FCC Test Report

FCC ID	:	**2AAS9-MI10**
Equipment	:	**Wi-Fi 6 AX6600 Tri-Radio Indoor Mesh Router**
Model No.	:	**MI10**
Brand Name	:	**PRISM**
Applicant	:	**Browan Communications Incorporation.**
Address	:	**No.15-1, Zhonghua Rd., Hsinchu Industrial Park, Hukou Hsinchu Hsien Taiwan 303**
Standard	:	**47 CFR FCC Part 15.407**
Received Date	:	**Dec. 30, 2021**
Tested Date	:	**Jan. 29 ~ Feb. 14, 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
FR1D3002AN	Rev. 01	Initial issue	Feb. 23, 2022

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.150MHz 61.39 (Margin -4.61dB) - QP	Pass
15.407(b) 15.209	Radiated Emissions	[dBuV/m at 3m]: 5925.00MHz 67.17 (Margin -1.03dB) - PK	Pass
15.407(a)	Emission Bandwidth	Meet the requirement of limit	Pass
15.407(e)	6dB bandwidth	Meet the requirement of limit	Pass
15.407(a)	RF Output Power	Max Power [dBm]: ***Non-beamforming mode*** 5150~5250MHz: 16.14 5725~5850MHz: 29.89 ***Beamforming mode*** 5150~5250MHz: 13.13 5725~5850MHz: 23.67	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

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**
5150-5250 5725-5850	a	5180-5240 5745-5825	36-48 [4] 149-165 [5]	2 4	6-54 Mbps
5150-5250 5725-5850	n (HT20)	5180-5240 5745-5825	36-48 [4] 149-165 [5]	2 4	MCS 0-15 MCS 0-31
5150-5250 5725-5850	n (HT40)	5190-5230 5755-5795	38-46 [2] 151-159 [2]	2 4	MCS 0-15 MCS 0-31
5150-5250 5725-5850	ac (VHT20)	5180-5240 5745-5825	36-48 [4] 149-165 [5]	2 4	MCS 0-9
5150-5250 5725-5850	ac (VHT40)	5190-5230 5755-5795	38-46 [2] 151-159 [2]	2 4	MCS 0-9
5150-5250 5725-5850	ac (VHT80)	5210 5775	42 [1] 155 [1]	2 4	MCS 0-9
5150-5250 5725-5850	ax (HE20)	5180-5240 5745-5825	36-48 [4] 149-165 [5]	2 4	MCS 0-11
5150-5250 5725-5850	ax (HE40)	5190-5230 5755-5795	38-46 [2] 151-159 [2]	2 4	MCS 0-11
5150-5250 5725-5850	ax (HE80)	5210 5775	42 [1] 155 [1]	2 4	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)		
				2400~2483.5MHz	5150~5250 MHz	5725~5850 MHz
1	ANT0	PIFA	UFL	---	---	5.3
2	ANT1	PIFA	UFL	---	---	5.92
3	ANT2	PIFA	UFL	---	---	4.72
4	ANT3	PIFA	UFL	---	---	5.25
5	ANT5	PIFA	UFL	4.48	3.95	---
6	ANT6	PIFA	UFL	2.94	6.6	---

1.1.3 Radio Details

Radio	Function
1	2.4 GHz, 2T2R
2	5.15 GHz ~ 5.25 GHz, 2T2R
3	5.725 GHz ~ 5.85 GHz, 4T4R

1.1.4 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	12Vdc from AC adapter

1.1.5 Accessories

Accessories		
No.	**Equipment**	**Description**
1	AC adapter	Brand: MOSO Model: MSS-V3000WR120-042A0-US Power Rating: I/P: 100-240Vac, 50/60Hz, 1.2A max. O/P: 12Vdc, 3.0A Line: 1.2m non-shielded w/o core.
2	AC adapter	Brand: Frecom Model: F36L7-120300SPAU Power Rating: I/P: 100-240Vac, 50/60Hz, 0.9A O/P: 12Vdc, 3.0A, 36.0W Line: 1.2m non-shielded w/o core.
3	RJ45 (cat. 6)	Brand: EEKSONG Line: 1.9m non-shielded w/o core.
4	MOUNTING-BRACKET	---

1.1.6 Channel List

802.11a / n HT20 / ac VHT20 / ax HE20		802.11n HT40 / ac VHT40 / ax HE40	
Channel	**Frequency(MHz)**	**Channel**	**Frequency(MHz)**
36	5180	38	5190
40	5200	46	5230
44	5220	151	5755
48	5240	159	5795
149	5745	**802.11ac VHT80 / ax HE80**	
153	5765	42	5210
157	5785	155	5775
161	5805	-	-
165	5825	-	-

1.1.7 Test Tool and Duty Cycle

Test Tool	QPSR, V5.0-00201		
Duty Cycle and Duty Factor	**Mode**	**Duty Cycle (%)**	**Duty Factor (dB)**
	11a	93.22%	0.30
	ax HE20-OFDMA	97.42%	0.11
	ax HE40-OFDMA	97.42%	0.11
	ax HE80-OFDMA	66.85%	1.75

1.1.8 Power Index of Test Tool

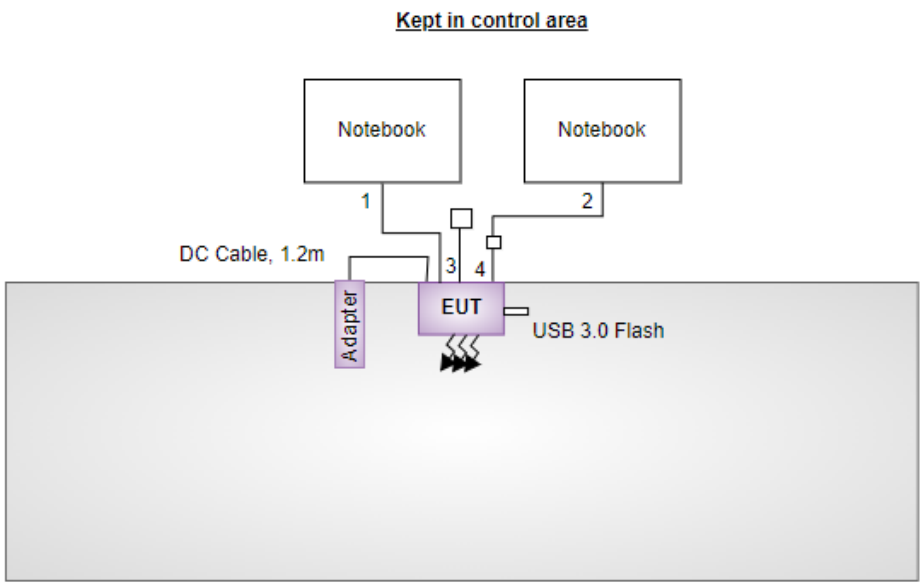
Modulation Mode	Test Frequency (MHz)	Power Index
11a	5180	11.5
11a	5200	11.5
11a	5240	11.5
11a	5745	23.5
11a	5785	23.5
11a	5825	23.5
ax HE20-OFDMA	5180	12.5
ax HE20-OFDMA	5200	12.5
ax HE20-OFDMA	5240	12.5
ax HE20-OFDMA	5745	23
ax HE20-OFDMA	5785	23
ax HE20-OFDMA	5825	23
ax HE40-OFDMA	5190	14
ax HE40-OFDMA	5230	14
ax HE40-OFDMA	5755	21
ax HE40-OFDMA	5795	20
ax HE80-OFDMA	5210	14
ax HE80-OFDMA	5775	19.5

1.2 Local Support Equipment List

Support Equipment List					
No.	**Equipment**	**Brand**	**Model**	**FCC ID**	**Remarks**
1	Notebook	DELL	Latitude 5400	DoC	---
2	Notebook	DELL	Latitude E5470	DoC	---
3	RJ45 Load	ICC	--	---	---
4	RJ45 Connector	ICC	RJ45 Connector	---	---
5	USB 3.0 Flash	Transcend	JetFlash 700	---	---

1.3 Test Setup Chart

Test Setup Diagram



No.	Signal cable / Length (m)
1-2	RJ45, 10m non-shielded.
3	RJ45, 1m non-shielded with load.
4	RJ45, 1.9m non-shielded.

1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Tested Date	Feb. 12, 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. 29 ~ Feb. 14, 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-NW-11000	200801	Oct. 05, 2021	Oct. 04, 2022
LF cable 1M	EMC	EMCCFD400-NM-NM-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. 11 ~ Feb. 12, 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	$\pm 1 \times 10^{-9}$
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

For Frequency band 5150-5250 MHz				
Test item	**Modulation Mode**	**Test Frequency (MHz)**	**Data Rate**	**Test Configuration**
Non-beamforming mode				
Conducted Emissions	ax HE40-OFDMA	5230	MCS 0	---
Radiated Emissions ≤1GHz	ax HE40-OFDMA	5230	MCS 0	---
RF Output Power Radiated Emissions >1GHz Emission Bandwidth Peak Power Spectral Density	11a ax HE20-OFDMA ax HE40-OFDMA ax HE80-OFDMA	5180 / 5200 / 5240 5180 / 5200 / 5240 5190 / 5230 5210	6 Mbps MCS 0 MCS 0 MCS 0	---
Frequency Stability	Un-modulation	5200	---	---
Beamforming mode				
RF Output Power	11a ax HE20-OFDMA ax HE40-OFDMA ax HE80-OFDMA	5180 / 5200 / 5240 5180 / 5200 / 5240 5190 / 5230 5210	6 Mbps MCS 0 MCS 0 MCS 0	---

NOTE:

1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **X-plane** results were found as the worst case and were shown in this report.
2. Two adapters (MOSO and Frecom) had been covered during the pretest, and found that MOSO adapter was the worst case of AC Power line conducted emission test item and Frecom adapter was the worst case of Radiated Spurious emission test item.

For Frequency band 5725-5850 MHz				
Test item	**Modulation Mode**	**Test Frequency (MHz)**	**Data Rate**	**Test Configuration**
Non-beamforming mode				
Conducted Emissions	11a	5785	6 Mbps	---
Radiated Emissions ≤1GHz	11a	5785	6 Mbps	---
RF Output Power Radiated Emissions >1GHz Emission Bandwidth Peak Power Spectral Density	11a ax HE20-OFDMA ax HE40-OFDMA ax HE80-OFDMA	5745 / 5785 / 5825 5745 / 5785 / 5825 5755 / 5795 5775	6 Mbps MCS 0 MCS 0 MCS 0	---
Frequency Stability	Un-modulation	5785	---	---
Beamforming mode				
RF Output Power	11a ax HE20-OFDMA ax HE40-OFDMA ax HE80-OFDMA	5745 / 5785 / 5825 5745 / 5785 / 5825 5755 / 5795 5775	6 Mbps MCS 0 MCS 0 MCS 0	---
NOTE: 1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **X-plane** results were found as the worst case and were shown in this report. 2. Two adapters (MOSO and Frecom) had been covered during the pretest, and found that MOSO adapter was the worst case of AC Power line conducted emission test item and Frecom adapter was the worst case of Radiated Spurious emission test item.				

3 Transmitter Test Results

3.1 Conducted Emissions

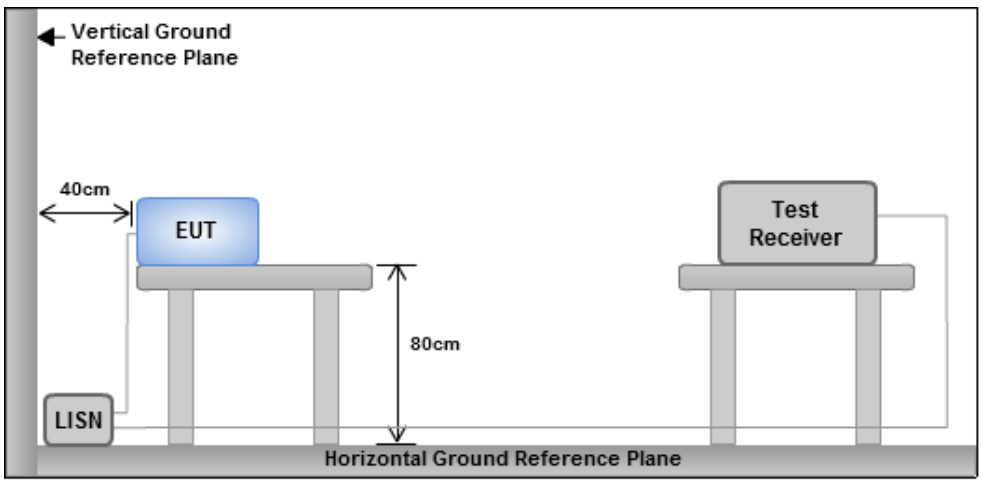
3.1.1 Limit of Conducted Emissions

Conducted Emissions Limit		
Frequency Emission (MHz)	**Quasi-Peak**	**Average**
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50
Note 1: * Decreases with the logarithm of the frequency.		

3.1.2 Test Procedures

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

3.1.3 Test Setup



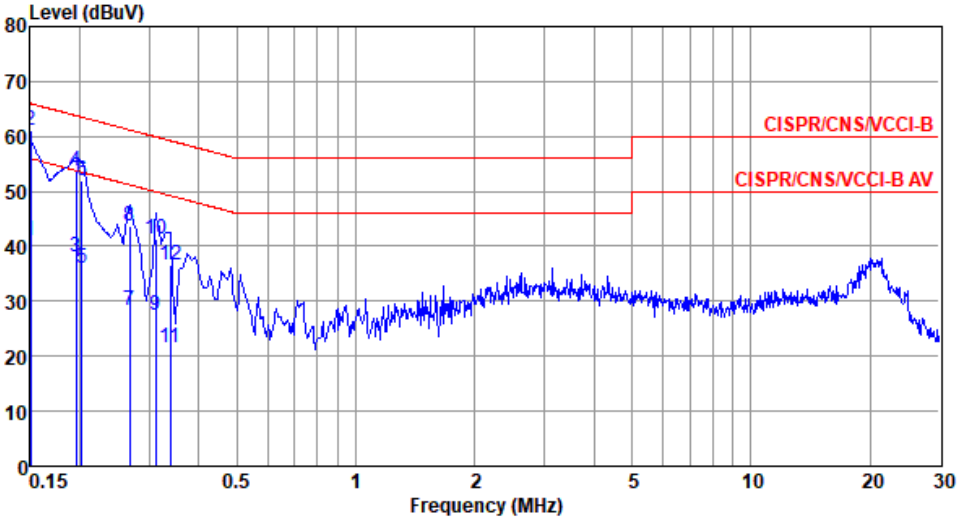
Note: 1. Support units were connected to second LISN.

2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

3.1.4 Test Result of Conducted Emissions

Modulation	ax HE40-OFDMA	Test Freq. (MHz)	5230
Power Phase	Line		

Test by : Joe Liao Temperature: 22°C Humidity: 68%

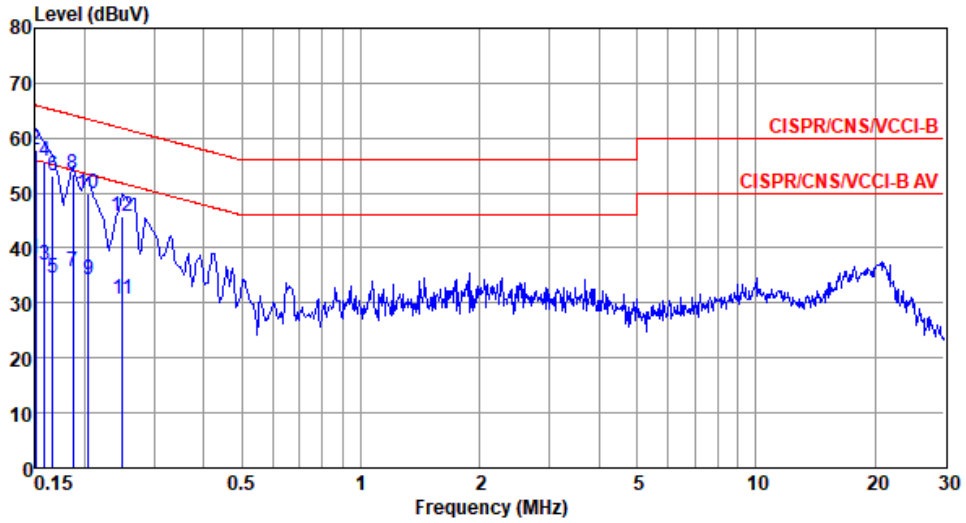


	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Cable loss	Aux	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	dB	
1	0.150	40.99	56.00	-15.01	31.05	9.66	0.08	0.20	Average
2*	0.150	61.03	66.00	-4.97	51.09	9.66	0.08	0.20	QP
3	0.195	38.20	53.80	-15.60	28.25	9.65	0.08	0.22	Average
4	0.195	53.65	63.80	-10.15	43.70	9.65	0.08	0.22	QP
5	0.203	36.01	53.49	-17.48	26.06	9.65	0.08	0.22	Average
6	0.203	51.95	63.49	-11.54	42.00	9.65	0.08	0.22	QP
7	0.267	28.33	51.20	-22.87	18.32	9.65	0.08	0.28	Average
8	0.267	43.74	61.20	-17.46	33.73	9.65	0.08	0.28	QP
9	0.312	27.43	49.93	-22.50	17.40	9.64	0.08	0.31	Average
10	0.312	41.29	59.93	-18.64	31.26	9.64	0.08	0.31	QP
11	0.339	21.69	49.22	-27.53	11.64	9.64	0.08	0.33	Average
12	0.339	36.50	59.22	-22.72	26.45	9.64	0.08	0.33	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)	5230
Power Phase	Neutral		

Test by : Joe Liao Temperature: 22°C Humidity: 68%

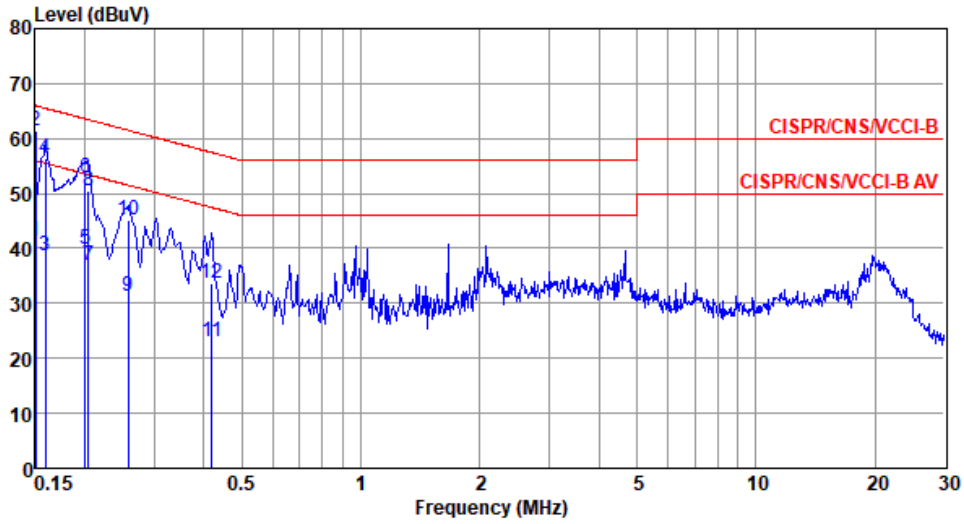


	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Cable loss	Aux	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	dB	
1	0.150	38.22	56.00	-17.78	28.29	9.69	0.08	0.16	Average
2*	0.150	57.81	66.00	-8.19	47.88	9.69	0.08	0.16	QP
3	0.158	36.97	55.56	-18.59	27.04	9.69	0.08	0.16	Average
4	0.158	55.90	65.56	-9.66	45.97	9.69	0.08	0.16	QP
5	0.166	34.43	55.16	-20.73	24.49	9.69	0.08	0.17	Average
6	0.166	53.01	65.16	-12.15	43.07	9.69	0.08	0.17	QP
7	0.186	35.84	54.20	-18.36	25.91	9.68	0.08	0.17	Average
8	0.186	53.49	64.20	-10.71	43.56	9.68	0.08	0.17	QP
9	0.204	34.28	53.45	-19.17	24.34	9.68	0.08	0.18	Average
10	0.204	49.77	63.45	-13.68	39.83	9.68	0.08	0.18	QP
11	0.249	30.66	51.78	-21.12	20.72	9.68	0.08	0.18	Average
12	0.249	45.88	61.78	-15.90	35.94	9.68	0.08	0.18	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	11a	Test Freq. (MHz)	5785
Power Phase	Line		

Test by : Joe Liao Temperature: 22°C Humidity: 68%

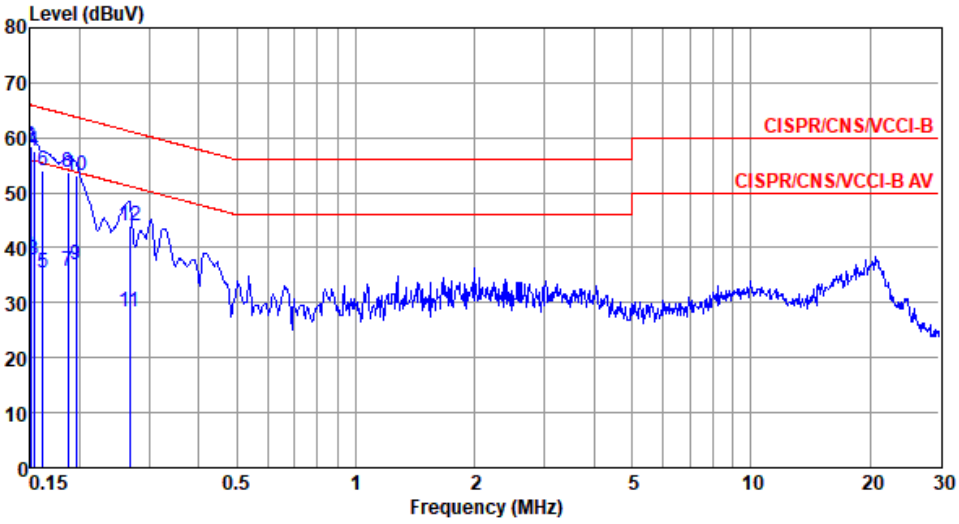


	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Cable loss	Aux	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	dB	
1	0.150	41.42	56.00	-14.58	31.48	9.66	0.08	0.20	Average
2*	0.150	61.39	66.00	-4.61	51.45	9.66	0.08	0.20	QP
3	0.159	38.82	55.52	-16.70	28.88	9.66	0.08	0.20	Average
4	0.159	56.51	65.52	-9.01	46.57	9.66	0.08	0.20	QP
5	0.201	39.96	53.58	-13.62	30.01	9.65	0.08	0.22	Average
6	0.201	52.88	63.58	-10.70	42.93	9.65	0.08	0.22	QP
7	0.204	36.81	53.45	-16.64	26.86	9.65	0.08	0.22	Average
8	0.204	50.36	63.45	-13.09	40.41	9.65	0.08	0.22	QP
9	0.258	31.19	51.51	-20.32	21.19	9.65	0.08	0.27	Average
10	0.258	45.05	61.51	-16.46	35.05	9.65	0.08	0.27	QP
11	0.419	23.17	47.46	-24.29	13.09	9.64	0.08	0.36	Average
12	0.419	33.70	57.46	-23.76	23.62	9.64	0.08	0.36	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	11a	Test Freq. (MHz)	5785
Power Phase	Neutral		

Test by : Joe Liao Temperature: 22°C Humidity: 68%



	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Cable loss	Aux	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	dB	
1	0.150	38.38	56.00	-17.62	28.45	9.69	0.08	0.16	Average
2*	0.150	58.34	66.00	-7.66	48.41	9.69	0.08	0.16	QP
3	0.153	37.72	55.82	-18.10	27.79	9.69	0.08	0.16	Average
4	0.153	57.62	65.82	-8.20	47.69	9.69	0.08	0.16	QP
5	0.162	35.34	55.38	-20.04	25.40	9.69	0.08	0.17	Average
6	0.162	54.10	65.38	-11.28	44.16	9.69	0.08	0.17	QP
7	0.186	35.61	54.20	-18.59	25.68	9.68	0.08	0.17	Average
8	0.186	53.60	64.20	-10.60	43.67	9.68	0.08	0.17	QP
9	0.195	36.82	53.80	-16.98	26.88	9.68	0.08	0.18	Average
10	0.195	53.08	63.80	-10.72	43.14	9.68	0.08	0.18	QP
11	0.267	28.35	51.20	-22.85	18.41	9.68	0.08	0.18	Average
12	0.267	43.85	61.20	-17.35	33.91	9.68	0.08	0.18	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).

3.2 Emission Bandwidth

3.2.1 Limit of Emission Bandwidth

Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

3.2.2 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.

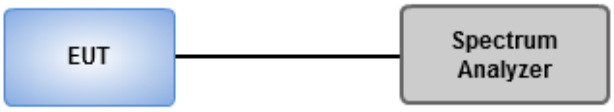
Occupied Bandwidth

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

6dB Bandwidth

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

3.2.3 Test Setup



3.2.4 Test Result of Emission Bandwidth

Ambient Condition	22°C / 63%	Tested By	Brad Wu

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	20.652M	16.425M	16M4D1D	19.928M	16.353M
802.11ax HEW20_Nss1,(MCS0)_2TX-OFDMA	20.725M	18.741M	18M7D1D	20.435M	18.741M
802.11ax HEW40_Nss1,(MCS0)_2TX-OFDMA	40.29M	37.627M	37M6D1D	39.855M	37.627M
802.11ax HEW80_Nss1,(MCS0)_2TX-OFDMA	82.029M	76.99M	77M0D1D	81.739M	76.99M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	16.377M	16.932M	16M9D1D	16.304M	16.57M
802.11ax HEW20_Nss1,(MCS0)_4TX-OFDMA	18.986M	19.32M	19M3D1D	18.841M	18.886M
802.11ax HEW40_Nss1,(MCS0)_4TX-OFDMA	37.971M	37.916M	37M9D1D	37.681M	37.627M
802.11ax HEW80_Nss1,(MCS0)_4TX-OFDMA	77.101M	76.99M	77M0D1D	75.942M	76.99M

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 / Maximum 26dB down bandwidth for other band;
Min-OBW = Minimum 99% occupied bandwidth;

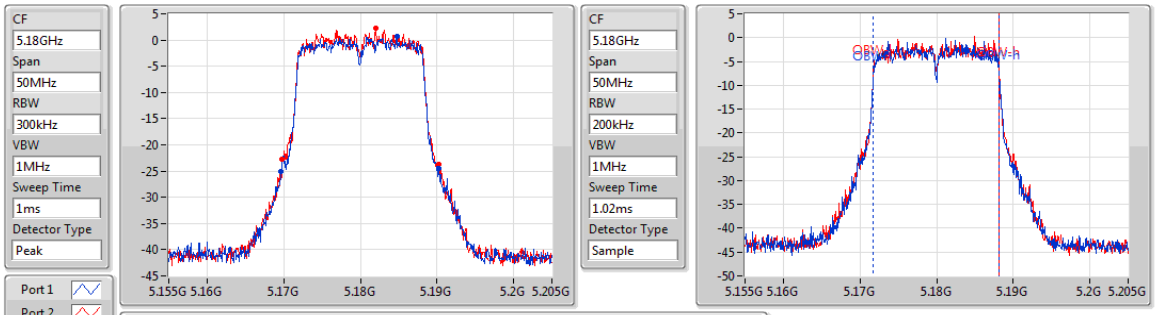
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11a_Nss1,(6Mbps)_2TX										
5180MHz	Pass	Inf	20.652M	16.425M	20.435M	16.425M	-	-	-	-
5200MHz	Pass	Inf	20.507M	16.353M	20.58M	16.425M	-	-	-	-
5240MHz	Pass	Inf	19.928M	16.425M	20.652M	16.425M	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX										
5745MHz	Pass	500k	16.377M	16.57M	16.304M	16.57M	16.377M	16.643M	16.377M	16.787M
5785MHz	Pass	500k	16.377M	16.57M	16.377M	16.57M	16.377M	16.787M	16.377M	16.932M
5825MHz	Pass	500k	16.377M	16.643M	16.377M	16.643M	16.377M	16.787M	16.377M	16.787M
802.11ax HEW20_Nss1,(MCS0)_2TX-OFDMA										
5180MHz	Pass	Inf	20.725M	18.741M	20.507M	18.741M	-	-	-	-
5200MHz	Pass	Inf	20.507M	18.741M	20.725M	18.741M	-	-	-	-
5240MHz	Pass	Inf	20.435M	18.741M	20.725M	18.741M	-	-	-	-
802.11ax HEW20_Nss1,(MCS0)_4TX-OFDMA										
5745MHz	Pass	500k	18.841M	18.886M	18.841M	18.958M	18.913M	19.03M	18.986M	19.103M
5785MHz	Pass	500k	18.913M	18.958M	18.986M	18.958M	18.986M	19.103M	18.986M	19.32M
5825MHz	Pass	500k	18.913M	19.03M	18.986M	19.03M	18.986M	19.03M	18.986M	19.175M
802.11ax HEW40_Nss1,(MCS0)_2TX-OFDMA										
5190MHz	Pass	Inf	40.29M	37.627M	40.145M	37.627M	-	-	-	-
5230MHz	Pass	Inf	40.145M	37.627M	39.855M	37.627M	-	-	-	-
802.11ax HEW40_Nss1,(MCS0)_4TX-OFDMA										
5755MHz	Pass	500k	37.971M	37.627M	37.971M	37.916M	37.971M	37.916M	37.971M	37.916M
5795MHz	Pass	500k	37.971M	37.771M	37.681M	37.627M	37.971M	37.771M	37.971M	37.771M
802.11ax HEW80_Nss1,(MCS0)_2TX-OFDMA										
5210MHz	Pass	Inf	81.739M	76.99M	82.029M	76.99M	-	-	-	-
802.11ax HEW80_Nss1,(MCS0)_4TX-OFDMA										
5775MHz	Pass	500k	75.942M	76.99M	75.942M	76.99M	75.942M	76.99M	77.101M	76.99M

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**

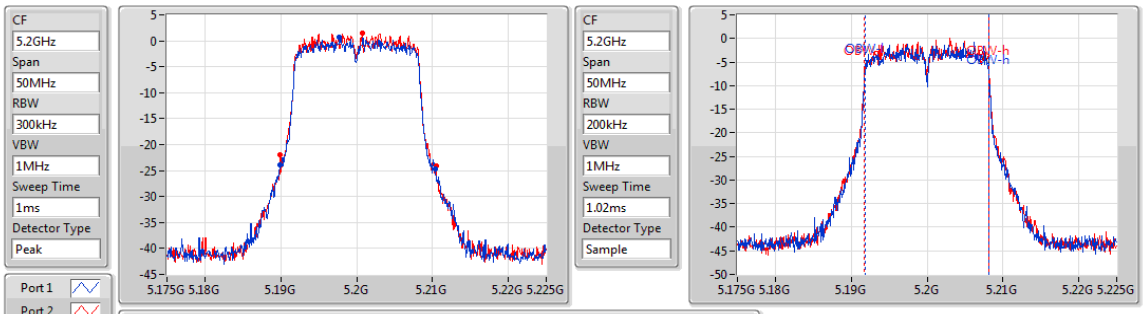
5180MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.652M	5.169638G	5.19029G	16.425M	5.171751G	5.188177G	Inf	1
20.435M	5.169783G	5.190217G	16.425M	5.171751G	5.188177G	Inf	2

802.11a_Nss1,(6Mbps)_2TX **EBW**

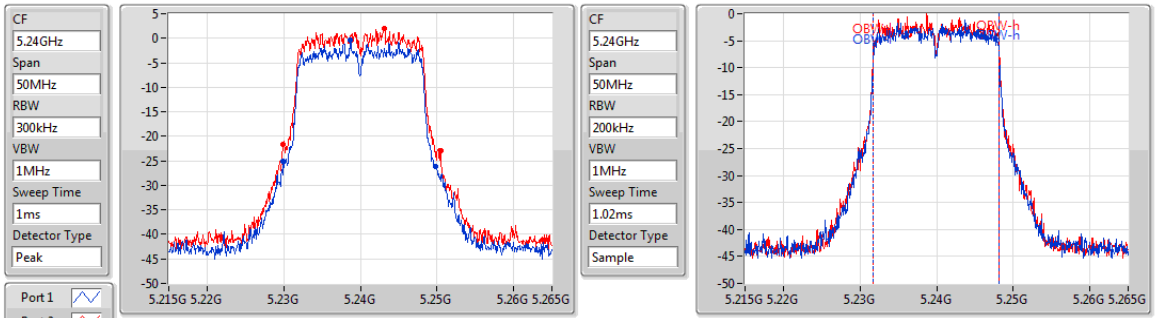
5200MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.507M	5.189855G	5.210362G	16.353M	5.191823G	5.208177G	Inf	1
20.58M	5.189928G	5.210507G	16.425M	5.191751G	5.208177G	Inf	2

802.11a_Nss1,(6Mbps)_2TX **EBW**

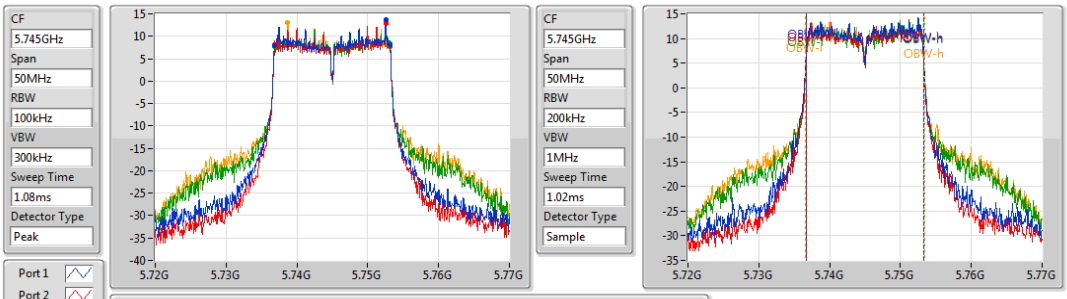
5240MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.928M	5.229928G	5.249855G	16.425M	5.231751G	5.248177G	Inf	1
20.652M	5.229855G	5.250507G	16.425M	5.231751G	5.248177G	Inf	2

802.11a_Nss1,(6Mbps)_4TX **EBW**

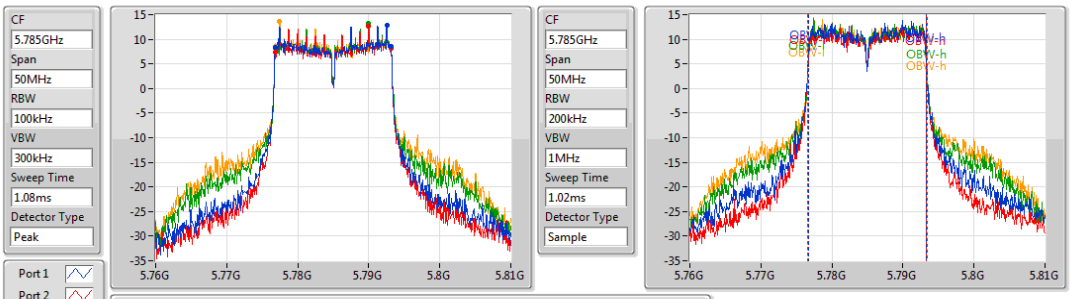
5745MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.377M	5.736812G	5.753188G	16.57M	5.736679G	5.753249G	500k	1
16.304M	5.736884G	5.753188G	16.57M	5.736679G	5.753249G	500k	2
16.377M	5.736812G	5.753188G	16.643M	5.736679G	5.753321G	500k	3
16.377M	5.736812G	5.753188G	16.787M	5.736606G	5.753394G	500k	4

802.11a_Nss1,(6Mbps)_4TX **EBW**

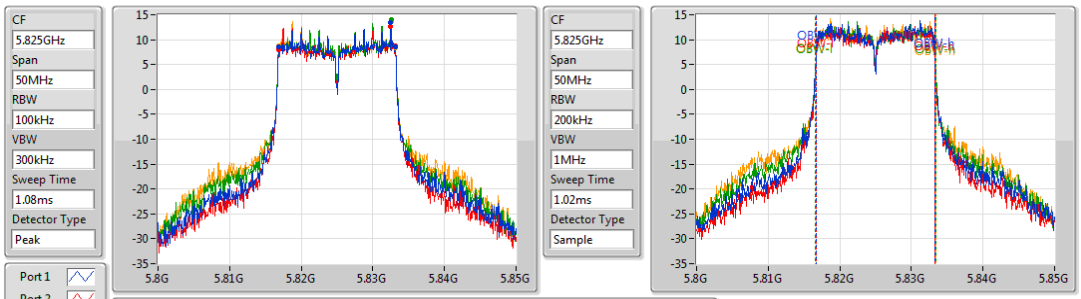
5785MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.377M	5.776812G	5.793188G	16.57M	5.776679G	5.793249G	500k	1
16.377M	5.776812G	5.793188G	16.57M	5.776679G	5.793249G	500k	2
16.377M	5.776812G	5.793188G	16.787M	5.776606G	5.793394G	500k	3
16.377M	5.776812G	5.793188G	16.932M	5.776534G	5.793466G	500k	4

802.11a_Nss1,(6Mbps)_4TX **EBW**

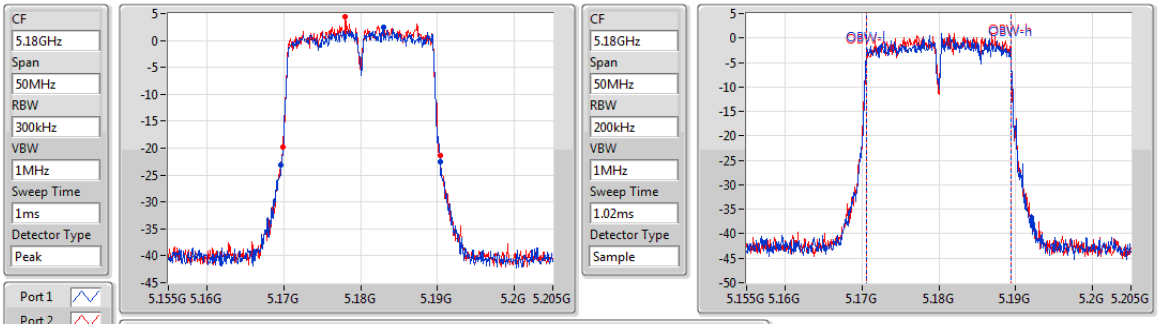
5825MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.377M	5.816812G	5.833188G	16.643M	5.816679G	5.833321G	500k	1
16.377M	5.816812G	5.833188G	16.643M	5.816679G	5.833321G	500k	2
16.377M	5.816812G	5.833188G	16.787M	5.816606G	5.833394G	500k	3
16.377M	5.816812G	5.833188G	16.787M	5.816606G	5.833394G	500k	4

802.11ax HEW20_Nss1,(MCS0)_2TX **EBW**

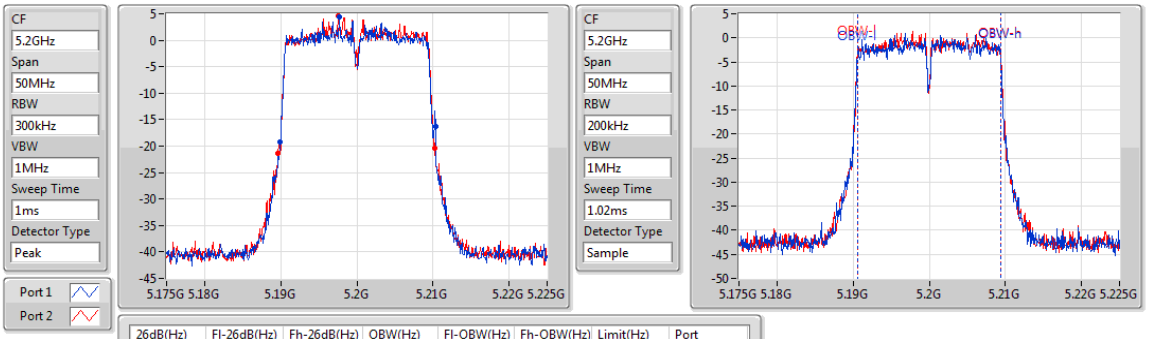
5180MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.725M	5.169638G	5.190362G	18.741M	5.170593G	5.189334G	Inf	1
20.507M	5.169855G	5.190362G	18.741M	5.170593G	5.189334G	Inf	2

802.11ax HEW20_Nss1,(MCS0)_2TX **EBW**

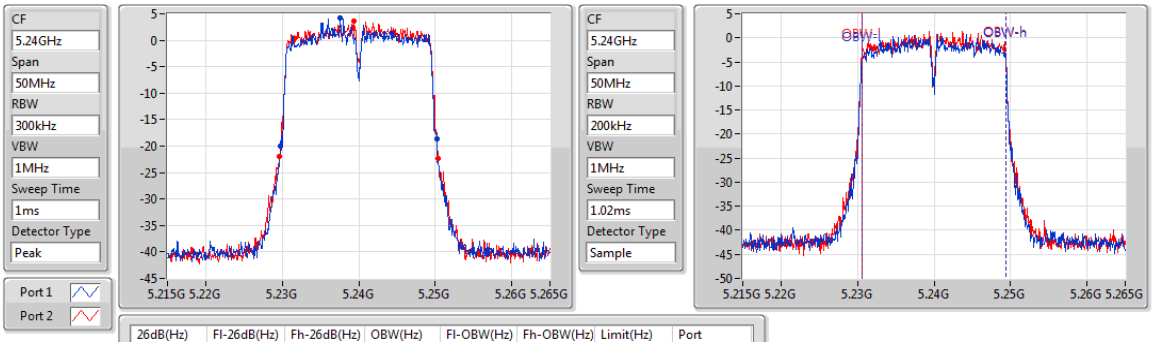
5200MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.507M	5.189855G	5.210362G	18.741M	5.190593G	5.209334G	Inf	1
20.725M	5.189565G	5.21029G	18.741M	5.190593G	5.209334G	Inf	2

802.11ax HEW20_Nss1,(MCS0)_2TX **EBW**

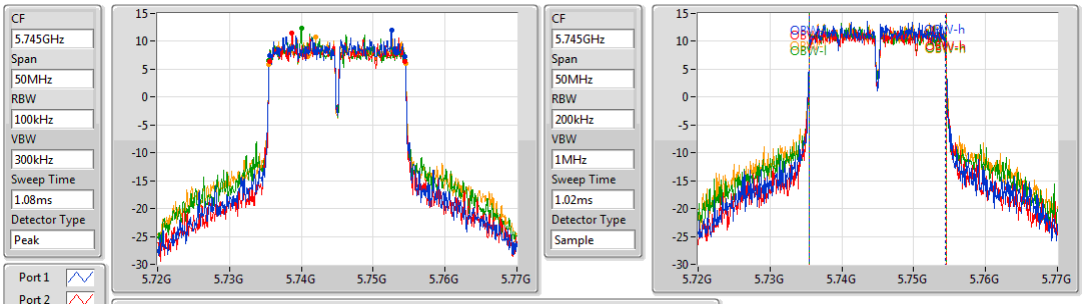
5240MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.435M	5.229783G	5.250217G	18.741M	5.230593G	5.249334G	Inf	1
20.725M	5.229638G	5.250362G	18.741M	5.230593G	5.249334G	Inf	2

802.11ax HEW20_Nss1,(MCS0)_4TX **EBW**

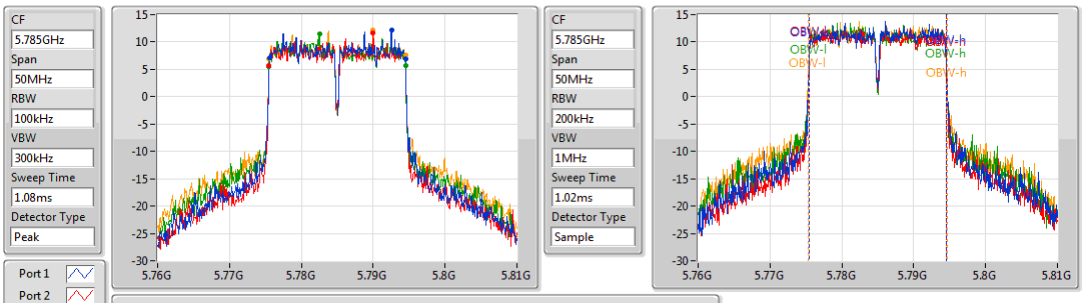
5745MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
18.841M	5.73558G	5.75442G	18.886M	5.735521G	5.754407G	500k	1
18.841M	5.73558G	5.75442G	18.958M	5.735521G	5.754479G	500k	2
18.913M	5.735507G	5.75442G	19.03M	5.735449G	5.754479G	500k	3
18.986M	5.735507G	5.754493G	19.103M	5.735449G	5.754551G	500k	4

802.11ax HEW20_Nss1,(MCS0)_4TX **EBW**

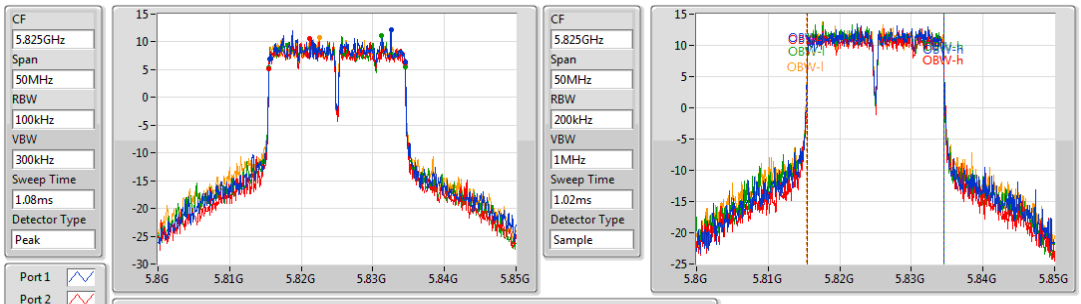
5785MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
18.913M	5.77558G	5.794493G	18.958M	5.775521G	5.794479G	500k	1
18.986M	5.775507G	5.794493G	18.958M	5.775521G	5.794479G	500k	2
18.986M	5.775507G	5.794493G	19.103M	5.775449G	5.794551G	500k	3
18.986M	5.775507G	5.794493G	19.32M	5.775304G	5.794624G	500k	4

802.11ax HEW20_Nss1,(MCS0)_4TX **EBW**

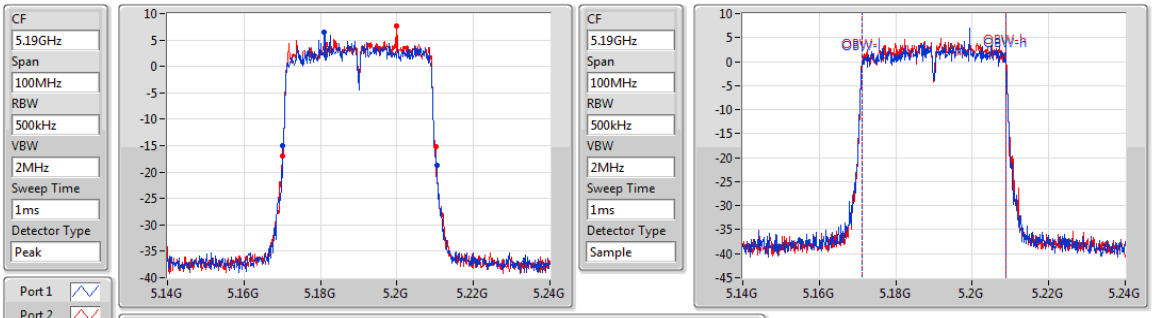
5825MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
18.913M	5.81558G	5.834493G	19.03M	5.815521G	5.834551G	500k	1
18.986M	5.815507G	5.834493G	19.03M	5.815521G	5.834551G	500k	2
18.986M	5.815507G	5.834493G	19.03M	5.815449G	5.834479G	500k	3
18.986M	5.815507G	5.834493G	19.175M	5.815376G	5.834551G	500k	4

802.11ax HEW40_Nss1,(MCS0)_2TX **EBW**

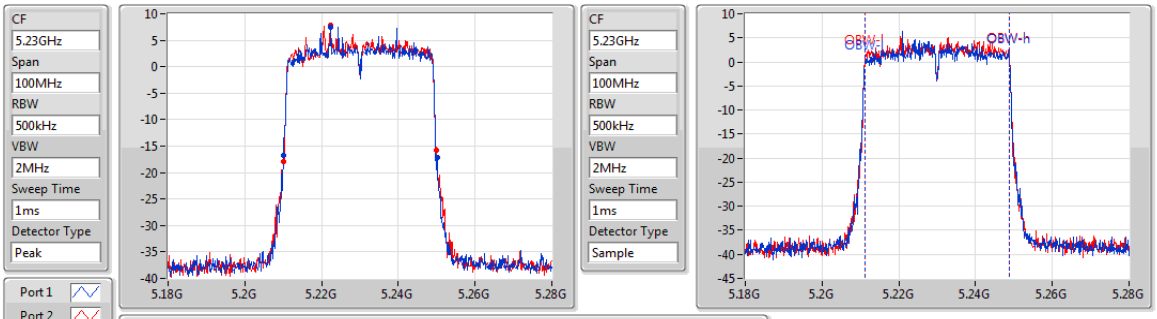
5190MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
40.29M	5.170145G	5.210435G	37.627M	5.171187G	5.208813G	Inf	1
40.145M	5.17G	5.210145G	37.627M	5.171187G	5.208813G	Inf	2

802.11ax HEW40_Nss1,(MCS0)_2TX **EBW**

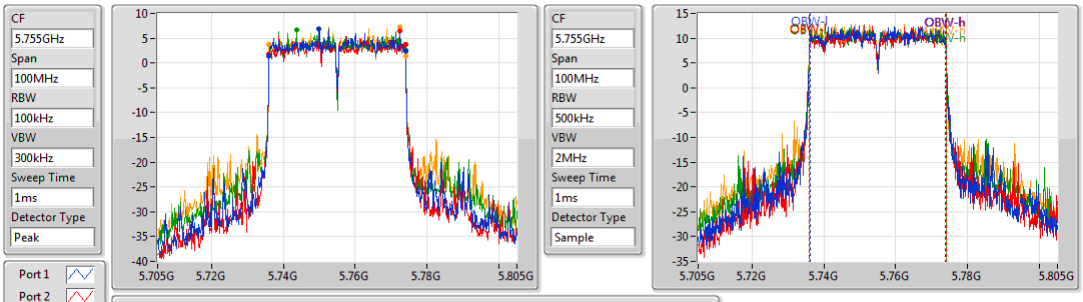
5230MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
40.145M	5.21G	5.250145G	37.627M	5.211187G	5.248813G	Inf	1
39.855M	5.21G	5.249855G	37.627M	5.211187G	5.248813G	Inf	2

802.11ax HEW40_Nss1,(MCS0)_4TX **EBW**

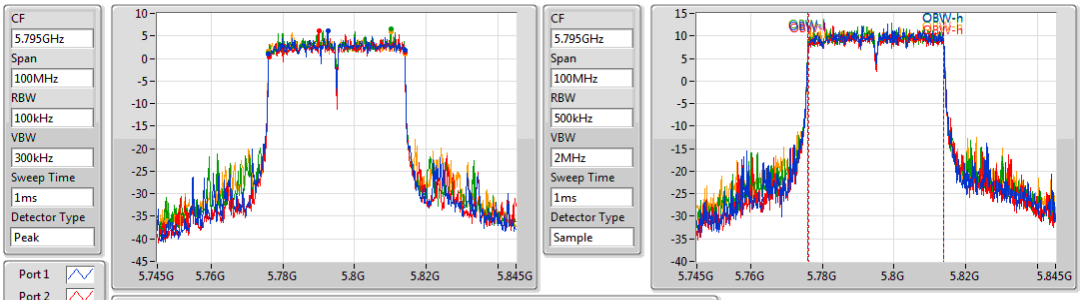
5755MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
37.971M	5.736014G	5.773986G	37.627M	5.736187G	5.773813G	500k	1
37.971M	5.736014G	5.773986G	37.916M	5.736042G	5.773958G	500k	2
37.971M	5.736014G	5.773986G	37.916M	5.736042G	5.773958G	500k	3
37.971M	5.736014G	5.773986G	37.916M	5.736042G	5.773958G	500k	4

802.11ax HEW40_Nss1,(MCS0)_4TX **EBW**

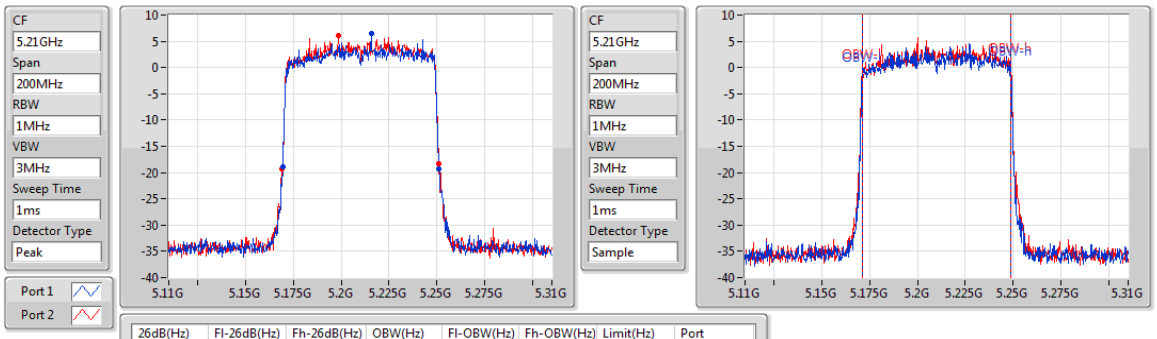
5795MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
37.971M	5.776014G	5.813986G	37.771M	5.776042G	5.813813G	500k	1
37.681M	5.776304G	5.813986G	37.627M	5.776187G	5.813813G	500k	2
37.971M	5.776014G	5.813986G	37.771M	5.776042G	5.813813G	500k	3
37.971M	5.776014G	5.813986G	37.771M	5.776042G	5.813813G	500k	4

802.11ax HEW80_Nss1,(MCS0)_2TX **EBW**

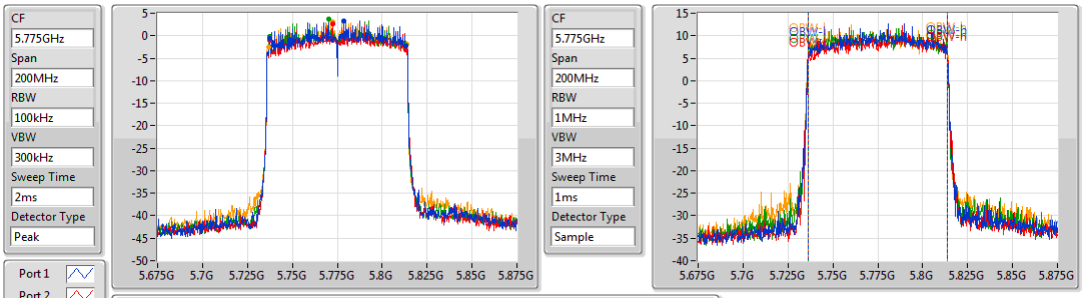
5210MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
81.739M	5.16942G	5.251159G	76.99M	5.171505G	5.248495G	Inf	1
82.029M	5.16913G	5.251159G	76.99M	5.171505G	5.248495G	Inf	2

802.11ax HEW80_Nss1,(MCS0)_4TX **EBW**

5775MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
75.942M	5.737319G	5.813261G	76.99M	5.736505G	5.813495G	500k	1
75.942M	5.737319G	5.813261G	76.99M	5.736505G	5.813495G	500k	2
75.942M	5.737319G	5.813261G	76.99M	5.736505G	5.813495G	500k	3
77.101M	5.736739G	5.813841G	76.99M	5.736505G	5.813495G	500k	4

3.3 RF Output Power

3.3.1 Limit of RF Output Power

Frequency band 5150-5250 MHz		
Operating Mode		**Limit**
☐	Outdoor access point	Conducted Power: 1 W The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm)
☒	Indoor access point	Conducted Power: 1 W
☐	Fixed point-to-point access points	Conducted Power: 1 W
☐	Client devices	Conducted Power: 250 mW

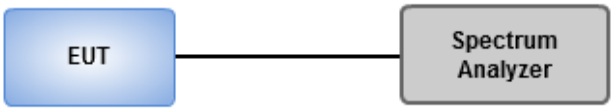
Frequency Band (MHz)		**Limit**
☒	5725 ~ 5850	Conducted Power: 1 W
Note: “B” is the 26dB emission bandwidth in MHz.		

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.

3.3.3 Test Setup



3.3.4 Test Result of Maximum Conducted Output Power

Ambient Condition	22°C / 63%	Tested By	Brad Wu

Non-beamforming mode

Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.15-5.25GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	13.90	0.02455	20.50	0.11220
802.11ax HEW20_Nss1,(MCS0)_2TX-OFDMA	14.22	0.02642	20.82	0.12078
802.11ax HEW40_Nss1,(MCS0)_2TX-OFDMA	16.14	0.04111	22.74	0.18793
802.11ax HEW80_Nss1,(MCS0)_2TX-OFDMA	16.03	0.04009	22.63	0.18323
5.725-5.85GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	29.89	0.97499	35.81	3.81066
802.11ax HEW20_Nss1,(MCS0)_4TX-OFDMA	29.69	0.93111	35.61	3.63915
802.11ax HEW40_Nss1,(MCS0)_4TX-OFDMA	28.07	0.64121	33.99	2.50611
802.11ax HEW80_Nss1,(MCS0)_4TX-OFDMA	26.46	0.44259	32.38	1.72982

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11a_Nss1,(6Mbps)_2TX										
5180MHz	Pass	6.60	10.51	10.82	-	-	13.68	29.40	20.28	36.00
5200MHz	Pass	6.60	10.58	10.96	-	-	13.78	29.40	20.38	36.00
5240MHz	Pass	6.60	10.55	11.21	-	-	13.90	29.40	20.50	36.00
802.11a_Nss1,(6Mbps)_4TX										
5745MHz	Pass	5.92	24.13	23.29	23.82	24.16	29.88	30.00	35.80	36.00
5785MHz	Pass	5.92	24.05	23.17	23.91	24.28	29.89	30.00	35.81	36.00
5825MHz	Pass	5.92	23.89	23.19	24.11	24.02	29.84	30.00	35.76	36.00
802.11ax HEW20_Nss1,(MCS0)_2TX-OFDMA										
5180MHz	Pass	6.60	11.03	11.32	-	-	14.19	29.40	20.79	36.00
5200MHz	Pass	6.60	11.06	11.35	-	-	14.22	29.40	20.82	36.00
5240MHz	Pass	6.60	10.98	11.4	-	-	14.21	29.40	20.81	36.00
802.11ax HEW20_Nss1,(MCS0)_4TX-OFDMA										
5745MHz	Pass	5.92	23.91	23.18	23.61	23.92	29.69	30.00	35.61	36.00
5785MHz	Pass	5.92	23.76	23.11	23.75	23.85	29.65	30.00	35.57	36.00
5825MHz	Pass	5.92	23.73	23.16	23.55	23.92	29.62	30.00	35.54	36.00
802.11ax HEW40_Nss1,(MCS0)_2TX-OFDMA										
5190MHz	Pass	6.60	12.85	13.22	-	-	16.05	29.40	22.65	36.00
5230MHz	Pass	6.60	12.94	13.31	-	-	16.14	29.40	22.74	36.00
802.11ax HEW40_Nss1,(MCS0)_4TX-OFDMA										
5755MHz	Pass	5.92	22.09	21.75	21.98	22.35	28.07	30.00	33.99	36.00
5795MHz	Pass	5.92	21.02	20.61	20.96	21.36	27.02	30.00	32.94	36.00
802.11ax HEW80_Nss1,(MCS0)_2TX-OFDMA										
5210MHz	Pass	6.60	12.79	13.24	-	-	16.03	29.40	22.63	36.00
802.11ax HEW80_Nss1,(MCS0)_4TX-OFDMA										
5775MHz	Pass	5.92	20.56	20.03	20.51	20.62	26.46	30.00	32.38	36.00

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

Directional Gain of 5.150 ~ 5.250 GHs is 6.6dBi > 6dBi, so the limit shall be reduced to 30 dBm – (6.6dBi – 6dBi) =29.4 dBm.

Beamforming mode

Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.15-5.25GHz	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX-OFDMA	11.21	0.01321	19.60	0.09120
802.11ax HEW40-BF_Nss1,(MCS0)_2TX-OFDMA	13.13	0.02056	21.52	0.14191
802.11ax HEW80-BF_Nss1,(MCS0)_2TX-OFDMA	13.02	0.02004	21.41	0.13836
5.725-5.85GHz	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX-OFDMA	23.67	0.23281	35.00	3.16228
802.11ax HEW40-BF_Nss1,(MCS0)_4TX-OFDMA	22.05	0.16032	33.38	2.17771
802.11ax HEW80-BF_Nss1,(MCS0)_4TX-OFDMA	20.44	0.11066	31.77	1.50314

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11ax HEW20-BF_Nss1,(MCS 0)_2TX-OFDMA	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	8.39	8.02	8.31	-	-	11.18	27.61	19.57	36.00
5200MHz	Pass	8.39	8.05	8.34	-	-	11.21	27.61	19.60	36.00
5240MHz	Pass	8.39	7.97	8.39	-	-	11.20	27.61	19.59	36.00
802.11ax HEW20-BF_Nss1,(MCS 0)_4TX-OFDMA	-	-	-	-	-	-	-	-	-	-
5745MHz	Pass	11.33	17.89	17.16	17.59	17.9	23.67	24.67	35.00	36.00
5785MHz	Pass	11.33	17.74	17.09	17.73	17.83	23.63	24.67	34.96	36.00
5825MHz	Pass	11.33	17.71	17.14	17.53	17.9	23.60	24.67	34.93	36.00
802.11ax HEW40-BF_Nss1,(MCS 0)_2TX-OFDMA	-	-	-	-	-	-	-	-	-	-
5190MHz	Pass	8.39	9.84	10.21	-	-	13.04	27.61	21.43	36.00
5230MHz	Pass	8.39	9.93	10.3	-	-	13.13	27.61	21.52	36.00
802.11ax HEW40-BF_Nss1,(MCS 0)_4TX-OFDMA	-	-	-	-	-	-	-	-	-	-
5755MHz	Pass	11.33	16.07	15.73	15.96	16.33	22.05	24.67	33.38	36.00
5795MHz	Pass	11.33	15	14.59	14.94	15.34	21.00	24.67	32.33	36.00
802.11ax HEW80-BF_Nss1,(MCS 0)_2TX-OFDMA	-	-	-	-	-	-	-	-	-	-
5210MHz	Pass	8.39	9.78	10.23	-	-	13.02	27.61	21.41	36.00
802.11ax HEW80-BF_Nss1,(MCS 0)_4TX-OFDMA	-	-	-	-	-	-	-	-	-	-
5775MHz	Pass	11.33	14.54	14.01	14.49	14.6	20.44	24.67	31.77	36.00

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

For 5150~5250MHz:

Directional gain = 10 x log((10$^{3.95/20}$+10$^{6.6/20}$)^2/2) =8.39 dBi > 6 dBi, Limit shall be reduced to 30 dBm – (8.39 dBi – 6 dBi) = 27.61 dBm.

For 5725~5850MHz:

Directional gain = 10 x log((10$^{5.3/20}$+10$^{5.92/20}$+10$^{4.72/20}$+10$^{5.25/20}$)^2/4) = 11.33 dBi > 6 dBi, Limit shall be reduced to 30 dBm – (11.33 dBi – 6 dBi) = 24.67 dBm.

3.4 Peak Power Spectral Density

3.4.1 Limit of Peak Power Spectral Density

Frequency band 5150-5250 MHz		
Operating Mode		**Limit**
☐	Outdoor access point	17 dBm / MHz
☒	Indoor access point	17 dBm / MHz
☐	Fixed point-to-point access points	17 dBm / MHz
☐	Client devices	11 dBm / MHz

Frequency Band (MHz)		**Limit**
☒	5725 ~ 5850	30 dBm /500 kHz

3.4.2 Test Procedures

For 5150 ~ 5250 MHz

Duty cycle ≥ 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 ≥ 10 * (number of points in sweep) * (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.

For 5725 ~ 5850 MHz

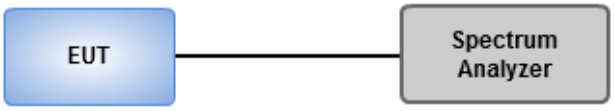
Duty cycle ≥ 98 %

1. Set RBW = 500 kHz, 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 = 500 kHz, VBW = 3 MHz, Detector = RMS.
2. Set sweep time ≥ 10 * (number of points in sweep) * (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	22°C / 63%	Tested By	Brad Wu

Summary

Mode	PD (dBm/RBW)	EIRP PD (dBm/RBW)
5.15-5.25GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	1.5	9.89
802.11ax HEW20_Nss1,(MCS0)_2TX-OFDMA	1.46	9.85
802.11ax HEW40_Nss1,(MCS0)_2TX-OFDMA	-0.06	8.33
802.11ax HEW80_Nss1,(MCS0)_2TX-OFDMA	-2.55	5.84
5.725-5.85GHz	-	-
802.11a_Nss1,(6Mbps)_4TX	16.19	27.52
802.11ax HEW20_Nss1,(MCS0)_4TX-OFDMA	14.45	25.78
802.11ax HEW40_Nss1,(MCS0)_4TX-OFDMA	9.41	20.74
802.11ax HEW80_Nss1,(MCS0)_4TX-OFDMA	5.88	17.21

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

Result

Mode	Result	DG (dBi)	Port 1 (dBm/ RBW)	Port 2 (dBm/ RBW)	Port 3 (dBm/ RBW)	Port 4 (dBm/ RBW)	PD (dBm/ RBW)	PD Limit (dBm/ RBW)	EIRP PD (dBm/ RBW)	EIRP PD Limit (dBm/ RBW)
802.11a_Nss1,(6Mbps)_2TX										
5180MHz	Pass	8.39	-1.72	-1.42	-	-	1.26	14.61	9.65	23.00
5200MHz	Pass	8.39	-1.59	-1.61	-	-	1.39	14.61	9.78	23.00
5240MHz	Pass	8.39	-1.74	-1.14	-	-	1.50	14.61	9.89	23.00
802.11a_Nss1,(6Mbps)_4TX										
5745MHz	Pass	11.33	10.32	9.81	10.18	10.2	16.04	24.67	27.37	36.00
5785MHz	Pass	11.33	10.46	9.85	10.35	10.43	16.19	24.67	27.52	36.00
5825MHz	Pass	11.33	10.14	9.51	10.29	10.29	15.97	24.67	27.30	36.00
802.11ax HEW20_Nss1,(MCS0)_2TX-OFDMA										
5180MHz	Pass	8.39	-1.9	-1.56	-	-	1.20	14.61	9.59	23.00
5200MHz	Pass	8.39	-1.37	-1.33	-	-	1.46	14.61	9.85	23.00
5240MHz	Pass	8.39	-2	-1.33	-	-	1.14	14.61	9.53	23.00
802.11ax HEW20_Nss1,(MCS0)_4TX-OFDMA										
5745MHz	Pass	11.33	8.8	8.28	8.59	8.6	14.34	24.67	25.67	36.00
5785MHz	Pass	11.33	8.86	8.21	9.06	8.62	14.45	24.67	25.78	36.00
5825MHz	Pass	11.33	8.77	8.34	9.13	8.71	14.45	24.67	25.78	36.00
802.11ax HEW40_Nss1,(MCS0)_2TX-OFDMA										
5190MHz	Pass	8.39	-3.17	-2.63	-	-	-0.06	14.61	8.33	23.00
5230MHz	Pass	8.39	-3.51	-2.89	-	-	-0.32	14.61	8.07	23.00
802.11ax HEW40_Nss1,(MCS0)_4TX-OFDMA										
5755MHz	Pass	11.33	3.66	3.3	3.81	3.95	9.41	24.67	20.74	36.00
5795MHz	Pass	11.33	2.96	2.58	3.29	3.05	8.68	24.67	20.01	36.00
802.11ax HEW80_Nss1,(MCS0) _2TX-OFDMA										
5210MHz	Pass	8.39	-5.67	-5.14	-	-	-2.55	14.61	5.84	23.00
802.11ax HEW80_Nss1,(MCS0)_4TX-OFDMA										
5775MHz	Pass	11.33	0.11	-0.19	0.56	0.28	5.88	24.67	17.21	36.00

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;

DG = Directional Gain;

For 5150~5250MHz:

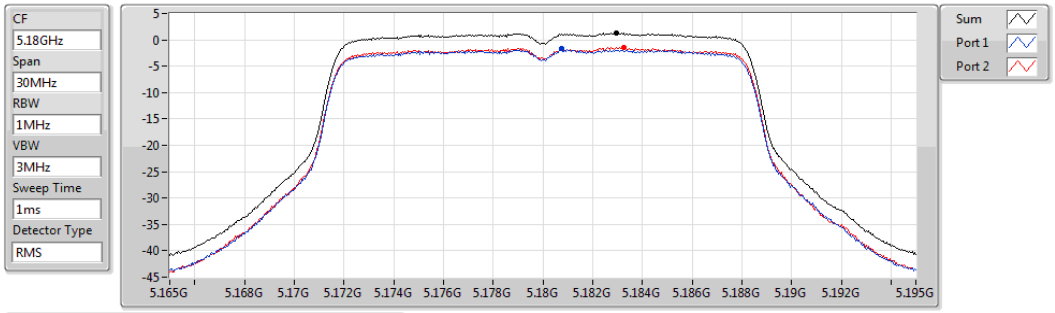
Directional gain = 10 x log($(10^{3.95/20}+10^{6.6/20})^2$/2) = 8.39 dBi > 6 dBi, Limit shall be reduced to 17 dBm – (8.39 dBi – 6 dBi) = 14.61 dBm.

For 5725~5850MHz:

Directional gain = 10 x log($(10^{5.3/20}+10^{5.92/20}+10^{4.72/20}+10^{5.25/20})^2$/4) = 11.33 dBi, > 6 dBi, Limit shall be reduced to 30 dBm – (11.76 dBi – 6 dBi) = 24.67 dBm.

802.11a_Nss1,(6Mbps)_2TX **PSD**

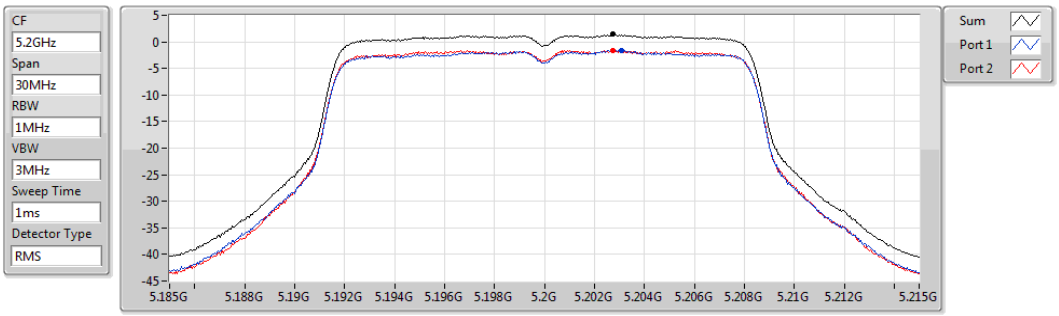
5180MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.26	1.26	-1.72	-1.42

802.11a_Nss1,(6Mbps)_2TX **PSD**

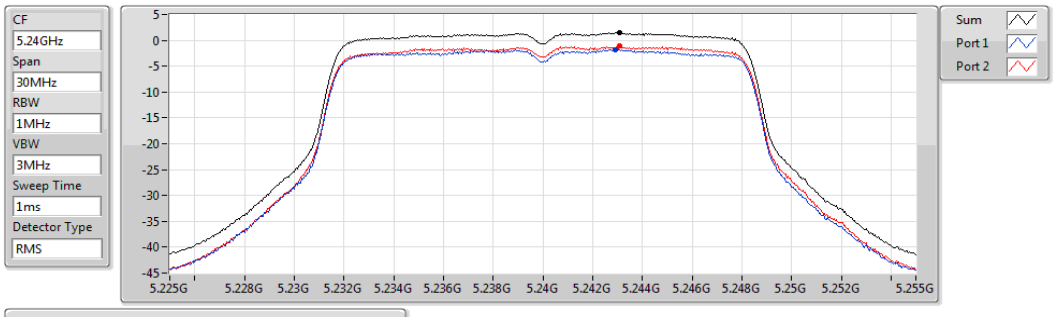
5200MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.39	1.39	-1.59	-1.61

802.11a_Nss1,(6Mbps)_2TX **PSD**

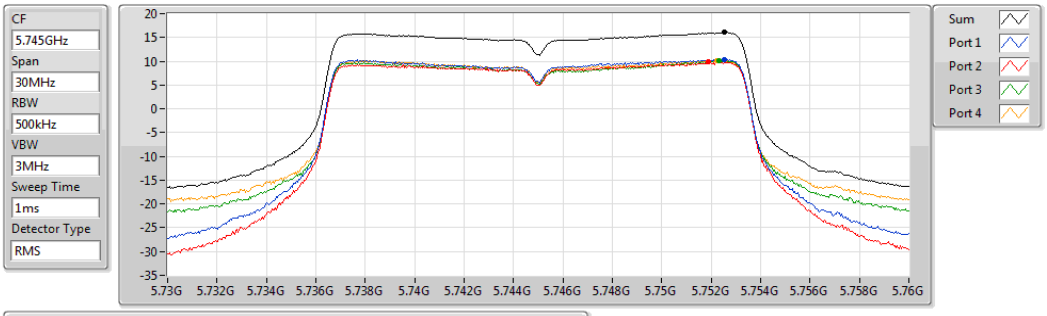
5240MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.50	1.50	-1.74	-1.14

802.11a_Nss1,(6Mbps)_4TX **PSD**

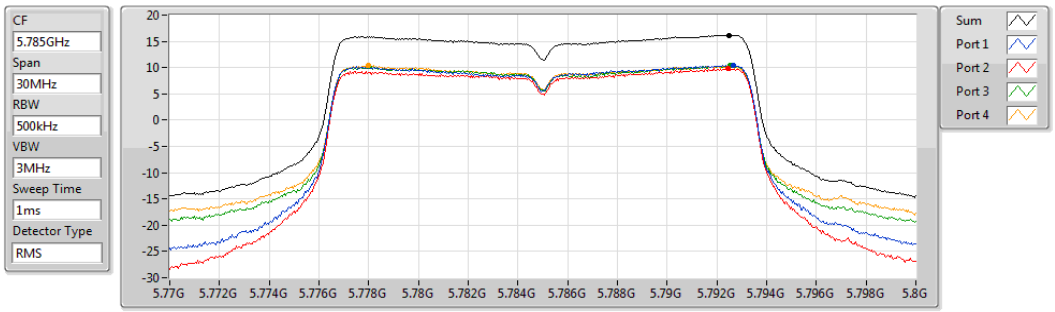
5745MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
16.04	16.04	10.32	9.81	10.18	10.20

802.11a_Nss1,(6Mbps)_4TX **PSD**

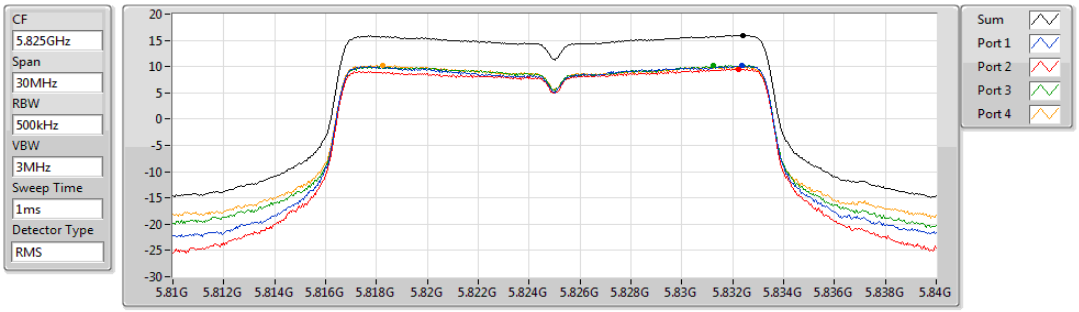
5785MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
16.19	16.19	10.46	9.85	10.35	10.43

802.11a_Nss1,(6Mbps)_4TX **PSD**

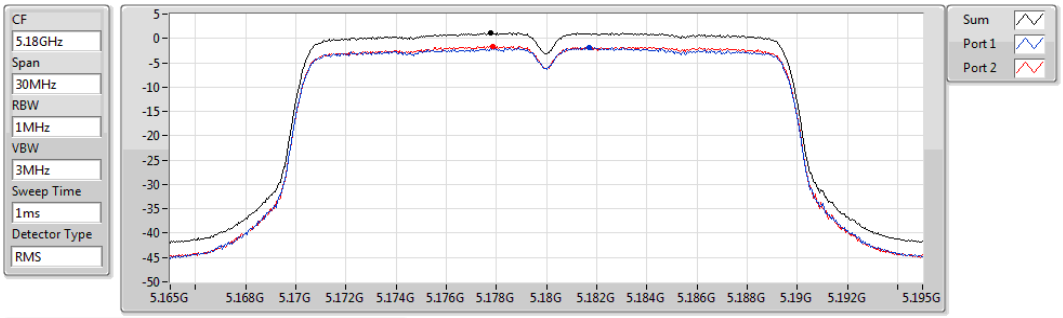
5825MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
15.97	15.97	10.14	9.51	10.29	10.29

802.11ax HEW20_Nss1,(MCS0)_2TX **PSD**

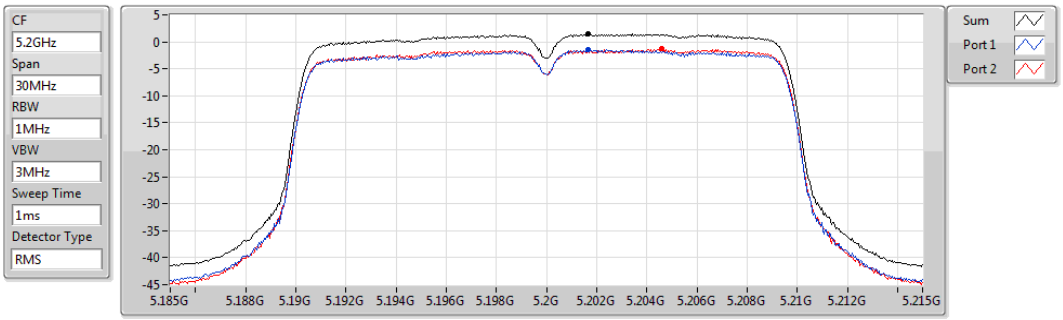
5180MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.20	1.20	-1.90	-1.56

802.11ax HEW20_Nss1,(MCS0)_2TX **PSD**

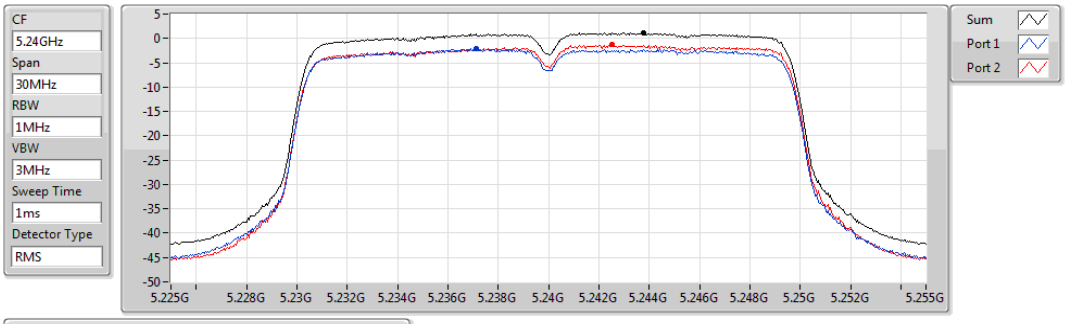
5200MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.46	1.46	-1.37	-1.33

802.11ax HEW20_Nss1,(MCS0)_2TX **PSD**

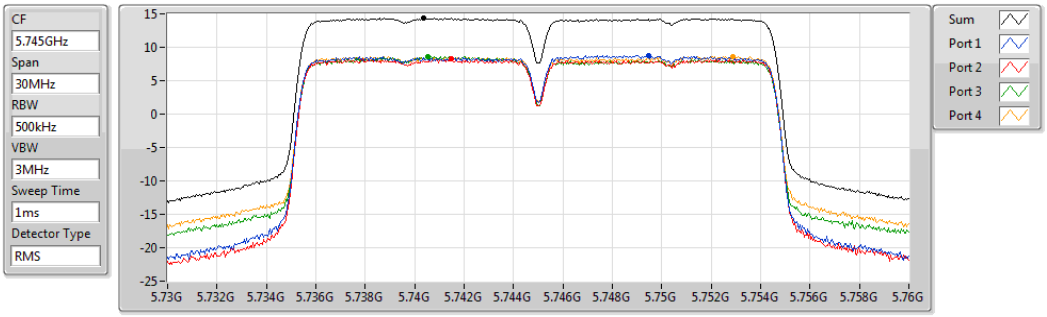
5240MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.14	1.14	-2.00	-1.33

802.11ax HEW20_Nss1,(MCS0)_4TX **PSD**

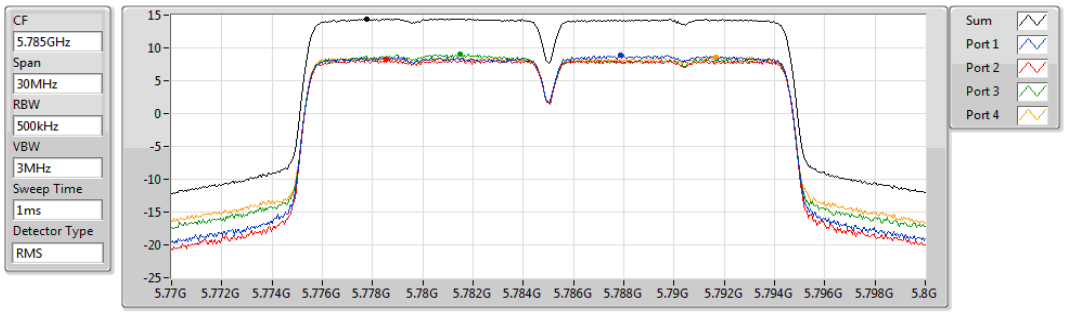
5745MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
14.34	14.34	8.80	8.28	8.59	8.60

802.11ax HEW20_Nss1,(MCS0)_4TX **PSD**

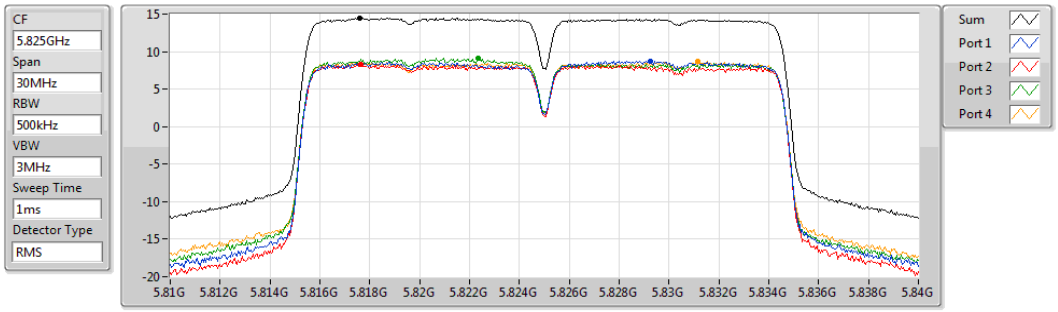
5785MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
14.45	14.45	8.86	8.21	9.06	8.62

802.11ax HEW20_Nss1,(MCS0)_4TX **PSD**

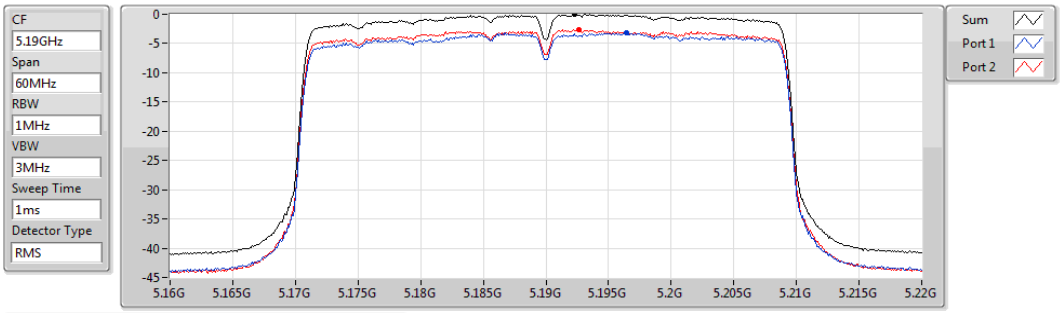
5825MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
14.45	14.45	8.77	8.34	9.13	8.71

802.11ax HEW40_Nss1,(MCS0)_2TX **PSD**

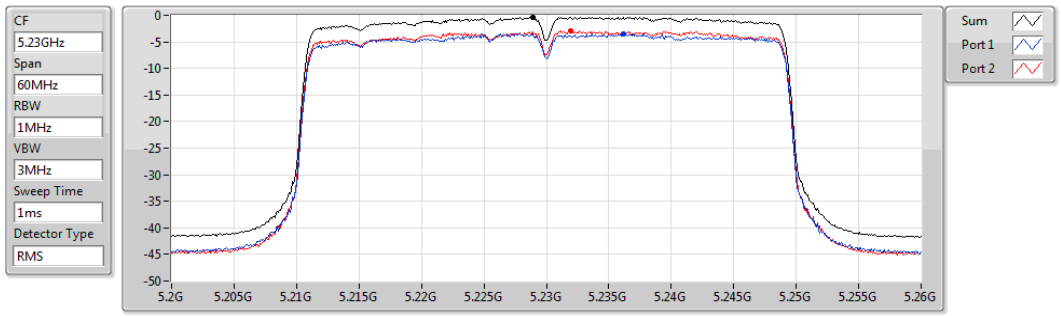
5190MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.06	-0.06	-3.17	-2.63

802.11ax HEW40_Nss1,(MCS0)_2TX **PSD**

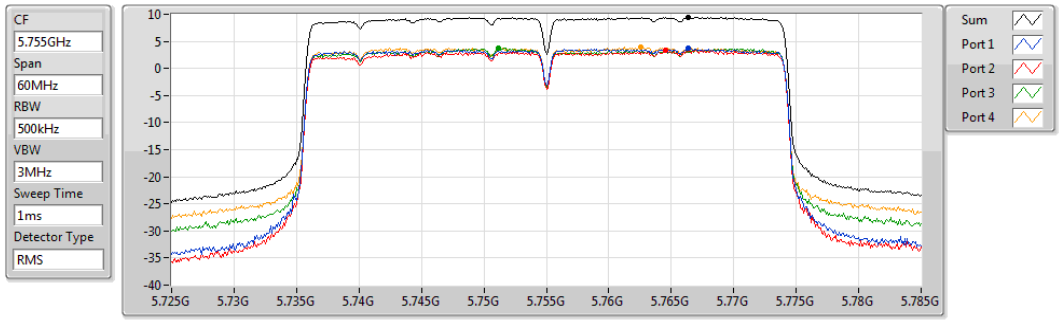
5230MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.32	-0.32	-3.51	-2.89

802.11ax HEW40_Nss1,(MCS0)_4TX **PSD**

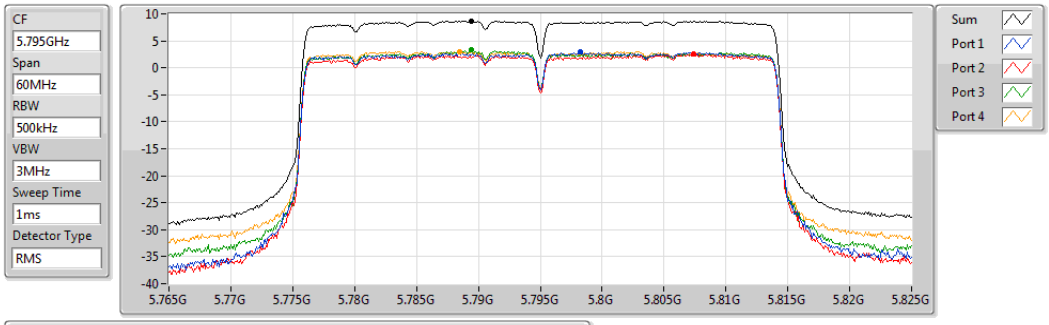
5755MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.41	9.41	3.66	3.30	3.81	3.95

802.11ax HEW40_Nss1,(MCS0)_4TX **PSD**

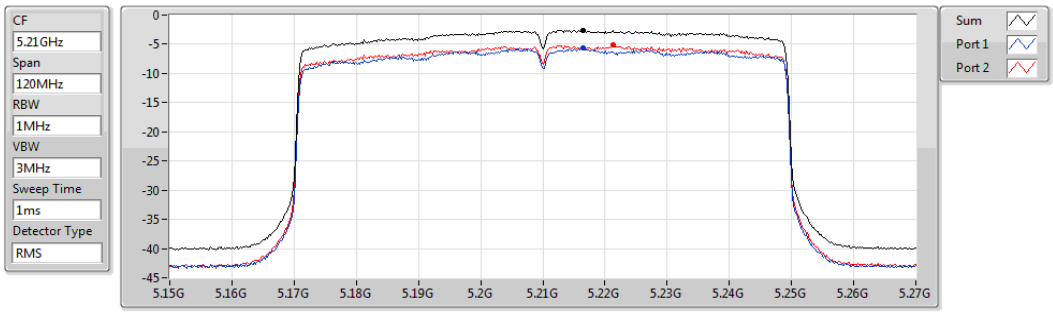
5795MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.68	8.68	2.96	2.58	3.29	3.05

802.11ax HEW80_Nss1,(MCS0)_2TX **PSD**

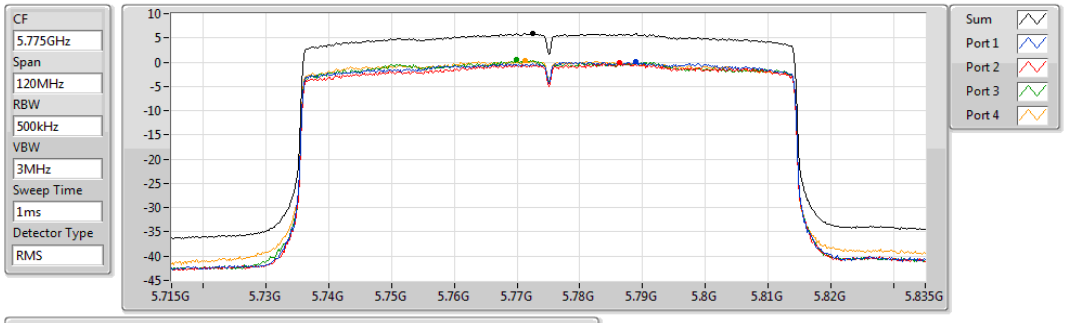
5210MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-2.55	-2.55	-5.67	-5.14

802.11ax HEW80_Nss1,(MCS0)_4TX **PSD**

5775MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.88	5.88	0.11	-0.19	0.56	0.28

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**
5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.725 - 5.850 GHz	All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

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

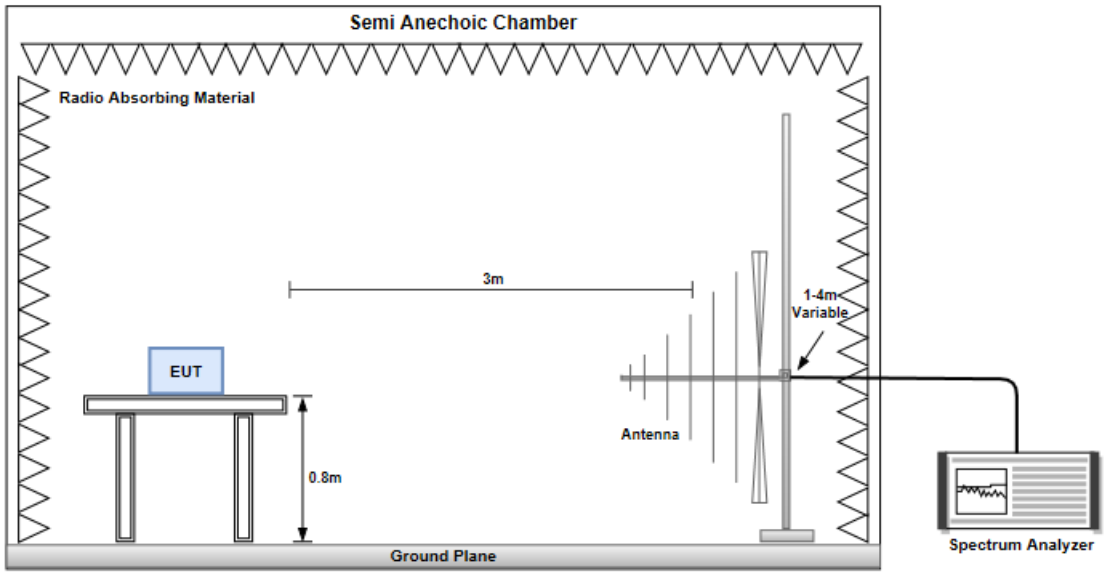
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission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

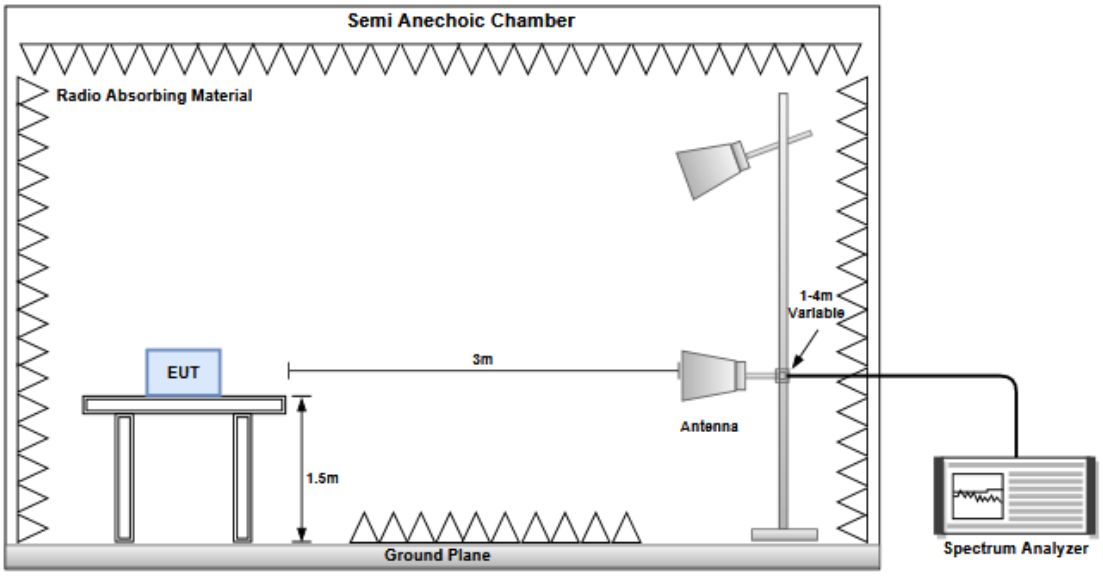
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

3.5.3 Test Setup

Radiated Emissions below 1 GHz



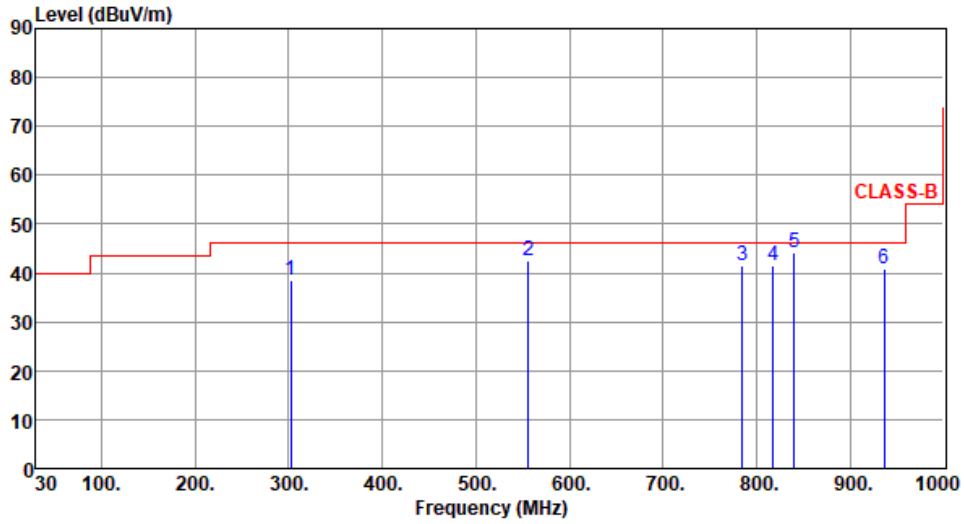
Radiated Emissions above 1 GHz



3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

Modulation	ax HE40-OFDMA	Test Freq. (MHz)	5230
Polarization	Horizontal		

Test By :Roger Lu Temperature(℃):22 Humidity(%):68

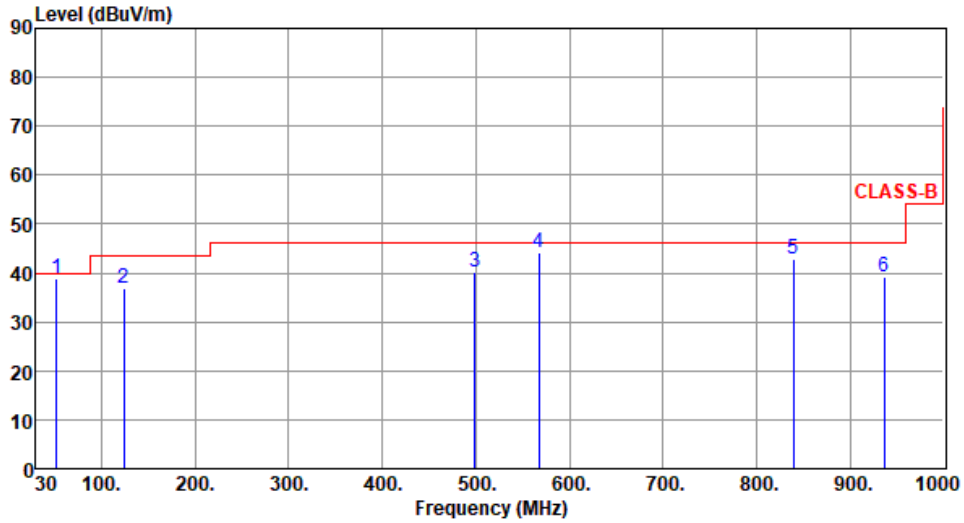


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	302.45	38.49	46.00	-7.51	46.55	-8.06	Peak	---	---
2	556.00	42.45	46.00	-3.55	44.75	-2.30	Peak	---	---
3	784.92	41.35	46.00	-4.65	39.51	1.84	QP	100	219
4	817.34	41.56	46.00	-4.44	39.18	2.38	QP	106	217
5	840.15	44.22	46.00	-1.78	41.73	2.49	QP	100	216
6	936.81	40.94	46.00	-5.06	36.70	4.24	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5230
Polarization	Vertical		

Test By :Roger Lu Temperature(℃):22 Humidity(%):68

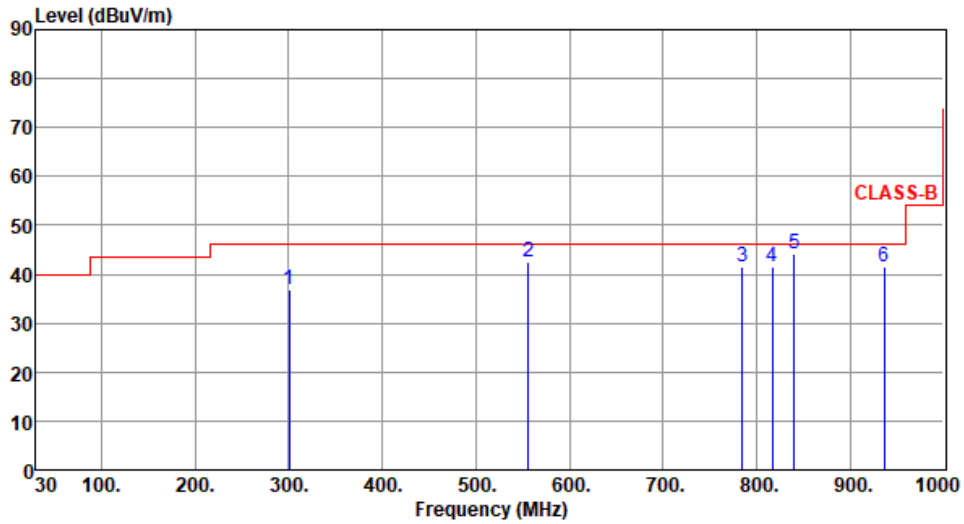


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	51.76	38.79	40.00	-1.21	47.58	-8.79	QP	100	346
2	124.21	36.85	43.50	-6.65	47.14	-10.29	Peak	---	---
3	499.12	40.06	46.00	-5.94	43.37	-3.31	QP	119	341
4	567.59	44.24	46.00	-1.76	46.19	-1.95	QP	100	177
5	839.64	42.72	46.00	-3.28	40.23	2.49	Peak	---	---
6	936.48	39.12	46.00	-6.88	34.88	4.24	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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	11a	Test Freq. (MHz)	5785
Polarization	Horizontal		

Test By :Roger Lu Temperature(℃):22 Humidity(%):68

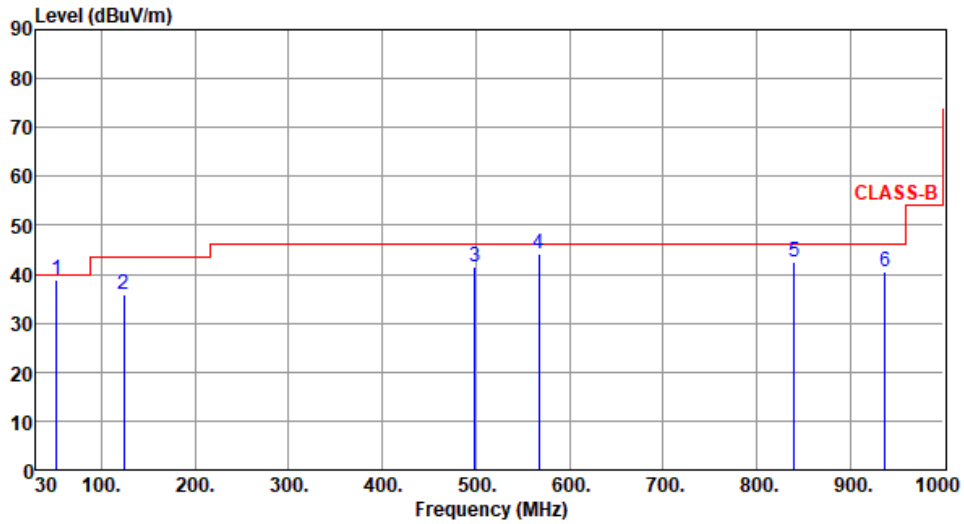


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	300.89	36.99	46.00	-9.01	45.09	-8.10	Peak	---	---
2	556.49	42.43	46.00	-3.57	44.71	-2.28	Peak	---	---
3	784.61	41.56	46.00	-4.44	39.71	1.85	QP	100	215
4	817.13	41.63	46.00	-4.37	39.26	2.37	QP	102	216
5	840.15	44.26	46.00	-1.74	41.77	2.49	QP	103	211
6	936.48	41.44	46.00	-4.56	37.20	4.24	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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	11a	Test Freq. (MHz)	5785
Polarization	Vertical		

Test By :Roger Lu Temperature(℃):22 Humidity(%):68



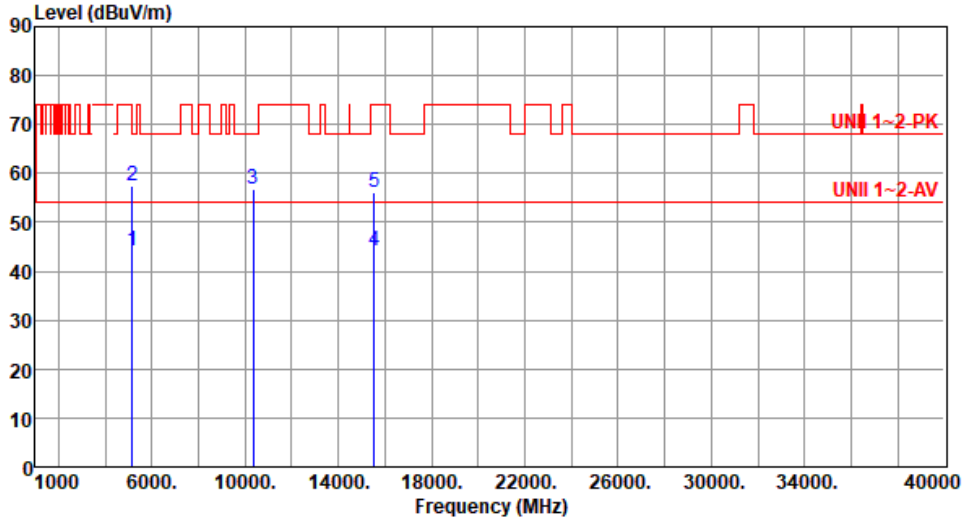
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	51.73	38.75	40.00	-1.25	47.54	-8.79	QP	100	341
2	124.29	35.71	43.50	-7.79	45.99	-10.28	Peak	---	---
3	499.12	41.35	46.00	-4.65	44.66	-3.31	QP	118	342
4	567.76	44.26	46.00	-1.74	46.20	-1.94	QP	100	179
5	840.13	42.36	46.00	-3.64	39.87	2.49	Peak	---	---
6	937.45	40.38	46.00	-5.62	36.14	4.24	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5180
Polarization	Horizontal		

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

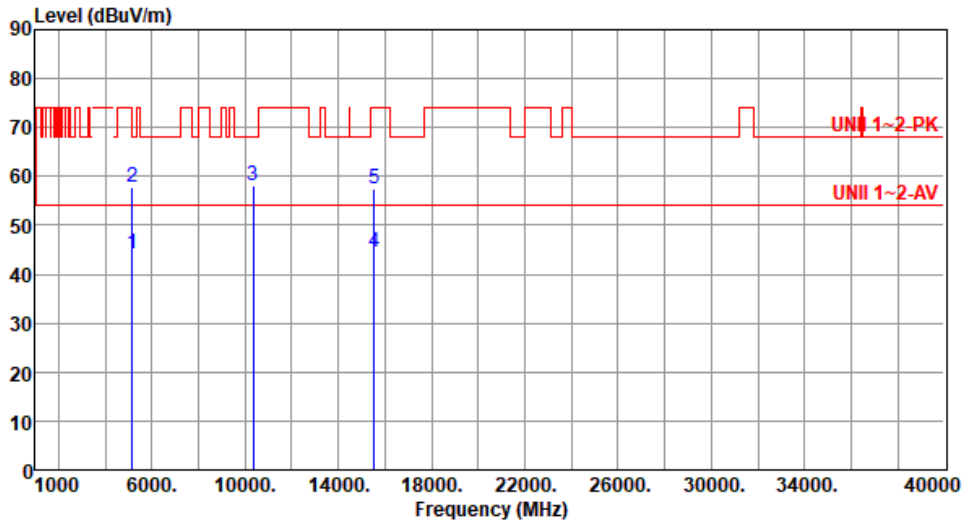


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	44.07	54.00	-9.93	39.06	5.01	Average	255	306
2	5150.00	57.57	74.00	-16.43	52.56	5.01	Peak	255	306
3	10360.00	56.88	68.20	-11.32	42.67	14.21	Peak	100	250
4	15540.00	44.30	54.00	-9.70	30.66	13.64	Average	100	255
5	15540.00	56.23	74.00	-17.77	42.59	13.64	Peak	100	255

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5180
Polarization	Vertical		

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

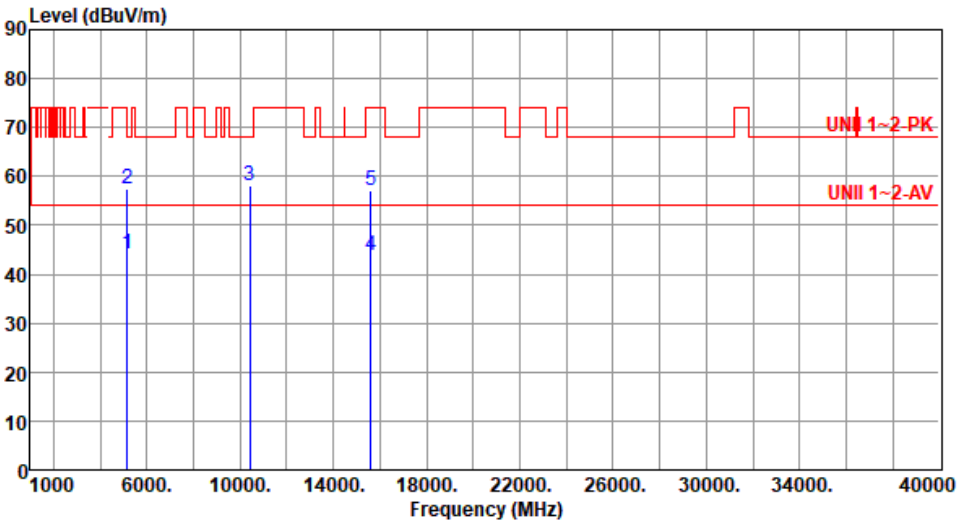


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	44.18	54.00	-9.82	39.17	5.01	Average	296	280
2	5150.00	57.83	74.00	-16.17	52.82	5.01	Peak	296	280
3	10360.00	58.10	68.20	-10.10	43.89	14.21	Peak	100	75
4	15540.00	44.59	54.00	-9.41	30.95	13.64	Average	100	70
5	15540.00	57.39	74.00	-16.61	43.75	13.64	Peak	100	70

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5200
Polarization	Horizontal		

Test By :Brad Wu Temperature(℃):22 Humidity(%):68

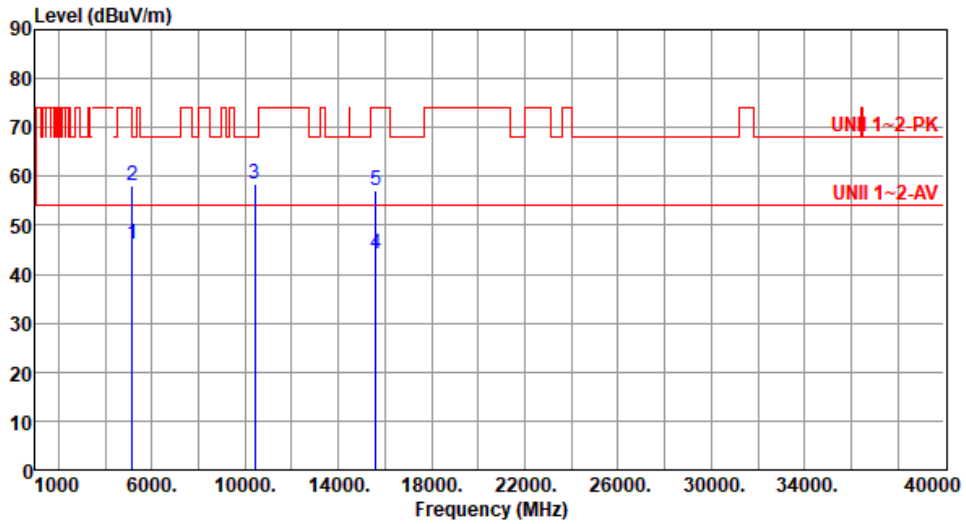


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	44.20	54.00	-9.80	39.19	5.01	Average	294	282
2	5150.00	57.36	74.00	-16.64	52.35	5.01	Peak	294	282
3	10400.00	58.10	68.20	-10.10	43.77	14.33	Peak	100	255
4	15600.00	43.78	54.00	-10.22	30.45	13.33	Average	100	241
5	15600.00	57.02	74.00	-16.98	43.69	13.33	Peak	100	241

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5200
Polarization	Vertical		

Test By :Brad Wu Temperature(℃):22 Humidity(%):68

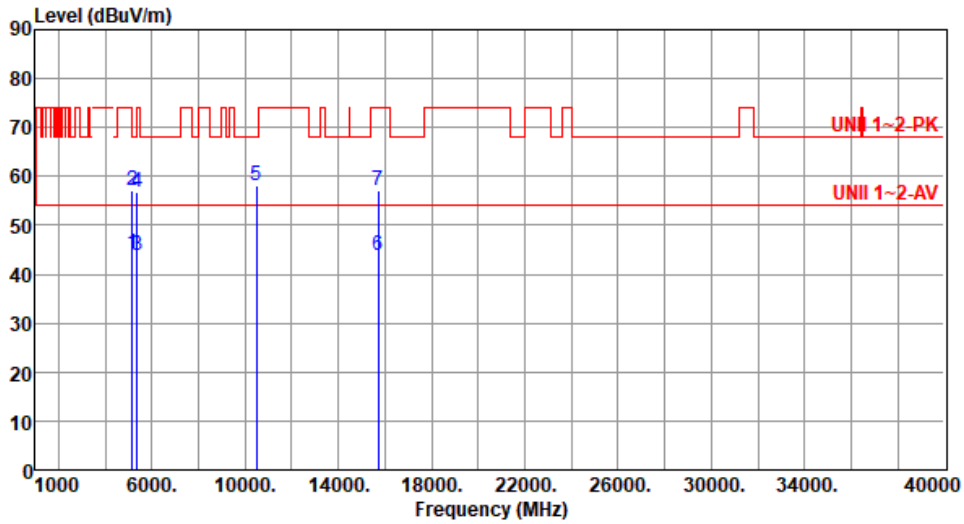


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	46.07	54.00	-7.93	41.06	5.01	Average	250	301
2	5150.00	58.02	74.00	-15.98	53.01	5.01	Peak	250	301
3	10400.00	58.31	68.20	-9.89	43.98	14.33	Peak	101	72
4	15600.00	44.31	54.00	-9.69	30.98	13.33	Average	100	77
5	15600.00	57.22	74.00	-16.78	43.89	13.33	Peak	100	77

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5240
Polarization	Horizontal		

Test By :Brad Wu Temperature(℃):22 Humidity(%):66

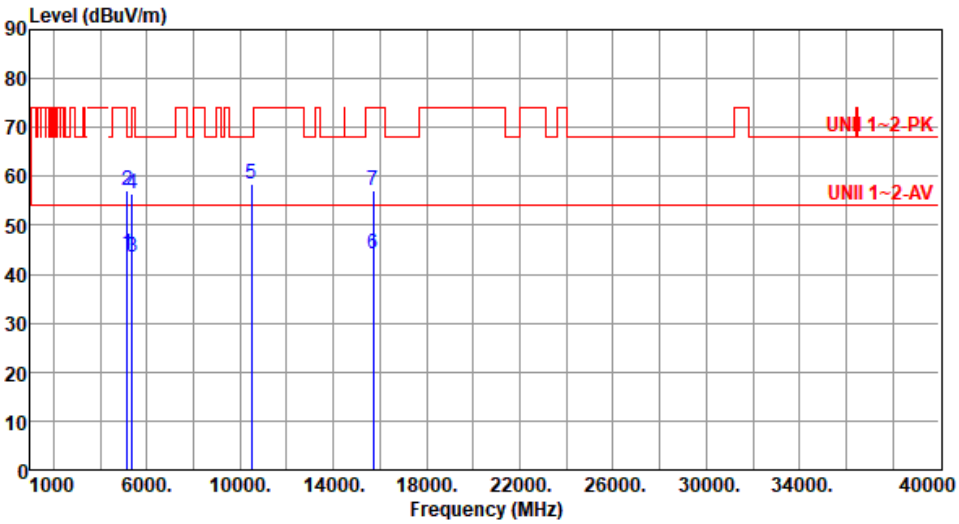


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	44.07	54.00	-9.93	39.06	5.01	Average	295	290
2	5150.00	57.12	74.00	-16.88	52.11	5.01	Peak	295	280
3	5350.00	43.97	54.00	-10.03	39.55	4.42	Average	295	290
4	5350.00	56.67	74.00	-17.33	52.25	4.42	Peak	295	290
5	10480.00	57.97	68.20	-10.23	43.51	14.46	Peak	100	260
6	15720.00	43.79	54.00	-10.21	30.37	13.42	Average	100	245
7	15720.00	56.97	74.00	-17.03	43.55	13.42	Peak	100	245

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5240
Polarization	Vertical		

Test By :Brad Wu Temperature(℃):22 Humidity(%):66

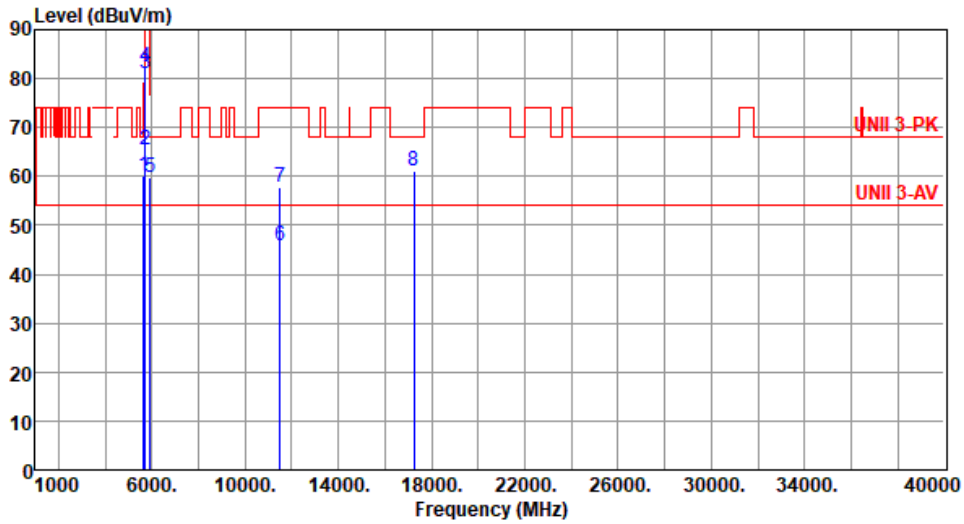


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	44.02	54.00	-9.98	39.01	5.01	Average	261	308
2	5150.00	57.12	74.00	-16.88	52.11	5.01	Peak	261	308
3	5350.00	43.45	54.00	-10.55	39.03	4.42	Average	261	308
4	5350.00	56.45	74.00	-17.55	52.03	4.42	Peak	261	308
5	10480.00	58.35	68.20	-9.85	43.89	14.46	Peak	101	75
6	15720.00	44.32	54.00	-9.68	30.90	13.42	Average	100	78
7	15720.00	57.28	74.00	-16.72	43.86	13.42	Peak	100	78

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5745
Polarization	Horizontal		

Test By :Akun Chung Temperature(℃):22 Humidity(%):68

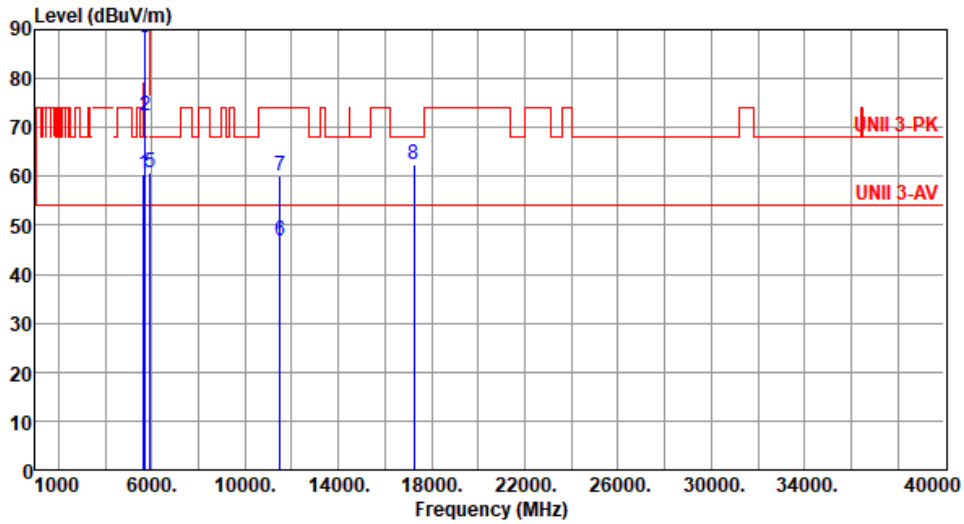


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	60.02	68.20	-8.18	55.21	4.81	Peak	207	265
2	5700.00	65.27	105.20	-39.93	60.25	5.02	Peak	207	265
3	5720.00	81.13	110.80	-29.67	75.99	5.14	Peak	207	265
4	5725.00	82.42	122.20	-39.78	77.25	5.17	Peak	207	265
5	5925.00	59.87	68.20	-8.33	54.26	5.61	Peak	207	265
6	11490.00	45.89	54.00	-8.11	31.50	14.39	Average	100	50
7	11490.00	57.89	74.00	-16.11	43.50	14.39	Peak	100	50
8	17235.00	61.05	68.20	-7.15	43.59	17.46	Peak	100	125

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5745
Polarization	Vertical		

Test By :Akun Chung Temperature(℃):22 Humidity(%):68

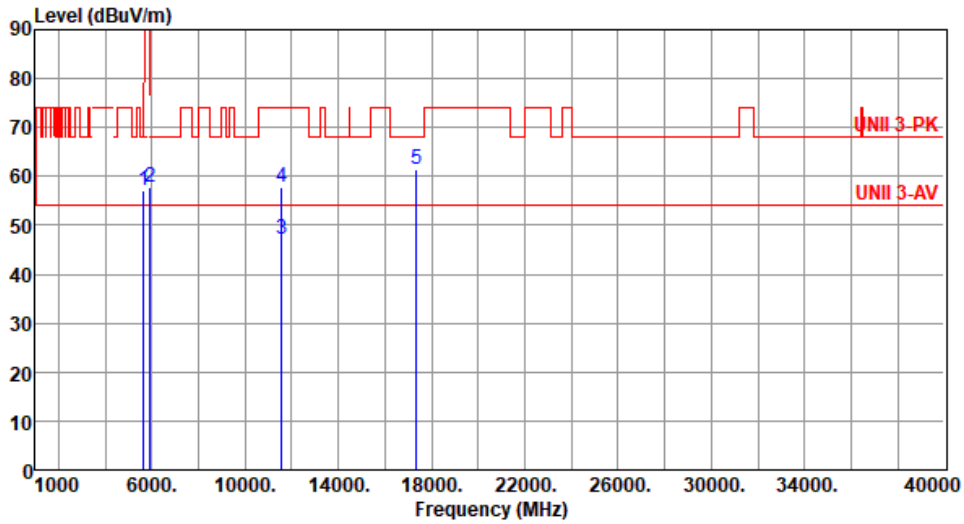


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	60.31	68.20	-7.89	55.50	4.81	Peak	239	43
2	5700.00	72.30	105.20	-32.90	67.28	5.02	Peak	239	43
3	5720.00	88.33	110.80	-22.47	83.19	5.14	Peak	239	43
4	5725.00	90.06	122.20	-32.14	84.89	5.17	Peak	239	43
5	5925.00	60.66	68.20	-7.54	55.05	5.61	Peak	239	43
6	11490.00	46.94	54.00	-7.06	32.55	14.39	Average	105	121
7	11490.00	60.08	74.00	-13.92	45.69	14.39	Peak	105	121
8	17235.00	62.31	68.20	-5.89	44.85	17.46	Peak	156	258

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5785
Polarization	Horizontal		

Test By :Akun Chung Temperature(℃):22 Humidity(%):68

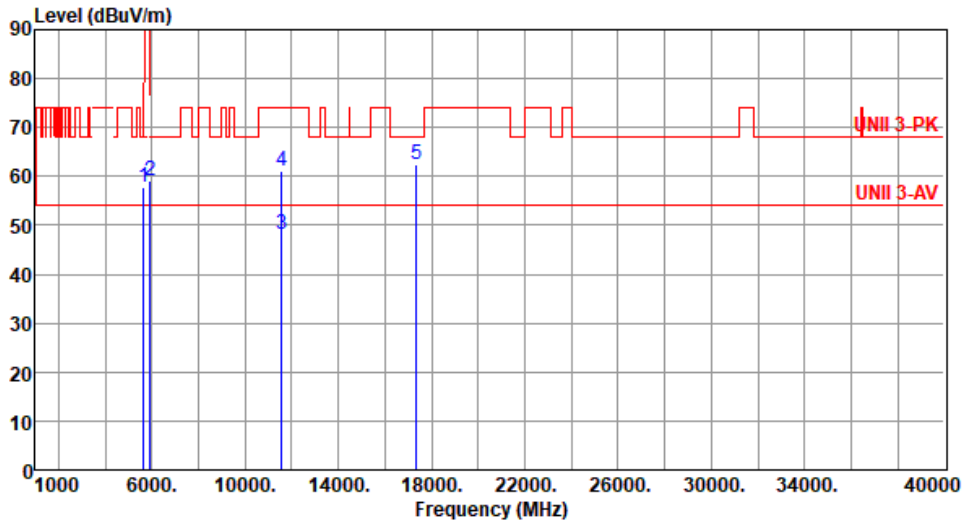


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	57.02	68.20	-11.18	52.21	4.81	Peak	252	310
2	5925.00	57.91	68.20	-10.29	52.30	5.61	Peak	252	310
3	11570.00	47.03	54.00	-6.97	32.78	14.25	Average	100	120
4	11570.00	57.70	74.00	-16.30	43.45	14.25	Peak	100	120
5	17355.00	61.58	68.20	-6.62	43.67	17.91	Peak	100	120

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5785
Polarization	Vertical		

Test By :Akun Chung Temperature(℃):22 Humidity(%):68

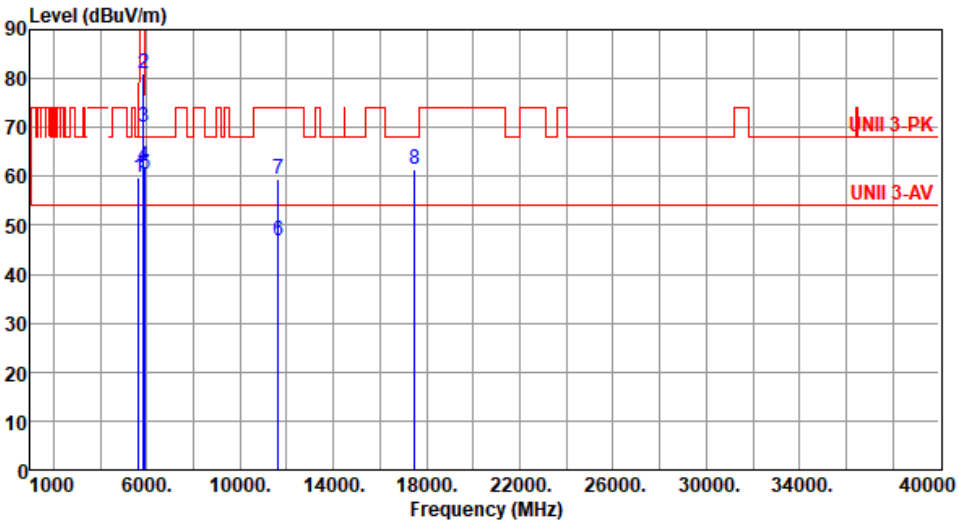


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	57.80	68.20	-10.40	52.99	4.81	Peak	239	221
2	5925.00	59.24	68.20	-8.96	53.63	5.61	Peak	239	221
3	11570.00	48.19	54.00	-5.81	33.94	14.25	Average	111	120
4	11570.00	61.00	74.00	-13.00	46.75	14.25	Peak	111	120
5	17355.00	62.48	68.20	-5.72	44.57	17.91	Peak	155	262

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5825
Polarization	Horizontal		

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

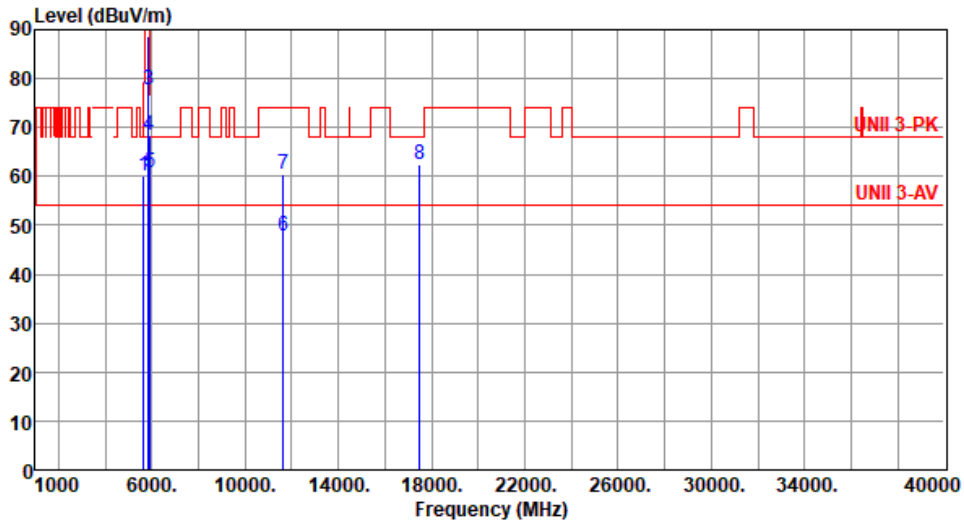


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	59.82	68.20	-8.38	55.01	4.81	Peak	255	300
2	5850.00	80.90	122.20	-41.30	75.25	5.65	Peak	255	300
3	5855.00	70.17	110.80	-40.63	64.52	5.65	Peak	255	300
4	5875.00	62.17	105.20	-43.03	56.51	5.66	Peak	255	300
5	5925.00	60.47	68.20	-7.73	54.86	5.61	Peak	255	300
6	11650.00	46.75	54.00	-7.25	32.85	13.90	Average	100	123
7	11650.00	59.49	74.00	-14.51	45.59	13.90	Peak	100	123
8	17475.00	61.45	68.20	-6.75	42.90	18.55	Peak	105	126

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5825
Polarization	Vertical		

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



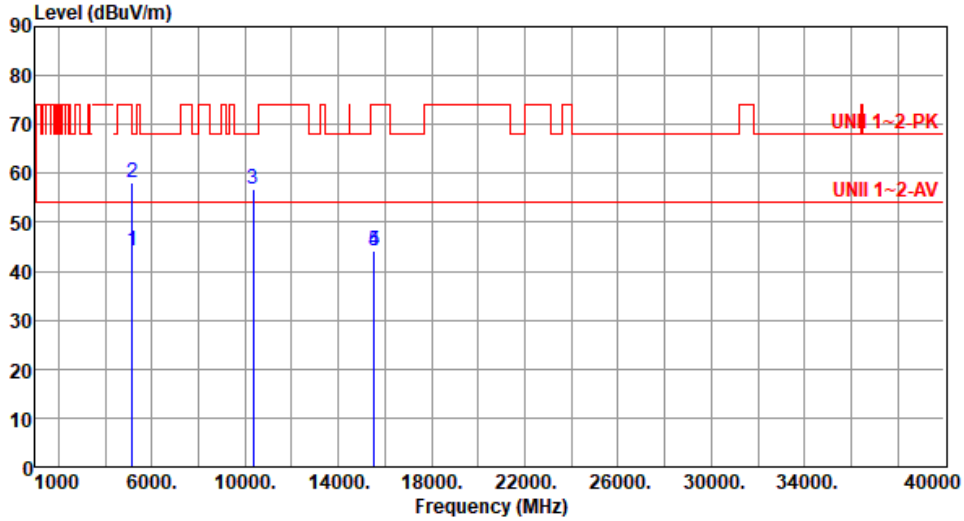
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	59.99	68.20	-8.21	55.18	4.81	Peak	239	53
2	5850.00	88.61	122.20	-33.59	82.96	5.65	Peak	239	53
3	5855.00	77.59	110.80	-33.21	71.94	5.65	Peak	239	53
4	5875.00	68.46	105.20	-36.74	62.80	5.66	Peak	239	53
5	5925.00	60.77	68.20	-7.43	55.16	5.61	Peak	239	53
6	11650.00	47.89	54.00	-6.11	33.99	13.90	Average	115	126
7	11650.00	60.60	74.00	-13.40	46.70	13.90	Peak	115	126
8	17475.00	62.54	68.20	-5.66	43.99	18.55	Peak	156	263

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5180
Polarization	Horizontal		

Test By :Brad Wu Temperature(℃):22 Humidity(%):66

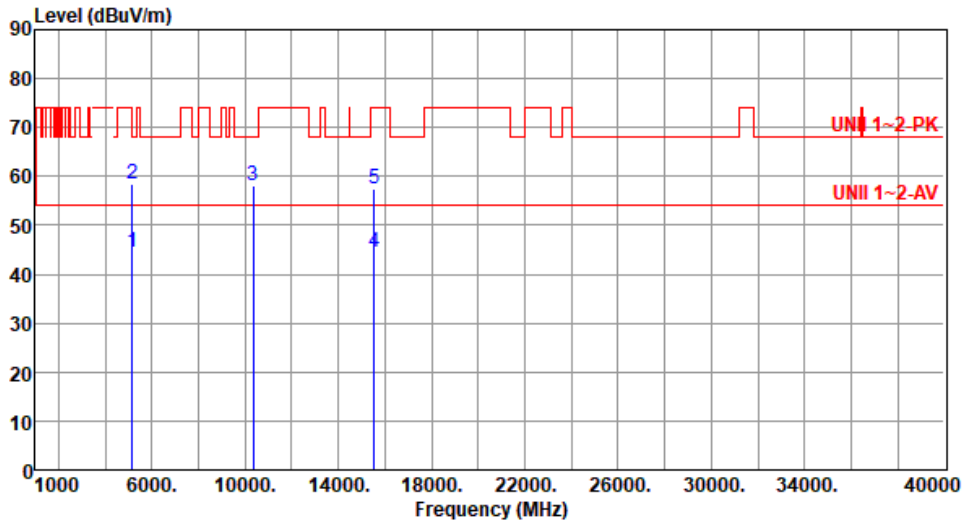


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	44.24	54.00	-9.76	39.23	5.01	Average	261	307
2	5150.00	58.24	74.00	-15.76	53.23	5.01	Peak	261	307
3	10360.00	56.76	68.20	-11.44	42.55	14.21	Peak	100	247
4	15540.00	44.32	54.00	-9.68	30.68	13.64	Average	100	255
5	15540.00	44.33	74.00	-29.67	30.69	13.64	Peak	100	255

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5180
Polarization	Vertical		

Test By :Brad Wu Temperature(℃):22 Humidity(%):66

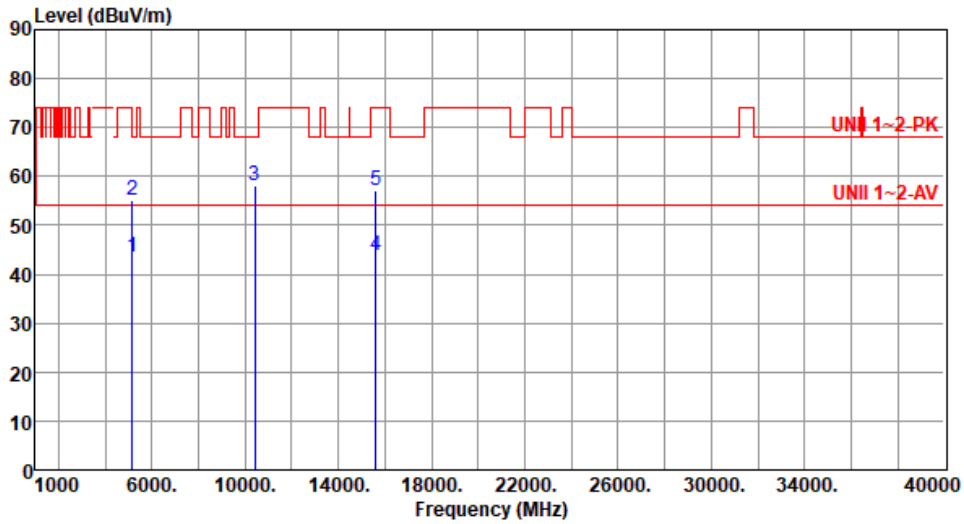


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	44.43	54.00	-9.57	39.42	5.01	Average	296	204
2	5150.00	58.38	74.00	-15.62	53.37	5.01	Peak	296	204
3	10360.00	58.10	68.20	-10.10	43.89	14.21	Peak	100	71
4	15540.00	44.40	54.00	-9.60	30.76	13.64	Average	100	73
5	15540.00	57.34	74.00	-16.66	43.70	13.64	Peak	100	73

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5200
Polarization	Horizontal		

Test By :Brad Wu Temperature(℃):22 Humidity(%):66

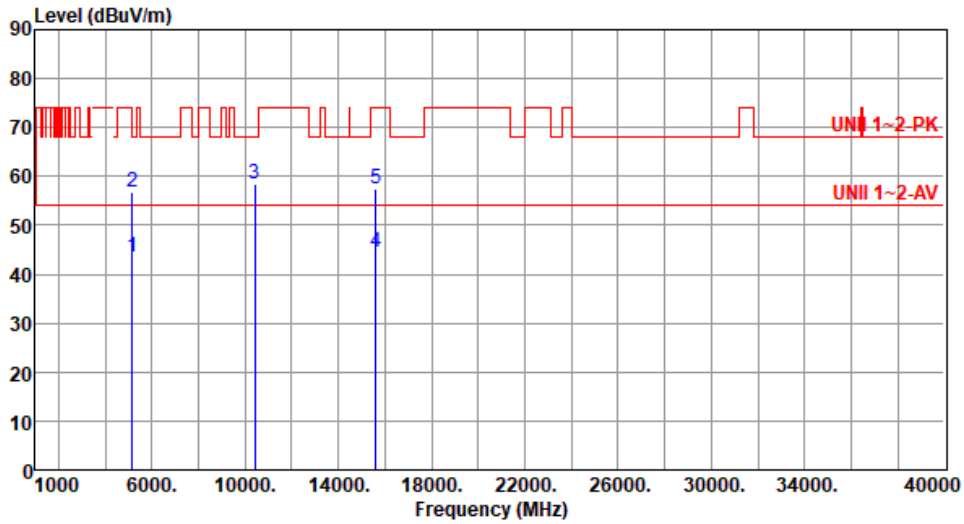


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	43.38	54.00	-10.62	38.37	5.01	Average	257	307
2	5150.00	55.27	74.00	-18.73	50.26	5.01	Peak	257	307
3	10400.00	58.25	68.20	-9.95	43.92	14.33	Peak	100	258
4	15600.00	43.92	54.00	-10.08	30.59	13.33	Average	100	246
5	15600.00	57.15	74.00	-16.85	43.82	13.33	Peak	100	246

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5200
Polarization	Vertical		

Test By :Brad Wu Temperature(℃):22 Humidity(%):66

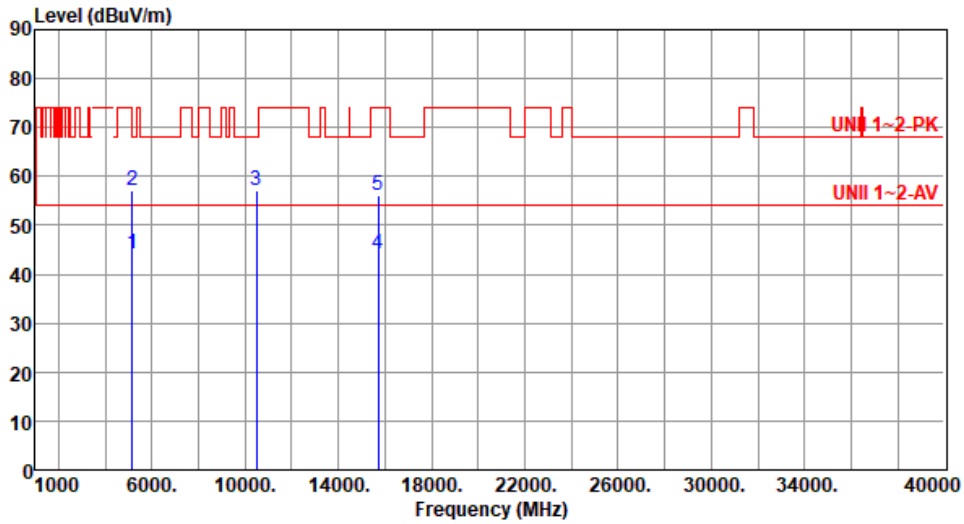


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	43.65	54.00	-10.35	38.64	5.01	Average	282	202
2	5150.00	56.88	74.00	-17.12	51.87	5.01	Peak	282	202
3	10400.00	58.49	68.20	-9.71	44.16	14.33	Peak	105	78
4	15600.00	44.45	54.00	-9.55	31.12	13.33	Average	100	82
5	15600.00	57.44	74.00	-16.56	44.11	13.33	Peak	100	82

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5240
Polarization	Horizontal		

Test By :Brad Wu Temperature(℃):22 Humidity(%):66

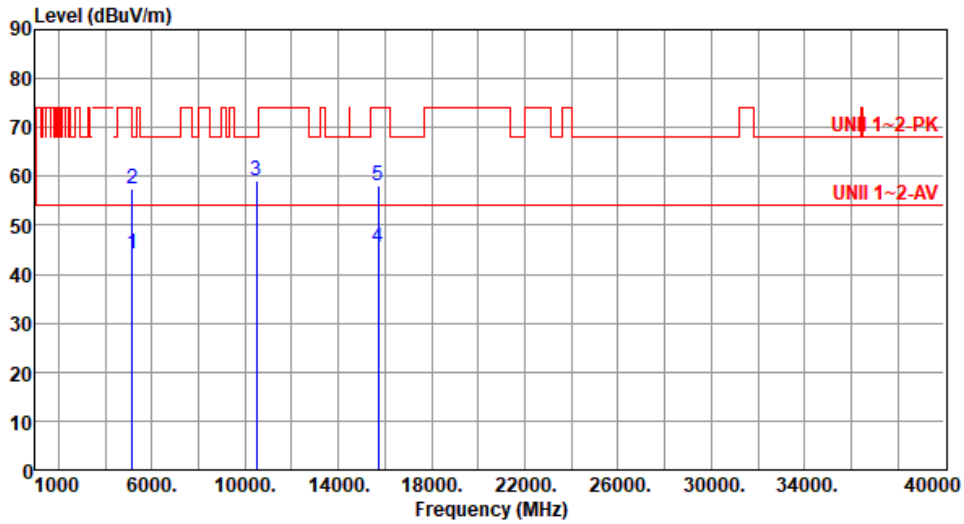


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	44.07	54.00	-9.93	39.06	5.01	Average	247	303
2	5150.00	57.13	74.00	-16.87	52.12	5.01	Peak	247	303
3	10480.00	56.97	68.20	-11.23	42.51	14.46	Peak	100	253
4	15720.00	44.03	54.00	-9.97	30.61	13.42	Average	100	251
5	15720.00	56.09	74.00	-17.91	42.67	13.42	Peak	100	251

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5240
Polarization	Vertical		

Test By :Brad Wu Temperature(℃):22 Humidity(%):66

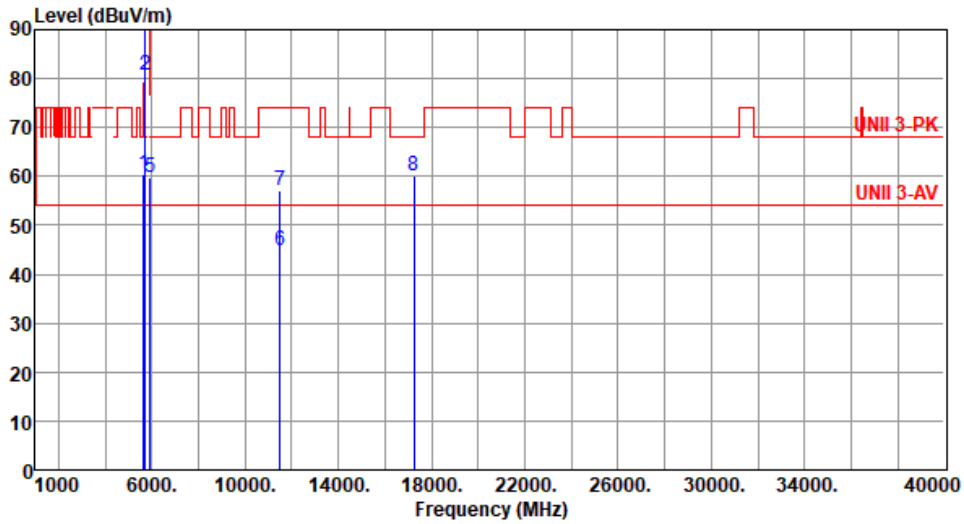


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	44.16	54.00	-9.84	39.15	5.01	Average	280	200
2	5150.00	57.56	74.00	-16.44	52.55	5.01	Peak	280	200
3	10480.00	59.17	68.20	-9.03	44.71	14.46	Peak	100	73
4	15720.00	45.38	54.00	-8.62	31.96	13.42	Average	100	76
5	15720.00	58.09	74.00	-15.91	44.67	13.42	Peak	100	76

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5745
Polarization	Horizontal		

Test By :Brad Wu Temperature(℃):22 Humidity(%):66

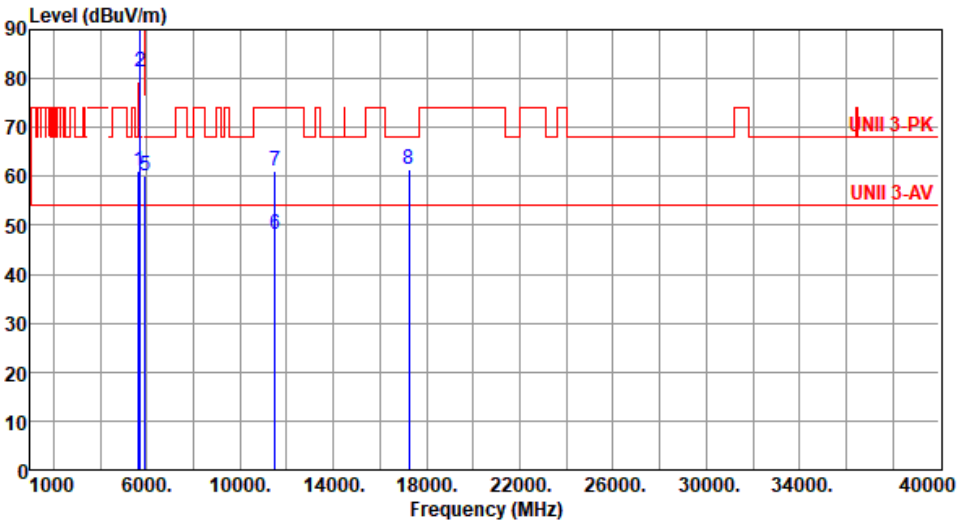


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	60.57	68.20	-7.63	55.76	4.81	Peak	257	314
2	5700.00	80.60	105.20	-24.60	75.58	5.02	Peak	257	314
3	5720.00	88.77	110.80	-22.03	83.63	5.14	Peak	257	314
4	5725.00	94.72	122.20	-27.48	89.55	5.17	Peak	257	314
5	5925.00	59.83	68.20	-8.37	54.22	5.61	Peak	257	314
6	11490.00	44.99	54.00	-9.01	30.60	14.39	Average	100	22
7	11490.00	57.04	74.00	-16.96	42.65	14.39	Peak	100	22
8	17235.00	60.04	68.20	-8.16	42.58	17.46	Peak	100	21

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5745
Polarization	Vertical		

Test By :Brad Wu Temperature(℃):22 Humidity(%):66

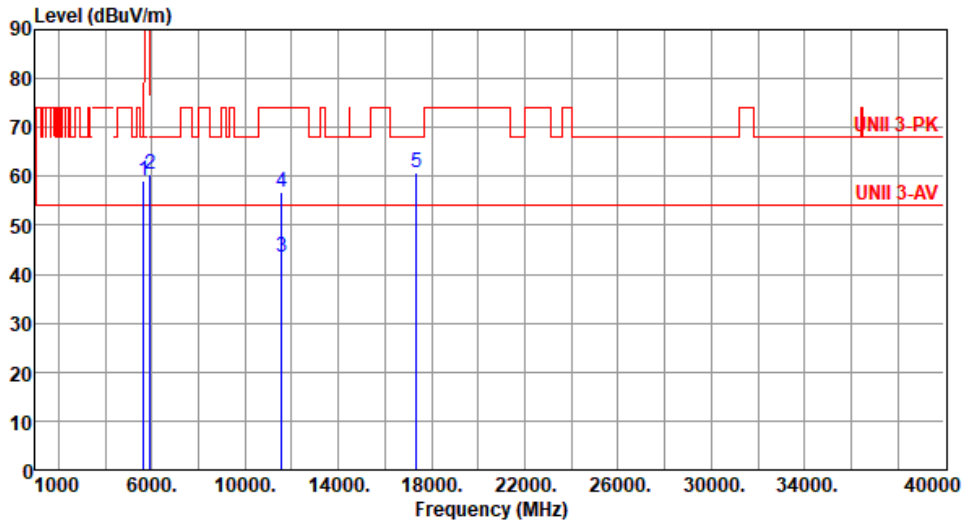


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	61.13	68.20	-7.07	56.32	4.81	Peak	233	45
2	5700.00	81.46	105.20	-23.74	76.44	5.02	Peak	233	45
3	5720.00	92.65	110.80	-18.15	87.51	5.14	Peak	233	45
4	5725.00	97.79	122.20	-24.41	92.62	5.17	Peak	233	45
5	5925.00	60.12	68.20	-8.08	54.51	5.61	Peak	233	45
6	11490.00	48.16	54.00	-5.84	33.77	14.39	Average	115	125
7	11490.00	60.94	74.00	-13.06	46.55	14.39	Peak	115	125
8	17235.00	61.41	68.20	-6.79	43.95	17.46	Peak	153	269

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5785
Polarization	Horizontal		

Test By :Brad Wu Temperature(℃):22 Humidity(%):66

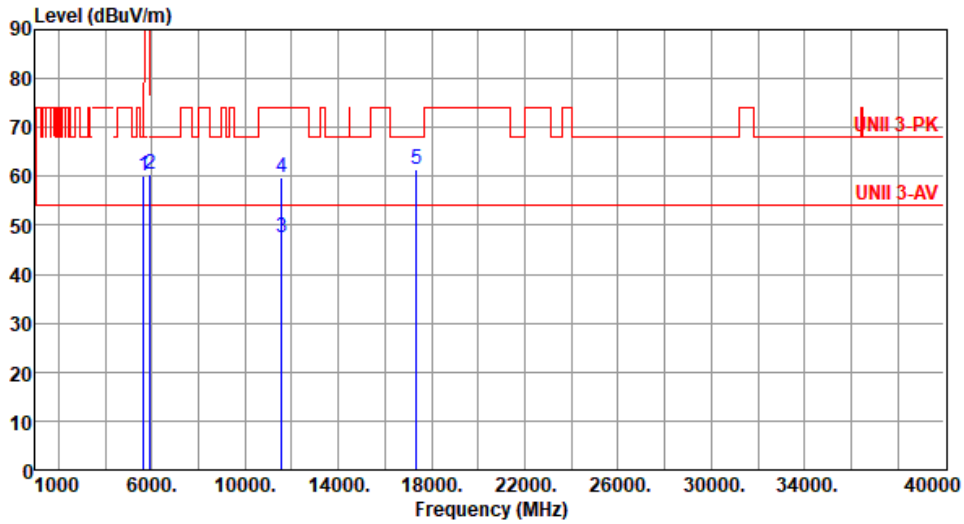


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	59.02	68.20	-9.18	54.21	4.81	Peak	236	22
2	5925.00	60.57	68.20	-7.63	54.96	5.61	Peak	236	22
3	11570.00	43.36	54.00	-10.64	29.11	14.25	Average	100	34
4	11570.00	56.76	74.00	-17.24	42.51	14.25	Peak	100	34
5	17355.00	60.84	68.20	-7.36	42.93	17.91	Peak	100	29

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5785
Polarization	Vertical		

Test By :Brad Wu Temperature(℃):22 Humidity(%):66

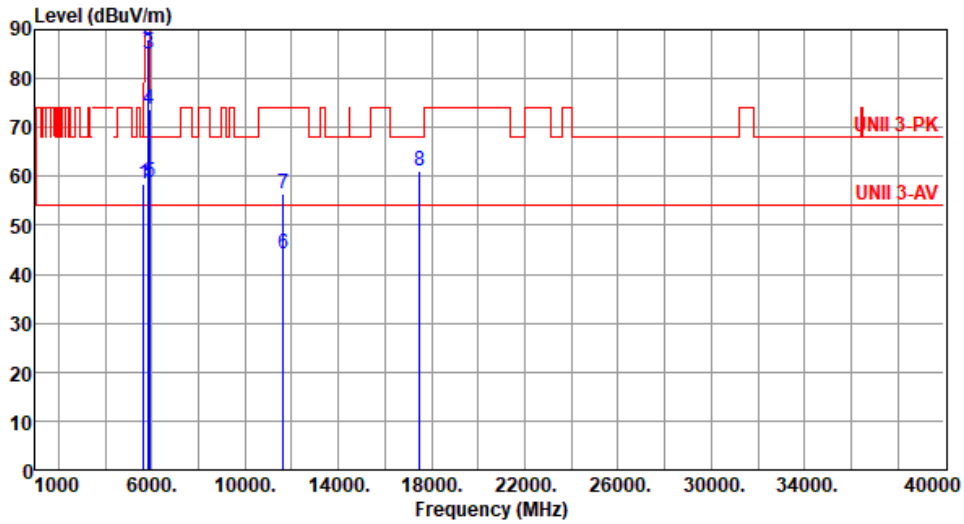


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	60.14	68.20	-8.06	55.33	4.81	Peak	236	45
2	5925.00	60.56	68.20	-7.64	54.95	5.61	Peak	236	45
3	11570.00	47.47	54.00	-6.53	33.22	14.25	Average	100	116
4	11570.00	59.90	74.00	-14.10	45.65	14.25	Peak	100	116
5	17355.00	61.43	68.20	-6.77	43.52	17.91	Peak	100	121

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5825
Polarization	Horizontal		

Test By :Brad Wu Temperature(℃):22 Humidity(%):66

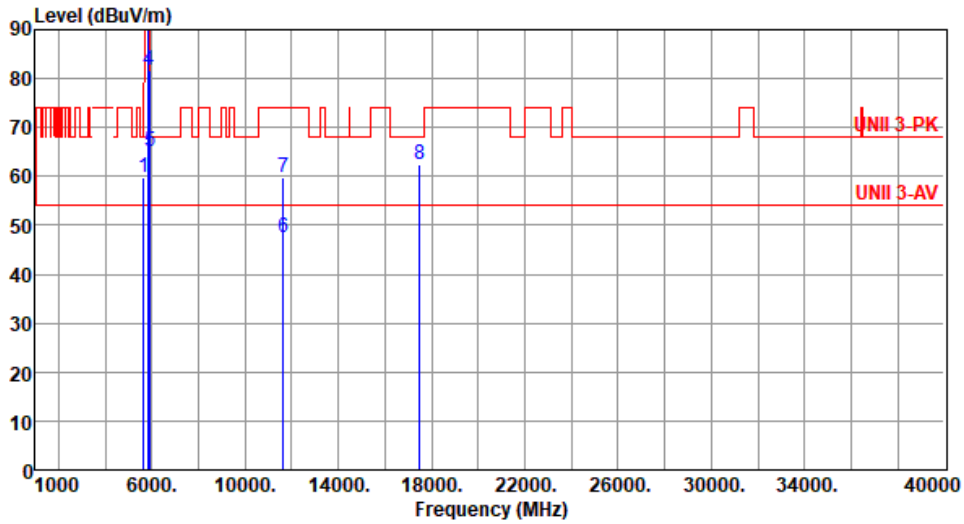


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	58.35	68.20	-9.85	53.54	4.81	Peak	255	305
2	5850.00	87.90	122.20	-34.30	82.25	5.65	Peak	255	305
3	5855.00	84.87	110.80	-25.93	79.22	5.65	Peak	255	305
4	5875.00	73.85	105.20	-31.35	68.19	5.66	Peak	255	305
5	5925.00	58.81	68.20	-9.39	53.20	5.61	Peak	255	305
6	11650.00	44.33	54.00	-9.67	30.43	13.90	Average	100	28
7	11650.00	56.41	74.00	-17.59	42.51	13.90	Peak	100	28
8	17475.00	61.00	68.20	-7.20	42.45	18.55	Peak	100	24

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5825
Polarization	Vertical		

Test By :Brad Wu Temperature(℃):22 Humidity(%):66



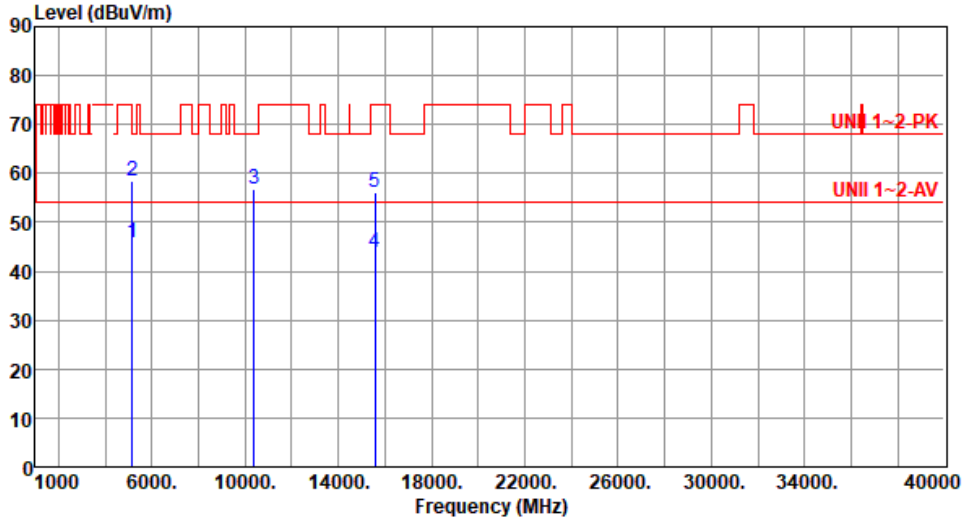
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	59.66	68.20	-8.54	54.85	4.81	Peak	238	43
2	5850.00	95.98	122.20	-26.22	90.33	5.65	Peak	238	43
3	5855.00	93.06	110.80	-17.74	87.41	5.65	Peak	238	43
4	5875.00	81.81	105.20	-23.39	76.15	5.66	Peak	238	43
5	5925.00	65.06	68.20	-3.14	59.45	5.61	Peak	238	43
6	11650.00	47.45	54.00	-6.55	33.55	13.90	Average	116	128
7	11650.00	59.75	74.00	-14.25	45.85	13.90	Peak	116	128
8	17475.00	62.43	68.20	-5.77	43.88	18.55	Peak	156	268

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5190
Polarization	Horizontal		

Test By :Brad Wu Temperature(℃):22 Humidity(%):66

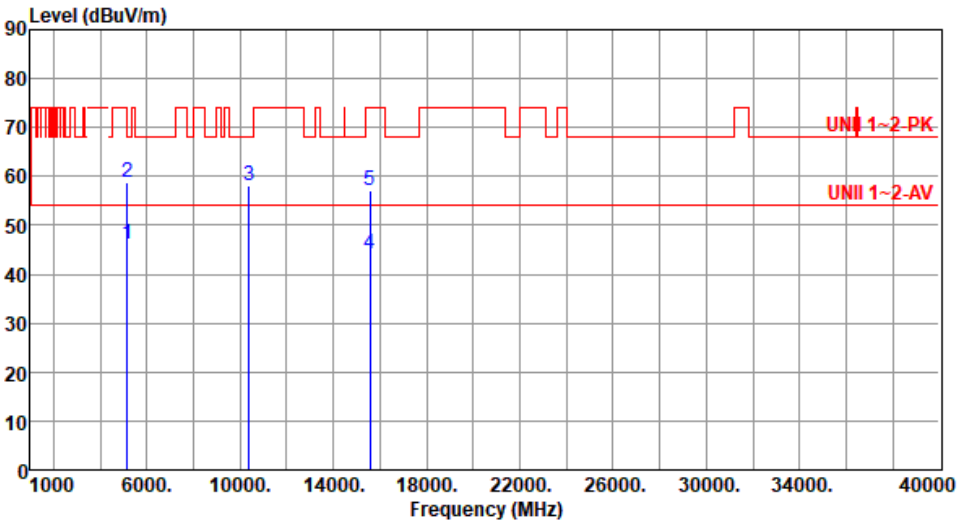


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	45.68	54.00	-8.32	40.67	5.01	Average	260	301
2	5150.00	58.46	74.00	-15.54	53.45	5.01	Peak	260	301
3	10380.00	56.67	68.20	-11.53	42.40	14.27	Peak	100	257
4	15570.00	43.92	54.00	-10.08	30.44	13.48	Average	100	252
5	15570.00	55.97	74.00	-18.03	42.49	13.48	Peak	100	252

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5190
Polarization	Vertical		

Test By :Brad Wu Temperature(℃):22 Humidity(%):66

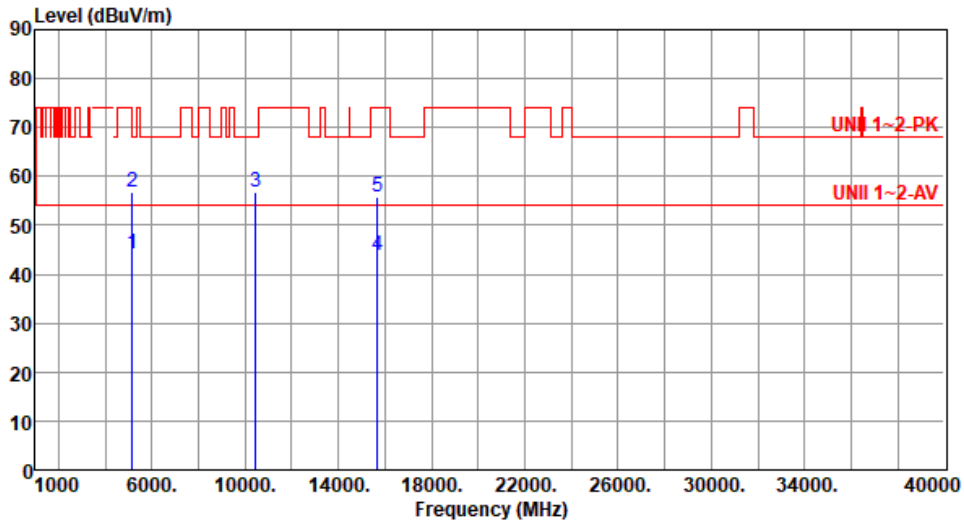


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	46.20	54.00	-7.80	41.19	5.01	Average	257	209
2	5150.00	58.83	74.00	-15.17	53.82	5.01	Peak	257	209
3	10380.00	58.04	68.20	-10.16	43.77	14.27	Peak	100	75
4	15570.00	44.26	54.00	-9.74	30.78	13.48	Average	100	77
5	15570.00	57.18	74.00	-16.82	43.70	13.48	Peak	100	77

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5230
Polarization	Horizontal		

Test By :Brad Wu Temperature(℃):22 Humidity(%):66

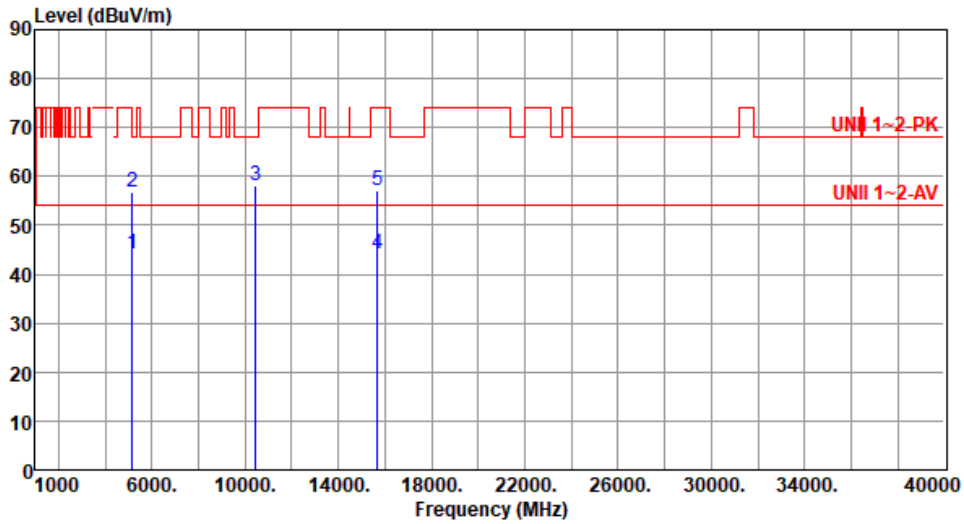


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	44.02	54.00	-9.98	39.01	5.01	Average	264	302
2	5150.00	56.76	74.00	-17.24	51.75	5.01	Peak	264	302
3	10460.00	56.83	68.20	-11.37	42.40	14.43	Peak	100	252
4	15690.00	43.87	54.00	-10.13	30.47	13.40	Average	100	258
5	15690.00	55.77	74.00	-18.23	42.37	13.40	Peak	100	258

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5230
Polarization	Vertical		

Test By :Brad Wu Temperature(℃):22 Humidity(%):66

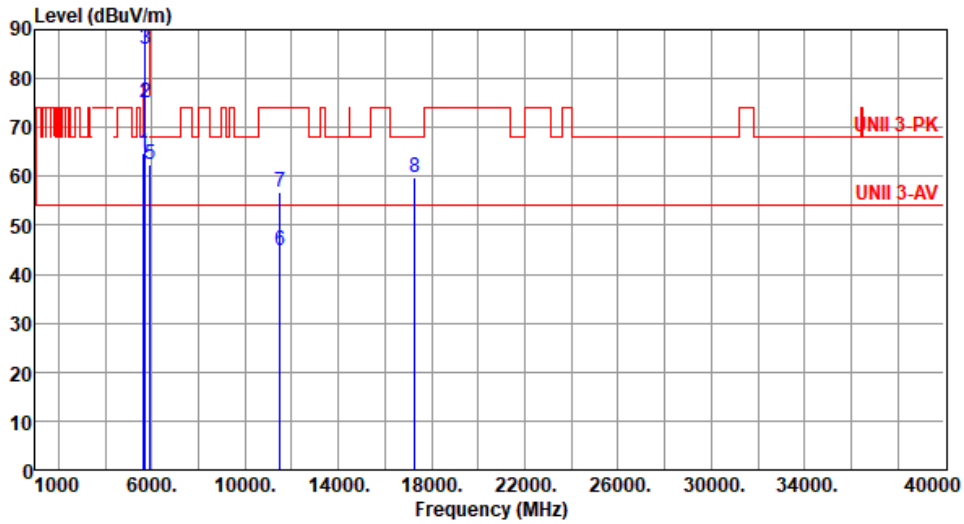


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	44.06	54.00	-9.94	39.05	5.01	Average	252	208
2	5150.00	56.92	74.00	-17.08	51.91	5.01	Peak	252	208
3	10460.00	58.13	68.20	-10.07	43.70	14.43	Peak	100	69
4	15690.00	44.03	54.00	-9.97	30.63	13.40	Average	100	75
5	15690.00	57.09	74.00	-16.91	43.69	13.40	Peak	100	75

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5755
Polarization	Horizontal		

Test By :Brad Wu Temperature(℃):22 Humidity(%):66

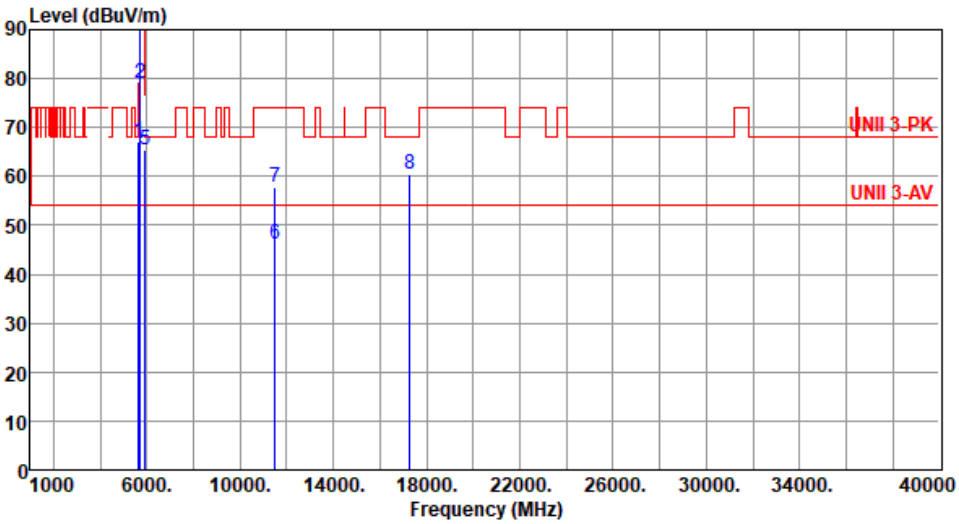


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	64.68	68.20	-3.52	59.87	4.81	Peak	261	317
2	5700.00	74.90	105.20	-30.30	69.88	5.02	Peak	261	317
3	5720.00	86.14	110.80	-24.66	81.00	5.14	Peak	261	317
4	5725.00	94.39	122.20	-27.81	89.22	5.17	Peak	261	317
5	5925.00	62.49	68.20	-5.71	56.88	5.61	Peak	261	317
6	11510.00	44.73	54.00	-9.27	30.33	14.40	Average	100	19
7	11510.00	56.68	74.00	-17.32	42.28	14.40	Peak	100	19
8	17265.00	59.81	68.20	-8.39	42.31	17.50	Peak	100	22

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5755
Polarization	Vertical		

Test By :Brad Wu Temperature(℃):22 Humidity(%):66

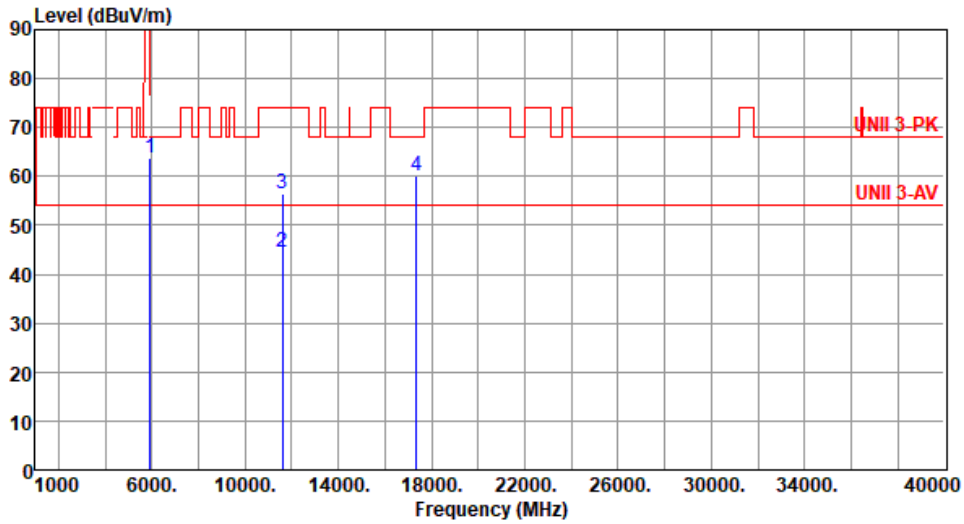


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	67.08	68.20	-1.12	62.27	4.81	Peak	236	47
2	5700.00	79.01	105.20	-26.19	73.99	5.02	Peak	236	47
3	5720.00	89.15	110.80	-21.65	84.01	5.14	Peak	236	47
4	5725.00	97.82	122.20	-24.38	92.65	5.17	Peak	236	47
5	5925.00	65.56	68.20	-2.64	59.95	5.61	Peak	236	47
6	11510.00	46.25	54.00	-7.75	31.85	14.40	Average	100	125
7	11510.00	57.92	74.00	-16.08	43.52	14.40	Peak	100	125
8	17265.00	60.40	68.20	-7.80	42.90	17.50	Peak	100	130

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5795
Polarization	Horizontal		

Test By :Brad Wu Temperature(℃):22 Humidity(%):66

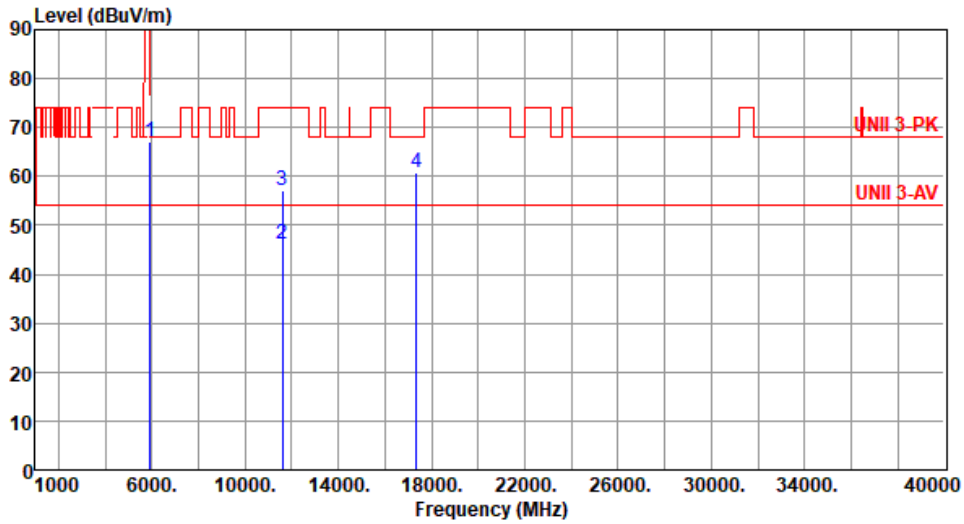


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5925.00	63.86	68.20	-4.34	58.25	5.61	Peak	269	315
2	11590.00	44.63	54.00	-9.37	30.44	14.19	Average	100	16
3	11590.00	56.48	74.00	-17.52	42.29	14.19	Peak	100	16
4	17365.00	60.21	68.20	-7.99	42.22	17.99	Peak	100	19

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5795
Polarization	Vertical		

Test By :Brad Wu Temperature(℃):22 Humidity(%):66



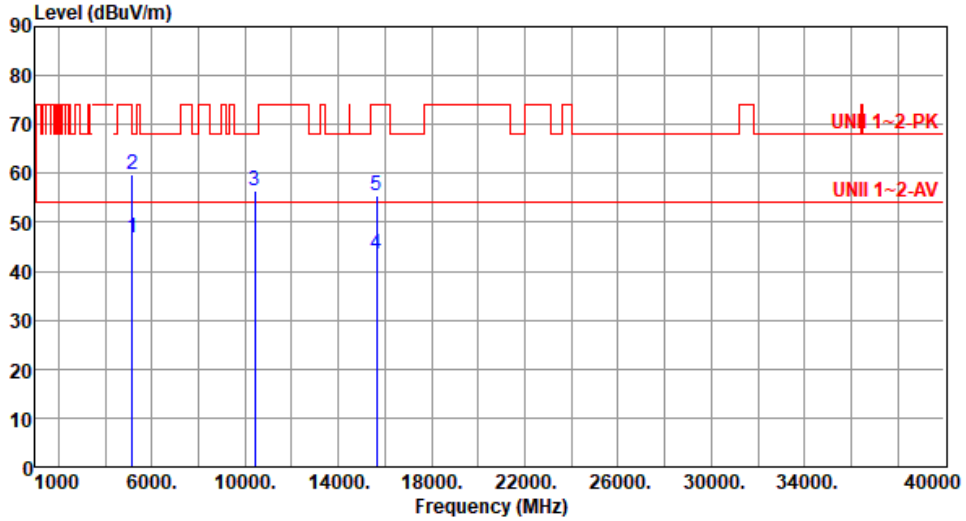
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5925.00	67.17	68.20	-1.03	61.56	5.61	Peak	241	47
2	11590.00	46.11	54.00	-7.89	31.92	14.19	Average	100	127
3	11590.00	57.05	74.00	-16.95	42.86	14.19	Peak	100	127
4	17365.00	60.72	68.20	-7.48	42.73	17.99	Peak	100	136

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5210
Polarization	Horizontal		

Test By :Brad Wu Temperature(℃):22 Humidity(%):66

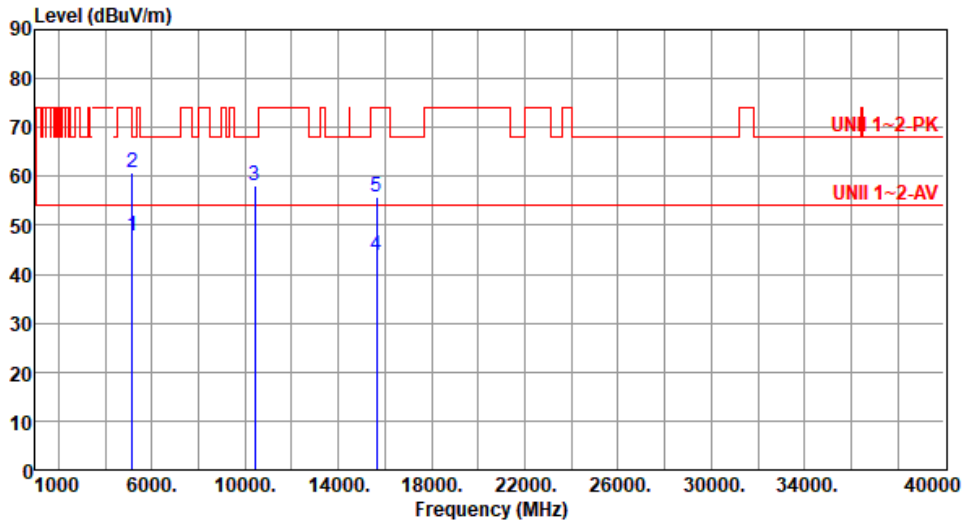


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	46.90	54.00	-7.10	41.89	5.01	Average	257	306
2	5150.00	59.79	74.00	-14.21	54.78	5.01	Peak	257	306
3	10420.00	56.49	68.20	-11.71	42.13	14.36	Peak	100	259
4	15630.00	43.55	54.00	-10.45	30.20	13.35	Average	100	254
5	15630.00	55.60	74.00	-18.40	42.25	13.35	Peak	100	254

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5210
Polarization	Vertical		

Test By :Brad Wu Temperature(℃):22 Humidity(%):66

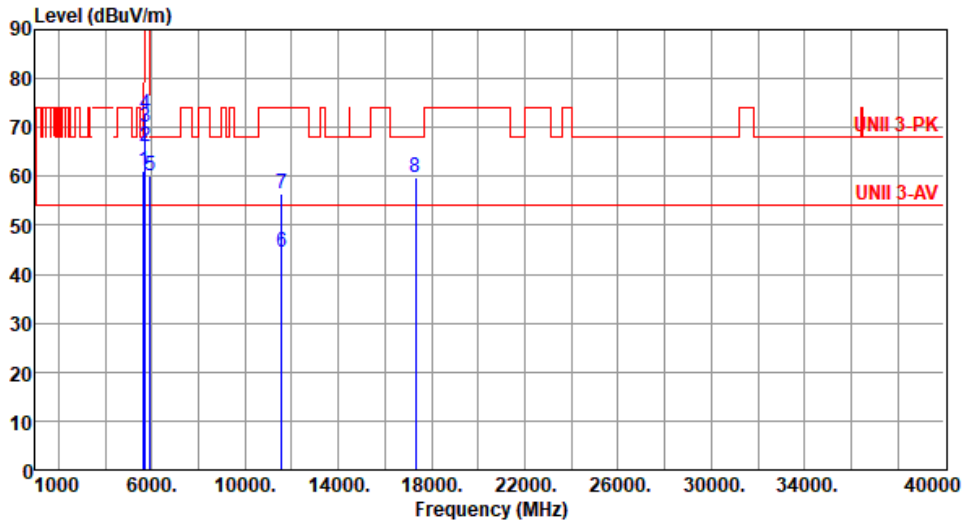


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	47.94	54.00	-6.06	42.93	5.01	Average	264	207
2	5150.00	60.85	74.00	-13.15	55.84	5.01	Peak	264	207
3	10420.00	58.20	68.20	-10.00	43.84	14.36	Peak	100	73
4	15630.00	43.87	54.00	-10.13	30.52	13.35	Average	100	75
5	15630.00	55.87	74.00	-18.13	42.52	13.35	Peak	100	75

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5775
Polarization	Horizontal		

Test By :Brad Wu Temperature(℃):22 Humidity(%):66

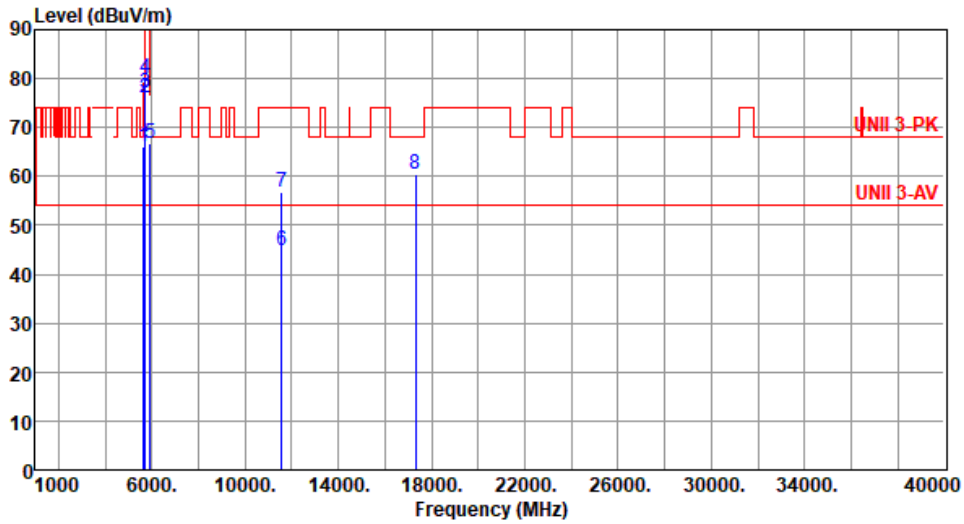


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	60.95	68.20	-7.25	56.14	4.81	Peak	235	23
2	5700.00	66.24	105.20	-38.96	61.22	5.02	Peak	235	23
3	5720.00	70.06	110.80	-40.74	64.92	5.14	Peak	235	23
4	5725.00	72.64	122.20	-49.56	67.47	5.17	Peak	235	23
5	5925.00	60.26	68.20	-7.94	54.65	5.61	Peak	235	23
6	11550.00	44.44	54.00	-9.56	30.14	14.30	Average	100	20
7	11550.00	56.50	74.00	-17.50	42.20	14.30	Peak	100	20
8	17325.00	59.90	68.20	-8.30	42.19	17.71	Peak	100	25

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*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)	5775
Polarization	Vertical		

Test By :Brad Wu Temperature(℃):22 Humidity(%):66



	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	5650.00	66.25	68.20	-1.95	61.44	4.81	Peak	247	45
2	5700.00	76.04	105.20	-29.16	71.02	5.02	Peak	247	45
3	5720.00	77.10	110.80	-33.70	71.96	5.14	Peak	247	45
4	5725.00	80.19	122.20	-42.01	75.02	5.17	Peak	247	45
5	5925.00	66.73	68.20	-1.47	61.12	5.61	Peak	247	45
6	11550.00	44.99	54.00	-9.01	30.69	14.30	Average	100	128
7	11550.00	56.95	74.00	-17.05	42.65	14.30	Peak	100	128
8	17325.00	60.33	68.20	-7.87	42.62	17.71	Peak	100	138

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

3.6 Frequency Stability

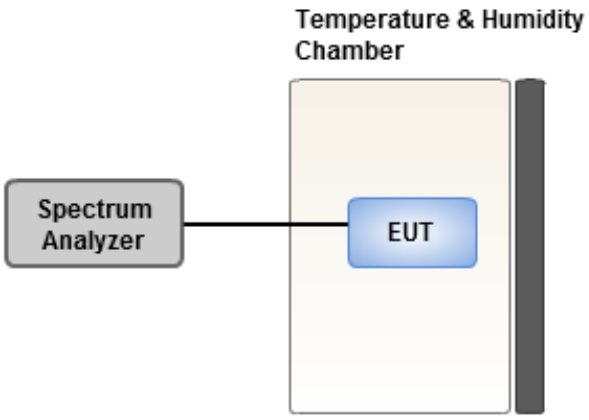
3.6.1 Limit of Frequency Stability

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	22°C / 63%	Tested By	Brad Wu

Frequency: 5200 MHz	Frequency Drift (ppm)			
Temperature (ºC)	0 minute	2 minutes	5 minutes	10 minutes
T20°CVmax	-4.38	-3.56	-4.21	-4.71
T20°CVmin	-4.02	-4.06	-3.93	-3.39
T50°CVnom	-3.46	-3.53	-3.00	-3.69
T40°CVnom	-3.32	-3.57	-3.33	-2.84
T30°CVnom	-2.90	-3.36	-3.01	-2.74
T20°CVnom	-4.60	-4.08	-4.27	-4.30
T10°CVnom	-3.76	-2.99	-3.32	-3.42
T0°CVnom	-4.06	-3.83	-3.44	-4.28
T-10°CVnom	-3.42	-3.34	-3.74	-3.34
T-20°CVnom	-4.34	-4.36	-4.21	-4.19
T-30°CVnom	-3.78	-3.82	-3.19	-2.96
Vnom [V]: 120		Vmax [V]: 138		Vmin [V]: 102
Tnom [°C]: 20		Tmax [°C]: 50		Tmin [°C]: -30

Frequency: 5785 MHz	Frequency Drift (ppm)			
Temperature (ºC)	0 minute	2 minutes	5 minutes	10 minutes
T20°CVmax	-4.39	-4.57	-3.97	-4.53
T20°CVmin	-4.17	-4.27	-4.41	-4.19
T50°CVnom	-2.58	-2.33	-2.08	-2.09
T40°CVnom	-2.80	-2.90	-2.94	-2.76
T30°CVnom	-2.67	-2.67	-2.77	-2.14
T20°CVnom	-2.81	-2.78	-2.92	-3.01
T10°CVnom	-2.55	-2.94	-2.06	-2.30
T0°CVnom	-2.89	-2.39	-2.18	-2.33
T-10°CVnom	-4.50	-3.99	-4.99	-4.66
T-20°CVnom	-3.49	-3.14	-3.12	-3.85
T-30°CVnom	-3.89	-3.87	-3.37	-3.33
Vnom [Vac]: 120		Vmax [Vac]: 138		Vmin [Vac]: 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

Tel: 886-2-2601-1640

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

Kwei Shan

Tel: 886-3-271-8666

No.3-1, Lane 6, Wen San 3rd St., Kwei Shan 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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