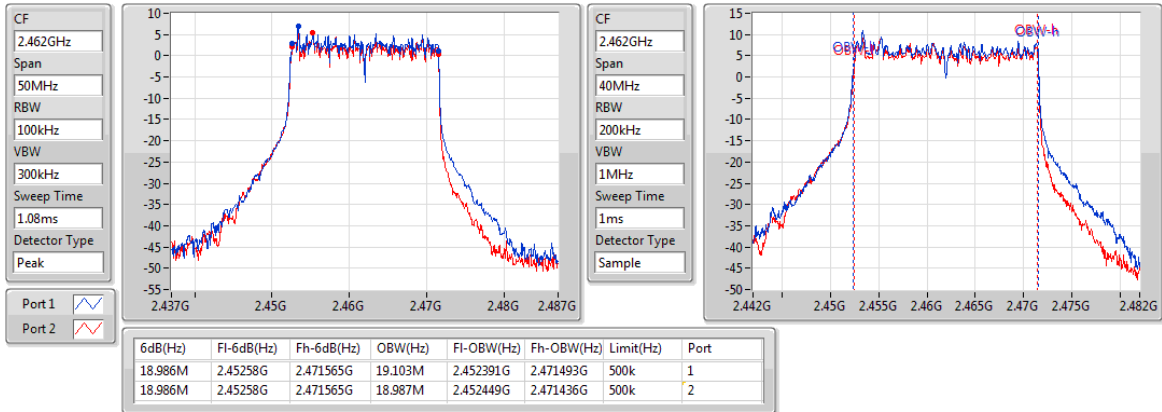
2457MHz



11ax20_Nss1,(MCS0)_2TX

EBW

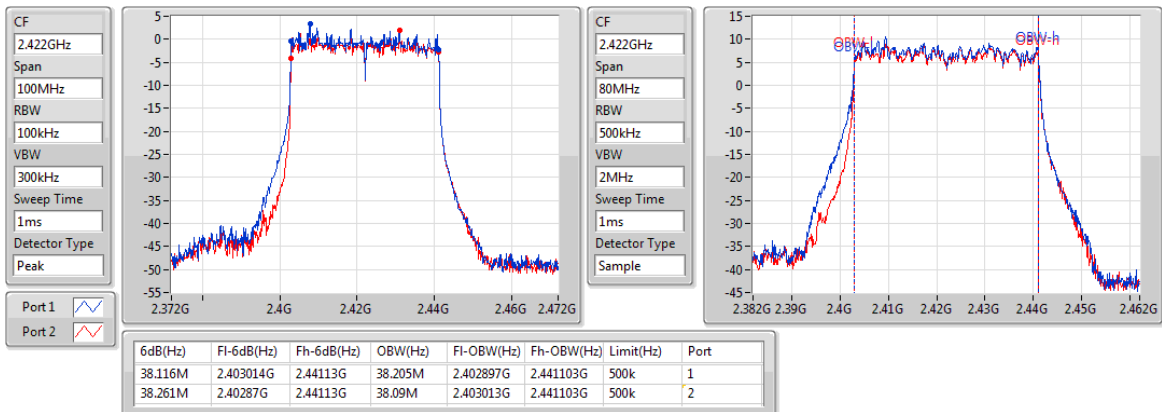
2462MHz



11ax40_Nss1,(MCS0)_2TX

EBW

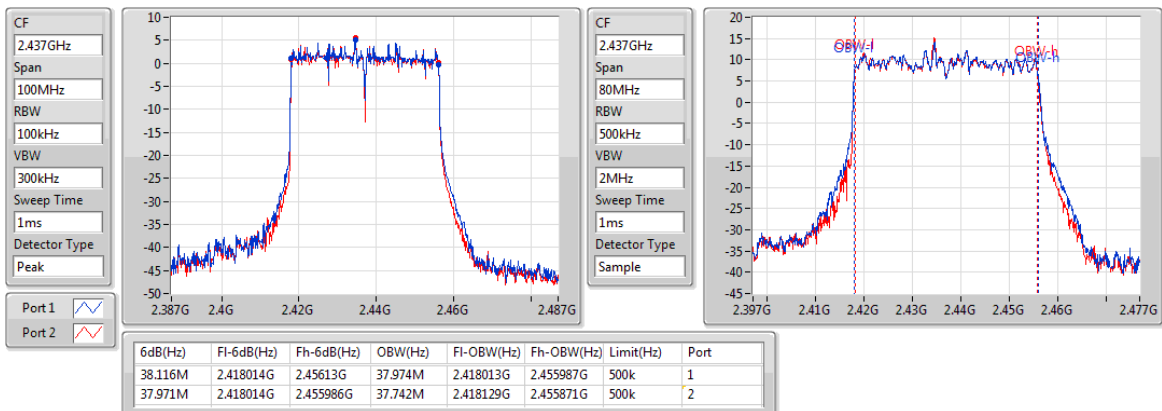
2422MHz



11ax40_Nss1,(MCS0)_2TX

EBW

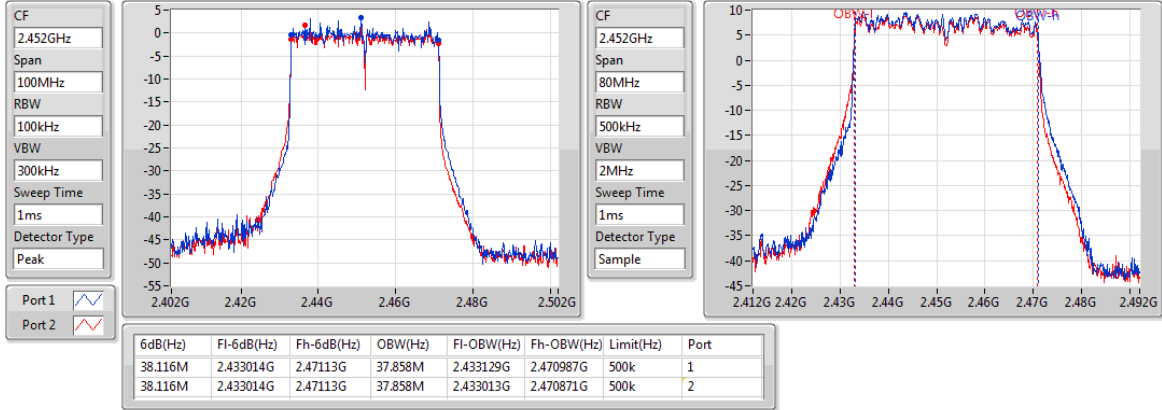
2437MHz



11ax40_Nss1,(MCS0)_2TX

EBW

2452MHz



3.3 RF Output Power

3.3.1 Limit of RF Output Power

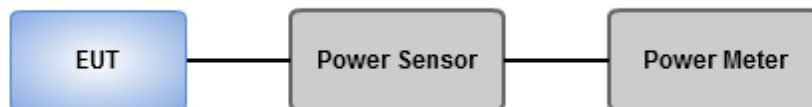
Conducted power shall not exceed 1Watt.

Antenna gain $\leq 6\text{dBi}$, no any corresponding reduction is in output power limit.

3.3.2 Test Procedures

A broadband RF power meter is used for output power measurement. The video bandwidth of power meter is greater than DTS bandwidth of EUT. If duty cycle of test signal is not 100 %, trigger and gating function of power meter will be enabled to capture transmission burst for measuring output power.

3.3.3 Test Setup



3.3.4 Test Result of Maximum Output Power

Ambient Condition	22°C / 66%	Tested By	Aska Huang
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Non-beamforming mode

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_1TX	26.78	0.47643
802.11g_Nss1,(6Mbps)_2TX	29.88	0.97275
802.11n HT20_Nss1,(MCS0)_2TX	29.68	0.92897
802.11n HT40_Nss1,(MCS0)_2TX	24.54	0.28445
11ax20_Nss1,(MCS0)_2TX	29.74	0.94189
11ax40_Nss1,(MCS0)_2TX	24.61	0.28907

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-	-	-	-
2412MHz	Pass	2.55	25.06	-	25.06	30.00	27.61	36.00
2437MHz	Pass	2.55	26.17	-	26.17	30.00	28.72	36.00
2462MHz	Pass	2.55	26.78	-	26.78	30.00	29.33	36.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	2.55	22.65	22.53	25.60	30.00	28.15	36.00
2417MHz	Pass	2.55	24.05	23.75	26.91	30.00	29.46	36.00
2437MHz	Pass	2.55	27.12	26.61	29.88	30.00	32.43	36.00
2457MHz	Pass	2.55	23.82	23.43	26.64	30.00	29.19	36.00
2462MHz	Pass	2.55	22.17	21.55	24.88	30.00	27.43	36.00
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	2.55	21.25	20.77	24.03	30.00	26.58	36.00
2417MHz	Pass	2.55	22.63	22.05	25.36	30.00	27.91	36.00
2437MHz	Pass	2.55	26.73	26.61	29.68	30.00	32.23	36.00
2457MHz	Pass	2.55	22.91	22.09	25.53	30.00	28.08	36.00
2462MHz	Pass	2.55	20.78	20.61	23.71	30.00	26.26	36.00
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2422MHz	Pass	2.55	19.39	19.35	22.38	30.00	24.93	36.00
2437MHz	Pass	2.55	21.86	21.17	24.54	30.00	27.09	36.00
2452MHz	Pass	2.55	20.09	20.29	23.20	30.00	25.75	36.00
11ax20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	2.55	21.32	20.97	24.16	30.00	26.71	36.00
2417MHz	Pass	2.55	22.71	22.15	25.45	30.00	28.00	36.00
2437MHz	Pass	2.55	26.82	26.64	29.74	30.00	32.29	36.00
2457MHz	Pass	2.55	22.98	22.16	25.60	30.00	28.15	36.00
2462MHz	Pass	2.55	20.84	20.63	23.75	30.00	26.30	36.00
11ax40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2422MHz	Pass	2.55	19.43	19.37	22.41	30.00	24.96	36.00
2437MHz	Pass	2.55	21.94	21.23	24.61	30.00	27.16	36.00
2452MHz	Pass	2.55	20.11	20.33	23.23	30.00	25.78	36.00

DG = Directional Gain; **Port X** = Port X output power

Beamforming mode

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11n HT20-BF_Nss1,(MCS0)_2TX	29.62	0.91622
802.11n HT40-BF_Nss1,(MCS0)_2TX	24.49	0.28119
11ax20,BF_Nss1,(MCS0)_2TX	29.65	0.92257
11ax40,BF_Nss1,(MCS0)_2TX	24.58	0.28708

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11n HT20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	5.17	21.2	20.71	23.97	30.00	29.14	36.00
2417MHz	Pass	5.17	22.55	22.01	25.30	30.00	30.47	36.00
2437MHz	Pass	5.17	26.63	26.58	29.62	30.00	34.79	36.00
2457MHz	Pass	5.17	22.83	22.03	25.46	30.00	30.63	36.00
2462MHz	Pass	5.17	20.71	20.56	23.65	30.00	28.82	36.00
802.11n HT40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2422MHz	Pass	5.17	19.32	19.29	22.32	30.00	27.49	36.00
2437MHz	Pass	5.17	21.82	21.11	24.49	30.00	29.66	36.00
2452MHz	Pass	5.17	20.01	20.18	23.11	30.00	28.28	36.00
11ax20,BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	5.17	21.25	20.91	24.09	30.00	29.26	36.00
2417MHz	Pass	5.17	22.68	22.12	25.42	30.00	30.59	36.00
2437MHz	Pass	5.17	26.73	26.54	29.65	30.00	34.82	36.00
2457MHz	Pass	5.17	22.91	22.11	25.54	30.00	30.71	36.00
2462MHz	Pass	5.17	20.75	20.56	23.67	30.00	28.84	36.00
11ax40,BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2422MHz	Pass	5.17	19.39	19.35	22.38	30.00	27.55	36.00
2437MHz	Pass	5.17	21.92	21.18	24.58	30.00	29.75	36.00
2452MHz	Pass	5.17	20.08	20.27	23.19	30.00	28.36	36.00

DG = Directional Gain = $10 * \log((10^{1.75/20} + 10^{2.55/20})/2)$ = 5.17 dBi; **Port X** = Port X output power

3.4 Power Spectral Density

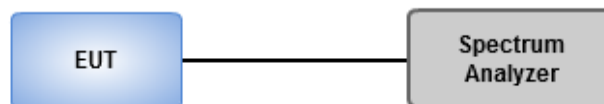
3.4.1 Limit of Power Spectral Density

Power spectral density shall not be greater than 8 dBm in any 3 kHz band.

3.4.2 Test Procedures

- 1 Set the RBW = 30 kHz, VBW = 100 kHz. Detector = RMS.
- 2 Set the sweep time to: ≥ 10 (number of measurement points in sweep) x (total on/off period of the transmitted signal).
- 3 Perform the measurement over a single sweep.
- 4 Use the peak marker function to determine the maximum amplitude level.
- 5 Add $10 \log (1/x)$, where x is the duty cycle.

3.4.3 Test Setup



3.4.4 Test Result of Power Spectral Density

Ambient Condition	22°C / 66%	Tested By	Aska Huang
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Summary

Mode	PD (dBm/30kHz)
2.4-2.4835GHz	-
802.11b_Nss1,(1Mbps)_1TX	5.41
802.11g_Nss1,(6Mbps)_2TX	4.75
11ax20_Nss1,(MCS0)_2TX	7.87
11ax40_Nss1,(MCS0)_2TX	2.61

Result

Mode	Result	DG (dBi)	Port 1 (dBm/30kHz)	Port 2 (dBm/30kHz)	PD (dBm/30kHz)	PD Limit (dBm/30kHz)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-	-
2412MHz	Pass	2.55	3.71	-	3.71	8.00
2437MHz	Pass	2.55	4.37	-	4.37	8.00
2462MHz	Pass	2.55	5.41	-	5.41	8.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	5.17	-2.06	-1.67	0.75	8.00
2417MHz	Pass	5.17	-0.55	-1.13	1.49	8.00
2437MHz	Pass	5.17	2.17	1.80	4.75	8.00
2457MHz	Pass	5.17	-1.33	-1.87	1.26	8.00
2462MHz	Pass	5.17	-2.81	-3.11	-0.23	8.00
11ax20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	5.17	1.68	1.33	4.52	8.00
2417MHz	Pass	5.17	2.83	1.82	5.36	8.00
2437MHz	Pass	5.17	5.23	4.85	7.87	8.00
2457MHz	Pass	5.17	3.21	2.36	5.82	8.00
2462MHz	Pass	5.17	0.70	0.22	3.33	8.00
11ax40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	5.17	-3.07	-3.38	-0.32	8.00
2437MHz	Pass	5.17	0.01	-0.69	2.61	8.00
2452MHz	Pass	5.17	-2.05	-1.92	1.03	8.00

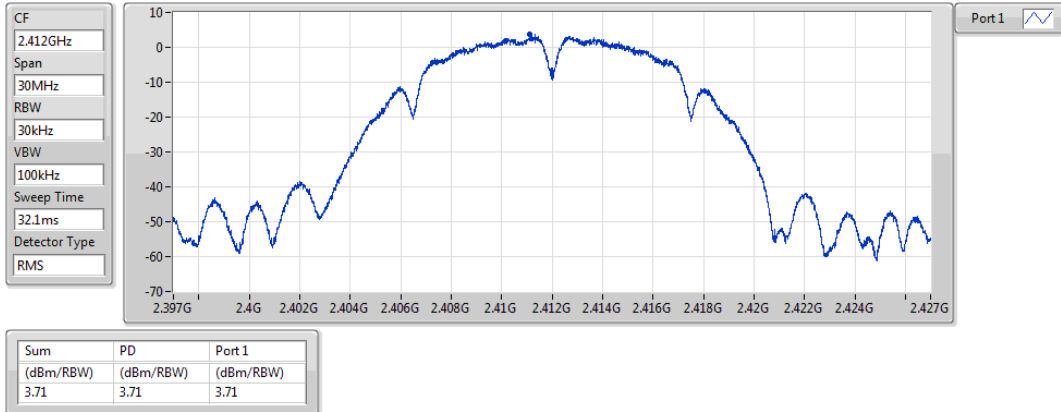
DG = Directional Gain = $10 * \log((10^{1.75/20} + 10^{2.55/20})/2) = 5.17$ dBi

PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

802.11b_Nss1,(1Mbps)_1TX

PSD

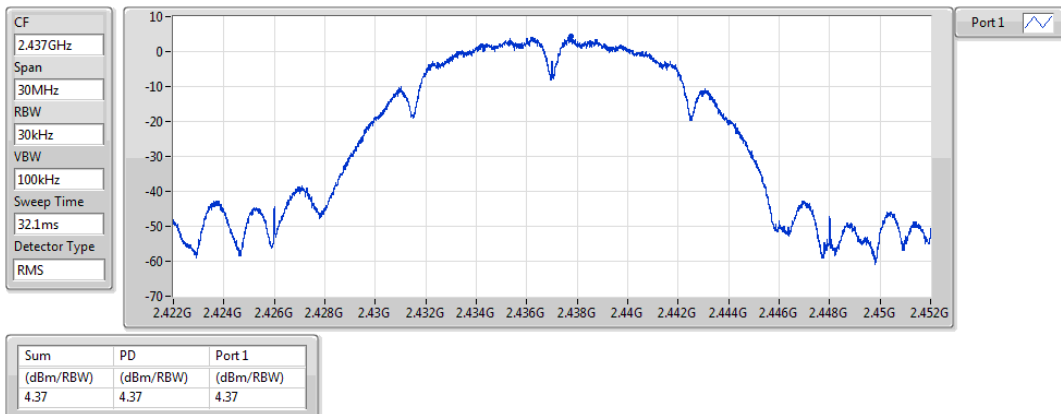
2412MHz



802.11b_Nss1,(1Mbps)_1TX

PSD

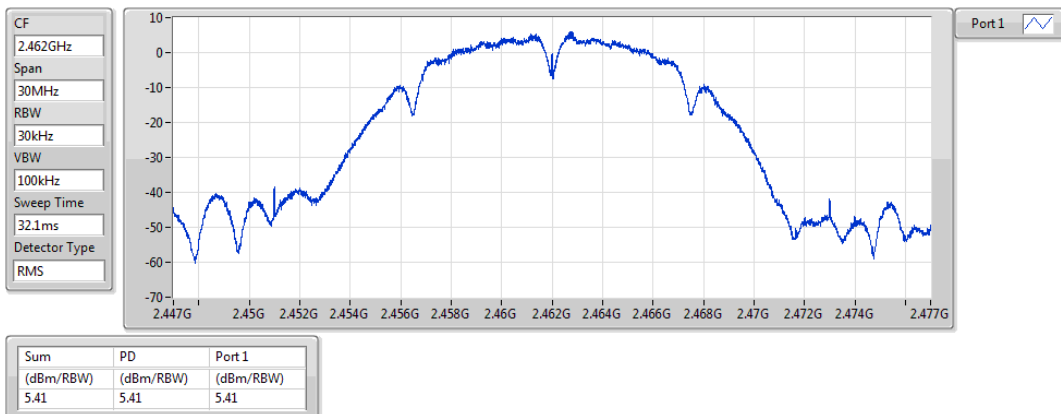
2437MHz



802.11b_Nss1,(1Mbps)_1TX

PSD

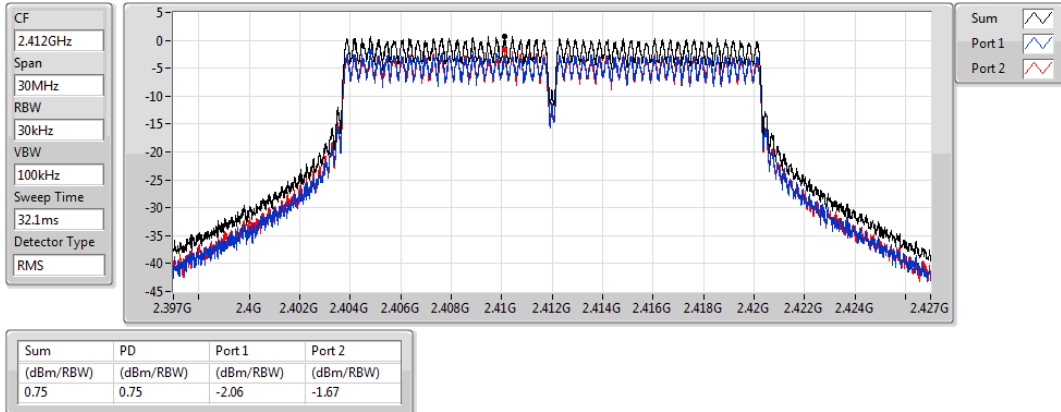
2462MHz



802.11g_Nss1,(6Mbps)_2TX

PSD

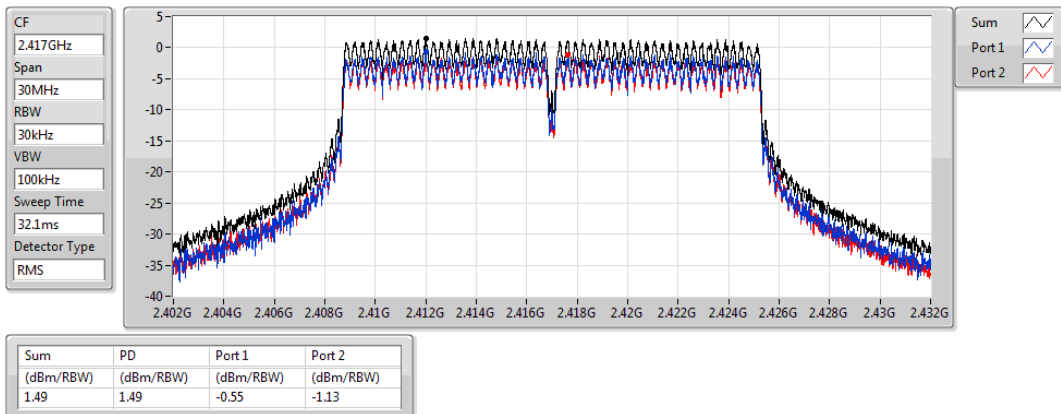
2412MHz



802.11g_Nss1,(6Mbps)_2TX

PSD

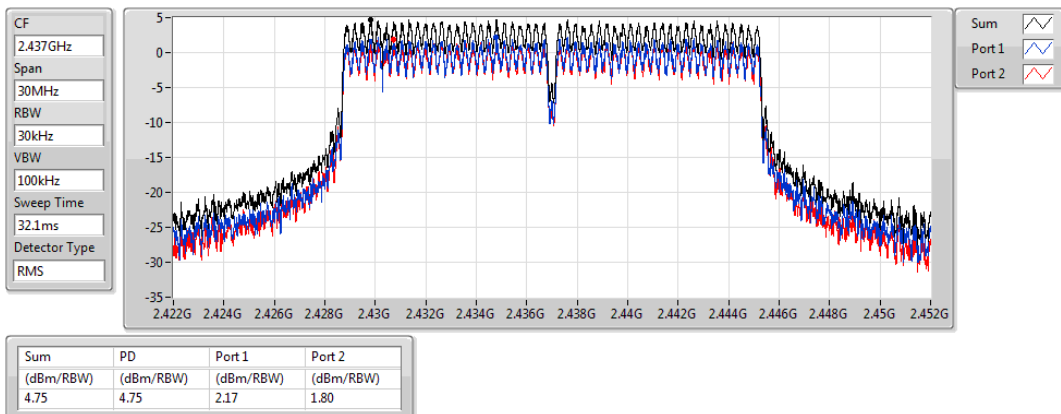
2417MHz



802.11g_Nss1,(6Mbps)_2TX

PSD

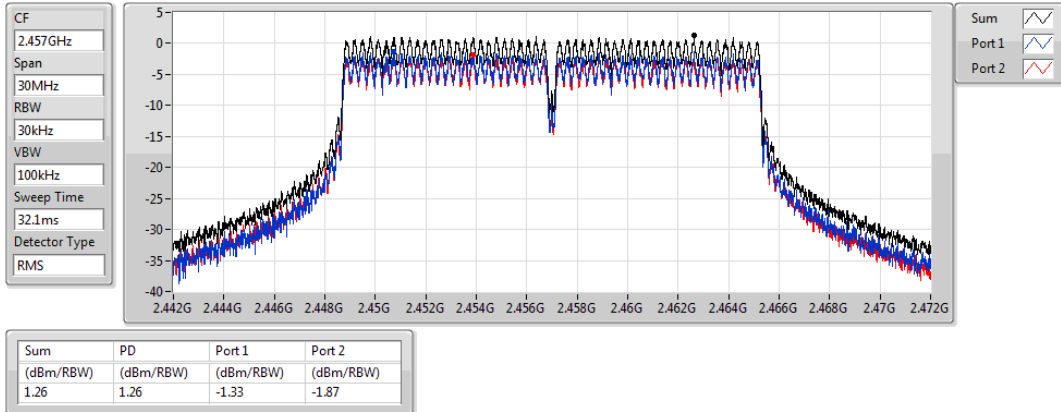
2437MHz



802.11g_Nss1,(6Mbps)_2TX

PSD

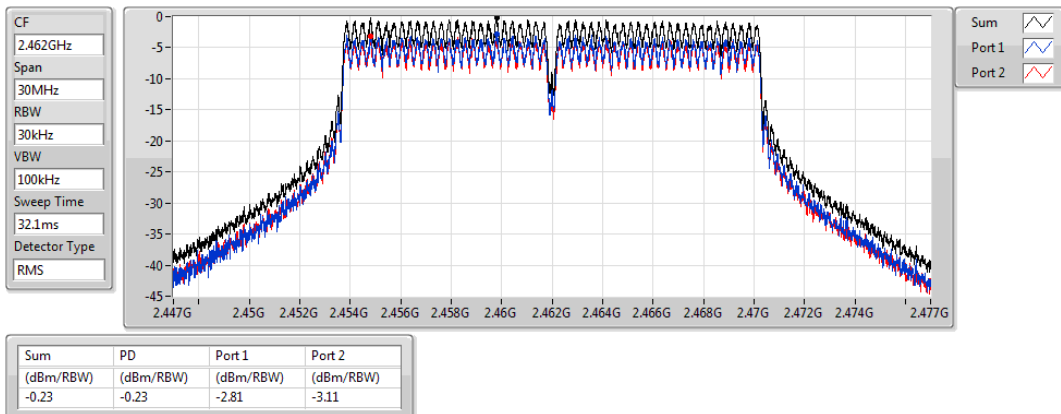
2457MHz



802.11g_Nss1,(6Mbps)_2TX

PSD

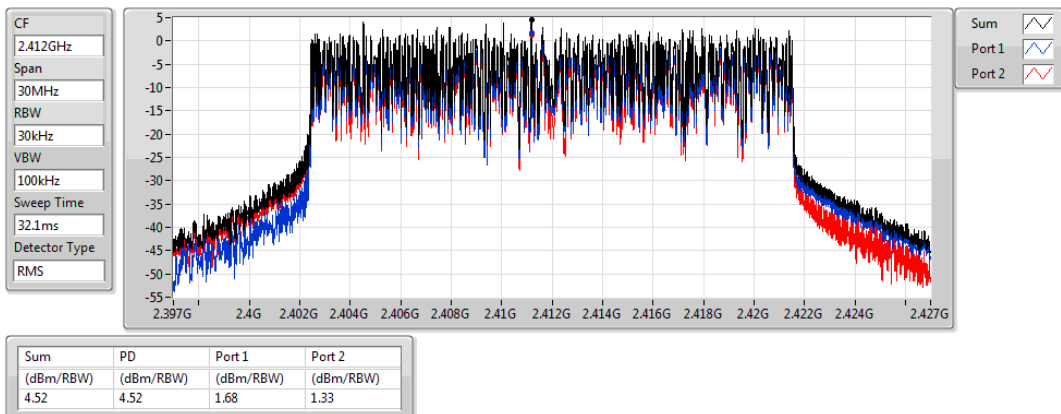
2462MHz



11ax20_Nss1,(MCS0)_2TX

PSD

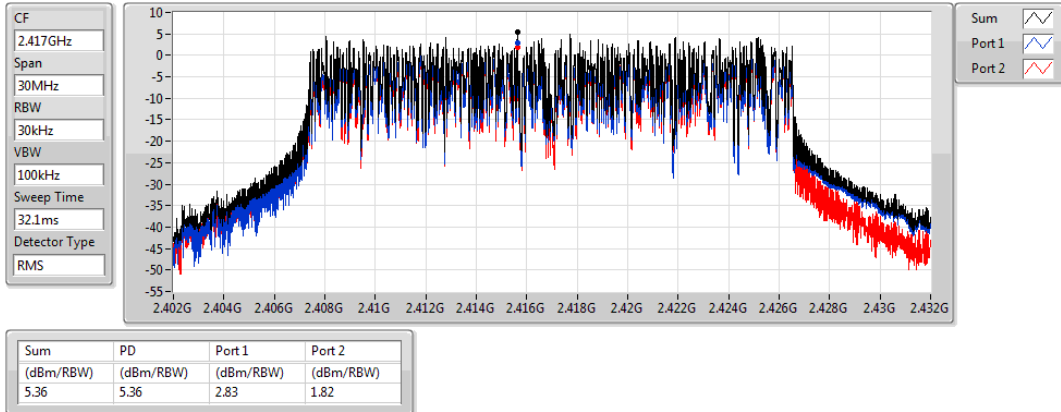
2412MHz



11ax20_Nss1,(MCS0)_2TX

PSD

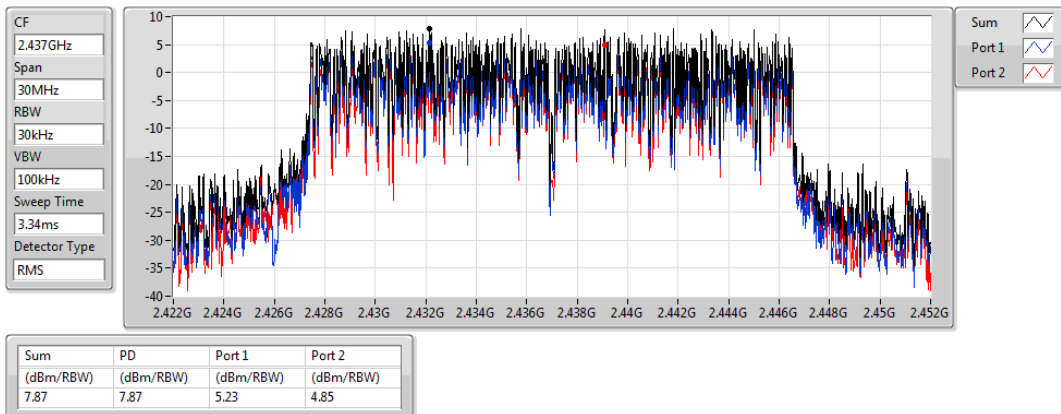
2417MHz



11ax20_Nss1,(MCS0)_2TX

PSD

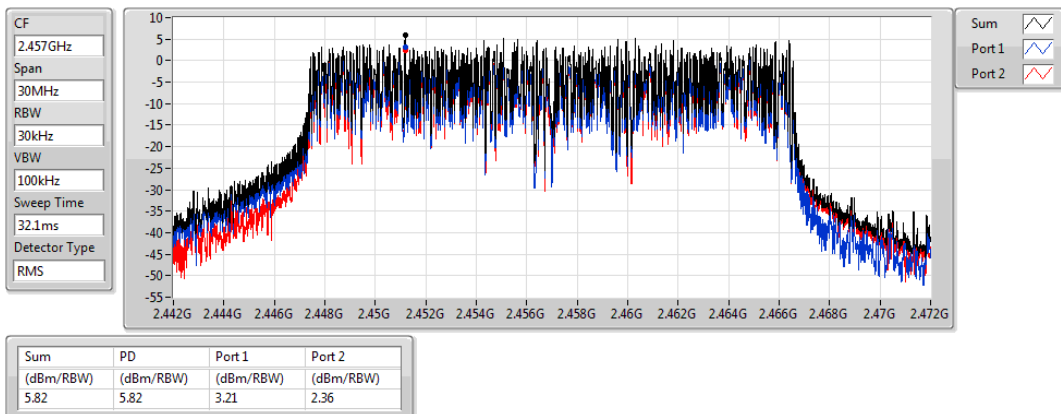
2437MHz



11ax20_Nss1,(MCS0)_2TX

PSD

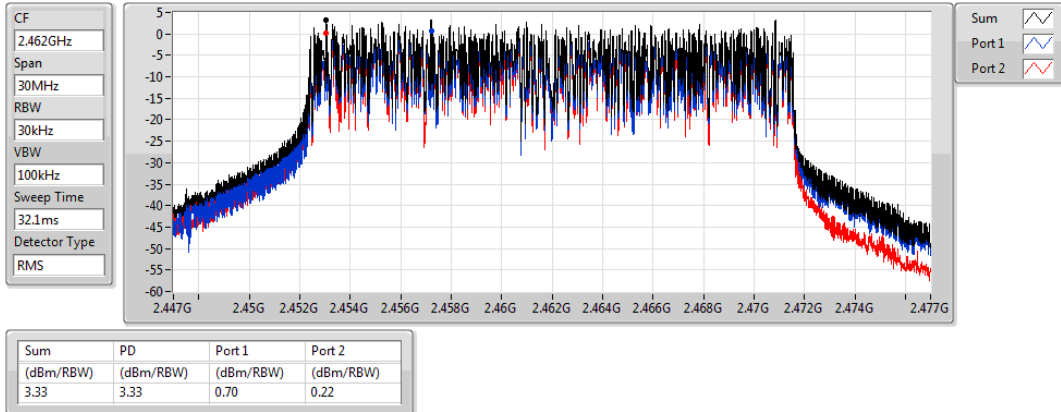
2457MHz



11ax20_Nss1,(MCS0)_2TX

PSD

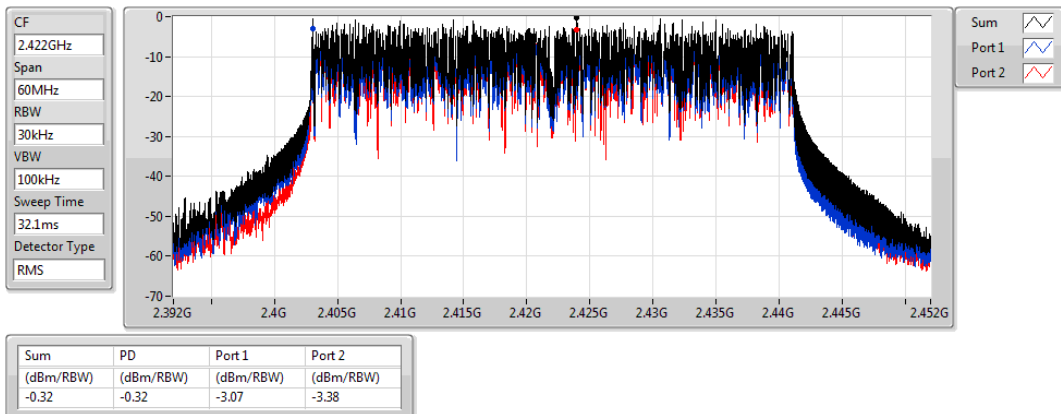
2462MHz



11ax40_Nss1,(MCS0)_2TX

PSD

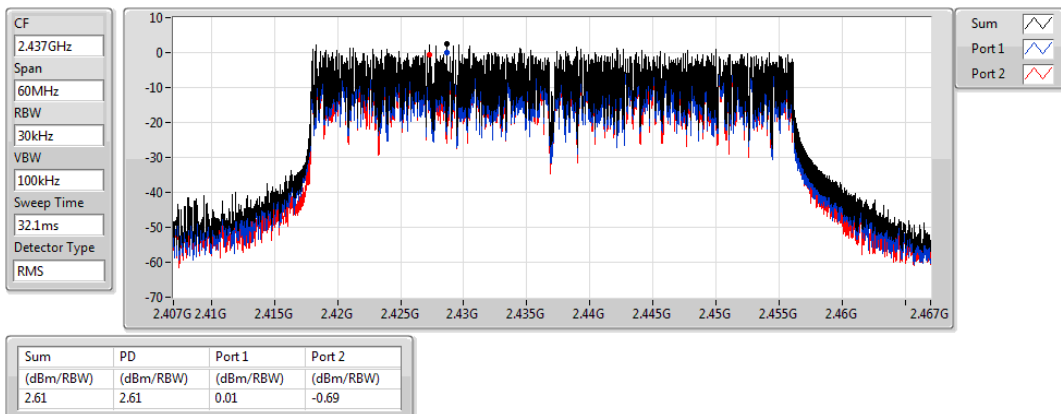
2422MHz



11ax40_Nss1,(MCS0)_2TX

PSD

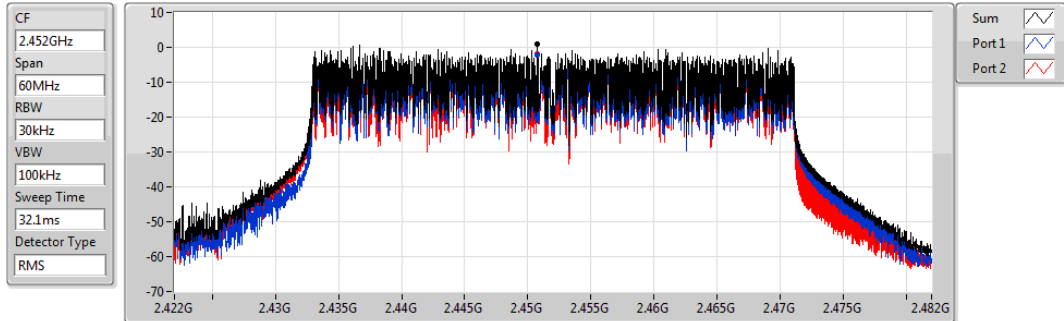
2437MHz



11ax40_Nss1,(MCS0)_2TX

PSD

2452MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.03	1.03	-2.05	-1.92

3.5 Unwanted Emissions into Restricted Frequency Bands

3.5.1 Limit of Unwanted Emissions into Restricted Frequency Bands

Restricted Band Emissions Limit			
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1:
Quasi-Peak value is measured for frequency below 1GHz except for 9–90 kHz, 110–490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit

Note 2:
Measurements may be performed at a distance other than what is specified provided. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor as below, Frequency at or above 30 MHz: 20 dB/decade Frequency below 30 MHz: 40 dB/decade.

3.5.2 Test Procedures

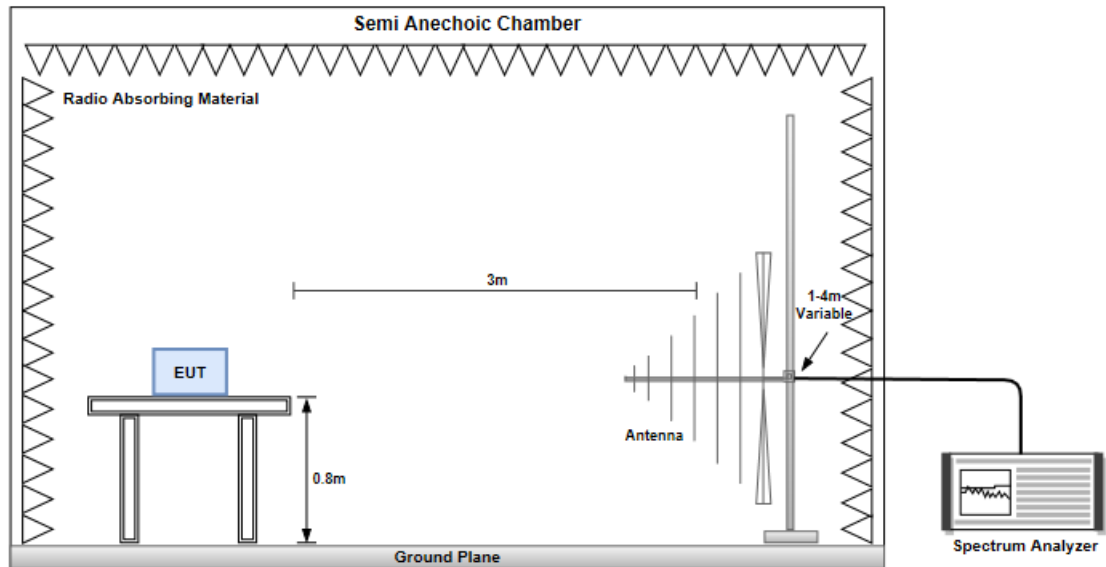
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at test table. For emissions testing at or below 1 GHz, the table height is 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height is 1.5 m
2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
3. This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

Note:

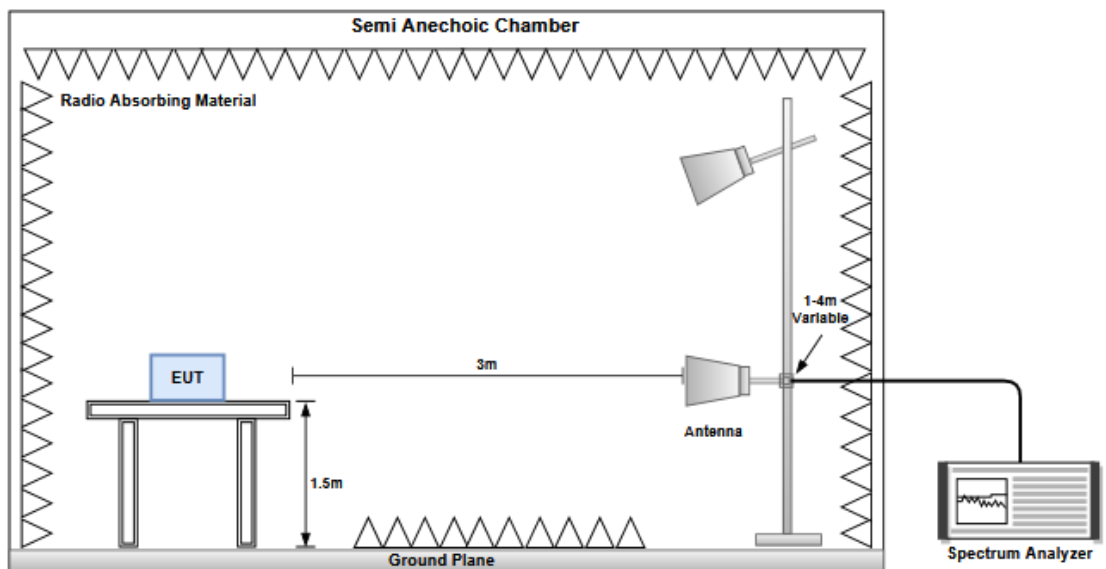
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above 1GHz.

3.5.3 Test Setup

Radiated Emissions below 1 GHz



Radiated Emissions above 1 GHz



3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

Modulation	11g	Test Freq. (MHz)	2437
Polarization	Horizontal		
Test By :Akun Chung Temperature(°C):22 Humidity(%):67			
Level (dBUV/m)			

Modulation	11g	Test Freq. (MHz)	2437
Polarization	Vertical		
Test By :Akun Chung Temperature(°C):22 Humidity(%):67			
Level (dBuV/m)			

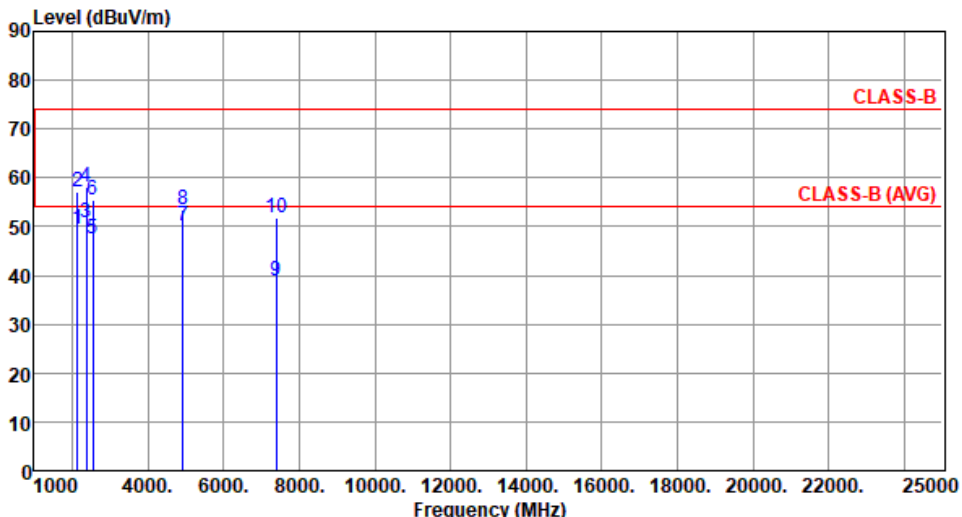
3.5.5 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 11b

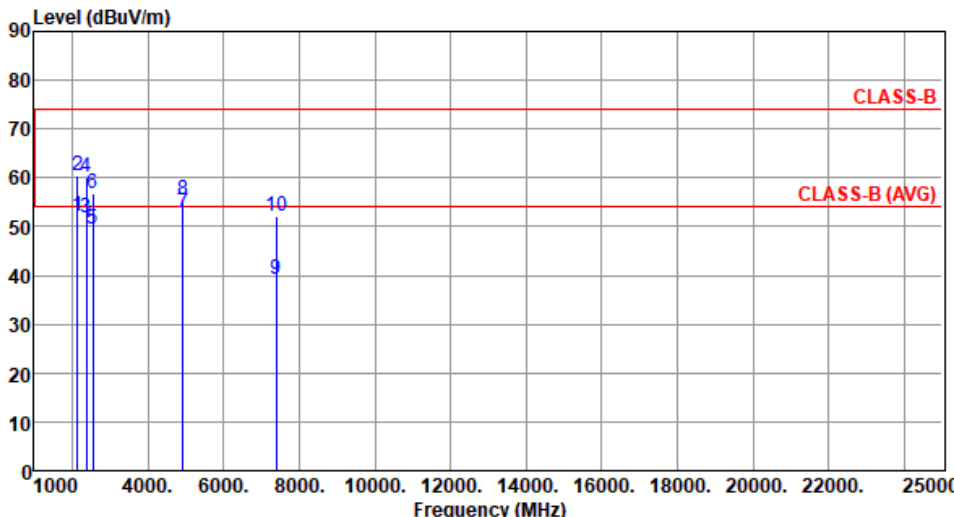
Modulation	11b	Test Freq. (MHz)	2412
Polarization	Horizontal		
Test By :Roger Lu Temperature(°C):23 Humidity(%):63			
Level (dBuV/m) </			

Modulation	11b	Test Freq. (MHz)	2412
Polarization	Vertical		
Test By :Roger Lu Temperature(°C):23 Humidity(%):63			
Level (dBUV/m)			

Modulation	11b	Test Freq. (MHz)	2437
Polarization	Horizontal		
Test By :Roger Lu Temperature(°C):23 Humidity(%):63			
Level (dBUV/m) </			

Modulation	11b	Test Freq. (MHz)	2437
Polarization	Vertical		
Test By :Roger Lu Temperature(°C):23 Humidity(%):63			
Level (dBUV/m)			

Modulation	11b	Test Freq. (MHz)	2462						
Polarization	Horizontal								
Test By :Roger Lu Temperature(°C):25 Humidity(%):61									
Level (dBuV/m)  Frequency (MHz)									
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2146.00	49.35	54.00	-4.65	52.74	-3.39	Average	152	256
2	2146.00	57.18	74.00	-16.82	60.57	-3.39	Peak	152	256
3	2377.00	50.68	54.00	-3.32	53.42	-2.74	Average	233	271
4	2377.00	58.21	74.00	-15.79	60.95	-2.74	Peak	233	271
5	2547.00	47.52	54.00	-6.48	50.48	-2.96	Average	195	253
6	2547.00	55.44	74.00	-18.56	58.40	-2.96	Peak	195	253
7	4924.00	50.17	54.00	-3.83	46.48	3.69	Average	220	68
8	4924.00	53.54	74.00	-20.46	49.85	3.69	Peak	220	68
9	7386.00	38.82	54.00	-15.18	29.75	9.07	Average	100	48
10	7386.00	51.76	74.00	-22.24	42.69	9.07	Peak	100	48
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).									

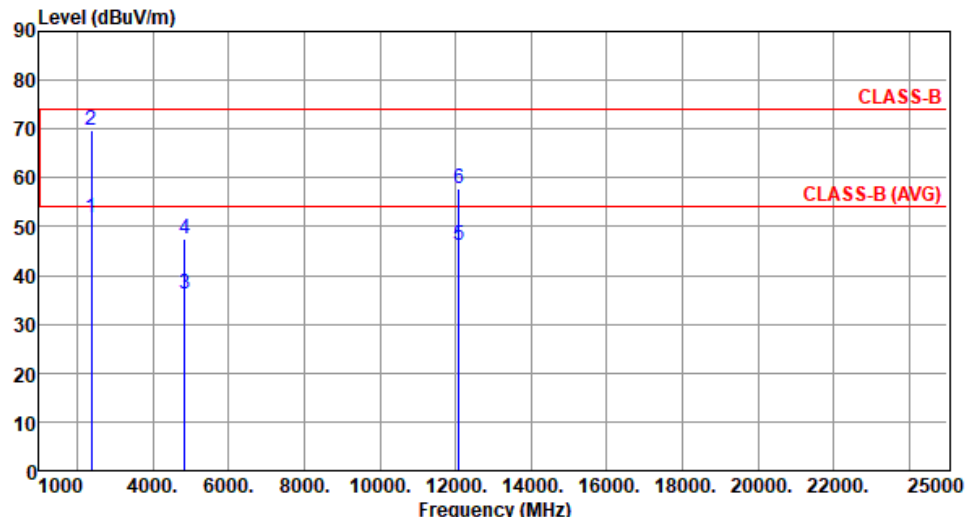
Modulation	11b	Test Freq. (MHz)	2462						
Polarization	Vertical								
Test By :Roger Lu Temperature(°C):25 Humidity(%):61									
Level (dBUV/m)  Frequency (MHz)									
	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2146.00	52.08	54.00	-1.92	55.47	-3.39	Average	149	179
2	2146.00	60.43	74.00	-13.57	63.82	-3.39	Peak	149	179
3	2377.00	51.87	54.00	-2.13	54.61	-2.74	Average	207	210
4	2377.00	60.06	74.00	-13.94	62.80	-2.74	Peak	207	210
5	2547.00	49.43	54.00	-4.57	52.39	-2.96	Average	166	229
6	2547.00	56.94	74.00	-17.06	59.90	-2.96	Peak	166	229
7	4924.00	52.80	54.00	-1.20	49.11	3.69	Average	154	255
8	4924.00	55.59	74.00	-18.41	51.90	3.69	Peak	154	255
9	7386.00	39.18	54.00	-14.82	30.11	9.07	Average	100	30
10	7386.00	52.29	74.00	-21.71	43.22	9.07	Peak	100	30

Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).

3.5.6 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 11g

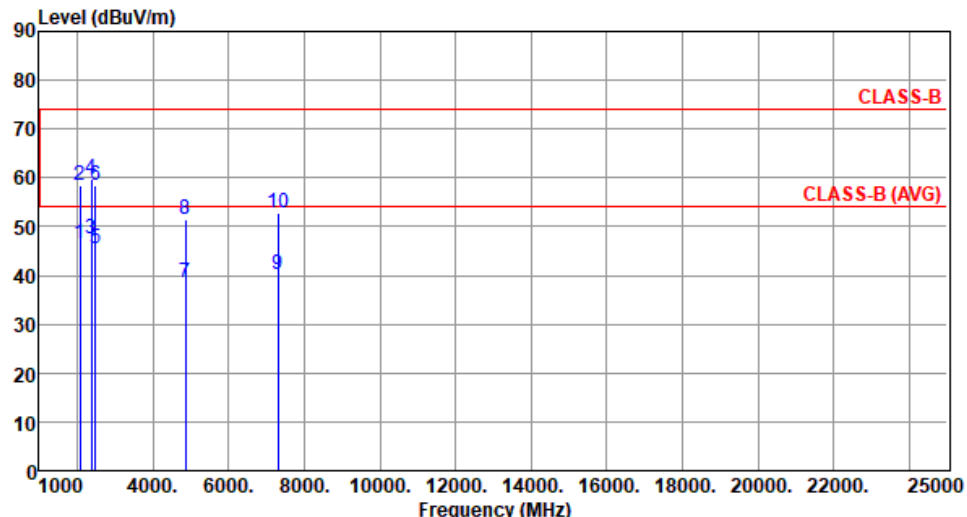
Modulation	11g	Test Freq. (MHz)	2412
Polarization	Horizontal		
Test By :Roger Lu Temperature(°C):25 Humidity(%):61			
Level (dBuV/m)			

Modulation	11g	Test Freq. (MHz)	2412
Polarization	Vertical		
Test By :Roger Lu Temperature(°C):25 Humidity(%):61			
Level (dBuV/m)			

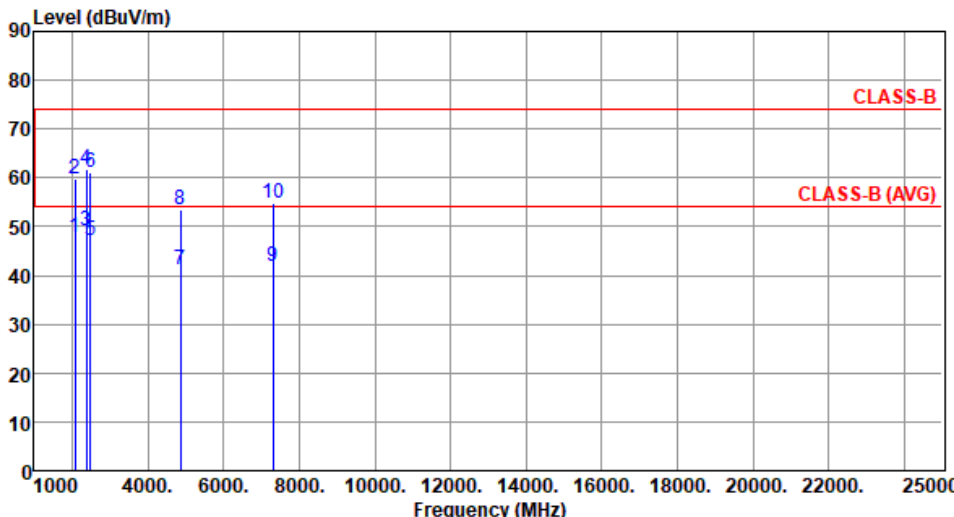
Modulation	11g	Test Freq. (MHz)	2417						
Polarization	Horizontal								
Test By :Roger Lu Temperature(°C):25 Humidity(%):61									
Level (dBUV/m)  Frequency (MHz)									
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn
	MHz	level	dBuV/m	dB	reading	dB		High	Table
		dBuV/m			dBuV			cm	deg
1	2390.00	51.72	54.00	-2.28	54.52	-2.80	Average	265	291
2	2390.00	69.61	74.00	-4.39	72.41	-2.80	Peak	265	291
3	4834.00	36.06	54.00	-17.94	32.44	3.62	Average	100	251
4	4834.00	47.50	74.00	-26.50	43.88	3.62	Peak	100	251
5	12085.00	46.10	54.00	-7.90	32.18	13.92	Average	100	66
6	12085.00	57.69	74.00	-16.31	43.77	13.92	Peak	100	66

Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).

Modulation	11g	Test Freq. (MHz)	2417
Polarization	Vertical		
Test By :Roger Lu Temperature(°C):25 Humidity(%):61			
Level (dBUV/m)			

Modulation	11g	Test Freq. (MHz)	2437						
Polarization	Horizontal								
Test By :Roger Lu Temperature(°C):23 Humidity(%):63									
Level (dBUV/m)  Frequency (MHz)									
	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2071.00	46.40	54.00	-7.60	50.76	-4.36	Average	145	258
2	2071.00	58.37	74.00	-15.63	62.73	-4.36	Peak	145	258
3	2390.00	47.55	54.00	-6.45	50.35	-2.80	Average	213	91
4	2390.00	59.90	74.00	-14.10	62.70	-2.80	Peak	213	91
5	2483.50	45.35	54.00	-8.65	48.38	-3.03	Average	213	91
6	2483.50	58.53	74.00	-15.47	61.56	-3.03	Peak	213	91
7	4874.00	38.61	54.00	-15.39	34.97	3.64	Average	220	62
8	4874.00	51.39	74.00	-22.61	47.75	3.64	Peak	220	62
9	7311.00	40.17	54.00	-13.83	30.90	9.27	Average	100	297
10	7311.00	52.81	74.00	-21.19	43.54	9.27	Peak	100	297

Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).

Modulation	11g	Test Freq. (MHz)	2437						
Polarization	Vertical								
Test By :Roger Lu Temperature(°C):23 Humidity(%):63									
Level (dBUV/m) 									
	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2071.00	47.78	54.00	-6.22	52.14	-4.36	Average	205	170
2	2071.00	59.93	74.00	-14.07	64.29	-4.36	Peak	205	170
3	2390.00	49.06	54.00	-4.94	51.86	-2.80	Average	217	58
4	2390.00	61.79	74.00	-12.21	64.59	-2.80	Peak	217	58
5	2483.50	47.24	54.00	-6.76	50.27	-3.03	Average	217	58
6	2483.50	61.08	74.00	-12.92	64.11	-3.03	Peak	217	58
7	4874.00	41.04	54.00	-12.96	37.40	3.64	Average	165	256
8	4874.00	53.35	74.00	-20.65	49.71	3.64	Peak	165	256
9	7311.00	41.97	54.00	-12.03	32.70	9.27	Average	248	91
10	7311.00	54.81	74.00	-19.19	45.54	9.27	Peak	248	91

Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).

Modulation	11g	Test Freq. (MHz)	2457
Polarization	Horizontal		
Test By :Roger Lu Temperature(°C):25 Humidity(%):61			
Level (dBuV/m)			

Modulation	11g	Test Freq. (MHz)	2457
Polarization	Vertical		
Test By :Roger Lu Temperature(°C):25 Humidity(%):61			
Level (dBUV/m)			

Modulation	11g	Test Freq. (MHz)	2462
Polarization	Horizontal		
Test By :Roger Lu Temperature(°C):25 Humidity(%):61			
Level (dBuV/m)			

Modulation	11g	Test Freq. (MHz)	2462
Polarization	Vertical		
Test By :Roger Lu Temperature(°C):25 Humidity(%):61			
Level (dBUV/m)			

3.5.7 Transmitter Radiated Unwanted Emissions (Above 1GHz) for ax HE20

Modulation	ax HE20	Test Freq. (MHz)	2412
Polarization	Horizontal		
Test By :Akun Chung Temperature(°C):23 Humidity(%):63			
Level (dBUV/m)			

Modulation	ax HE20	Test Freq. (MHz)	2412
Polarization	Vertical		
Test By :Akun Chung Temperature(°C):23 Humidity(%):63			
Level (dBuV/m)			

Modulation	ax HE20	Test Freq. (MHz)	2417
Polarization	Horizontal		
Test By :Roger Lu Temperature(°C):23 Humidity(%):63			
Level (dBUV/m)			

Modulation	ax HE20	Test Freq. (MHz)	2417
Polarization	Vertical		
Test By :Roger Lu Temperature(°C):23 Humidity(%):63			
Level (dBuV/m)			

Modulation	ax HE20	Test Freq. (MHz)	2437
Polarization	Horizontal		
Test By :Roger Lu Temperature(°C):23 Humidity(%):63			
Level (dBUV/m)			

Modulation	ax HE20	Test Freq. (MHz)	2437
Polarization	Vertical		
Test By :Roger Lu Temperature(°C):23 Humidity(%):63			
Level (dBUV/m)			

Modulation	ax HE20	Test Freq. (MHz)	2457
Polarization	Horizontal		
Test By :Akun Chung Temperature(°C):23 Humidity(%):63			
Level (dBuV/m)			

Modulation	ax HE20	Test Freq. (MHz)	2457
Polarization	Vertical		
Test By :Akun Chung Temperature(°C):23 Humidity(%):63			
Level (dBuV/m)			

Modulation	ax HE20	Test Freq. (MHz)	2462
Polarization	Horizontal		
Test By :Akun Chung Temperature(°C):23 Humidity(%):63			
Level (dBuV/m)			

Modulation	ax HE20	Test Freq. (MHz)	2462
Polarization	Vertical		
Test By :Akun Chung Temperature(°C):23 Humidity(%):63			
Level (dBuV/m)			

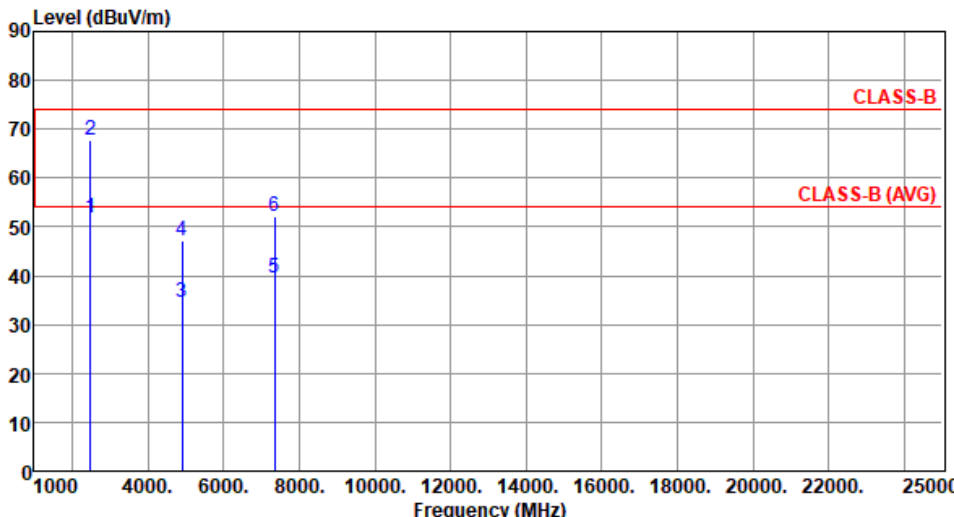
3.5.8 Transmitter Radiated Unwanted Emissions (Above 1GHz) for ax HE40

Modulation	ax HE40		Test Freq. (MHz)		2422	
Polarization	Horizontal					
Test By :Akun Chung Temperature(°C):23 Humidity(%):63						
Level (dBUV/m)						

Modulation	ax HE40	Test Freq. (MHz)	2422
Polarization	Vertical		
Test By :Akun Chung Temperature(°C):23 Humidity(%):63			
Level (dBuV/m)			

Modulation	ax HE40	Test Freq. (MHz)	2437
Polarization	Horizontal		
Test By :Akun Chung Temperature(°C):23 Humidity(%):63			
Level (dBUV/m)			

Modulation	ax HE40	Test Freq. (MHz)	2437
Polarization	Vertical		
Test By :Akun Chung Temperature(°C):23 Humidity(%):63			
Level (dBUV/m)			

Modulation	ax HE40	Test Freq. (MHz)	2452						
Polarization	Horizontal								
Test By :Roger Lu Temperature(°C):23 Humidity(%):63									
Level (dBUV/m)  Frequency (MHz)									
	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	51.76	54.00	-2.24	54.79	-3.03	Average	236	258
2	2483.50	67.79	74.00	-6.21	70.82	-3.03	Peak	236	258
3	4904.00	34.42	54.00	-19.58	30.79	3.63	Average	100	142
4	4904.00	47.18	74.00	-26.82	43.55	3.63	Peak	100	142
5	7356.00	39.50	54.00	-14.50	30.42	9.08	Average	100	54
6	7356.00	52.10	74.00	-21.90	43.02	9.08	Peak	100	54
Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor* (dB) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).									

Modulation	ax HE40	Test Freq. (MHz)	2452
Polarization	Vertical		
Test By :Roger Lu Temperature(°C):23 Humidity(%):63			
Level (dBUV/m)			

3.6 Emissions in Non-Restricted Frequency Bands

3.6.1 Emissions in Non-Restricted Frequency Bands Limit

Peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz.

3.6.2 Test Procedures

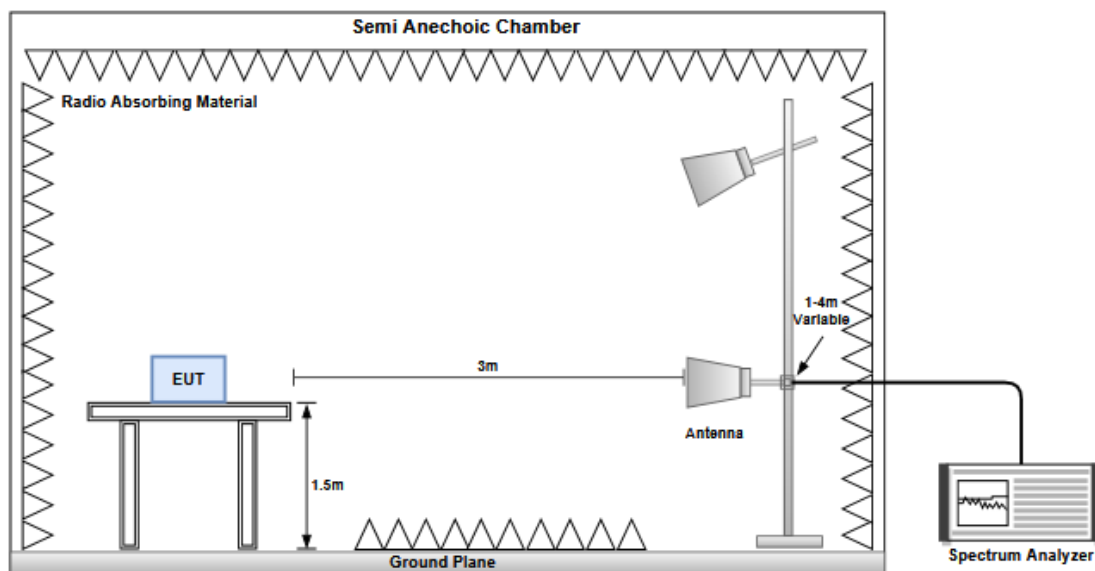
Reference level measurement

1. Set RBW=100kHz, VBW = 300kHz , Detector = Peak, Sweep time = Auto
2. Trace = max hold , Allow Trace to fully stabilize
3. Use the peak marker function to determine the maximum PSD level

Emission level measurement

1. Set RBW=100kHz, VBW = 300kHz , Detector = Peak, Sweep time = Auto
2. Trace = max hold , Allow Trace to fully stabilize
3. Scan Frequency range is up to 25GHz
4. Use the peak marker function to determine the maximum amplitude level

3.6.3 Test Setup



3.6.4 Unwanted Emissions into Non-Restricted Frequency Bands

Ambient Condition	22°C / 66%	Tested By	Aska Huang
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Modulation	11b			NTx	3			
Test ch. Freq. (MHz)	In-band PSD [i] (dBuV/100kHz)	Non-restricted Band (MHz)	NBE Freq. (MHz)	Out-band PSD [o] (dBuV/100kHz)	[i] – [o] (dB)	Limit (dB)	Level Type	Pol. note 1
2412	110.44	30-1000	601.33	50.93	59.51	30	PK	V
		1000-2390	2367.80	61.16	49.28	30	PK	V
		2390-2400	2399.71	65.53	44.91	30	PK	V
		2500-18000	17984.50	62.58	47.86	30	PK	V
		18000-25000	24965.00	50.67	59.77	30	PK	V
2437	111.42	30-1000	609.09	50.57	60.85	30	PK	V
		1000-2390	2233.40	61.49	49.93	30	PK	V
		2390-2400	2392.46	62.45	48.97	30	PK	V
		2500-18000	18000.00	61.48	49.94	30	PK	V
		18000-25000	24888.00	50.70	60.72	30	PK	V
2462	112.10	30-1000	608.12	49.73	62.37	30	PK	V
		1000-2400	2128.40	61.73	50.37	30	PK	V
		2500-2510	2505.55	62.93	49.17	30	PK	V
		2510-18000	17984.50	62.13	49.97	30	PK	V
		18000-25000	24811.00	50.72	61.38	30	PK	V
Note: Measurement worst emissions of receive antenna polarization: H (Horizontal) or V (Vertical)								

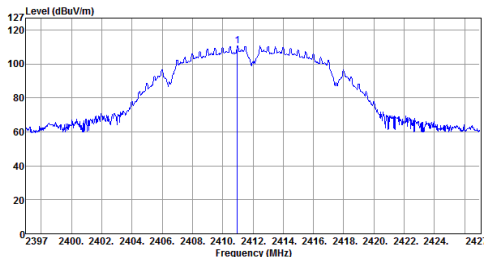
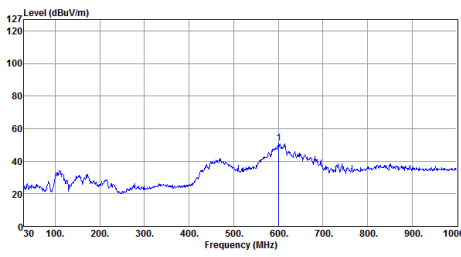
Modulation	11g			NTx	3			
Test ch. Freq. (MHz)	In-band PSD [i] (dBuV/100kHz)	Non-restricted Band (MHz)	NBE Freq. (MHz)	Out-band PSD [o] (dBuV/100kHz)	[i] – [o] (dB)	Limit (dB)	Level Type	Pol. note 1
2412	106.56	30-1000	595.51	50.83	55.73	30	PK	V
		1000-2390	2390.00	62.48	44.08	30	PK	V
		2390-2400	2399.79	74.27	32.29	30	PK	V
		2500-18000	18000.00	61.28	45.28	30	PK	V
		18000-25000	24566.00	50.71	55.85	30	PK	V
2417	107.76	30-1000	597.45	50.48	57.28	30	PK	V
		1000-2390	2285.20	61.30	46.46	30	PK	V
		2390-2400	2399.70	72.70	35.06	30	PK	V
		2500-18000	18000.00	61.60	46.16	30	PK	V
		18000-25000	24566.00	50.71	57.05	30	PK	V
2437	110.66	30-1000	597.45	50.12	60.54	30	PK	V
		1000-2390	2257.20	61.17	49.49	30	PK	V
		2390-2400	2398.23	64.88	45.78	30	PK	V
		2500-18000	17953.50	61.68	48.98	30	PK	V
		18000-25000	24566.00	50.71	59.95	30	PK	V
2457	107.48	30-1000	577.45	51.06	56.42	30	PK	V
		1000-2400	2302.00	62.10	45.38	30	PK	V
		2500-2510	2500.03	62.54	44.94	30	PK	V
		2510-18000	17984.50	62.20	45.28	30	PK	V
		18000-25000	24818.00	50.29	57.19	30	PK	V
2462	106.23	30-1000	604.24	50.34	55.89	30	PK	V
		1000-2400	2159.20	61.41	44.82	30	PK	V
		2500-2510	2501.14	61.74	44.49	30	PK	V
		2510-18000	18000.00	62.36	43.87	30	PK	V
		18000-25000	24832.00	49.88	56.35	30	PK	V

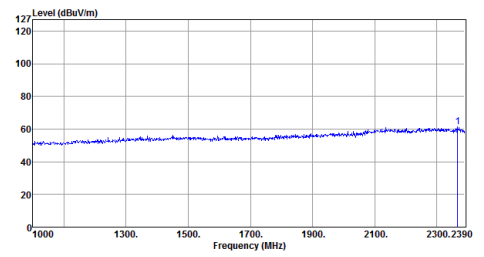
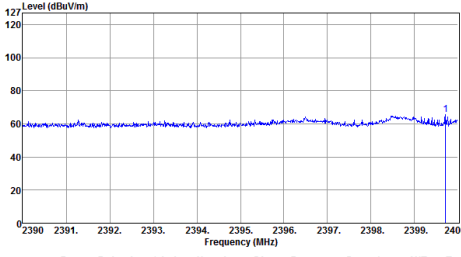
Note: Measurement worst emissions of receive antenna polarization: H (Horizontal) or V (Vertical)

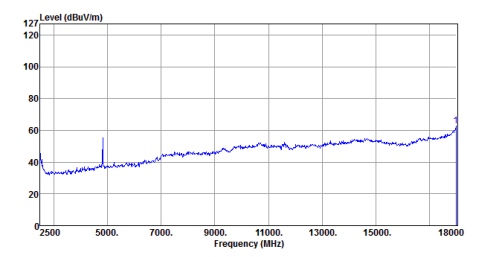
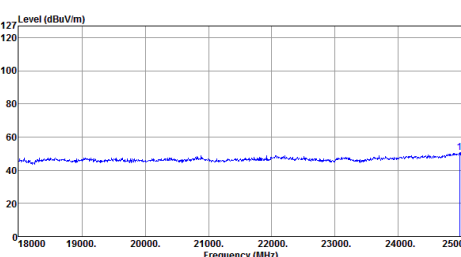
Modulation	11ax HE20			NTx	3			
Test ch. Freq. (MHz)	In-band PSD [i] (dBuV/100kHz)	Non-restricted Band (MHz)	NBE Freq. (MHz)	Out-band PSD [o] (dBuV/100kHz)	[i] – [o] (dB)	Limit (dB)	Level Type	Pol. note 1
2412	103.60	30-1000	598.42	50.47	53.13	30	PK	V
		1000-2390	2293.60	62.18	41.42	30	PK	V
		2390-2400	2399.98	73.17	30.43	30	PK	V
		2500-18000	18000.00	62.36	41.24	30	PK	V
		18000-25000	24916.00	51.39	52.21	30	PK	V
2417	105.02	30-1000	598.42	50.00	55.02	30	PK	V
		1000-2390	2272.60	61.48	43.54	30	PK	V
		2390-2400	2396.82	65.73	39.29	30	PK	V
		2500-18000	17984.50	60.89	44.13	30	PK	V
		18000-25000	24979.00	49.67	55.35	30	PK	V
2437	109.68	30-1000	610.06	50.93	58.75	30	PK	V
		1000-2390	2331.40	61.54	48.14	30	PK	V
		2390-2400	2396.38	64.97	44.71	30	PK	V
		2500-18000	17984.50	61.08	48.60	30	PK	V
		18000-25000	24930.00	50.48	59.20	30	PK	V
2457	104.79	30-1000	598.42	50.81	53.98	30	PK	V
		1000-2400	2268.40	60.99	43.80	30	PK	V
		2500-2510	2504.22	62.42	42.37	30	PK	V
		2510-18000	17984.50	62.27	42.52	30	PK	V
		18000-25000	24944.00	50.47	54.32	30	PK	V
2462	103.20	30-1000	609.09	51.18	52.02	30	PK	V
		1000-2400	2267.00	61.66	41.54	30	PK	V
		2500-2510	2505.21	61.78	41.42	30	PK	V
		2510-18000	17984.50	61.43	41.77	30	PK	V
		18000-25000	24951.00	51.35	51.85	30	PK	V
Note: Measurement worst emissions of receive antenna polarization: H (Horizontal) or V (Vertical)								

Modulation	11ax HE40			NTx	3			
Test ch. Freq. (MHz)	In-band PSD [i] (dBuV/100kHz)	Non-restricted Band (MHz)	NBE Freq. (MHz)	Out-band PSD [o] (dBuV/100kHz)	[i] – [o] (dB)	Limit (dB)	Level Type	Pol. note 1
2422	99.78	30-1000	596.48	51.30	48.48	30	PK	V
		1000-2390	2304.80	62.01	37.77	30	PK	V
		2390-2400	2399.99	66.12	33.66	30	PK	V
		2500-18000	17969.00	61.49	38.29	30	PK	V
		18000-25000	24972.00	50.40	49.38	30	PK	V
2437	101.65	30-1000	608.12	51.20	50.45	30	PK	V
		1000-2390	2142.40	61.21	40.44	30	PK	V
		2390-2400	2396.49	64.34	37.31	30	PK	V
		2500-18000	17984.40	61.67	39.98	30	PK	V
		18000-25000	24846.00	49.97	51.68	30	PK	V
2452	99.50	30-1000	600.36	50.78	48.72	30	PK	V
		1000-2400	2355.20	61.21	38.29	30	PK	V
		2500-2510	2501.02	62.50	37.00	30	PK	V
		2510-18000	18000.00	61.52	37.98	30	PK	V
		18000-25000	24881.00	49.93	49.57	30	PK	V
Note: Measurement worst emissions of receive antenna polarization: H (Horizontal) or V (Vertical)								

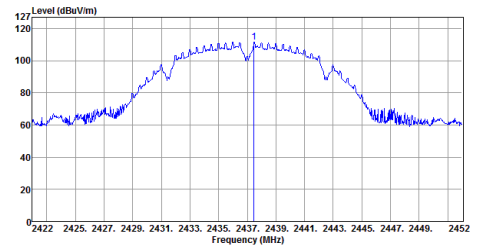
802.11b

Reference Level										Tx 2412MHz / 30MHz~25GHz (down 30dBc)																																													
																																																							
<table><tr><th>Freq. MHz</th><th>Emission level dBuV/m</th><th>Limit dBuV/m</th><th>Margin dB</th><th>SA reading dBuV</th><th>Factor dB</th><th>Remark</th><th>ANT High cm</th><th>Turn Table deg</th></tr><tr><td>2410.98</td><td>110.44</td><td>---</td><td>---</td><td>113.34</td><td>-2.90</td><td>Peak</td><td>---</td><td>---</td></tr></table>										Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg	2410.98	110.44	---	---	113.34	-2.90	Peak	---	---	<table><tr><th>Freq. MHz</th><th>Emission level dBuV/m</th><th>Limit dBuV/m</th><th>Margin dB</th><th>SA reading dBuV</th><th>Factor dB</th><th>Remark</th><th>ANT High cm</th><th>Turn Table deg</th></tr><tr><td>601.33</td><td>50.93</td><td>---</td><td>---</td><td>52.13</td><td>-1.20</td><td>Peak</td><td>---</td><td>---</td></tr></table>										Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg	601.33	50.93	---	---	52.13	-1.20	Peak	---	---
Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg																																															
2410.98	110.44	---	---	113.34	-2.90	Peak	---	---																																															
Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg																																															
601.33	50.93	---	---	52.13	-1.20	Peak	---	---																																															
1										1																																													

																																																							
<table><tr><th>Freq. MHz</th><th>Emission level dBuV/m</th><th>Limit dBuV/m</th><th>Margin dB</th><th>SA reading dBuV</th><th>Factor dB</th><th>Remark</th><th>ANT High cm</th><th>Turn Table deg</th></tr><tr><td>2367.80</td><td>61.16</td><td>---</td><td>---</td><td>63.86</td><td>-2.70</td><td>Peak</td><td>---</td><td>---</td></tr></table>										Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg	2367.80	61.16	---	---	63.86	-2.70	Peak	---	---	<table><tr><th>Freq. MHz</th><th>Emission level dBuV/m</th><th>Limit dBuV/m</th><th>Margin dB</th><th>SA reading dBuV</th><th>Factor dB</th><th>Remark</th><th>ANT High cm</th><th>Turn Table deg</th></tr><tr><td>2399.71</td><td>65.53</td><td>---</td><td>---</td><td>68.37</td><td>-2.84</td><td>Peak</td><td>---</td><td>---</td></tr></table>										Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg	2399.71	65.53	---	---	68.37	-2.84	Peak	---	---
Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg																																															
2367.80	61.16	---	---	63.86	-2.70	Peak	---	---																																															
Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg																																															
2399.71	65.53	---	---	68.37	-2.84	Peak	---	---																																															
1										1																																													

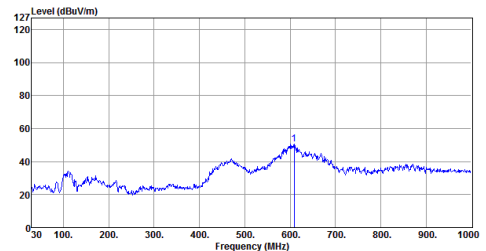
																																																							
<table><tr><th>Freq. MHz</th><th>Emission level dBuV/m</th><th>Limit dBuV/m</th><th>Margin dB</th><th>SA reading dBuV</th><th>Factor dB</th><th>Remark</th><th>ANT High cm</th><th>Turn Table deg</th></tr><tr><td>17984.50</td><td>62.58</td><td>---</td><td>---</td><td>37.75</td><td>24.83</td><td>Peak</td><td>---</td><td>---</td></tr></table>										Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg	17984.50	62.58	---	---	37.75	24.83	Peak	---	---	<table><tr><th>Freq. MHz</th><th>Emission level dBuV/m</th><th>Limit dBuV/m</th><th>Margin dB</th><th>SA reading dBuV</th><th>Factor dB</th><th>Remark</th><th>ANT High cm</th><th>Turn Table deg</th></tr><tr><td>24965.00</td><td>50.67</td><td>---</td><td>---</td><td>40.60</td><td>10.07</td><td>Peak</td><td>---</td><td>---</td></tr></table>										Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg	24965.00	50.67	---	---	40.60	10.07	Peak	---	---
Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg																																															
17984.50	62.58	---	---	37.75	24.83	Peak	---	---																																															
Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg																																															
24965.00	50.67	---	---	40.60	10.07	Peak	---	---																																															
1										1																																													

Reference Level

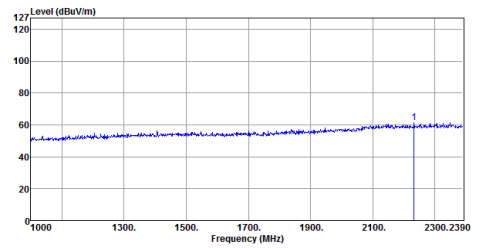


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2437.48	111.42	---	---	114.43	-3.01	Peak	---	---

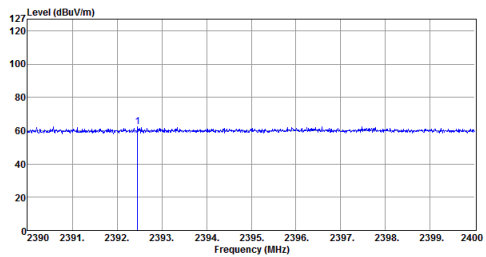
Tx 2437MHz / 30MHz~25GHz (down 30dBc)



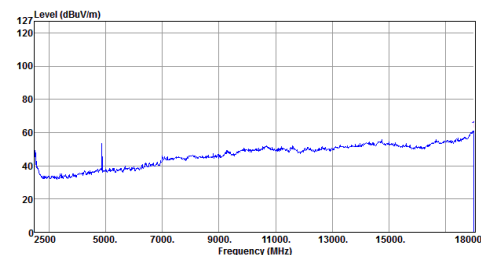
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	609.09	50.57	---	---	51.51	-0.94	Peak	---	---



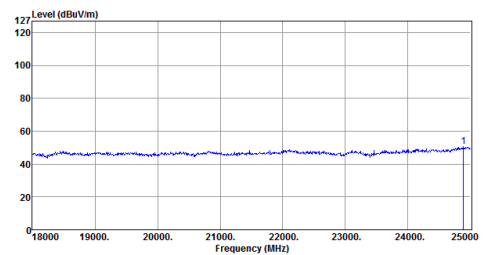
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2233.40	61.49	---	---	64.18	-2.69	Peak	---	---



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2392.46	62.45	---	---	65.26	-2.81	Peak	---	---

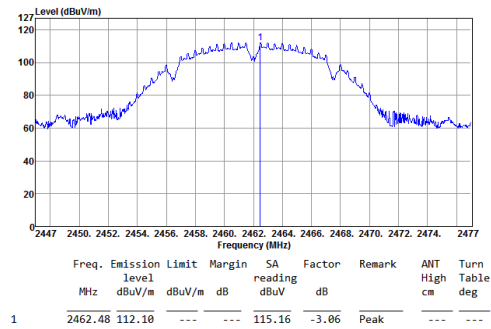


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	18000.00	61.48	---	---	36.38	25.10	Peak	---	---

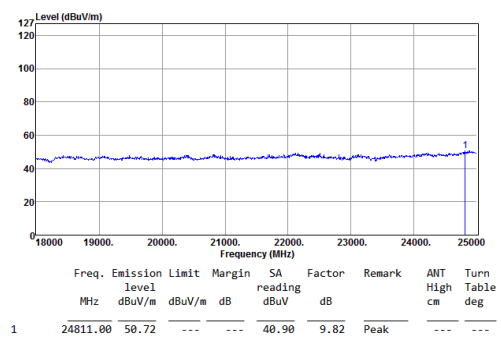
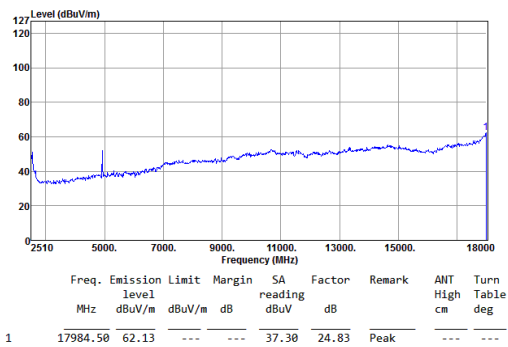
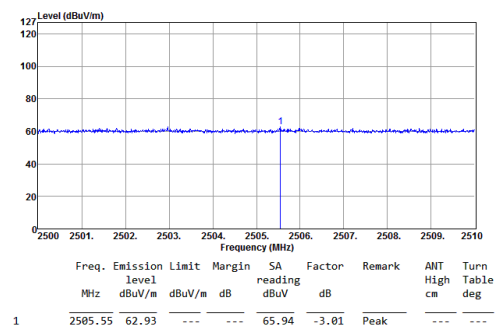
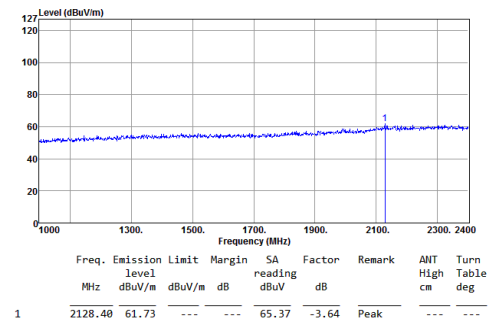
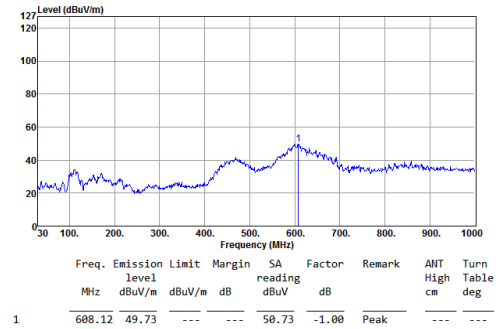


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	24888.00	50.70	---	---	40.75	9.95	Peak	---	---

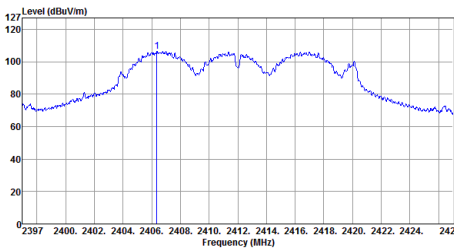
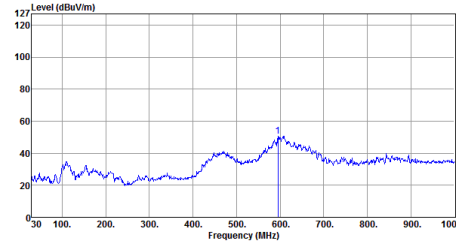
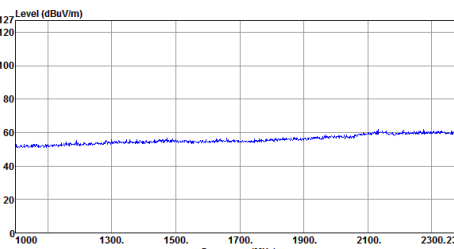
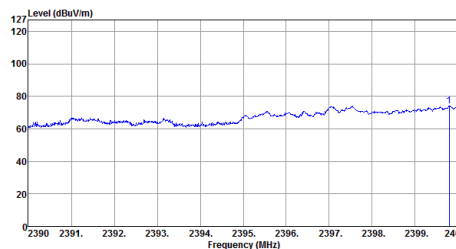
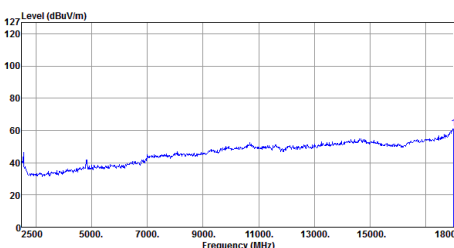
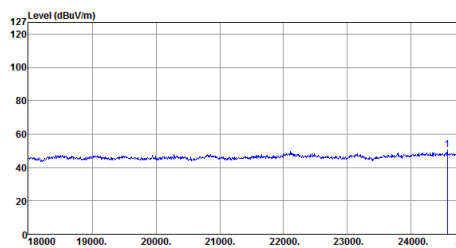
Reference Level



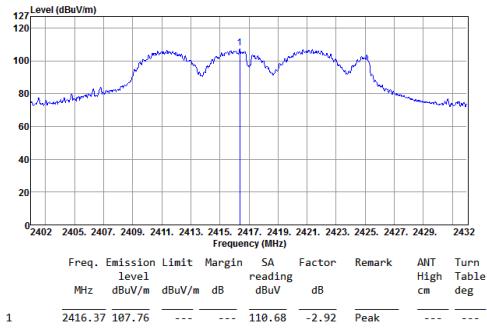
Tx 2462MHz / 30MHz~25GHz (down 30dBc)



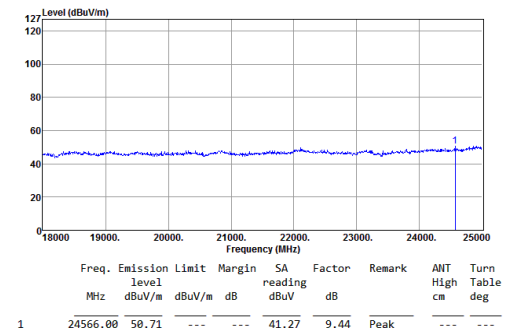
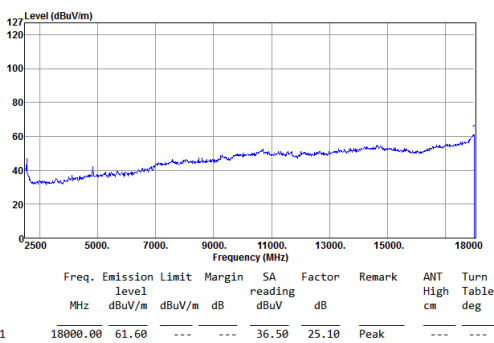
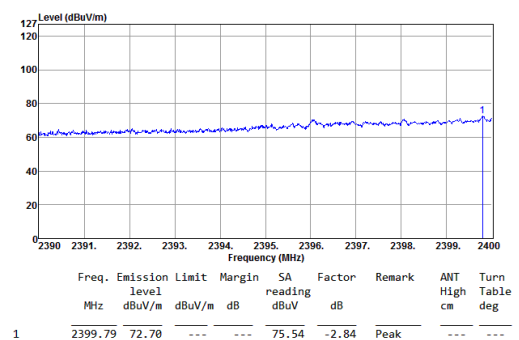
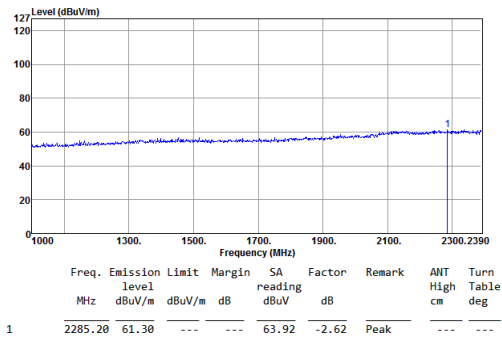
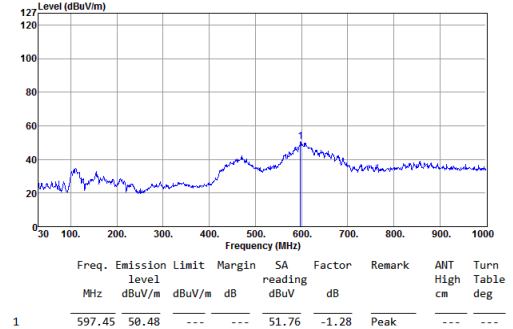
802.11g

Reference Level										Tx 2412MHz / 30MHz~25GHz (down 30dBc)																																													
																																																							
<table><tr><th>Freq. MHz</th><th>Emission level dBuV/m</th><th>Limit dBuV/m</th><th>Margin dB</th><th>SA reading dBuV</th><th>Factor dB</th><th>Remark</th><th>ANT High cm</th><th>Turn Table deg</th></tr><tr><td>1</td><td>2406.36</td><td>106.56</td><td>---</td><td>109.44</td><td>-2.88</td><td>Peak</td><td>---</td><td>---</td></tr></table>										Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg	1	2406.36	106.56	---	109.44	-2.88	Peak	---	---	<table><tr><th>Freq. MHz</th><th>Emission level dBuV/m</th><th>Limit dBuV/m</th><th>Margin dB</th><th>SA reading dBuV</th><th>Factor dB</th><th>Remark</th><th>ANT High cm</th><th>Turn Table deg</th></tr><tr><td>1</td><td>595.51</td><td>50.83</td><td>---</td><td>52.16</td><td>-1.33</td><td>Peak</td><td>---</td><td>---</td></tr></table>										Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg	1	595.51	50.83	---	52.16	-1.33	Peak	---	---
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Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg																																															
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1	2399.79	74.27	---	77.11	-2.84	Peak	---	---																																															
																																																							
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Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg																																															
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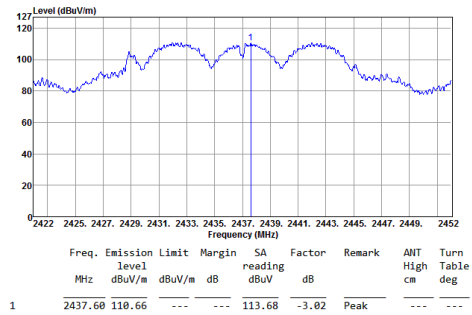
Reference Level



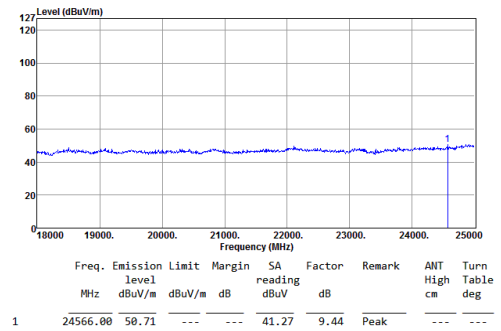
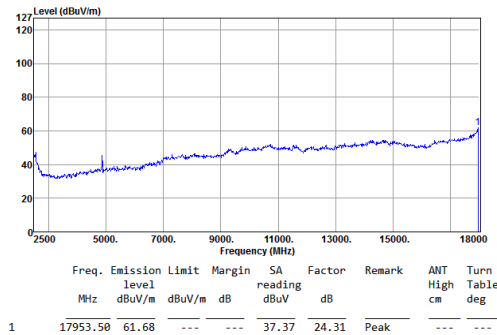
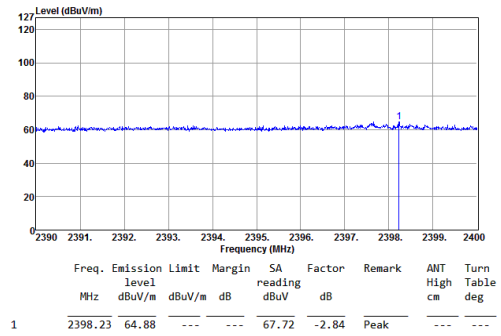
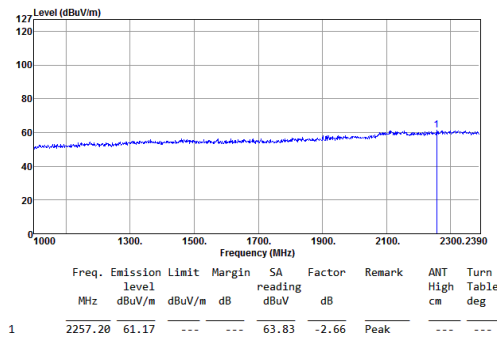
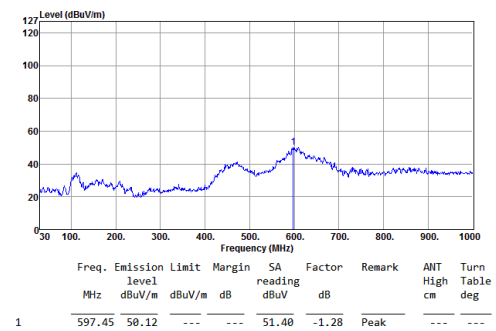
Tx 2417MHz / 30MHz~25GHz (down 30dBc)



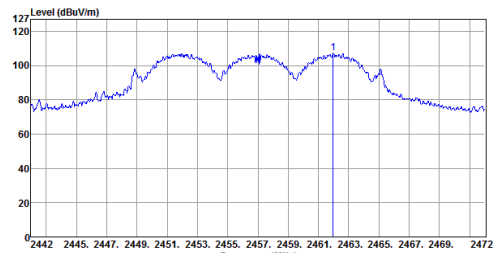
Reference Level



Tx 2437MHz / 30MHz~25GHz (down 30dBc)

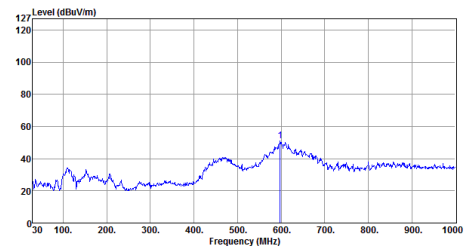


Reference Level

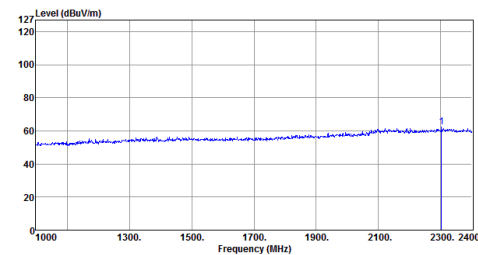


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2461.98	107.48	---	---	110.54	-3.06	Peak	---	---

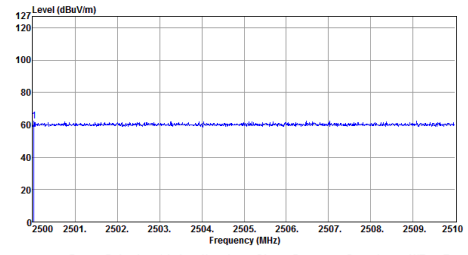
Tx 2457MHz / 30MHz~25GHz (down 30dBc)



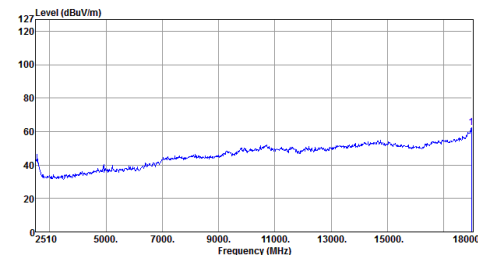
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	597.45	51.06	---	---	52.34	-1.28	Peak	---	---



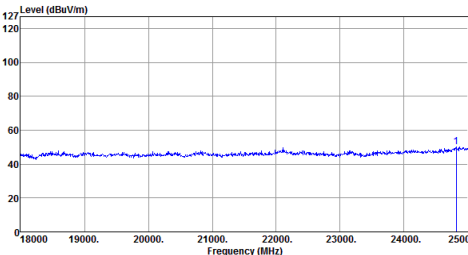
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2302.00	62.10	---	---	64.69	-2.59	Peak	---	---



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
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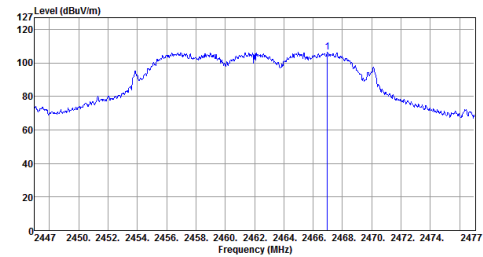


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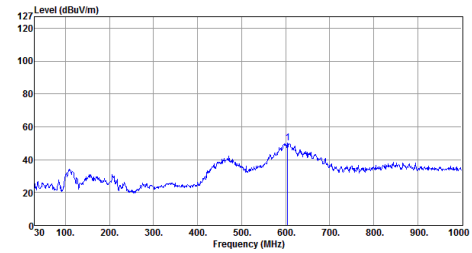
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	24818.00	50.29	---	---	40.46	9.83	Peak	---	---

Reference Level

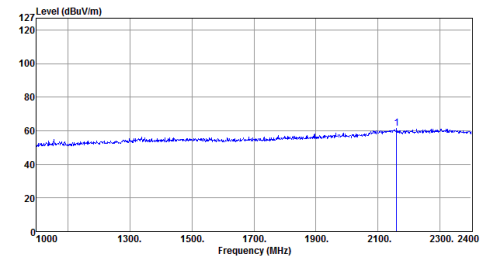


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2466.98	106.23	---	---	109.28	-3.05	Peak	---	---

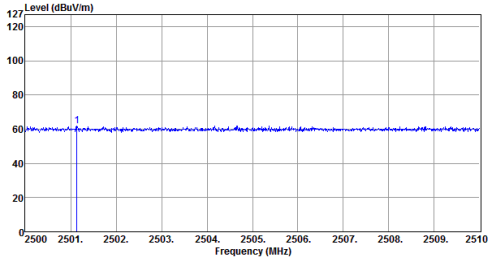
Tx 2462MHz / 30MHz~25GHz (down 30dBc)



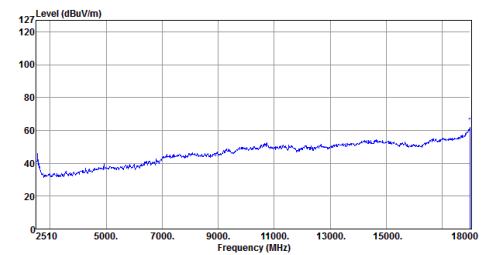
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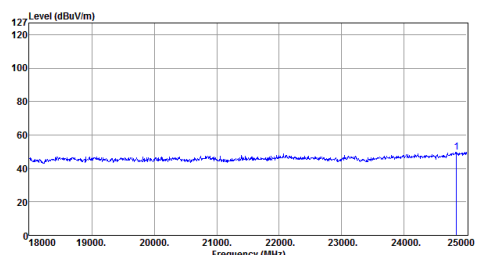
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2159.20	61.41	---	---	64.64	-3.23	Peak	---	---



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2501.14	61.74	---	---	64.75	-3.01	Peak	---	---

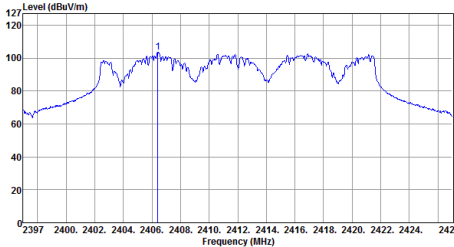
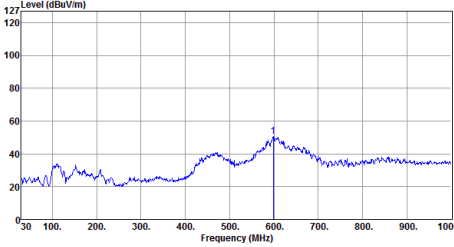
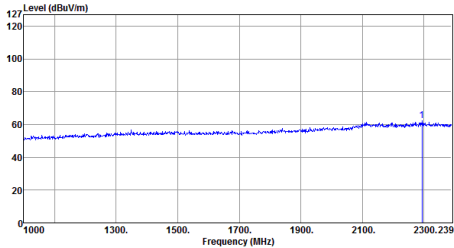
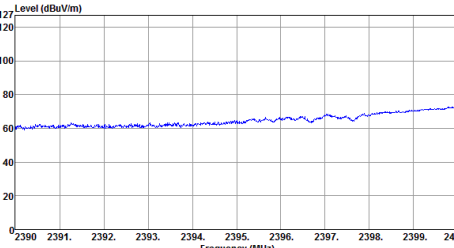
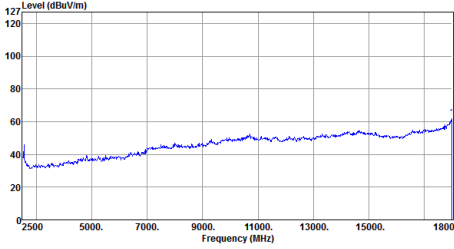
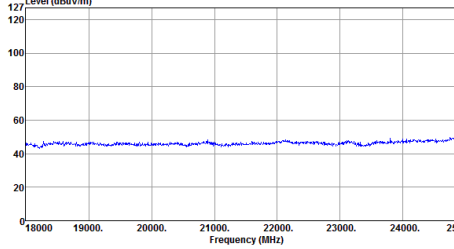


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
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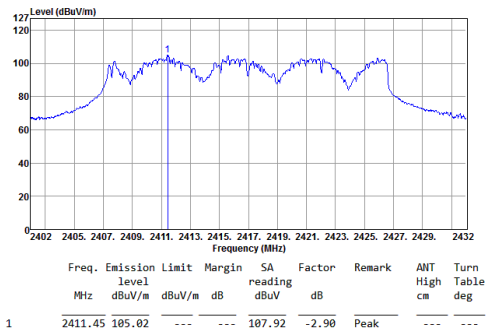


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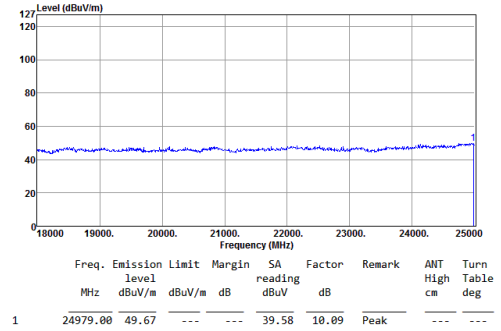
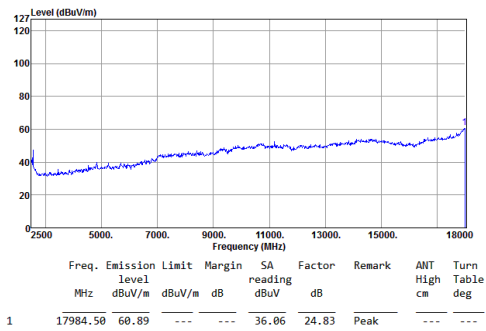
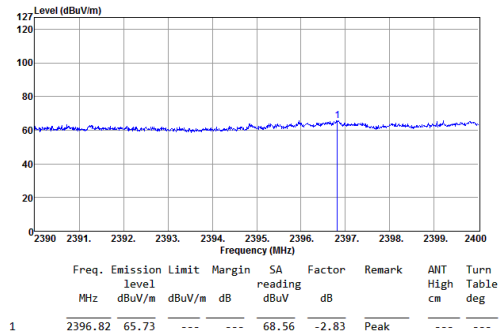
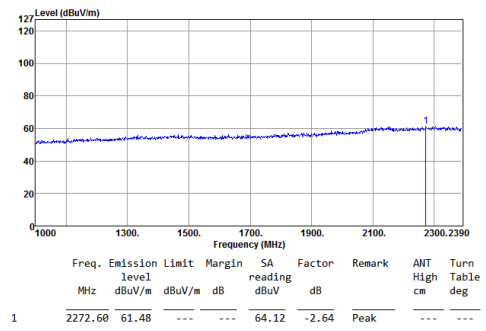
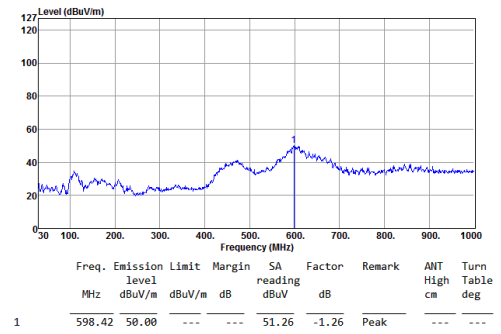
802.11 ax HE20

Reference Level										Tx 2412MHz / 30MHz~25GHz (down 30dBc)																																																															
																																																																									
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Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn																																																																	
MHz	dBuV/m	dBuV/m	dB	reading	dB		High	Table																																																																	
1	2293.60	62.18	---	---	64.78	-2.60	Peak	---																																																																	
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1	2399.98	73.17	---	---	76.01	-2.84	Peak	---																																																																	
																																																																									
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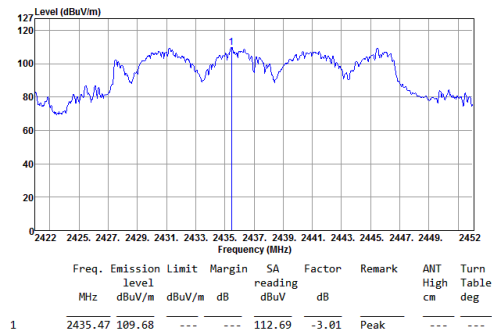
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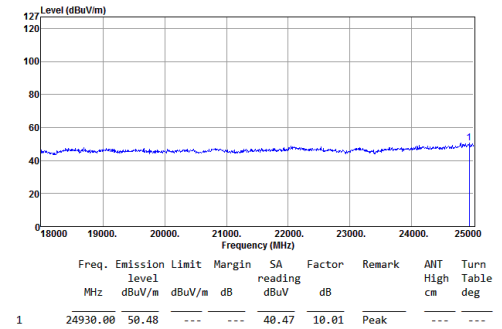
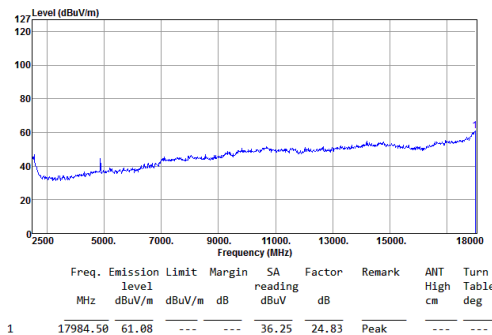
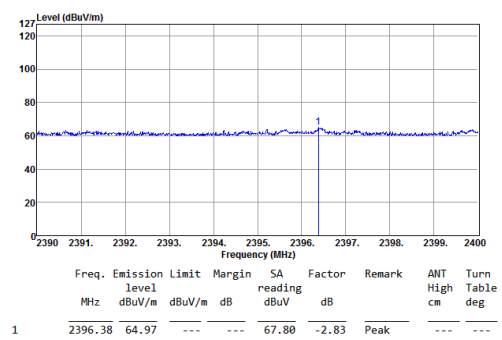
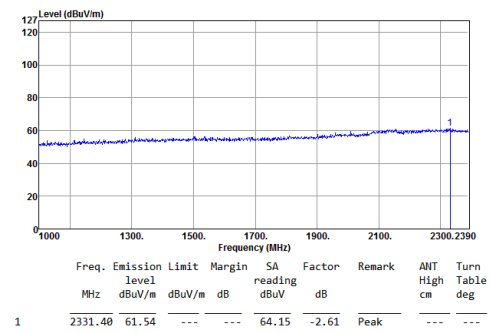
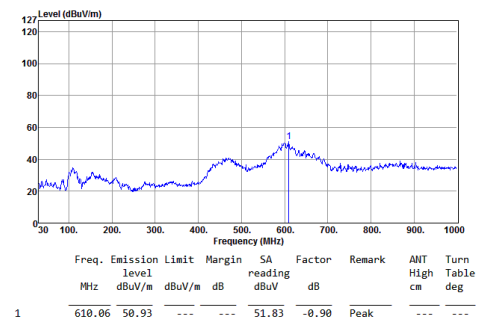
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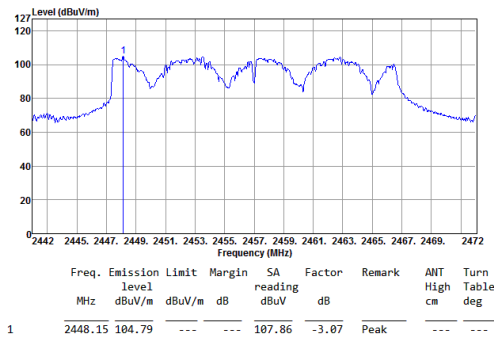
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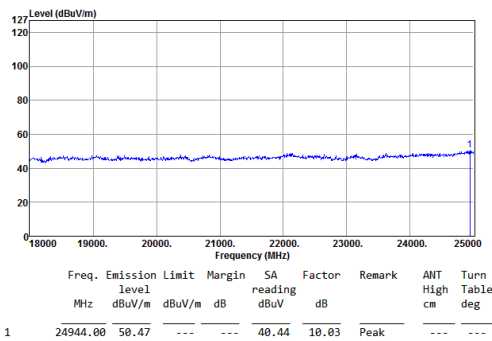
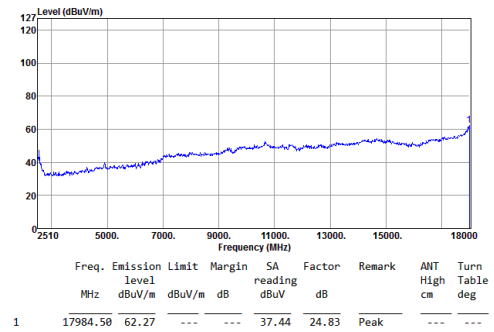
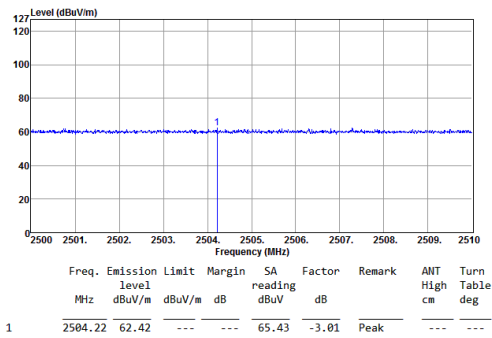
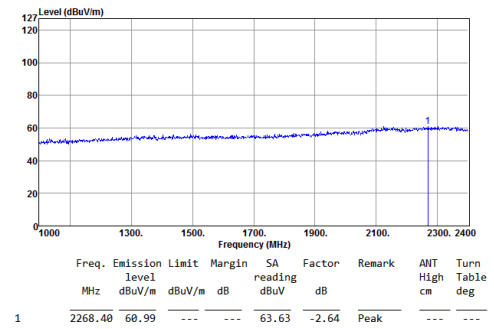
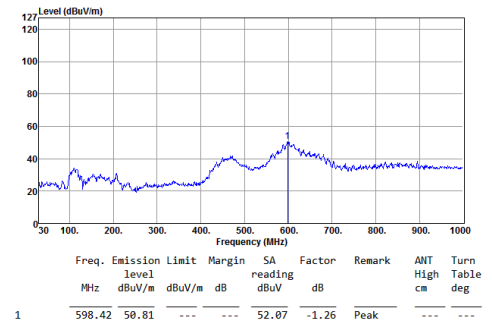
Tx 2437MHz / 30MHz~25GHz (down 30dBc)



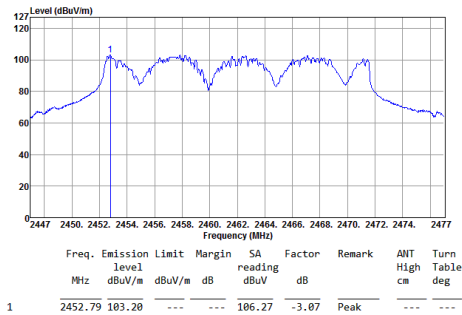
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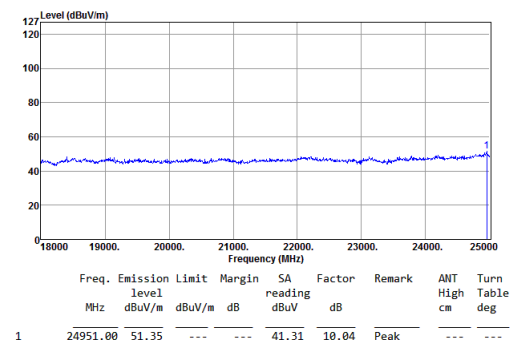
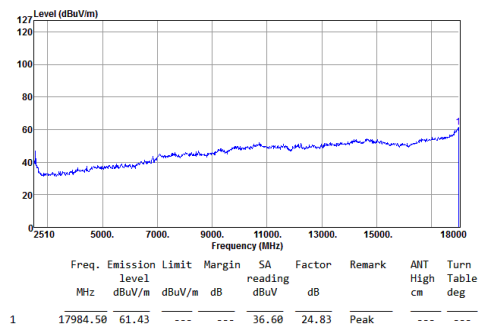
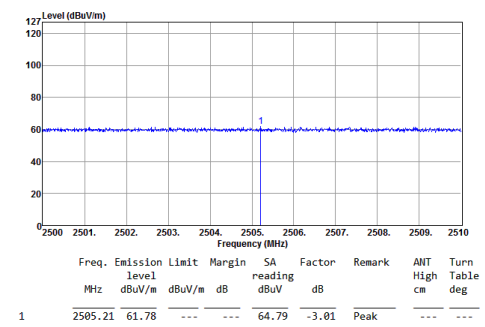
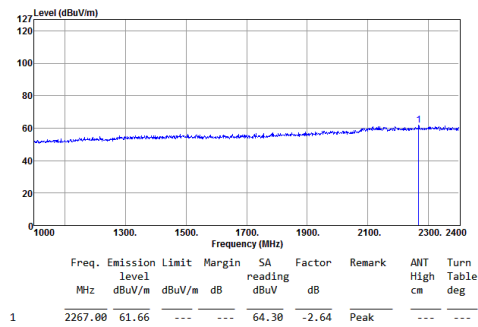
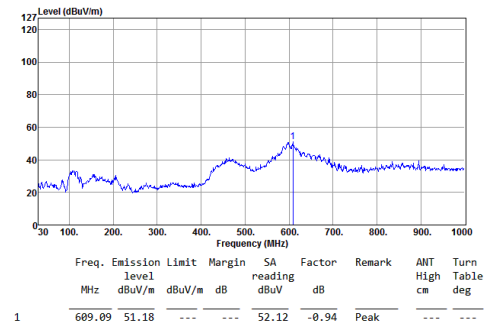
Tx 2457MHz / 30MHz~25GHz (down 30dBc)



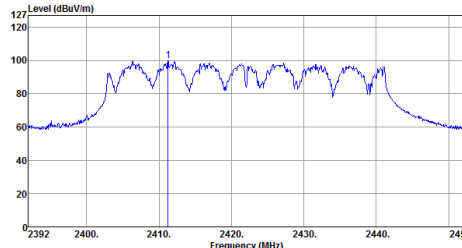
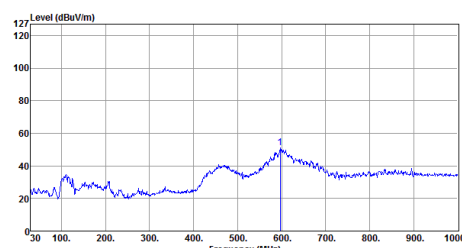
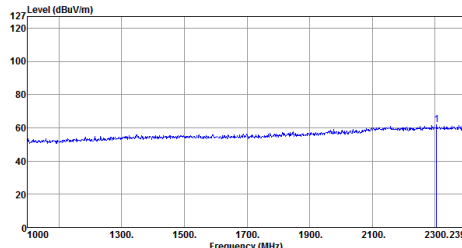
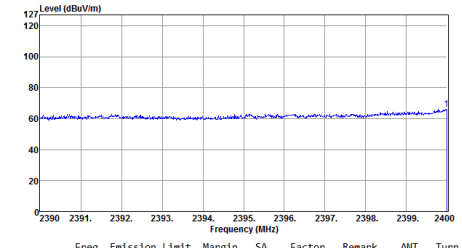
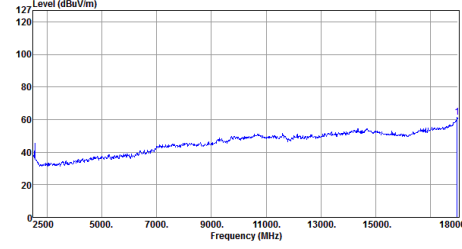
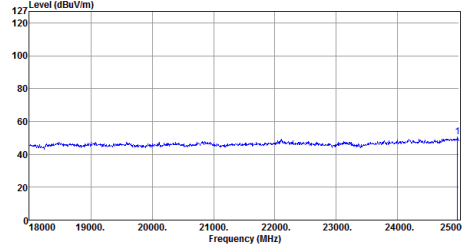
Reference Level



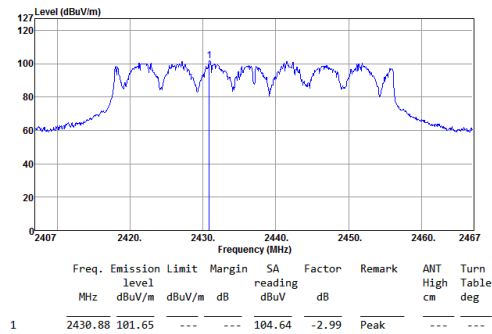
Tx 2462MHz / 30MHz~25GHz (down 30dBc)



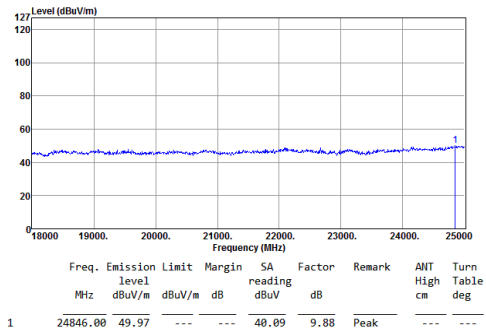
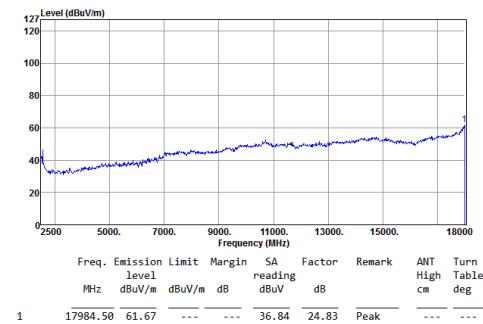
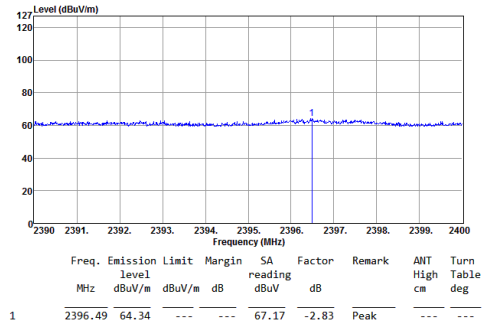
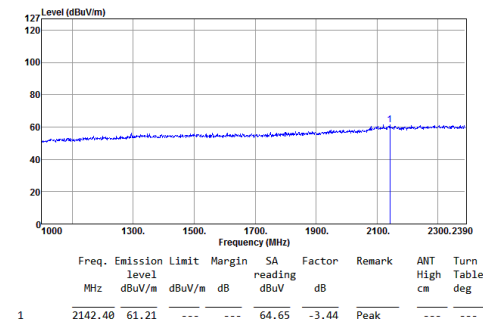
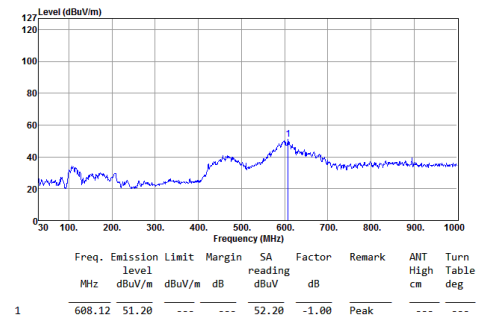
802.11 ax HE40

Reference Level										Tx 2422MHz / 30MHz~25GHz (down 30dBc)																																																																																	
																																																																																											
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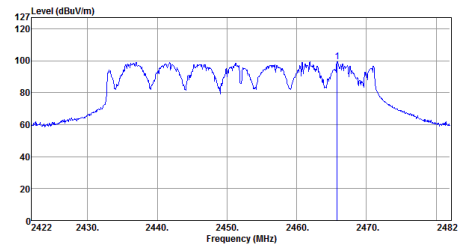
Reference Level



Tx 2437MHz / 30MHz~25GHz (down 30dBc)

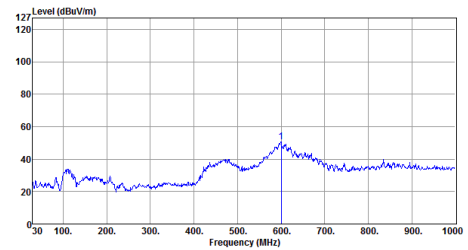


Reference Level

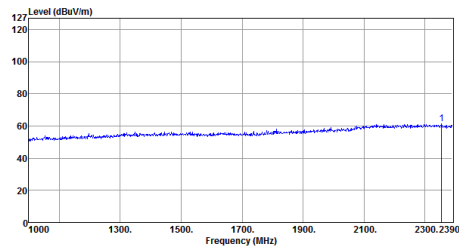


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
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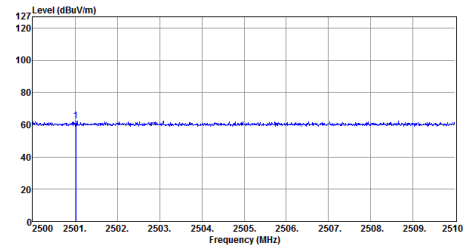
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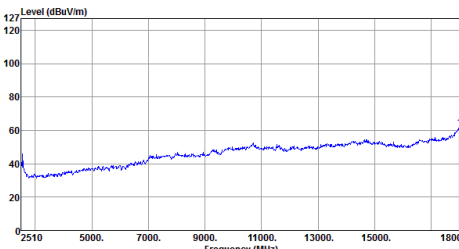
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1	600.36	50.78	---	---	52.00	-1.22	Peak	---	---



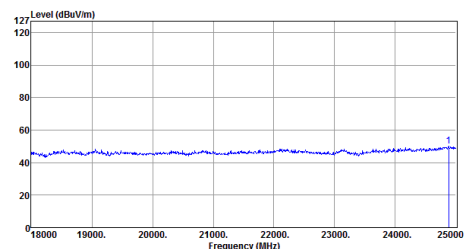
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	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2501.02	62.50	---	---	65.51	-3.01	Peak	---	---



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	18000.00	61.52	---	---	36.42	25.10	Peak	---	---



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	24881.00	49.93	---	---	39.99	9.94	Peak	---	---

4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corp (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website <http://www.icertifi.com.tw>.

Linkou

Tel: 886-2-2601-1640

No. 30-2, Ding Fwu Tsuen, Lin
Kou District, New Taipei City,
Taiwan, R.O.C.

Kwei Shan

Tel: 886-3-271-8666

No. 3-1, Lane 6, Wen San 3rd St.,
Kwei Shan District, Tao Yuan City
333, Taiwan, R.O.C.

Kwei Shan Site II

Tel: 886-3-271-8640

No. 14-1, Lane 19, Wen San 3rd
St., Kwei Shan District, Tao Yuan
City 333, Taiwan, R.O.C.

If you have any suggestion, please feel free to contact us as below information.

Tel: 886-3-271-8666

Fax: 886-3-318-0155

Email: ICC_Service@icertifi.com.tw

==END==