FCC Test Report

FCC ID	:	**MXF-EL4000**
Equipment	:	**Wireless Home Internet**
Model No.	:	**EL4000**
Brand Name	:	**EarthLink**
Applicant	:	**Gemtek Technology Co., Ltd.**
Address	:	**No. 15-1 Zhonghua Road, Hsinchu Industrial Park, Hukou, Hsinchu, Taiwan, 30352.**
Standard	:	**47 CFR FCC Part 15.407**
Received Date	:	**Jan. 25, 2022**
Tested Date	:	**Jan. 26 ~ Feb. 15, 2022**

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

Reviewed by: **Approved by:**

Along Chen / Assistant Manager **Gary Chang / Manager**

Table of Contents

Release Record

Report No.	Version	Description	Issued Date
FR212101AN	Rev. 01	Initial issue	Mar. 01, 2022

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.426MHz 31.33 (Margin -16.00dB) - AV	Pass
15.407(b) 15.209	Radiated Emissions	[dBuV/m at 3m]: 5150.00MHz 53.89 (Margin -0.11dB) - AV	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]: 5150~5250MHz: 28.55 5725~5850MHz: 29.53	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	6-54 Mbps
5150-5250 5725-5850	n (HT20)	5180-5240 5745-5825	36-48 [4] 149-165 [5]	2	MCS 0-15
5150-5250 5725-5850	n (HT40)	5190-5230 5755-5795	38-46 [2] 151-159 [2]	2	MCS 0-15
5150-5250 5725-5850	ac (VHT20)	5180-5240 5745-5825	36-48 [4] 149-165 [5]	2	MCS 0-9
5150-5250 5725-5850	ac (VHT40)	5190-5230 5755-5795	38-46 [2] 151-159 [2]	2	MCS 0-9
5150-5250 5725-5850	ac (VHT80)	5210 5775	42 [1] 155 [1]	2	MCS 0-9
5150-5250 5725-5850	ax (HE20)	5180-5240 5745-5825	36-48 [4] 149-165 [5]	2	MCS 0-11
5150-5250 5725-5850	ax (HE40)	5190-5230 5755-5795	38-46 [2] 151-159 [2]	2	MCS 0-11
5150-5250 5725-5850	ax (HE80)	5210 5775	42 [1] 155 [1]	2	MCS 0-11
Note 1: OFDM/OFDMA- BPSK, QPSK, 16QAM, 64QAM, 256QAM and 1024QAM modulation. Note 2: 802.11ax supports beamforming function.					

1.1.2 Antenna Details

Ant. No.	Model	Type	Connector	Operating Frequencies (MHz) / Antenna Gain (dBi)		
				2400~2483.5	**5150~5250**	**5725~5850**
1	2.4G -1	Dipole	UFL	4.2	---	---
2	2.4G -2	Dipole	UFL	3.4	---	---
3	5G - 1	Dipole	UFL	---	5.1	4.2
4	5G - 2	Dipole	UFL	---	4.9	5

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	12Vdc from adapter

1.1.4 Accessories

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

1.1.5 Channel List

802.11a / n HT20 / ac VHT20 / ax HE20		802.11n HT40 / ac VHT40 / ax HE40	
Channel	**Frequency(MHz)**	**Channel**	**Frequency(MHz)**
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	-	-

1.1.6 Test Tool and Duty Cycle

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

1.1.7 Power Index of Test Tool

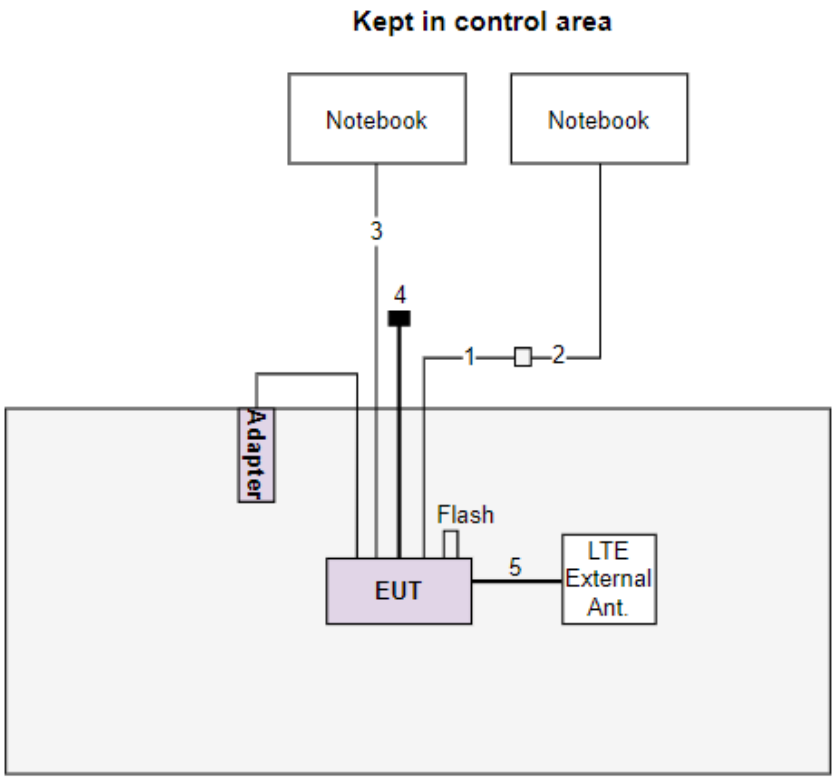
Modulation Mode	Test Frequency (MHz)	Power Index	
		Non-beamforming	Beamforming
11a	5180	23	--
11a	5200	25	--
11a	5240	25	--
11a	5745	26	--
11a	5785	26	--
11a	5825	26	--
ax HE20-OFDMA	5180	23	23
ax HE20-OFDMA	5200	25	24.5
ax HE20-OFDMA	5240	24.5	24
ax HE20-OFDMA	5745	26	25
ax HE20-OFDMA	5785	26	25
ax HE20-OFDMA	5825	26	25
ax HE40-OFDMA	5190	20.5	20.5
ax HE40-OFDMA	5230	25.5	25
ax HE40-OFDMA	5755	26.5	25
ax HE40-OFDMA	5795	26.5	25
ax HE80-OFDMA	5210	20	20
ax HE80-OFDMA	5775	22	22

1.2 Local Support Equipment List

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

1.3 Test Setup Chart

Test Setup Diagram



No.	Signal cable / Length (m)
1	RJ45, 1.8m non-shielded.
2-3	RJ45, 10m non-shielded.
4	RJ45, 1m(x3) non-shielded with load.
5	Antenna cable, 1.05m shielded.

1.4 The Equipment List

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

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Tested Date	Jan. 26 ~ Jan. 28, 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. 15, 2022				
Instrument	**Brand**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101498	Nov. 29, 2021	Nov. 28, 2022
Power Meter	Anritsu	ML2495A	1241002	Nov. 07, 2021	Nov. 06, 2022
Power Sensor	Anritsu	MA2411B	1207366	Nov. 07, 2021	Nov. 06, 2022
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	May 25, 2021	May 24, 2022
AC POWER SOURCE	APC	AFC-500W	F312060012	Dec. 03, 2021	Dec. 02, 2022
Measurement Software	Sporton	SENSE-15407_NII	V5.10	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

1.5 Test Standards

47 CFR FCC Part 15.407
ANSI C63.10-2013

1.6 Reference Guidance

FCC KDB 412172 D01 Determining ERP and EIRP v01r01
FCC KDB 662911 D01 Multiple Transmitter Output v02r01
FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01

1.7 Deviation from Test Standard and Measurement Procedure

None

1.8 Measurement Uncertainty

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

Measurement Uncertainty	
Parameters	**Uncertainty**
Bandwidth	±34.130 Hz
Conducted power	±0.808 dB
Frequency error	$\pm 1 \times 10^{-9}$
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	ax HE20-OFDMA ax HE40-OFDMA ax HE80-OFDMA	5180 / 5200 / 5240 5190 / 5230 5210	MCS 0 MCS 0 MCS 0	---
For Frequency band 5725-5850 MHz				
Test item	**Modulation Mode**	**Test Frequency (MHz)**	**Data Rate**	**Test Configuration**
Non-beamforming mode				
Conducted Emissions	ax HE40-OFDMA	5755	MCS 0	---
Radiated Emissions ≤1GHz	ax HE40-OFDMA	5755	MCS 0	---
Radiated Emissions >1GHz Emission Bandwidth 6dB bandwidth RF Output Power 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	ax HE20-OFDMA ax HE40-OFDMA ax HE80-OFDMA	5745 / 5785 / 5825 5755 / 5795 5775	MCS 0 MCS 0 MCS 0	---

NOTE:

1. Two adapters (MOSO & LEI) had been covered during the pretest and found that LEI adapter was the worst case for radiated emission test and MOSO adapter was the worst case for conducted emission test.
2. Non-beamforming and beamforming mode had been covered during the pretest. The worst mode is Non-beamforming thus Non-beamforming is tested for all test items.

3 Transmitter Test Results

3.1 Conducted Emissions

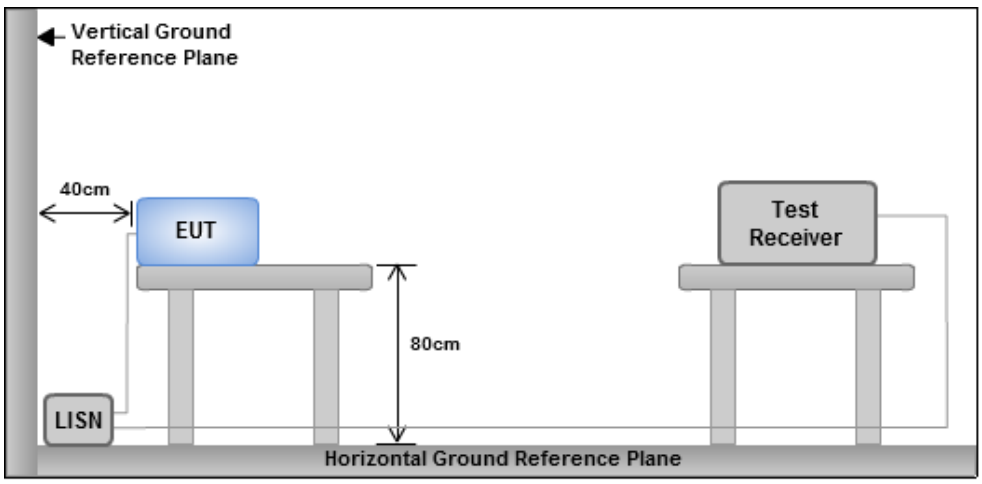
3.1.1 Limit of Conducted Emissions

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



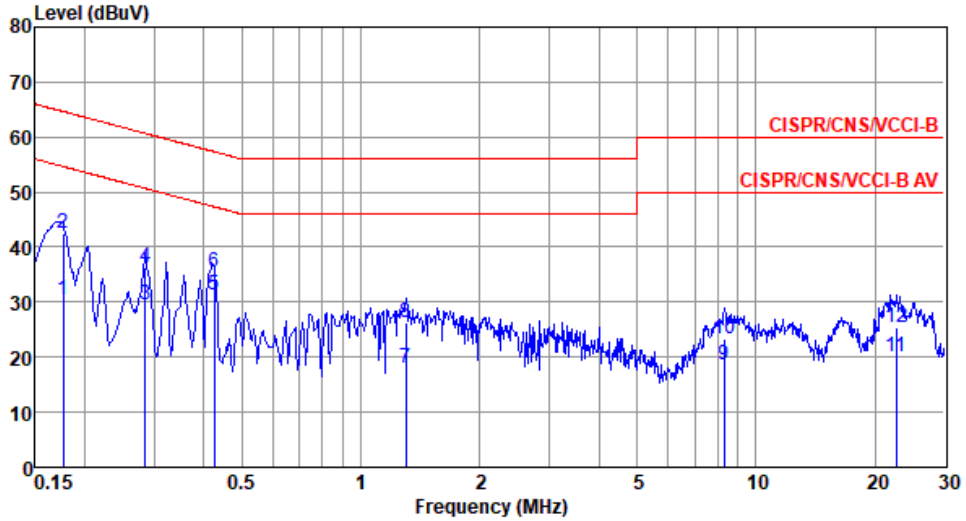
Note: 1. Support units were connected to second LISN.

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: 16°C Humidity: 64%

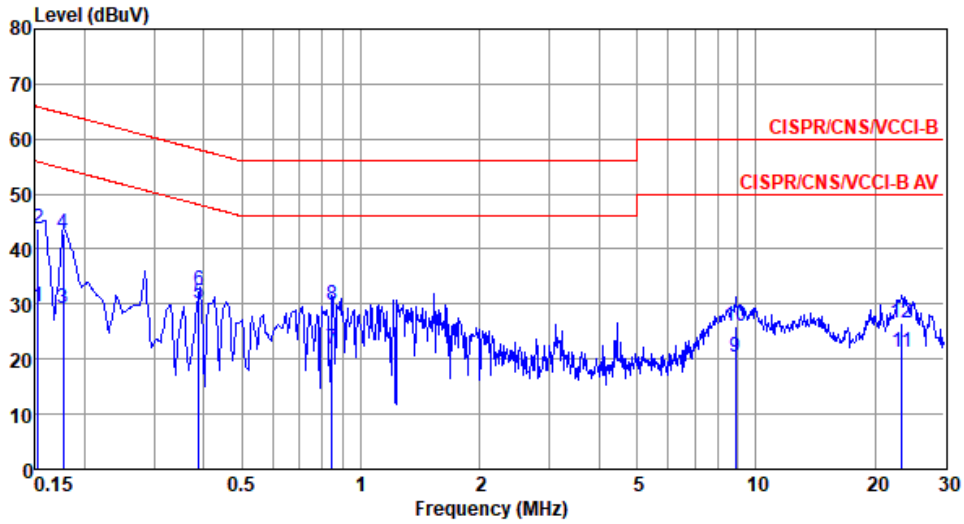


	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Cable loss	Aux	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	dB	
1	0.176	30.32	54.66	-24.34	20.38	9.65	0.08	0.21	Average
2	0.176	42.62	64.66	-22.04	32.68	9.65	0.08	0.21	QP
3	0.285	29.65	50.68	-21.03	19.64	9.64	0.08	0.29	Average
4	0.285	36.39	60.68	-24.29	26.38	9.64	0.08	0.29	QP
5*	0.426	31.24	47.33	-16.09	21.15	9.64	0.09	0.36	Average
6	0.426	35.28	57.33	-22.05	25.19	9.64	0.09	0.36	QP
7	1.303	17.99	46.00	-28.01	7.78	9.65	0.18	0.38	Average
8	1.303	26.32	56.00	-29.68	16.11	9.65	0.18	0.38	QP
9	8.323	18.48	50.00	-31.52	7.94	9.70	0.40	0.44	Average
10	8.323	23.38	60.00	-36.62	12.84	9.70	0.40	0.44	QP
11	22.655	20.05	50.00	-29.95	9.03	9.67	0.68	0.67	Average
12	22.655	25.32	60.00	-34.68	14.30	9.67	0.68	0.67	QP

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

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

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

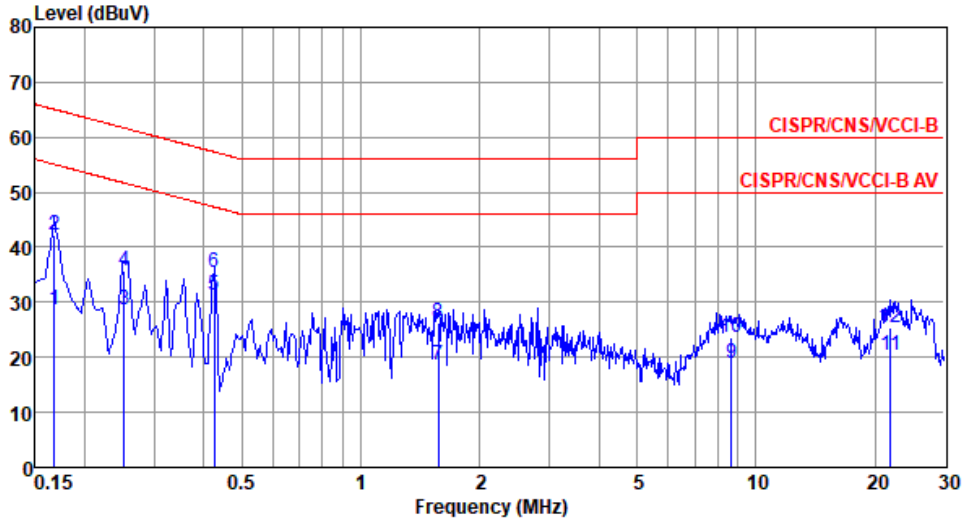


	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Cable loss	Aux	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	dB	
1	0.152	29.54	55.87	-26.33	19.61	9.69	0.08	0.16	Average
2	0.152	43.73	65.87	-22.14	33.80	9.69	0.08	0.16	QP
3	0.177	29.25	54.64	-25.39	19.32	9.68	0.08	0.17	Average
4	0.177	42.92	64.64	-21.72	32.99	9.68	0.08	0.17	QP
5*	0.389	30.11	48.08	-17.97	20.17	9.67	0.08	0.19	Average
6	0.389	32.44	58.08	-25.64	22.50	9.67	0.08	0.19	QP
7	0.844	21.89	46.00	-24.11	11.80	9.68	0.15	0.26	Average
8	0.844	29.80	56.00	-26.20	19.71	9.68	0.15	0.26	QP
9	8.869	20.44	50.00	-29.56	9.91	9.75	0.42	0.36	Average
10	8.869	25.83	60.00	-34.17	15.30	9.75	0.42	0.36	QP
11	23.387	21.38	50.00	-28.62	10.36	9.84	0.68	0.50	Average
12	23.387	26.48	60.00	-33.52	15.46	9.84	0.68	0.50	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)	5755
Power Phase	Line		

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

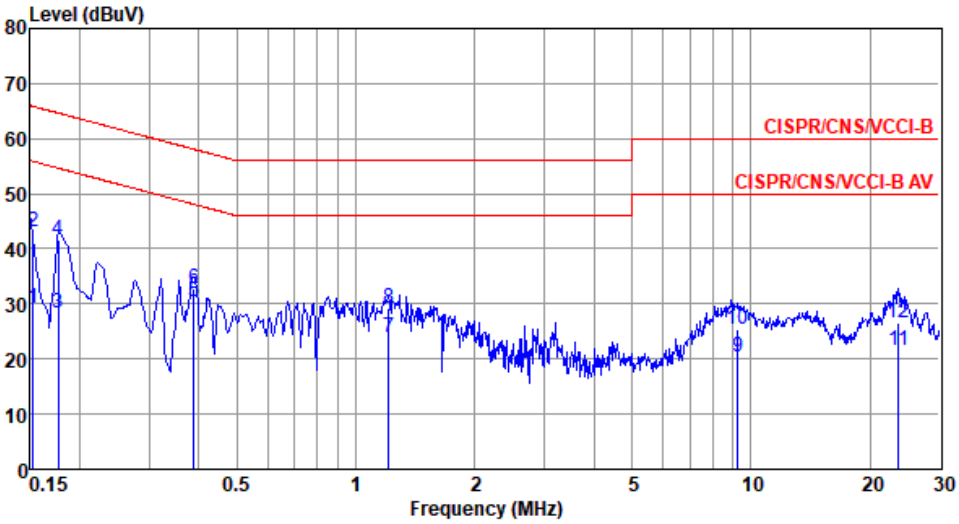


	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Cable loss	Aux	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	dB	
1	0.168	28.76	55.08	-26.32	18.81	9.66	0.08	0.21	Average
2	0.168	42.34	65.08	-22.74	32.39	9.66	0.08	0.21	QP
3	0.252	28.60	51.69	-23.09	18.60	9.65	0.08	0.27	Average
4	0.252	35.63	61.69	-26.06	25.63	9.65	0.08	0.27	QP
5*	0.426	31.33	47.33	-16.00	21.25	9.64	0.08	0.36	Average
6	0.426	35.32	57.33	-22.01	25.24	9.64	0.08	0.36	QP
7	1.568	18.49	46.00	-27.51	8.26	9.66	0.19	0.38	Average
8	1.568	26.16	56.00	-29.84	15.93	9.66	0.19	0.38	QP
9	8.683	18.98	50.00	-31.02	8.43	9.70	0.41	0.44	Average
10	8.683	23.74	60.00	-36.26	13.19	9.70	0.41	0.44	QP
11	21.946	20.49	50.00	-29.51	9.49	9.67	0.67	0.66	Average
12	21.946	25.30	60.00	-34.70	14.30	9.67	0.67	0.66	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)	5755
Power Phase	Neutral		

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



	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Cable loss	Aux	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	dB	
1	0.152	29.26	55.87	-26.61	19.33	9.69	0.08	0.16	Average
2	0.152	42.97	65.87	-22.90	33.04	9.69	0.08	0.16	QP
3	0.177	28.23	54.64	-26.41	18.30	9.68	0.08	0.17	Average
4	0.177	41.64	64.64	-23.00	31.71	9.68	0.08	0.17	QP
5*	0.390	30.36	48.07	-17.71	20.42	9.67	0.08	0.19	Average
6	0.390	32.73	58.07	-25.34	22.79	9.67	0.08	0.19	QP
7	1.210	23.85	46.00	-22.15	13.71	9.68	0.17	0.29	Average
8	1.210	29.13	56.00	-26.87	18.99	9.68	0.17	0.29	QP
9	9.253	20.45	50.00	-29.55	9.90	9.75	0.43	0.37	Average
10	9.253	25.52	60.00	-34.48	14.97	9.75	0.43	0.37	QP
11	23.636	21.41	50.00	-28.59	10.39	9.84	0.68	0.50	Average
12	23.636	26.47	60.00	-33.53	15.45	9.84	0.68	0.50	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.

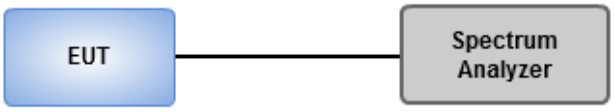
Occupied Bandwidth

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	21°C / 66%	Tested By	Aska Huang

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	37.174M	18.452M	18M5D1D	22.391M	16.643M
802.11ax HEW20_Nss1,(MCS0)_2TX-OFDMA	32.536M	19.103M	19M1D1D	21.014M	18.886M
802.11ax HEW40_Nss1,(MCS0)_2TX-OFDMA	68.116M	38.784M	38M8D1D	42.029M	37.771M
802.11ax HEW80_Nss1,(MCS0)_2TX-OFDMA	83.768M	77.279M	77M3D1D	82.029M	77.279M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	16.522M	18.741M	18M7D1D	16.522M	16.787M
802.11ax HEW20_Nss1,(MCS0)_2TX-OFDMA	19.13M	21.925M	21M9D1D	19.058M	19.03M
802.11ax HEW40_Nss1,(MCS0)_2TX-OFDMA	38.261M	39.653M	39M7D1D	38.116M	38.205M
802.11ax HEW80_Nss1,(MCS0)_2TX-OFDMA	78.261M	77.279M	77M3D1D	78.261M	77.279M

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;

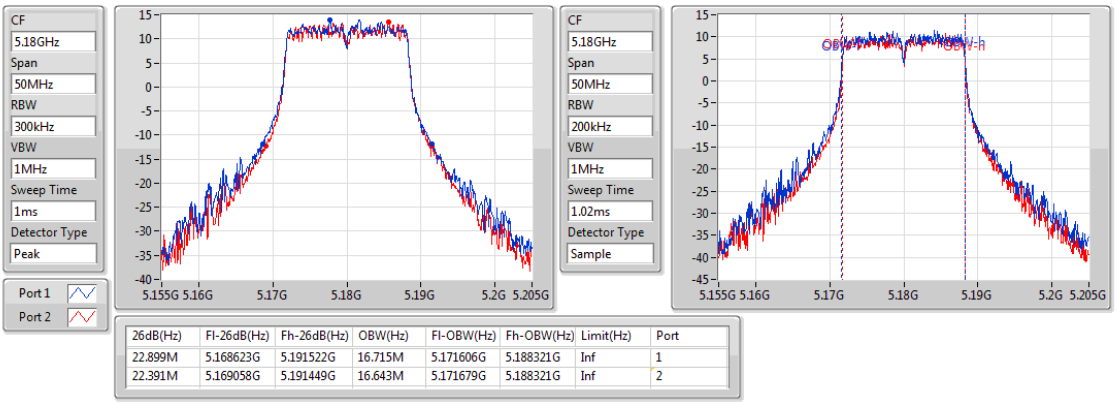
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	22.899M	16.715M	22.391M	16.643M
5200MHz	Pass	Inf	29.275M	17.077M	27.536M	16.86M
5240MHz	Pass	Inf	37.174M	18.452M	29.855M	16.932M
5745MHz	Pass	500k	16.522M	18.741M	16.522M	16.787M
5785MHz	Pass	500k	16.522M	18.452M	16.522M	17.004M
5825MHz	Pass	500k	16.522M	17.8M	16.522M	16.86M
802.11ax HEW20_Nss1,(MCS0)_2TX-OFDMA	-	-	-	-	-	-
5180MHz	Pass	Inf	21.957M	18.958M	21.014M	18.886M
5200MHz	Pass	Inf	26.884M	19.103M	24.565M	19.03M
5240MHz	Pass	Inf	32.536M	19.103M	22.391M	18.958M
5745MHz	Pass	500k	19.058M	21.925M	19.058M	19.03M
5785MHz	Pass	500k	19.13M	19.247M	19.13M	19.03M
5825MHz	Pass	500k	19.13M	20.333M	19.13M	19.465M
802.11ax HEW40_Nss1,(MCS0)_2TX-OFDMA	-	-	-	-	-	-
5190MHz	Pass	Inf	42.609M	37.771M	43.188M	37.771M
5230MHz	Pass	Inf	68.116M	38.784M	42.029M	37.771M
5755MHz	Pass	500k	38.116M	39.653M	38.116M	38.35M
5795MHz	Pass	500k	38.261M	38.784M	38.116M	38.205M
802.11ax HEW80_Nss1,(MCS0)_2TX-OFDMA	-	-	-	-	-	-
5210MHz	Pass	Inf	82.029M	77.279M	83.768M	77.279M
5775MHz	Pass	500k	78.261M	77.279M	78.261M	77.279M

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**

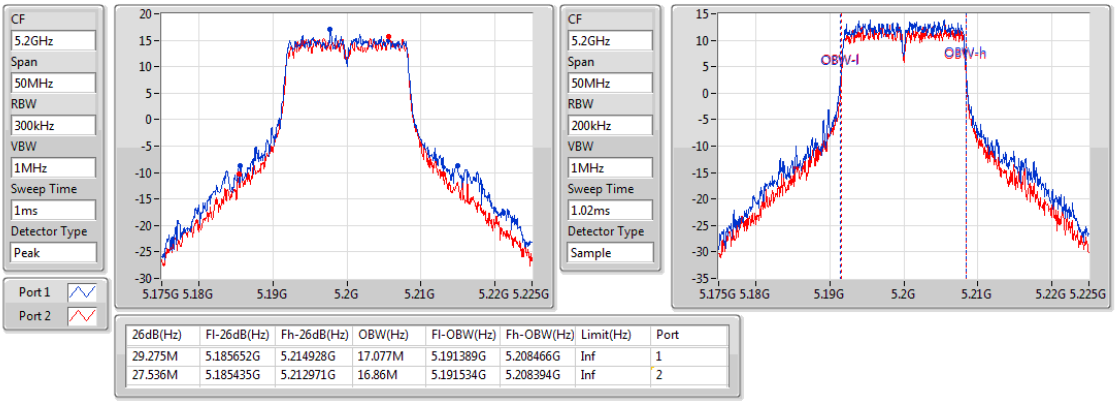
5180MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
22.899M	5.168623G	5.191522G	16.715M	5.171606G	5.188321G	Inf	1
22.391M	5.169058G	5.191449G	16.643M	5.171679G	5.188321G	Inf	2

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

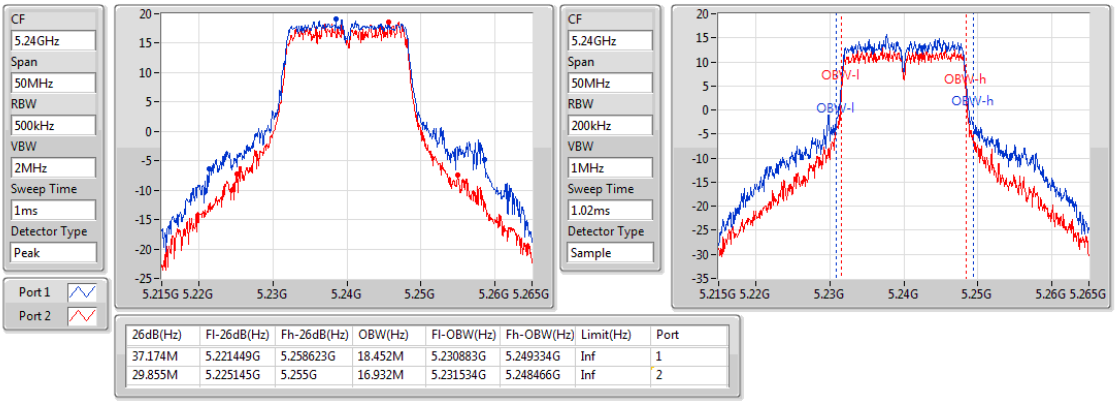
5200MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
29.275M	5.185652G	5.214928G	17.077M	5.191389G	5.208466G	Inf	1
27.536M	5.185435G	5.212971G	16.86M	5.191534G	5.208394G	Inf	2

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

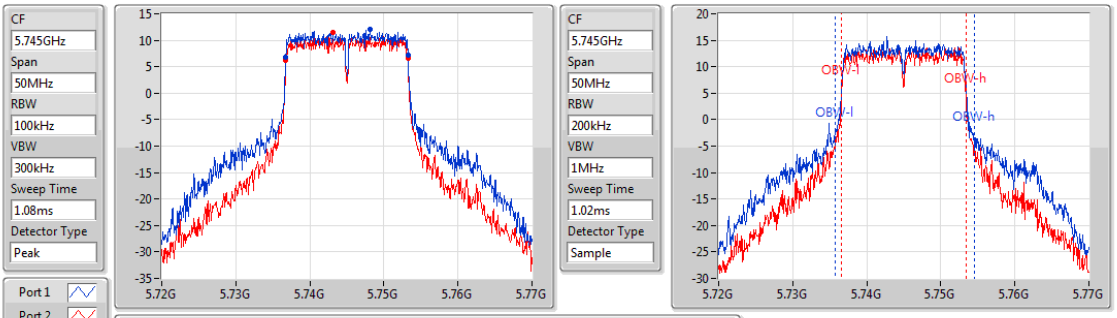
5240MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
37.174M	5.221449G	5.258623G	18.452M	5.230883G	5.249334G	Inf	1
29.855M	5.225145G	5.255G	16.932M	5.231534G	5.248466G	Inf	2

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

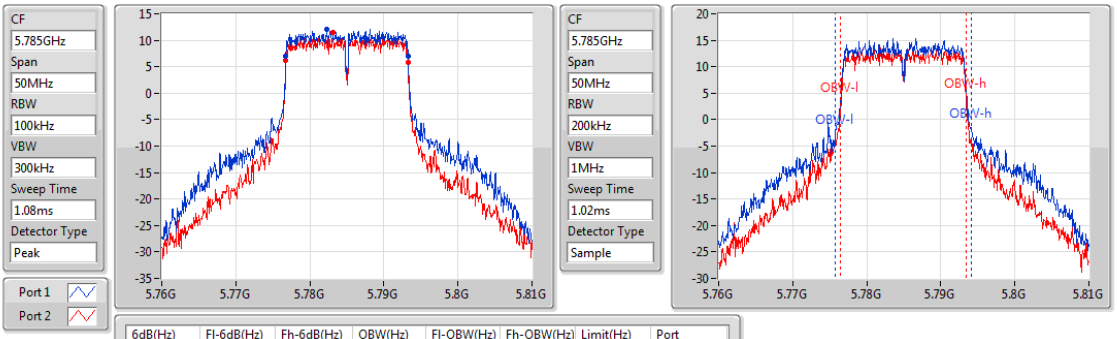
5745MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.522M	5.736739G	5.753261G	18.741M	5.735738G	5.754479G	500k	1
16.522M	5.736739G	5.753261G	16.787M	5.736606G	5.753394G	500k	2

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

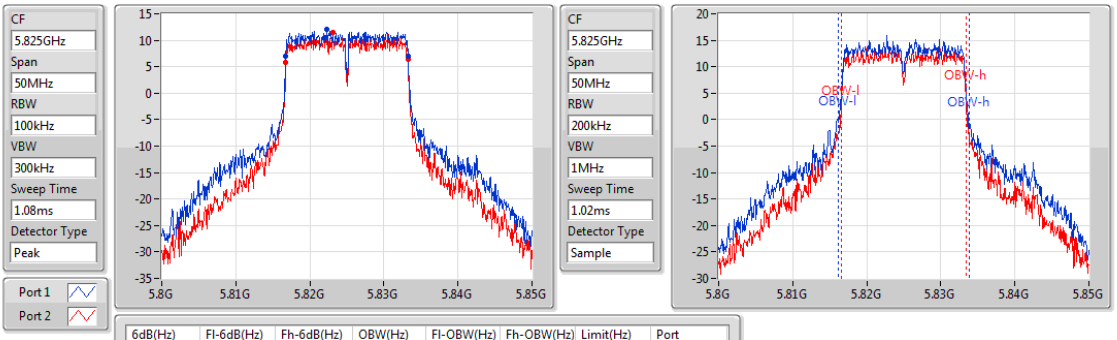
5785MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.522M	5.776739G	5.793261G	18.452M	5.775738G	5.79419G	500k	1
16.522M	5.776739G	5.793261G	17.004M	5.776462G	5.793466G	500k	2

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

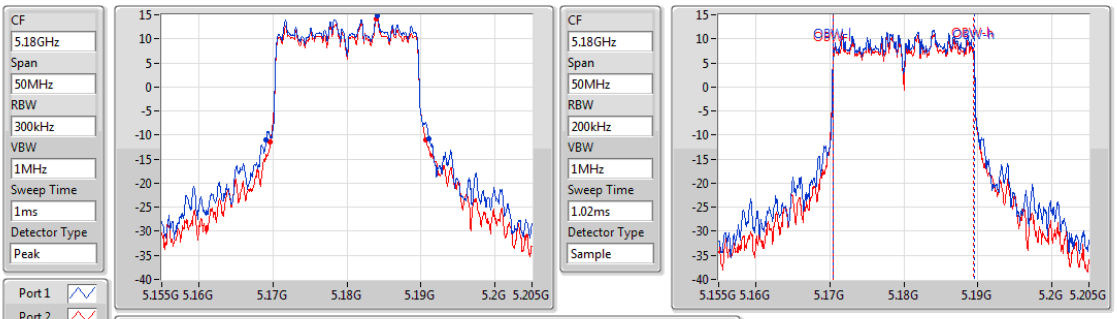
5825MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.522M	5.816739G	5.833261G	17.8M	5.8161G	5.8339G	500k	1
16.522M	5.816739G	5.833261G	16.86M	5.816534G	5.833394G	500k	2

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

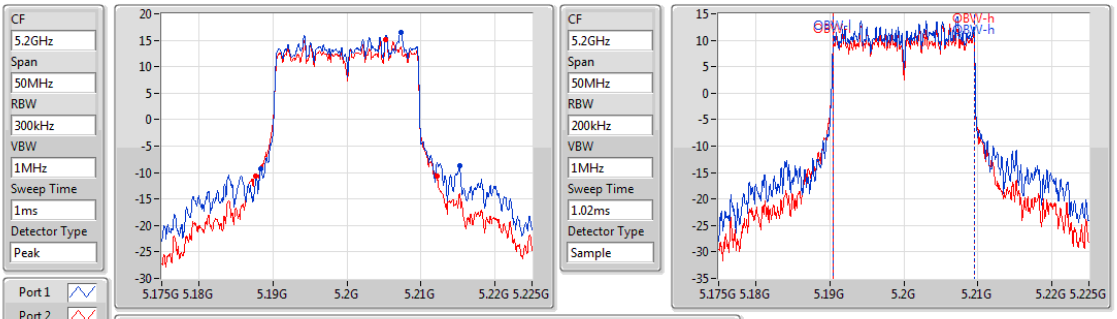
5180MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
21.957M	5.16913G	5.191087G	18.958M	5.170521G	5.189479G	Inf	1
21.014M	5.169638G	5.190652G	18.886M	5.170521G	5.189407G	Inf	2

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

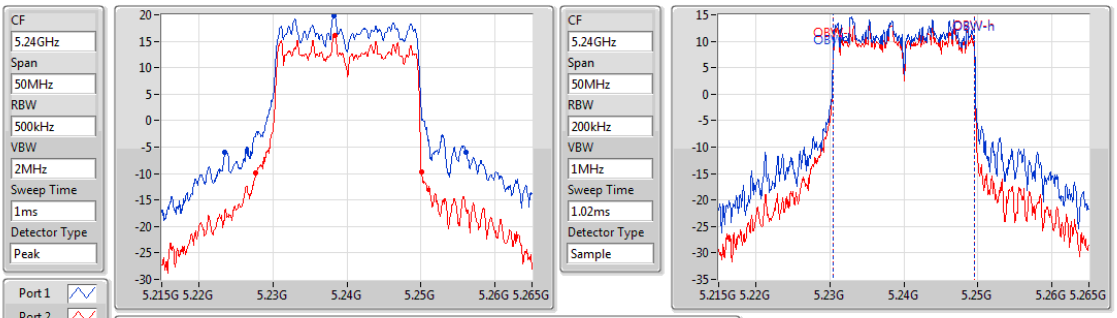
5200MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
26.884M	5.188333G	5.215217G	19.103M	5.190449G	5.209551G	Inf	1
24.565M	5.187609G	5.212174G	19.03M	5.190449G	5.209479G	Inf	2

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

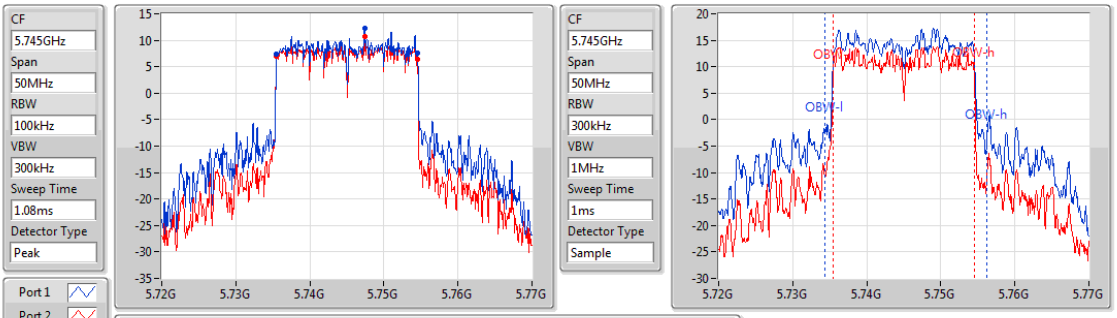
5240MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
32.536M	5.223551G	5.256087G	19.103M	5.230449G	5.249551G	Inf	1
22.391M	5.227681G	5.250072G	18.958M	5.230521G	5.249479G	Inf	2

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

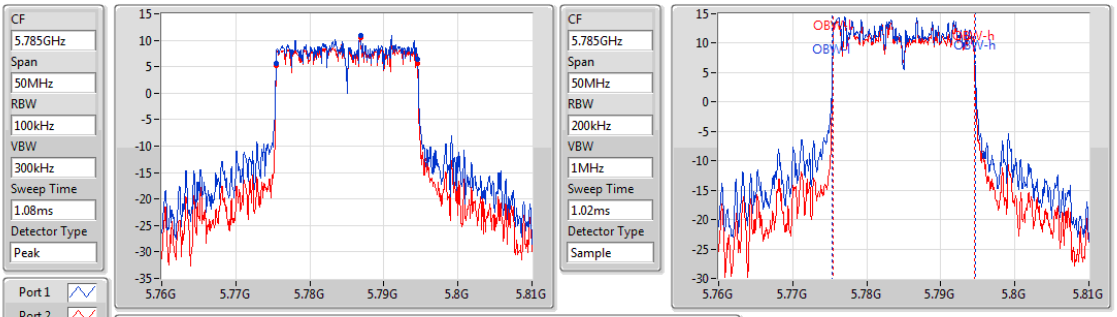
5745MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.058M	5.735507G	5.754565G	21.925M	5.734291G	5.756216G	500k	1
19.058M	5.735507G	5.754565G	19.03M	5.735449G	5.754479G	500k	2

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

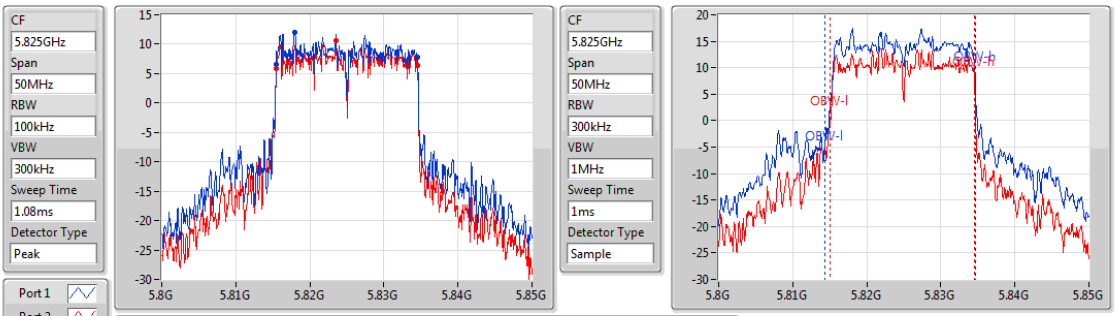
5785MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.13M	5.775435G	5.794565G	19.247M	5.775376G	5.794624G	500k	1
19.13M	5.775435G	5.794565G	19.03M	5.775449G	5.794479G	500k	2

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

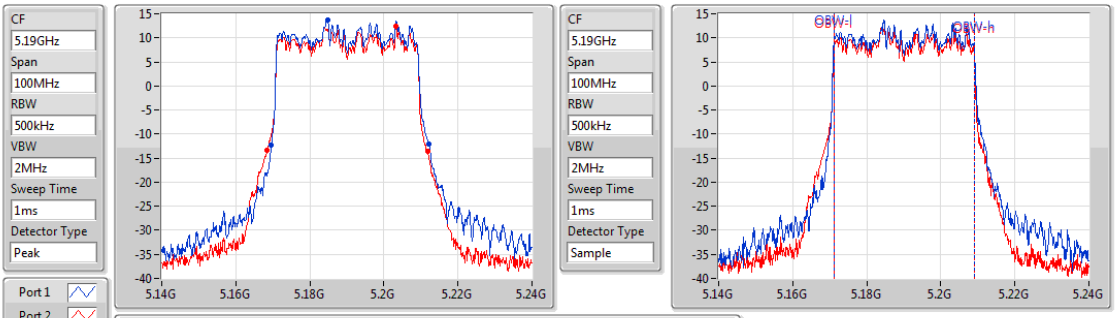
5825MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.13M	5.815435G	5.834565G	20.333M	5.814291G	5.834624G	500k	1
19.13M	5.815435G	5.834565G	19.465M	5.815087G	5.834551G	500k	2

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

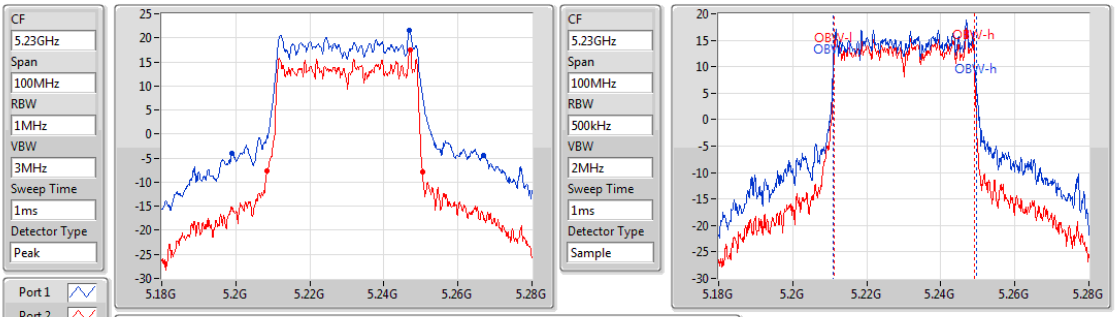
5190MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
42.609M	5.169565G	5.212174G	37.771M	5.171187G	5.208958G	Inf	1
43.188M	5.168551G	5.211739G	37.771M	5.171187G	5.208958G	Inf	2

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

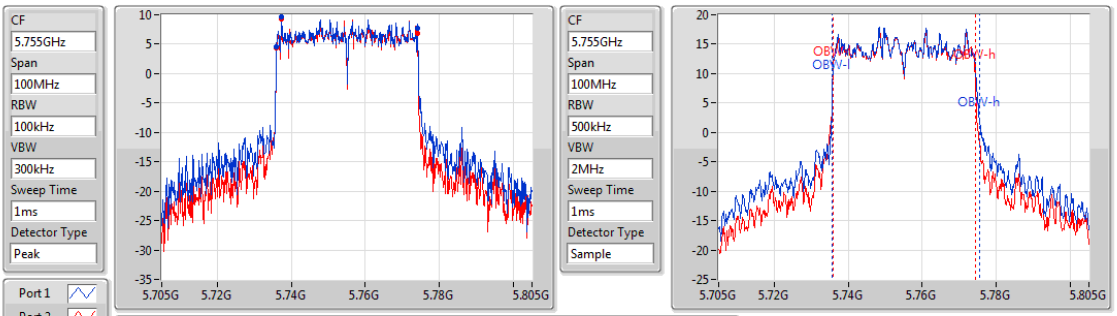
5230MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
68.116M	5.198841G	5.266957G	38.784M	5.210897G	5.249682G	Inf	1
42.029M	5.208406G	5.250435G	37.771M	5.211787G	5.248958G	Inf	2

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

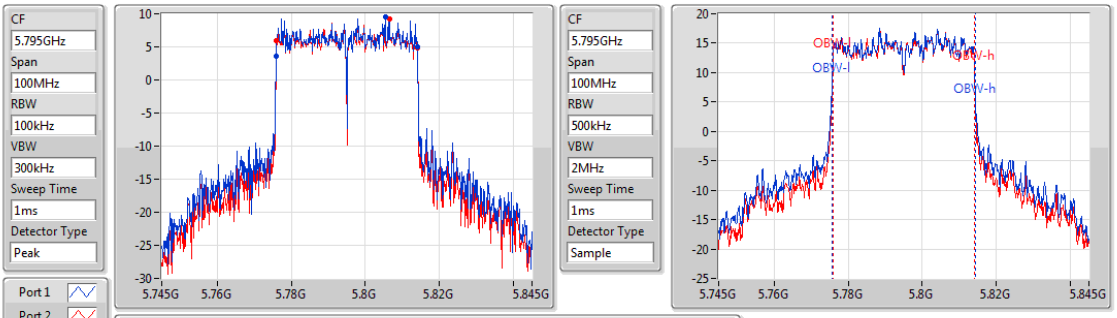
5755MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
38.116M	5.736014G	5.77413G	39.653M	5.735753G	5.775405G	500k	1
38.116M	5.736014G	5.77413G	38.35M	5.735897G	5.774247G	500k	2

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

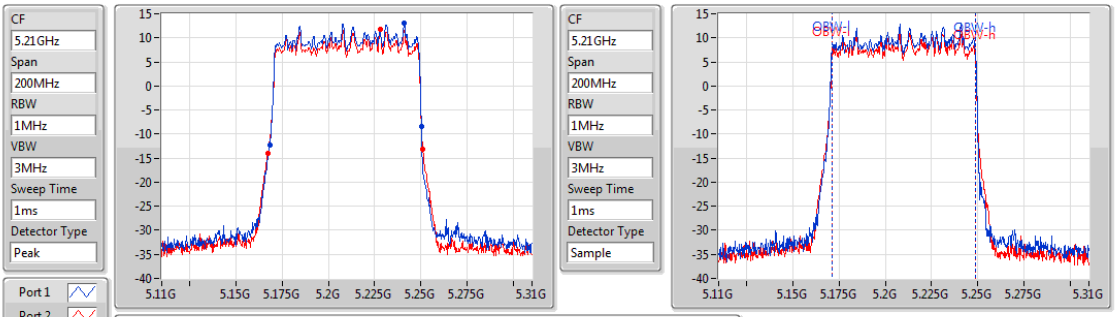
5795MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
38.261M	5.77587G	5.81413G	38.784M	5.775608G	5.814392G	500k	1
38.116M	5.776014G	5.81413G	38.205M	5.775897G	5.814103G	500k	2

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

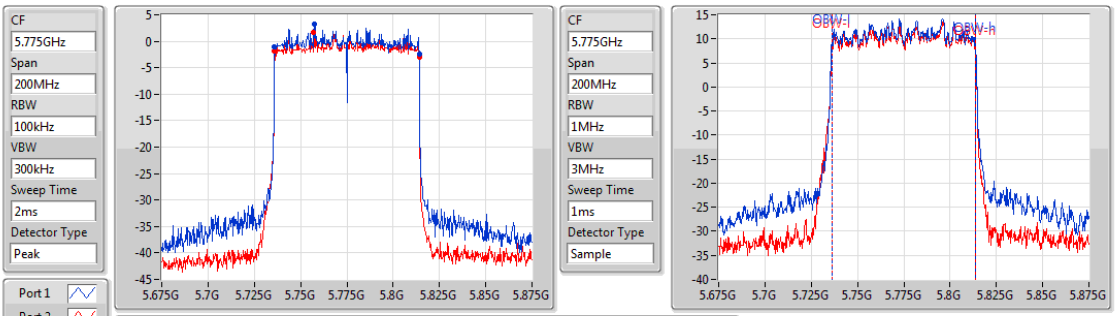
5210MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
82.029M	5.168261G	5.25029G	77.279M	5.171216G	5.248495G	Inf	1
83.768M	5.167391G	5.251159G	77.279M	5.171216G	5.248495G	Inf	2

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

5775MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
78.261M	5.73587G	5.81413G	77.279M	5.736216G	5.813495G	500k	1
78.261M	5.73587G	5.81413G	77.279M	5.736216G	5.813495G	500k	2

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

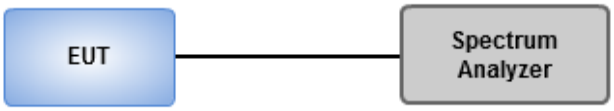
Frequency Band (MHz)		**Limit**
☒	5725 ~ 5850	Conducted Power: 1 W
Note: “B” is the 26dB emission bandwidth in MHz.		

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	21°C / 66%	Tested By	Aska Huang

Non-beamforming mode

Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.15-5.25GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	27.65	0.58210	32.75	1.88365
802.11ax HEW20_Nss1,(MCS0)_2TX-OFDMA	28.23	0.66527	33.33	2.15278
802.11ax HEW40_Nss1,(MCS0)_2TX-OFDMA	**28.55**	0.71614	33.65	2.31739
802.11ax HEW80_Nss1,(MCS0)_2TX-OFDMA	22.96	0.19770	28.06	0.63973
5.725-5.85GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	28.89	0.77446	33.89	2.44906
802.11ax HEW20_Nss1,(MCS0)_2TX-OFDMA	29.08	0.80910	34.08	2.55859
802.11ax HEW40_Nss1,(MCS0)_2TX-OFDMA	**29.53**	0.89743	34.53	2.83792
802.11ax HEW80_Nss1,(MCS0)_2TX-OFDMA	25.99	0.39719	30.99	1.25603

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	5.10	22.55	22.27	25.42	30.00	30.52	36.00
5200MHz	Pass	5.10	25.03	24.2	27.65	30.00	32.75	36.00
5240MHz	Pass	5.10	25.01	24.07	27.58	30.00	32.68	36.00
5745MHz	Pass	5.00	26.1	25.19	28.68	30.00	33.68	36.00
5785MHz	Pass	5.00	26.31	25.41	28.89	30.00	33.89	36.00
5825MHz	Pass	5.00	26.22	25.35	28.82	30.00	33.82	36.00
802.11ax HEW20_Nss1,(MCS0)_2TX-OFDMA	-	-	-	-	-	-	-	-
5180MHz	Pass	5.10	22.92	22.64	25.79	30.00	30.89	36.00
5200MHz	Pass	5.10	25.22	24.84	28.04	30.00	33.14	36.00
5240MHz	Pass	5.10	25.63	24.76	28.23	30.00	33.33	36.00
5745MHz	Pass	5.00	26.52	25.56	29.08	30.00	34.08	36.00
5785MHz	Pass	5.00	26.42	25.52	29.00	30.00	34.00	36.00
5825MHz	Pass	5.00	26.41	25.48	28.98	30.00	33.98	36.00
802.11ax HEW40_Nss1,(MCS0)_2TX-OFDMA	-	-	-	-	-	-	-	-
5190MHz	Pass	5.10	20.78	19.86	23.35	30.00	28.45	36.00
5230MHz	Pass	5.10	25.85	25.21	**28.55**	30.00	33.65	36.00
5755MHz	Pass	5.00	26.83	26.19	**29.53**	30.00	34.53	36.00
5795MHz	Pass	5.00	26.76	26.04	29.43	30.00	34.43	36.00
802.11ax HEW80_Nss1,(MCS0)_2TX-OFDMA	-	-	-	-	-	-	-	-
5210MHz	Pass	5.10	20.39	19.46	22.96	30.00	28.06	36.00
5775MHz	Pass	5.00	23.42	22.48	25.99	30.00	30.99	36.00

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

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	27.64	0.58076	35.65	3.67282
802.11ax HEW40-BF_Nss1,(MCS0)_2TX-OFDMA	27.89	0.61518	35.90	3.89045
802.11ax HEW80-BF_Nss1,(MCS0)_2TX-OFDMA	22.81	0.19099	30.82	1.20781
5.725-5.85GHz	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX-OFDMA	27.98	0.62806	35.60	3.63078
802.11ax HEW40-BF_Nss1,(MCS0)_2TX-OFDMA	28.02	0.63387	35.64	3.66438
802.11ax HEW80-BF_Nss1,(MCS0)_2TX-OFDMA	25.86	0.38548	33.48	2.22844

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11ax HEW20-BF_Nss1,(MCS0)_2TX-OFDMA	-	-	-	-	-	-	-	-
5180MHz	Pass	8.01	22.81	22.52	25.68	27.99	33.69	36.00
5200MHz	Pass	8.01	24.73	24.22	27.49	27.99	35.50	36.00
5240MHz	Pass	8.01	25.02	24.21	27.64	27.99	35.65	36.00
5745MHz	Pass	7.62	25.4	24.49	27.98	28.38	35.60	36.00
5785MHz	Pass	7.62	25.31	24.38	27.88	28.38	35.50	36.00
5825MHz	Pass	7.62	25.27	24.35	27.84	28.38	35.46	36.00
802.11ax HEW40-BF_Nss1,(MCS0)_2TX-OFDMA	-	-	-	-	-	-	-	-
5190MHz	Pass	8.01	20.67	19.75	23.24	27.99	31.25	36.00
5230MHz	Pass	8.01	25.15	24.6	27.89	27.99	35.90	36.00
5755MHz	Pass	7.62	25.28	24.72	28.02	28.38	35.64	36.00
5795MHz	Pass	7.62	25.2	24.53	27.89	28.38	35.51	36.00
802.11ax HEW80-BF_Nss1,(MCS0)_2TX-OFDMA	-	-	-	-	-	-	-	-
5210MHz	Pass	8.01	20.18	19.39	22.81	27.99	30.82	36.00
5775MHz	Pass	7.62	23.27	22.38	25.86	28.38	33.48	36.00

DG = Directional Gain; **Port X** = Port X output power
For 5.15 ~ 5.25 GHz, Directional Gain =10 * log((10$^{5.1/20}$+10$^{4.9/20}$)^2/2) = 8.01 dBi > 6 dBi, limit shall be reduced to 30 dBm – (8.01 dBi – 6 dBi) = 27.99 dBm
For 5.725 ~ 5.85 GHz, Directional Gain =10 * log((10$^{4.2/20}$+10$^{5/20}$)^2/2) = 7.62 dBi > 6 dBi, limit shall be reduced to 30 dBm – (7.62 dBi – 6 dBi) = 28.38 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

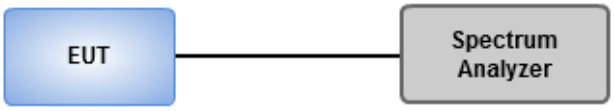
Duty cycle ≥ 98 %

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	21°C / 66%	Tested By	Aska Huang

Summary

Mode	PD (dBm/RBW)	EIRP PD (dBm/RBW)
5.15-5.25GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	14.57	22.58
802.11ax HEW20_Nss1,(MCS0)_2TX-OFDMA	14.89	22.90
802.11ax HEW40_Nss1,(MCS0)_2TX-OFDMA	12.75	20.76
802.11ax HEW80_Nss1,(MCS0)_2TX-OFDMA	4.62	12.63
5.725-5.85GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	14.21	21.83
802.11ax HEW20_Nss1,(MCS0)_2TX-OFDMA	14.90	22.52
802.11ax HEW40_Nss1,(MCS0)_2TX-OFDMA	12.38	20.00
802.11ax HEW80_Nss1,(MCS0)_2TX-OFDMA	5.26	12.88

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

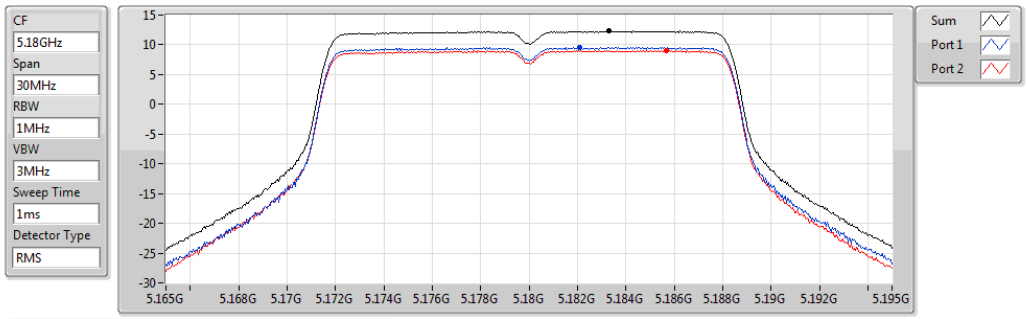
Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)	EIRP PD (dBm/RBW)	EIRP PD Limit (dBm/RBW)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	8.01	9.58	9.08	12.28	14.99	20.29	23.00
5200MHz	Pass	8.01	12.42	10.68	14.57	14.99	22.58	23.00
5240MHz	Pass	8.01	12.40	10.68	14.55	14.99	22.56	23.00
5745MHz	Pass	7.62	11.65	10.75	14.21	28.38	21.83	36.00
5785MHz	Pass	7.62	11.52	10.57	14.05	28.38	21.67	36.00
5825MHz	Pass	7.62	11.71	10.60	14.09	28.38	21.71	36.00
802.11ax HEW20_Nss1,(MCS0)_2TX-OFDMA	-	-	-	-	-	-	-	-
5180MHz	Pass	8.01	10.10	9.52	12.76	14.99	20.77	23.00
5200MHz	Pass	8.01	12.03	11.37	14.65	14.99	22.66	23.00
5240MHz	Pass	8.01	12.40	11.43	14.89	14.99	22.90	23.00
5745MHz	Pass	7.62	12.29	11.48	14.90	28.38	22.52	36.00
5785MHz	Pass	7.62	11.78	11.45	14.61	28.38	22.23	36.00
5825MHz	Pass	7.62	12.36	11.08	14.76	28.38	22.38	36.00
802.11ax HEW40_Nss1,(MCS0)_2TX-OFDMA	-	-	-	-	-	-	-	-
5190MHz	Pass	8.01	6.02	5.00	8.40	14.99	16.41	23.00
5230MHz	Pass	8.01	10.33	9.05	12.75	14.99	20.76	23.00
5755MHz	Pass	7.62	9.57	9.15	12.38	28.38	20.00	36.00
5795MHz	Pass	7.62	9.23	9.26	12.20	28.38	19.82	36.00
802.11ax HEW80_Nss1,(MCS0)_2TX-OFDMA	-	-	-	-	-	-	-	-
5210MHz	Pass	8.01	2.37	1.18	4.62	14.99	12.63	23.00
5775MHz	Pass	7.62	2.55	1.94	5.26	28.38	12.88	36.00

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 X power density;
DG = Directional Gain
For 5.15 ~ 5.25 GHz, Directional Gain =10 * log($(10^{5.1/20}+10^{4.9/20})^2$/2) = 8.01 dBi > 6 dBi, limit shall be reduced to 17 dBm – (8.01 dBi – 6 dBi) = 14.99 dBm
For 5.725 ~ 5.85 GHz, Directional Gain =10 * log($(10^{4.2/20}+10^{5/20})^2$/2) = 7.62 dBi > 6 dBi, limit shall be reduced to 30 dBm – (7.62 dBi – 6 dBi) = 28.38 dBm

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

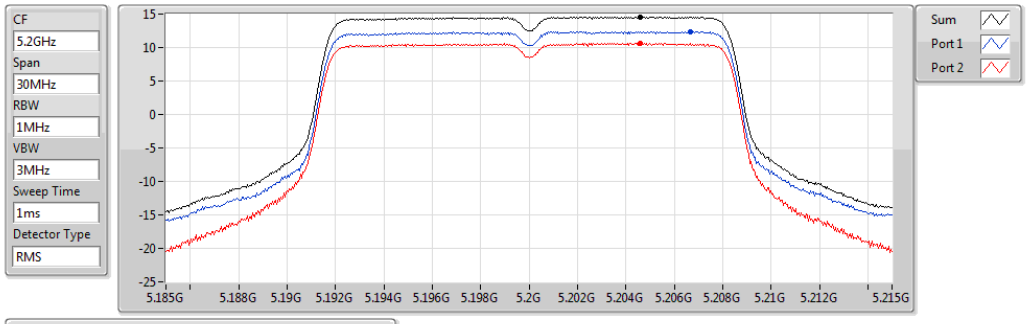
5180MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
12.28	12.28	9.58	9.08

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

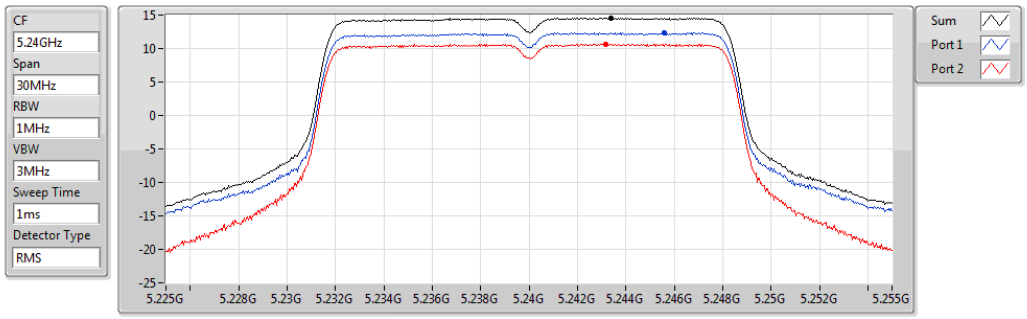
5200MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
14.57	14.57	12.42	10.68

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

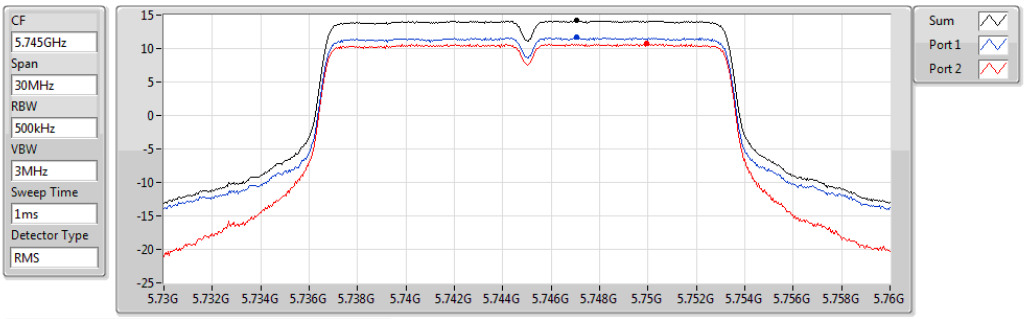
5240MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
14.55	14.55	12.40	10.68

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

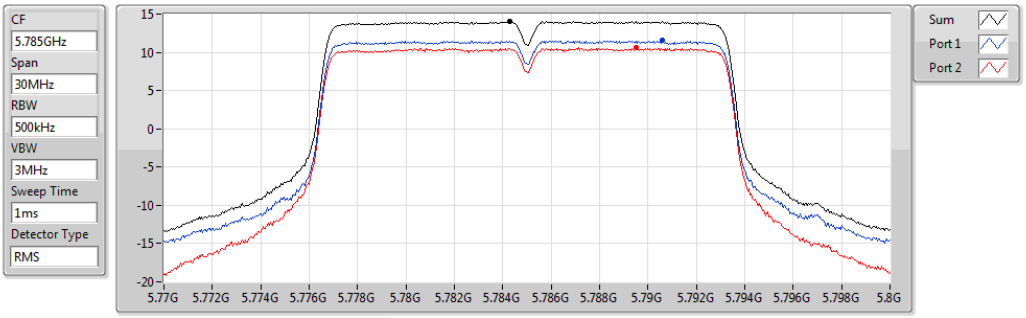
5745MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
14.21	14.21	11.65	10.75

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

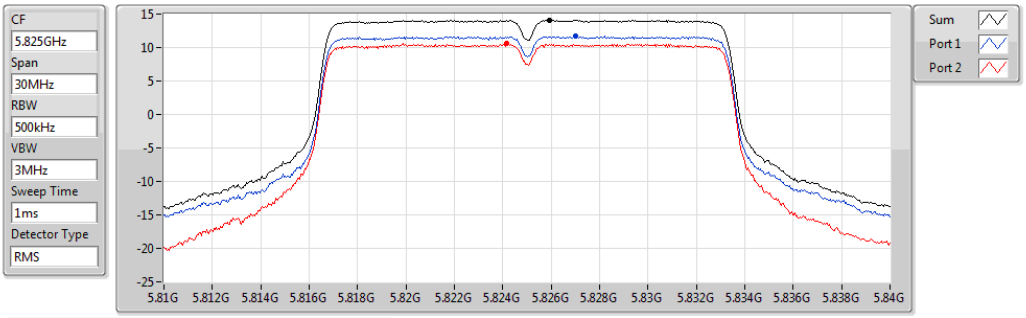
5785MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
14.05	14.05	11.52	10.57

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

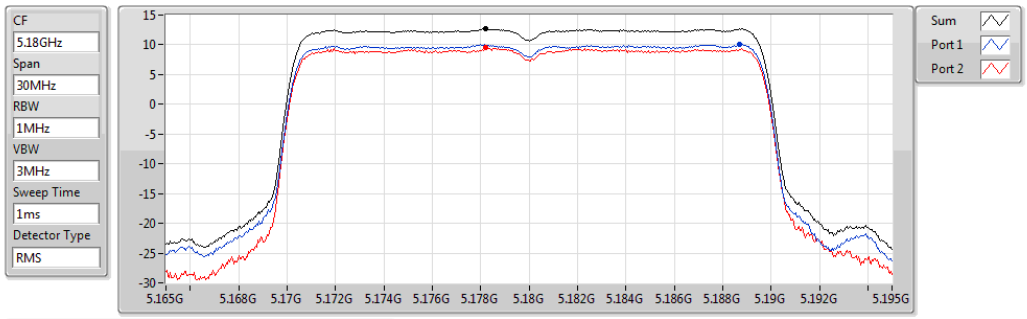
5825MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
14.09	14.09	11.71	10.60

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

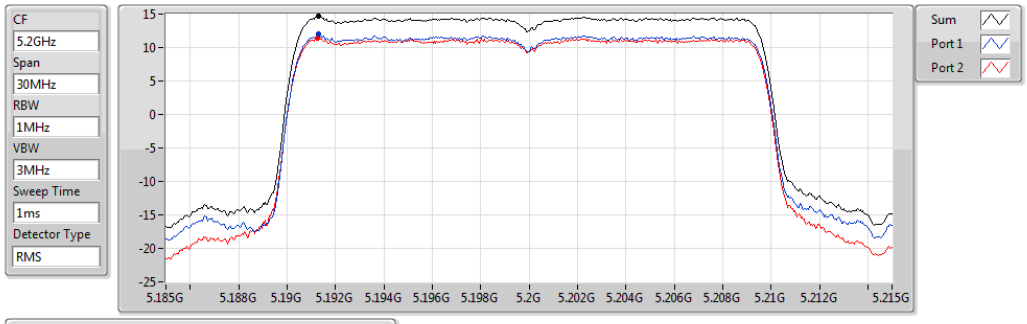
5180MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
12.76	12.76	10.10	9.52

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

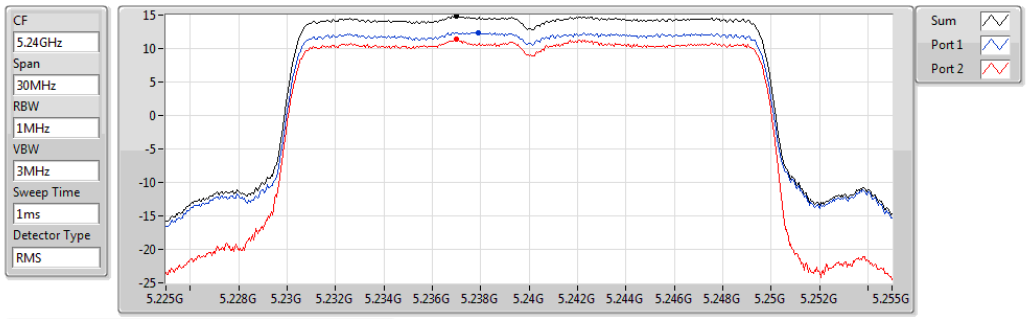
5200MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
14.65	14.65	12.03	11.37

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

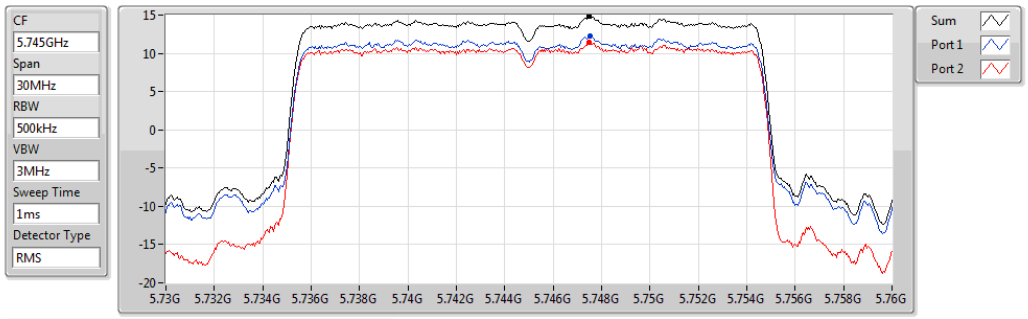
5240MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
14.89	14.89	12.40	11.43

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

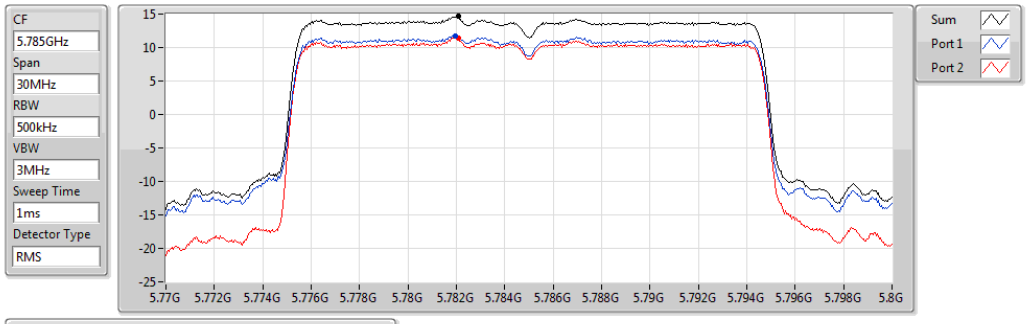
5745MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
14.90	14.90	12.29	11.48

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

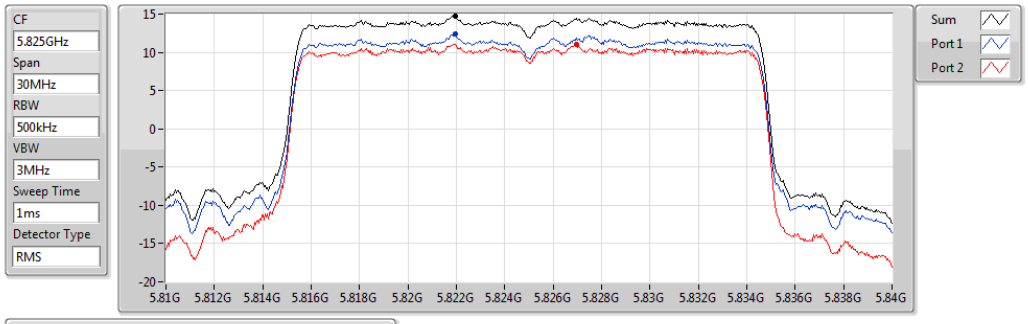
5785MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
14.61	14.61	11.78	11.45

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

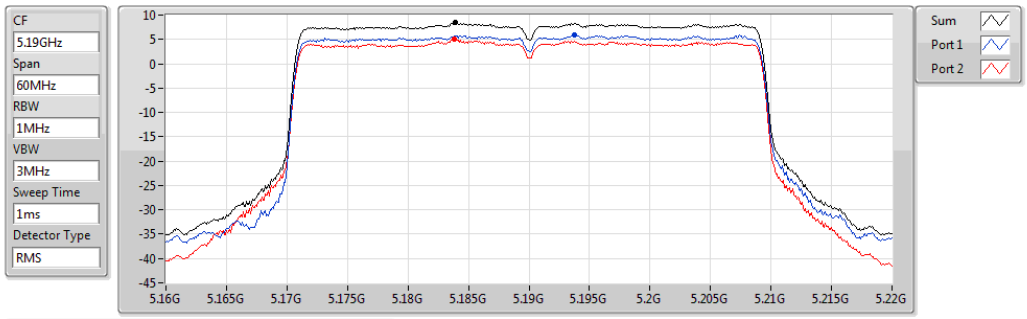
5825MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
14.76	14.76	12.36	11.08

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

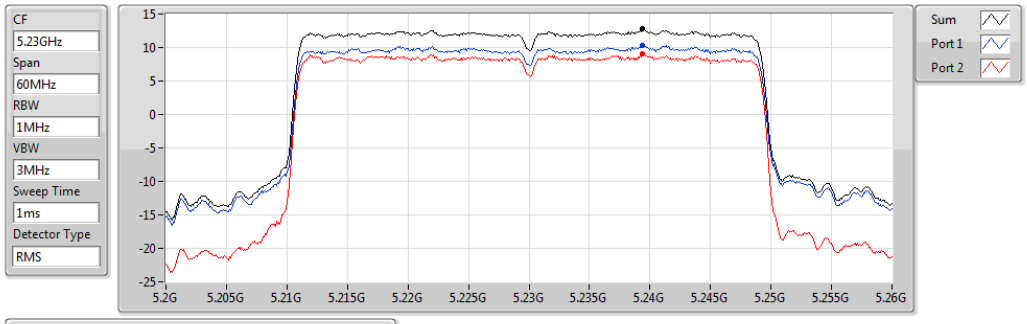
5190MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.40	8.40	6.02	5.00

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

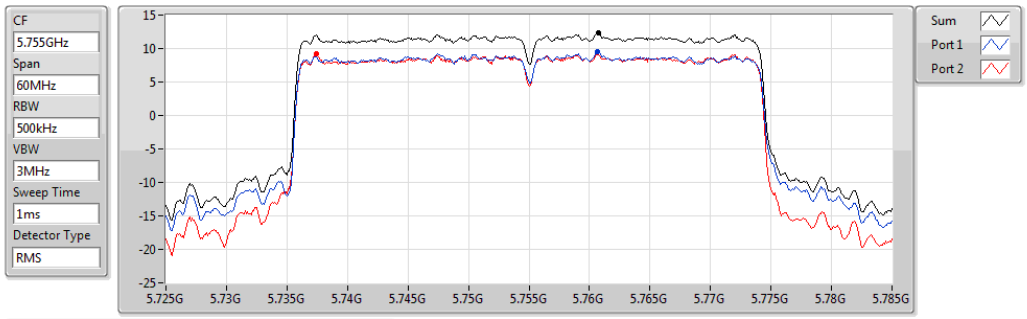
5230MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
12.75	12.75	10.33	9.05

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

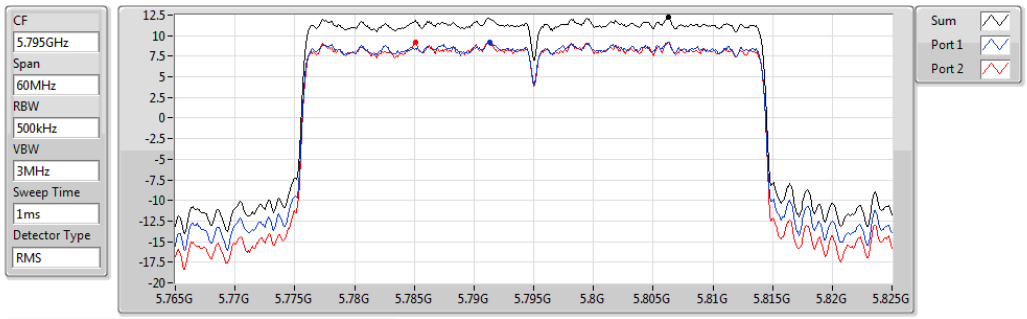
5755MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
12.38	12.38	9.57	9.15

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

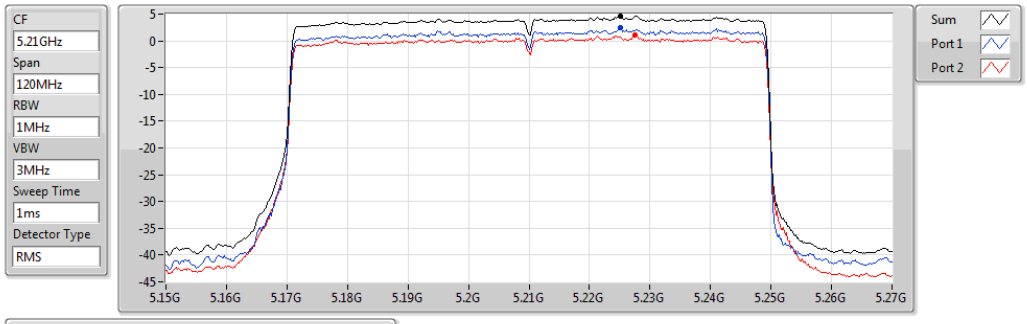
5795MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
12.20	12.20	9.23	9.26

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

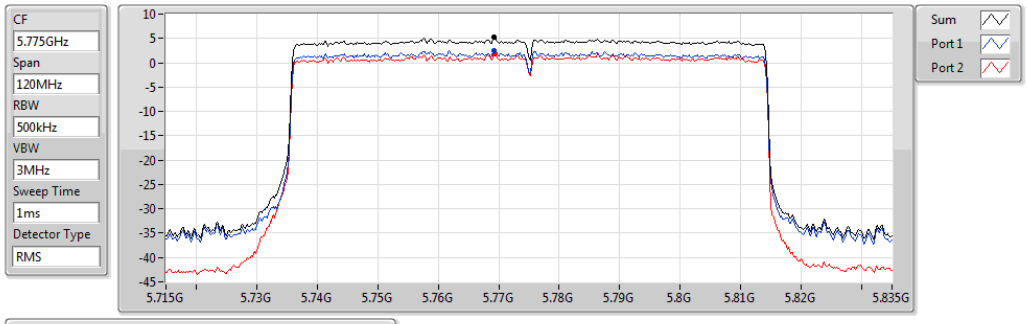
5210MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.62	4.62	2.37	1.18

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

5775MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.26	5.26	2.55	1.94

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

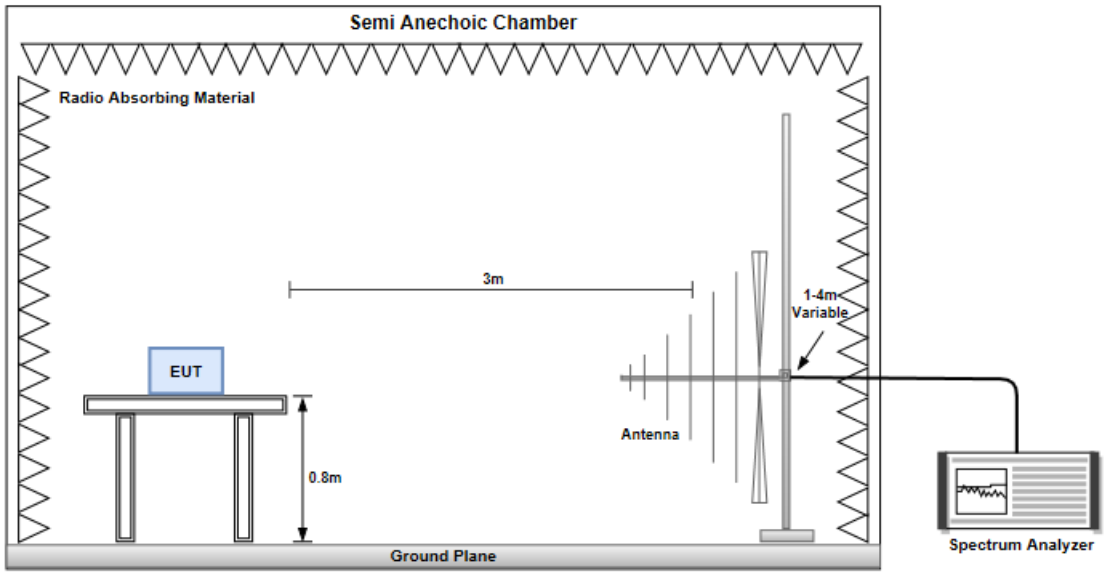
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission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

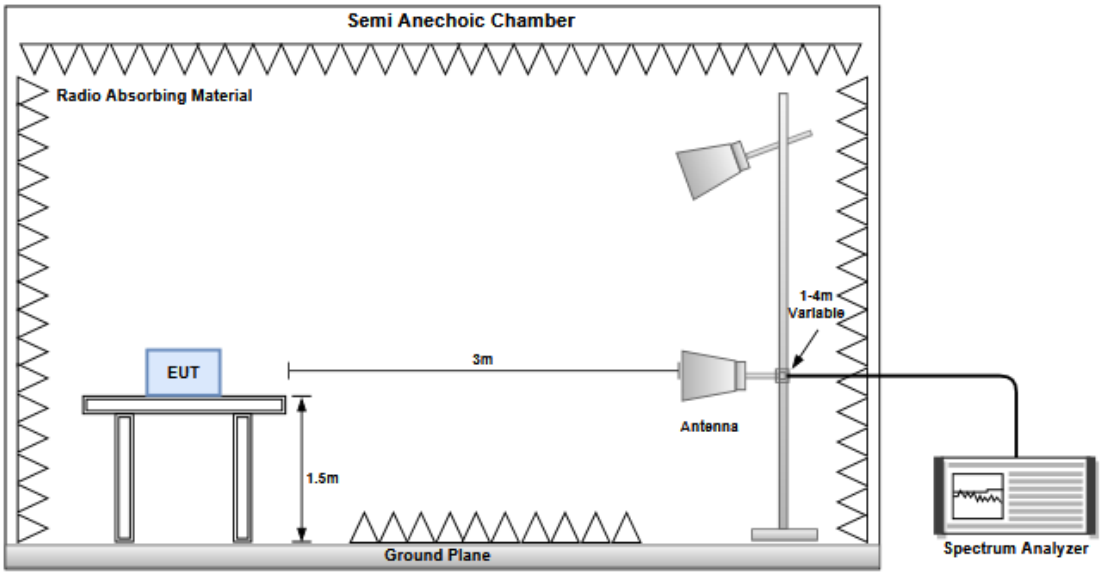
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

3.5.3 Test Setup

Radiated Emissions below 1 GHz



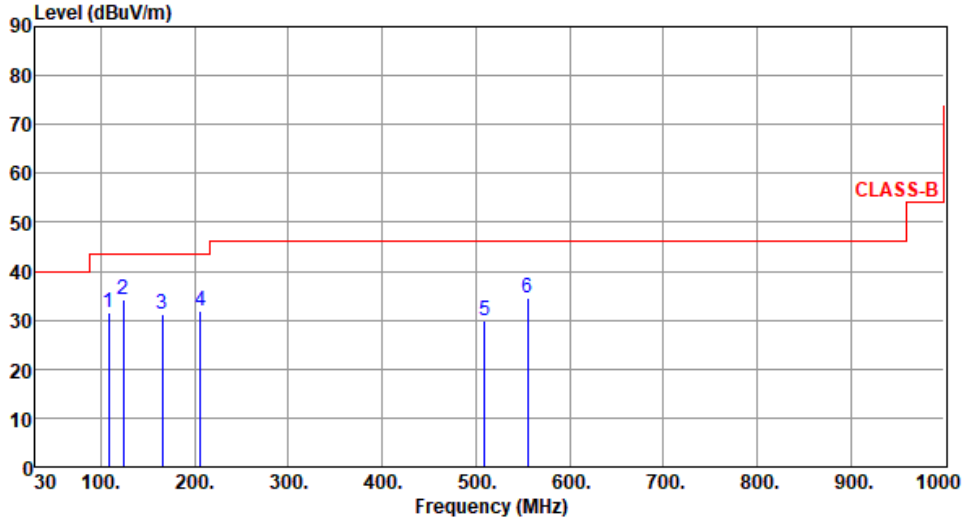
Radiated Emissions above 1 GHz



3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

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

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

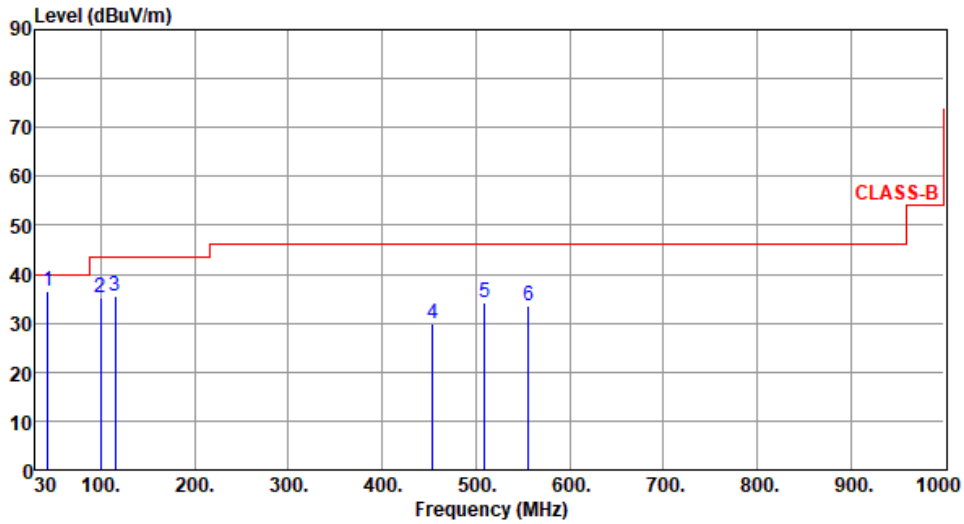


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	108.45	31.65	43.50	-11.85	43.64	-11.99	Peak	---	---
2	124.26	34.33	43.50	-9.17	44.62	-10.29	Peak	---	---
3	165.86	31.25	43.50	-12.25	40.21	-8.96	Peak	---	---
4	206.26	31.86	43.50	-11.64	43.82	-11.96	Peak	---	---
5	509.26	29.88	46.00	-16.12	32.95	-3.07	Peak	---	---
6	555.64	34.68	46.00	-11.32	36.99	-2.31	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(℃):23 Humidity(%):67

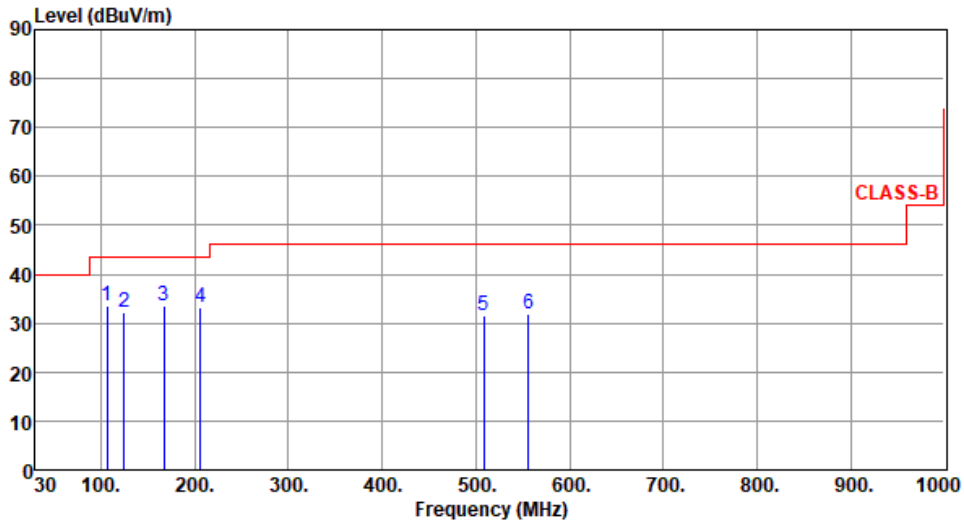


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	43.29	36.64	40.00	-3.36	45.16	-8.52	QP	100	253
2	99.25	35.16	43.50	-8.34	48.68	-13.52	Peak	---	---
3	115.26	35.67	43.50	-7.83	46.79	-11.12	Peak	---	---
4	453.86	29.88	46.00	-16.12	34.03	-4.15	Peak	---	---
5	509.30	34.15	46.00	-11.85	37.22	-3.07	Peak	---	---
6	556.26	33.58	46.00	-12.42	35.87	-2.29	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)	5755
Polarization	Horizontal		

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

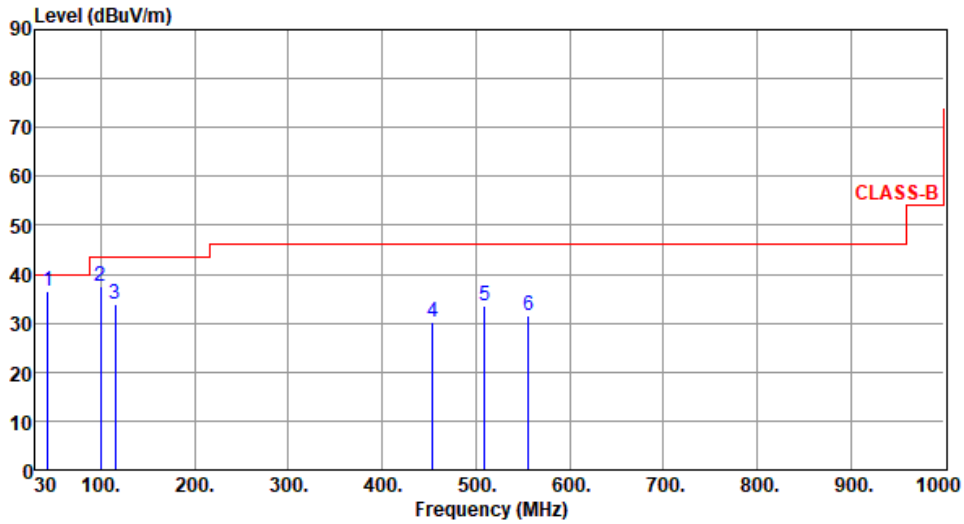


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	106.86	33.59	43.50	-9.91	45.66	-12.07	Peak	---	---
2	124.65	32.09	43.50	-11.41	42.37	-10.28	Peak	---	---
3	167.59	33.45	43.50	-10.05	42.41	-8.96	Peak	---	---
4	206.29	33.18	43.50	-10.32	45.14	-11.96	Peak	---	---
5	508.59	31.58	46.00	-14.42	34.67	-3.09	Peak	---	---
6	555.91	32.02	46.00	-13.98	34.32	-2.30	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)	5755
Polarization	Vertical		

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



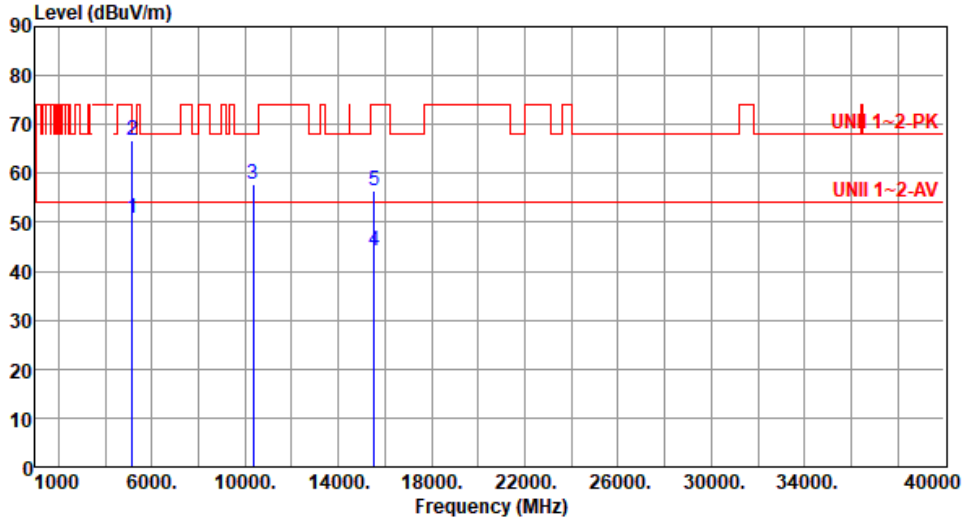
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	43.28	36.59	40.00	-3.41	45.11	-8.52	QP	100	257
2	99.26	37.49	43.50	-6.01	51.01	-13.52	Peak	---	---
3	115.29	33.91	43.50	-9.59	45.03	-11.12	Peak	---	---
4	454.19	30.26	46.00	-15.74	34.41	-4.15	Peak	---	---
5	509.58	33.67	46.00	-12.33	36.74	-3.07	Peak	---	---
6	555.91	31.56	46.00	-14.44	33.86	-2.30	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 :Roger Lu Temperature(℃):22 Humidity(%):68

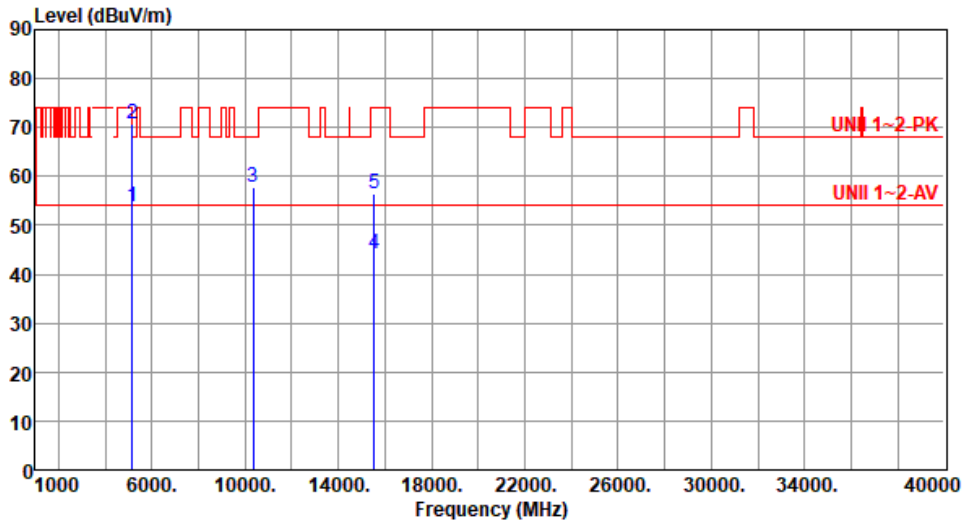


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	50.90	54.00	-3.10	45.89	5.01	Average	345	128
2	5150.00	66.87	74.00	-7.13	61.86	5.01	Peak	345	128
3	10360.00	57.88	68.20	-10.32	43.67	14.21	Peak	100	175
4	15540.00	44.04	54.00	-9.96	30.40	13.64	Average	100	177
5	15540.00	56.34	74.00	-17.66	42.70	13.64	Peak	100	177

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

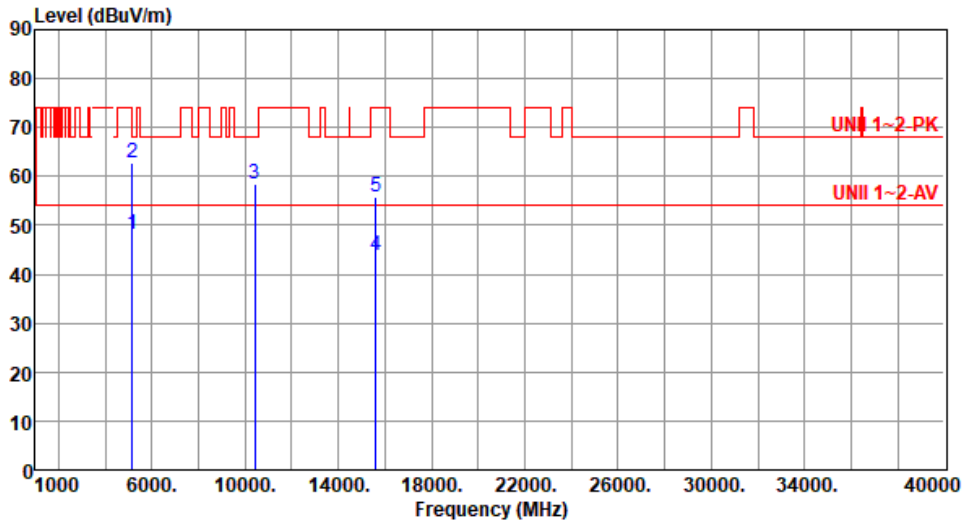


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	53.67	54.00	-0.33	48.66	5.01	Average	132	152
2	5150.00	70.68	74.00	-3.32	65.67	5.01	Peak	132	152
3	10360.00	57.77	68.20	-10.43	43.56	14.21	Peak	269	139
4	15540.00	44.30	54.00	-9.70	30.66	13.64	Average	100	60
5	15540.00	56.52	74.00	-17.48	42.88	13.64	Peak	100	60

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 :Akun Chung Temperature(℃):23 Humidity(%):65

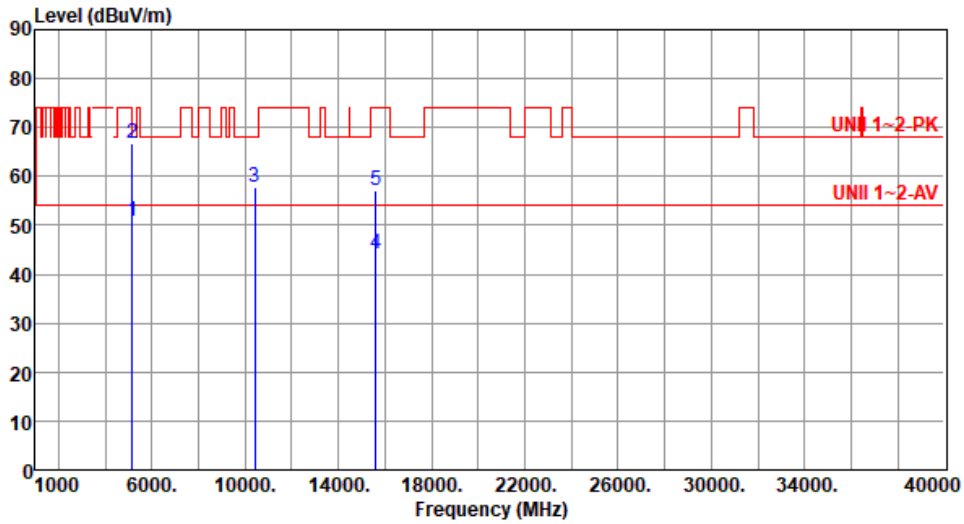


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	48.27	54.00	-5.73	43.26	5.01	Average	320	126
2	5150.00	62.87	74.00	-11.13	57.86	5.01	Peak	320	126
3	10400.00	58.59	68.20	-9.61	44.26	14.33	Peak	175	173
4	15600.00	43.81	54.00	-10.19	30.48	13.33	Average	100	180
5	15600.00	55.88	74.00	-18.12	42.55	13.33	Peak	100	180

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 :Akun Chung Temperature(℃):23 Humidity(%):65

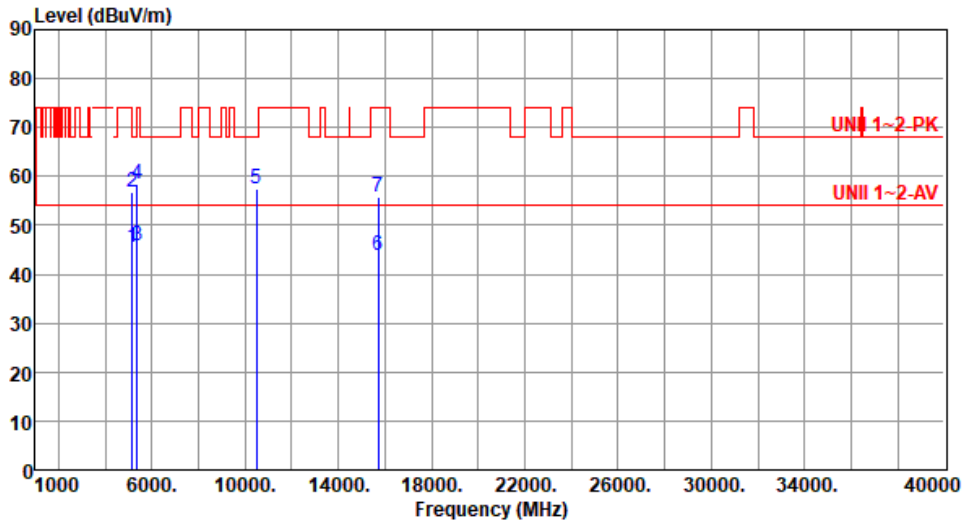


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	50.70	54.00	-3.30	45.69	5.01	Average	155	153
2	5150.00	66.71	74.00	-7.29	61.70	5.01	Peak	155	153
3	10400.00	57.92	68.20	-10.28	43.59	14.33	Peak	272	140
4	15600.00	44.26	54.00	-9.74	30.93	13.33	Average	155	53
5	15600.00	57.28	74.00	-16.72	43.95	13.33	Peak	155	53

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

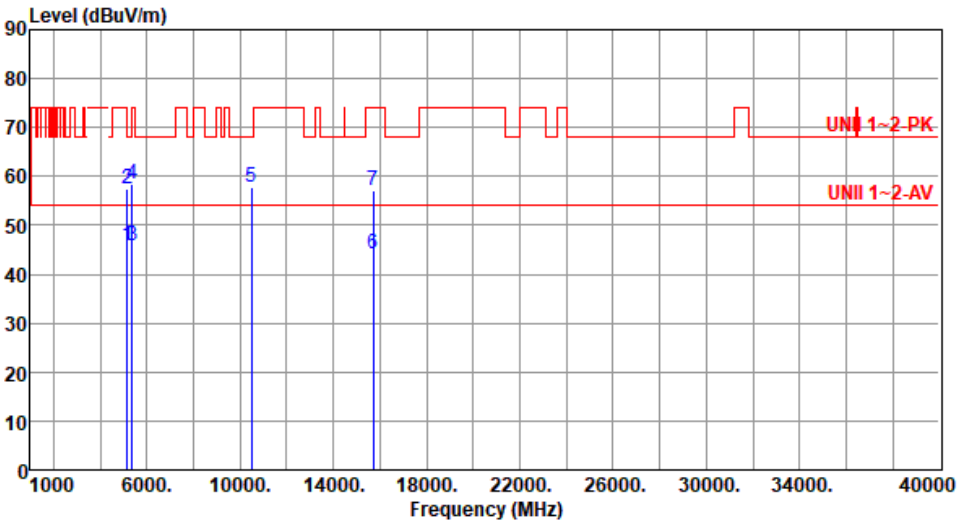


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	45.60	54.00	-8.40	40.59	5.01	Average	328	121
2	5150.00	56.68	74.00	-17.32	51.67	5.01	Peak	328	121
3	5350.00	45.67	54.00	-8.33	41.25	4.42	Average	328	121
4	5350.00	58.29	74.00	-15.71	53.87	4.42	Peak	328	121
5	10480.00	57.36	68.20	-10.84	42.90	14.46	Peak	180	174
6	15720.00	43.84	54.00	-10.16	30.42	13.42	Average	100	177
7	15720.00	55.82	74.00	-18.18	42.40	13.42	Peak	100	177

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

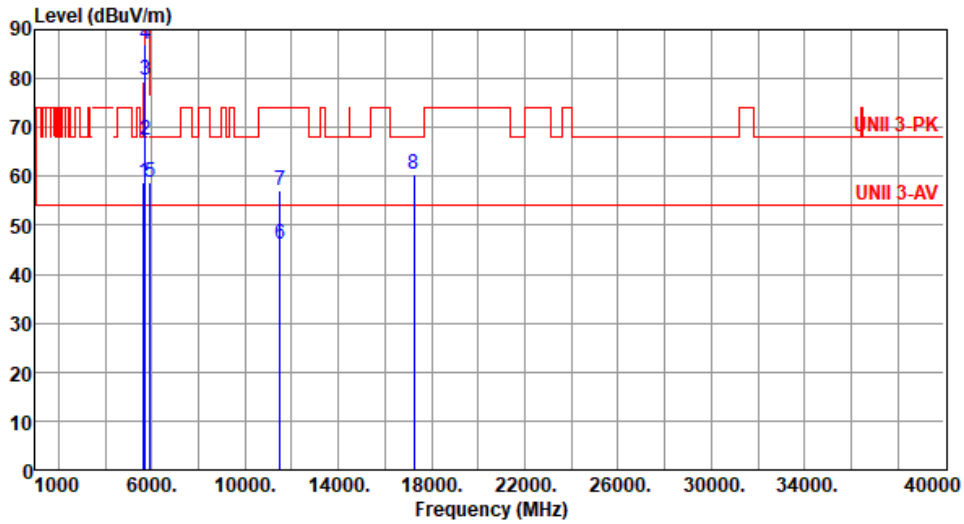


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	45.91	54.00	-8.09	40.90	5.01	Average	128	149
2	5150.00	57.40	74.00	-16.60	52.39	5.01	Peak	128	149
3	5350.00	45.82	54.00	-8.18	41.40	4.42	Average	128	149
4	5350.00	58.35	74.00	-15.65	53.93	4.42	Peak	128	149
5	10480.00	57.92	68.20	-10.28	43.46	14.46	Peak	275	136
6	15720.00	44.01	54.00	-9.99	30.59	13.42	Average	142	55
7	15720.00	57.07	74.00	-16.93	43.65	13.42	Peak	142	55

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

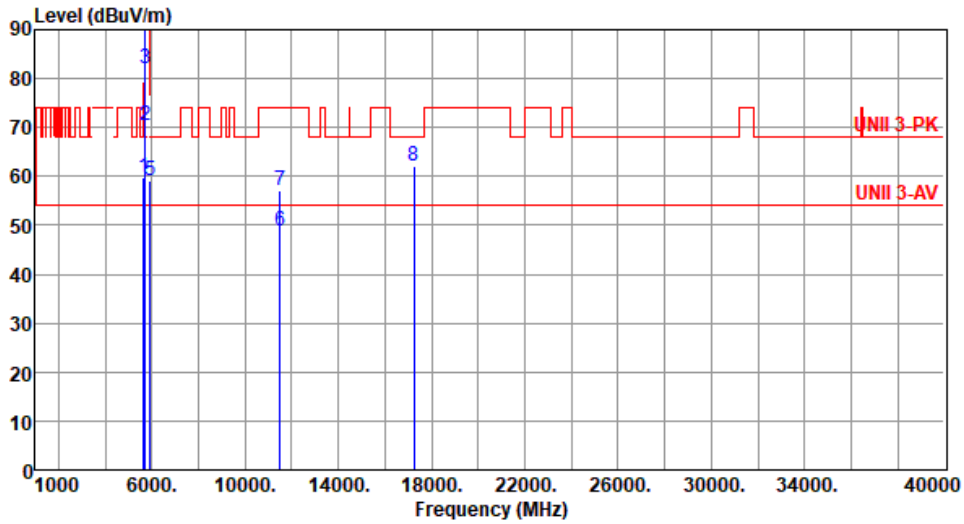


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	58.79	68.20	-9.41	53.98	4.81	Peak	339	114
2	5700.00	67.46	105.20	-37.74	62.44	5.02	Peak	339	114
3	5720.00	79.69	110.80	-31.11	74.55	5.14	Peak	339	114
4	5725.00	87.05	122.20	-35.15	81.88	5.17	Peak	339	114
5	5925.00	58.86	68.20	-9.34	53.25	5.61	Peak	339	114
6	11490.00	46.27	54.00	-7.73	31.88	14.39	Average	351	152
7	11490.00	57.24	74.00	-16.76	42.85	14.39	Peak	351	152
8	17235.00	60.44	68.20	-7.76	42.98	17.46	Peak	100	152

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

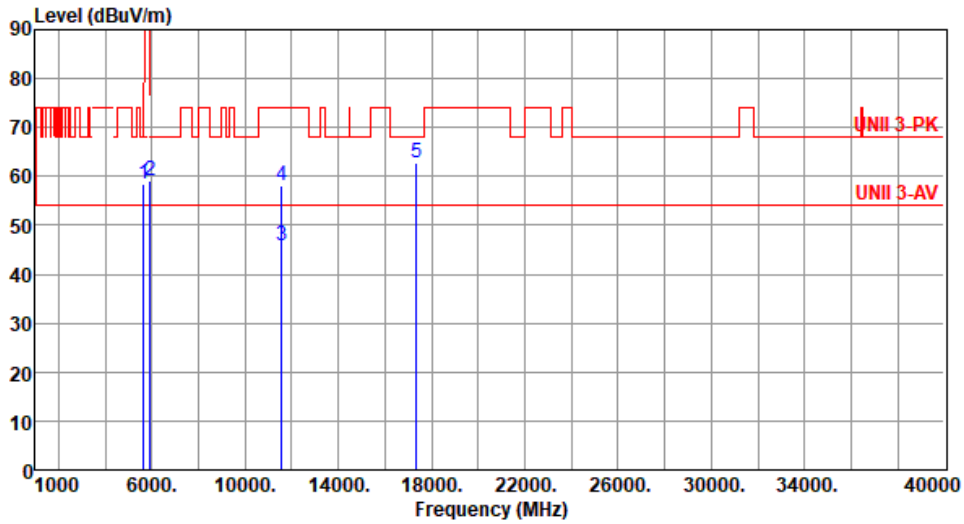


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	59.75	68.20	-8.45	54.94	4.81	Peak	165	169
2	5700.00	70.30	105.20	-34.90	65.28	5.02	Peak	165	169
3	5720.00	82.19	110.80	-28.61	77.05	5.14	Peak	165	169
4	5725.00	90.43	122.20	-31.77	85.26	5.17	Peak	165	169
5	5925.00	59.06	68.20	-9.14	53.45	5.61	Peak	165	169
6	11490.00	48.95	54.00	-5.05	34.56	14.39	Average	362	175
7	11490.00	56.97	74.00	-17.03	42.58	14.39	Peak	362	175
8	17235.00	62.07	68.20	-6.13	44.61	17.46	Peak	100	186

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(℃):23 Humidity(%):65

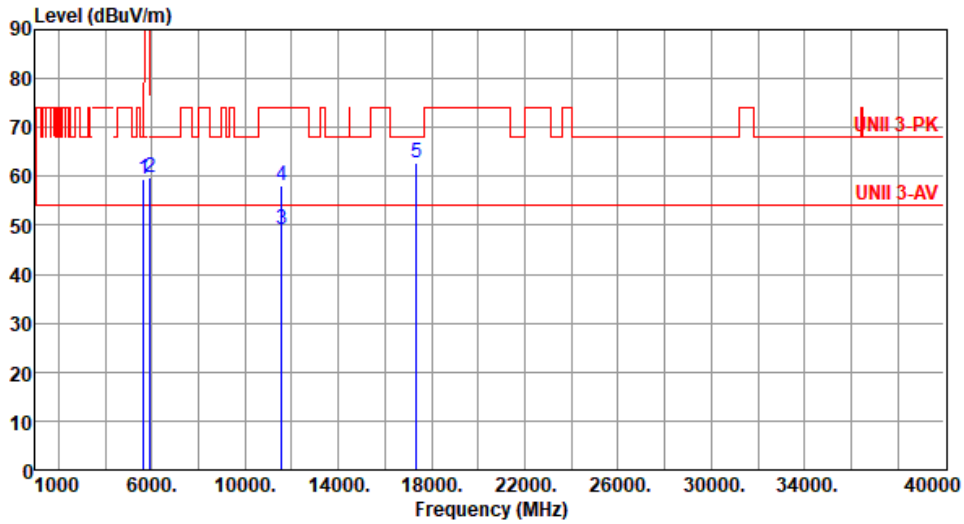


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	58.46	68.20	-9.74	53.65	4.81	Peak	352	121
2	5925.00	59.15	68.20	-9.05	53.54	5.61	Peak	352	121
3	11570.00	45.90	54.00	-8.10	31.65	14.25	Average	355	150
4	11570.00	58.00	74.00	-16.00	43.75	14.25	Peak	355	150
5	17355.00	62.62	68.20	-5.58	44.71	17.91	Peak	100	159

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(℃):23 Humidity(%):65

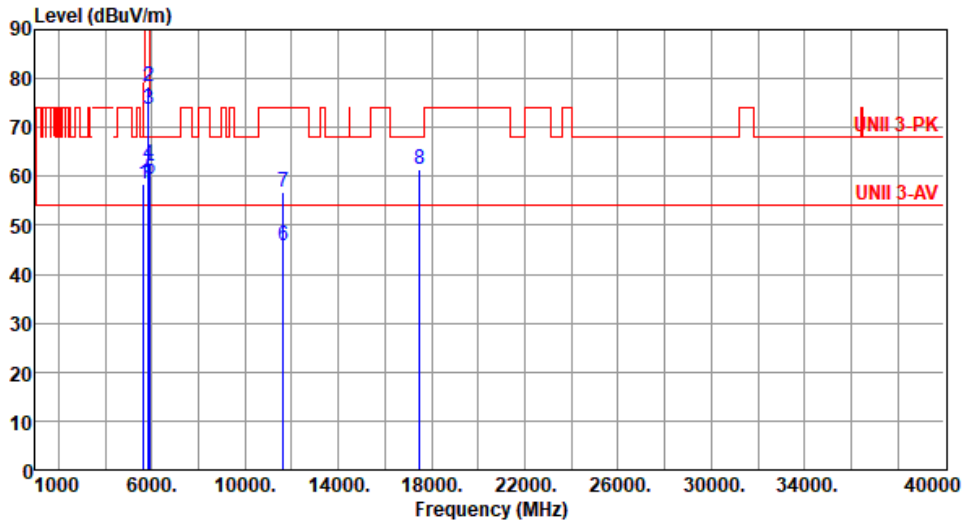


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	59.39	68.20	-8.81	54.58	4.81	Peak	163	167
2	5925.00	59.63	68.20	-8.57	54.02	5.61	Peak	163	167
3	11570.00	49.15	54.00	-4.85	34.90	14.25	Average	358	178
4	11570.00	58.13	74.00	-15.87	43.88	14.25	Peak	358	178
5	17355.00	62.77	68.20	-5.43	44.86	17.91	Peak	100	188

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

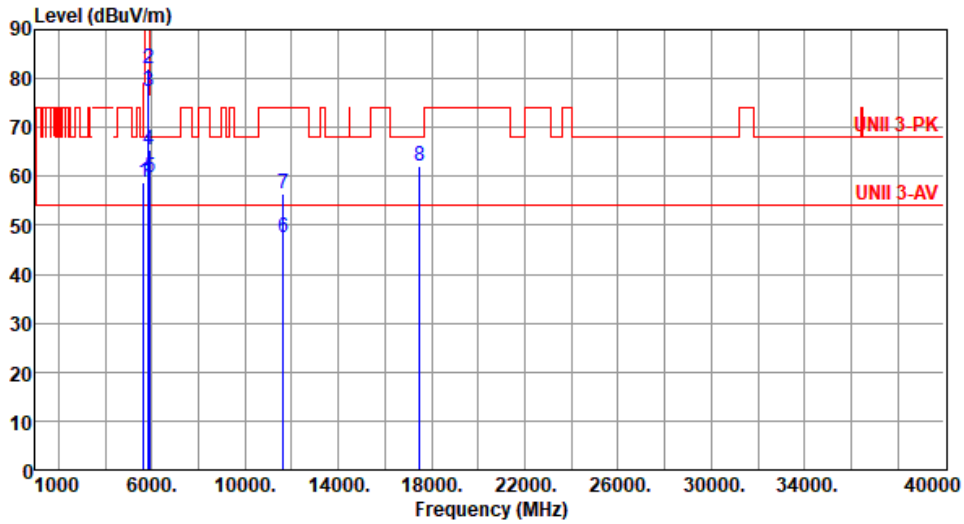


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	58.35	68.20	-9.85	53.54	4.81	Peak	345	125
2	5850.00	78.30	122.20	-43.90	72.65	5.65	Peak	345	125
3	5855.00	73.80	110.80	-37.00	68.15	5.65	Peak	345	125
4	5875.00	62.54	105.20	-42.66	56.88	5.66	Peak	345	125
5	5925.00	59.49	68.20	-8.71	53.88	5.61	Peak	345	125
6	11650.00	45.77	54.00	-8.23	31.87	13.90	Average	357	154
7	11650.00	56.85	74.00	-17.15	42.95	13.90	Peak	357	154
8	17475.00	61.42	68.20	-6.78	42.87	18.55	Peak	100	159

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



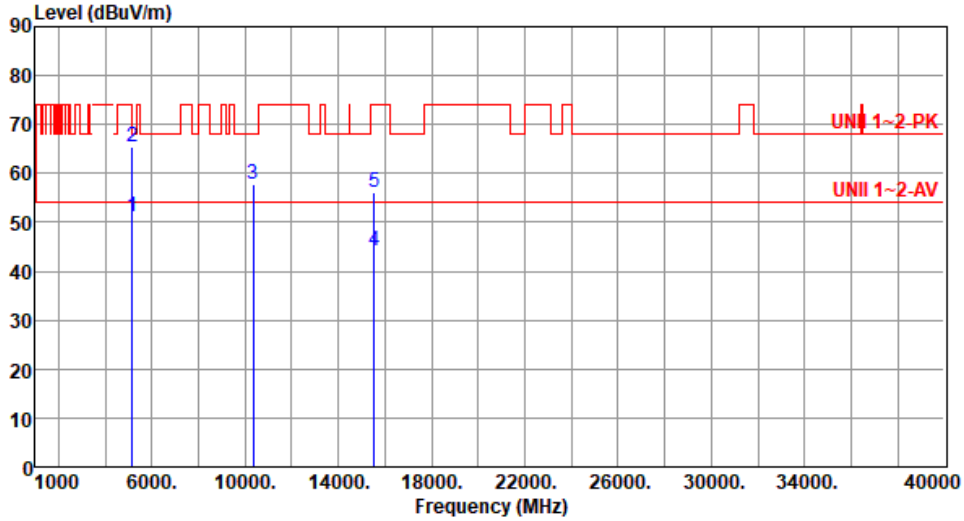
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	58.69	68.20	-9.51	53.88	4.81	Peak	153	166
2	5850.00	81.95	122.20	-40.25	76.30	5.65	Peak	153	166
3	5855.00	77.37	110.80	-33.43	71.72	5.65	Peak	153	166
4	5875.00	65.45	105.20	-39.75	59.79	5.66	Peak	153	166
5	5925.00	59.87	68.20	-8.33	54.26	5.61	Peak	153	166
6	11650.00	47.41	54.00	-6.59	33.51	13.90	Average	342	172
7	11650.00	56.57	74.00	-17.43	42.67	13.90	Peak	342	172
8	17475.00	61.99	68.20	-6.21	43.44	18.55	Peak	100	192

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

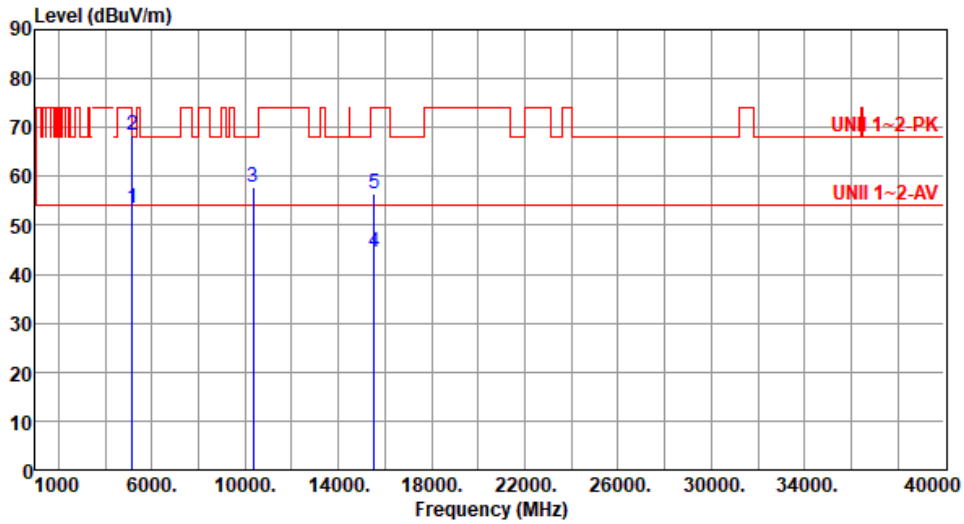


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	51.27	54.00	-2.73	46.26	5.01	Average	349	129
2	5150.00	65.27	74.00	-8.73	60.26	5.01	Peak	349	129
3	10360.00	57.91	68.20	-10.29	43.70	14.21	Peak	177	177
4	15540.00	44.08	54.00	-9.92	30.44	13.64	Average	100	183
5	15540.00	56.03	74.00	-17.97	42.39	13.64	Peak	100	183

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

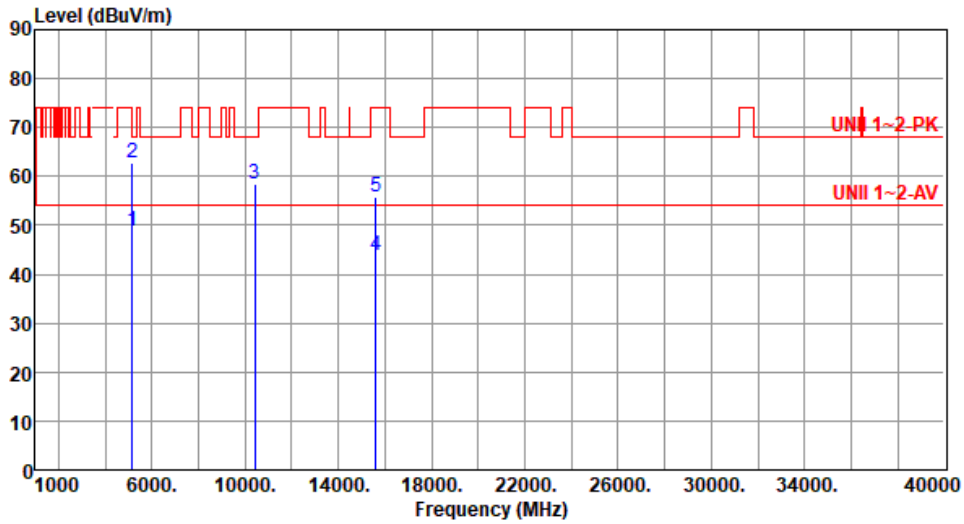


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	53.58	54.00	-0.42	48.57	5.01	Average	155	177
2	5150.00	68.30	74.00	-5.70	63.29	5.01	Peak	155	177
3	10360.00	57.77	68.20	-10.43	43.56	14.21	Peak	275	145
4	15540.00	44.41	54.00	-9.59	30.77	13.64	Average	100	67
5	15540.00	56.34	74.00	-17.66	42.70	13.64	Peak	100	67

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

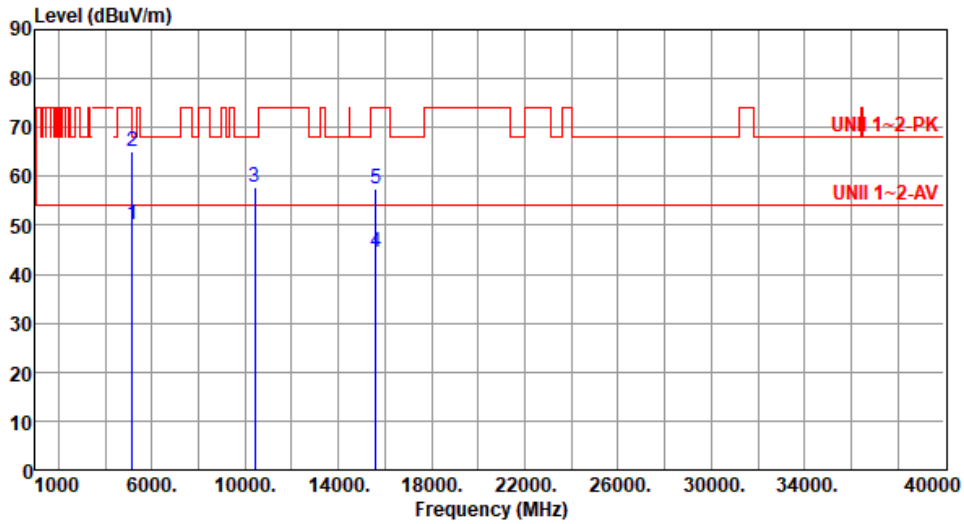


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	48.90	54.00	-5.10	43.89	5.01	Average	309	122
2	5150.00	62.91	74.00	-11.09	57.90	5.01	Peak	309	122
3	10400.00	58.38	68.20	-9.82	44.05	14.33	Peak	172	180
4	15600.00	43.68	54.00	-10.32	30.35	13.33	Average	100	171
5	15600.00	55.81	74.00	-18.19	42.48	13.33	Peak	100	171

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

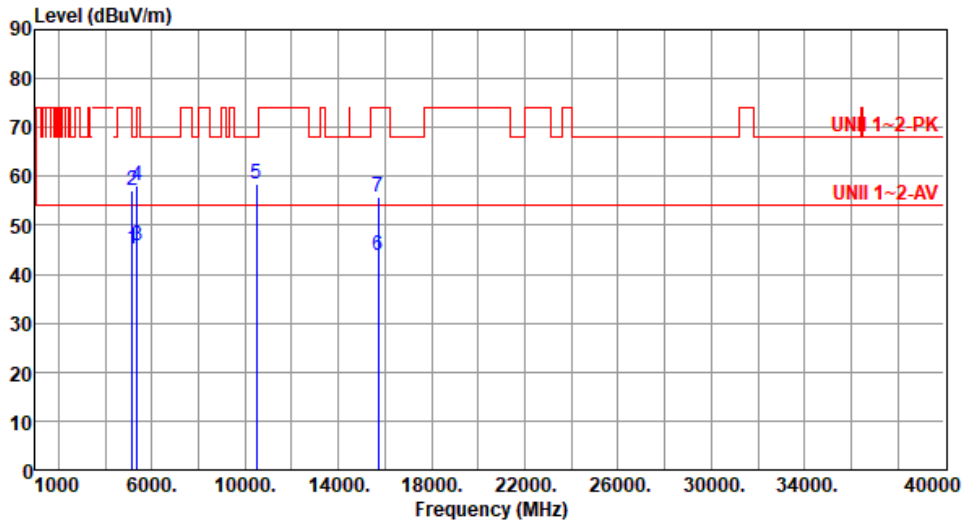


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	50.23	54.00	-3.77	45.22	5.01	Average	144	186
2	5150.00	65.21	74.00	-8.79	60.20	5.01	Peak	144	186
3	10400.00	57.92	68.20	-10.28	43.59	14.33	Peak	125	150
4	15600.00	44.58	54.00	-9.42	31.25	13.33	Average	159	54
5	15600.00	57.49	74.00	-16.51	44.16	13.33	Peak	159	54

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

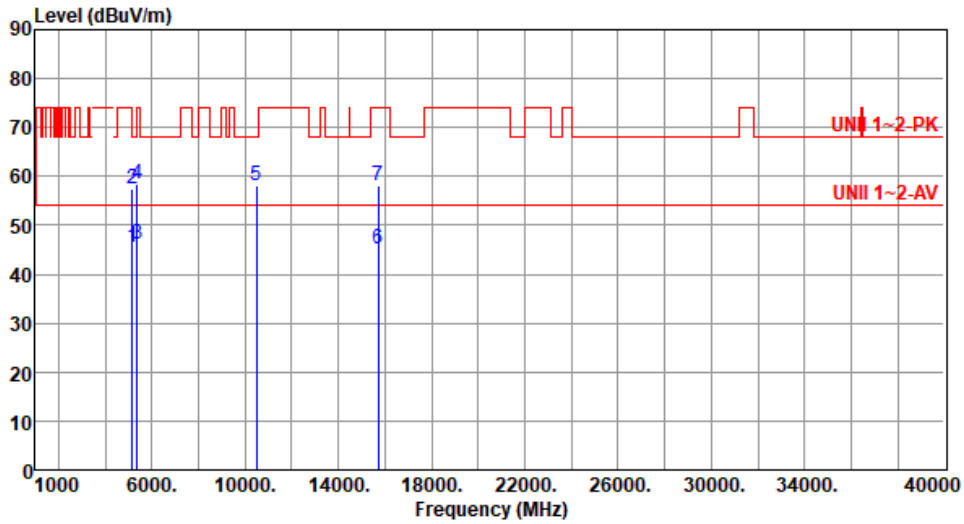


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	45.27	54.00	-8.73	40.26	5.01	Average	343	126
2	5150.00	57.02	74.00	-16.98	52.01	5.01	Peak	343	126
3	5350.00	45.78	54.00	-8.22	41.36	4.42	Average	343	126
4	5350.00	58.05	74.00	-15.95	53.63	4.42	Peak	343	126
5	10480.00	58.56	68.20	-9.64	44.10	14.46	Peak	177	171
6	15720.00	43.95	54.00	-10.05	30.53	13.42	Average	100	179
7	15720.00	55.91	74.00	-18.09	42.49	13.42	Peak	100	179

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

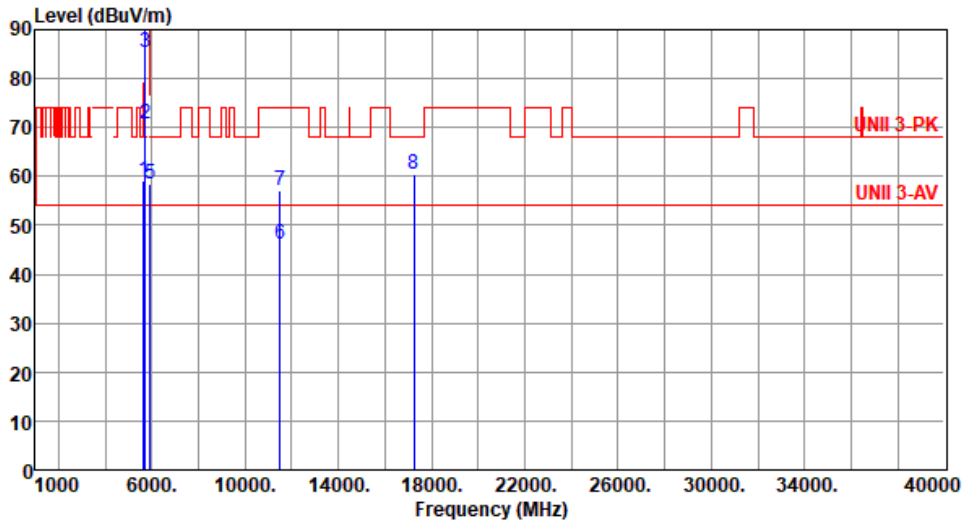


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	45.40	54.00	-8.60	40.39	5.01	Average	140	186
2	5150.00	57.31	74.00	-16.69	52.30	5.01	Peak	140	186
3	5350.00	46.01	54.00	-7.99	41.59	4.42	Average	140	186
4	5350.00	58.48	74.00	-15.52	54.06	4.42	Peak	140	186
5	10480.00	58.02	68.20	-10.18	43.56	14.46	Peak	126	148
6	15720.00	45.11	54.00	-8.89	31.69	13.42	Average	162	58
7	15720.00	58.11	74.00	-15.89	44.69	13.42	Peak	162	58

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

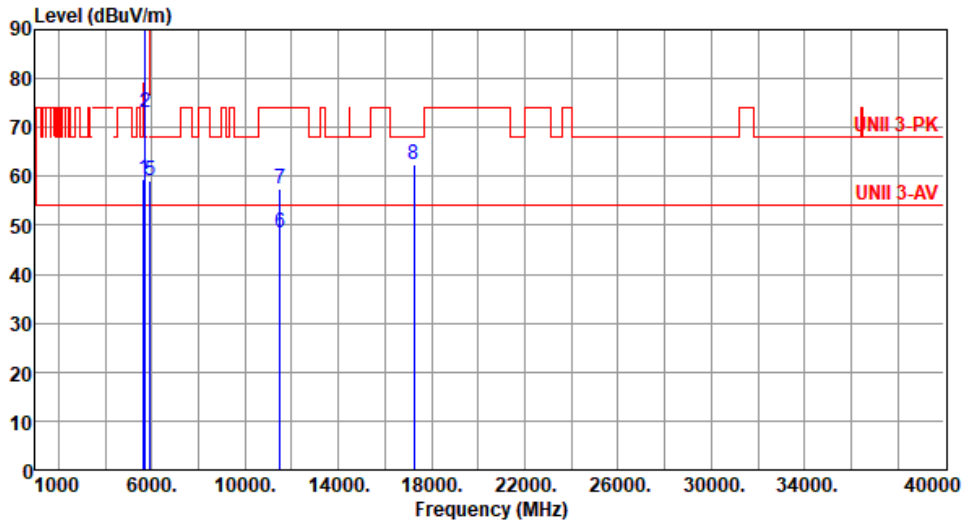


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	59.05	68.20	-9.15	54.24	4.81	Peak	355	135
2	5700.00	70.90	105.20	-34.30	65.88	5.02	Peak	355	135
3	5720.00	85.25	110.80	-25.55	80.11	5.14	Peak	355	135
4	5725.00	92.38	122.20	-29.82	87.21	5.17	Peak	355	135
5	5925.00	58.48	68.20	-9.72	52.87	5.61	Peak	355	135
6	11490.00	46.16	54.00	-7.84	31.77	14.39	Average	356	157
7	11490.00	57.17	74.00	-16.83	42.78	14.39	Peak	356	157
8	17235.00	60.32	68.20	-7.88	42.86	17.46	Peak	100	155

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

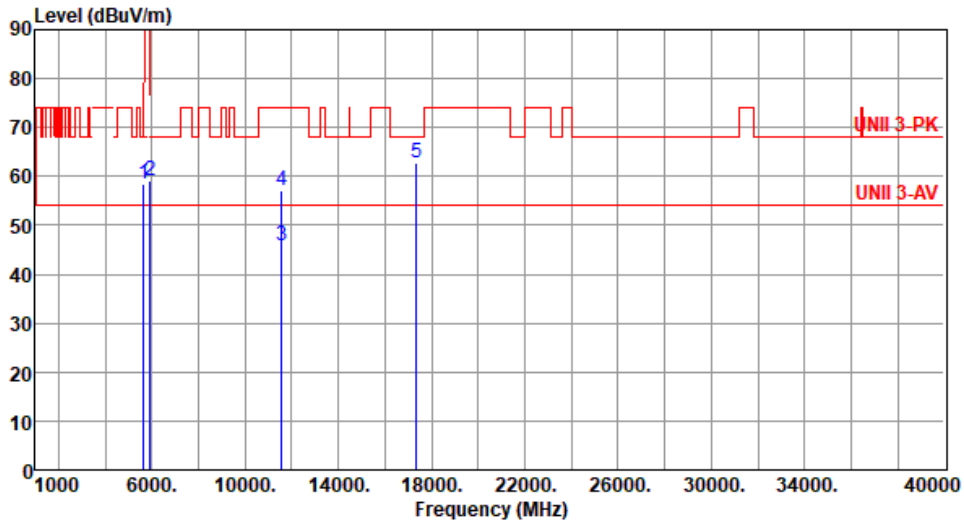


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	59.41	68.20	-8.79	54.60	4.81	Peak	165	164
2	5700.00	73.10	105.20	-32.10	68.08	5.02	Peak	165	164
3	5720.00	89.07	110.80	-21.73	83.93	5.14	Peak	165	164
4	5725.00	95.51	122.20	-26.69	90.34	5.17	Peak	165	164
5	5925.00	59.20	68.20	-9.00	53.59	5.61	Peak	165	164
6	11490.00	48.60	54.00	-5.40	34.21	14.39	Average	348	178
7	11490.00	57.54	74.00	-16.46	43.15	14.39	Peak	348	178
8	17235.00	62.41	68.20	-5.79	44.95	17.46	Peak	100	186

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

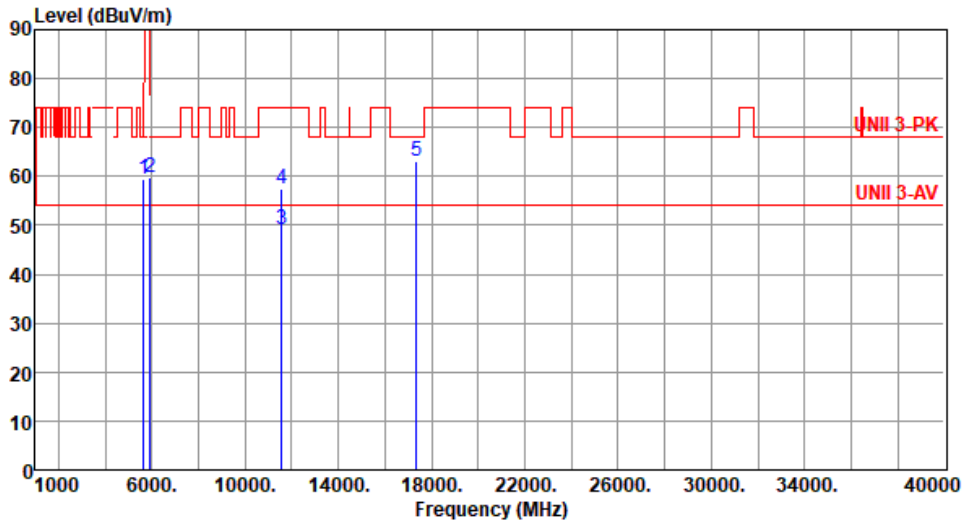


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	58.46	68.20	-9.74	53.65	4.81	Peak	327	122
2	5925.00	59.27	68.20	-8.93	53.66	5.61	Peak	327	122
3	11570.00	45.79	54.00	-8.21	31.54	14.25	Average	340	159
4	11570.00	57.13	74.00	-16.87	42.88	14.25	Peak	340	159
5	17355.00	62.80	68.20	-5.40	44.89	17.91	Peak	100	163

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

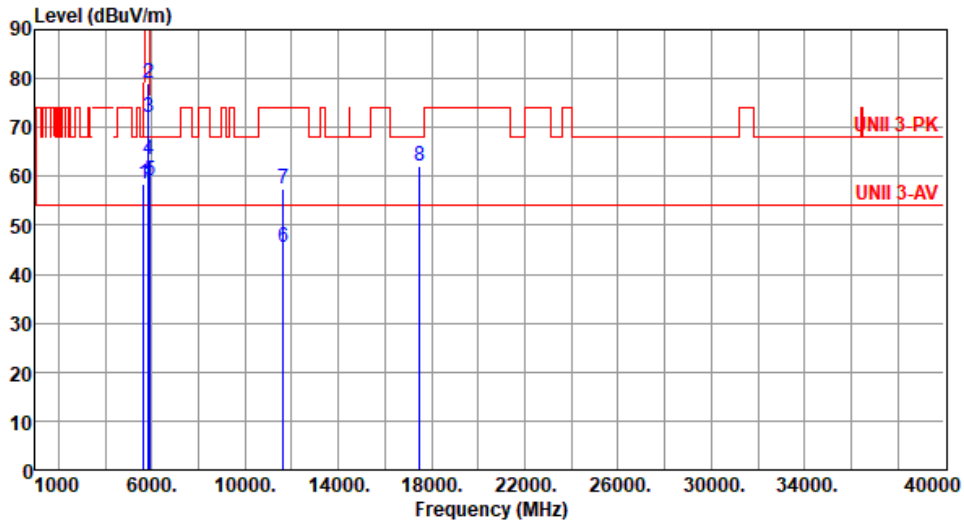


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	59.48	68.20	-8.72	54.67	4.81	Peak	165	169
2	5925.00	59.72	68.20	-8.48	54.11	5.61	Peak	165	169
3	11570.00	49.01	54.00	-4.99	34.76	14.25	Average	352	175
4	11570.00	57.49	74.00	-16.51	43.24	14.25	Peak	352	175
5	17355.00	63.13	68.20	-5.07	45.22	17.91	Peak	100	185

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

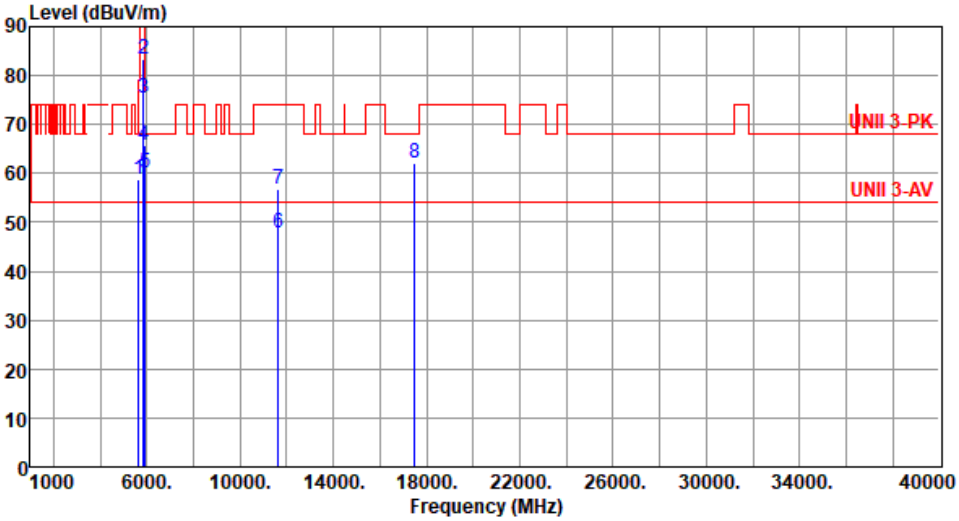


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	58.35	68.20	-9.85	53.54	4.81	Peak	344	127
2	5850.00	79.20	122.20	-43.00	73.55	5.65	Peak	344	127
3	5855.00	72.20	110.80	-38.60	66.55	5.65	Peak	344	127
4	5875.00	63.53	105.20	-41.67	57.87	5.66	Peak	344	127
5	5925.00	59.20	68.20	-9.00	53.59	5.61	Peak	344	127
6	11650.00	45.65	54.00	-8.35	31.75	13.90	Average	358	158
7	11650.00	57.56	74.00	-16.44	43.66	13.90	Peak	358	158
8	17475.00	62.24	68.20	-5.96	43.69	18.55	Peak	100	152

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



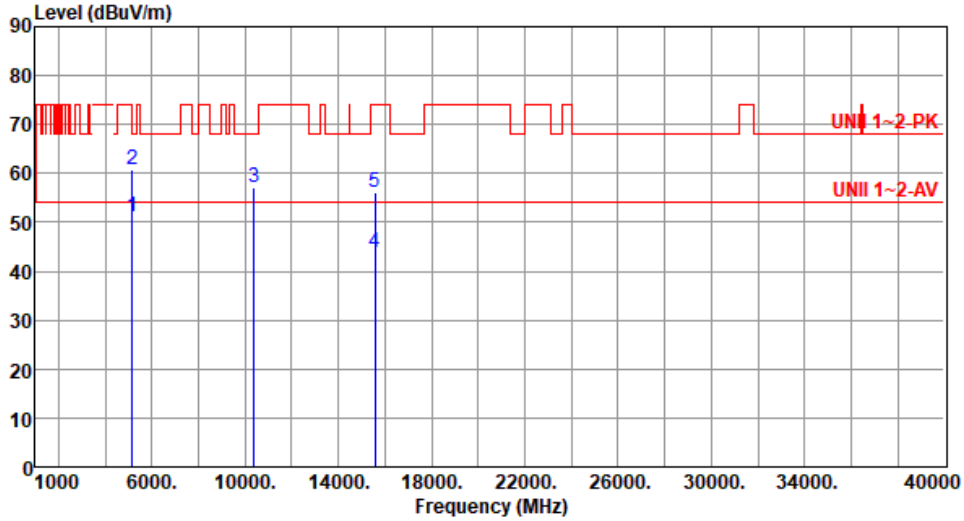
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	58.74	68.20	-9.46	53.93	4.81	Peak	165	164
2	5850.00	83.25	122.20	-38.95	77.60	5.65	Peak	165	164
3	5855.00	75.44	110.80	-35.36	69.79	5.65	Peak	165	164
4	5875.00	65.91	105.20	-39.29	60.25	5.66	Peak	165	164
5	5925.00	59.95	68.20	-8.25	54.34	5.61	Peak	165	164
6	11650.00	47.79	54.00	-6.21	33.89	13.90	Average	345	175
7	11650.00	56.75	74.00	-17.25	42.85	13.90	Peak	345	175
8	17475.00	62.22	68.20	-5.98	43.67	18.55	Peak	100	195

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 :Akun Chung Temperature(℃):23 Humidity(%):65

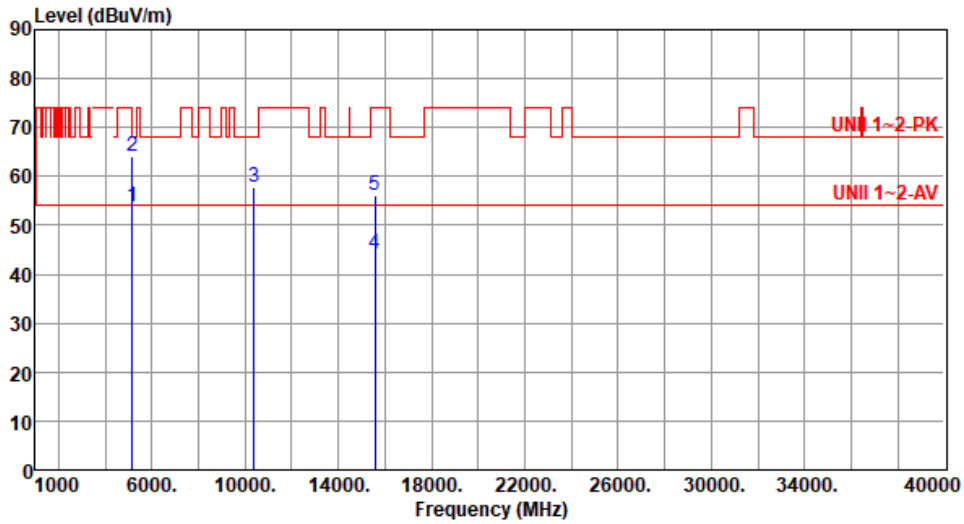


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	51.27	54.00	-2.73	46.26	5.01	Average	344	127
2	5150.00	60.71	74.00	-13.29	55.70	5.01	Peak	344	124
3	10380.00	56.98	68.20	-11.22	42.71	14.27	Peak	100	175
4	15570.00	43.85	54.00	-10.15	30.37	13.48	Average	100	177
5	15570.00	56.15	74.00	-17.85	42.67	13.48	Peak	100	177

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 :Akun Chung Temperature(℃):23 Humidity(%):65

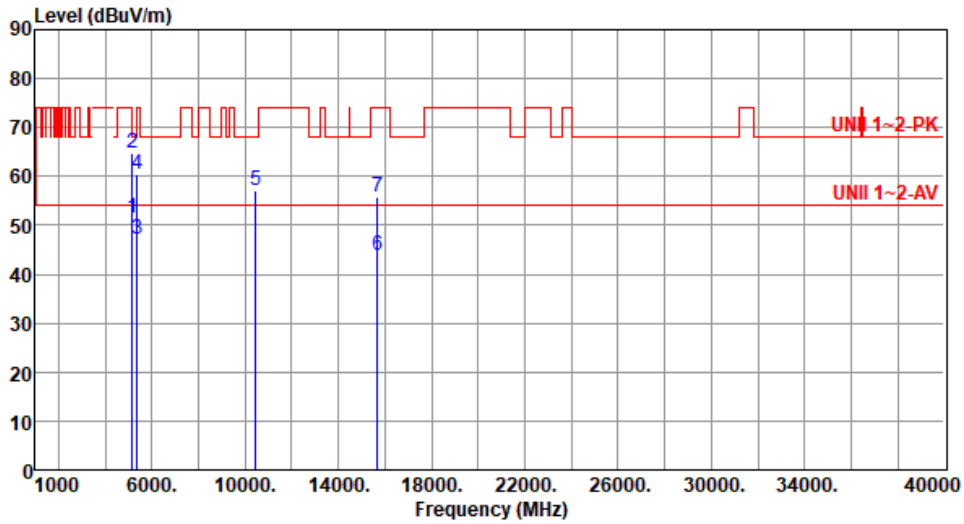


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	53.86	54.00	-0.14	48.85	5.01	Average	171	176
2	5150.00	63.97	74.00	-10.03	58.96	5.01	Peak	171	176
3	10380.00	57.92	68.20	-10.28	43.65	14.27	Peak	269	139
4	15570.00	44.04	54.00	-9.96	30.56	13.48	Average	100	58
5	15570.00	56.19	74.00	-17.81	42.71	13.48	Peak	100	58

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 :Akun Chung Temperature(℃):23 Humidity(%):65

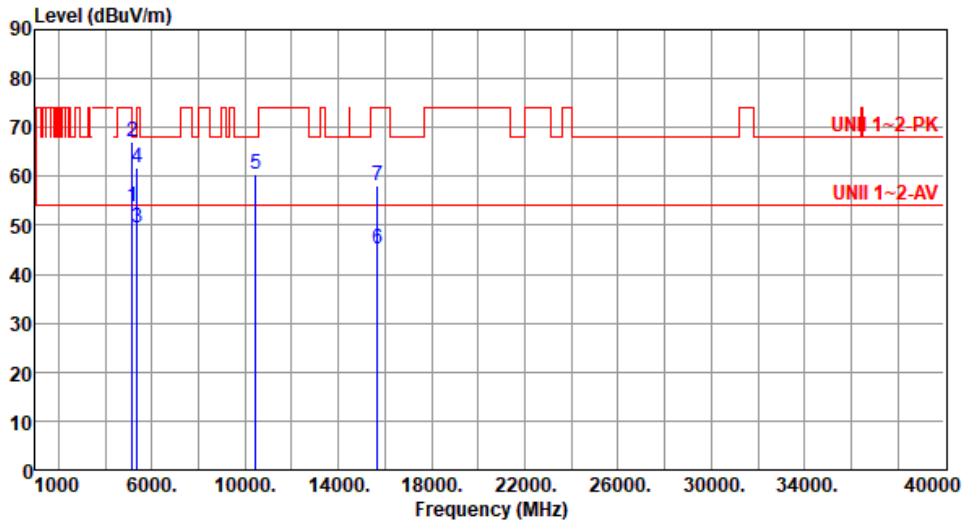


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	51.57	54.00	-2.43	46.56	5.01	Average	341	139
2	5150.00	64.90	74.00	-9.10	59.89	5.01	Peak	341	139
3	5350.00	47.30	54.00	-6.70	42.88	4.42	Average	341	139
4	5350.00	60.30	74.00	-13.70	55.88	4.42	Peak	341	139
5	10460.00	57.00	68.20	-11.20	42.57	14.43	Peak	100	188
6	15690.00	43.85	54.00	-10.15	30.45	13.40	Average	100	171
7	15690.00	55.94	74.00	-18.06	42.54	13.40	Peak	100	171

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 :Akun Chung Temperature(℃):23 Humidity(%):65

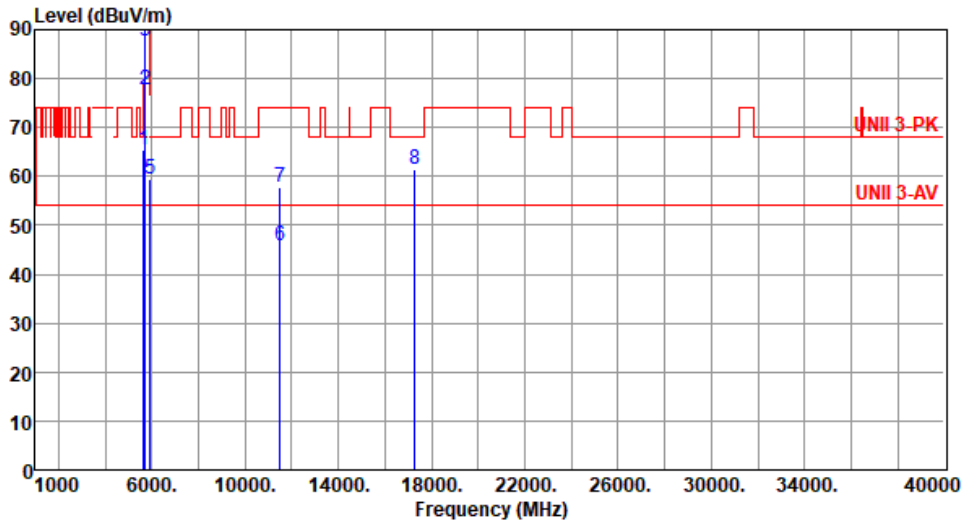


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	53.89	54.00	-0.11	48.88	5.01	Average	155	177
2	5150.00	67.13	74.00	-6.87	62.12	5.01	Peak	155	177
3	5350.00	49.41	54.00	-4.59	44.99	4.42	Average	155	177
4	5350.00	61.94	74.00	-12.06	57.52	4.42	Peak	155	177
5	10460.00	60.31	68.20	-7.89	45.88	14.43	Peak	280	141
6	15690.00	45.06	54.00	-8.94	31.66	13.40	Average	160	55
7	15690.00	58.28	74.00	-15.72	44.88	13.40	Peak	160	55

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 :Akun Chung Temperature(℃):23 Humidity(%):65

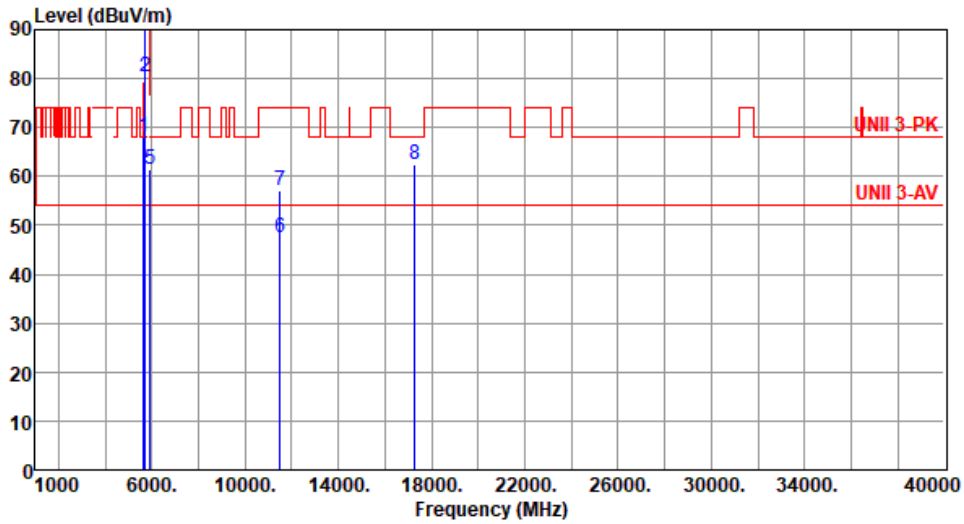


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	65.38	68.20	-2.82	60.57	4.81	Peak	350	124
2	5700.00	77.57	105.20	-27.63	72.55	5.02	Peak	350	124
3	5720.00	87.80	110.80	-23.00	82.66	5.14	Peak	350	124
4	5725.00	95.74	122.20	-26.46	90.57	5.17	Peak	350	124
5	5925.00	59.60	68.20	-8.60	53.99	5.61	Peak	350	124
6	11510.00	45.84	54.00	-8.16	31.44	14.40	Average	359	153
7	11510.00	57.95	74.00	-16.05	43.55	14.40	Peak	359	153
8	17265.00	61.30	68.20	-6.90	43.80	17.50	Peak	100	155

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 :Akun Chung Temperature(℃):23 Humidity(%):65

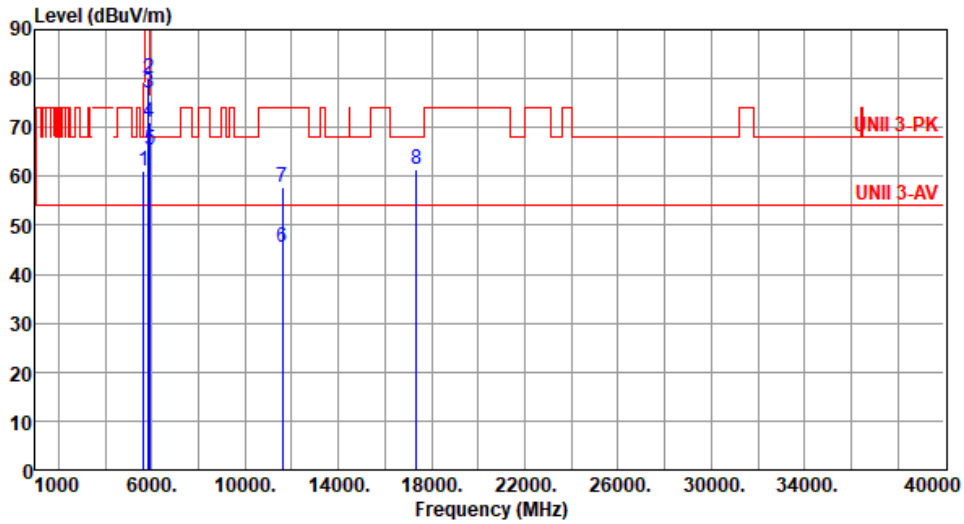


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	68.09	68.20	-0.11	63.28	4.81	Peak	166	165
2	5700.00	80.32	105.20	-24.88	75.30	5.02	Peak	166	165
3	5720.00	92.13	110.80	-18.67	86.99	5.14	Peak	166	165
4	5725.00	99.12	122.20	-23.08	93.95	5.17	Peak	166	165
5	5925.00	61.48	68.20	-6.72	55.87	5.61	Peak	166	165
6	11510.00	47.35	54.00	-6.65	32.95	14.40	Average	356	188
7	11510.00	57.28	74.00	-16.72	42.88	14.40	Peak	356	188
8	17265.00	62.38	68.20	-5.82	44.88	17.50	Peak	100	184

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 :Akun Chung Temperature(℃):23 Humidity(%):65

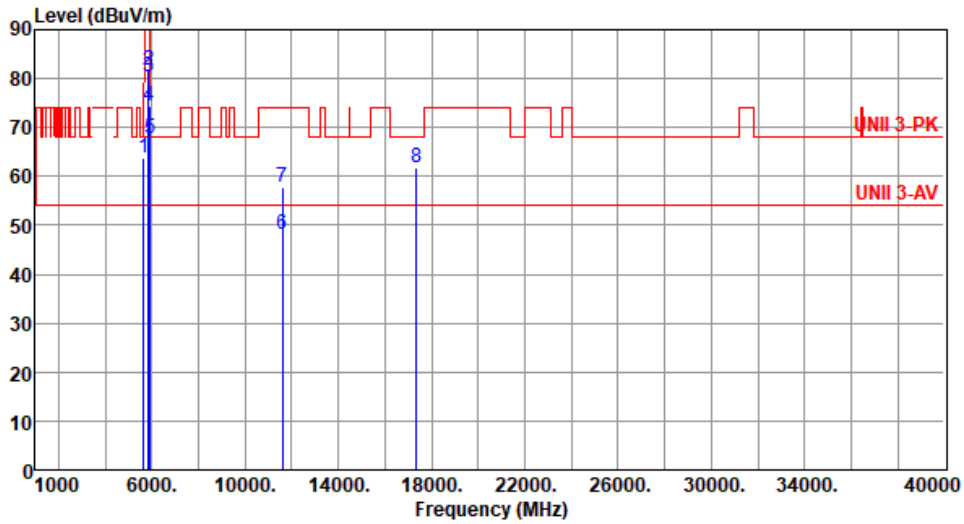


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	61.02	68.20	-7.18	56.21	4.81	Peak	342	124
2	5850.00	80.20	122.20	-42.00	74.55	5.65	Peak	342	124
3	5855.00	77.20	110.80	-33.60	71.55	5.65	Peak	342	124
4	5875.00	70.91	105.20	-34.29	65.25	5.66	Peak	342	124
5	5925.00	65.43	68.20	-2.77	59.82	5.61	Peak	342	124
6	11590.00	45.60	54.00	-8.40	31.41	14.19	Average	339	145
7	11590.00	57.89	74.00	-16.11	43.70	14.19	Peak	339	145
8	17365.00	61.57	68.20	-6.63	43.58	17.99	Peak	100	151

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 :Akun Chung Temperature(℃):23 Humidity(%):65



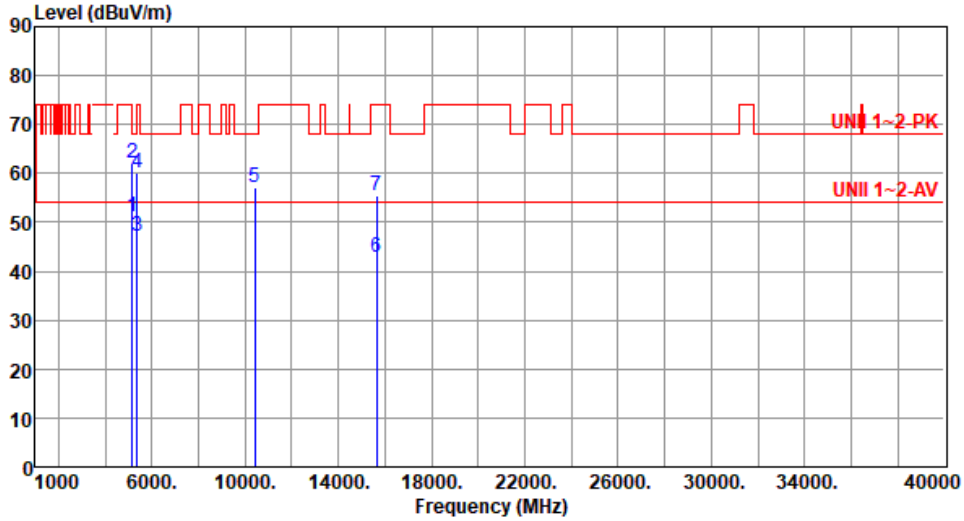
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	63.75	68.20	-4.45	58.94	4.81	Peak	181	166
2	5850.00	81.65	122.20	-40.55	76.00	5.65	Peak	181	166
3	5855.00	80.28	110.80	-30.52	74.63	5.65	Peak	181	166
4	5875.00	74.50	105.20	-30.70	68.84	5.66	Peak	181	166
5	5925.00	67.73	68.20	-0.47	62.12	5.61	Peak	181	166
6	11590.00	48.10	54.00	-5.90	33.91	14.19	Average	359	181
7	11590.00	57.78	74.00	-16.22	43.59	14.19	Peak	359	181
8	17365.00	61.62	68.20	-6.58	43.63	17.99	Peak	100	183

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 :Akun Chung Temperature(℃):23 Humidity(%):65

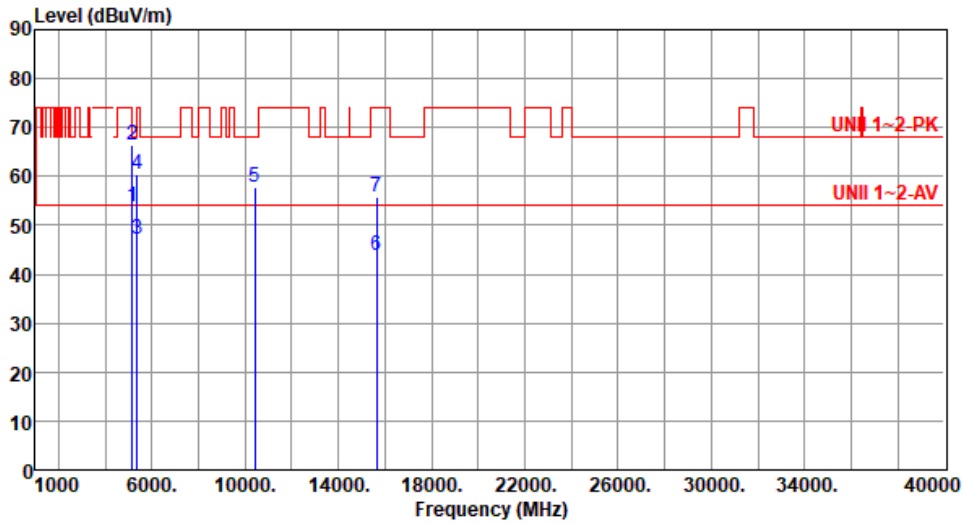


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	51.01	54.00	-2.99	46.00	5.01	Average	337	127
2	5150.00	62.09	74.00	-11.91	57.08	5.01	Peak	337	127
3	5350.00	47.07	54.00	-6.93	42.65	4.42	Average	337	145
4	5350.00	60.19	74.00	-13.81	55.77	4.42	Peak	337	145
5	10420.00	57.21	68.20	-10.99	42.85	14.36	Peak	100	187
6	15630.00	42.71	54.00	-11.29	29.36	13.35	Average	100	183
7	15630.00	55.60	74.00	-18.40	42.25	13.35	Peak	100	183

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 :Akun Chung Temperature(℃):23 Humidity(%):65

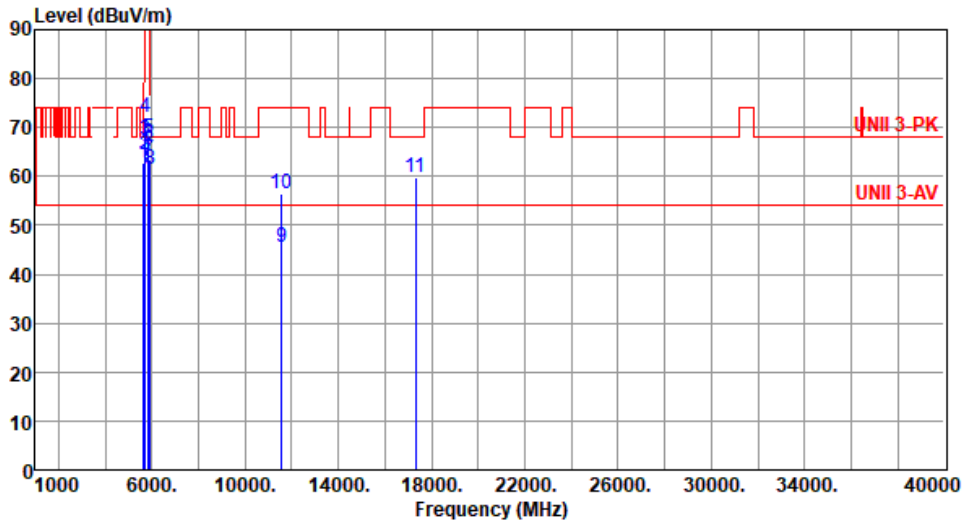


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5150.00	53.85	54.00	-0.15	48.84	5.01	Average	143	178
2	5150.00	66.57	74.00	-7.43	61.56	5.01	Peak	143	178
3	5350.00	47.30	54.00	-6.70	42.88	4.42	Average	143	178
4	5350.00	60.30	74.00	-13.70	55.88	4.42	Peak	143	178
5	10420.00	57.86	68.20	-10.34	43.50	14.36	Peak	275	145
6	15630.00	43.77	54.00	-10.23	30.42	13.35	Average	100	57
7	15630.00	55.91	74.00	-18.09	42.56	13.35	Peak	100	57

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 :Akun Chung Temperature(℃):23 Humidity(%):65

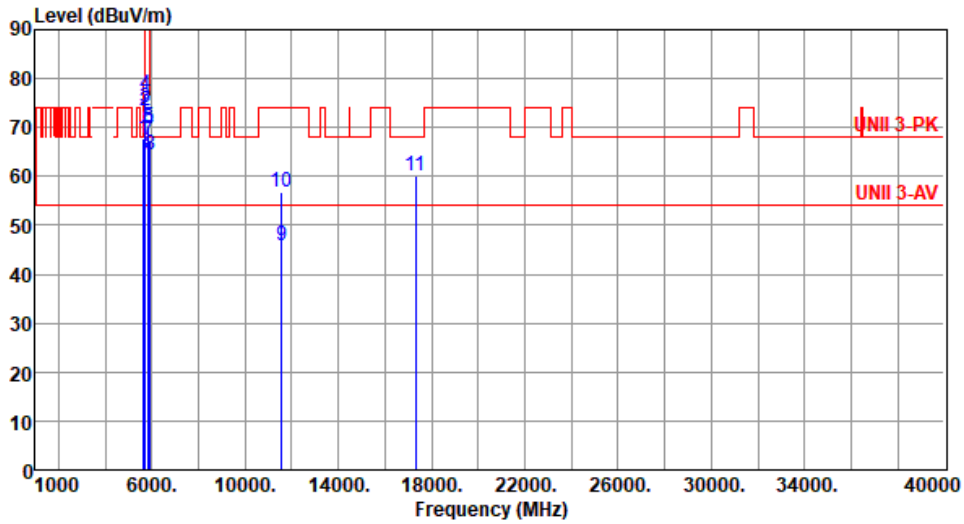


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	5650.00	62.68	68.20	-5.52	57.87	4.81	Peak	332	136
2	5700.00	64.27	105.20	-40.93	59.25	5.02	Peak	332	136
3	5720.00	67.25	110.80	-43.55	62.11	5.14	Peak	332	136
4	5725.00	72.05	122.20	-50.15	66.88	5.17	Peak	332	136
5	5850.00	67.65	122.20	-54.55	62.00	5.65	Peak	332	136
6	5855.00	66.28	110.80	-44.52	60.63	5.65	Peak	332	136
7	5875.00	63.50	105.20	-41.70	57.84	5.66	Peak	332	136
8	5925.00	61.57	68.20	-6.63	55.96	5.61	Peak	332	136
9	11550.00	45.54	54.00	-8.46	31.24	14.30	Average	100	150
10	11550.00	56.42	74.00	-17.58	42.12	14.30	Peak	100	150
11	17325.00	59.91	68.20	-8.29	42.20	17.71	Peak	100	153

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 :Akun Chung 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	67.89	68.20	-0.31	63.08	4.81	Peak	158	165
2	5700.00	73.52	105.20	-31.68	68.50	5.02	Peak	158	165
3	5720.00	74.09	110.80	-36.71	68.95	5.14	Peak	158	165
4	5725.00	76.83	122.20	-45.37	71.66	5.17	Peak	158	165
5	5850.00	70.12	122.20	-52.08	64.47	5.65	Peak	158	165
6	5855.00	69.60	110.80	-41.20	63.95	5.65	Peak	158	165
7	5875.00	67.51	105.20	-37.69	61.85	5.66	Peak	158	165
8	5925.00	64.30	68.20	-3.90	58.69	5.61	Peak	158	165
9	11550.00	45.92	54.00	-8.08	31.62	14.30	Average	350	181
10	11550.00	56.80	74.00	-17.20	42.50	14.30	Peak	350	181
11	17325.00	60.19	68.20	-8.01	42.48	17.71	Peak	100	182

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

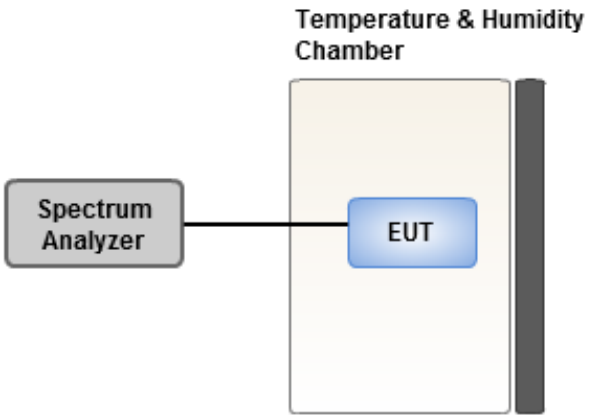
3.6.1 Limit of Frequency Stability

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	21°C / 66%	Tested By	Aska Huang

Frequency: 5200 MHz	Frequency Drift (ppm)			
Temperature (ºC)	0 minute	2 minutes	5 minutes	10 minutes
T20°CVmax	6.57	6.50	7.01	6.58
T20°CVmin	6.15	6.43	6.37	6.63
T50°CVnom	1.58	1.17	1.26	1.50
T40°CVnom	3.87	3.97	4.44	4.67
T30°CVnom	5.30	5.54	5.82	5.20
T20°CVnom	6.41	6.27	6.65	6.86
T10°CVnom	5.93	6.03	6.23	5.91
T0°CVnom	5.80	5.69	5.87	6.29
T-10°CVnom	5.98	5.94	5.70	6.72
T-20°CVnom	5.98	6.25	5.70	6.43
T-30°CVnom	5.71	5.77	5.52	5.16
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	6.05	6.17	5.85	6.24
T20°CVmin	5.39	5.46	5.87	5.76
T50°CVnom	1.83	2.33	1.93	1.78
T40°CVnom	3.89	4.34	4.44	4.15
T30°CVnom	4.97	5.19	5.52	5.56
T20°CVnom	5.42	5.52	5.75	5.81
T10°CVnom	5.10	5.15	5.27	5.85
T0°CVnom	5.19	5.25	5.79	5.37
T-10°CVnom	5.72	5.51	6.03	5.53
T-20°CVnom	5.99	6.23	5.93	6.53
T-30°CVnom	5.03	5.38	5.78	5.28
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.

Tel: 886-3-271-8666
Fax: 886-3-318-0345
Email: ICC_Service@icertifi.com.tw

==END==