

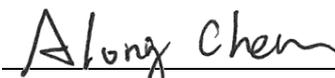
FCC C2PC Test Report

FCC ID : MXF-EL4000
Equipment : Wireless Home Internet
Model No. : EL4000
Brand Name : EarthLink
Applicant : Gemtek Technology Co., Ltd.
Address : No. 15-1 Zhonghua Road, Hsinchu Industrial
Park, Hukou, Hsinchu, Taiwan, 30352.
Standard : 47 CFR FCC Part 15.407
Received Date : Jan. 25, 2022
Tested Date : Jan. 28 ~ Feb. 15, 2022

We, International Certification Corporation, 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 shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by:

Approved by:



Along Chen / Assistant Manager



Gary Chang / Manager

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Release Record

Report No.	Version	Description	Issued Date
FR212101-01	Rev. 01	Initial issue	Mar. 28, 2022

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.389MHz 30.51 (Margin -17.58dB) - AV	Pass
15.407(b) 15.209	Radiated Emissions	[dBuV/m at 3m]: 5350.00MHz 53.66 (Margin -0.34dB) - AV	Pass
15.407(a)	Emission Bandwidth	Meet the requirement of limit	Pass
15.407(a)	RF Output Power	Max Power [dBm]: Non-beamforming mode 5250~5350MHz: 23.70 5470~5725MHz: 23.71 Beamforming mode 5250~5350MHz: 22.00 5470~5725MHz: 22.86	Pass
15.407(a)	Peak Power Spectral Density	Meet the requirement of limit	Pass
15.407(g)	Frequency Stability	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

This is a Class II Permissive Change report (C2PC). The modification is concerned with following items:

- Adding 5250~5350MHz and 5470~5725 MHz band by software setting.

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
5250-5350 5470-5725	a	5260-5320 5500-5720	52-64 [4] 100-144 [12]	2	6-54 Mbps
5250-5350 5470-5725	n (HT20)	5260-5320 5500-5720	52-64 [4] 100-144 [12]	2	MCS 0-15
5250-5350 5470-5725	n (HT40)	5270-5310 5510-5710	54-62 [2] 102-142 [6]	2	MCS 0-15
5250-5350 5470-5725	ac (VHT20)	5260-5320 5500-5720	52-64 [4] 100-144 [12]	2	MCS 0-9
5250-5350 5470-5725	ac (VHT40)	5270-5310 5510-5710	54-62 [2] 102-142 [6]	2	MCS 0-9
5250-5350 5470-5725	ac (VHT80)	5290 5530-5690	58 [1] 106-138 [3]	2	MCS 0-9
5250-5350 5470-5725	ac (VHT160)	5250 5570	50 [1] 114 [1]	2	MCS 0-9
5250-5350 5470-5725	ax (HE20)	5260-5320 5500-5720	52-64 [4] 100-144 [12]	2	MCS 0-11
5250-5350 5470-5725	ax (HE40)	5270-5310 5510-5710	54-62 [2] 102-142 [6]	2	MCS 0-11
5250-5350 5470-5725	ax (HE80)	5290 5530-5690	58 [1] 106-138 [3]	2	MCS 0-11
5250-5350 5470-5725	ac (HE160)	5250 5570	50 [1] 114 [1]	2	MCS 0-11

Note 1: OFDM/OFDMA- BPSK, QPSK, 16QAM, 64QAM, 256QAM and 1024QAM modulation.
Note 2: 802.11ax supports beamforming function.

1.1.2 Antenna Details

Ant. No.	Model	Type	Connector	Operating Frequencies (MHz) / Antenna Gain (dBi)	
				5250~5350	5470~5725
1	2.4G -1	Dipole	UFL	--	--
2	2.4G -2	Dipole	UFL	--	--
3	5G - 1	Dipole	UFL	4.6	3.6
4	5G - 2	Dipole	UFL	5	4.5

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	12Vdc from adapter
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1.1.4 Accessories

Accessories		
No.	Equipment	Description
1	AC adapter	Brand: MOSO Model: MSS-V2500WR120-030E0-US I/P: 100-240V~ 50/60Hz, 1.0A max O/P: 12V=2.5A Power Line: 1.8m non-shielded without core
2	AC adapter	Brand: LEI Model: ML30B1120250-A1 I/P: 100-120V~ 50/60Hz, 0.8A O/P: 12V=2.5A Power Line: 1.8m non-shielded without core
3	RJ45 cable	1.8m non-shielded without core

1.1.5 Channel List

802.11a / n HT20 / ac VHT20 / ax HE20		802.11n HT40 / ac VHT40 / ax HE40	
Channel	Frequency(MHz)	Channel	Frequency(MHz)
52	5260	54	5270
56	5280	62	5310
60	5300	102	5510
64	5320	110	5550
100	5500	118	5590
104	5520	126	5630
108	5540	134	5670
112	5560	142	5710
116	5580	802.11ac VHT80 / ax HE80	
120	5600	58	5290
124	5620	106	5530
128	5640	122	5610
132	5660	138	5690
136	5680	802.11ac VHT160 / ax HE160	
140	5700	50	5250
144	5720	114	5570

1.1.6 Test Tool and Duty Cycle

Test Tool	Intel DUT GUI, Version: V610.36		
Duty Cycle and Duty Factor	Mode	Duty Cycle (%)	Duty Factor (dB)
	11a	100.00%	0.00
	ax HE20-OFDMA	100.00%	0.00
	ax HE40-OFDMA	100.00%	0.00
	ax HE80-OFDMA	100.00%	0.00
	ax HE160-OFDMA	100.00%	0.00

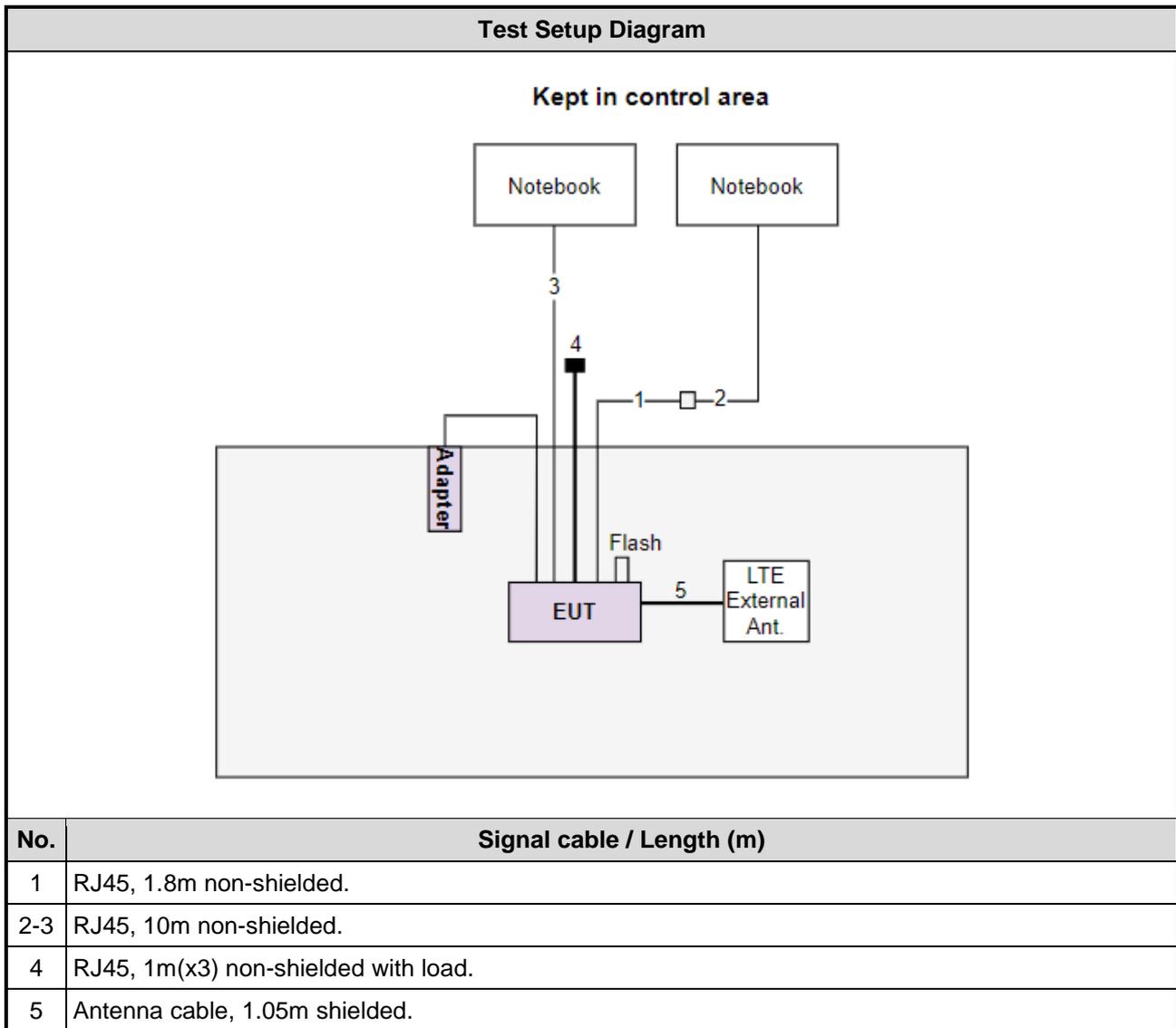
1.1.7 Power Index of Test Tool

Modulation Mode	Test Frequency (MHz)	Power Index	
		Non-beamforming	Beamforming
11a	5260	19	--
11a	5300	19	--
11a	5320	19	--
11a	5500	19.5	--
11a	5580	20	--
11a	5700	20	--
11a	5720	20	--
ax HE20-OFDMA-OFDMA	5260	18.5	18.5
ax HE20-OFDMA-OFDMA	5300	18.5	18.5
ax HE20-OFDMA-OFDMA	5320	18.5	18.5
ax HE20-OFDMA-OFDMA	5500	19.5	19.5
ax HE20-OFDMA-OFDMA	5580	19.5	19.5
ax HE20-OFDMA-OFDMA	5700	19.5	19.5
ax HE20-OFDMA-OFDMA	5720	19.5	19.5
ax HE40-OFDMA-OFDMA	5270	20	18.5
ax HE40-OFDMA-OFDMA	5310	20	18.5
ax HE40-OFDMA-OFDMA	5510	20	19
ax HE40-OFDMA-OFDMA	5590	20	19
ax HE40-OFDMA-OFDMA	5670	20	19
ax HE40-OFDMA-OFDMA	5710	20.5	19.5
ax HE80-OFDMA-OFDMA	5290	20	18.5
ax HE80-OFDMA-OFDMA	5530	19.5	19
ax HE80-OFDMA-OFDMA	5610	20.5	19.5
ax HE80-OFDMA-OFDMA	5690	20.5	19.5
ax HE160-OFDMA	5250	17	17
ax HE160-OFDMA	5570	19.5	19.5

1.2 Local Support Equipment List

Support Equipment List					
No.	Equipment	Brand	Model	FCC ID	Remarks
1	Notebook	DELL	Latitude E6440	DoC	---
2	Notebook	DELL	Latitude 5400	---	---
3	USB 3.0 Flash	Transcend	JetFlash 700	---	---
4	RJ45 load	ICC	---	---	---
5	LTE external antenna	---	---	---	Provided by applicant.

1.3 Test Setup Chart



1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Tested Date	Feb. 14, 2022				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Receiver	R&S	ESR3	101657	Mar. 12, 2021	Mar. 11, 2022
LISN	R&S	ENV216	101579	Mar. 17, 2021	Mar. 16, 2022
LISN (Support Unit)	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	8127477	Feb. 25, 2021	Feb. 24, 2022
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Oct. 19, 2021	Oct. 18, 2022
50 ohm terminal (Support Unit)	NA	50	04	May 25, 2021	May 24, 2022
Measurement Software	AUDIX	e3	6.120210k	NA	NA

Note: Calibration Interval of instruments listed above is one year.

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Tested Date	Jan. 28 ~ Feb. 09, 2022				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Receiver	R&S	ESR3	101657	Mar. 12, 2021	Mar. 11, 2022
Spectrum Analyzer	R&S	FSV40	101498	Nov. 29, 2021	Nov. 28, 2022
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 08, 2021	Nov. 07, 2022
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Jun. 30, 2021	Jun. 29, 2022
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 03, 2021	Dec. 02, 2022
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170508	Jan. 11, 2022	Jan. 10, 2023
Preamplifier	EMC	EMC02325	980225	Jun. 29, 2021	Jun. 28, 2022
Preamplifier	Agilent	83017A	MY39501308	Sep. 28, 2021	Sep. 27, 2022
Preamplifier	EMC	EMC184045B	980192	Jul. 14, 2021	Jul. 13, 2022
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 05, 2021	Oct. 04, 2022
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Oct. 05, 2021	Oct. 04, 2022
LF cable 11M	EMC	EMCCFD400-NW-N W-11000	200801	Oct. 05, 2021	Oct. 04, 2022
LF cable 1M	EMC	EMCCFD400-NM-N M-1000	160502	Oct. 05, 2021	Oct. 04, 2022
RF Cable	EMC	EMC104-35M-35M- 8000	210920	Oct. 05, 2021	Oct. 04, 2022
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Oct. 05, 2021	Oct. 04, 2022
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)				
Tested Date	Feb. 15, 2022				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101498	Nov. 29, 2021	Nov. 28, 2022
Power Meter	Anritsu	ML2495A	1241002	Nov. 07, 2021	Nov. 06, 2022
Power Sensor	Anritsu	MA2411B	1207366	Nov. 07, 2021	Nov. 06, 2022
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	May 25, 2021	May 24, 2022
AC POWER SOURCE	APC	AFC-500W	F312060012	Dec. 03, 2021	Dec. 02, 2022
Measurement Software	Sporton	SENSE-15407_NII	V5.10	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

1.5 Test Standards

47 CFR FCC Part 15.407
ANSI C63.10-2013

1.6 Reference Guidance

FCC KDB 412172 D01 Determining ERP and EIRP v01r01
FCC KDB 662911 D01 Multiple Transmitter Output v02r01
FCC KDB 789033 D02 General UNII Test Procedures New Rules 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
Frequency error	±1×10 ⁻⁹
Power density	±0.583 dB
Conducted emission	±2.715 dB
AC conducted emission	±2.92 dB
Radiated emission ≤ 1GHz	±3.41 dB
Radiated emission > 1GHz	±4.59 dB
Time	±0.1%
Temperature	±0.4 °C

2 Test Configuration

2.1 Testing Facility

Test Laboratory	International Certification Corporation
Test Site	CO01-WS, 03CH01-WS, TH01-WS
Address of Test Site	No.3-1, Lane 6, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, 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	Mode
Non-beamforming mode				
Conducted Emissions	ax HE40-OFDMA	5590	MCS 0	---
Radiated Emissions ≤ 1 GHz	ax HE40-OFDMA	5590	MCS 0	---
RF Output Power Radiated Emissions > 1 GHz Emission Bandwidth Peak Power Spectral Density	11a	5260 / 5300 / 5320 5500 / 5580 / 5700 / 5720	6 Mbps	---
	ax HE20-OFDMA	5260 / 5300 / 5320 5500 / 5580 / 5700 / 5720	MCS 0	
	ax HE40-OFDMA	5270 / 5310 5510 / 5590 / 5670 / 5710	MCS 0	
	ax HE80-OFDMA	5290 / 5530 / 5610 / 5690	MCS 0	
	ax HE160-OFDMA	5250 / 5570	MCS 0	
Frequency Stability	Un-modulation	5320	---	---
NOTE:				
1. Two adapters (MOSO & LEI) had been covered during the pretest and found that LEI adapter was the worst case for radiated emission test and MOSO adapter was the worst case for conducted emission test.				
2. 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.				

Test item	Modulation Mode	Test Frequency (MHz)	Data Rate (Mbps) / MCS	Mode
Beamforming mode				
RF Output Power	ax HE20-OFDMA	5260 / 5300 / 5320 5500 / 5580 / 5700 / 5720	MCS 0	---
	ax HE40-OFDMA	5270 / 5310 5510 / 5590 / 5670 / 5710	MCS 0	---
	ax HE80-OFDMA	5290 / 5530 / 5610 / 5690	MCS 0	---
	ax HE160-OFDMA	5250 / 5570	MCS 0	---
NOTE:				
<ol style="list-style-type: none"> Two adapters (MOSO & LEI) had been covered during the pretest and found that LEI adapter was the worst case for radiated emission test and MOSO adapter was the worst case for conducted emission 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

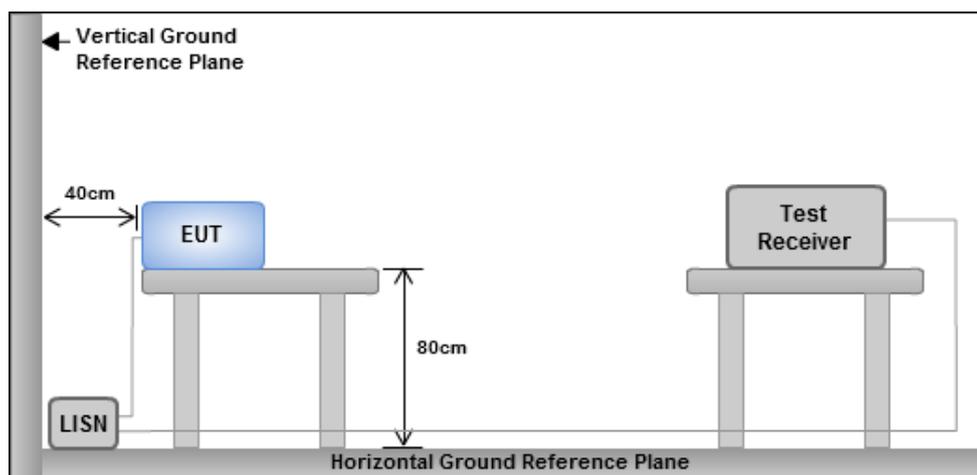
Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

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 110V/60Hz

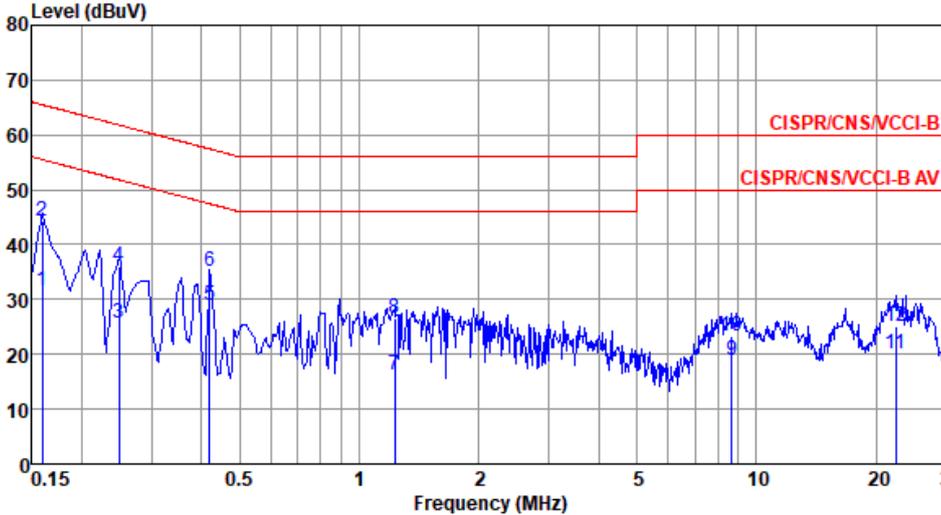
3.1.3 Test Setup



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

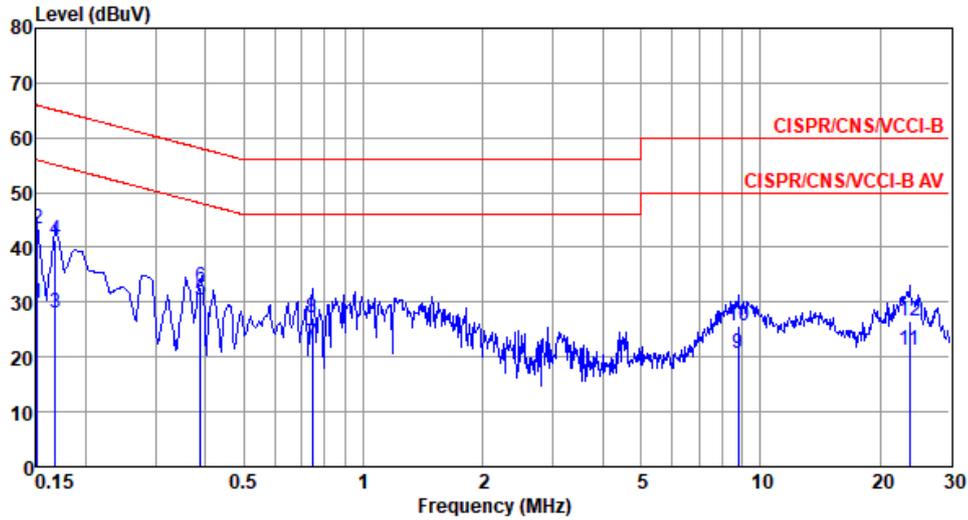
3.1.4 Test Result of Conducted Emissions

Modulation	ax HE40-OFDMA	Test Freq. (MHz)	5590						
Power Phase	Line								
<p>Test by : Joe Liao Temperature: 16°C Humidity: 64%</p>									
									
	Freq	Level	Limit	Over	Read	Factor	Cable	Aux	Remark
	MHz	dBuV	Line	Limit	Level	dB	loss	dB	
			dBuV	dB	dBuV		dB	dB	
1	0.159	31.55	55.52	-23.97	21.61	9.66	0.08	0.20	Average
2	0.159	44.15	65.52	-21.37	34.21	9.66	0.08	0.20	QP
3	0.248	25.82	51.82	-26.00	15.83	9.65	0.08	0.26	Average
4	0.248	36.01	61.82	-25.81	26.02	9.65	0.08	0.26	QP
5*	0.419	29.06	47.46	-18.40	18.98	9.64	0.08	0.36	Average
6	0.419	35.16	57.46	-22.30	25.08	9.64	0.08	0.36	QP
7	1.229	16.29	46.00	-29.71	6.09	9.65	0.17	0.38	Average
8	1.229	26.49	56.00	-29.51	16.29	9.65	0.17	0.38	QP
9	8.683	18.98	50.00	-31.02	8.43	9.70	0.41	0.44	Average
10	8.683	23.45	60.00	-36.55	12.90	9.70	0.41	0.44	QP
11	22.416	20.05	50.00	-29.95	9.03	9.67	0.68	0.67	Average
12	22.416	24.99	60.00	-35.01	13.97	9.67	0.68	0.67	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB) + Aux (dB).
 2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

Modulation	ax HE40-OFDMA	Test Freq. (MHz)	5590
Power Phase	Neutral		

Test by : Joe Liao Temperature: 16°C Humidity: 64%



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	Factor dB	Cable loss dB	Aux dB	Remark
1	0.151	29.74	55.96	-26.22	19.81	9.69	0.08	0.16	Average
2	0.151	43.43	65.96	-22.53	33.50	9.69	0.08	0.16	QP
3	0.168	28.19	55.08	-26.89	18.25	9.69	0.08	0.17	Average
4	0.168	41.39	65.08	-23.69	31.45	9.69	0.08	0.17	QP
5*	0.389	30.51	48.09	-17.58	20.57	9.67	0.08	0.19	Average
6	0.389	32.90	58.09	-25.19	22.96	9.67	0.08	0.19	QP
7	0.743	22.51	46.00	-23.49	12.45	9.68	0.13	0.25	Average
8	0.743	27.23	56.00	-28.77	17.17	9.68	0.13	0.25	QP
9	8.776	20.63	50.00	-29.37	10.11	9.75	0.41	0.36	Average
10	8.776	25.56	60.00	-34.44	15.04	9.75	0.41	0.36	QP
11	23.762	21.36	50.00	-28.64	10.34	9.84	0.68	0.50	Average
12	23.762	26.50	60.00	-33.50	15.48	9.84	0.68	0.50	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB) + Aux (dB).
 Note 2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

3.2 Emission Bandwidth

3.2.1 Test Procedures

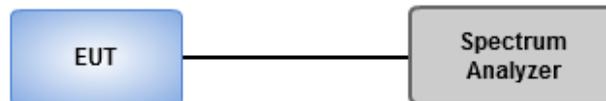
26dB Bandwidth

1. Set RBW = approximately 1% of the emission bandwidth.
2. Set the VBW > RBW, Detector = Peak.
3. Trace mode = max hold.
4. Measure the maximum width of the emission that is 26 dB down from the peak of the emission.

Occupied Bandwidth

1. Set RBW = 1 % to 5 % of the OBW.
2. Set VBW \geq 3 RBW.
3. Sample detection and single sweep mode shall be used.
4. Use the 99 % power bandwidth function of the instrument.

3.2.2 Test Setup



3.2.3 Test Result of Emission Bandwidth

Ambient Condition	21°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)
5.25-5.35GHz					
802.11a_Nss1,(6Mbps)_2TX	25.072M	16.715M	16M7D1D	22.609M	16.643M
802.11ax HEW20_Nss1,(MCS0)_2TX-OFDMA	23.261M	19.03M	19M0D1D	21.449M	18.958M
802.11ax HEW40_Nss1,(MCS0)_2TX-OFDMA	43.768M	38.061M	38M1D1D	41.594M	37.771M
802.11ax HEW80_Nss1,(MCS0)_2TX-OFDMA	83.188M	77.279M	77M3D1D	82.899M	77.279M
5.15-5.35GHz	-	-	-	-	-
802.11ax HEW160_Nss1,(MCS0)_4TX-OFDMA	162.087M	154.675M	155MD1D	161.623M	154.675M
5.47-5.725GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	25.725M	16.715M	16M7D1D	15.652M	13.285M
802.11ax HEW20_Nss1,(MCS0)_2TX-OFDMA	23.623M	19.32M	19M3D1D	15.304M	14.414M
802.11ax HEW40_Nss1,(MCS0)_2TX-OFDMA	45.072M	38.929M	38M9D1D	34.899M	33.734M
802.11ax HEW80_Nss1,(MCS0)_2TX-OFDMA	84.348M	77.569M	77M6D1D	75.217M	73.155M
802.11ax HEW160_Nss1,(MCS0)_2TX-OFDMA	165.217M	156.295M	156MD1D	164.058M	156.295M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	3.304M	4.052M	4M05D1D	3.246M	3.994M
802.11ax HEW20_Nss1,(MCS0)_2TX-OFDMA	4.522M	4.515M	4M52D1D	4.522M	4.515M
802.11ax HEW40_Nss1,(MCS0)_2TX-OFDMA	4.058M	4.399M	4M40D1D	4.058M	4.052M
802.11ax HEW80_Nss1,(MCS0)_2TX-OFDMA	4.058M	4.168M	4M17D1D	4.058M	4.11M

Max-N dB = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

Max-OBW = Maximum 99% occupied bandwidth;

Min-N dB = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Minimum 26dB down bandwidth for other band;

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)
802.11a_Nss1,(6Mbps)_2TX						
5260MHz	Pass	Inf	24.203M	16.715M	25.072M	16.715M
5300MHz	Pass	Inf	24.275M	16.715M	25.072M	16.715M
5320MHz	Pass	Inf	22.754M	16.715M	22.609M	16.643M
5500MHz	Pass	Inf	23.188M	16.715M	22.391M	16.643M
5580MHz	Pass	Inf	24.203M	16.715M	25.725M	16.715M
5700MHz	Pass	Inf	22.754M	16.715M	22.464M	16.643M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	16.13M	13.372M	15.652M	13.285M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	3.304M	4.052M	3.246M	3.994M
802.11ax HEW20_Nss1,(MCS0)_2TX-OFDMA						
5260MHz	Pass	Inf	22.029M	19.03M	21.812M	18.958M
5300MHz	Pass	Inf	22.246M	18.958M	23.261M	18.958M
5320MHz	Pass	Inf	22.899M	18.958M	21.449M	18.958M
5500MHz	Pass	Inf	22.899M	19.103M	22.464M	18.958M
5580MHz	Pass	Inf	21.449M	19.03M	23.623M	19.32M
5700MHz	Pass	Inf	22.029M	19.03M	22.681M	19.103M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	15.304M	14.414M	16.043M	14.501M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	4.522M	4.515M	4.522M	4.515M
802.11ax HEW40_Nss1,(MCS0)_2TX-OFDMA						
5270MHz	Pass	Inf	43.768M	38.061M	41.594M	37.771M
5310MHz	Pass	Inf	43.623M	38.061M	42.174M	38.061M
5510MHz	Pass	Inf	41.449M	38.061M	41.449M	38.061M
5590MHz	Pass	Inf	45.072M	38.929M	43.623M	38.205M
5670MHz	Pass	Inf	42.029M	37.771M	43.333M	37.916M
5710MHz Straddle 5.47-5.725GHz	Pass	Inf	34.899M	33.734M	34.899M	33.734M
5710MHz Straddle 5.725-5.85GHz	Pass	500k	4.058M	4.052M	4.058M	4.399M
802.11ax HEW80_Nss1,(MCS0)_2TX-OFDMA						
5290MHz	Pass	Inf	83.188M	77.279M	82.899M	77.279M
5530MHz	Pass	Inf	83.478M	77.569M	84.348M	77.569M
5610MHz	Pass	Inf	83.188M	77.279M	80.87M	77.279M
5690MHz Straddle 5.47-5.725GHz	Pass	Inf	75.217M	73.155M	76.087M	73.372M
5690MHz Straddle 5.725-5.85GHz	Pass	500k	4.058M	4.168M	4.058M	4.11M
802.11ax HEW160_Nss1,(MCS0)_2TX-OFDMA						
5250MHz Straddle 5.15-5.25GHz	Pass	Inf	80.232M	77.569M	80M	77.569M

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
5250MHz Straddle 5.25-5.35GHz	Pass	Inf	81.855M	77.106M	81.623M	77.106M
5570MHz	Pass	Inf	165.217M	156.295M	164.058M	156.295M

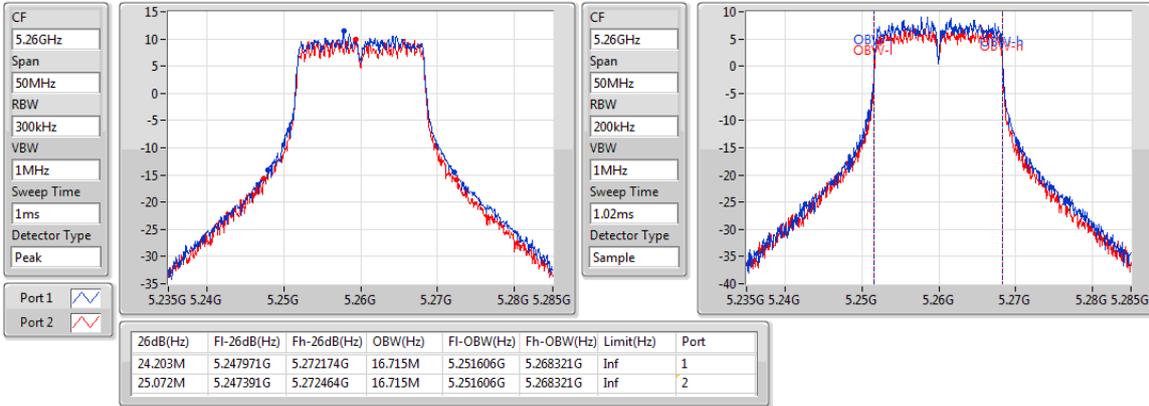
Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band

Port X-OBW = Port X 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_2TX

EBW

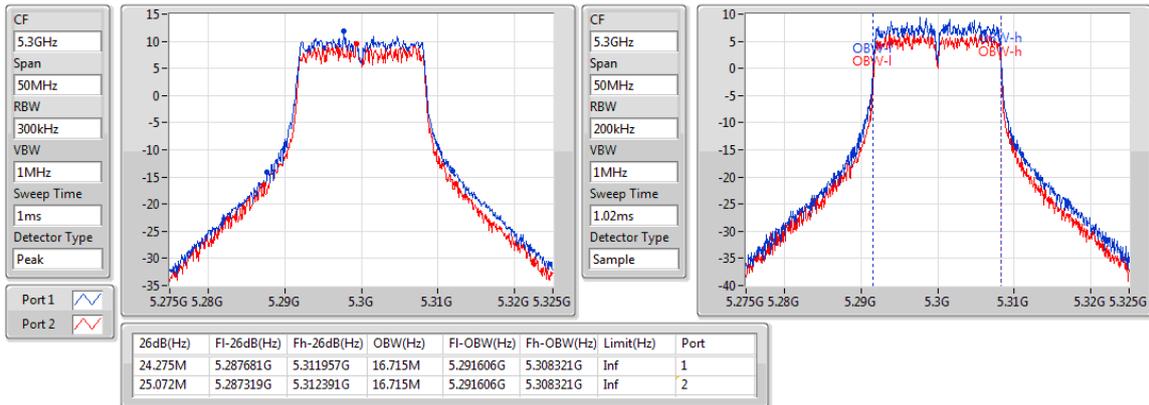
5260MHz



802.11a_Nss1,(6Mbps)_2TX

EBW

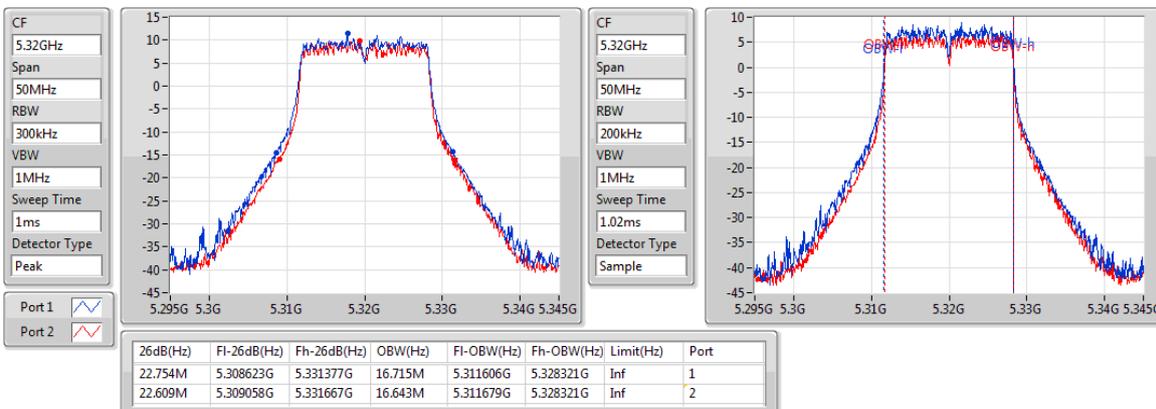
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802.11a_Nss1,(6Mbps)_2TX

EBW

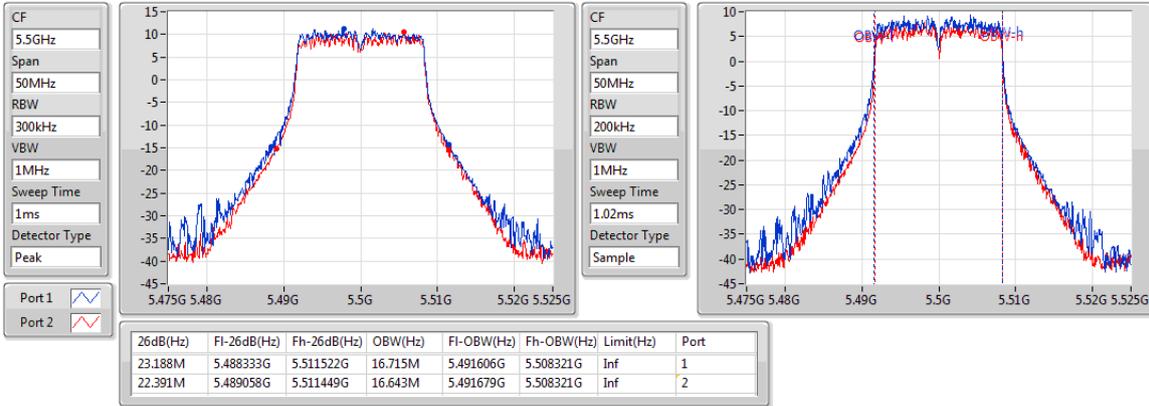
5320MHz



802.11a_Nss1,(6Mbps)_2TX

EBW

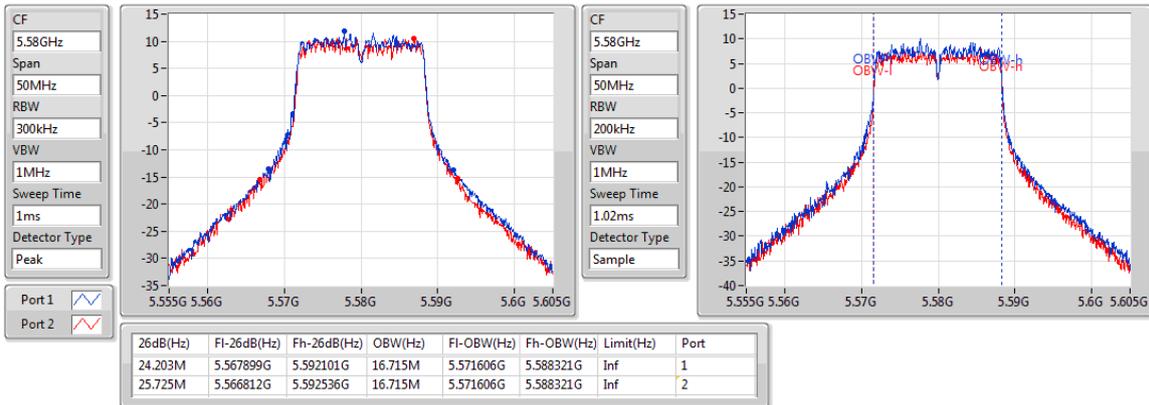
5500MHz



802.11a_Nss1,(6Mbps)_2TX

EBW

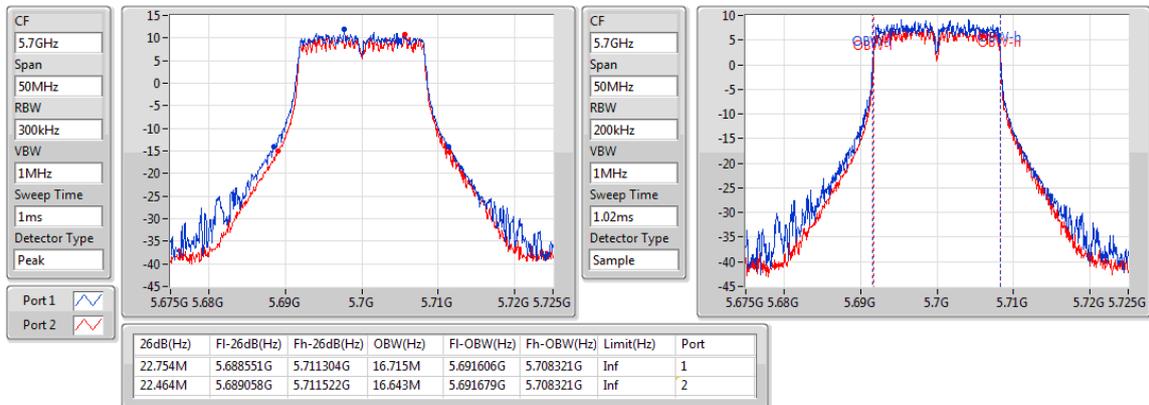
5580MHz



802.11a_Nss1,(6Mbps)_2TX

EBW

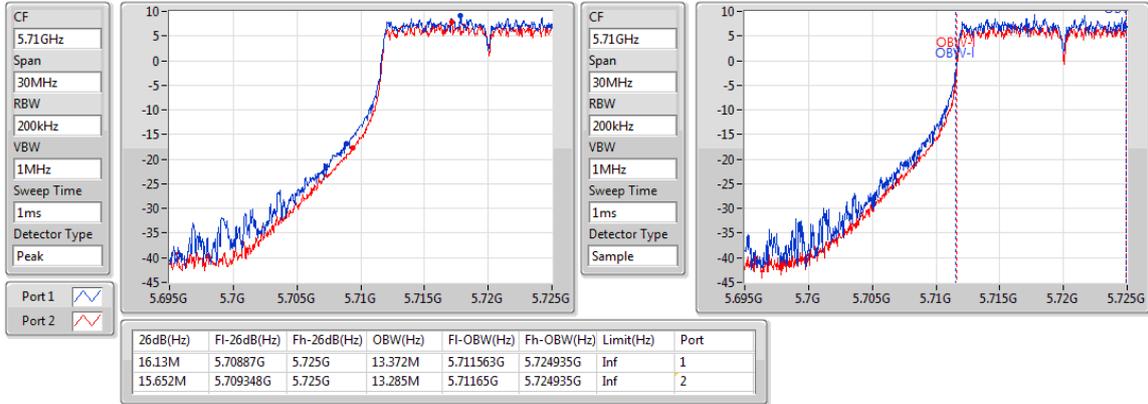
5700MHz



802.11a_Nss1,(6Mbps)_2TX

EBW

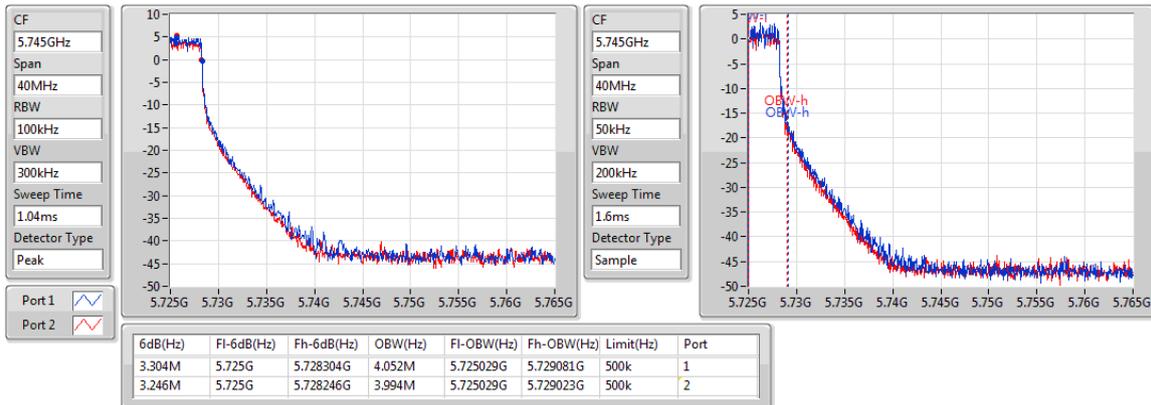
5720MHz Straddle 5.47-5.725GHz



802.11a_Nss1,(6Mbps)_2TX

EBW

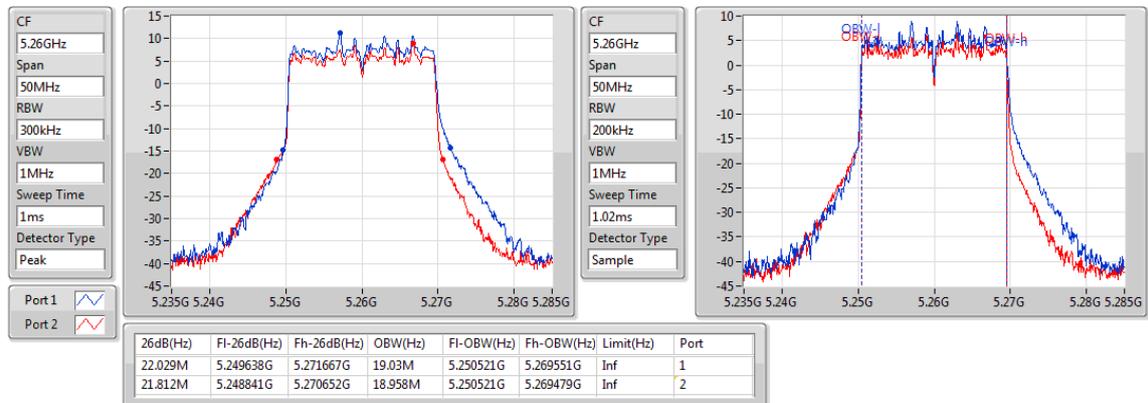
5720MHz Straddle 5.725-5.85GHz



802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

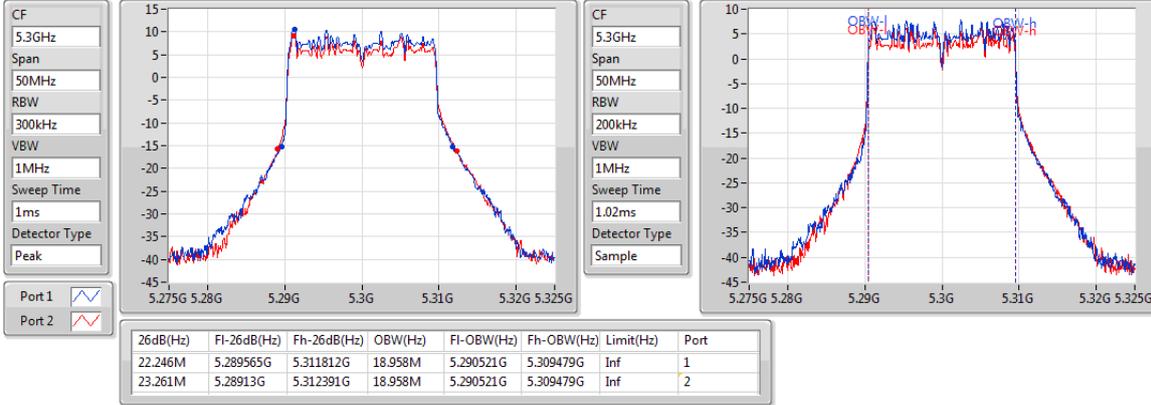
5260MHz



802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

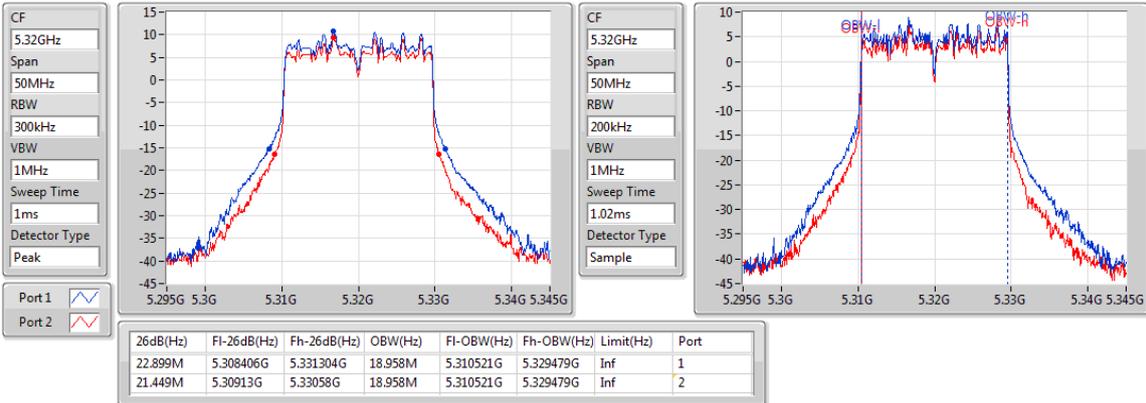
5300MHz



802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

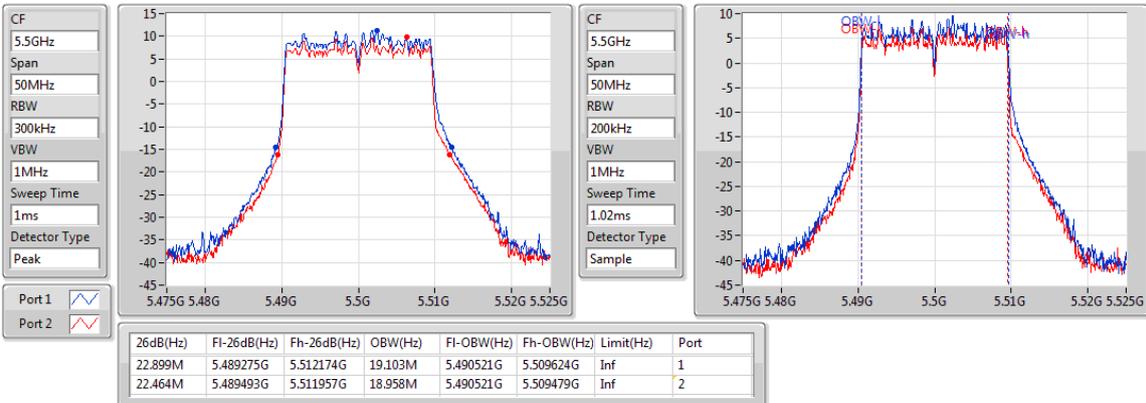
5320MHz



802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

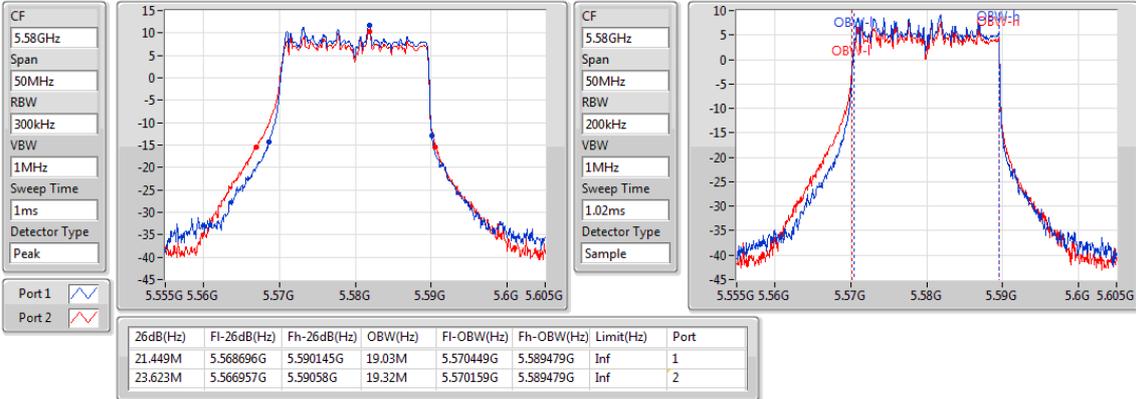
5500MHz



802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

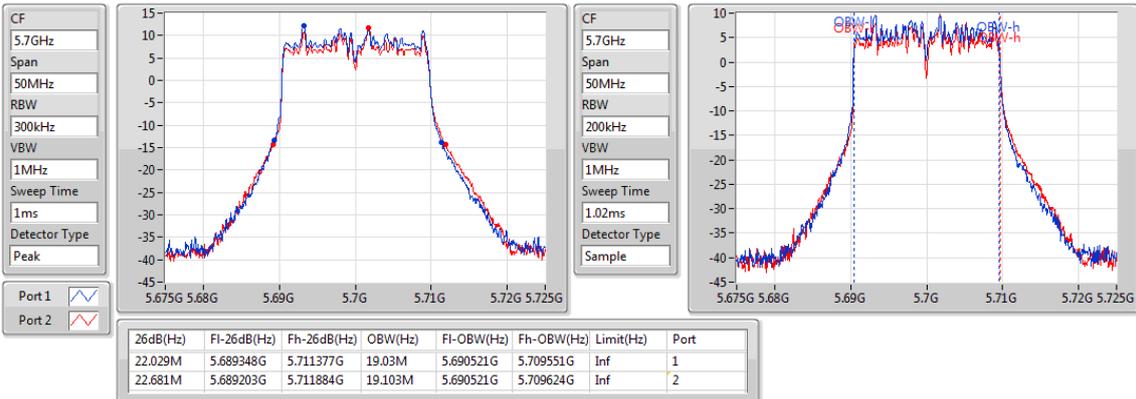
5580MHz



802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

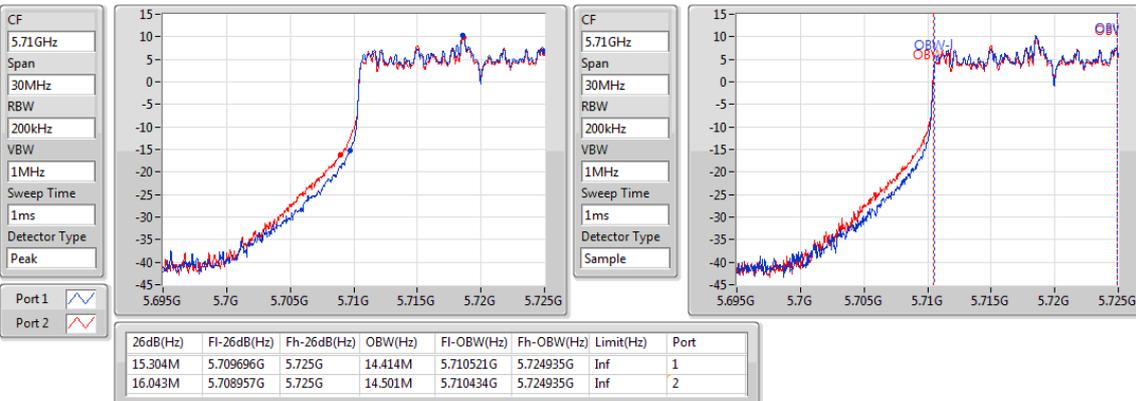
5700MHz



802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

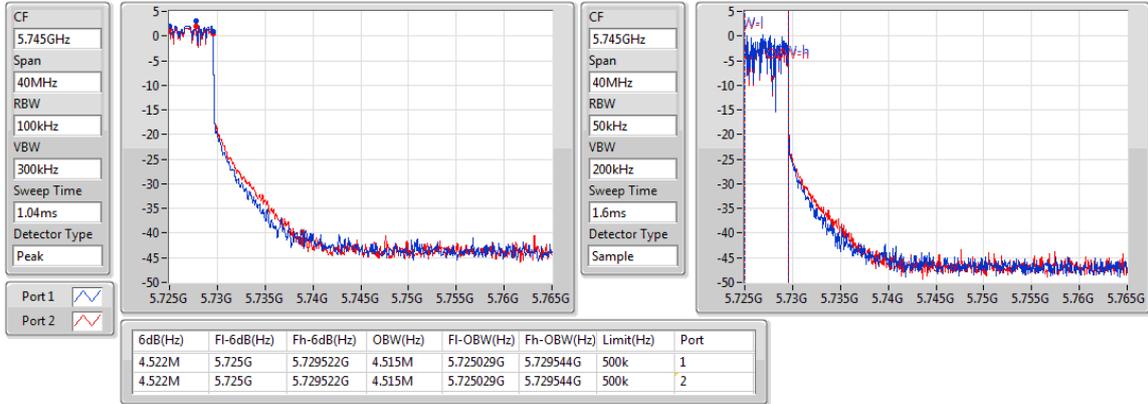
5720MHz Straddle 5.47-5.725GHz



802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

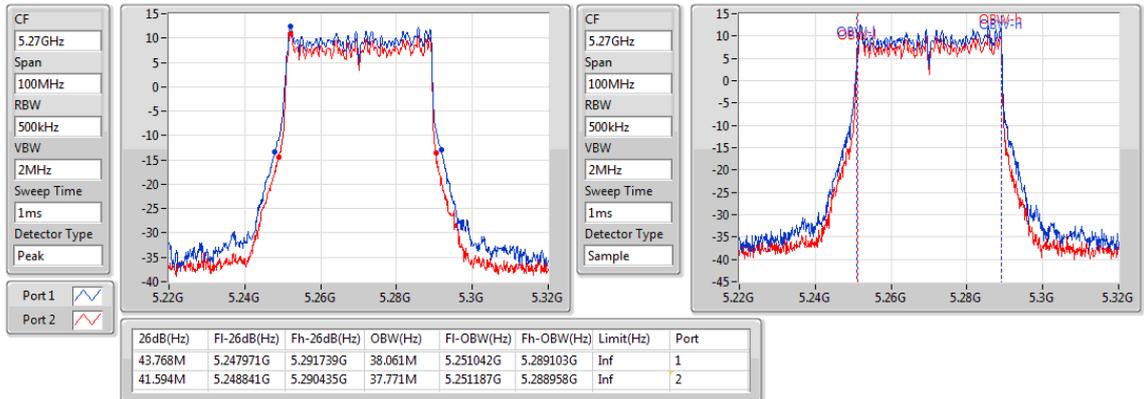
5720MHz Straddle 5.725-5.85GHz



802.11ax HEW40_Nss1,(MCS0)_2TX

EBW

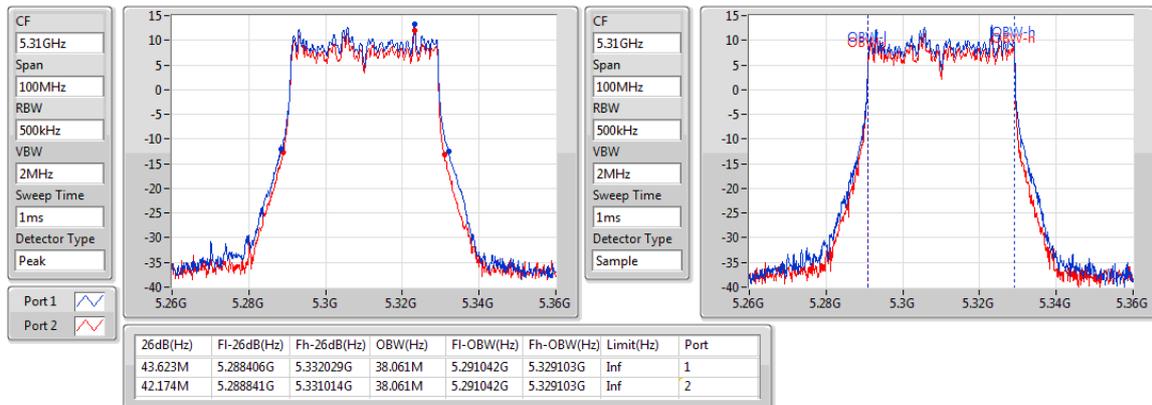
5270MHz



802.11ax HEW40_Nss1,(MCS0)_2TX

EBW

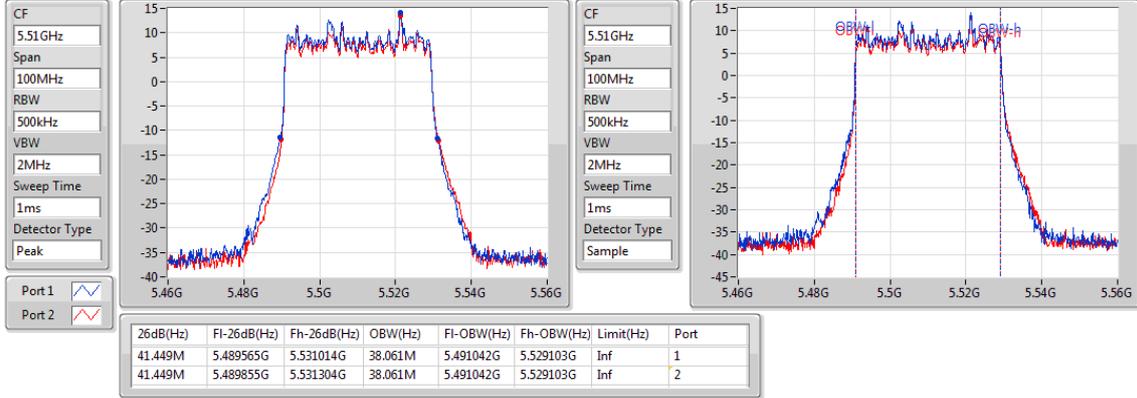
5310MHz



802.11ax HEW40_Nss1,(MCS0)_2TX

EBW

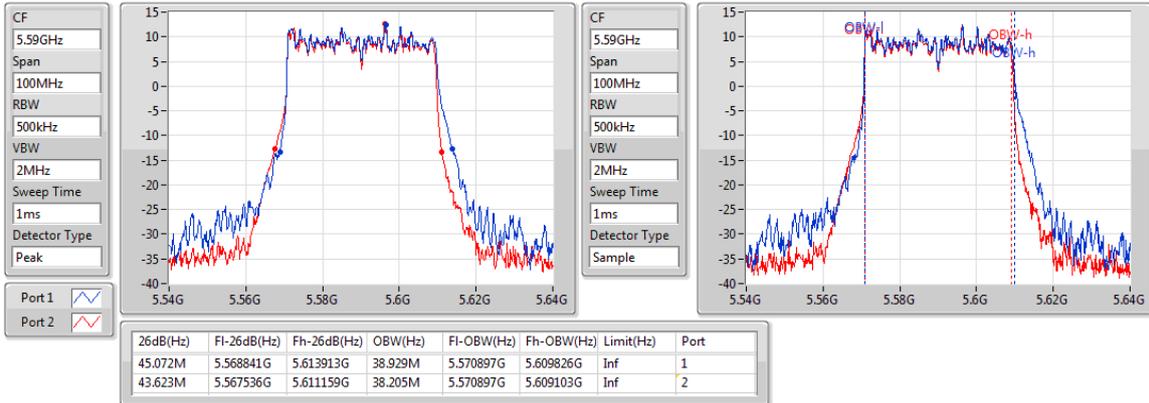
5510MHz



802.11ax HEW40_Nss1,(MCS0)_2TX

EBW

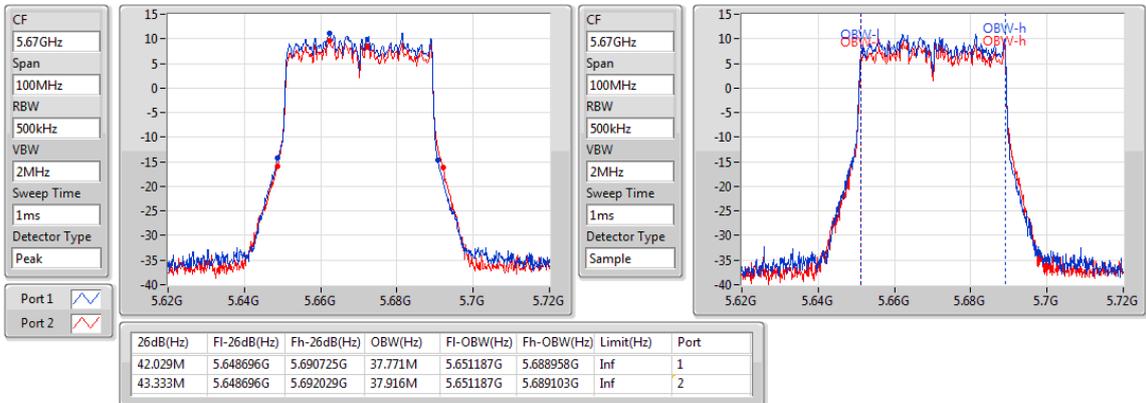
5590MHz



802.11ax HEW40_Nss1,(MCS0)_2TX

EBW

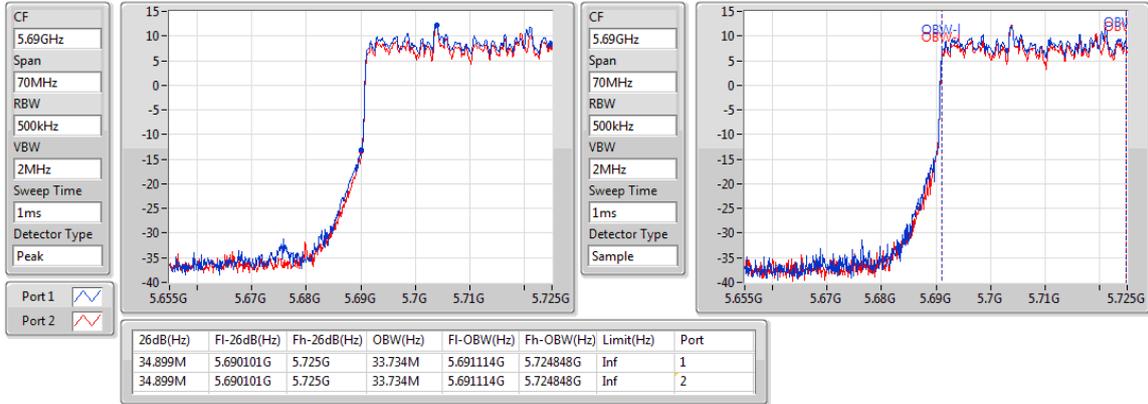
5670MHz



802.11ax HEW40_Nss1,(MCS0)_2TX

EBW

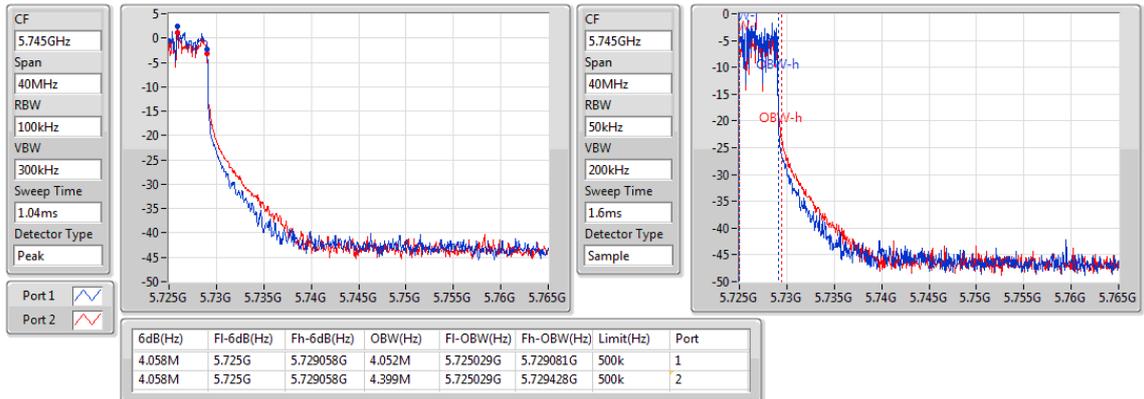
5710MHz Straddle 5.47-5.725GHz



802.11ax HEW40_Nss1,(MCS0)_2TX

EBW

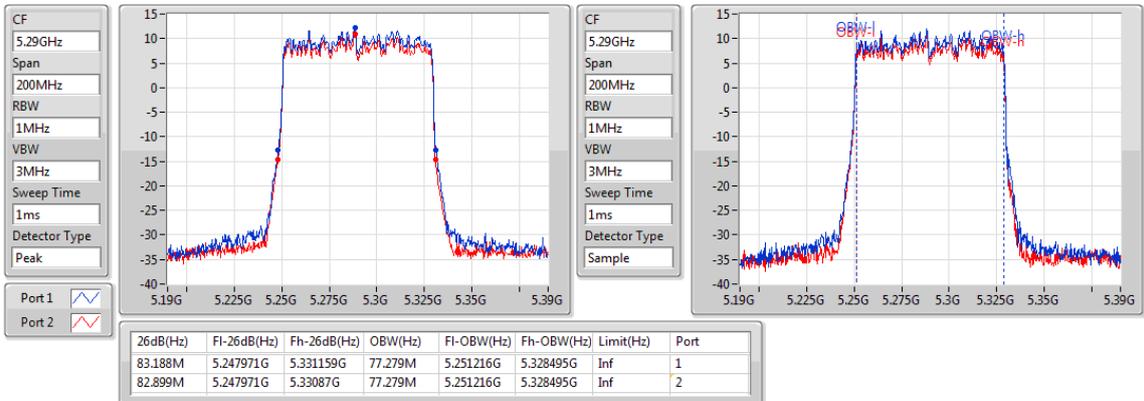
5710MHz Straddle 5.725-5.85GHz



802.11ax HEW80_Nss1,(MCS0)_2TX

EBW

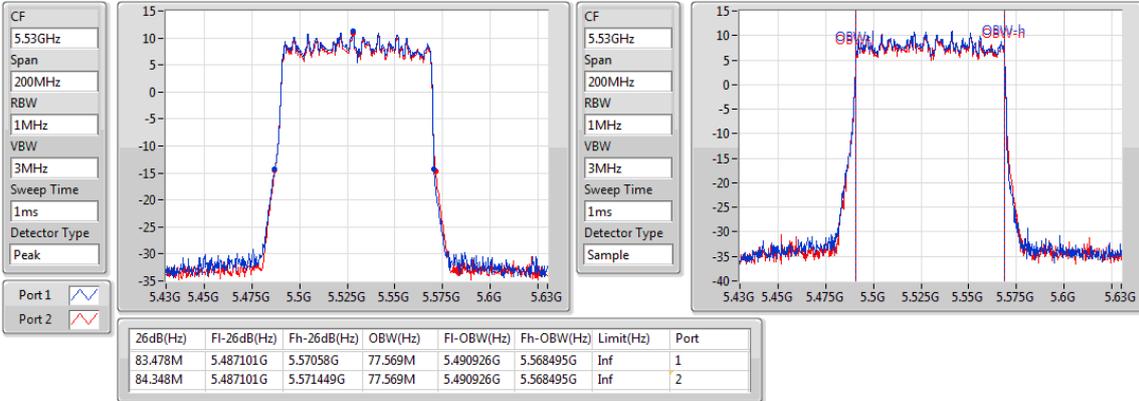
5290MHz



802.11ax HEW80_Nss1,(MCS0)_2TX

EBW

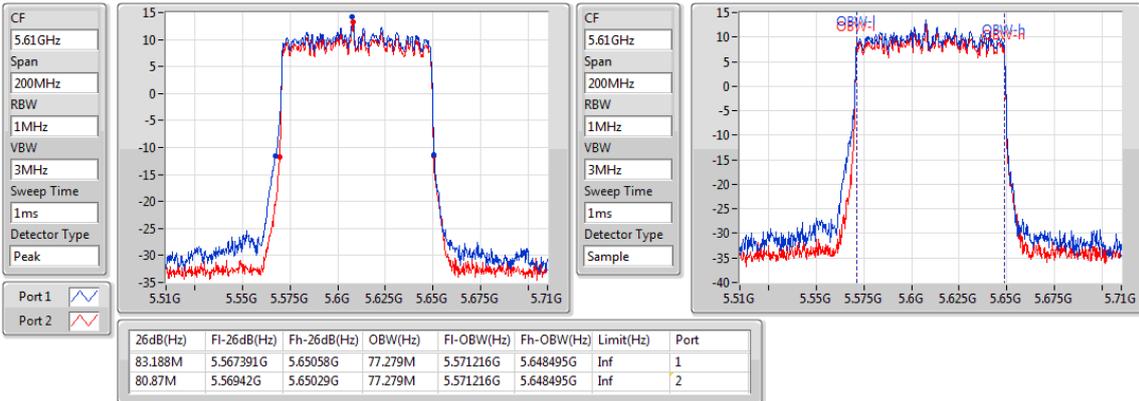
5530MHz



802.11ax HEW80_Nss1,(MCS0)_2TX

EBW

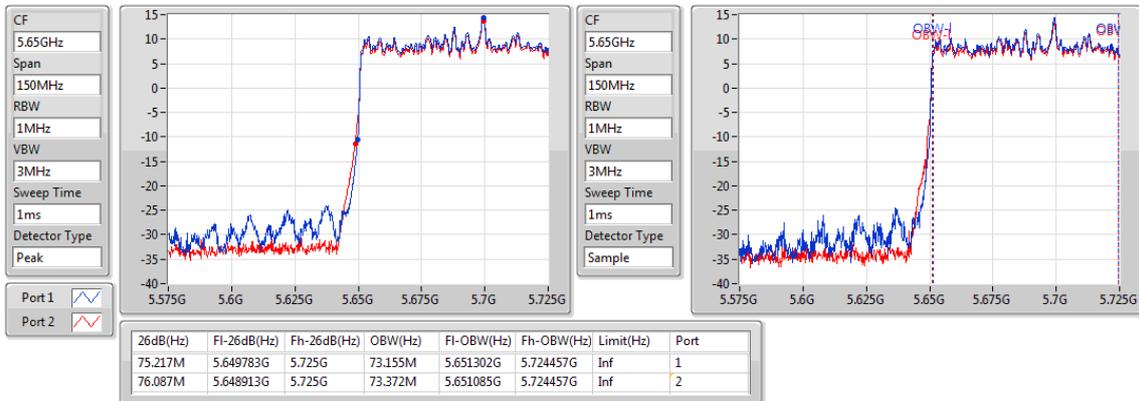
5610MHz



802.11ax HEW80_Nss1,(MCS0)_2TX

EBW

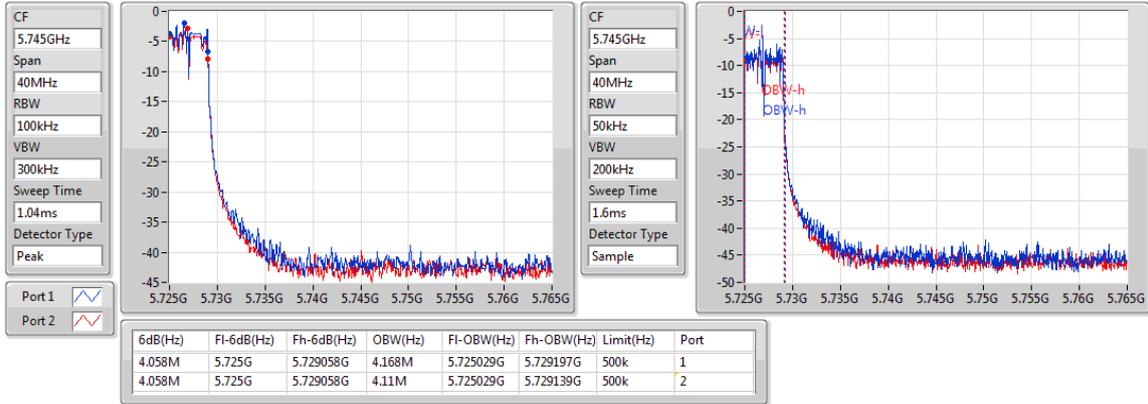
5690MHz Straddle 5.47-5.725GHz



802.11ax HEW80_Nss1,(MCS0)_2TX

EBW

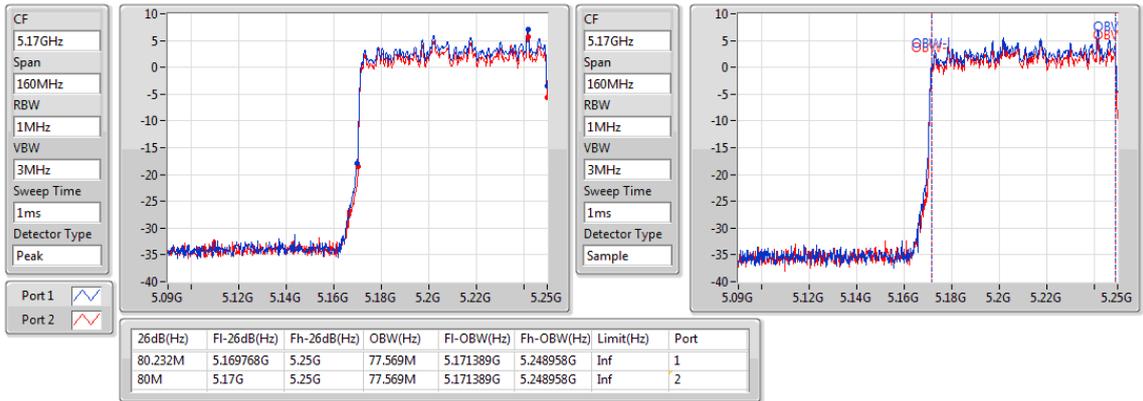
5690MHz Straddle 5.725-5.85GHz



802.11ax HEW160_Nss1,(MCS0)_2TX

EBW

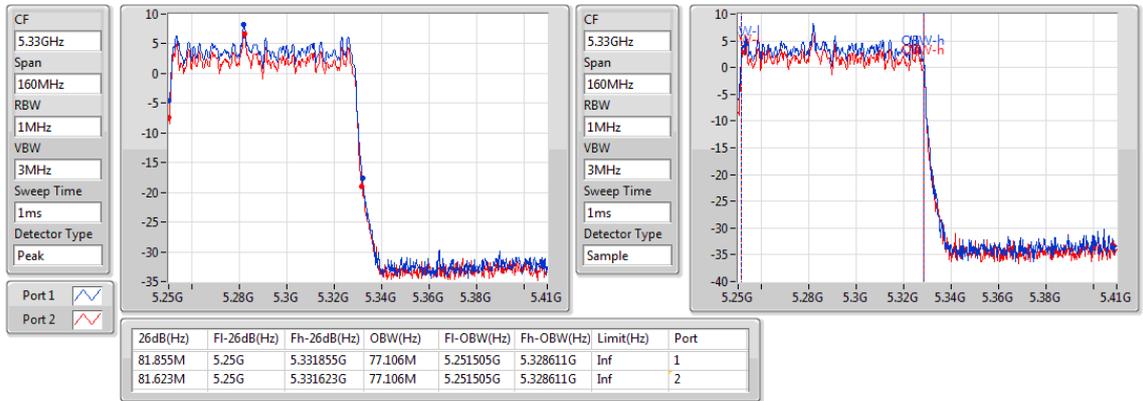
5250MHz Straddle 5.15-5.25GHz



802.11ax HEW160_Nss1,(MCS0)_2TX

EBW

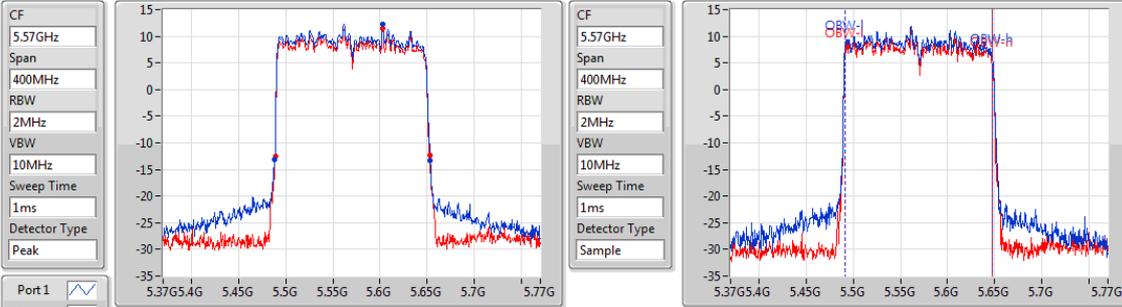
5250MHz Straddle 5.25-5.35GHz



802.11ax HEW160_Nss1,(MCS0)_2TX

EBW

5570MHz



26dB(Hz)	F1-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	F1-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
165.217M	5.488261G	5.653478G	156.295M	5.491274G	5.647569G	Inf	1
164.058M	5.488841G	5.652899G	156.295M	5.491274G	5.647569G	Inf	2

3.3 RF Output Power

3.3.1 Limit of RF Output Power

Frequency Band (MHz)		Limit
<input checked="" type="checkbox"/>	5250 ~ 5350	Conducted Power: 250mW or 11dBm+10 log B
<input checked="" type="checkbox"/>	5470 ~ 5725	Conducted Power: 250mW or 11dBm+10 log B
Note: "B" is the 26dB emission bandwidth in MHz.		

3.3.2 Test Procedures

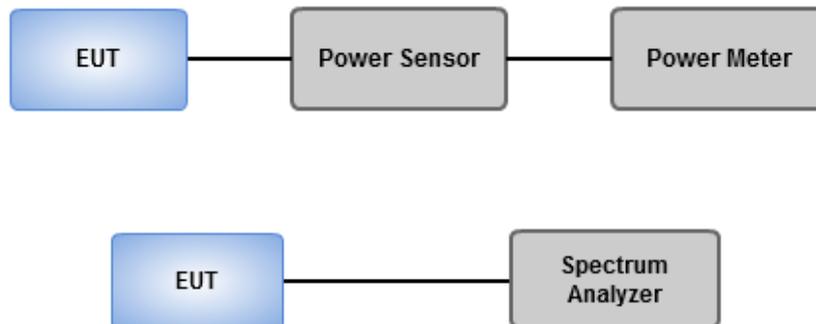
Method PM-G (Measurement using a gated RF average power meter)

Measurements is performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

Spectrum analyzer (For channel that extends across the 5.725 GHz boundary)

1. Set RBW = 1MHz, VBW = 3MHz, Sweep time = Auto, Detector = RMS.
2. Trace average at least 100 traces in power averaging mode.
3. Compute power by integrating the spectrum across the 26 dB EBW.
4. Add $10 \log(1/X)$, X:duty cycle) if duty cycle is <98%).

3.3.3 Test Setup



3.3.4 Test Result of Maximum Conducted Output Power

Ambient Condition	21°C / 66%	Tested By	Aska Huang
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**Non-beamforming mode
Summary**

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.15-5.25GHz	-	-	-	-
802.11ax HEW160_Nss1,(MCS0)_2TX-OFDMA	17.51	0.05636	22.61	0.18239
5.25-5.35GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	22.36	0.17219	27.36	0.54450
802.11ax HEW20_Nss1,(MCS0)_2TX-OFDMA	22.28	0.16904	27.28	0.53456
802.11ax HEW40_Nss1,(MCS0)_2TX-OFDMA	23.70	0.23442	28.70	0.74131
802.11ax HEW80_Nss1,(MCS0)_2TX-OFDMA	23.44	0.22080	28.44	0.69823
802.11ax HEW160_Nss1,(MCS0)_2TX-OFDMA	18.13	0.06501	23.13	0.20559
5.47-5.725GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	23.04	0.20137	27.54	0.56754
802.11ax HEW20_Nss1,(MCS0)_2TX-OFDMA	23.22	0.20989	27.72	0.59156
802.11ax HEW40_Nss1,(MCS0)_2TX-OFDMA	23.71	0.23496	28.21	0.66222
802.11ax HEW80_Nss1,(MCS0)_2TX-OFDMA	23.70	0.23442	28.20	0.66069
802.11ax HEW160_Nss1,(MCS0)_2TX-OFDMA	22.93	0.19634	27.43	0.55335
5.725-5.85GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	15.96	0.03945	20.96	0.12474
802.11ax HEW20_Nss1,(MCS0)_2TX-OFDMA	16.72	0.04699	21.72	0.14859
802.11ax HEW40_Nss1,(MCS0)_2TX-OFDMA	13.72	0.02355	18.72	0.07447
802.11ax HEW80_Nss1,(MCS0)_2TX-OFDMA	10.56	0.01138	15.56	0.03597

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11a_Nss1,(6Mbps)_2TX								
5260MHz	Pass	5.00	19.79	18.85	22.36	24.00	27.36	30.00
5300MHz	Pass	5.00	19.66	18.73	22.23	24.00	27.23	30.00
5320MHz	Pass	5.00	19.72	18.81	22.30	24.00	27.30	30.00
5500MHz	Pass	4.50	20.23	19.35	22.82	24.00	27.32	30.00
5580MHz	Pass	4.50	20.29	19.38	22.87	24.00	27.37	30.00
5700MHz	Pass	4.50	20.47	19.53	23.04	24.00	27.54	30.00
5720MHz Straddle 5.47-5.725GHz	Pass	4.50	19.37	18.49	21.96	22.95	26.46	28.95
5720MHz Straddle 5.725-5.85GHz	Pass	5.00	13.34	12.52	15.96	30.00	20.96	36.00
802.11ax HEW20_Nss1,(MCS0)_2TX-OFDMA								
5260MHz	Pass	5.00	19.68	18.71	22.23	24.00	27.23	30.00
5300MHz	Pass	5.00	19.61	18.68	22.18	24.00	27.18	30.00
5320MHz	Pass	5.00	19.73	18.76	22.28	24.00	27.28	30.00
5500MHz	Pass	4.50	20.61	19.76	23.22	24.00	27.72	30.00
5580MHz	Pass	4.50	20.41	19.56	23.02	24.00	27.52	30.00
5700MHz	Pass	4.50	20.26	19.59	22.95	24.00	27.45	30.00
5720MHz Straddle 5.47-5.725GHz	Pass	4.50	19.06	18.65	21.87	22.85	26.37	28.85
5720MHz Straddle 5.725-5.85GHz	Pass	5.00	13.96	13.44	16.72	30.00	21.72	36.00
802.11ax HEW40_Nss1,(MCS0)_2TX-OFDMA								
5270MHz	Pass	5.00	21.02	20.12	23.60	24.00	28.60	30.00
5310MHz	Pass	5.00	21.12	20.21	23.70	24.00	28.70	30.00
5510MHz	Pass	4.50	21.07	20.21	23.67	24.00	28.17	30.00
5590MHz	Pass	4.50	20.95	20.43	23.71	24.00	28.21	30.00
5670MHz	Pass	4.50	20.93	20.15	23.57	24.00	28.07	30.00
5710MHz Straddle 5.47-5.725GHz	Pass	4.50	20.42	19.54	23.01	24.00	27.51	30.00
5710MHz Straddle 5.725-5.85GHz	Pass	5.00	11.09	10.29	13.72	30.00	18.72	36.00
802.11ax HEW80_Nss1,(MCS0)_2TX-OFDMA								
5290MHz	Pass	5.00	20.88	19.93	23.44	24.00	28.44	30.00
5530MHz	Pass	4.50	20.13	19.91	23.03	24.00	27.53	30.00
5610MHz	Pass	4.50	20.85	20.53	23.70	24.00	28.20	30.00

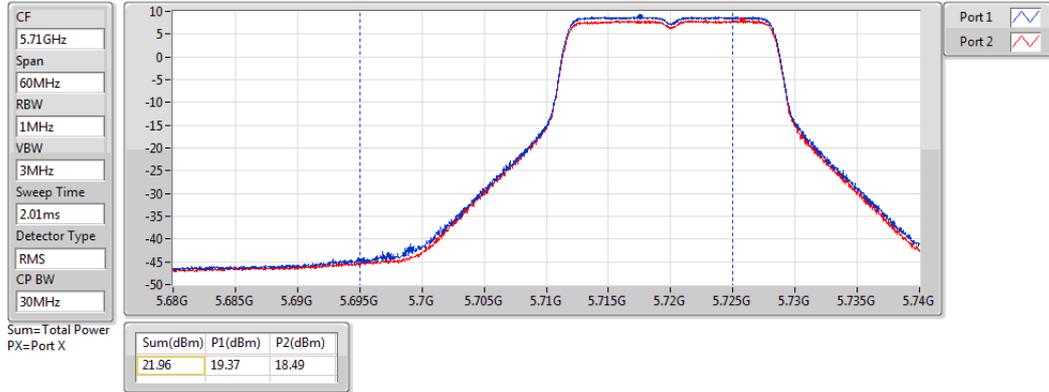
Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
5690MHz Straddle 5.47-5.725GHz	Pass	4.50	20.88	20.25	23.59	24.00	28.09	30.00
5690MHz Straddle 5.725-5.85GHz	Pass	5.00	7.83	7.25	10.56	30.00	15.56	36.00
802.11ax HEW160_Nss1,(MCS0)_2TX-OFDMA								
5250MHz Straddle 5.15-5.25GHz	Pass	5.10	14.89	14.07	17.51	30.00	22.61	36.00
5250MHz Straddle 5.25-5.35GHz	Pass	5.00	15.56	14.63	18.13	24.00	23.13	30.00
5570MHz	Pass	4.50	20.32	19.48	22.93	24.00	27.43	30.00

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

802.11a_Nss1,(6Mbps)_2TX

AV Power

5720MHz Straddle 5.47-5.725GHz

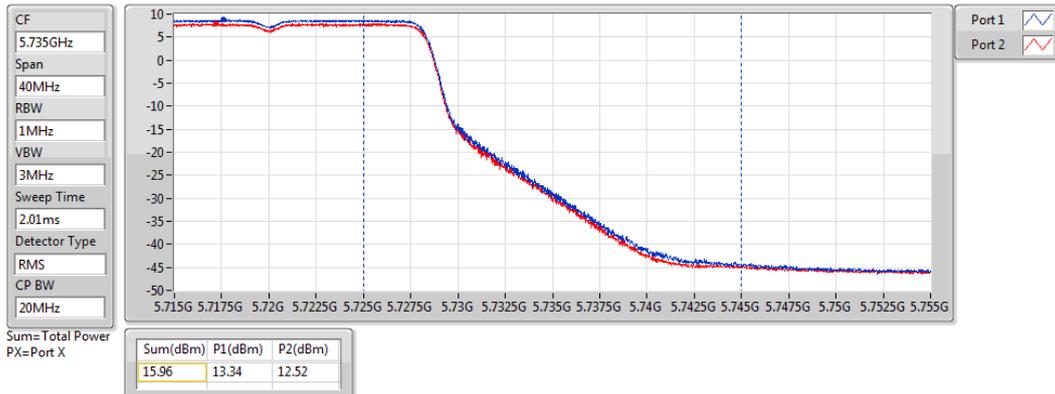


Sum=Total Power
PX=Port X

802.11a_Nss1,(6Mbps)_2TX

AV Power

5720MHz Straddle 5.725-5.85GHz

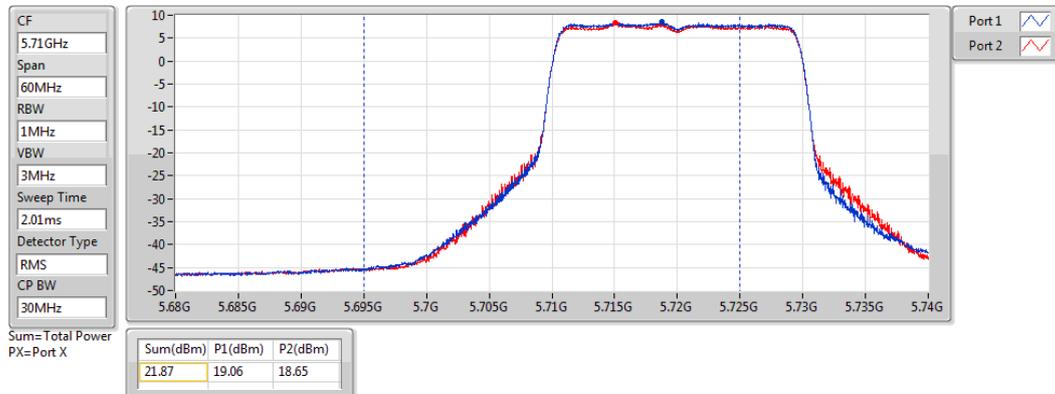


Sum=Total Power
PX=Port X

802.11ax HEW20_Nss1,(MCS0)_2TX

AV Power

5720MHz Straddle 5.47-5.725GHz

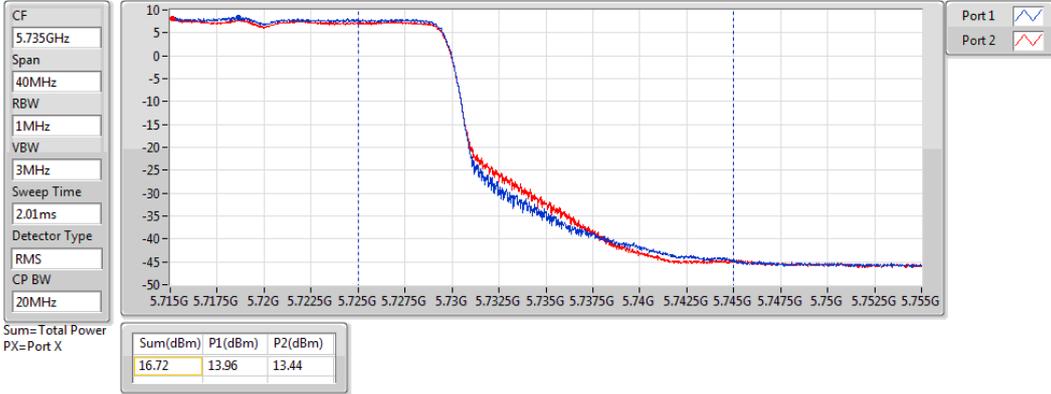


Sum=Total Power
PX=Port X

802.11ax HEW20_Nss1,(MCS0)_2TX

AV Power

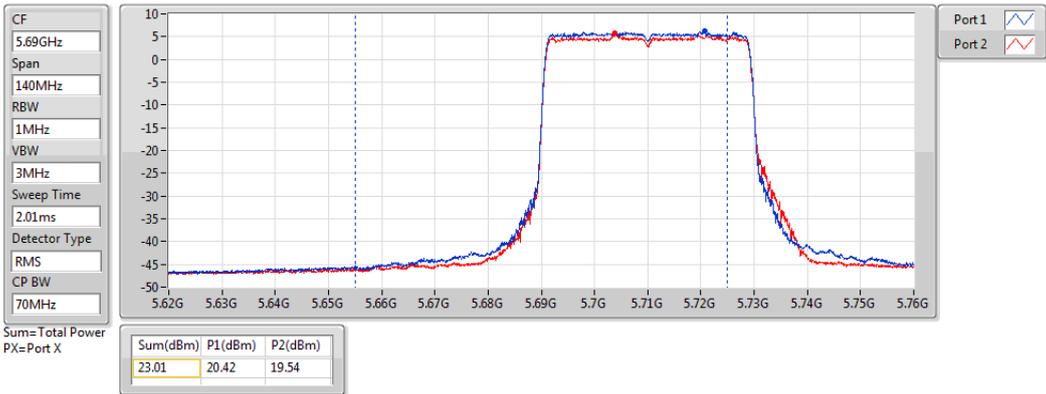
5720MHz Straddle 5.725-5.85GHz



802.11ax HEW40_Nss1,(MCS0)_2TX

AV Power

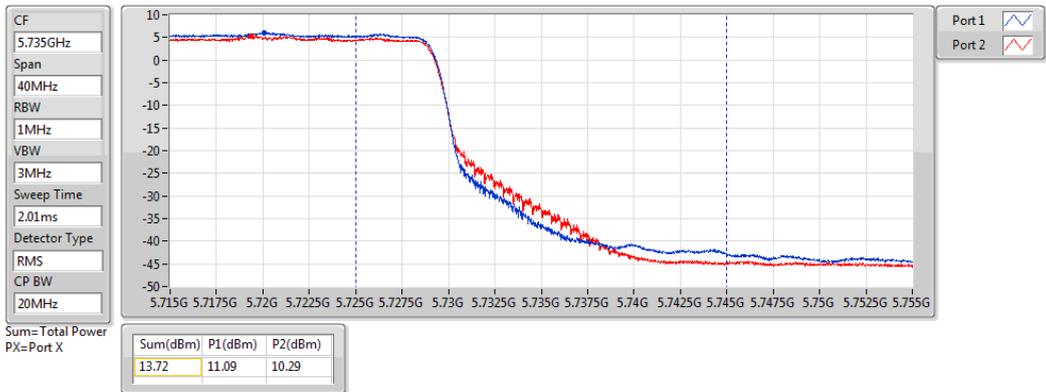
5710MHz Straddle 5.47-5.725GHz



802.11ax HEW40_Nss1,(MCS0)_2TX

AV Power

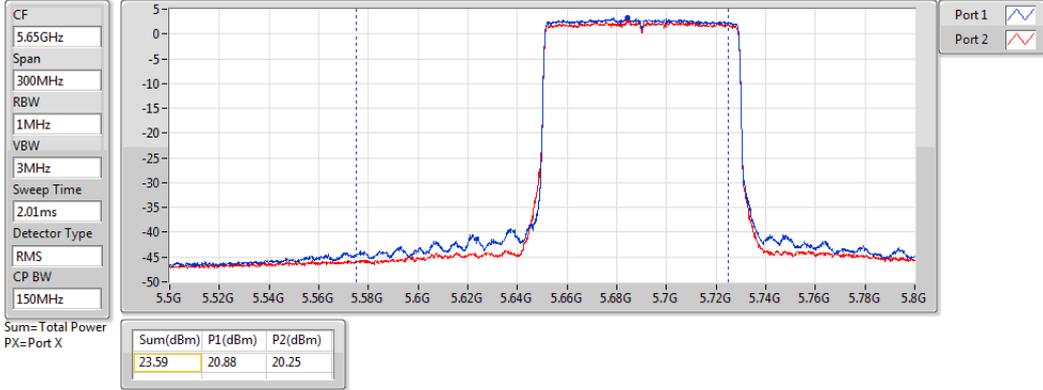
5710MHz Straddle 5.725-5.85GHz



802.11ax HEW80_Nss1,(MCS0)_2TX

AV Power

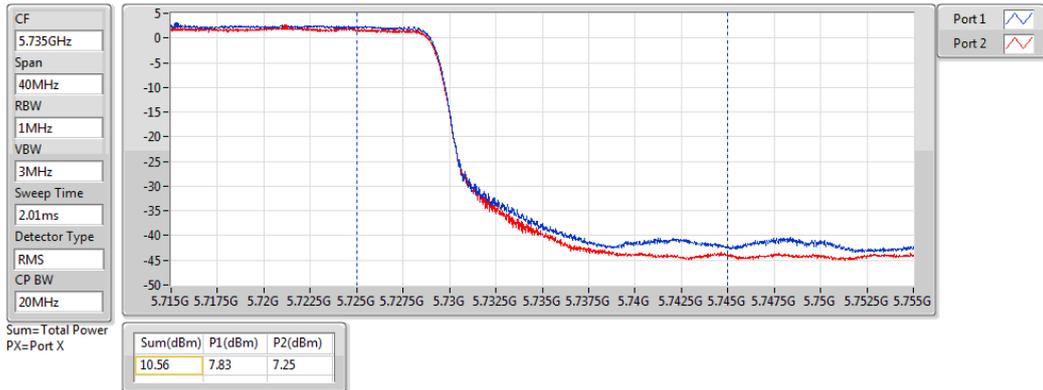
5690MHz Straddle 5.47-5.725GHz



802.11ax HEW80_Nss1,(MCS0)_2TX

AV Power

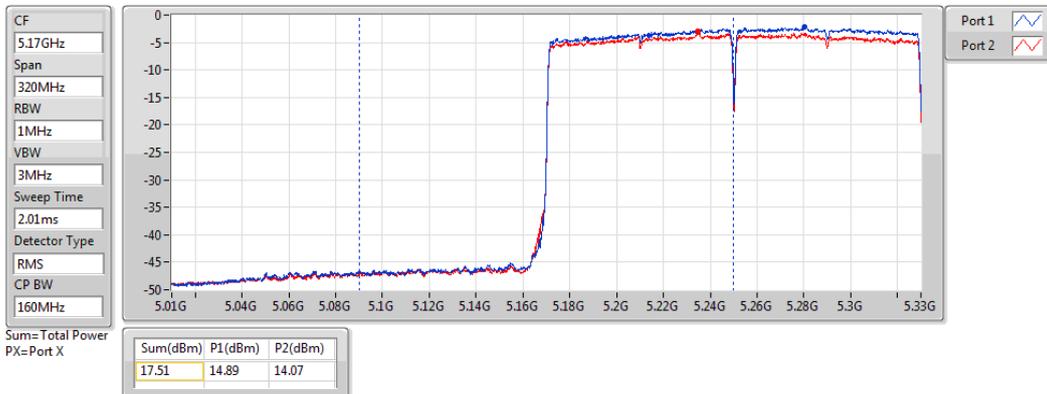
5690MHz Straddle 5.725-5.85GHz



802.11ax HEW160_Nss1,(MCS0)_2TX

AV Power

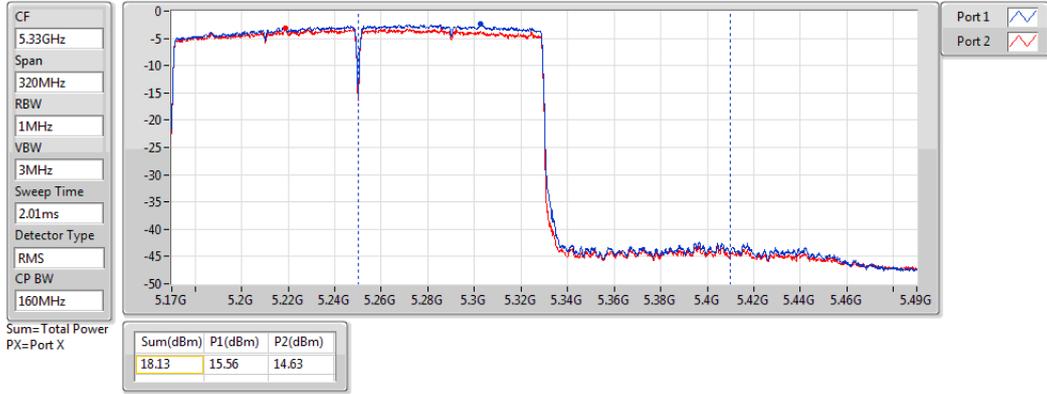
5250MHz Straddle 5.15-5.25GHz



802.11ax HEW160_Nss1,(MCS0)_2TX

AV Power

5250MHz Straddle 5.25-5.35GHz



Beamforming mode

Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.15-5.25GHz	-	-	-	-
802.11ax HEW160-BF_Nss1,(MCS0)_ 2TX-OFDMA	17.14	0.05176	25.15	0.32734
5.25-5.35GHz	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2 TX-OFDMA	22.00	0.15849	29.81	0.95719
802.11ax HEW40-BF_Nss1,(MCS0)_2 TX-OFDMA	22.00	0.15849	29.81	0.95719
802.11ax HEW80-BF_Nss1,(MCS0)_2 TX-OFDMA	21.82	0.15205	29.63	0.91833
802.11ax HEW160-BF_Nss1,(MCS0)_ 2TX	18.11	0.06471	25.92	0.39084
5.47-5.725GHz	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2 TX-OFDMA	22.86	0.19320	29.93	0.98401
802.11ax HEW40-BF_Nss1,(MCS0)_2 TX-OFDMA	22.82	0.19143	29.89	0.97499
802.11ax HEW80-BF_Nss1,(MCS0)_2 TX-OFDMA	22.66	0.18450	29.73	0.93972
802.11ax HEW160-BF_Nss1,(MCS0)_ 2TX-OFDMA	22.75	0.18836	29.82	0.95940
5.725-5.85GHz	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2 TX-OFDMA	16.60	0.04571	24.22	0.26424
802.11ax HEW40-BF_Nss1,(MCS0)_2 TX-OFDMA	12.99	0.01991	20.61	0.11508
802.11ax HEW80-BF_Nss1,(MCS0)_2 TX-OFDMA	9.52	0.00895	17.14	0.05176

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11ax HEW20-BF_Nss1,(MCS0)_2TX-OFDMA								
5260MHz	Pass	7.81	19.41	18.53	22.00	22.19	29.81	30.00
5300MHz	Pass	7.81	19.38	18.41	21.93	22.19	29.74	30.00
5320MHz	Pass	7.81	19.32	18.53	21.95	22.19	29.76	30.00
5500MHz	Pass	7.07	20.25	19.41	22.86	22.93	29.93	30.00
5580MHz	Pass	7.07	20.2	19.28	22.77	22.93	29.84	30.00
5700MHz	Pass	7.07	20.03	19.35	22.71	22.93	29.78	30.00
5720MHz Straddle 5.47-5.725GHz	Pass	7.07	18.78	18.62	21.71	22.93	28.78	30.00
5720MHz Straddle 5.725-5.85GHz	Pass	7.62	13.63	13.54	16.60	28.38	24.22	36.00
802.11ax HEW40-BF_Nss1,(MCS0)_2TX-OFDMA								
5270MHz	Pass	7.81	19.36	18.41	21.92	22.19	29.73	30.00
5310MHz	Pass	7.81	19.41	18.53	22.00	22.19	29.81	30.00
5510MHz	Pass	7.07	20.1	19.43	22.79	22.93	29.86	30.00
5590MHz	Pass	7.07	20.21	19.36	22.82	22.93	29.89	30.00
5670MHz	Pass	7.07	20.01	19.12	22.60	22.93	29.67	30.00
5710MHz Straddle 5.47-5.725GHz	Pass	7.07	19.61	18.94	22.30	22.93	29.37	30.00
5710MHz Straddle 5.725-5.85GHz	Pass	7.62	10.25	9.7	12.99	28.38	20.61	36.00
802.11ax HEW80-BF_Nss1,(MCS0)_2TX-OFDMA								
5290MHz	Pass	7.81	19.21	18.37	21.82	22.19	29.63	30.00
5530MHz	Pass	7.07	19.86	19.43	22.66	22.93	29.73	30.00
5610MHz	Pass	7.07	19.73	19.41	22.58	22.93	29.65	30.00
5690MHz Straddle 5.47-5.725GHz	Pass	7.07	19.66	19.19	22.44	22.93	29.51	30.00
5690MHz Straddle 5.725-5.85GHz	Pass	7.62	6.66	6.36	9.52	28.38	17.14	36.00
802.11ax HEW160-BF_Nss1,(MCS0)_2TX-OFDMA								
5250MHz Straddle 5.15-5.25GHz	Pass	8.01	14.58	13.63	17.14	27.99	25.15	36.00
5250MHz Straddle 5.25-5.35GHz	Pass	7.81	15.49	14.68	18.11	22.19	25.92	30.00
5570MHz	Pass	7.07	20.12	19.32	22.75	22.93	29.82	30.00

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

For 5.15 ~ 5.25 GHz

Directional Gain = $10 * \log((10^{5.1/20} + 10^{4.9/20})^2 / 2) = 8.01 \text{ dBi} > 6 \text{ dBi}$, limit shall be reduced to $30 \text{ dBm} - (8.01 \text{ dBi} - 6 \text{ dBi}) = 27.99 \text{ dBm}$

For 5250~5350MHz:

Directional gain = $10 * \log((10^{4.6/20} + 10^{5/20})^2 / 2) = 7.81 \text{ dBi} > 6 \text{ dBi}$, Limit shall be reduced to $24 \text{ dBm} - (7.81 \text{ dBi} - 6 \text{ dBi}) = 22.19 \text{ dBm}$.

For 5470~5725MHz:

Directional gain = $10 * \log((10^{3.6/20} + 10^{4.5/20})^2 / 2) = 7.07 \text{ dBi} > 6 \text{ dBi}$, Limit shall be reduced to $24 \text{ dBm} - (7.07 \text{ dBi} - 6 \text{ dBi}) = 22.93 \text{ dBm}$.

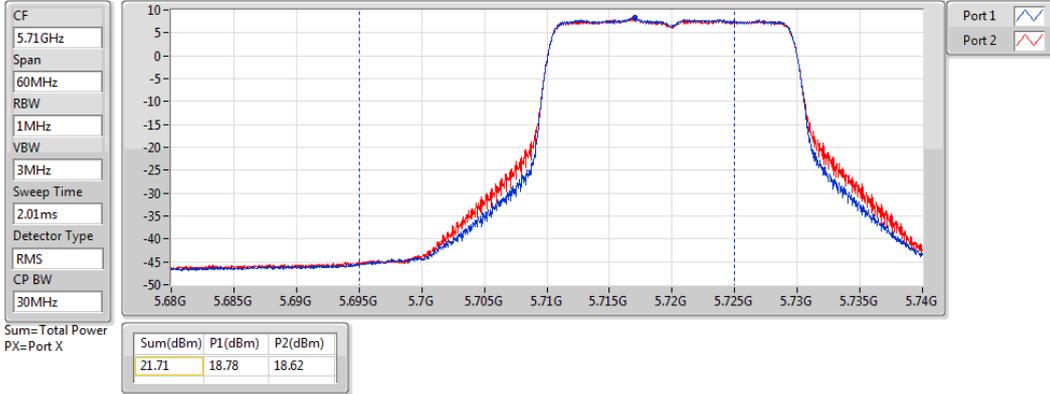
For 5.725 ~ 5.85 GHz

Directional Gain = $10 * \log((10^{4.2/20} + 10^{5/20})^2 / 2) = 7.62 \text{ dBi} > 6 \text{ dBi}$, limit shall be reduced to $30 \text{ dBm} - (7.62 \text{ dBi} - 6 \text{ dBi}) = 28.38 \text{ dBm}$

802.11ax HEW20-BF_Nss1,(MCS0)_2TX

AV Power

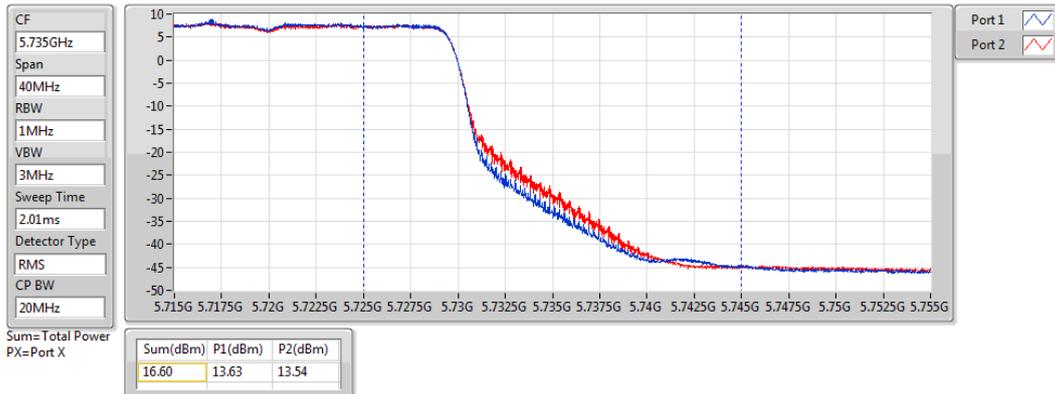
5720MHz Straddle 5.47-5.725GHz



802.11ax HEW20-BF_Nss1,(MCS0)_2TX

AV Power

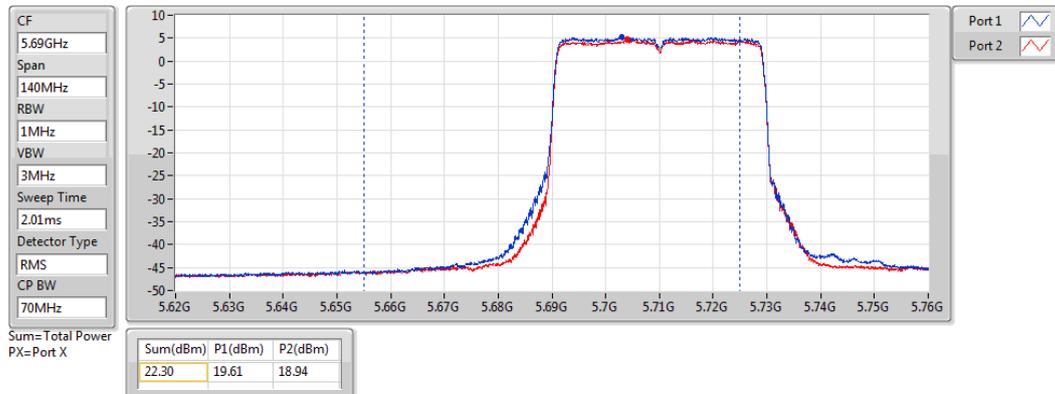
5720MHz Straddle 5.725-5.85GHz



802.11ax HEW40-BF_Nss1,(MCS0)_2TX

AV Power

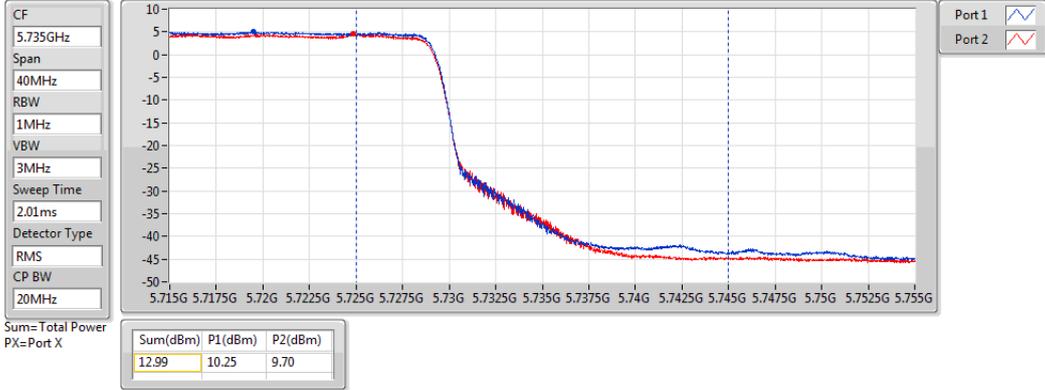
5710MHz Straddle 5.47-5.725GHz



802.11ax HEW40-BF_Nss1,(MCS0)_2TX

AV Power

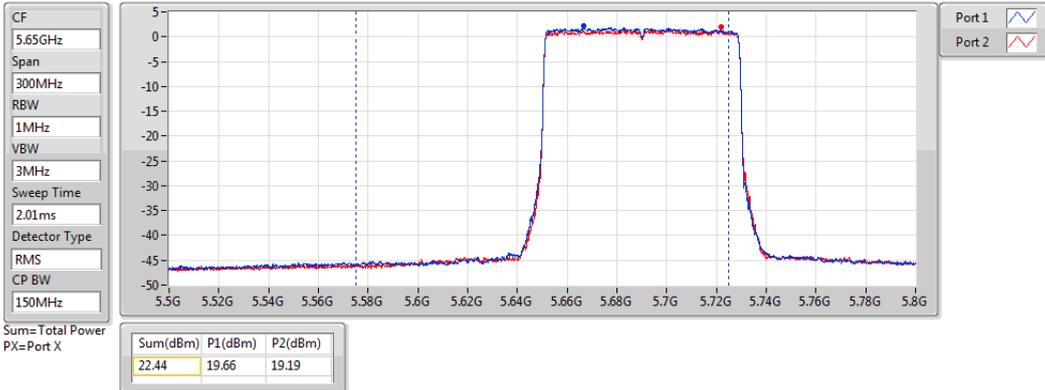
5710MHz Straddle 5.725-5.85GHz



802.11ax HEW80-BF_Nss1,(MCS0)_2TX

AV Power

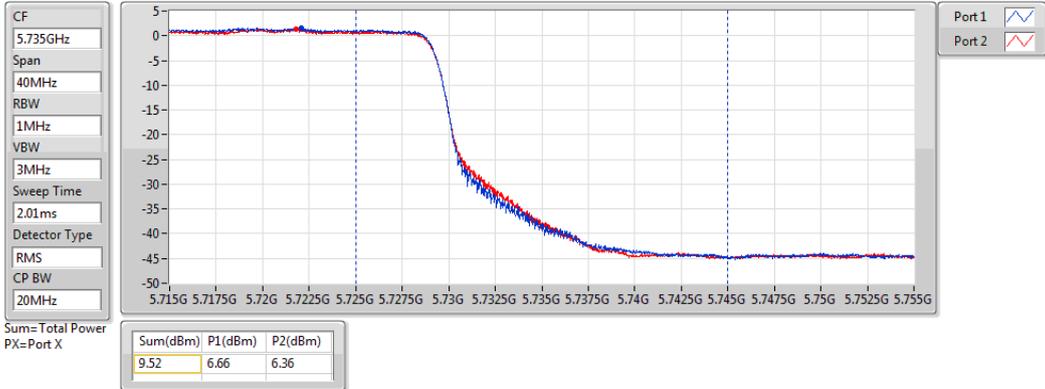
5690MHz Straddle 5.47-5.725GHz



802.11ax HEW80-BF_Nss1,(MCS0)_2TX

AV Power

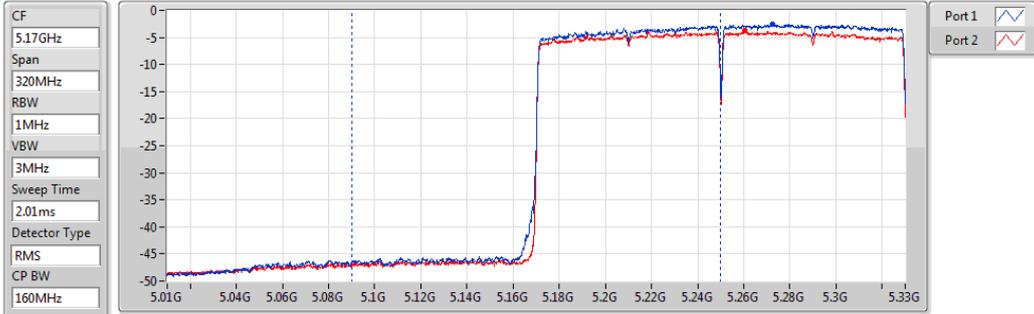
5690MHz Straddle 5.725-5.85GHz



802.11ax HEW160-BF_Nss1,(MCS0)_2TX

AV Power

5250MHz Straddle 5.15-5.25GHz



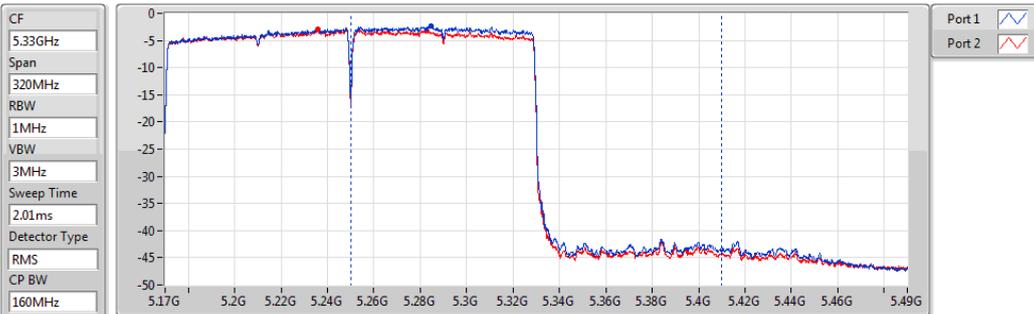
Sum= Total Power
PX=Port X

Sum(dBm)	P1(dBm)	P2(dBm)
17.14	14.58	13.63

802.11ax HEW160-BF_Nss1,(MCS0)_2TX

AV Power

5250MHz Straddle 5.25-5.35GHz



Sum= Total Power
PX=Port X

Sum(dBm)	P1(dBm)	P2(dBm)
18.11	15.49	14.68

3.4 Peak Power Spectral Density

3.4.1 Limit of Peak Power Spectral Density

Frequency Band (MHz)		Limit
<input checked="" type="checkbox"/>	5250 ~ 5350	11 dBm / MHz
<input checked="" type="checkbox"/>	5470 ~ 5725	11 dBm / MHz

3.4.2 Test Procedures

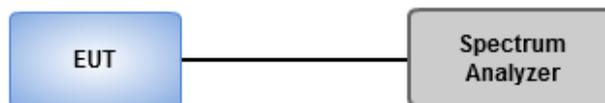
Duty cycle \geq 98 %

1. Set RBW = 1 MHz, VBW = 3 MHz, Sweep time = auto, Detector = RMS.
2. Trace average 100 traces.
3. Use the peak marker function to determine the maximum amplitude level.

Duty cycle < 98 %

1. Set RBW = 1 MHz, VBW = 3 MHz, Detector = RMS.
2. Set sweep time $\geq 10 * (\text{number of points in sweep}) * (\text{total on/off period of the transmitted signal})$.
3. Perform 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 Peak Power Spectral Density

Ambient Condition	21°C / 66%	Tested By	Aska Huang
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Summary

Mode	PD (dBm/RBW)	EIRP PD (dBm/RBW)
5.15-5.25GHz	-	-
802.11ax HEW160_Nss1,(MCS0)_2TX-OFDMA	-1.66	6.35
5.25-5.35GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	9.06	16.87
802.11ax HEW20_Nss1,(MCS0)_2TX-OFDMA	8.94	16.75
802.11ax HEW40_Nss1,(MCS0)_2TX-OFDMA	7.18	14.99
802.11ax HEW80_Nss1,(MCS0)_2TX-OFDMA	4.66	12.47
802.11ax HEW160_Nss1,(MCS0)_2TX-OFDMA	-1.42	6.39
5.47-5.725GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	9.75	16.82
802.11ax HEW20_Nss1,(MCS0)_2TX-OFDMA	9.80	16.87
802.11ax HEW40_Nss1,(MCS0)_2TX-OFDMA	7.65	14.72
802.11ax HEW80_Nss1,(MCS0)_2TX-OFDMA	4.77	11.84
802.11ax HEW160_Nss1,(MCS0)_2TX-OFDMA	1.11	8.18
5.725-5.85GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	7.97	15.59
802.11ax HEW20_Nss1,(MCS0)_2TX-OFDMA	7.58	15.20
802.11ax HEW40_Nss1,(MCS0)_2TX-OFDMA	5.37	12.99
802.11ax HEW80_Nss1,(MCS0)_2TX-OFDMA	1.88	9.50

RBW = 500kHz for 5.725-5.85GHz band / 1MHz for other band;

Result

Mode	Result	DG (dBi)	Port 1 (dBm/R BW)	Port 2 (dBm/R BW)	PD (dBm/R BW)	PD Limit (dBm/R BW)	EIRP PD (dBm/R BW)	EIRP PD Limit (dBm/R BW)
802.11a_Nss1,(6Mbps)_2TX								
5260MHz	Pass	7.81	6.71	5.44	9.06	9.19	16.87	17.00
5300MHz	Pass	7.81	6.88	4.99	8.99	9.19	16.80	17.00
5320MHz	Pass	7.81	6.64	5.32	9.00	9.19	16.81	17.00
5500MHz	Pass	7.07	7.13	5.94	9.50	9.93	16.57	17.00
5580MHz	Pass	7.07	7.28	6.27	9.75	9.93	16.82	17.00
5700MHz	Pass	7.07	7.20	6.28	9.73	9.93	16.80	17.00
5720MHz Straddle 5.47-5.725GHz	Pass	7.07	7.12	6.17	9.60	9.93	16.67	17.00
5720MHz Straddle 5.725-5.85GHz	Pass	7.62	5.38	4.61	7.97	28.38	15.59	36.00
802.11ax HEW20_Nss1,(MCS0)_2TX-OFDMA								
5260MHz	Pass	7.81	6.65	5.14	8.88	9.19	16.69	17.00
5300MHz	Pass	7.81	6.65	4.89	8.81	9.19	16.62	17.00
5320MHz	Pass	7.81	6.73	5.03	8.94	9.19	16.75	17.00
5500MHz	Pass	7.07	7.66	6.49	9.80	9.93	16.87	17.00
5580MHz	Pass	7.07	6.88	6.68	9.70	9.93	16.77	17.00
5700MHz	Pass	7.07	7.01	6.29	9.58	9.93	16.65	17.00
5720MHz Straddle 5.47-5.725GHz	Pass	7.07	6.60	6.78	9.70	9.93	16.77	17.00
5720MHz Straddle 5.725-5.85GHz	Pass	7.62	4.70	4.58	7.58	28.38	15.20	36.00
802.11ax HEW40_Nss1,(MCS0)_2TX-OFDMA								
5270MHz	Pass	7.81	4.75	3.86	7.18	9.19	14.99	17.00
5310MHz	Pass	7.81	4.86	3.83	7.18	9.19	14.99	17.00
5510MHz	Pass	7.07	4.94	4.13	7.35	9.93	14.42	17.00
5590MHz	Pass	7.07	4.70	4.92	7.65	9.93	14.72	17.00
5670MHz	Pass	7.07	4.29	3.28	6.73	9.93	13.80	17.00
5710MHz Straddle 5.47-5.725GHz	Pass	7.07	4.33	4.33	7.20	9.93	14.27	17.00
5710MHz Straddle 5.725-5.85GHz	Pass	7.62	2.82	1.86	5.37	28.38	12.99	36.00
802.11ax HEW80_Nss1,(MCS0)_2TX-OFDMA								
5290MHz	Pass	7.81	2.63	1.21	4.66	9.19	12.47	17.00
5530MHz	Pass	7.07	0.97	0.70	3.78	9.93	10.85	17.00

Mode	Result	DG (dBi)	Port 1 (dBm/R BW)	Port 2 (dBm/R BW)	PD (dBm/R BW)	PD Limit (dBm/R BW)	EIRP PD (dBm/R BW)	EIRP PD Limit (dBm/R BW)
5610MHz	Pass	7.07	2.31	1.43	4.77	9.93	11.84	17.00
5690MHz Straddle 5.47-5.725GHz	Pass	7.07	1.52	1.21	4.38	9.93	11.45	17.00
5690MHz Straddle 5.725-5.85GHz	Pass	7.62	-0.72	-1.55	1.88	28.38	9.50	36.00
802.11ax HEW160_Nss1,(MCS0)_2TX-OFDMA								
5250MHz Straddle 5.15-5.25GHz	Pass	8.01	-4.29	-5.09	-1.66	14.99	6.35	23.00
5250MHz Straddle 5.25-5.35GHz	Pass	7.81	-3.61	-4.72	-1.42	9.19	6.39	17.00
5570MHz	Pass	7.07	-1.55	-2.17	1.11	9.93	8.18	17.00

DG = Directional Gain; **RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;

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

For 5.15 ~ 5.25 GHz

Directional Gain = $10 * \log((10^{5.1/20} + 10^{4.9/20})^2 / 2) = 8.01 \text{ dBi} > 6 \text{ dBi}$, limit shall be reduced to 17 dBm – (8.01 dBi – 6 dBi) = 14.99 dBm

For 5250~5350MHz:

Directional gain = $10 * \log((10^{4.6/20} + 10^{5/20})^2 / 2) = 7.81 \text{ dBi} > 6 \text{ dBi}$, Limit shall be reduced to 11 dBm – (7.81 dBi – 6 dBi) = 9.19 dBm.

For 5470~5725MHz:

Directional gain = $10 * \log((10^{3.6/20} + 10^{4.5/20})^2 / 2) = 7.07 \text{ dBi} > 6 \text{ dBi}$, Limit shall be reduced to 11 dBm – (7.07 dBi – 6 dBi) = 9.93 dBm.

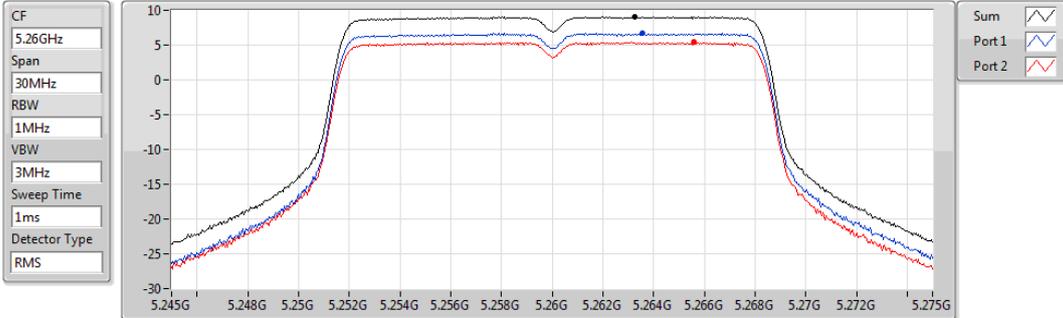
For 5.725 ~ 5.85 GHz

Directional Gain = $10 * \log((10^{4.2/20} + 10^{5/20})^2 / 2) = 7.62 \text{ dBi} > 6 \text{ dBi}$, limit shall be reduced to 30 dBm – (7.62 dBi – 6 dBi) = 28.38 dBm

802.11a_Nss1,(6Mbps)_2TX

PSD

5260MHz

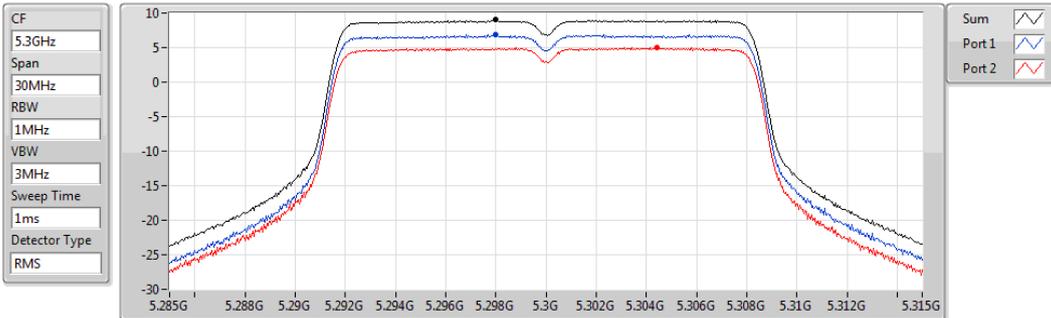


Sum	PD	Port 1	Port 2
(dBm/1MHz)	(dBm/1MHz)	(dBm/1MHz)	(dBm/1MHz)
9.06	9.06	6.71	5.44

802.11a_Nss1,(6Mbps)_2TX

PSD

5300MHz

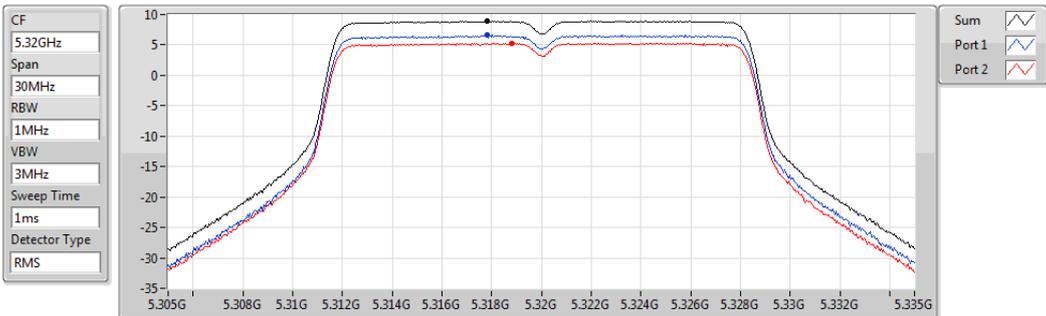


Sum	PD	Port 1	Port 2
(dBm/1MHz)	(dBm/1MHz)	(dBm/1MHz)	(dBm/1MHz)
8.99	8.99	6.88	4.99

802.11a_Nss1,(6Mbps)_2TX

PSD

5320MHz

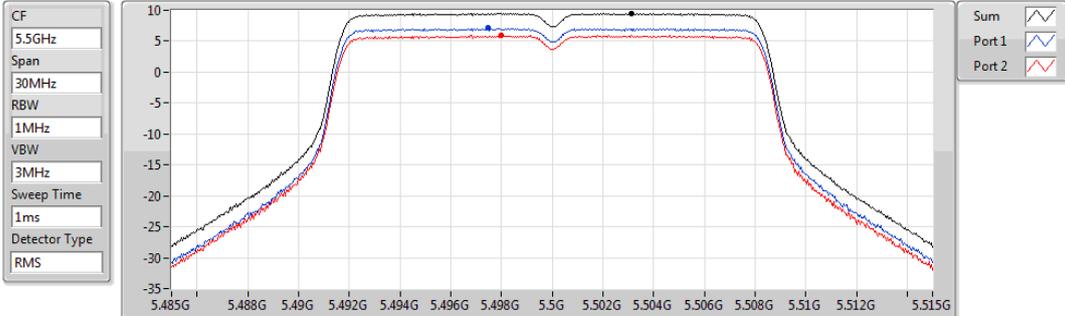


Sum	PD	Port 1	Port 2
(dBm/1MHz)	(dBm/1MHz)	(dBm/1MHz)	(dBm/1MHz)
9.00	9.00	6.64	5.32

802.11a_Nss1,(6Mbps)_2TX

PSD

5500MHz

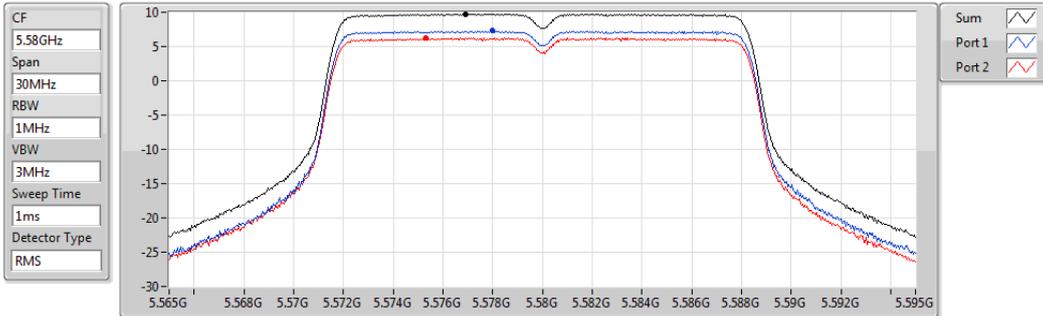


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.50	9.50	7.13	5.94

802.11a_Nss1,(6Mbps)_2TX

PSD

5580MHz

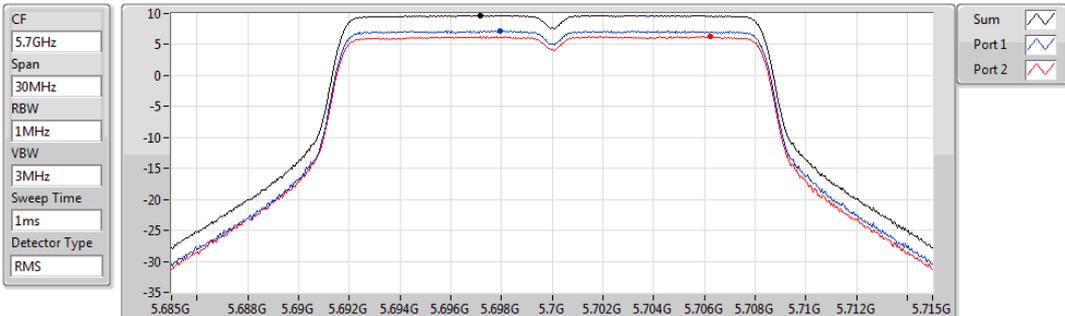


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.75	9.75	7.28	6.27

802.11a_Nss1,(6Mbps)_2TX

PSD

5700MHz

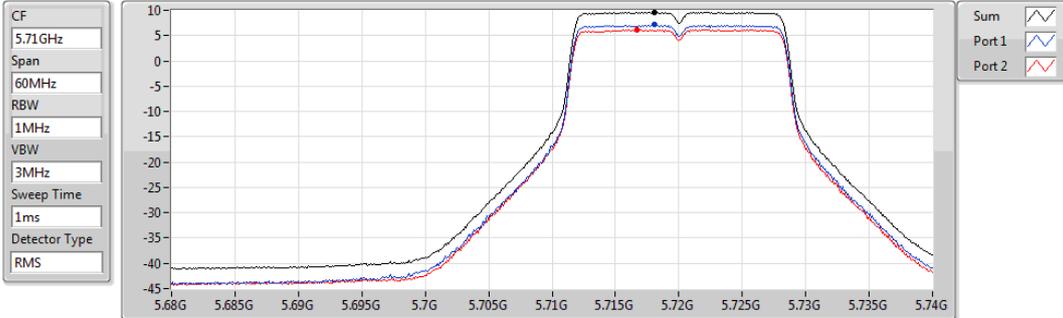


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.73	9.73	7.20	6.28

802.11a_Nss1,(6Mbps)_2TX

PSD

5720MHz Straddle 5.47-5.725GHz

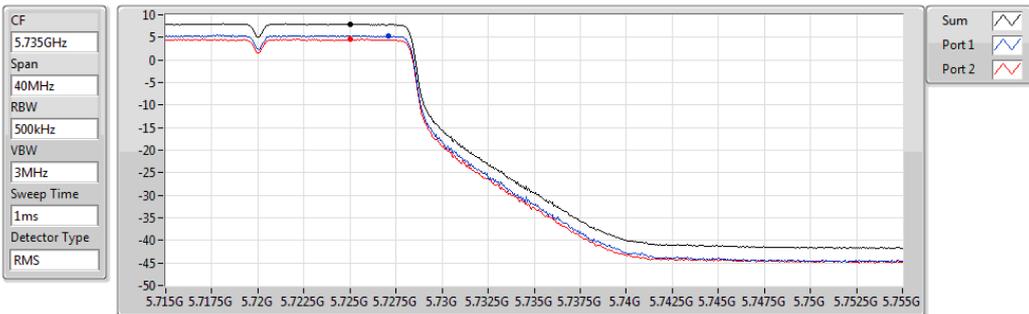


Sum (dBm/RBW)	PD (dBm/RBW)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)
9.60	9.60	7.12	6.17

802.11a_Nss1,(6Mbps)_2TX

PSD

5720MHz Straddle 5.725-5.85GHz

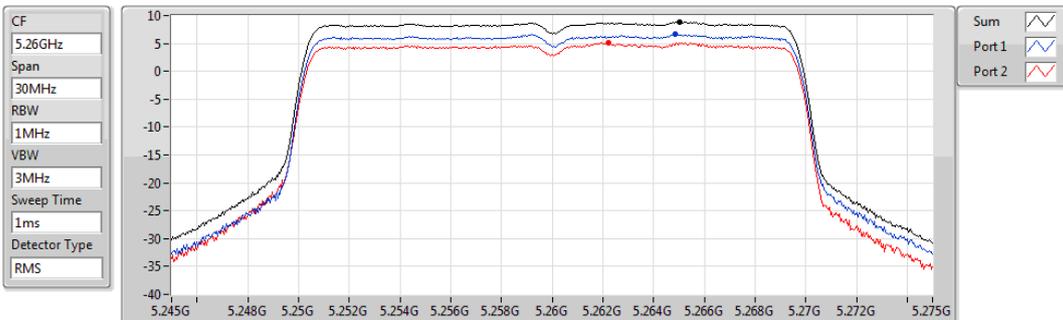


Sum (dBm/RBW)	PD (dBm/RBW)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)
7.97	7.97	5.38	4.61

802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

5260MHz

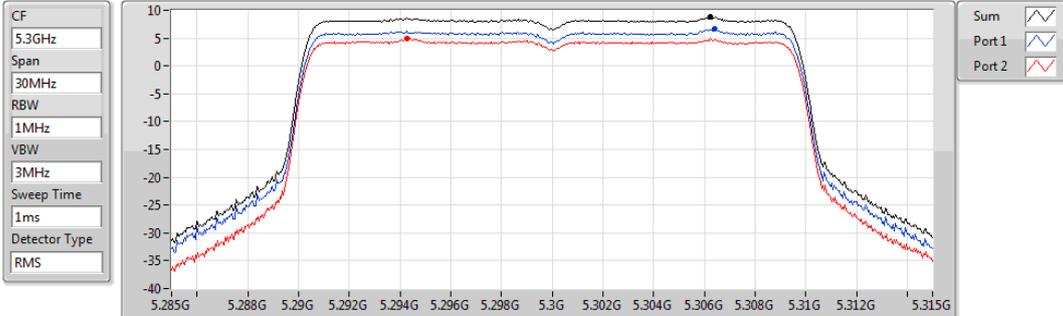


Sum (dBm/RBW)	PD (dBm/RBW)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)
8.88	8.88	6.65	5.14

802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

5300MHz

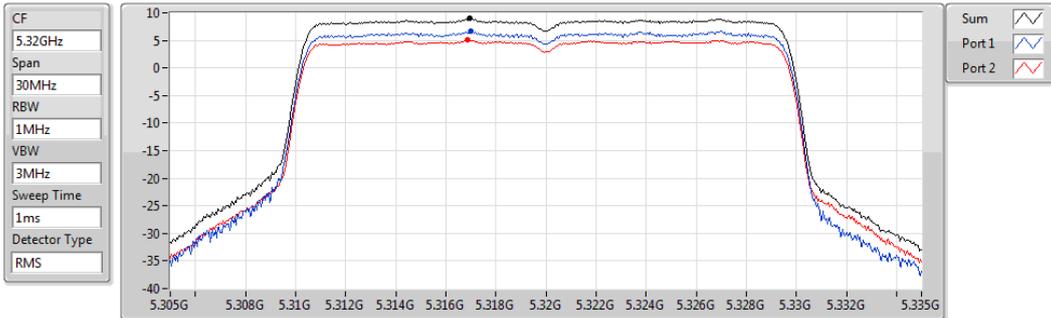


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.81	8.81	6.65	4.89

802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

5320MHz

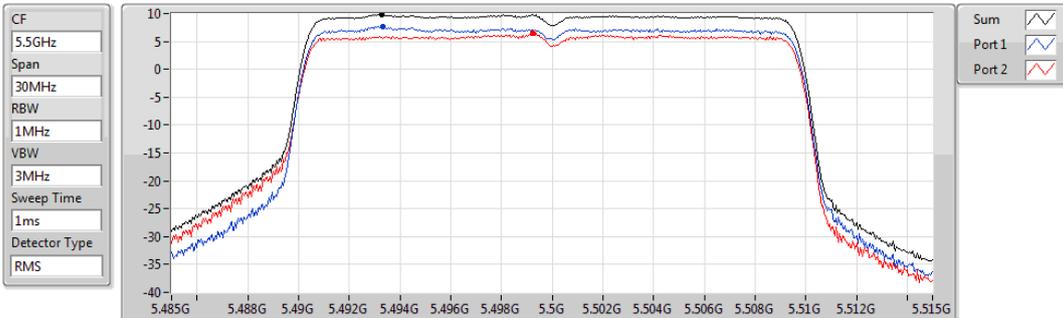


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.94	8.94	6.73	5.03

802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

5500MHz

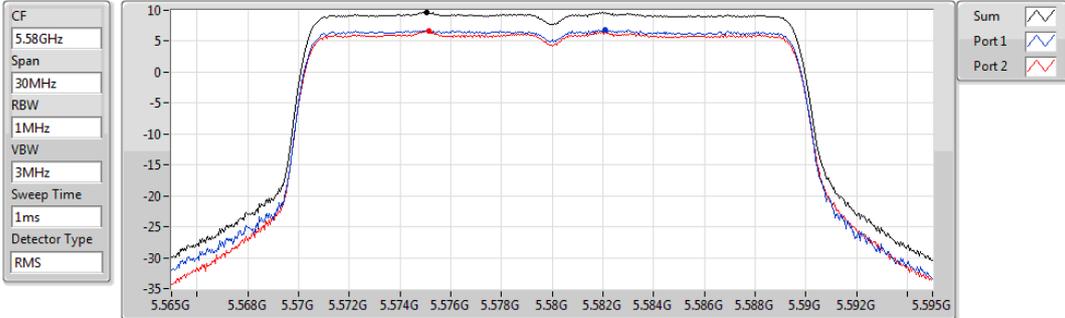


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.80	9.80	7.66	6.49

802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

5580MHz

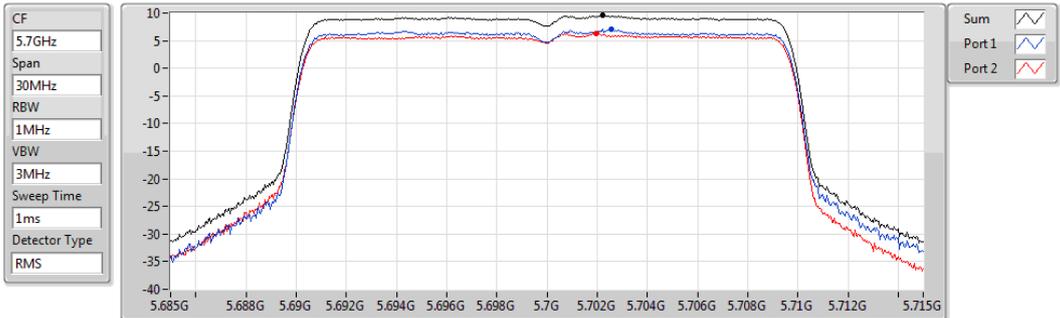


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.70	9.70	6.88	6.68

802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

5700MHz

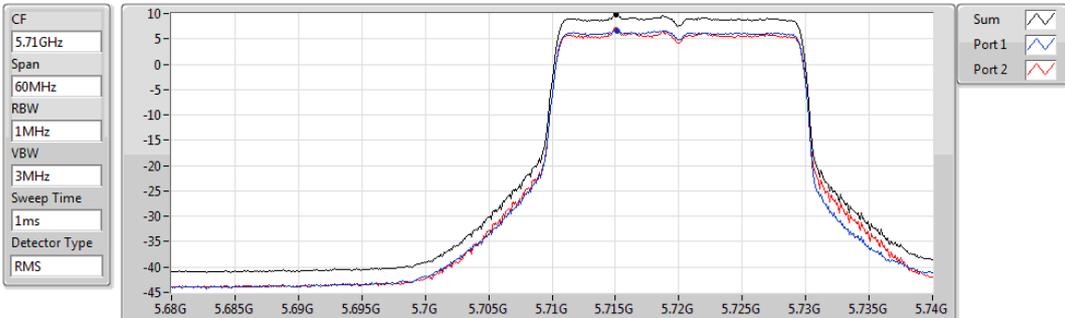


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.58	9.58	7.01	6.29

802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

5720MHz Straddle 5.47-5.725GHz

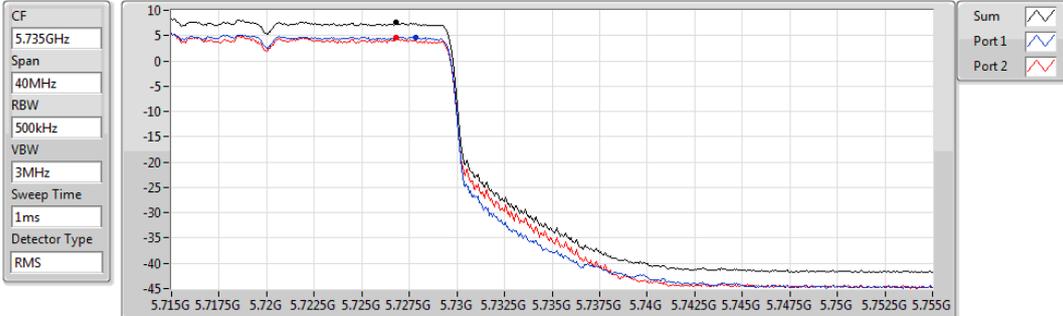


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.70	9.70	6.60	6.78

802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

5720MHz Straddle 5.725-5.85GHz

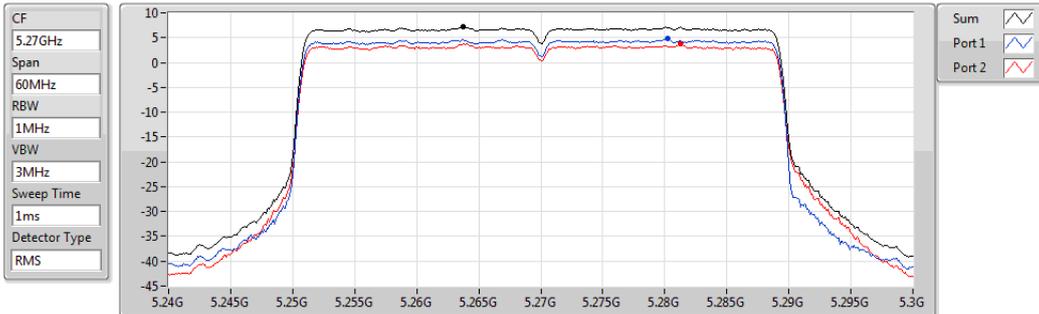


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.58	7.58	4.70	4.58

802.11ax HEW40_Nss1,(MCS0)_2TX

PSD

5270MHz

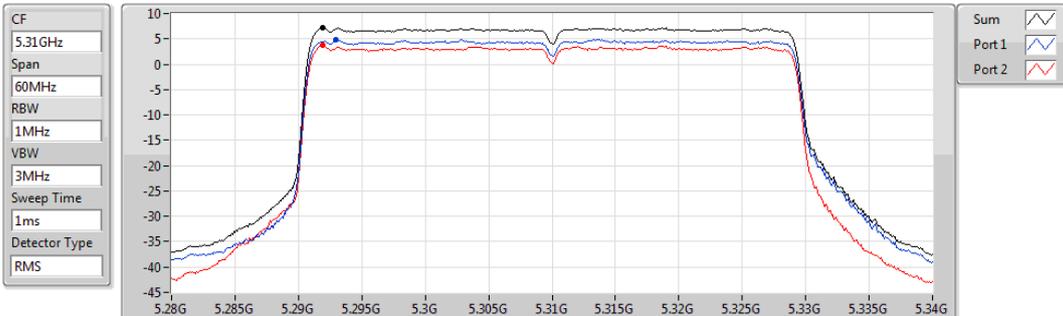


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.18	7.18	4.75	3.86

802.11ax HEW40_Nss1,(MCS0)_2TX

PSD

5310MHz

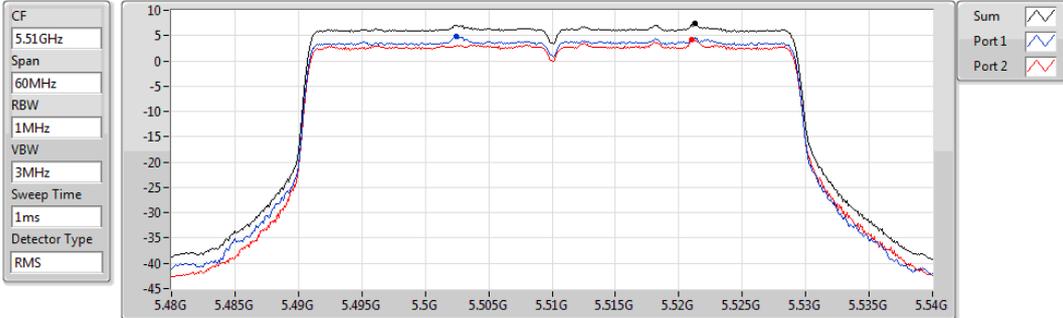


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.18	7.18	4.86	3.83

802.11ax HEW40_Nss1,(MCS0)_2TX

PSD

5510MHz

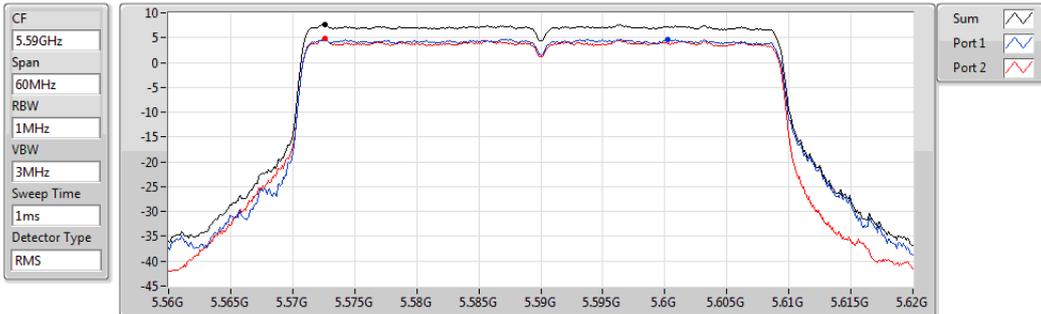


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.35	7.35	4.94	4.13

802.11ax HEW40_Nss1,(MCS0)_2TX

PSD

5590MHz

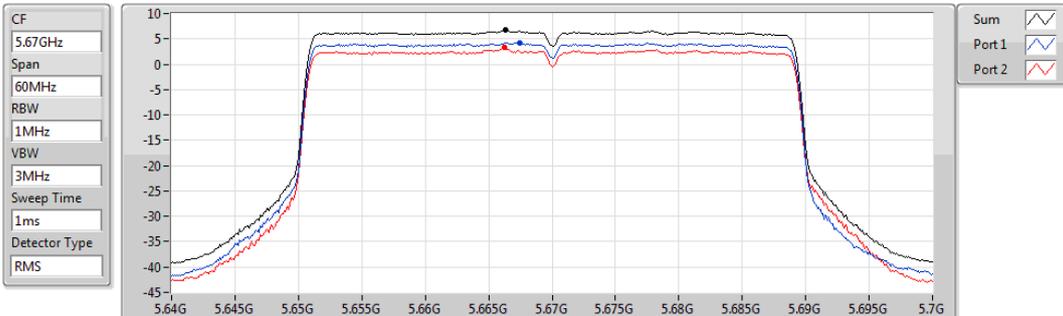


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.65	7.65	4.70	4.92

802.11ax HEW40_Nss1,(MCS0)_2TX

PSD

5670MHz

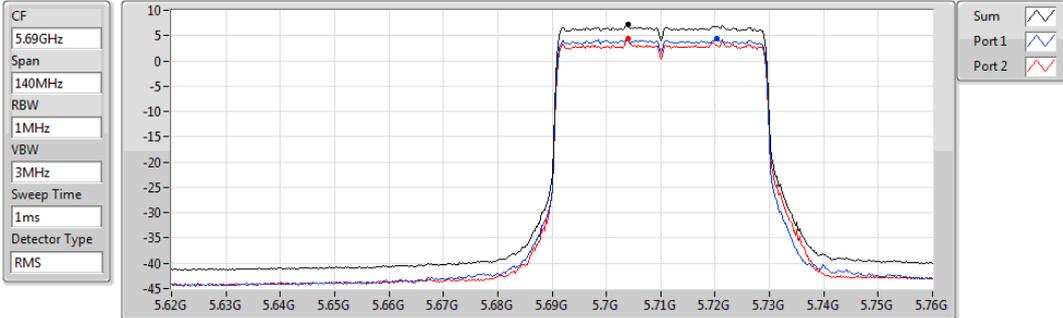


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.73	6.73	4.29	3.28

802.11ax HEW40_Nss1,(MCS0)_2TX

PSD

5710MHz Straddle 5.47-5.725GHz

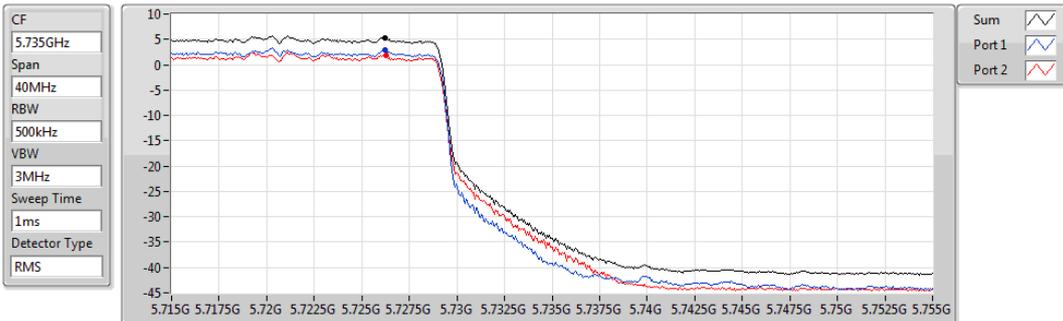


Sum	PD	Port 1	Port 2
(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)
7.20	7.20	4.33	4.33

802.11ax HEW40_Nss1,(MCS0)_2TX

PSD

5710MHz Straddle 5.725-5.85GHz

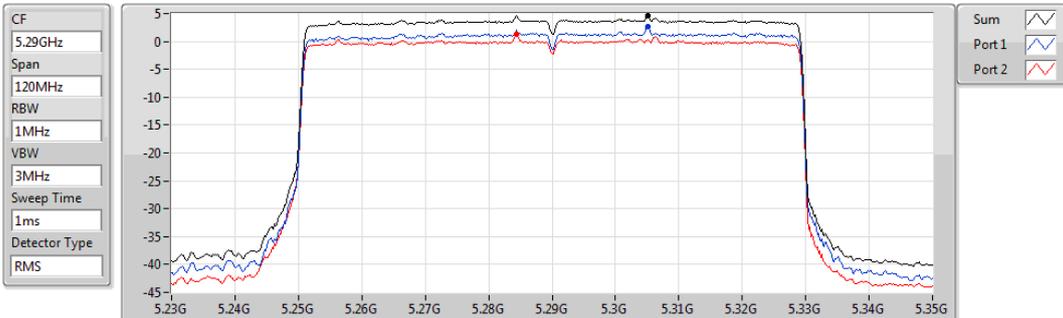


Sum	PD	Port 1	Port 2
(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)
5.37	5.37	2.82	1.86

802.11ax HEW80_Nss1,(MCS0)_2TX

PSD

5290MHz



Sum	PD	Port 1	Port 2
(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)
4.66	4.66	2.63	1.21

802.11ax HEW80_Nss1,(MCS0)_2TX

PSD

5530MHz

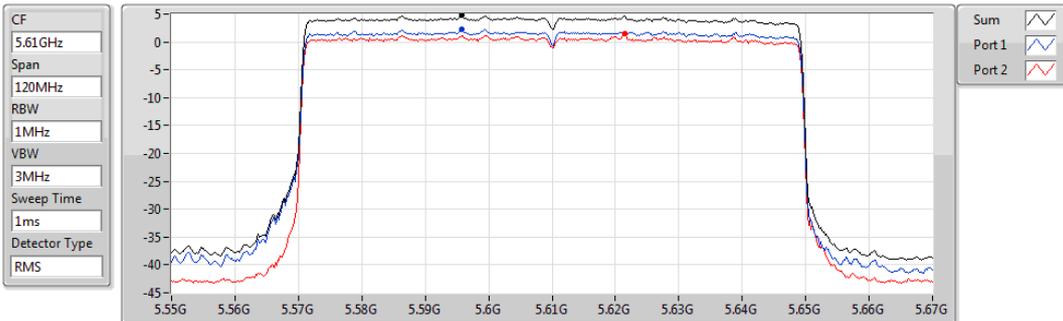


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.78	3.78	0.97	0.70

802.11ax HEW80_Nss1,(MCS0)_2TX

PSD

5610MHz

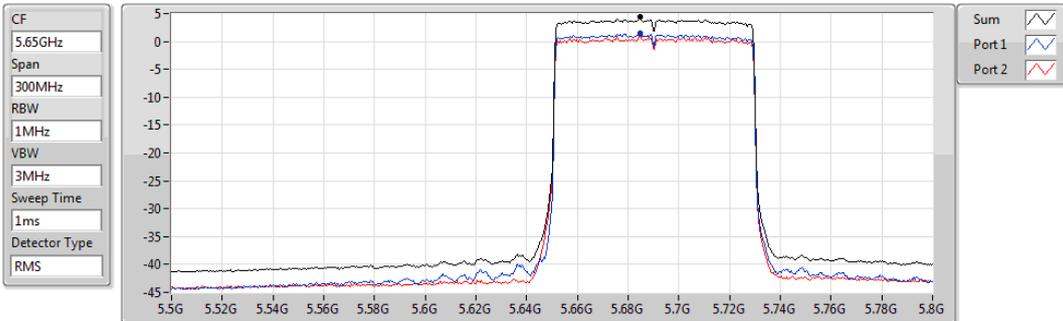


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.77	4.77	2.31	1.43

802.11ax HEW80_Nss1,(MCS0)_2TX

PSD

5690MHz Straddle 5.47-5.725GHz

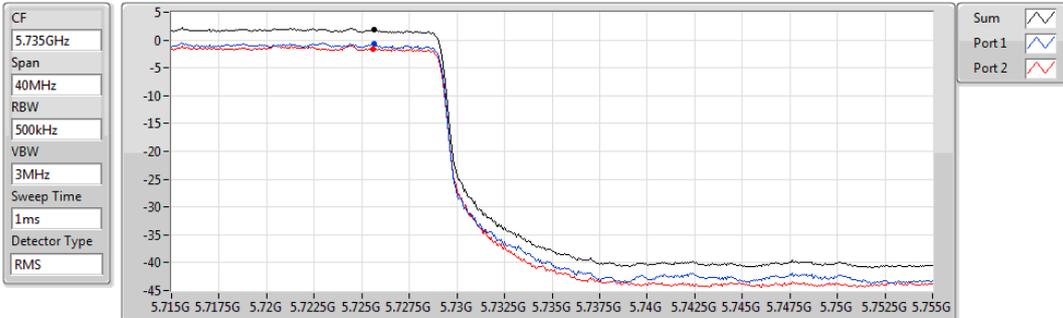


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.38	4.38	1.52	1.21

802.11ax HEW80_Nss1,(MCS0)_2TX

PSD

5690MHz Straddle 5.725-5.85GHz

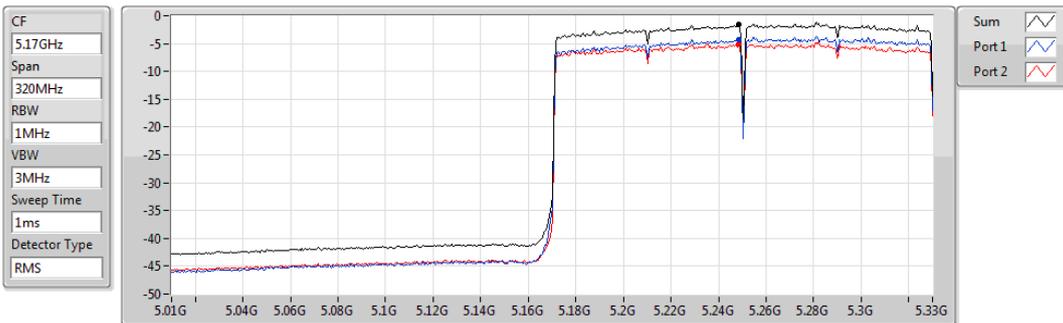


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.88	1.88	-0.72	-1.55

802.11ax HEW160_Nss1,(MCS0)_2TX

PSD

5250MHz Straddle 5.15-5.25GHz

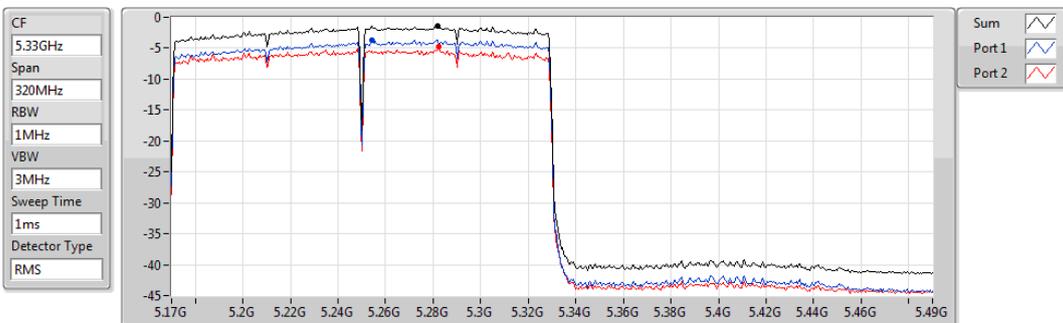


Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-1.66	-1.66	-4.29	-5.09

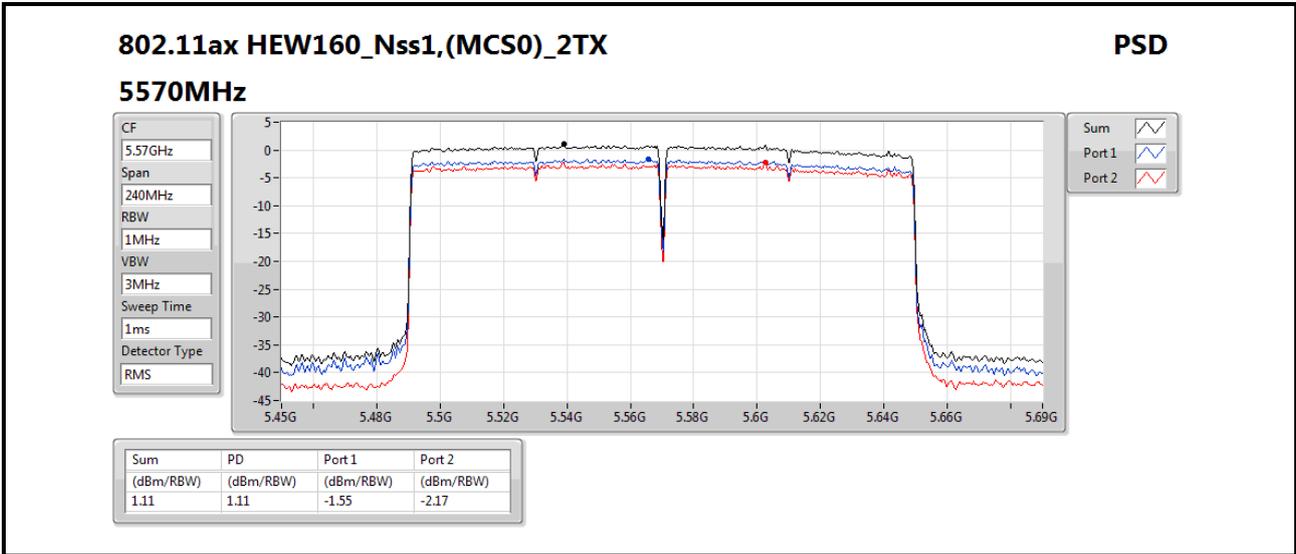
802.11ax HEW160_Nss1,(MCS0)_2TX

PSD

5250MHz Straddle 5.25-5.35GHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-1.42	-1.42	-3.61	-4.72



3.5 Transmitter Radiated and Band Edge Emissions

3.5.1 Limit of Transmitter Radiated and Band Edge Emissions

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:
Qusai-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.

Un-restricted band emissions above 1GHz Limit	
Operating Band	Limit
5.25 - 5.35 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.47 - 5.725 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]

Note 1: Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

3.5.2 Test Procedures

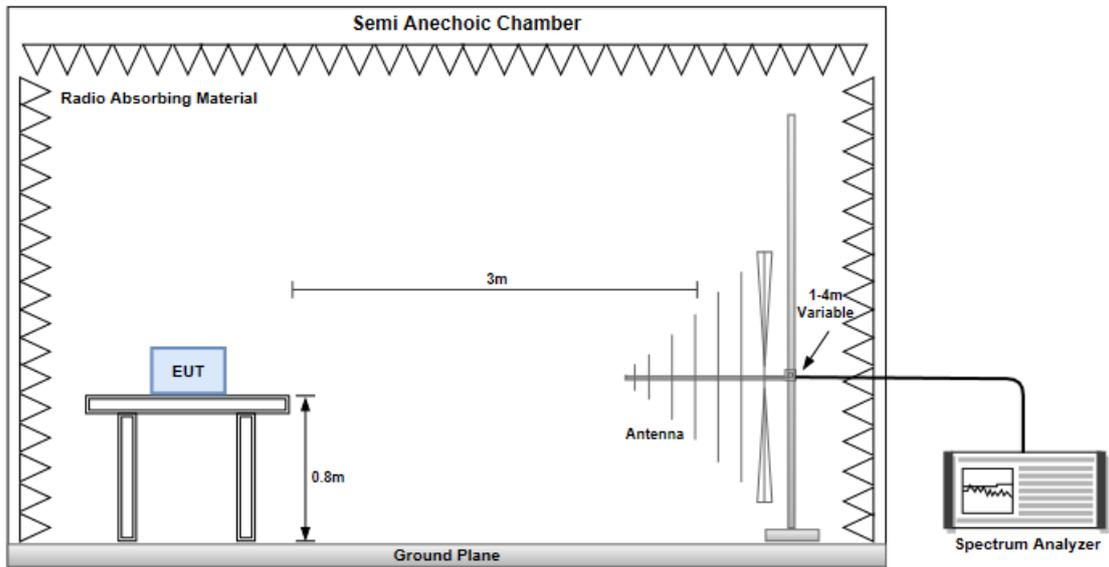
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission 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:

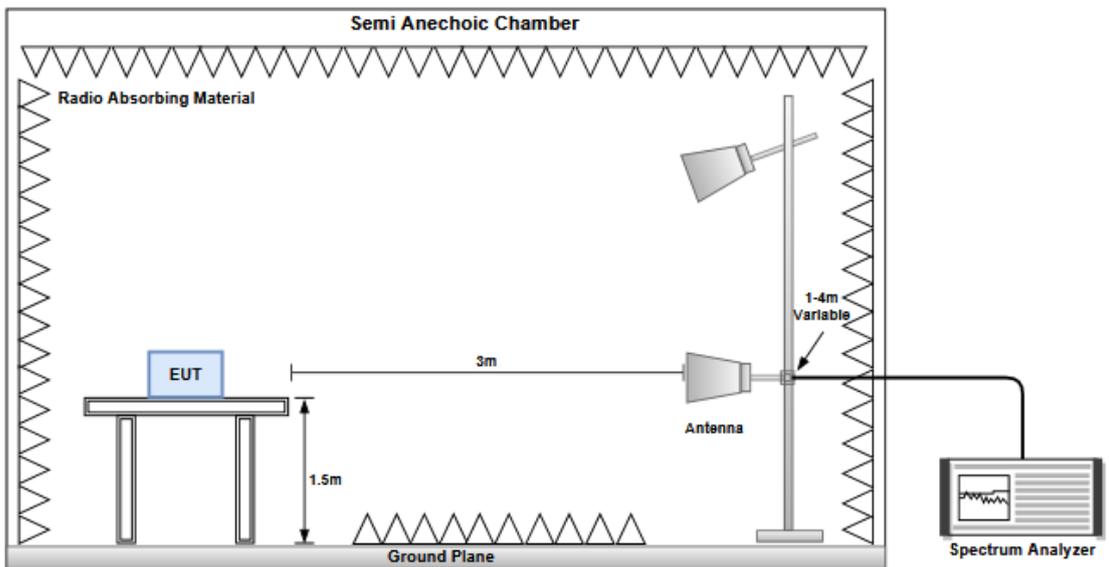
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

3.5.3 Test Setup

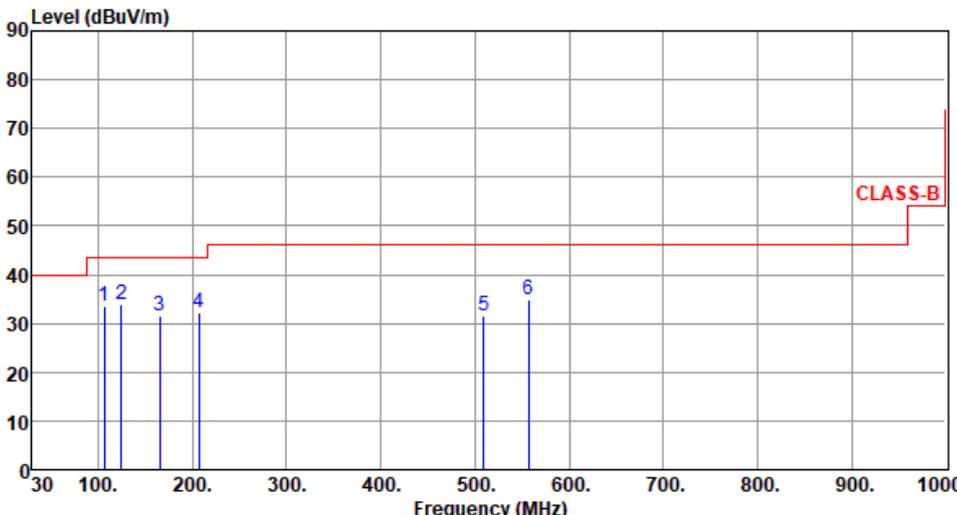
Radiated Emissions below 1 GHz



Radiated Emissions above 1 GHz



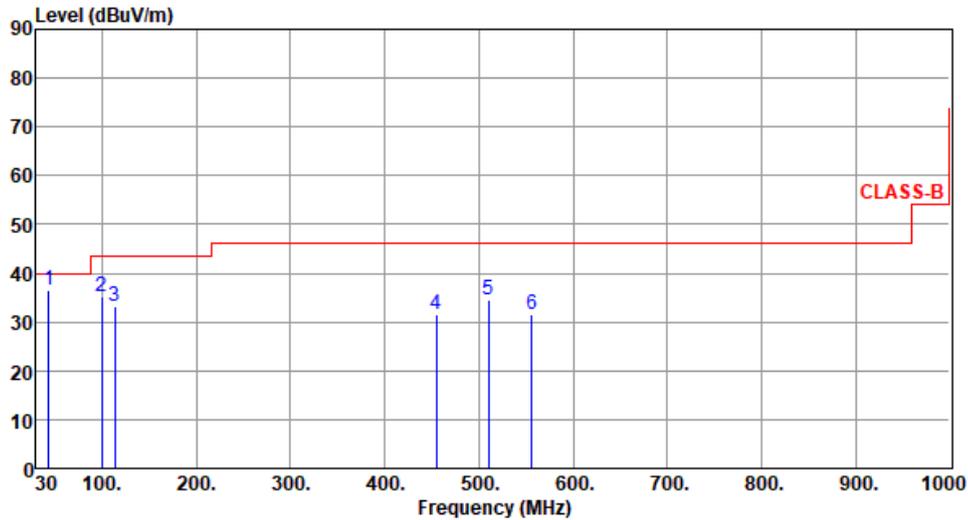
3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

Modulation	ax HE40-OFDMA	Test Freq. (MHz)	5590						
Polarization	Horizontal								
Test By : Roger Lu Temperature(°C):23 Humidity(%):67									
 <p>The graph plots Level (dBuV/m) on the y-axis (0 to 90) against Frequency (MHz) on the x-axis (30 to 1000). A red step function represents the CLASS-B limit, starting at 40 dBuV/m, stepping up to 45 dBuV/m at 100 MHz, and to 55 dBuV/m at 200 MHz. Six blue vertical lines indicate measured peaks at 106.86, 124.59, 165.81, 207.26, 509.26, and 557.15 MHz.</p>									
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	106.86	33.56	43.50	-9.94	45.63	-12.07	Peak	---	---
2	124.59	33.97	43.50	-9.53	44.25	-10.28	Peak	---	---
3	165.81	31.56	43.50	-11.94	40.51	-8.95	Peak	---	---
4	207.26	32.25	43.50	-11.25	44.21	-11.96	Peak	---	---
5	509.26	31.58	46.00	-14.42	34.65	-3.07	Peak	---	---
6	557.15	34.89	46.00	-11.11	37.13	-2.24	Peak	---	---

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).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Modulation	ax HE40-OFDMA	Test Freq. (MHz)	5590
Polarization	Vertical		

Test By :Roger Lu Temperature(°C):23 Humidity(%):67



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	43.12	36.60	40.00	-3.40	45.11	-8.51	QP	100	255
2	99.46	35.19	43.50	-8.31	48.66	-13.47	Peak	---	---
3	113.85	33.31	43.50	-10.19	44.56	-11.25	Peak	---	---
4	455.15	31.69	46.00	-14.31	35.82	-4.13	Peak	---	---
5	509.89	34.67	46.00	-11.33	37.73	-3.06	Peak	---	---
6	556.21	31.67	46.00	-14.33	33.96	-2.29	Peak	---	---

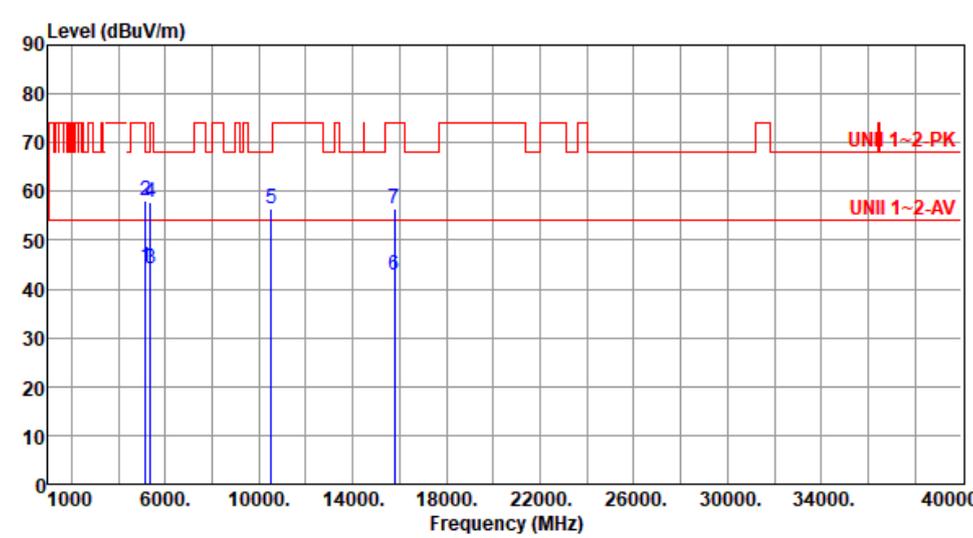
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

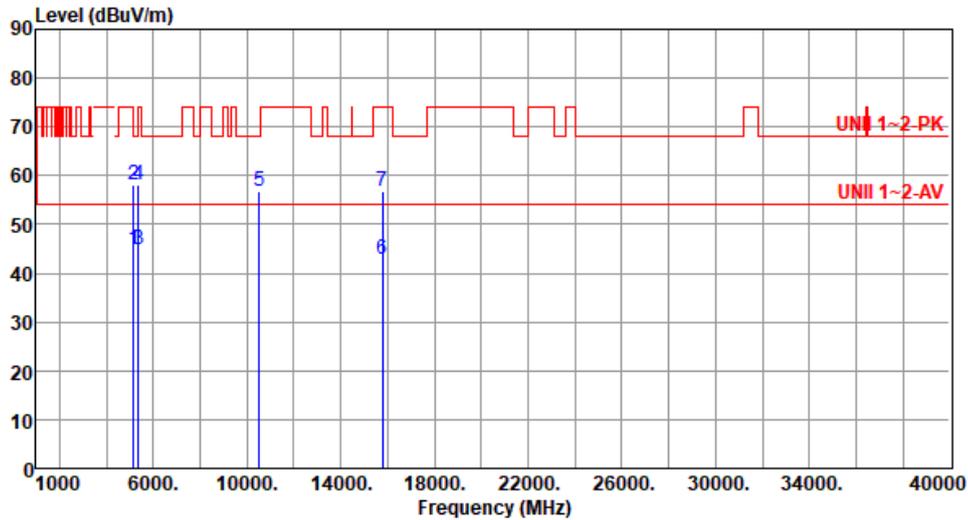
3.5.5 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 11a

Modulation	11a	Test Freq. (MHz)	5260						
Polarization	Horizontal								
Test By :Brad Wu Temperature(°C):23 Humidity(%):65									
									
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m		cm	deg
1	5150.00	44.58	54.00	-9.42	39.57	5.01	Average	330	132
2	5150.00	58.04	74.00	-15.96	53.03	5.01	Peak	330	132
3	5350.00	44.31	54.00	-9.69	39.89	4.42	Average	330	132
4	5350.00	57.84	74.00	-16.16	53.42	4.42	Peak	330	132
5	10520.00	56.49	68.20	-11.71	42.02	14.47	Peak	100	184
6	15780.00	42.72	54.00	-11.28	29.24	13.48	Average	100	20
7	15780.00	56.36	74.00	-17.64	42.88	13.48	Peak	100	20

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	11a	Test Freq. (MHz)	5260
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	44.83	54.00	-9.17	39.82	5.01	Average	129	141
2	5150.00	58.24	74.00	-15.76	53.23	5.01	Peak	129	141
3	5350.00	44.68	54.00	-9.32	40.26	4.42	Average	129	141
4	5350.00	58.01	74.00	-15.99	53.59	4.42	Peak	129	141
5	10520.00	56.72	68.20	-11.48	42.25	14.47	Peak	212	216
6	15780.00	42.92	54.00	-11.08	29.44	13.48	Average	100	40
7	15780.00	56.80	74.00	-17.20	43.32	13.48	Peak	100	40

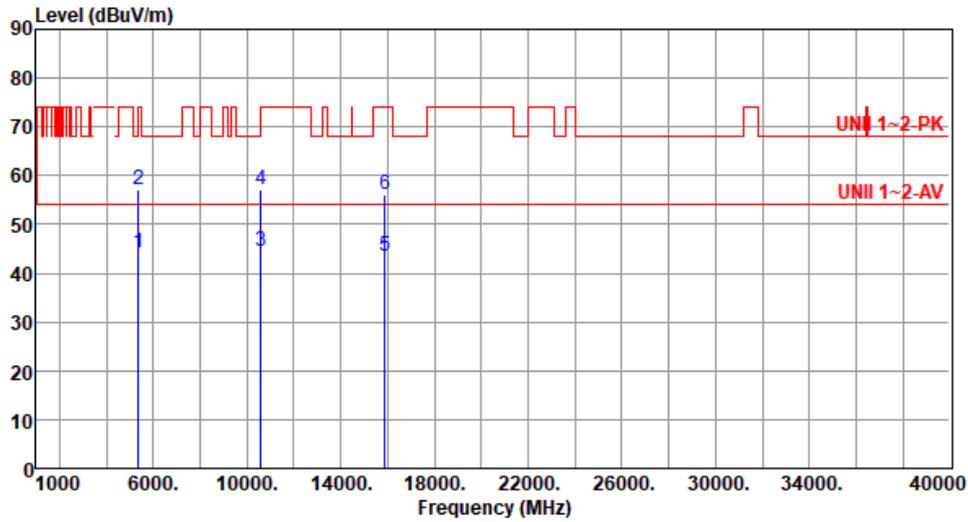
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	11a	Test Freq. (MHz)	5300
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5350.00	44.10	54.00	-9.90	39.68	4.42	Average	329	135
2	5350.00	57.07	74.00	-16.93	52.65	4.42	Peak	329	135
3	10600.00	44.60	54.00	-9.40	30.25	14.35	Average	100	188
4	10600.00	57.26	74.00	-16.74	42.91	14.35	Peak	100	188
5	15900.00	43.43	54.00	-10.57	29.86	13.57	Average	100	19
6	15900.00	56.20	74.00	-17.80	42.63	13.57	Peak	100	19

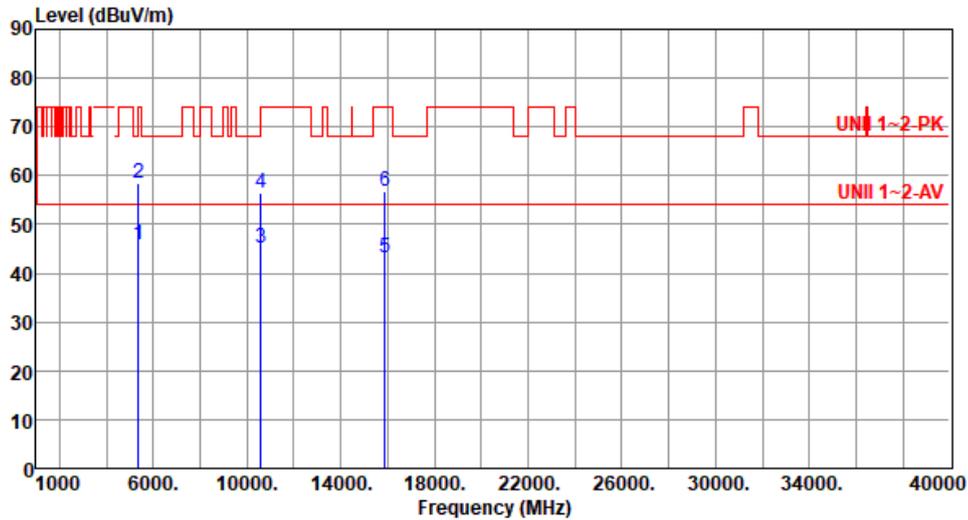
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	11a	Test Freq. (MHz)	5300
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5350.00	45.83	54.00	-8.17	41.41	4.42	Average	123	142
2	5350.00	58.58	74.00	-15.42	54.16	4.42	Peak	123	142
3	10600.00	45.26	54.00	-8.74	30.91	14.35	Average	215	211
4	10600.00	56.31	74.00	-17.69	41.96	14.35	Peak	215	211
5	15900.00	43.18	54.00	-10.82	29.61	13.57	Average	100	33
6	15900.00	56.76	74.00	-17.24	43.19	13.57	Peak	100	33

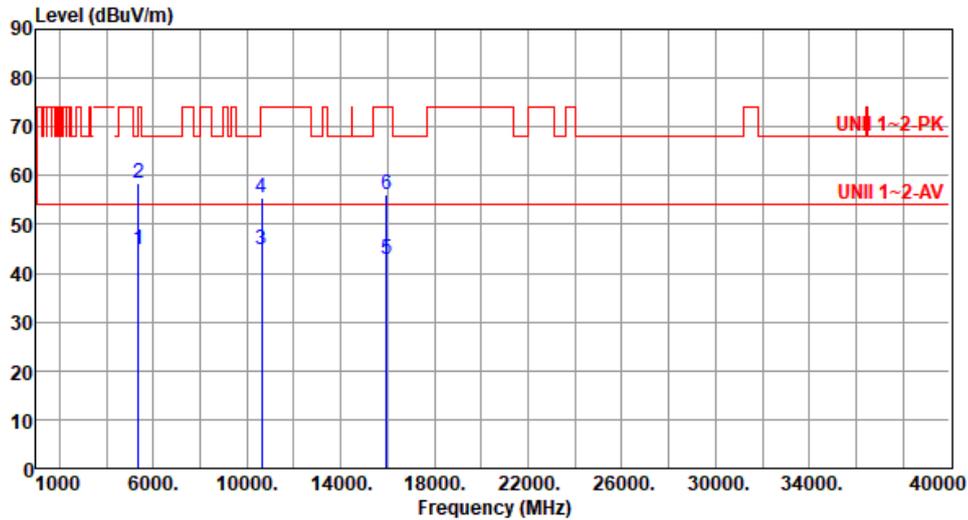
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	11a	Test Freq. (MHz)	5320
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5350.00	44.71	54.00	-9.29	40.29	4.42	Average	331	132
2	5350.00	58.45	74.00	-15.55	54.03	4.42	Peak	331	132
3	10640.00	44.82	54.00	-9.18	30.45	14.37	Average	100	186
4	10640.00	55.62	74.00	-18.38	41.25	14.37	Peak	100	186
5	15960.00	42.93	54.00	-11.07	29.25	13.68	Average	100	60
6	15960.00	56.27	74.00	-17.73	42.59	13.68	Peak	100	60

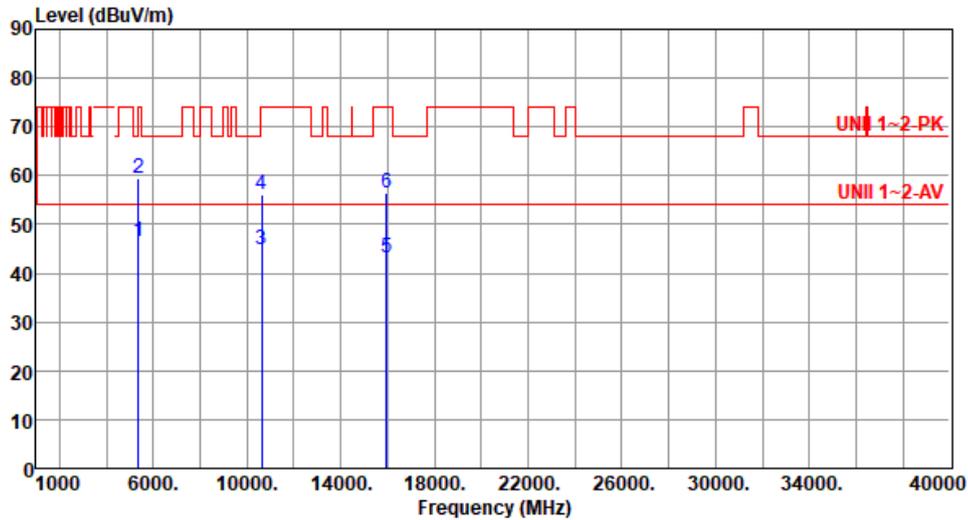
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	11a	Test Freq. (MHz)	5320
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65

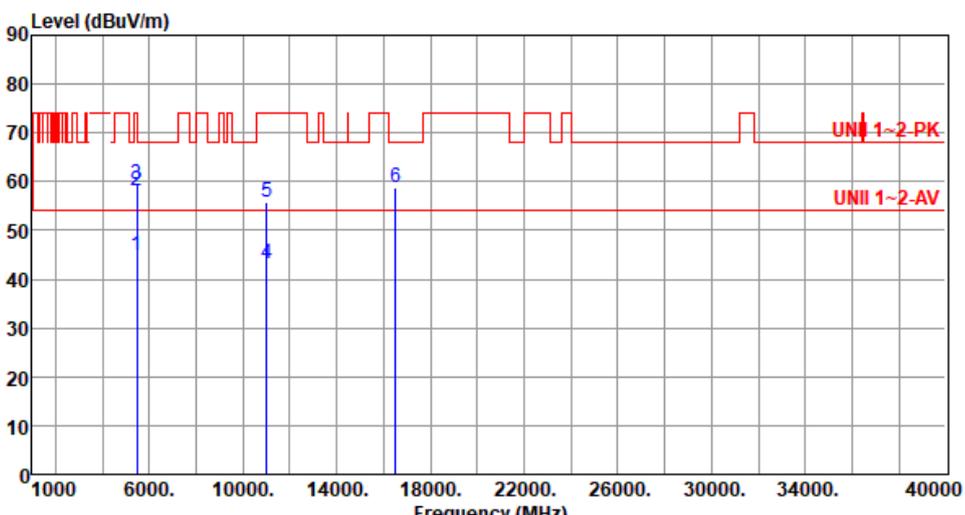


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5350.00	46.61	54.00	-7.39	42.19	4.42	Average	129	143
2	5350.00	59.57	74.00	-14.43	55.15	4.42	Peak	129	143
3	10640.00	44.99	54.00	-9.01	30.62	14.37	Average	211	202
4	10640.00	56.04	74.00	-17.96	41.67	14.37	Peak	211	202
5	15960.00	43.16	54.00	-10.84	29.48	13.68	Average	100	35
6	15960.00	56.57	74.00	-17.43	42.89	13.68	Peak	100	35

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

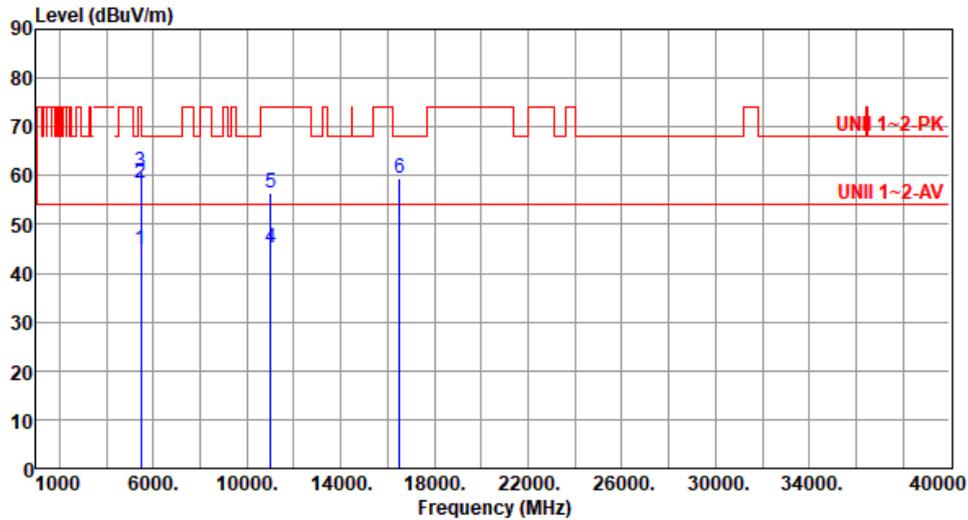
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	11a	Test Freq. (MHz)	5500						
Polarization	Horizontal								
Test By :Brad Wu Temperature(°C):23 Humidity(%):65									
									
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m		cm	deg
1	5460.00	44.73	54.00	-9.27	40.06	4.67	Average	244	141
2	5460.00	58.14	74.00	-15.86	53.47	4.67	Peak	244	141
3	5470.00	59.29	68.20	-8.91	54.59	4.70	Peak	244	141
4	11000.00	43.15	54.00	-10.85	28.50	14.65	Average	100	30
5	11000.00	55.77	74.00	-18.23	41.12	14.65	Peak	100	30
6	16500.00	58.90	68.20	-9.30	42.56	16.34	Peak	100	60
<p>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).</p>									

Modulation	11a	Test Freq. (MHz)	5500
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5460.00	44.97	54.00	-9.03	40.30	4.67	Average	121	143
2	5460.00	58.30	74.00	-15.70	53.63	4.67	Peak	121	143
3	5470.00	60.82	68.20	-7.38	56.12	4.70	Peak	121	143
4	11000.00	45.07	54.00	-8.93	30.42	14.65	Average	100	165
5	11000.00	56.31	74.00	-17.69	41.66	14.65	Peak	100	165
6	16500.00	59.29	68.20	-8.91	42.95	16.34	Peak	100	20

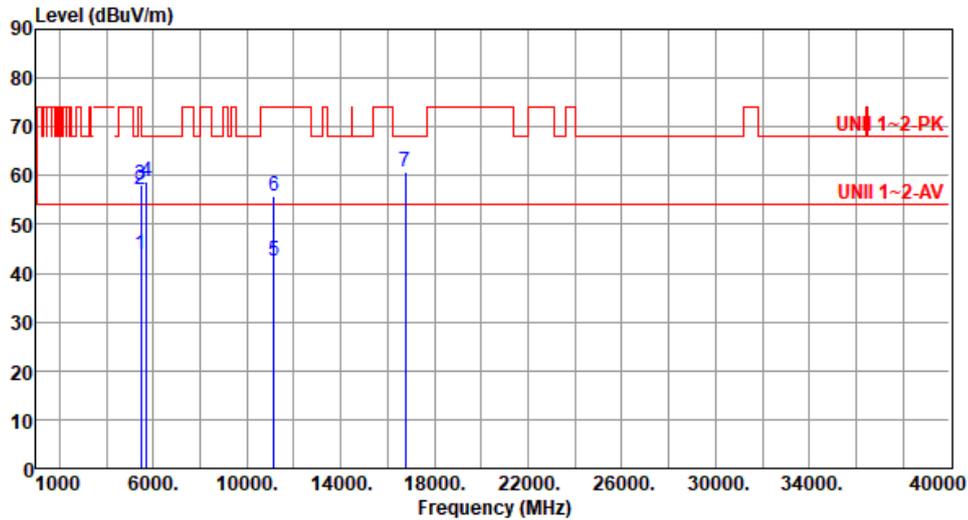
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	11a	Test Freq. (MHz)	5580
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5460.00	43.94	54.00	-10.06	39.27	4.67	Average	241	139
2	5460.00	57.13	74.00	-16.87	52.46	4.67	Peak	241	139
3	5470.00	58.20	68.20	-10.00	53.50	4.70	Peak	241	139
4	5725.00	58.63	68.20	-9.57	53.46	5.17	Peak	241	139
5	11160.00	42.43	54.00	-11.57	28.46	13.97	Average	100	22
6	11160.00	55.92	74.00	-18.08	41.95	13.97	Peak	100	22
7	16740.00	60.81	68.20	-7.39	43.64	17.17	Peak	100	19

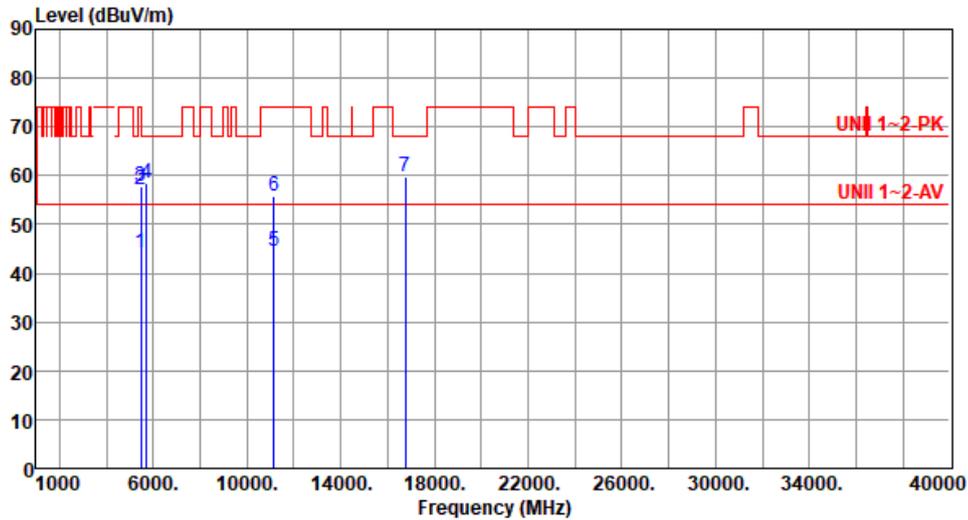
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	11a	Test Freq. (MHz)	5580
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5460.00	44.09	54.00	-9.91	39.42	4.67	Average	108	144
2	5460.00	57.09	74.00	-16.91	52.42	4.67	Peak	108	144
3	5470.00	57.82	68.20	-10.38	53.12	4.70	Peak	108	144
4	5725.00	58.41	68.20	-9.79	53.24	5.17	Peak	108	144
5	11160.00	44.56	54.00	-9.44	30.59	13.97	Average	100	169
6	11160.00	55.90	74.00	-18.10	41.93	13.97	Peak	100	169
7	16740.00	59.93	68.20	-8.27	42.76	17.17	Peak	100	12

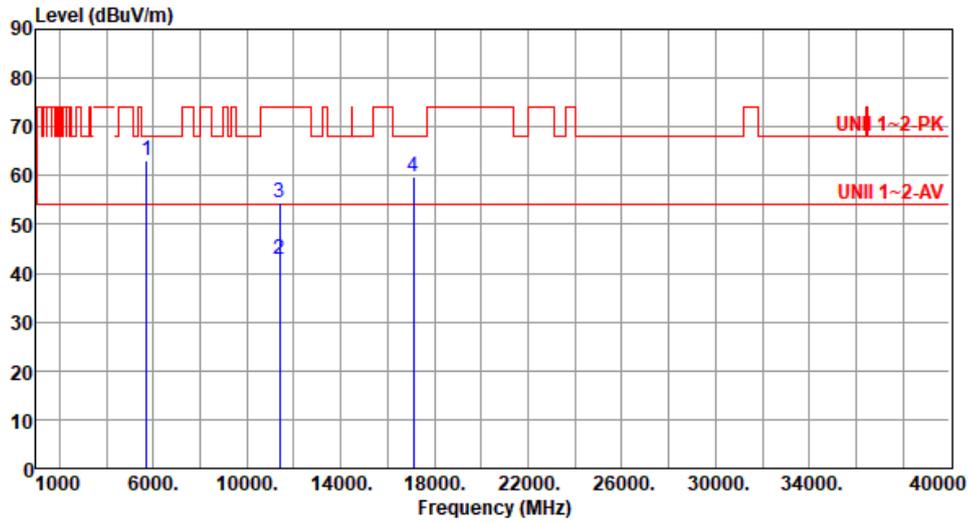
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	11a	Test Freq. (MHz)	5700
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5725.00	63.12	68.20	-5.08	57.95	5.17	Peak	246	136
2	11400.00	42.74	54.00	-11.26	28.60	14.14	Average	100	30
3	11400.00	54.40	74.00	-19.60	40.26	14.14	Peak	100	30
4	17100.00	59.73	68.20	-8.47	42.31	17.42	Peak	100	65

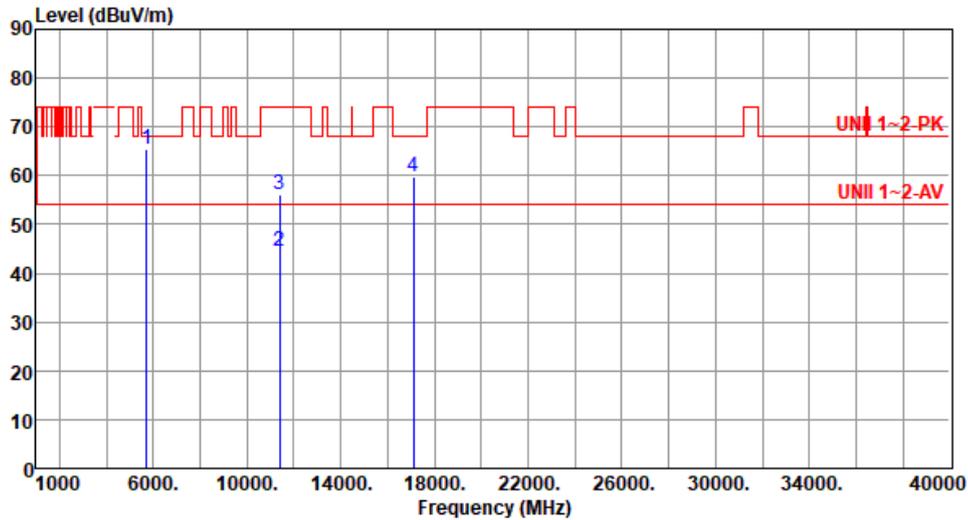
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	11a	Test Freq. (MHz)	5700
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):23 Humidity(%) :65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5725.00	65.42	68.20	-2.78	60.25	5.17	Peak	114	144
2	11400.00	44.40	54.00	-9.60	30.26	14.14	Average	100	165
3	11400.00	56.00	74.00	-18.00	41.86	14.14	Peak	100	165
4	17100.00	59.87	68.20	-8.33	42.45	17.42	Peak	100	16

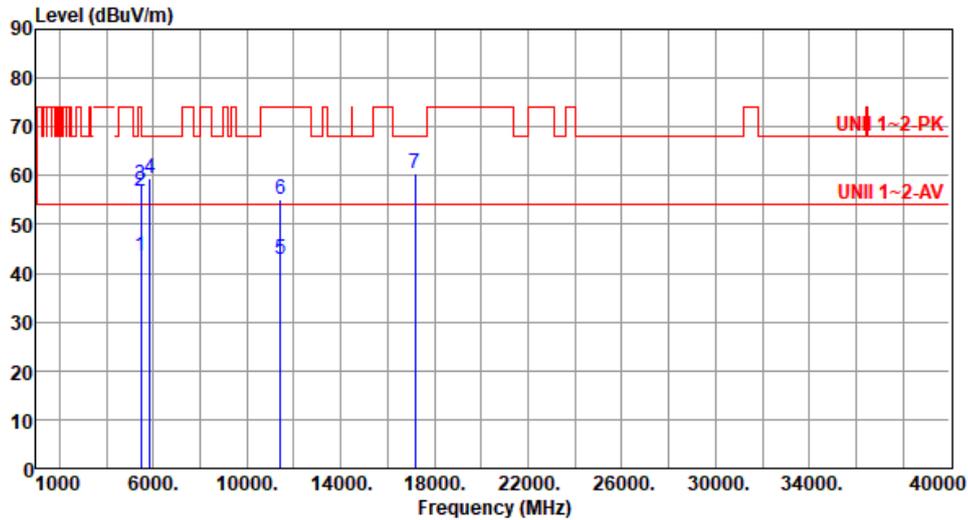
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	11a	Test Freq. (MHz)	5720
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):23 Humidity(%) :65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5460.00	43.43	54.00	-10.57	38.76	4.67	Average	239	135
2	5460.00	56.83	74.00	-17.17	52.16	4.67	Peak	239	135
3	5470.00	58.00	68.20	-10.20	53.30	4.70	Peak	239	135
4	5850.00	59.30	68.20	-8.90	53.65	5.65	Peak	239	135
5	11440.00	42.82	54.00	-11.18	28.56	14.26	Average	100	24
6	11440.00	55.15	74.00	-18.85	40.89	14.26	Peak	100	24
7	17160.00	60.53	68.20	-7.67	43.11	17.42	Peak	100	30

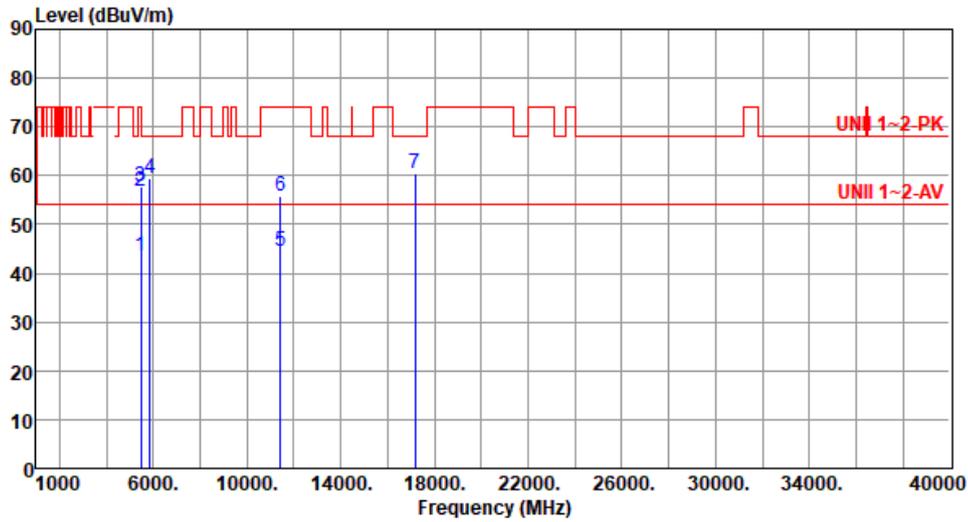
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	11a	Test Freq. (MHz)	5720
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):23 Humidity(%) :65



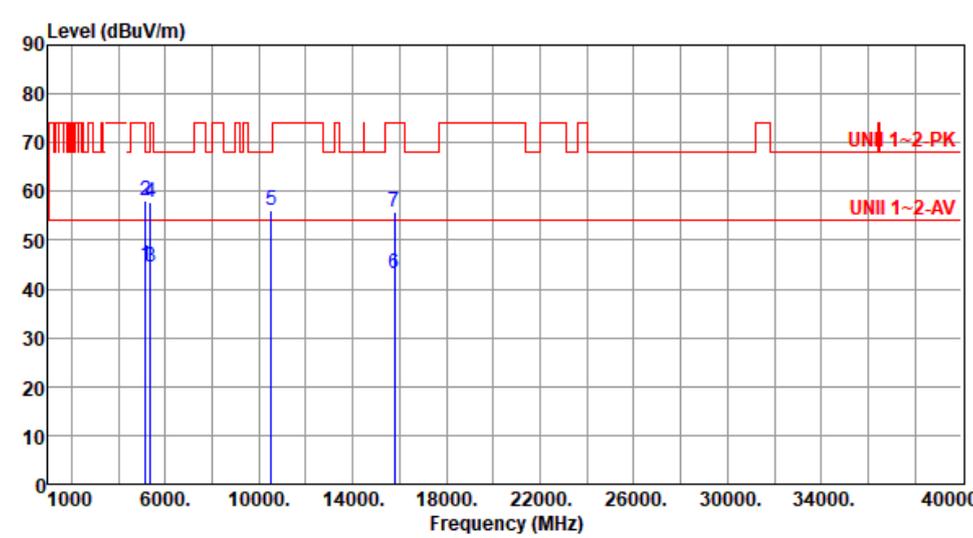
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5460.00	43.59	54.00	-10.41	38.92	4.67	Average	119	144
2	5460.00	56.92	74.00	-17.08	52.25	4.67	Peak	119	144
3	5470.00	57.78	68.20	-10.42	53.08	4.70	Peak	119	144
4	5850.00	59.59	68.20	-8.61	53.94	5.65	Peak	119	144
5	11440.00	44.45	54.00	-9.55	30.19	14.26	Average	100	166
6	11440.00	55.94	74.00	-18.06	41.68	14.26	Peak	100	166
7	17160.00	60.31	68.20	-7.89	42.89	17.42	Peak	100	16

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

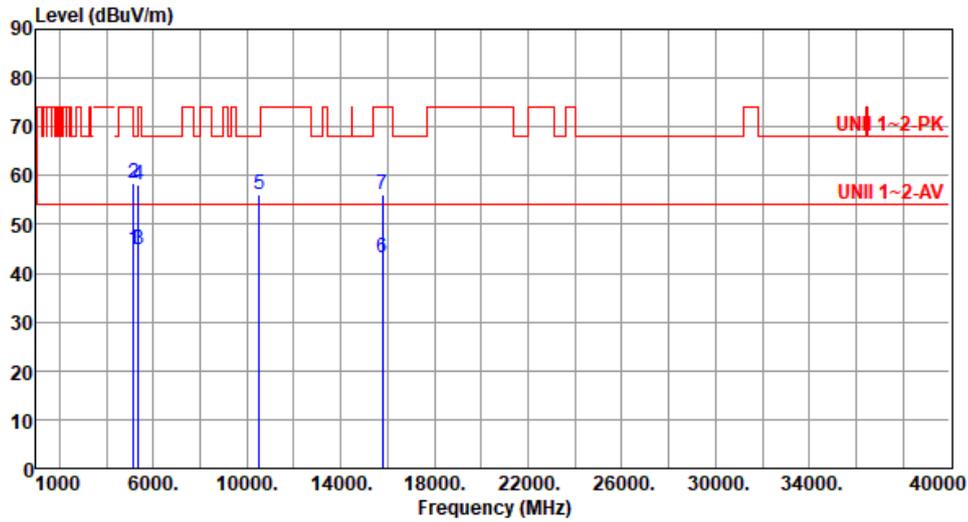
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.5.6 Transmitter Radiated Unwanted Emissions (Above 1GHz) for ax HE20-OFDMA

Modulation	ax HE20-OFDMA	Test Freq. (MHz)	5260						
Polarization	Horizontal								
Test By :Brad Wu Temperature(°C):23 Humidity(%):65									
									
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m		cm	deg
1	5150.00	44.87	54.00	-9.13	39.86	5.01	Average	333	136
2	5150.00	58.28	74.00	-15.72	53.27	5.01	Peak	333	136
3	5350.00	44.67	54.00	-9.33	40.25	4.42	Average	333	136
4	5350.00	57.88	74.00	-16.12	53.46	4.42	Peak	333	136
5	10520.00	56.03	68.20	-12.17	41.56	14.47	Peak	100	189
6	15780.00	43.12	54.00	-10.88	29.64	13.48	Average	100	40
7	15780.00	55.81	74.00	-18.19	42.33	13.48	Peak	100	40
<p>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).</p>									

Modulation	ax HE20-OFDMA	Test Freq. (MHz)	5260
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	44.91	54.00	-9.09	39.90	5.01	Average	135	152
2	5150.00	58.44	74.00	-15.56	53.43	5.01	Peak	135	152
3	5350.00	44.84	54.00	-9.16	40.42	4.42	Average	135	152
4	5350.00	58.01	74.00	-15.99	53.59	4.42	Peak	135	152
5	10520.00	56.22	68.20	-11.98	41.75	14.47	Peak	222	216
6	15780.00	43.33	54.00	-10.67	29.85	13.48	Average	100	30
7	15780.00	56.06	74.00	-17.94	42.58	13.48	Peak	100	30

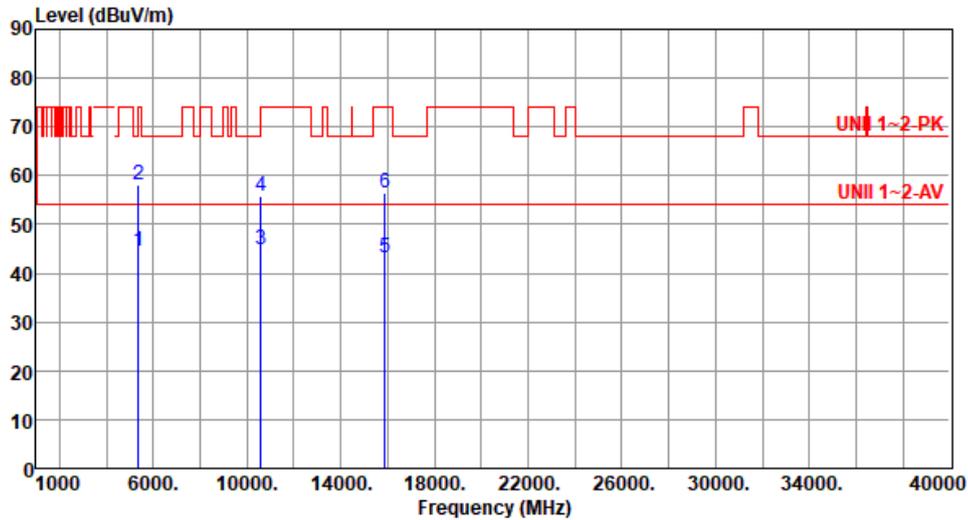
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE20-OFDMA	Test Freq. (MHz)	5300
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5350.00	44.67	54.00	-9.33	40.25	4.42	Average	333	139
2	5350.00	58.01	74.00	-15.99	53.59	4.42	Peak	333	139
3	10600.00	44.93	54.00	-9.07	30.58	14.35	Average	100	183
4	10600.00	55.91	74.00	-18.09	41.56	14.35	Peak	100	183
5	15900.00	43.05	54.00	-10.95	29.48	13.57	Average	100	60
6	15900.00	56.44	74.00	-17.56	42.87	13.57	Peak	100	60

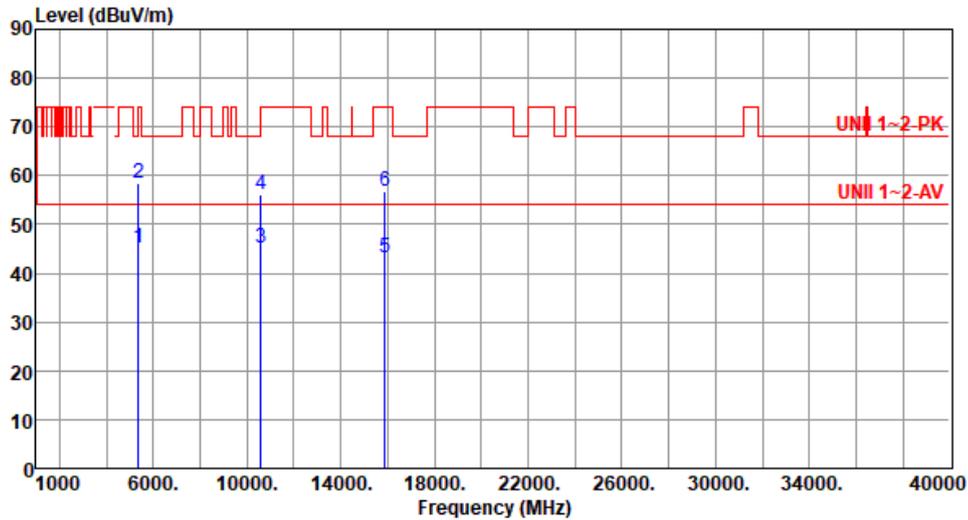
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE20-OFDMA	Test Freq. (MHz)	5300
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5350.00	45.01	54.00	-8.99	40.59	4.42	Average	135	149
2	5350.00	58.44	74.00	-15.56	54.02	4.42	Peak	135	149
3	10600.00	45.20	54.00	-8.80	30.85	14.35	Average	215	219
4	10600.00	56.21	74.00	-17.79	41.86	14.35	Peak	215	219
5	15900.00	43.25	54.00	-10.75	29.68	13.57	Average	100	28
6	15900.00	56.81	74.00	-17.19	43.24	13.57	Peak	100	28

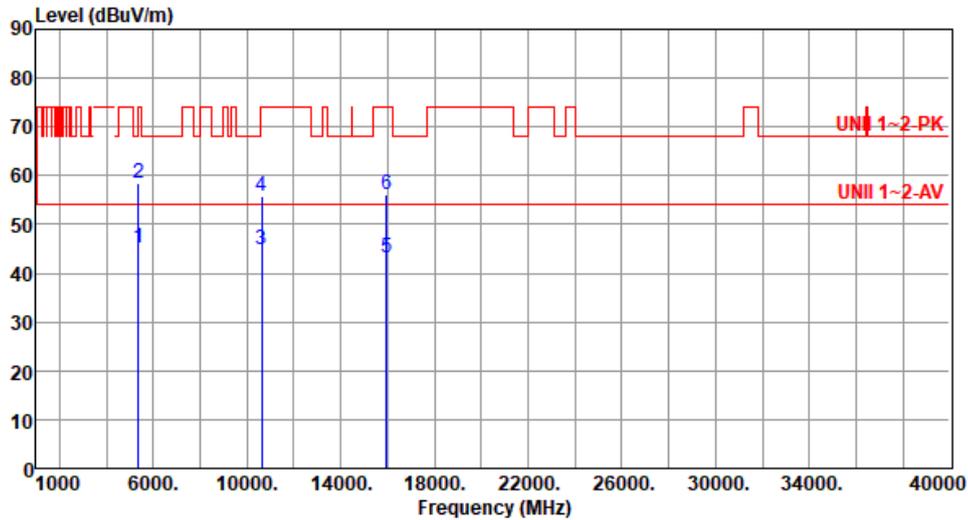
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE20-OFDMA	Test Freq. (MHz)	5320
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5350.00	45.01	54.00	-8.99	40.59	4.42	Average	331	133
2	5350.00	58.37	74.00	-15.63	53.95	4.42	Peak	331	133
3	10640.00	44.82	54.00	-9.18	30.45	14.37	Average	100	186
4	10640.00	55.82	74.00	-18.18	41.45	14.37	Peak	100	186
5	15960.00	43.10	54.00	-10.90	29.42	13.68	Average	100	60
6	15960.00	56.24	74.00	-17.76	42.56	13.68	Peak	100	60

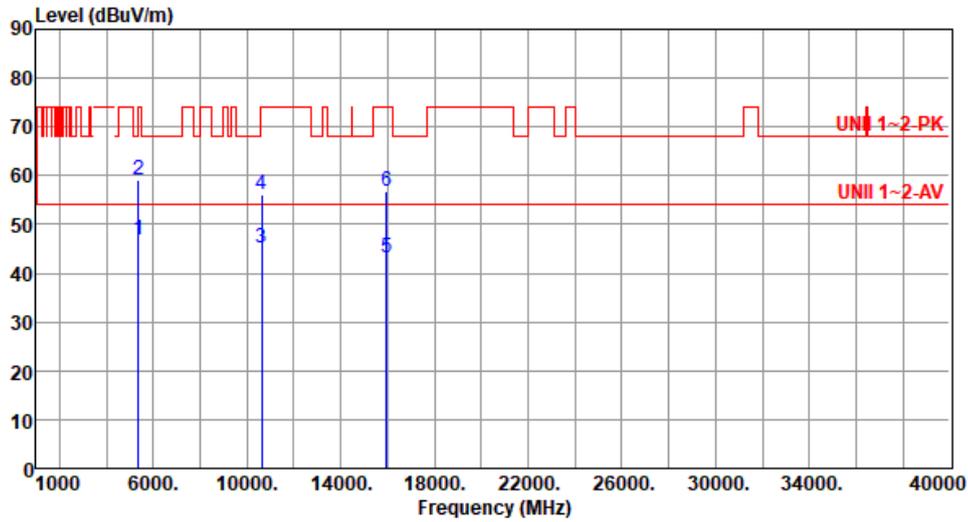
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE20-OFDMA	Test Freq. (MHz)	5320
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65

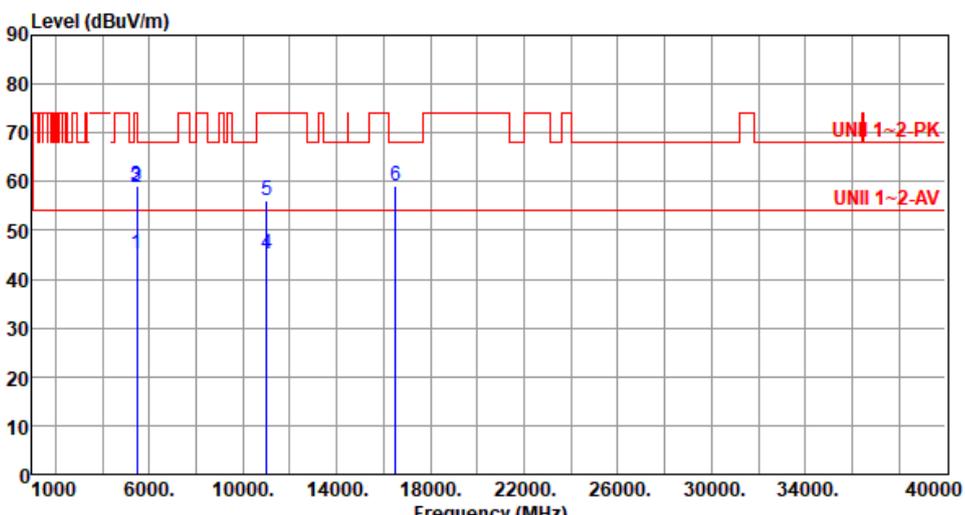


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5350.00	46.71	54.00	-7.29	42.29	4.42	Average	131	144
2	5350.00	59.26	74.00	-14.74	54.84	4.42	Peak	131	144
3	10640.00	45.04	54.00	-8.96	30.67	14.37	Average	211	216
4	10640.00	56.05	74.00	-17.95	41.68	14.37	Peak	211	216
5	15960.00	43.26	54.00	-10.74	29.58	13.68	Average	100	32
6	15960.00	56.65	74.00	-17.35	42.97	13.68	Peak	100	32

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

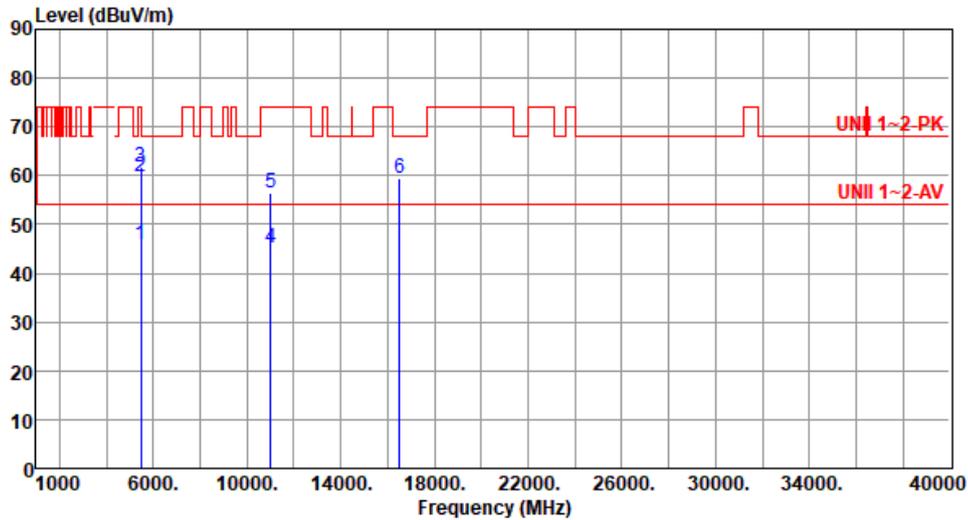
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE20-OFDMA	Test Freq. (MHz)	5500						
Polarization	Horizontal								
Test By :Brad Wu Temperature(°C):23 Humidity(%):65									
									
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m		cm	deg
1	5460.00	45.27	54.00	-8.73	40.60	4.67	Average	244	135
2	5460.00	58.73	74.00	-15.27	54.06	4.67	Peak	244	135
3	5470.00	59.26	68.20	-8.94	54.56	4.70	Peak	244	135
4	11000.00	45.07	54.00	-8.93	30.42	14.65	Average	100	23
5	11000.00	56.29	74.00	-17.71	41.64	14.65	Peak	100	23
6	16500.00	59.23	68.20	-8.97	42.89	16.34	Peak	100	60
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 HE20-OFDMA	Test Freq. (MHz)	5500
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):23 Humidity(%) :65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5460.00	45.67	54.00	-8.33	41.00	4.67	Average	116	142
2	5460.00	59.83	74.00	-14.17	55.16	4.67	Peak	116	142
3	5470.00	61.61	68.20	-6.59	56.91	4.70	Peak	116	142
4	11000.00	45.24	54.00	-8.76	30.59	14.65	Average	100	168
5	11000.00	56.54	74.00	-17.46	41.89	14.65	Peak	100	168
6	16500.00	59.59	68.20	-8.61	43.25	16.34	Peak	100	30

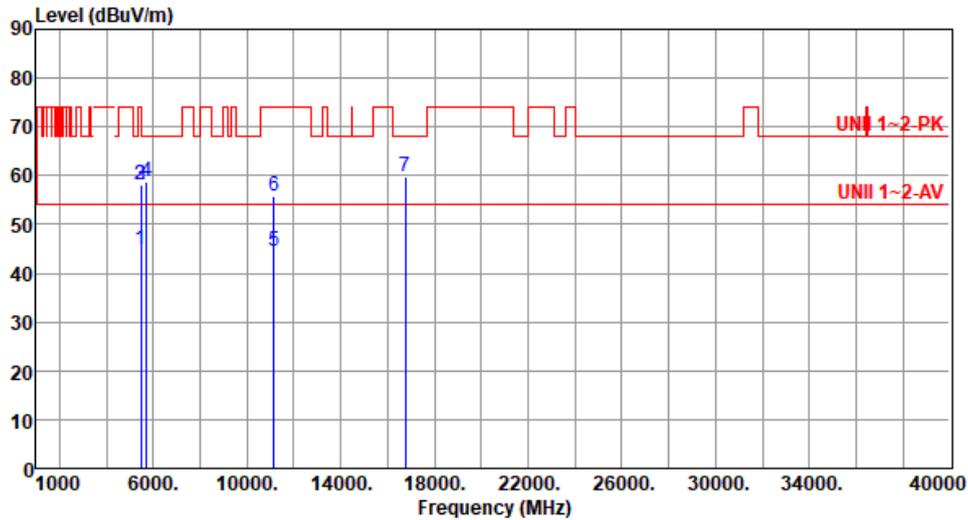
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE20-OFDMA	Test Freq. (MHz)	5580
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):23 Humidity(%) :65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5460.00	44.70	54.00	-9.30	40.03	4.67	Average	242	134
2	5460.00	58.13	74.00	-15.87	53.46	4.67	Peak	242	134
3	5470.00	58.25	68.20	-9.95	53.55	4.70	Peak	242	134
4	5725.00	58.63	68.20	-9.57	53.46	5.17	Peak	242	134
5	11160.00	44.51	54.00	-9.49	30.54	13.97	Average	100	19
6	11160.00	55.82	74.00	-18.18	41.85	13.97	Peak	100	19
7	16740.00	59.75	68.20	-8.45	42.58	17.17	Peak	100	60

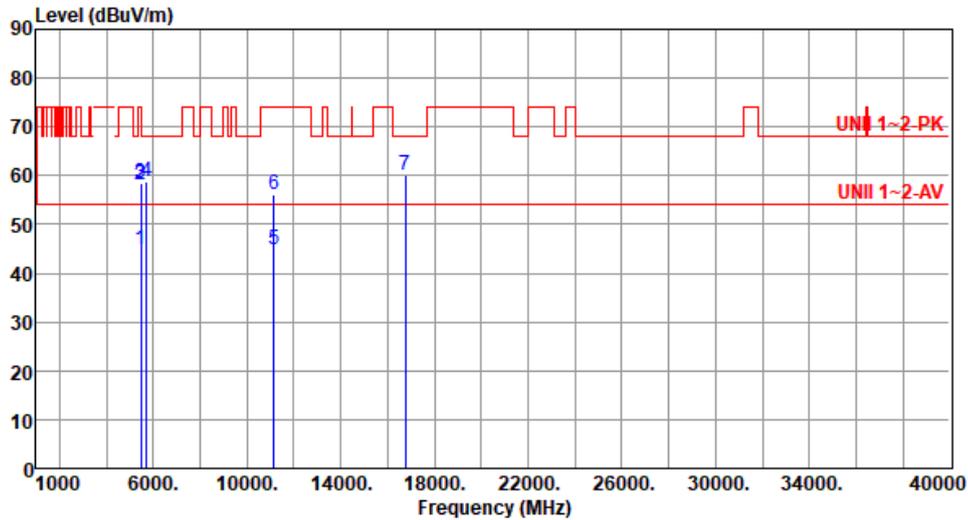
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE20-OFDMA	Test Freq. (MHz)	5580
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5460.00	44.94	54.00	-9.06	40.27	4.67	Average	116	149
2	5460.00	58.27	74.00	-15.73	53.60	4.67	Peak	116	149
3	5470.00	58.38	68.20	-9.82	53.68	4.70	Peak	116	149
4	5725.00	58.72	68.20	-9.48	53.55	5.17	Peak	116	149
5	11160.00	44.83	54.00	-9.17	30.86	13.97	Average	100	163
6	11160.00	56.23	74.00	-17.77	42.26	13.97	Peak	100	163
7	16740.00	60.15	68.20	-8.05	42.98	17.17	Peak	100	40

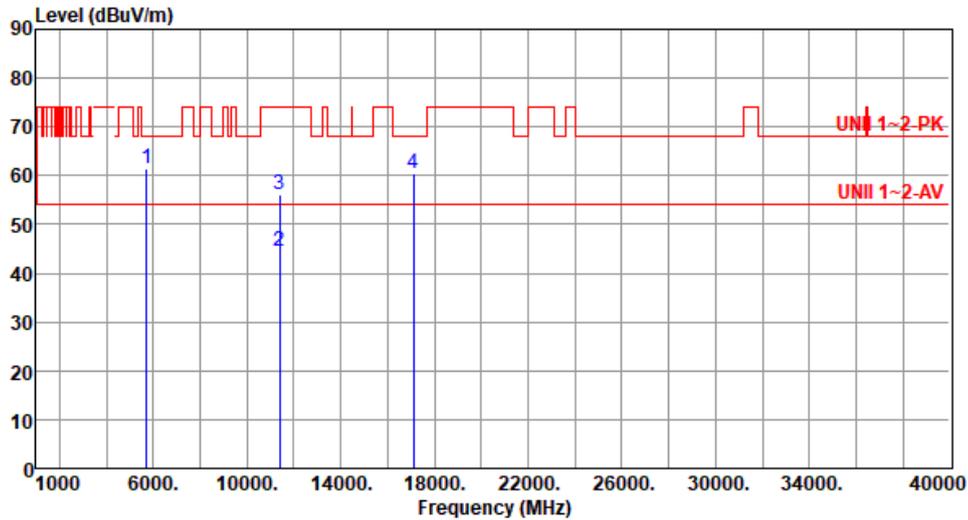
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE20-OFDMA	Test Freq. (MHz)	5700
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5725.00	61.42	68.20	-6.78	56.25	5.17	Peak	243	133
2	11400.00	44.60	54.00	-9.40	30.46	14.14	Average	100	25
3	11400.00	56.18	74.00	-17.82	42.04	14.14	Peak	100	25
4	17100.00	60.37	68.20	-7.83	42.95	17.42	Peak	100	40

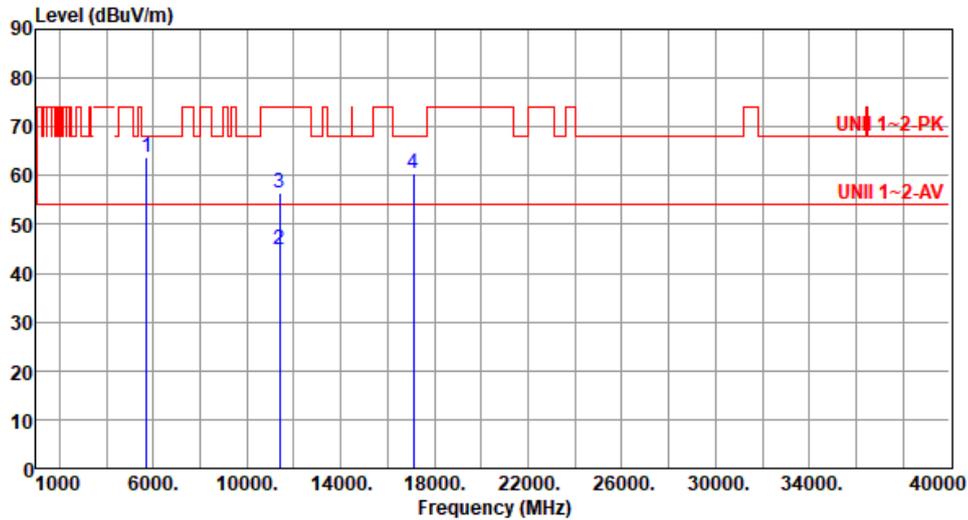
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE20-OFDMA	Test Freq. (MHz)	5700
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5725.00	63.67	68.20	-4.53	58.50	5.17	Peak	120	144
2	11400.00	44.80	54.00	-9.20	30.66	14.14	Average	100	165
3	11400.00	56.30	74.00	-17.70	42.16	14.14	Peak	100	165
4	17100.00	60.30	68.20	-7.90	42.88	17.42	Peak	100	50

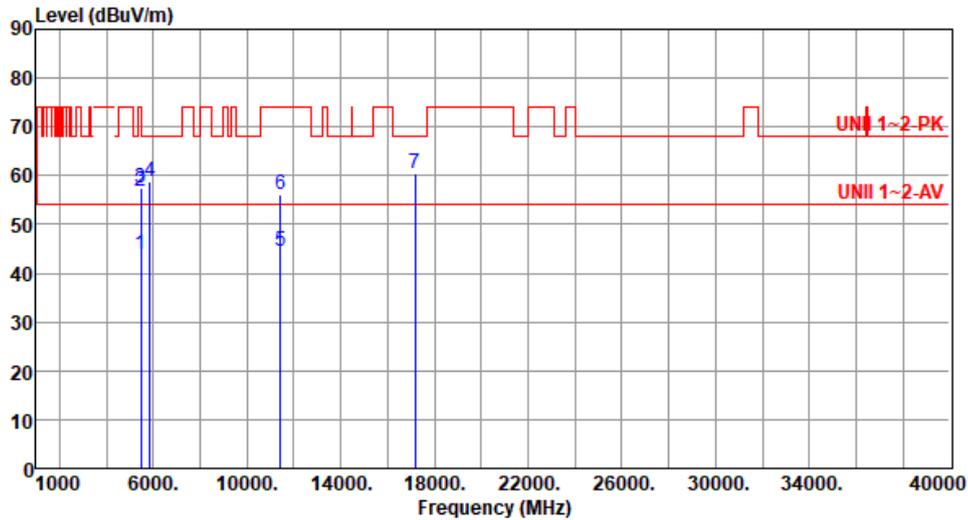
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE20-OFDMA	Test Freq. (MHz)	5720
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):23 Humidity(%) :65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5460.00	43.70	54.00	-10.30	39.03	4.67	Average	245	128
2	5460.00	56.93	74.00	-17.07	52.26	4.67	Peak	245	128
3	5470.00	57.35	68.20	-10.85	52.65	4.70	Peak	245	128
4	5850.00	58.87	68.20	-9.33	53.22	5.65	Peak	245	128
5	11440.00	44.51	54.00	-9.49	30.25	14.26	Average	100	40
6	11440.00	56.29	74.00	-17.71	42.03	14.26	Peak	100	40
7	17160.00	60.42	68.20	-7.78	43.00	17.42	Peak	100	50

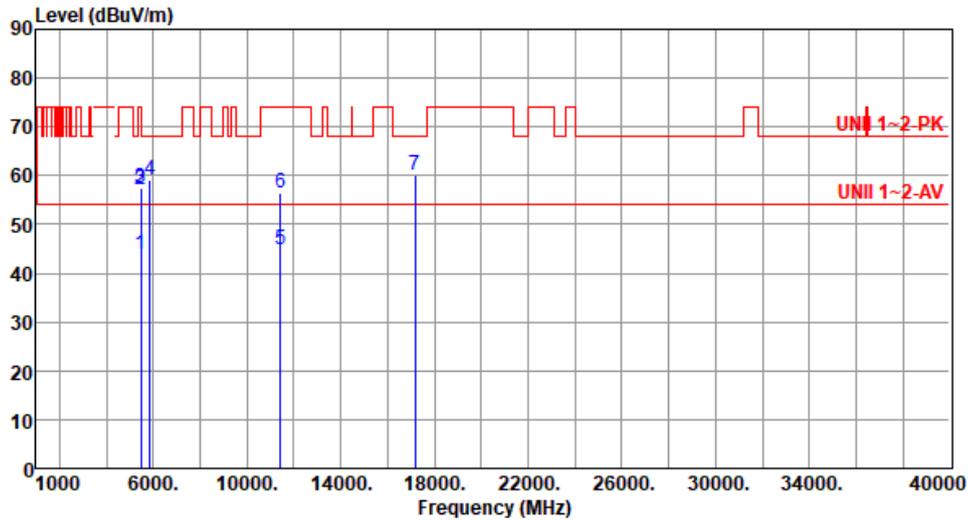
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE20-OFDMA	Test Freq. (MHz)	5720
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):23 Humidity(%) :65



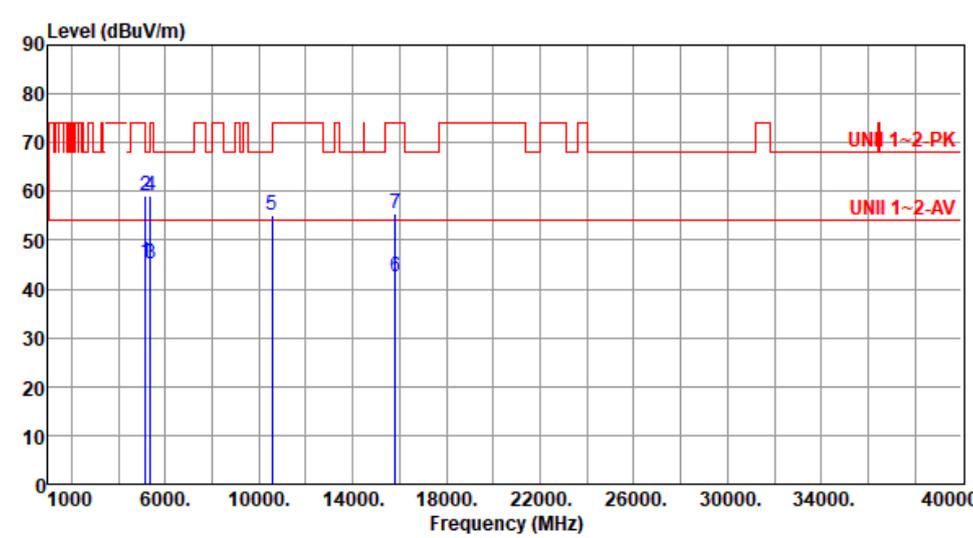
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5460.00	43.79	54.00	-10.21	39.12	4.67	Average	114	144
2	5460.00	57.04	74.00	-16.96	52.37	4.67	Peak	114	144
3	5470.00	57.51	68.20	-10.69	52.81	4.70	Peak	114	144
4	5850.00	59.19	68.20	-9.01	53.54	5.65	Peak	114	144
5	11440.00	44.91	54.00	-9.09	30.65	14.26	Average	100	165
6	11440.00	56.45	74.00	-17.55	42.19	14.26	Peak	100	165
7	17160.00	60.28	68.20	-7.92	42.86	17.42	Peak	100	20

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

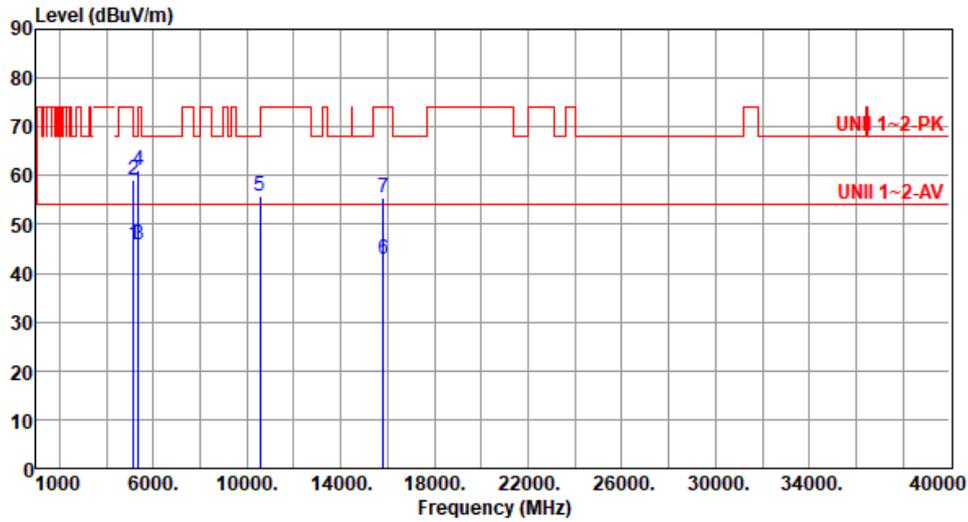
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.5.7 Transmitter Radiated Unwanted Emissions (Above 1GHz) for ax HE40-OFDMA

Modulation	ax HE40-OFDMA	Test Freq. (MHz)	5270																																																																																
Polarization	Horizontal																																																																																		
Test By :Brad Wu Temperature(°C):23 Humidity(%):65																																																																																			
																																																																																			
	<table border="1"> <thead> <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/m</th> <th>Remark</th> <th>ANT High cm</th> <th>Turn Table deg</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>5150.00</td> <td>45.58</td> <td>54.00</td> <td>-8.42</td> <td>40.57</td> <td>5.01</td> <td>Average</td> <td>243</td> <td>136</td> </tr> <tr> <td>2</td> <td>5150.00</td> <td>59.04</td> <td>74.00</td> <td>-14.96</td> <td>54.03</td> <td>5.01</td> <td>Peak</td> <td>243</td> <td>136</td> </tr> <tr> <td>3</td> <td>5350.00</td> <td>45.31</td> <td>54.00</td> <td>-8.69</td> <td>40.89</td> <td>4.42</td> <td>Average</td> <td>243</td> <td>136</td> </tr> <tr> <td>4</td> <td>5350.00</td> <td>58.98</td> <td>74.00</td> <td>-15.02</td> <td>54.56</td> <td>4.42</td> <td>Peak</td> <td>243</td> <td>136</td> </tr> <tr> <td>5</td> <td>10540.00</td> <td>55.03</td> <td>68.20</td> <td>-13.17</td> <td>40.59</td> <td>14.44</td> <td>Peak</td> <td>100</td> <td>40</td> </tr> <tr> <td>6</td> <td>15810.00</td> <td>42.62</td> <td>54.00</td> <td>-11.38</td> <td>29.12</td> <td>13.50</td> <td>Average</td> <td>100</td> <td>80</td> </tr> <tr> <td>7</td> <td>15810.00</td> <td>55.53</td> <td>74.00</td> <td>-18.47</td> <td>42.03</td> <td>13.50</td> <td>Peak</td> <td>100</td> <td>80</td> </tr> </tbody> </table>	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg	1	5150.00	45.58	54.00	-8.42	40.57	5.01	Average	243	136	2	5150.00	59.04	74.00	-14.96	54.03	5.01	Peak	243	136	3	5350.00	45.31	54.00	-8.69	40.89	4.42	Average	243	136	4	5350.00	58.98	74.00	-15.02	54.56	4.42	Peak	243	136	5	10540.00	55.03	68.20	-13.17	40.59	14.44	Peak	100	40	6	15810.00	42.62	54.00	-11.38	29.12	13.50	Average	100	80	7	15810.00	55.53	74.00	-18.47	42.03	13.50	Peak	100	80			
Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg																																																																											
1	5150.00	45.58	54.00	-8.42	40.57	5.01	Average	243	136																																																																										
2	5150.00	59.04	74.00	-14.96	54.03	5.01	Peak	243	136																																																																										
3	5350.00	45.31	54.00	-8.69	40.89	4.42	Average	243	136																																																																										
4	5350.00	58.98	74.00	-15.02	54.56	4.42	Peak	243	136																																																																										
5	10540.00	55.03	68.20	-13.17	40.59	14.44	Peak	100	40																																																																										
6	15810.00	42.62	54.00	-11.38	29.12	13.50	Average	100	80																																																																										
7	15810.00	55.53	74.00	-18.47	42.03	13.50	Peak	100	80																																																																										
<p>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).</p>																																																																																			

Modulation	ax HE40-OFDMA	Test Freq. (MHz)	5270
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	45.82	54.00	-8.18	40.81	5.01	Average	118	145
2	5150.00	59.28	74.00	-14.72	54.27	5.01	Peak	118	145
3	5350.00	45.98	54.00	-8.02	41.56	4.42	Average	118	145
4	5350.00	61.01	74.00	-12.99	56.59	4.42	Peak	118	145
5	10540.00	55.70	68.20	-12.50	41.26	14.44	Peak	100	50
6	15810.00	42.75	54.00	-11.25	29.25	13.50	Average	100	30
7	15810.00	55.61	74.00	-18.39	42.11	13.50	Peak	100	30

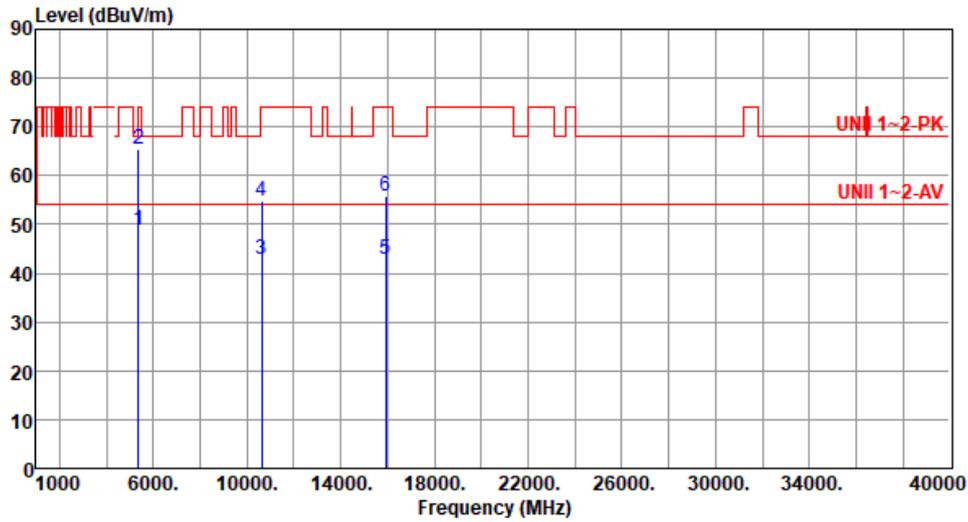
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE40-OFDMA	Test Freq. (MHz)	5310
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5350.00	48.68	54.00	-5.32	44.26	4.42	Average	334	132
2	5350.00	65.47	74.00	-8.53	61.05	4.42	Peak	334	132
3	10620.00	42.78	54.00	-11.22	28.42	14.36	Average	100	30
4	10620.00	54.92	74.00	-19.08	40.56	14.36	Peak	100	30
5	15930.00	42.87	54.00	-11.13	29.24	13.63	Average	100	20
6	15930.00	55.77	74.00	-18.23	42.14	13.63	Peak	100	20

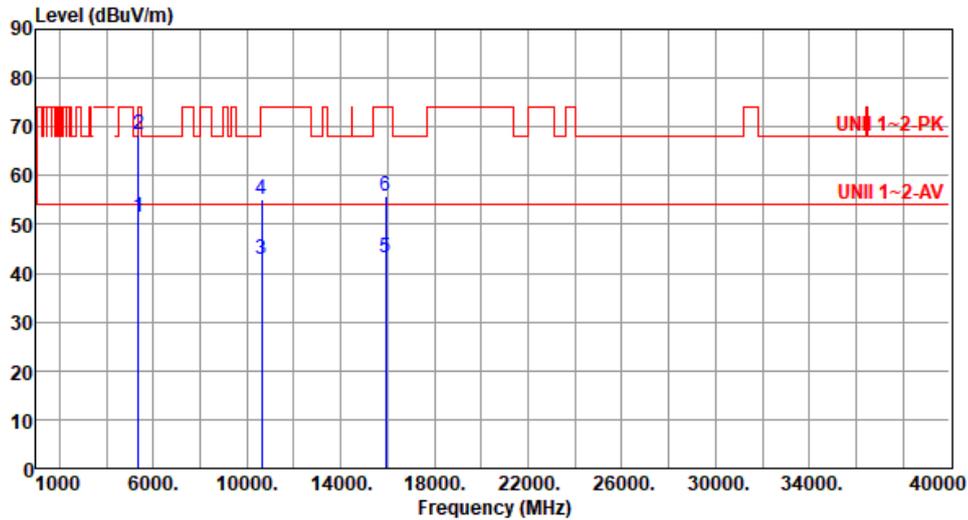
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE40-OFDMA	Test Freq. (MHz)	5310
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5350.00	51.59	54.00	-2.41	47.17	4.42	Average	116	143
2	5350.00	68.57	74.00	-5.43	64.15	4.42	Peak	116	143
3	10620.00	42.92	54.00	-11.08	28.56	14.36	Average	100	60
4	10620.00	55.25	74.00	-18.75	40.89	14.36	Peak	100	60
5	15930.00	43.07	54.00	-10.93	29.44	13.63	Average	100	40
6	15930.00	55.93	74.00	-18.07	42.30	13.63	Peak	100	40

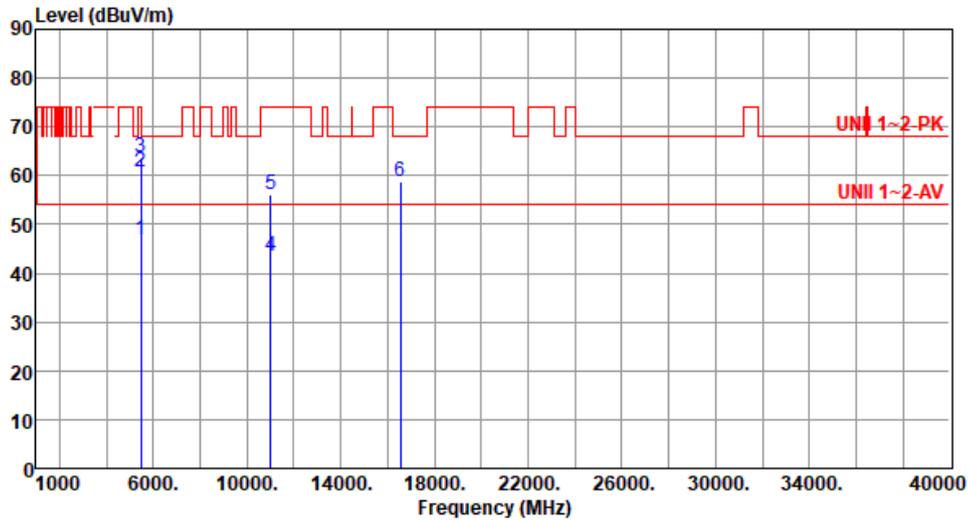
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE40-OFDMA	Test Freq. (MHz)	5510
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):23 Humidity(%) :65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5460.00	46.99	54.00	-7.01	42.32	4.67	Average	245	136
2	5460.00	60.94	74.00	-13.06	56.27	4.67	Peak	245	136
3	5470.00	63.75	68.20	-4.45	59.05	4.70	Peak	245	136
4	11020.00	43.58	54.00	-10.42	29.02	14.56	Average	100	60
5	11020.00	56.01	74.00	-17.99	41.45	14.56	Peak	100	60
6	16530.00	58.66	68.20	-9.54	42.42	16.24	Peak	100	30

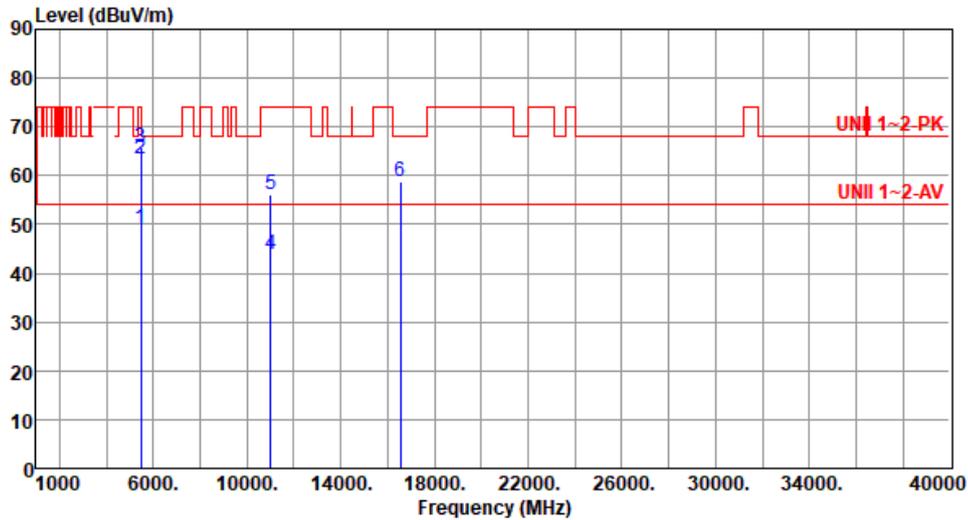
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE40-OFDMA	Test Freq. (MHz)	5510
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):23 Humidity(%) :65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5460.00	49.07	54.00	-4.93	44.40	4.67	Average	119	143
2	5460.00	63.49	74.00	-10.51	58.82	4.67	Peak	119	143
3	5470.00	65.88	68.20	-2.32	61.18	4.70	Peak	119	143
4	11020.00	43.71	54.00	-10.29	29.15	14.56	Average	100	50
5	11020.00	56.24	74.00	-17.76	41.68	14.56	Peak	100	50
6	16530.00	58.80	68.20	-9.40	42.56	16.24	Peak	100	20

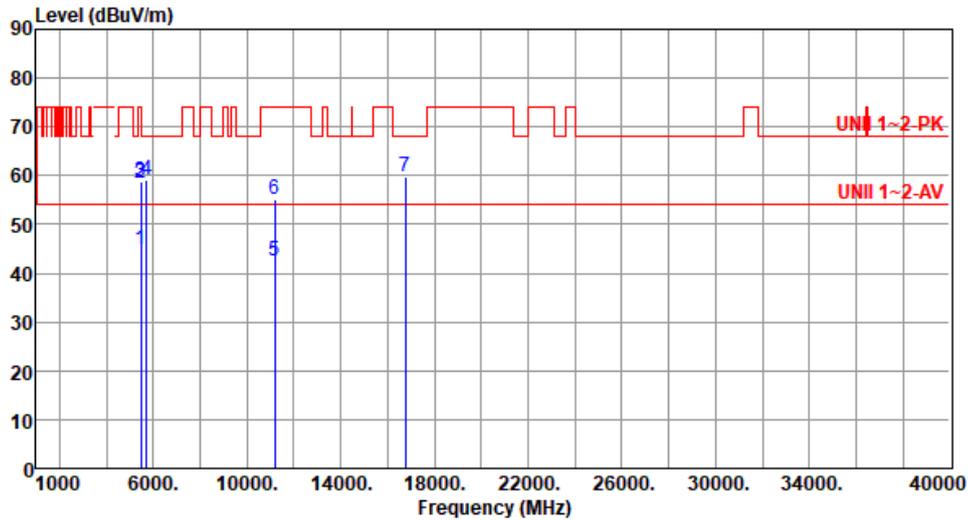
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE40-OFDMA	Test Freq. (MHz)	5590
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5460.00	44.89	54.00	-9.11	40.22	4.67	Average	244	132
2	5460.00	58.32	74.00	-15.68	53.65	4.67	Peak	244	132
3	5470.00	58.65	68.20	-9.55	53.95	4.70	Peak	244	132
4	5725.00	59.06	68.20	-9.14	53.89	5.17	Peak	244	132
5	11180.00	42.47	54.00	-11.53	28.59	13.88	Average	100	20
6	11180.00	55.13	74.00	-18.87	41.25	13.88	Peak	100	20
7	16770.00	59.90	68.20	-8.30	42.55	17.35	Peak	100	90

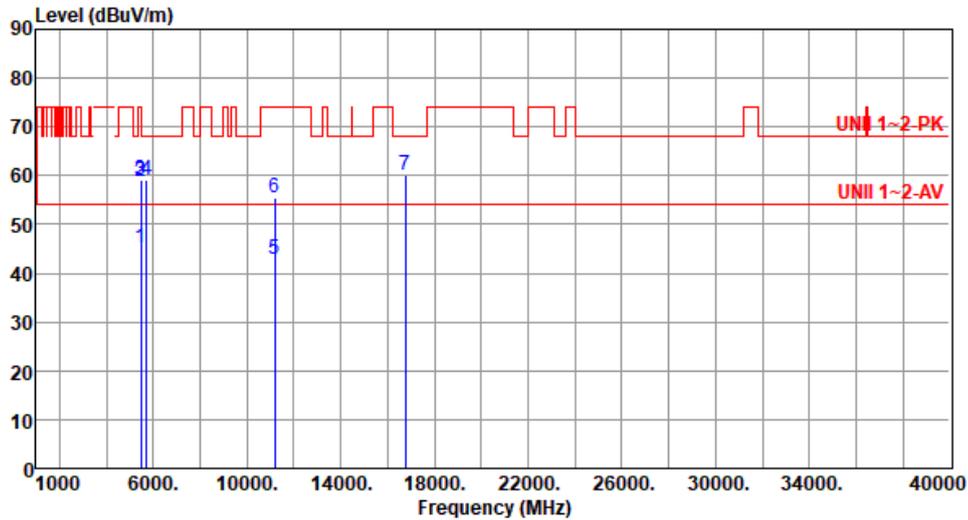
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE40-OFDMA	Test Freq. (MHz)	5590
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5460.00	45.27	54.00	-8.73	40.60	4.67	Average	120	145
2	5460.00	58.66	74.00	-15.34	53.99	4.67	Peak	120	145
3	5470.00	58.96	68.20	-9.24	54.26	4.70	Peak	120	145
4	5725.00	59.20	68.20	-9.00	54.03	5.17	Peak	120	145
5	11180.00	42.90	54.00	-11.10	29.02	13.88	Average	100	40
6	11180.00	55.33	74.00	-18.67	41.45	13.88	Peak	100	40
7	16770.00	60.09	68.20	-8.11	42.74	17.35	Peak	100	30

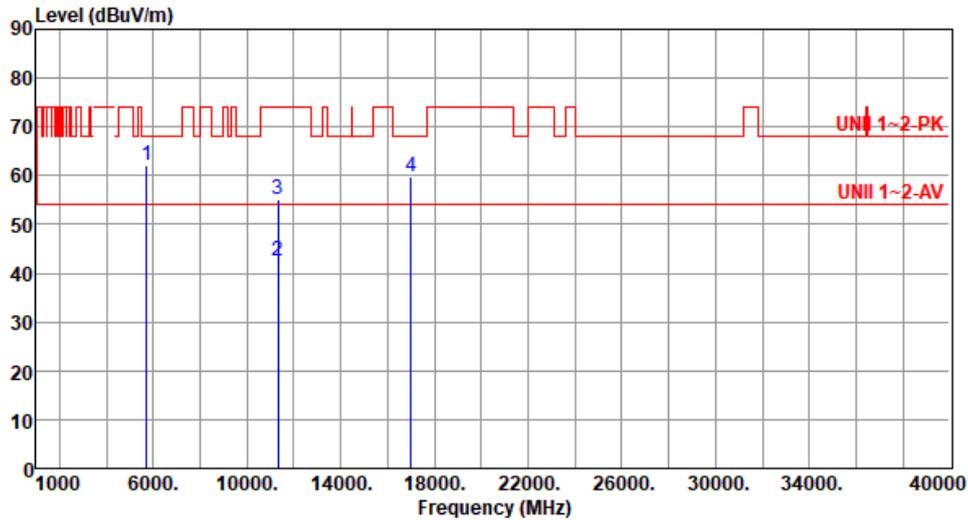
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE40-OFDMA	Test Freq. (MHz)	5670
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5725.00	62.06	68.20	-6.14	56.89	5.17	Peak	239	142
2	11340.00	42.54	54.00	-11.46	28.56	13.98	Average	100	60
3	11340.00	55.23	74.00	-18.77	41.25	13.98	Peak	100	60
4	17010.00	59.90	68.20	-8.30	42.65	17.25	Peak	100	55

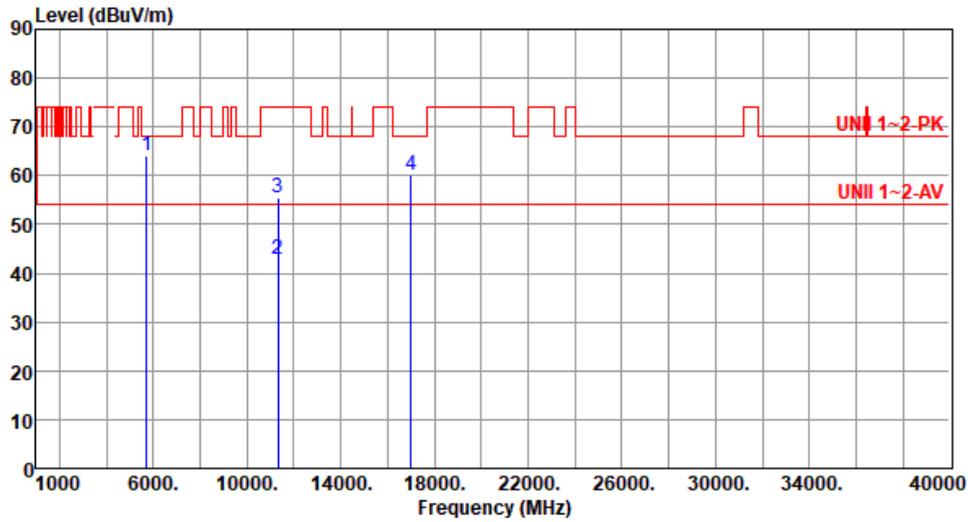
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE40-OFDMA	Test Freq. (MHz)	5670
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5725.00	63.98	68.20	-4.22	58.81	5.17	Peak	117	145
2	11340.00	43.00	54.00	-11.00	29.02	13.98	Average	100	40
3	11340.00	55.43	74.00	-18.57	41.45	13.98	Peak	100	40
4	17010.00	60.13	68.20	-8.07	42.88	17.25	Peak	100	30

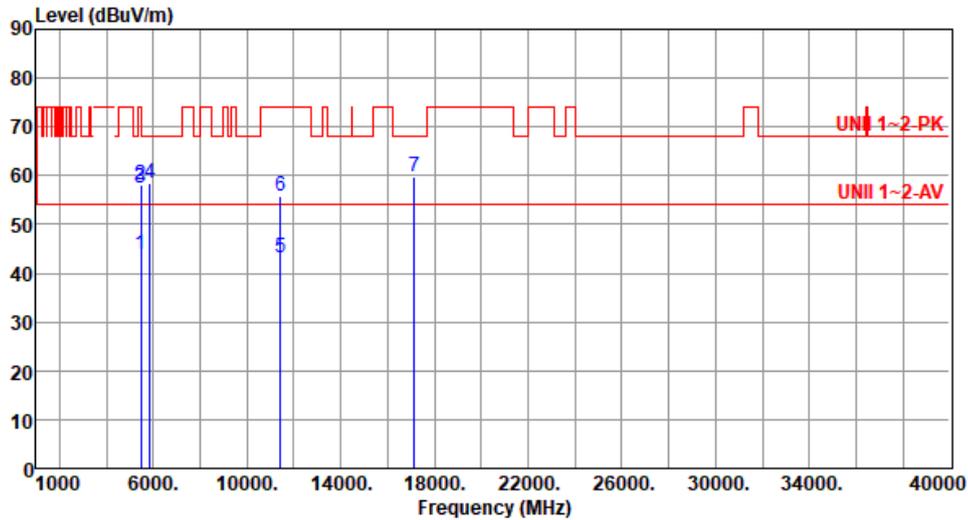
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE40-OFDMA	Test Freq. (MHz)	5710
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):23 Humidity(%) :65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5460.00	43.93	54.00	-10.07	39.26	4.67	Average	236	135
2	5460.00	58.28	74.00	-15.72	53.61	4.67	Peak	236	135
3	5470.00	57.58	68.20	-10.62	52.88	4.70	Peak	236	135
4	5850.00	58.30	68.20	-9.90	52.65	5.65	Peak	236	135
5	11420.00	43.06	54.00	-10.94	28.86	14.20	Average	100	30
6	11420.00	55.63	74.00	-18.37	41.43	14.20	Peak	100	30
7	17130.00	59.74	68.20	-8.46	42.31	17.43	Peak	100	50

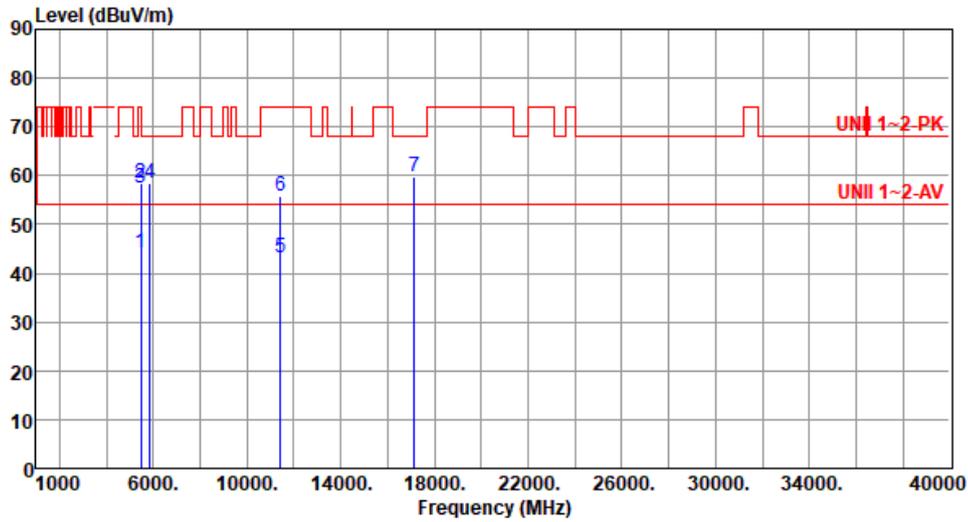
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE40-OFDMA	Test Freq. (MHz)	5710
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



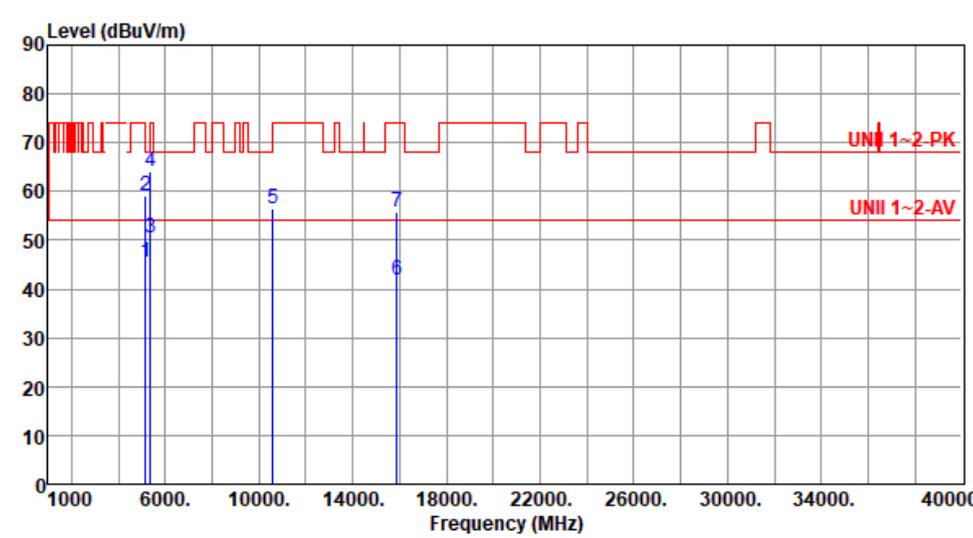
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5460.00	44.12	54.00	-9.88	39.45	4.67	Average	115	149
2	5460.00	58.59	74.00	-15.41	53.92	4.67	Peak	115	149
3	5470.00	57.61	68.20	-10.59	52.91	4.70	Peak	115	149
4	5850.00	58.59	68.20	-9.61	52.94	5.65	Peak	115	149
5	11420.00	43.26	54.00	-10.74	29.06	14.20	Average	100	50
6	11420.00	55.88	74.00	-18.12	41.68	14.20	Peak	100	50
7	17130.00	59.91	68.20	-8.29	42.48	17.43	Peak	100	80

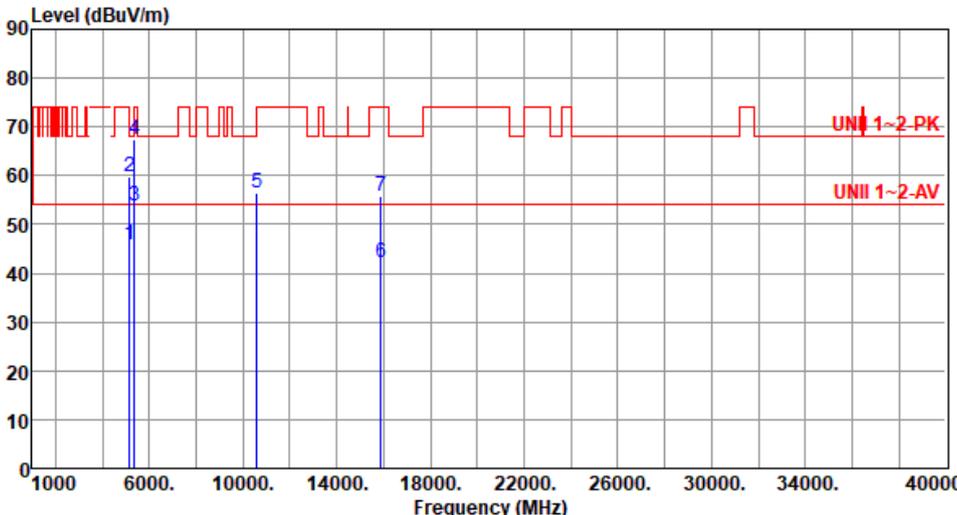
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

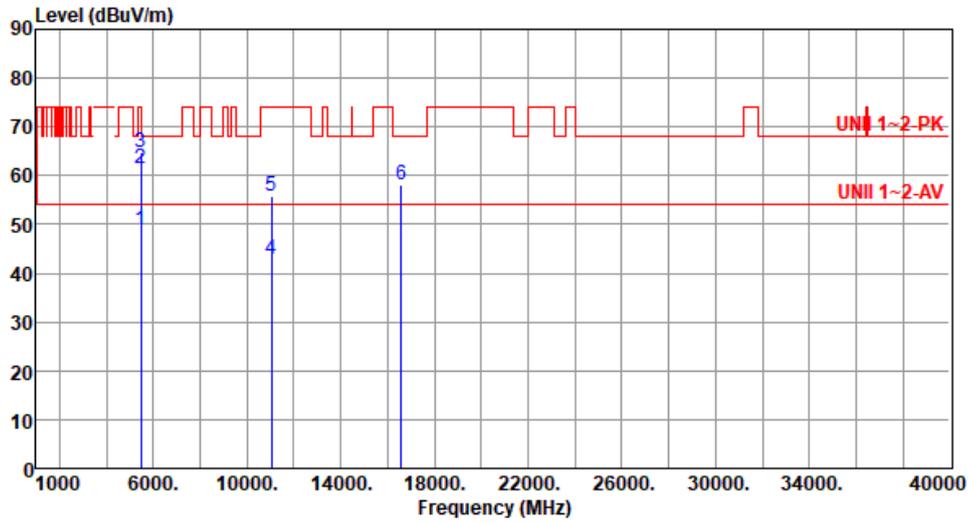
3.5.8 Transmitter Radiated Unwanted Emissions (Above 1GHz) for ax HE80-OFDMA

Modulation	ax HE80-OFDMA	Test Freq. (MHz)	5290						
Polarization	Horizontal								
Test By :Brad Wu Temperature(°C):23 Humidity(%):65									
									
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	45.58	54.00	-8.42	40.57	5.01	Average	320	128
2	5150.00	59.04	74.00	-14.96	54.03	5.01	Peak	320	128
3	5350.00	50.60	54.00	-3.40	46.18	4.42	Average	320	128
4	5350.00	64.06	74.00	-9.94	59.64	4.42	Peak	320	128
5	10580.00	56.53	68.20	-11.67	42.15	14.38	Peak	100	20
6	15870.00	41.97	54.00	-12.03	28.42	13.55	Average	100	60
7	15870.00	55.76	74.00	-18.24	42.21	13.55	Peak	100	60
<p>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).</p>									

Modulation	ax HE80-OFDMA	Test Freq. (MHz)	5290						
Polarization	Vertical								
Test By :Brad Wu Temperature(°C):23 Humidity(%):65									
									
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m		cm	deg
1	5150.00	45.77	54.00	-8.23	40.76	5.01	Average	121	141
2	5150.00	59.88	74.00	-14.12	54.87	5.01	Peak	121	141
3	5350.00	53.66	54.00	-0.34	49.24	4.42	Average	121	141
4	5350.00	67.31	74.00	-6.69	62.89	4.42	Peak	121	141
5	10580.00	56.60	68.20	-11.60	42.22	14.38	Peak	100	30
6	15870.00	42.14	54.00	-11.86	28.59	13.55	Average	100	40
7	15870.00	55.94	74.00	-18.06	42.39	13.55	Peak	100	40
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 HE80-OFDMA	Test Freq. (MHz)	5530
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5460.00	48.83	54.00	-5.17	44.16	4.67	Average	247	143
2	5460.00	61.36	74.00	-12.64	56.69	4.67	Peak	247	143
3	5470.00	64.85	68.20	-3.35	60.15	4.70	Peak	247	143
4	11060.00	42.84	54.00	-11.16	28.45	14.39	Average	100	30
5	11060.00	55.93	74.00	-18.07	41.54	14.39	Peak	100	30
6	16590.00	58.28	68.20	-9.92	42.24	16.04	Peak	100	80

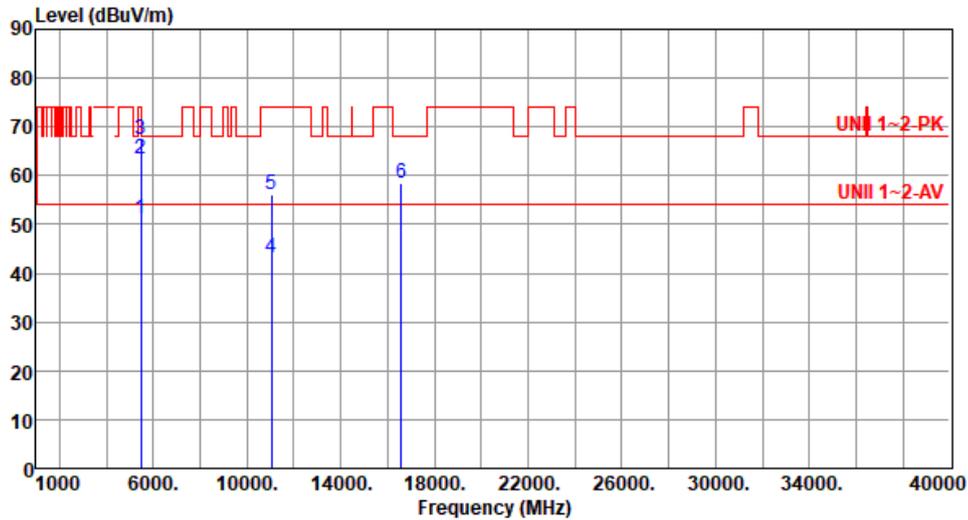
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE80-OFDMA	Test Freq. (MHz)	5530
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5460.00	51.12	54.00	-2.88	46.45	4.67	Average	114	141
2	5460.00	63.59	74.00	-10.41	58.92	4.67	Peak	114	141
3	5470.00	67.34	68.20	-0.86	62.64	4.70	Peak	114	141
4	11060.00	43.06	54.00	-10.94	28.67	14.39	Average	100	40
5	11060.00	56.24	74.00	-17.76	41.85	14.39	Peak	100	40
6	16590.00	58.48	68.20	-9.72	42.44	16.04	Peak	100	90

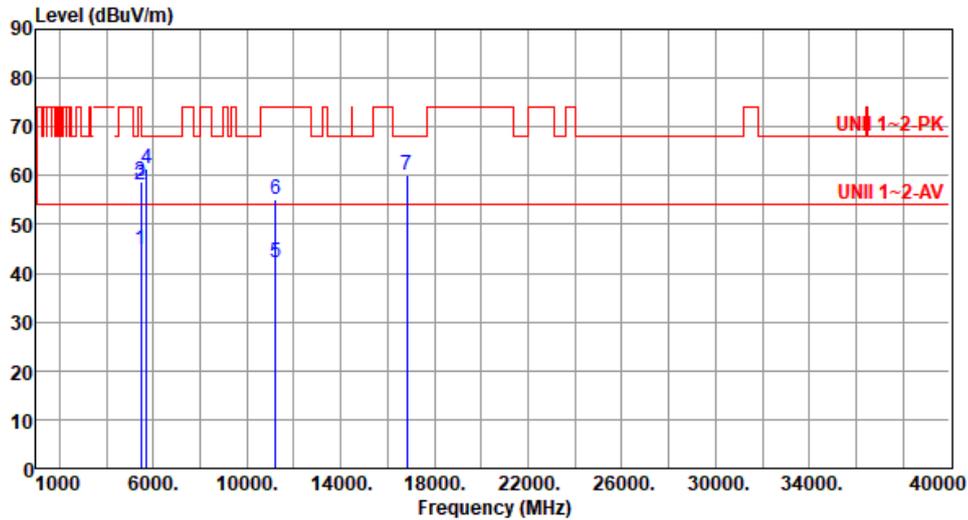
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE80-OFDMA	Test Freq. (MHz)	5610
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):23 Humidity(%) :65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5460.00	44.83	54.00	-9.17	40.16	4.67	Average	246	136
2	5460.00	58.14	74.00	-15.86	53.47	4.67	Peak	246	136
3	5470.00	58.68	68.20	-9.52	53.98	4.70	Peak	246	136
4	5725.00	61.28	68.20	-6.92	56.11	5.17	Peak	246	136
5	11220.00	42.23	54.00	-11.77	28.41	13.82	Average	100	50
6	11220.00	55.23	74.00	-18.77	41.41	13.82	Peak	100	50
7	16830.00	60.04	68.20	-8.16	42.58	17.46	Peak	100	50

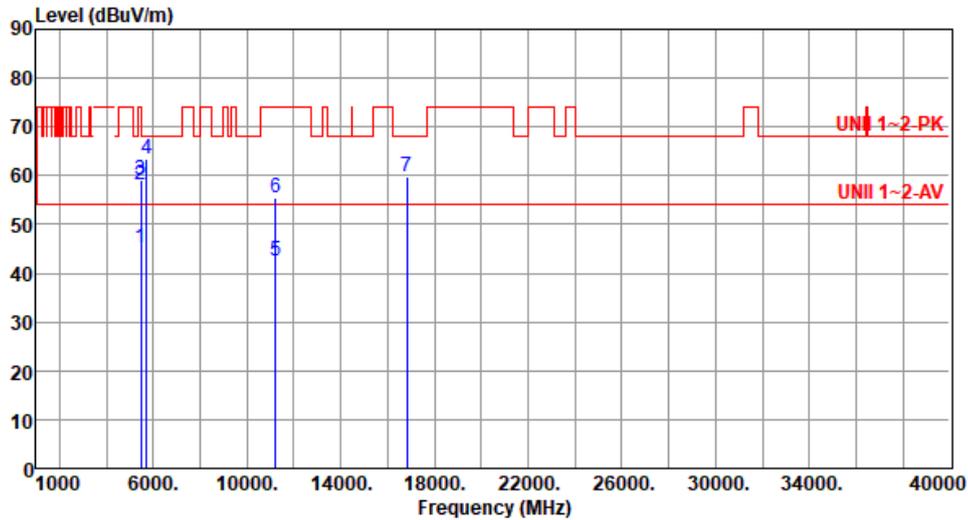
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE80-OFDMA	Test Freq. (MHz)	5610
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):23 Humidity(%) :65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5460.00	45.27	54.00	-8.73	40.60	4.67	Average	119	143
2	5460.00	58.26	74.00	-15.74	53.59	4.67	Peak	119	143
3	5470.00	59.25	68.20	-8.95	54.55	4.70	Peak	119	143
4	5725.00	63.49	68.20	-4.71	58.32	5.17	Peak	119	143
5	11220.00	42.40	54.00	-11.60	28.58	13.82	Average	100	60
6	11220.00	55.35	74.00	-18.65	41.53	13.82	Peak	100	60
7	16830.00	59.81	68.20	-8.39	42.35	17.46	Peak	100	80

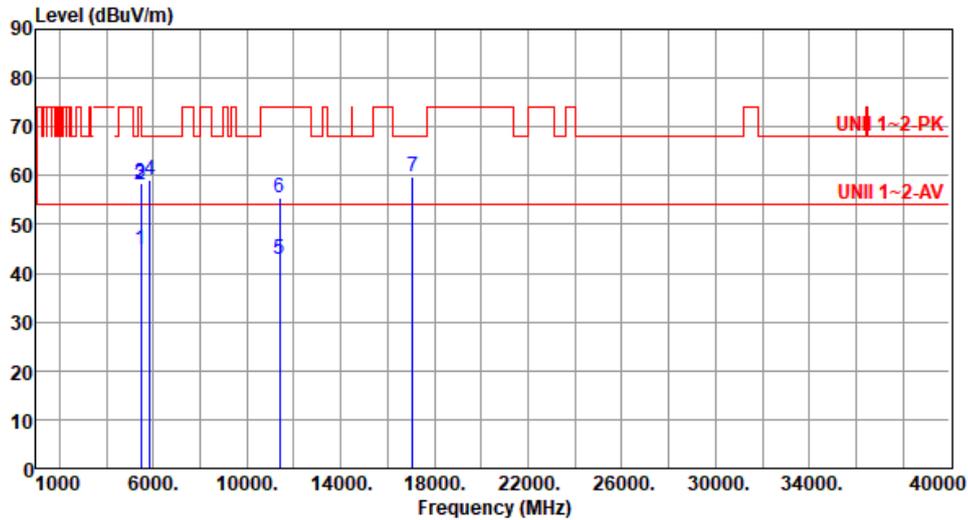
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE80-OFDMA	Test Freq. (MHz)	5690
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5460.00	44.83	54.00	-9.17	40.16	4.67	Average	236	130
2	5460.00	58.27	74.00	-15.73	53.60	4.67	Peak	236	130
3	5470.00	58.45	68.20	-9.75	53.75	4.70	Peak	236	130
4	5850.00	59.10	68.20	-9.10	53.45	5.65	Peak	236	130
5	11380.00	42.76	54.00	-11.24	28.67	14.09	Average	100	40
6	11380.00	55.54	74.00	-18.46	41.45	14.09	Peak	100	40
7	17070.00	59.79	68.20	-8.41	42.42	17.37	Peak	100	60

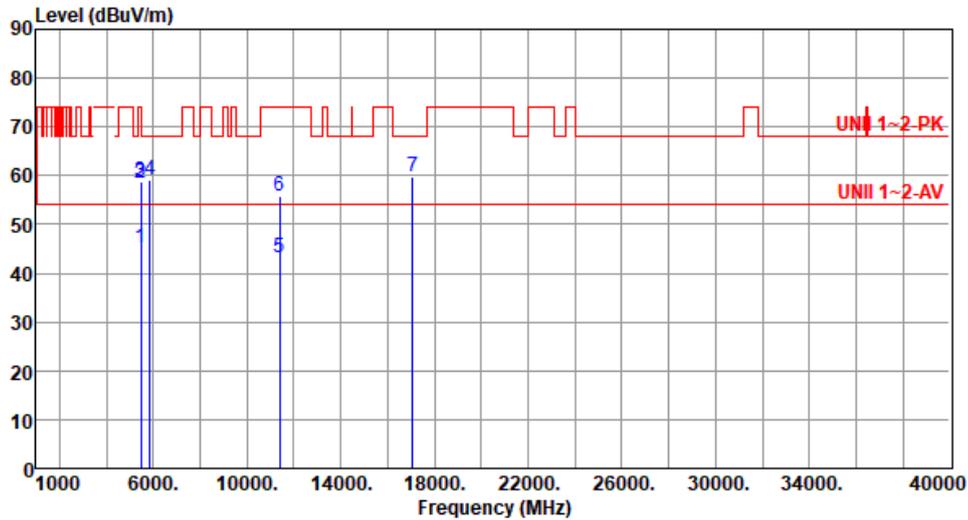
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE80-OFDMA	Test Freq. (MHz)	5690
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



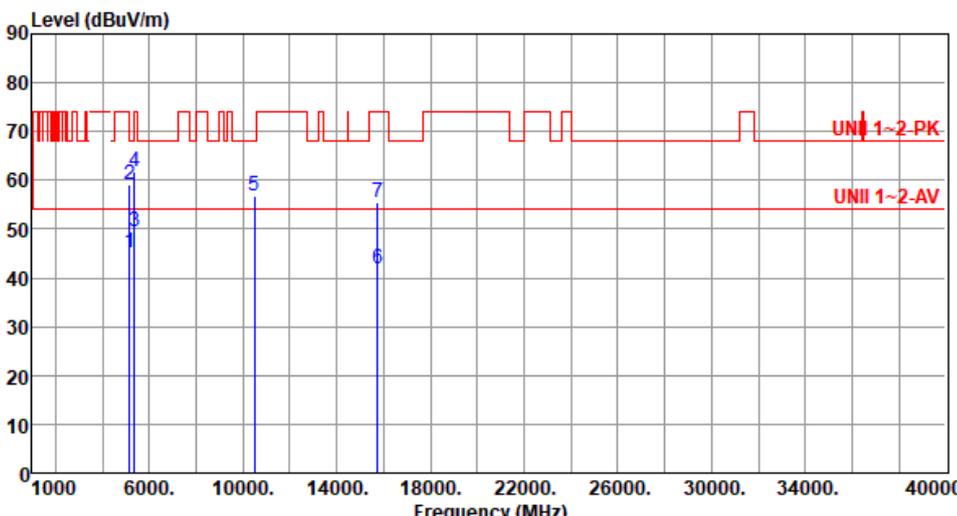
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5460.00	45.01	54.00	-8.99	40.34	4.67	Average	116	144
2	5460.00	58.52	74.00	-15.48	53.85	4.67	Peak	116	144
3	5470.00	58.69	68.20	-9.51	53.99	4.70	Peak	116	144
4	5850.00	59.27	68.20	-8.93	53.62	5.65	Peak	116	144
5	11380.00	43.21	54.00	-10.79	29.12	14.09	Average	100	50
6	11380.00	55.77	74.00	-18.23	41.68	14.09	Peak	100	50
7	17070.00	59.94	68.20	-8.26	42.57	17.37	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).

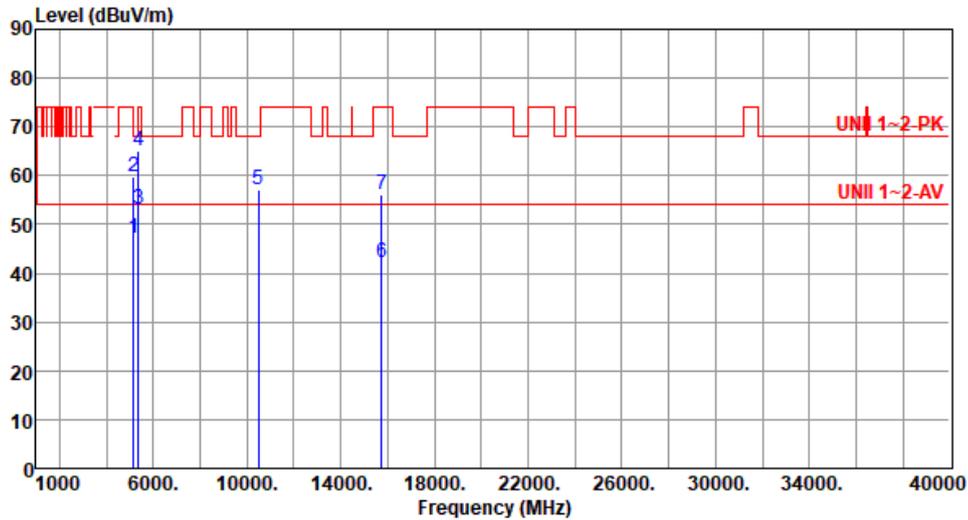
3.5.9 Transmitter Radiated Unwanted Emissions (Above 1GHz) for ax HE160-OFDMA

Modulation	ax HE160-OFDMA	Test Freq. (MHz)	5250						
Polarization	Horizontal								
Test By :Brad Wu Temperature(°C):23 Humidity(%):65									
									
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m		cm	deg
1	5150.00	45.27	54.00	-8.73	40.26	5.01	Average	330	127
2	5150.00	59.05	74.00	-14.95	54.04	5.01	Peak	330	127
3	5350.00	49.61	54.00	-4.39	45.19	4.42	Average	330	127
4	5350.00	61.90	74.00	-12.10	57.48	4.42	Peak	330	127
5	10500.00	56.63	68.20	-11.57	42.13	14.50	Peak	100	30
6	15750.00	41.70	54.00	-12.30	28.25	13.45	Average	100	90
7	15750.00	55.34	74.00	-18.66	41.89	13.45	Peak	100	90

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 HE160-OFDMA	Test Freq. (MHz)	5250
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):23 Humidity(%) :65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	47.28	54.00	-6.72	42.27	5.01	Average	128	142
2	5150.00	59.82	74.00	-14.18	54.81	5.01	Peak	128	142
3	5350.00	53.13	54.00	-0.87	48.71	4.42	Average	128	142
4	5350.00	65.20	74.00	-8.80	60.78	4.42	Peak	128	142
5	10500.00	57.06	68.20	-11.14	42.56	14.50	Peak	100	20
6	15750.00	42.04	54.00	-11.96	28.59	13.45	Average	100	40
7	15750.00	56.09	74.00	-17.91	42.64	13.45	Peak	100	40

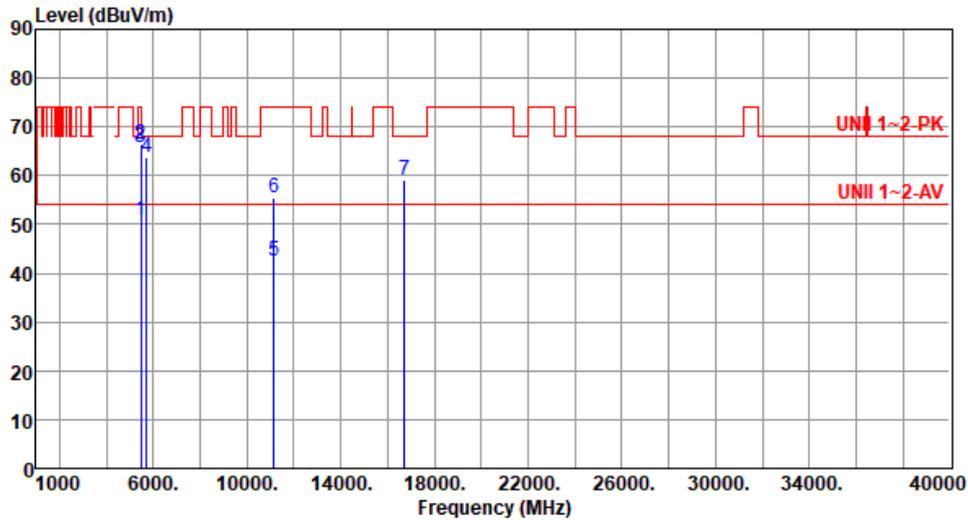
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE160-OFDMA	Test Freq. (MHz)	5570
Polarization	Horizontal		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5460.00	50.70	54.00	-3.30	46.03	4.67	Average	243	133
2	5460.00	66.55	74.00	-7.45	61.88	4.67	Peak	243	133
3	5470.00	65.72	68.20	-2.48	61.02	4.70	Peak	243	133
4	5725.00	63.81	68.20	-4.39	58.64	5.17	Peak	243	133
5	11140.00	42.50	54.00	-11.50	28.45	14.05	Average	100	30
6	11140.00	55.50	74.00	-18.50	41.45	14.05	Peak	100	30
7	16710.00	59.16	68.20	-9.04	42.16	17.00	Peak	100	55

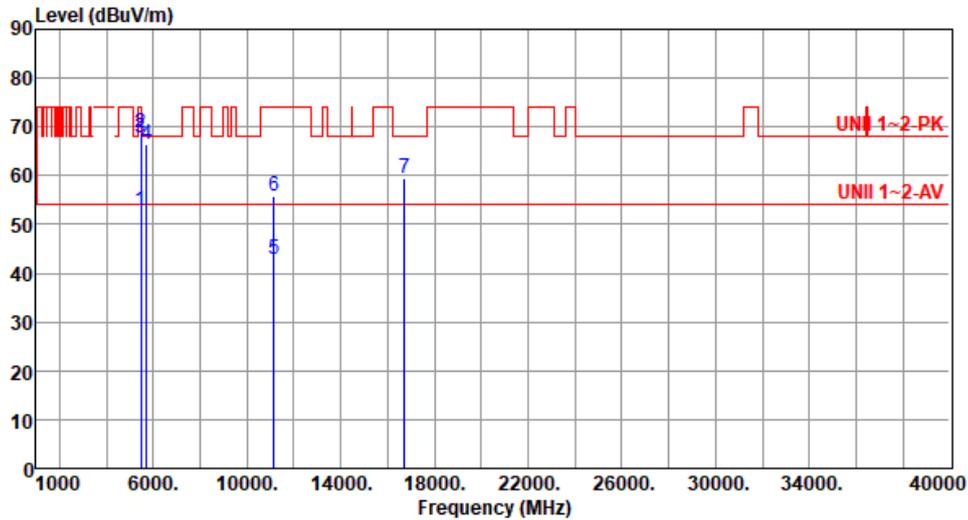
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	ax HE160-OFDMA	Test Freq. (MHz)	5570
Polarization	Vertical		

Test By :Brad Wu Temperature(°C):23 Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5460.00	52.79	54.00	-1.21	48.12	4.67	Average	120	142
2	5460.00	68.72	74.00	-5.28	64.05	4.67	Peak	120	142
3	5470.00	67.82	68.20	-0.38	63.12	4.70	Peak	120	142
4	5725.00	66.27	68.20	-1.93	61.10	5.17	Peak	120	142
5	11140.00	42.74	54.00	-11.26	28.69	14.05	Average	100	20
6	11140.00	55.73	74.00	-18.27	41.68	14.05	Peak	100	20
7	16710.00	59.32	68.20	-8.88	42.32	17.00	Peak	100	60

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).

3.6 Frequency Stability

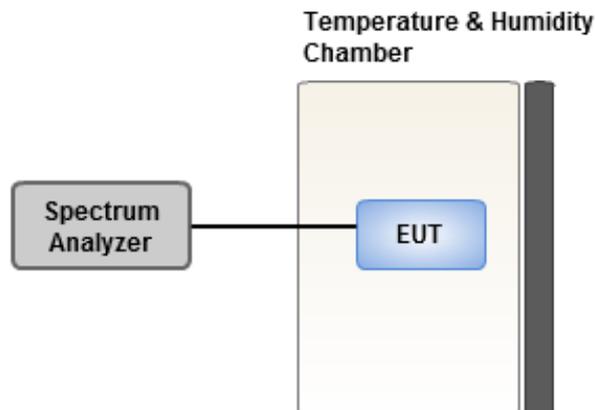
3.6.1 Limit of Frequency Stability

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

3.6.2 Test Procedures

1. The EUT is installed in an environment test chamber with external power source.
2. Set the chamber to operate at 20 centigrade and external power source to output at nominal voltage of EUT.
3. A sufficient stabilization period at each temperature is used prior to each frequency measurement.
4. When temperature is stabled, measure the frequency stability.
5. The test shall be performed under normal and extreme condition for temperature and voltage.

3.6.3 Test Setup



3.6.4 Test Result of Frequency Stability

Ambient Condition	21°C / 66%	Tested By	Aska Huang
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Frequency: 5320 MHz	Frequency Drift (ppm)			
	0 minute	2 minutes	5 minutes	10 minutes
Temperature (°C)				
T20°C _{Vmax}	7.21	7.64	7.18	7.50
T20°C _{Vmin}	6.37	6.39	6.89	7.04
T50°C _{Vnom}	1.51	1.45	1.09	1.87
T40°C _{Vnom}	3.36	3.33	3.58	4.14
T30°C _{Vnom}	5.27	5.49	5.92	5.04
T20°C _{Vnom}	5.97	5.80	6.12	6.38
T10°C _{Vnom}	5.82	5.53	5.87	6.13
T0°C _{Vnom}	5.56	5.93	5.89	5.86
T-10°C _{Vnom}	5.94	6.51	6.27	5.44
T-20°C _{Vnom}	5.39	5.86	5.19	5.49
T-30°C _{Vnom}	5.97	6.35	6.08	5.71
Vnom [V]: 120	Vmax [V]: 138		Vmin [V]: 102	
Tnom [°C]: 20	Tmax [°C]: 50		Tmin [°C]: -30	

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 Corporation (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

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(R.O.C.)

Kwei Shan

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No.3-1, Lane 6, Wen San 3rd
St., Kwei Shan Dist., Tao Yuan
City 33381, Taiwan (R.O.C.)
No.2-1, Lane 6, Wen San 3rd
St., Kwei Shan Dist., Tao Yuan
City 33381, Taiwan (R.O.C.)

Kwei Shan Site II

Tel: 886-3-271-8640

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

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

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