FCC Test Report

FCC ID	:	**BKMAE-ELPWT01**
Equipment	:	**Wireless Transmitter**
Model No.	:	**ELPWT01**
Brand Name	:	**EPSON**
Applicant	:	**Seiko Epson Corporation**
Address	:	**3-5, Owa 3-chome, Suwa-shi, Nagano-ken 392-8502 Japan**
Standard	:	**47 CFR FCC Part 15.407**
Received Date	:	**Dec. 04, 2020**
Tested Date	:	**Dec. 16, 2020 ~ Feb. 08, 2021**

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

Reviewed by: **Approved by:**

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

Testing Laboratory 2732

Table of Contents

Release Record

Report No.	Version	Description	Issued Date
FR0D0401AN	Rev. 01	Initial issue	Mar. 09, 2021

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.518MHz 30.58 (Margin -15.42dB) - AV	Pass
15.407(b) 15.209	Radiated Emissions	[dBuV/m at 3m]: 10400.00MHz 67.17 (Margin -1.03dB) - PK	Pass
15.407(a)	Emission Bandwidth	Meet the requirement of limit	Pass
15.407(e)	6dB bandwidth	Meet the requirement of limit	Pass
15.407(a)	RF Output Power	Max Power [dBm]: 5150~5250MHz: 16.35 5725~5850MHz: 16.75	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]	1	6-54 Mbps
5150-5250 5725-5850	n (HT20)	5180-5240 5745-5825	36-48 [4] 149-165 [5]	1	MCS 0-7
5150-5250 5725-5850	n (HT40)	5190-5230 5755-5795	38-46 [2] 151-159 [2]	1	MCS 0-7
5150-5250 5725-5850	ac (VHT20)	5180-5240 5745-5825	36-48 [4] 149-165 [5]	1	MCS 0-9
5150-5250 5725-5850	ac (VHT40)	5190-5230 5755-5795	38-46 [2] 151-159 [2]	1	MCS 0-9
5150-5250 5725-5850	ac (VHT80)	5210 5775	42 [1] 155 [1]	1	MCS 0-9
Note 1: RF output power specifies that Maximum Conducted Output Power. Note 2: 802.11a/n/ac uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation. Note 3: TX diversity function is supported.					

1.1.2 Antenna Details

Ant. No.	**Brand**	**Model**	**Type**	**Connector**	**Operating Frequencies (MHz) / Antenna Gain (dBi)**	
					5150~5250	**5725~5850**
1	Unictron	AA077U	Chip	No	3.2	3.7

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	5Vdc from host

1.1.4 Accessories

N/A

1.1.5 Channel List

802.11a / n HT20 / ac VHT20		802.11n HT40 / ac VHT40	
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**	
153	5765	42	5210
157	5785	155	5775
161	5805	-	-
165	5825	-	-

1.1.6 Test Tool and Duty Cycle

Test Tool	Putty, Version: 0.60.0.0		
Duty Cycle and Duty Factor	**Mode**	**Duty Cycle (%)**	**Duty Factor (dB)**
	11a	100.00%	0.00
	VHT20	100.00%	0.00
	VHT40	100.00%	0.00
	VHT80	100.00%	0.00

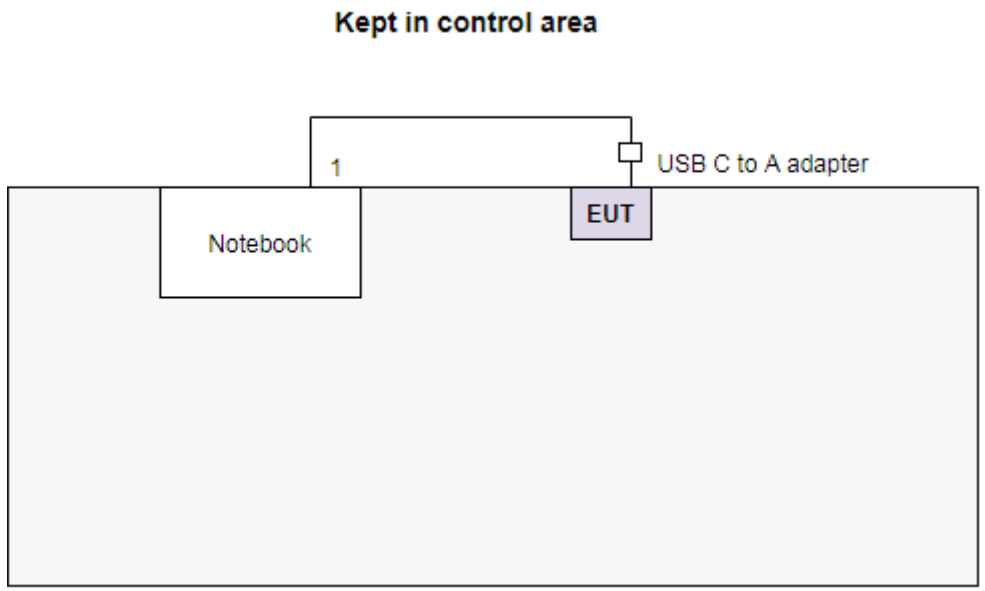
1.1.7 Power Index of Test Tool

Modulation Mode	Test Frequency (MHz)	Power Index
11a	5180	49
11a	5200	47
11a	5240	48
11a	5745	53
11a	5785	53
11a	5825	53
HT20	5180	49
HT20	5200	47
HT20	5240	48
HT20	5745	53
HT20	5785	53
HT20	5825	53
HT40	5190	43
HT40	5230	46
HT40	5755	49
HT40	5795	49
VHT20	5180	49
VHT20	5200	47
VHT20	5240	48
VHT20	5745	53
VHT20	5785	53
VHT20	5825	53
VHT40	5190	43
VHT40	5230	46
VHT40	5755	49
VHT40	5795	49
VHT80	5210	40
VHT80	5775	41

1.2 Local Support Equipment List

Support Equipment List					
No.	**Equipment**	**Brand**	**Model**	**FCC ID**	**Remarks**
1	USB extend Cable	Chang Xing	CVW-U3BAAPS050	---	---
2	USB C to A adapter	ICC	USB C to A adapter	---	---

1.3 Test Setup Chart

Test Setup Diagram


No.	Signal cable / Length (m)
1	USB, 0.5m shielded.

1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Test Date	Dec. 23, 2020				
Instrument	**Brand**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Receiver	R&S	ESR3	101657	Feb. 14, 2020	Feb. 13, 2021
LISN	R&S	ENV216	101579	Mar. 12, 2020	Mar. 11, 2021
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Oct. 21, 2020	Oct. 20, 2021
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 chamber 3 / (03CH03-WS)				
Test Date	Dec. 16 ~ Dec. 18, 2020				
Instrument	**Brand**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101499	Jan. 09, 2020	Jan. 08, 2021
Receiver	R&S	ESR3	101657	Feb. 14, 2020	Feb. 13, 2021
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-685	Apr. 29, 2020	Apr. 28, 2021
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1206	Dec. 27, 2019	Dec. 26, 2020
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 06, 2020	Nov. 05, 2021
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 17, 2020	Nov. 16, 2021
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 06, 2020	Oct. 05, 2021
Preamplifier	EMC	EMC02325	980187	Aug. 05, 2020	Aug. 04, 2021
Preamplifier	Agilent	83017A	MY39501309	Sep. 02, 2020	Sep. 01, 2021
Preamplifier	EMC	EMC184045B	980192	Jul. 21, 2020	Jul. 20, 2021
RF cable-3M	HUBER+SUHNER	SUCOFLEX104	MY22620/**4**	Sep. 26, 2020	Sep. 25, 2021
RF cable-8M	EMC	EMC104-SM-SM-8000	181107	Sep. 26, 2020	Sep. 25, 2021
RF cable-1M	HUBER+SUHNER	SUCOFLEX104	MY22624/4	Sep. 26, 2020	Sep. 25, 2021
LF cable-0.8M	EMC	EMC8D-NM-NM-800	EMC8D-NM-NM-800-001	Sep. 26, 2020	Sep. 25, 2021
LF cable-3M	EMC	EMC8D-NM-NM-3000	131103	Sep. 26, 2020	Sep. 25, 2021
LF cable-13M	EMC	EMC8D-NM-NM-13000	131104	Sep. 26, 2020	Sep. 25, 2021
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Test Date	Feb. 08, 2021				
Instrument	**Brand**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101063	Apr. 30, 2020	Apr. 29, 2021
Power Meter	Anritsu	ML2495A	1241002	Nov. 04, 2020	Nov. 03, 2021
Power Sensor	Anritsu	MA2411B	1207366	Nov. 04, 2020	Nov. 03, 2021
DC POWER SOURCE	GW INSTEK	GPC-6030D	GES855395	Nov. 09, 2020	Nov. 08, 2021
Measurement Software	--	SENSE-15247_DTS	V5.10.7	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 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	±3.96 dB
Radiated emission > 1GHz	±4.51 dB
Time	±0.1%
Temperature	±0.4 °C

2 Test Configuration

2.1 Testing Facility

Test Laboratory	International Certification Corp.
Test Site	CO01-WS, TH01-WS
Address of Test Site	No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan District, Tao Yuan City 333, Taiwan, R.O.C.
Test Site	03CH03-WS
Address of Test Site	No. 14-1, Lane 19, Wen San 3rd St., Kwei Shan District, Tao Yuan City 333, Taiwan, R.O.C.

- FCC Designation No.: TW0009
- FCC site registration No.: 207696
- 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 Antenna**
Conducted Emissions	11a	5240	6 Mbps	Main
Radiated Emissions ≤1GHz	11a	5240	6 Mbps	Aux
Radiated Emissions >1GHz	11a VHT20 VHT40 VHT80	5180 / 5200 / 5240 5180 / 5200 / 5240 5190 / 5230 5210	6 Mbps MCS 0 MCS 0 MCS 0	Aux
RF Output Power	11a VHT20 VHT40 VHT80	5180 / 5200 / 5240 5180 / 5200 / 5240 5190 / 5230 5210	6 Mbps MCS 0 MCS 0 MCS 0	Main Aux
Emission Bandwidth Peak Power Spectral Density	11a VHT20 VHT40 VHT80	5180 / 5200 / 5240 5180 / 5200 / 5240 5190 / 5230 5210	6 Mbps MCS 0 MCS 0 MCS 0	Main
Frequency Stability	Un-modulation	5200	---	Main

NOTE:

1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **X-plane** results were found as the worst case and were shown in this report.
2. Main and Aux antenna had been covered during pretest. The worst antenna of antenna port conducted and radiated emission is as below

   Antenna port conducted: Main antenna

   Radiated emission Aux antenna

For Frequency band 5725-5850 MHz				
Test item	**Modulation Mode**	**Test Frequency (MHz)**	**Data Rate**	**Test Antenna**
Conducted Emissions	11a	5745	6 Mbps	Main
Radiated Emissions ≤1GHz	11a	5745	6 Mbps	Aux
Radiated Emissions >1GHz	11a VHT20 VHT40 VHT80	5745 / 5785 / 5825 5745 / 5785 / 5825 5755 / 5795 5775	6 Mbps MCS 0 MCS 0 MCS 0	Aux
RF Output Power	11a VHT20 VHT40 VHT80	5745 / 5785 / 5825 5745 / 5785 / 5825 5755 / 5795 5775	6 Mbps MCS 0 MCS 0 MCS 0	Main Aux
Emission Bandwidth 6dB bandwidth Peak Power Spectral Density	11a VHT20 VHT40 VHT80	5745 / 5785 / 5825 5745 / 5785 / 5825 5755 / 5795 5775	6 Mbps MCS 0 MCS 0 MCS 0	Main
Frequency Stability	Un-modulation	5785	---	Main

NOTE:

3. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **X-plane** results were found as the worst case and were shown in this report.
4. Main and Aux antenna had been covered during pretest. The worst antenna of antenna port conducted and radiated emission is as below

   Antenna port conducted: Main antenna

   Radiated emission Aux antenna

3 Transmitter Test Results

3.1 Conducted Emissions

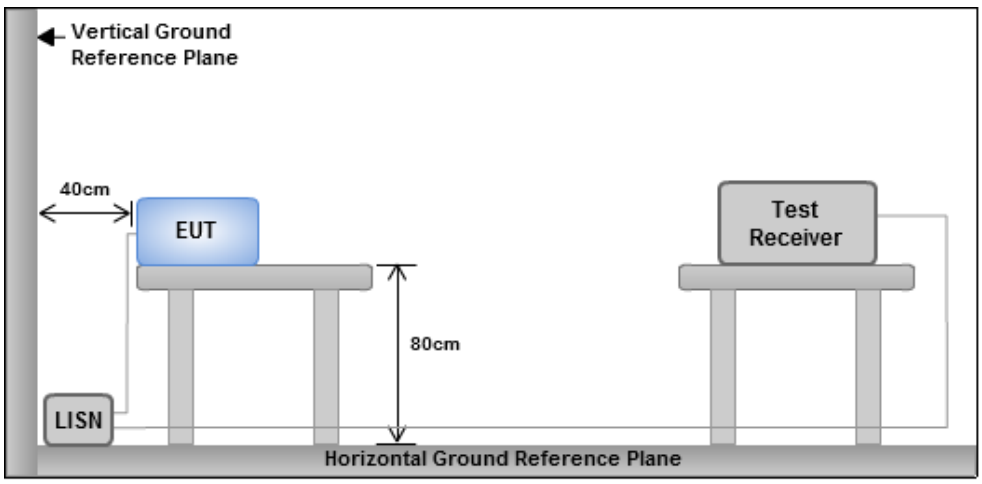
3.1.1 Limit of Conducted Emissions

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



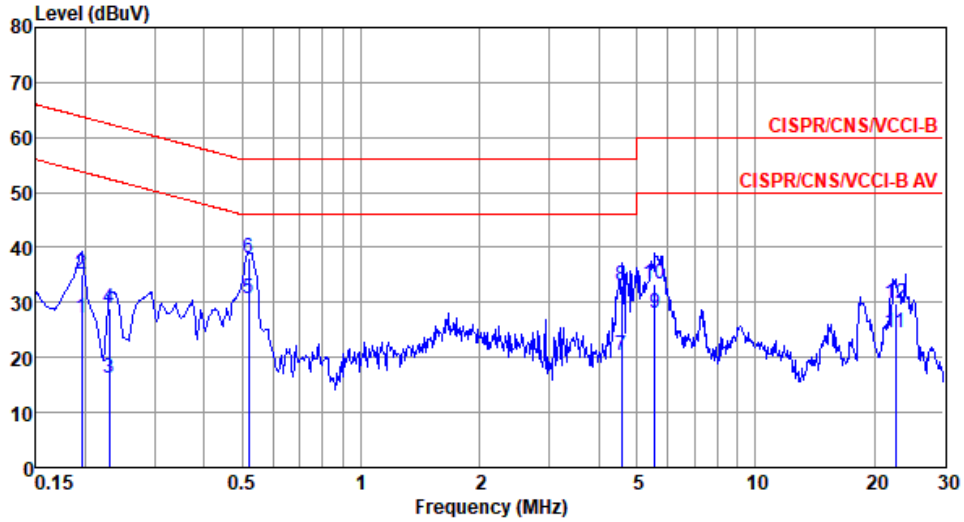
Note: 1. Support units were connected to second LISN.

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	11a	Test Freq. (MHz)	5240
Power Phase	Line		

Test by : Alex Tsai Temperature: 25°C Humidity: 61%

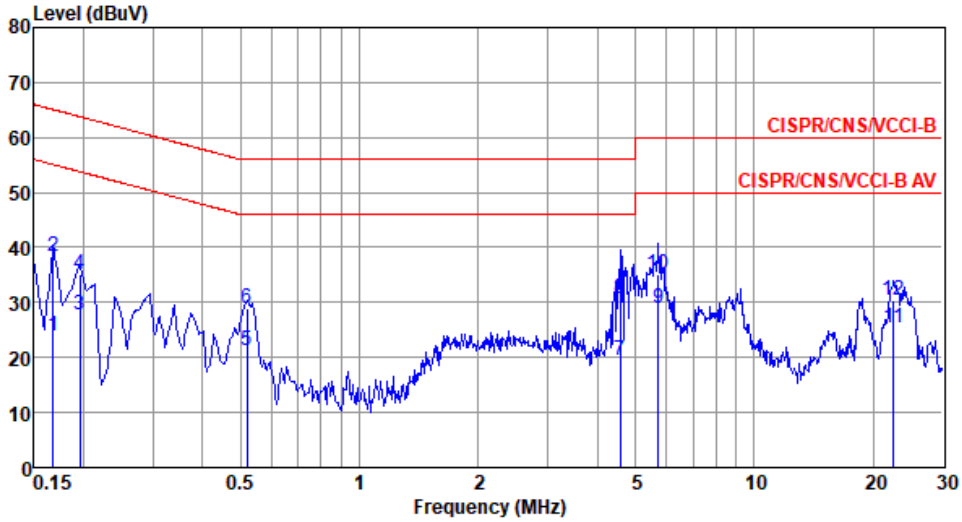


	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.195	27.14	53.80	-26.66	17.45	9.63	0.06	Average
2	0.195	35.27	63.80	-28.53	25.58	9.63	0.06	QP
3	0.230	16.25	52.44	-36.19	6.56	9.63	0.06	Average
4	0.230	28.95	62.44	-33.49	19.26	9.63	0.06	QP
5*	0.518	30.58	46.00	-15.42	20.86	9.63	0.09	Average
6	0.518	37.97	56.00	-18.03	28.25	9.63	0.09	QP
7	4.574	20.25	46.00	-25.75	10.29	9.66	0.30	Average
8	4.574	33.03	56.00	-22.97	23.07	9.66	0.30	QP
9	5.564	27.91	50.00	-22.09	17.92	9.66	0.33	Average
10	5.564	33.40	60.00	-26.60	23.41	9.66	0.33	QP
11	22.655	24.63	50.00	-25.37	14.25	9.69	0.69	Average
12	22.655	29.89	60.00	-30.11	19.51	9.69	0.69	QP

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

Modulation	11a	Test Freq. (MHz)	5240
Power Phase	Neutral		

Test by : Alex Tsai Temperature: 25°C Humidity: 61%

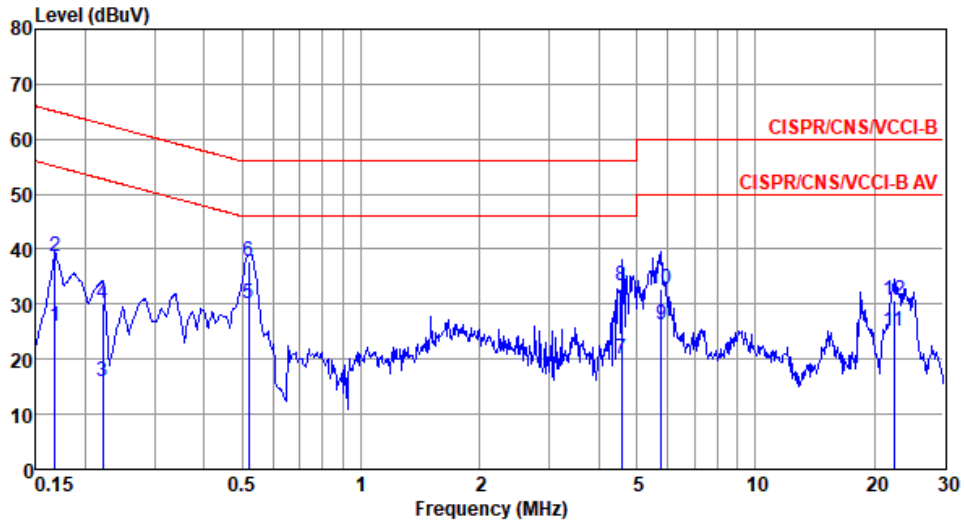


	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.168	24.05	55.08	-31.03	14.34	9.66	0.05	Average
2	0.168	38.42	65.08	-26.66	28.71	9.66	0.05	QP
3	0.195	27.75	53.80	-26.05	18.04	9.65	0.06	Average
4	0.195	35.11	63.80	-28.69	25.40	9.65	0.06	QP
5	0.518	21.11	46.00	-24.89	11.37	9.65	0.09	Average
6	0.518	28.81	56.00	-27.19	19.07	9.65	0.09	QP
7	4.574	19.47	46.00	-26.53	9.49	9.68	0.30	Average
8	4.574	30.76	56.00	-25.24	20.78	9.68	0.30	QP
9*	5.713	28.80	50.00	-21.20	18.78	9.69	0.33	Average
10	5.713	35.06	60.00	-24.94	25.04	9.69	0.33	QP
11	22.535	25.42	50.00	-24.58	14.91	9.82	0.69	Average
12	22.535	30.31	60.00	-29.69	19.80	9.82	0.69	QP

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

Modulation	11a	Test Freq. (MHz)	5745
Power Phase	Line		

Test by : Alex Tsai Temperature: 25°C Humidity: 61%

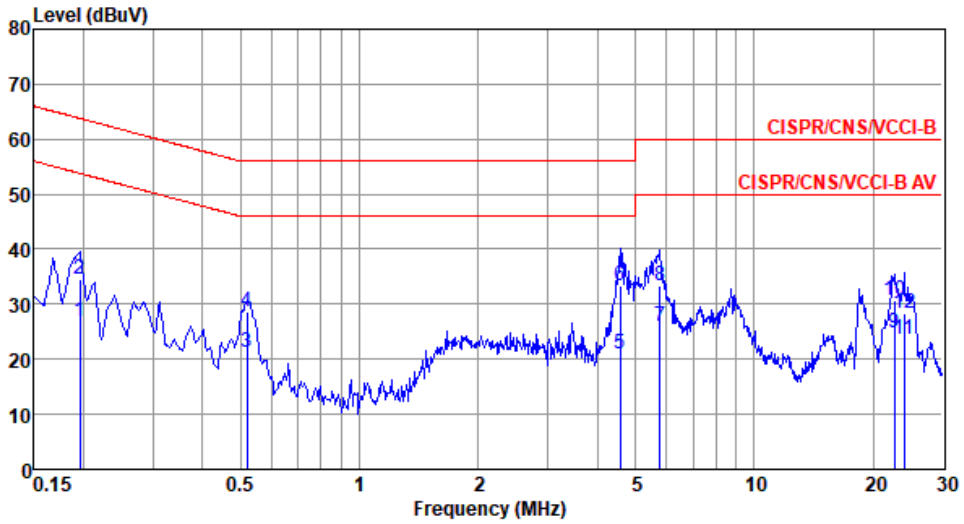


	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.168	25.95	55.08	-29.13	16.26	9.64	0.05	Average
2	0.168	38.60	65.08	-26.48	28.91	9.64	0.05	QP
3	0.222	15.95	52.74	-36.79	6.26	9.63	0.06	Average
4	0.222	29.99	62.74	-32.75	20.30	9.63	0.06	QP
5*	0.518	30.22	46.00	-15.78	20.50	9.63	0.09	Average
6	0.518	37.92	56.00	-18.08	28.20	9.63	0.09	QP
7	4.574	20.10	46.00	-25.90	10.14	9.66	0.30	Average
8	4.574	33.25	56.00	-22.75	23.29	9.66	0.30	QP
9	5.774	26.33	50.00	-23.67	16.33	9.67	0.33	Average
10	5.774	32.76	60.00	-27.24	22.76	9.67	0.33	QP
11	22.416	24.99	50.00	-25.01	14.61	9.69	0.69	Average
12	22.416	30.65	60.00	-29.35	20.27	9.69	0.69	QP

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

Modulation	11a	Test Freq. (MHz)	5745
Power Phase	Neutral		

Test by : Alex Tsai Temperature: 25°C Humidity: 61%



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.195	26.77	53.80	-27.03	17.06	9.65	0.06	Average
2	0.195	34.50	63.80	-29.30	24.79	9.65	0.06	QP
3	0.518	21.20	46.00	-24.80	11.46	9.65	0.09	Average
4	0.518	28.64	56.00	-27.36	18.90	9.65	0.09	QP
5	4.574	20.87	46.00	-25.13	10.89	9.68	0.30	Average
6*	4.574	33.43	56.00	-22.57	23.45	9.68	0.30	QP
7	5.774	25.98	50.00	-24.02	15.96	9.69	0.33	Average
8	5.774	33.30	60.00	-26.70	23.28	9.69	0.33	QP
9	22.655	24.85	50.00	-25.15	14.34	9.82	0.69	Average
10	22.655	30.61	60.00	-29.39	20.10	9.82	0.69	QP
11	24.015	23.61	50.00	-26.39	13.10	9.81	0.70	Average
12	24.015	28.32	60.00	-31.68	17.81	9.81	0.70	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (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.

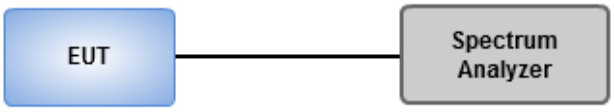
Occupied Bandwidth

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	23°C / 63%	Tested By	Brad Wu

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	29.42M	16.787M	16M8D1D	21.449M	16.57M
802.11ac VHT20_Nss1,(MCS0)_1TX	29.783M	17.873M	17M9D1D	25.652M	17.8M
802.11ac VHT40_Nss1,(MCS0)_1TX	64.638M	36.469M	36M5D1D	41.884M	36.179M
802.11ac VHT80_Nss1,(MCS0)_1TX	82.029M	75.253M	75M3D1D	82.029M	75.253M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	16.522M	17.149M	17M1D1D	16.449M	16.86M
802.11ac VHT20_Nss1,(MCS0)_1TX	17.754M	18.307M	18M3D1D	17.609M	17.873M
802.11ac VHT40_Nss1,(MCS0)_1TX	36.377M	36.469M	36M5D1D	36.377M	36.324M
802.11ac VHT80_Nss1,(MCS0)_1TX	76.232M	75.543M	75M5D1D	76.232M	75.543M

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;

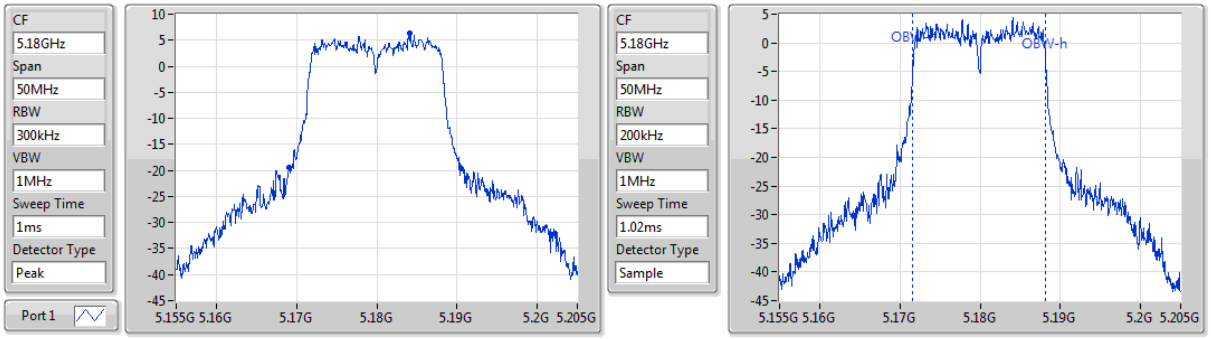
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11a_Nss1,(6Mbps)_1TX	-	-	-	-
5180MHz	Pass	Inf	21.449M	16.57M
5200MHz	Pass	Inf	23.623M	16.715M
5240MHz	Pass	Inf	29.42M	16.787M
5745MHz	Pass	500k	16.522M	17.149M
5785MHz	Pass	500k	16.449M	16.932M
5825MHz	Pass	500k	16.522M	16.86M
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-
5180MHz	Pass	Inf	26.377M	17.8M
5200MHz	Pass	Inf	25.652M	17.8M
5240MHz	Pass	Inf	29.783M	17.873M
5745MHz	Pass	500k	17.609M	18.307M
5785MHz	Pass	500k	17.754M	17.945M
5825MHz	Pass	500k	17.754M	17.873M
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-
5190MHz	Pass	Inf	41.884M	36.179M
5230MHz	Pass	Inf	64.638M	36.469M
5755MHz	Pass	500k	36.377M	36.469M
5795MHz	Pass	500k	36.377M	36.324M
802.11ac VHT80_Nss1,(MCS0)_1TX	-	-	-	-
5210MHz	Pass	Inf	82.029M	75.253M
5775MHz	Pass	500k	76.232M	75.543M

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)_1TX EBW

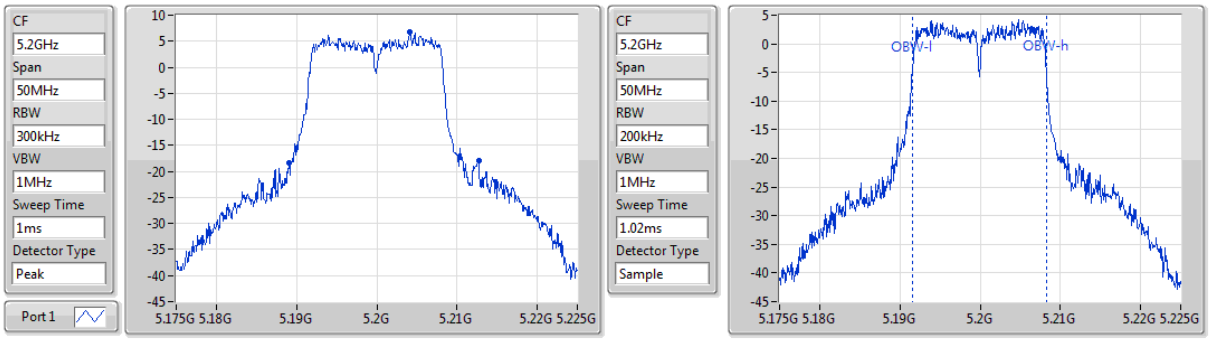
5180MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
21.449M	5.16913G	5.19058G	16.57M	5.171606G	5.188177G	Inf	1

802.11a_Nss1,(6Mbps)_1TX EBW

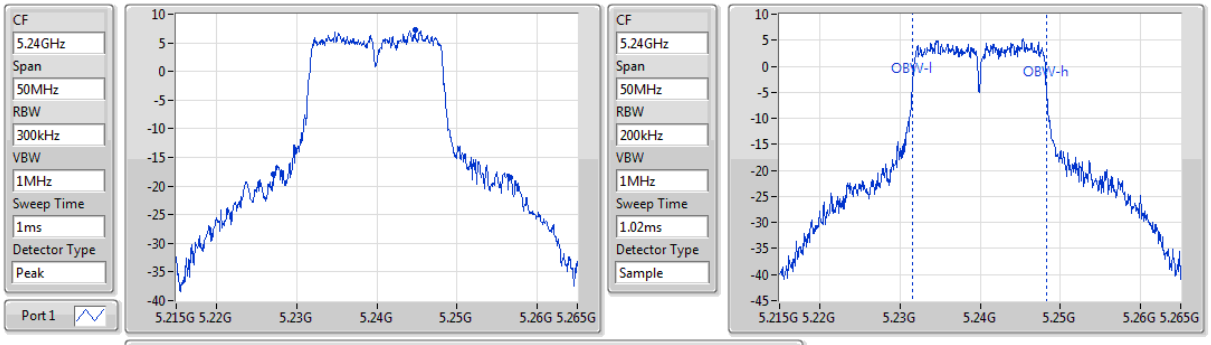
5200MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
23.623M	5.189058G	5.212681G	16.715M	5.191534G	5.208249G	Inf	1

802.11a_Nss1,(6Mbps)_1TX EBW

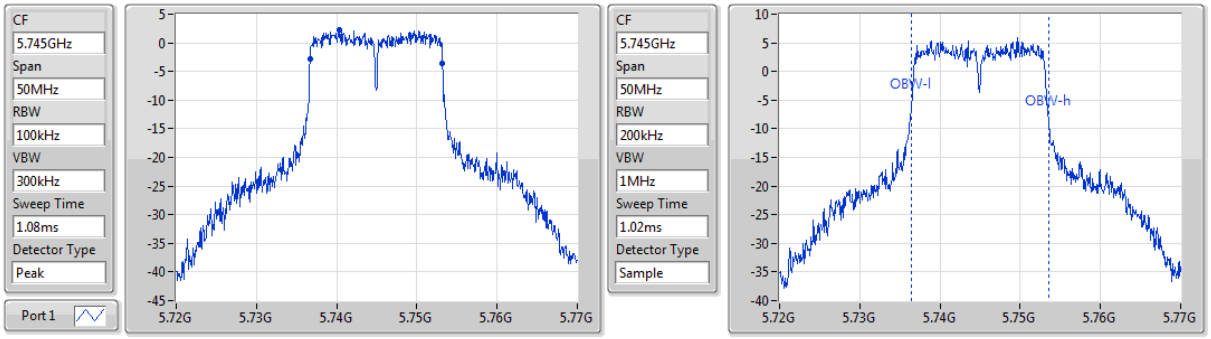
5240MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
29.42M	5.227174G	5.256594G	16.787M	5.231534G	5.248321G	Inf	1

802.11a_Nss1,(6Mbps)_1TX **EBW**

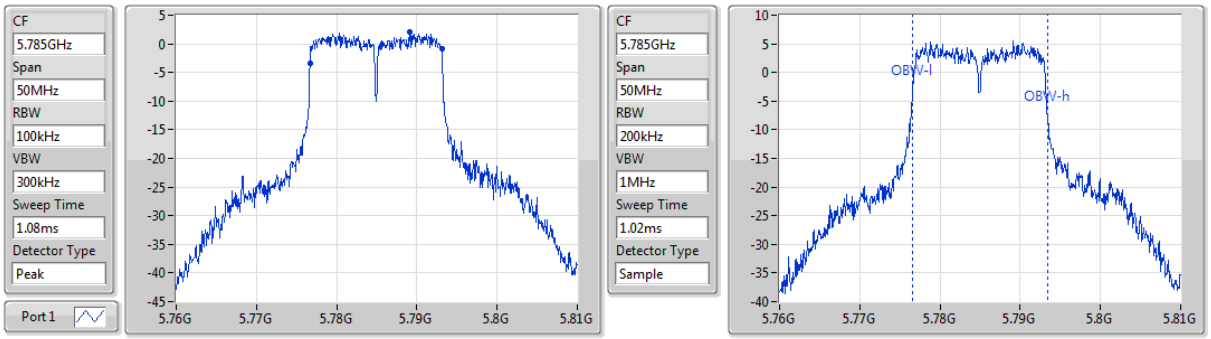
5745MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.522M	5.736667G	5.753188G	17.149M	5.736462G	5.753611G	500k	1

802.11a_Nss1,(6Mbps)_1TX **EBW**

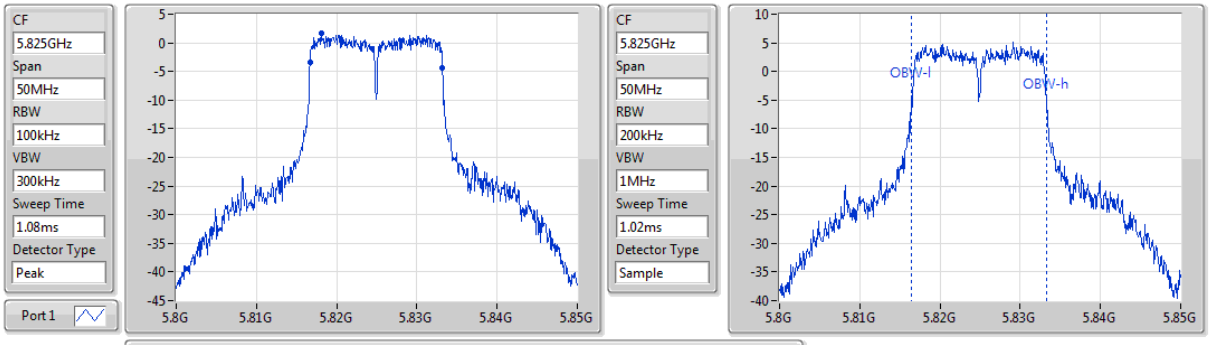
5785MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.449M	5.776667G	5.793116G	16.932M	5.776534G	5.793466G	500k	1

802.11a_Nss1,(6Mbps)_1TX **EBW**

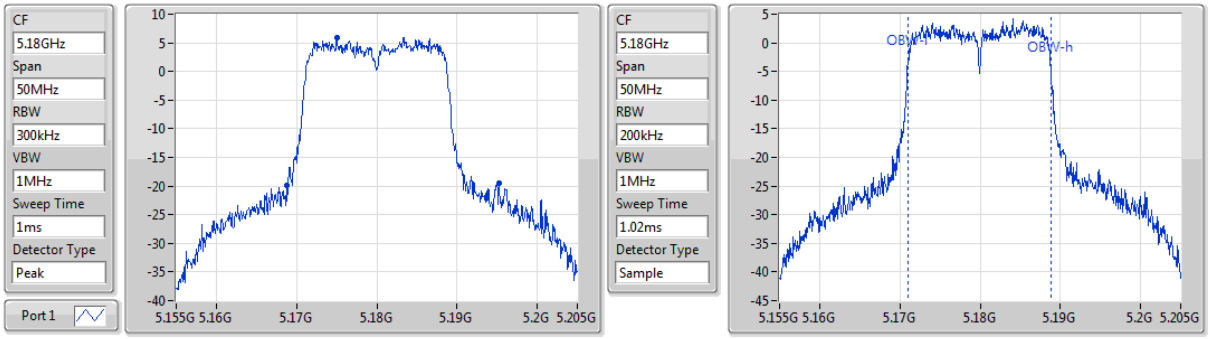
5825MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.522M	5.816667G	5.833188G	16.86M	5.816462G	5.833321G	500k	1

802.11ac VHT20_Nss1,(MCS0)_1TX EBW

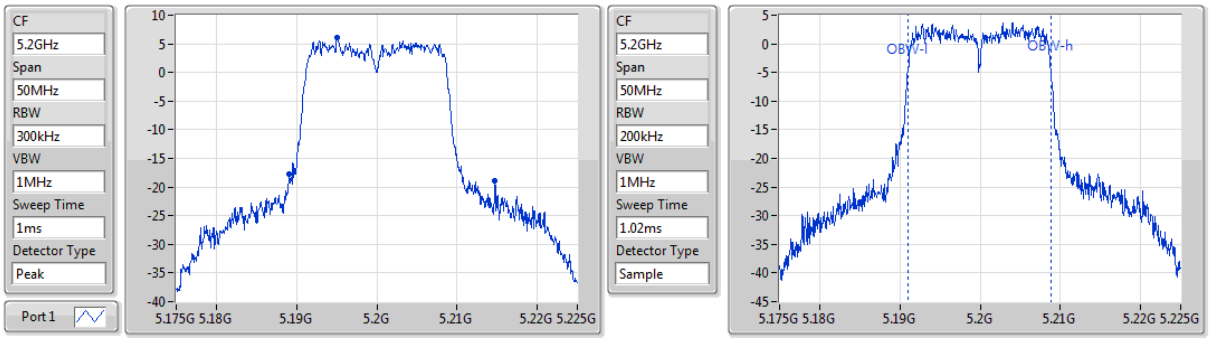
5180MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
26.377M	5.168841G	5.195217G	17.8M	5.171027G	5.188828G	Inf	1

802.11ac VHT20_Nss1,(MCS0)_1TX EBW

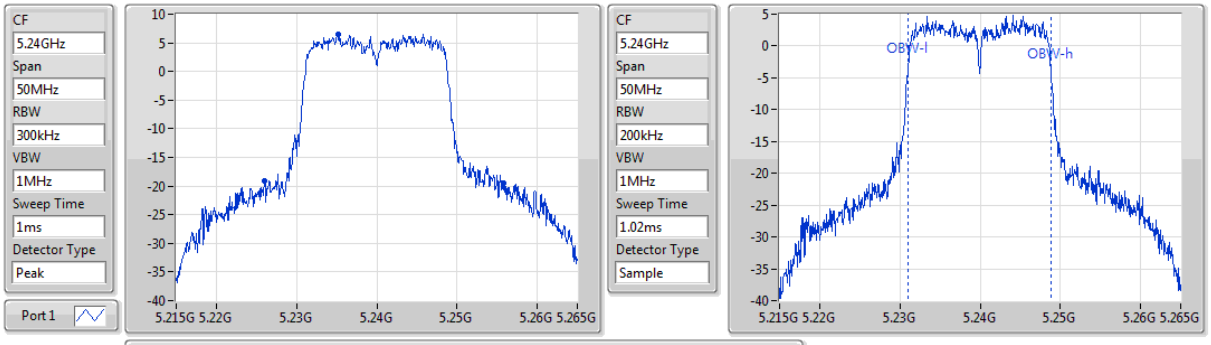
5200MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
25.652M	5.189058G	5.21471G	17.8M	5.191027G	5.208828G	Inf	1

802.11ac VHT20_Nss1,(MCS0)_1TX EBW

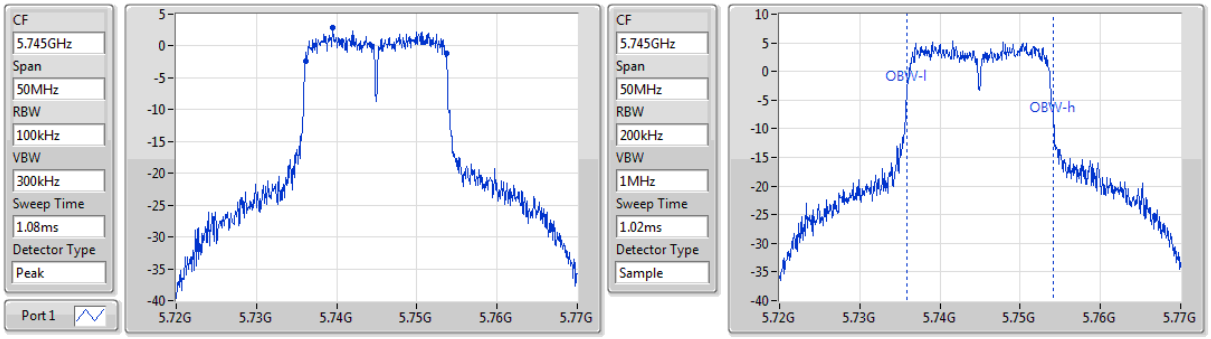
5240MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
29.783M	5.226014G	5.255797G	17.873M	5.231027G	5.2489G	Inf	1

802.11ac VHT20_Nss1,(MCS0)_1TX EBW

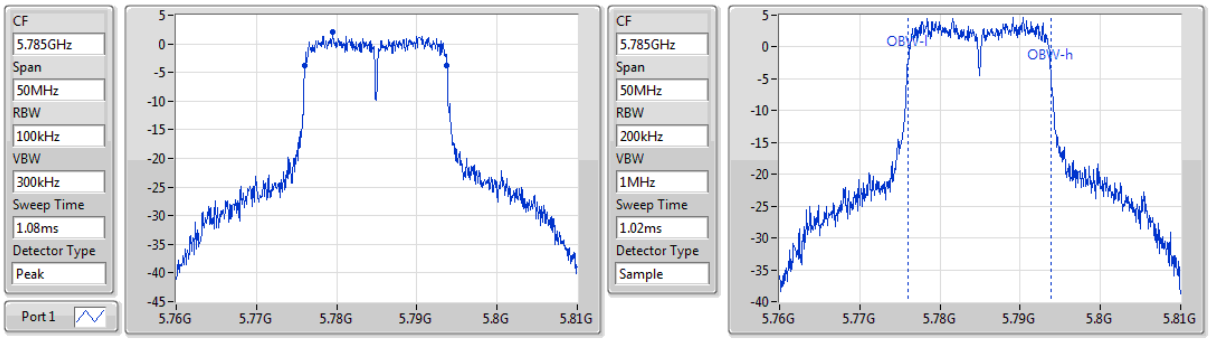
5745MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.609M	5.736087G	5.753696G	18.307M	5.735883G	5.75419G	500k	1

802.11ac VHT20_Nss1,(MCS0)_1TX EBW

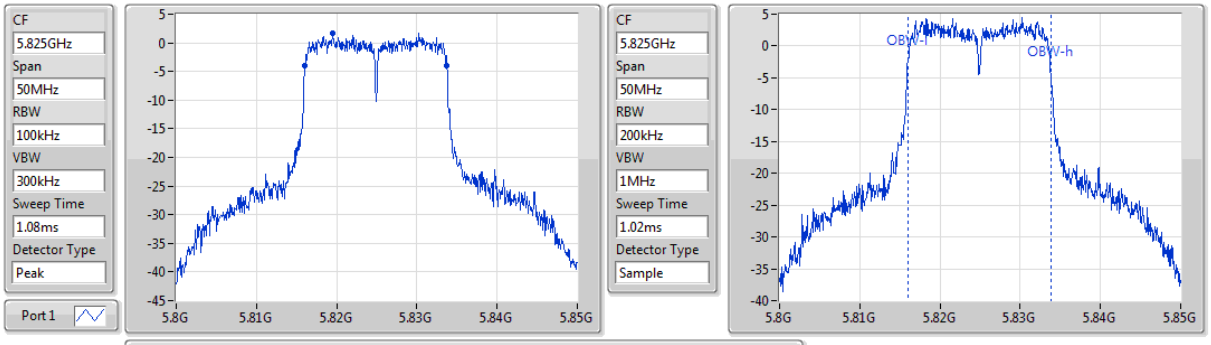
5785MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.754M	5.776014G	5.793768G	17.945M	5.775955G	5.7939G	500k	1

802.11ac VHT20_Nss1,(MCS0)_1TX EBW

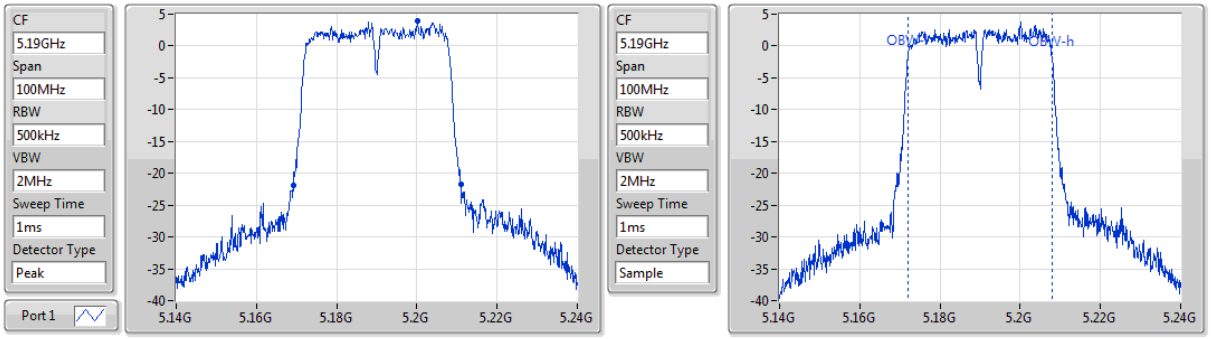
5825MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.754M	5.816014G	5.833768G	17.873M	5.815955G	5.833828G	500k	1

802.11ac VHT40_Nss1,(MCS0)_1TX EBW

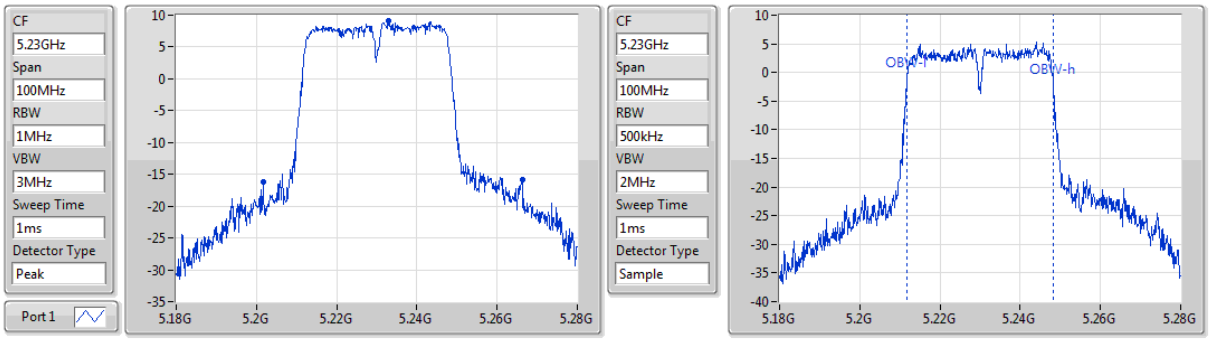
5190MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
41.884M	5.16913G	5.211014G	36.179M	5.17191G	5.20809G	Inf	1

802.11ac VHT40_Nss1,(MCS0)_1TX EBW

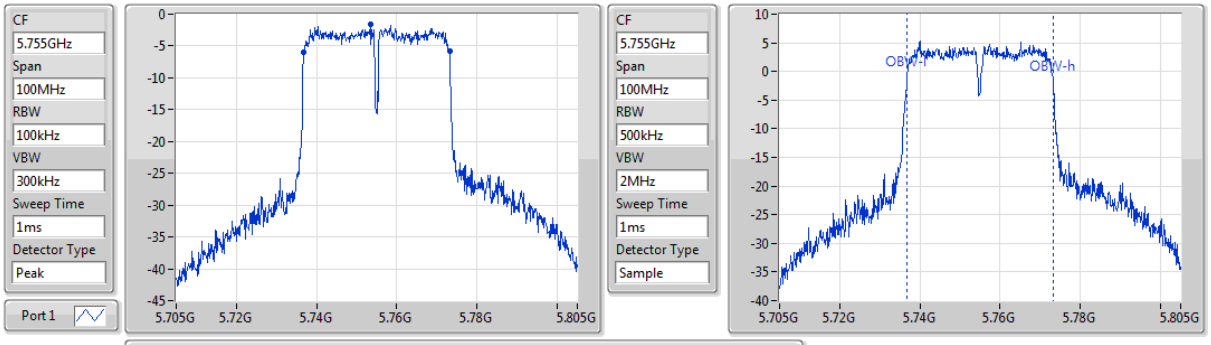
5230MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
64.638M	5.201594G	5.266232G	36.469M	5.211766G	5.248234G	Inf	1

802.11ac VHT40_Nss1,(MCS0)_1TX EBW

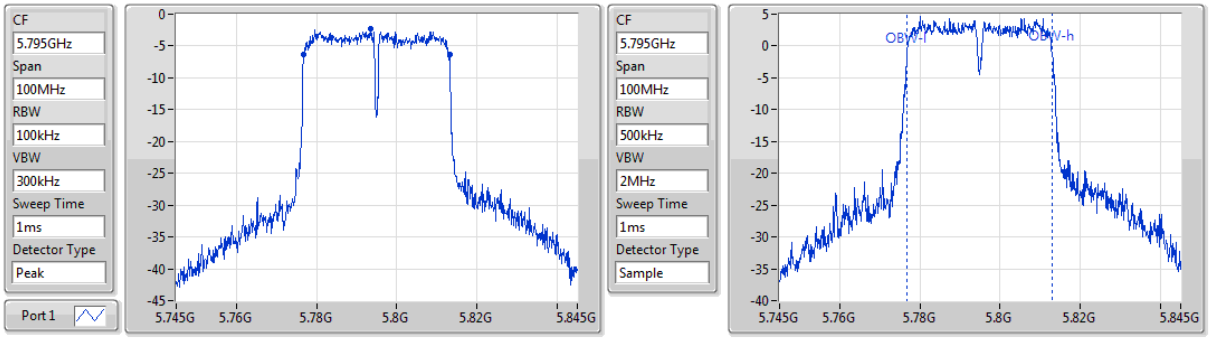
5755MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
36.377M	5.736739G	5.773116G	36.469M	5.736766G	5.773234G	500k	1

802.11ac VHT40_Nss1,(MCS0)_1TX EBW

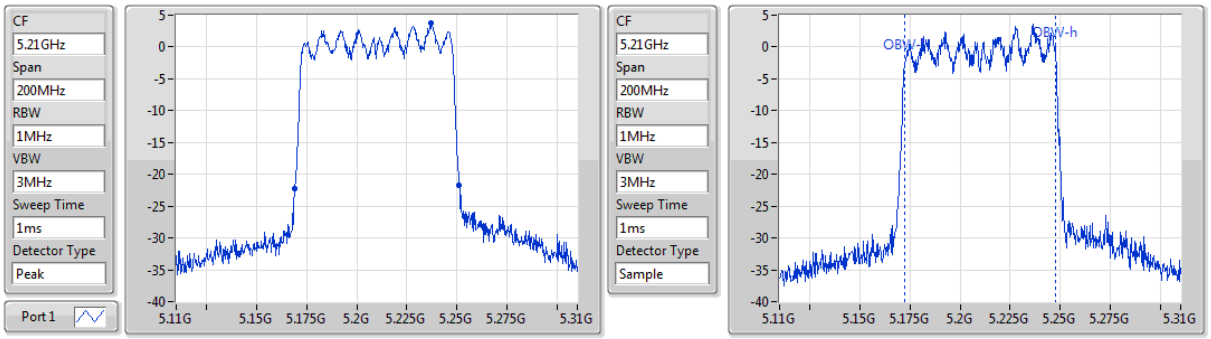
5795MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
36.377M	5.776739G	5.813116G	36.324M	5.776766G	5.81309G	500k	1

802.11ac VHT80_Nss1,(MCS0)_1TX EBW

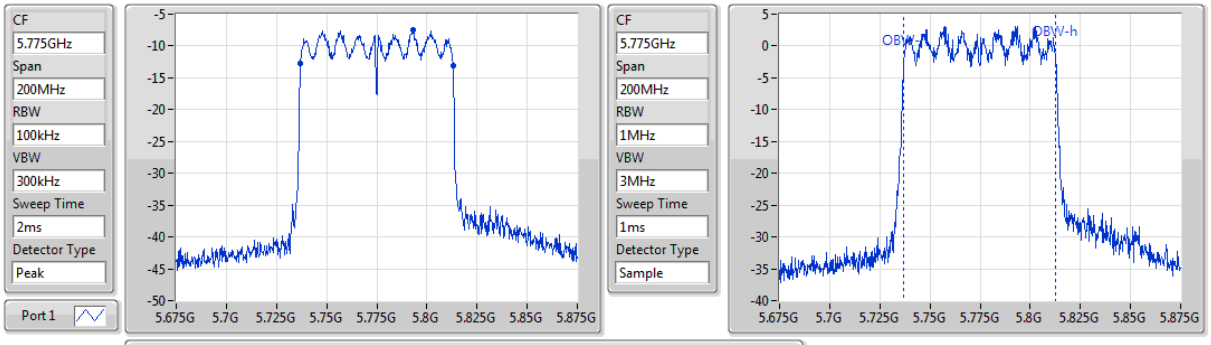
5210MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
82.029M	5.16913G	5.251159G	75.253M	5.172373G	5.247627G	Inf	1

802.11ac VHT80_Nss1,(MCS0)_1TX EBW

5775MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
76.232M	5.736739G	5.812971G	75.543M	5.737084G	5.812627G	500k	1

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

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	23°C / 63%	Tested By	Brad Wu

Main Antenna

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.15-5.25GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	16.35	0.04315	19.55	0.09016
802.11n HT20_Nss1,(MCS0)_1TX	16.19	0.04159	19.39	0.08690
802.11n HT40_Nss1,(MCS0)_1TX	15.64	0.03664	18.84	0.07656
802.11ac VHT20_Nss1,(MCS0)_1TX	16.28	0.04246	19.48	0.08872
802.11ac VHT40_Nss1,(MCS0)_1TX	15.72	0.03733	18.92	0.07798
802.11ac VHT80_Nss1,(MCS0)_1TX	12.52	0.01786	15.72	0.03733
5.725-5.85GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	16.75	0.04732	20.45	0.11092
802.11n HT20_Nss1,(MCS0)_1TX	16.55	0.04519	20.25	0.10593
802.11n HT40_Nss1,(MCS0)_1TX	15.66	0.03681	19.36	0.08630
802.11ac VHT20_Nss1,(MCS0)_1TX	16.61	0.04581	20.31	0.10740
802.11ac VHT40_Nss1,(MCS0)_1TX	15.72	0.03733	19.42	0.08750
802.11ac VHT80_Nss1,(MCS0)_1TX	12.51	0.01782	16.21	0.04178

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11a_Nss1,(6Mbps)_1TX	-	-	-	-	-	-	-
5180MHz	Pass	3.20	15.95	15.95	24.00	19.15	30.00
5200MHz	Pass	3.20	15.55	15.55	24.00	18.75	30.00
5240MHz	Pass	3.20	16.35	16.35	24.00	19.55	30.00
5745MHz	Pass	3.70	16.75	16.75	30.00	20.45	36.00
5785MHz	Pass	3.70	16.71	16.71	30.00	20.41	36.00
5825MHz	Pass	3.70	16.65	16.65	30.00	20.35	36.00
802.11n HT20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
5180MHz	Pass	3.20	15.88	15.88	24.00	19.08	30.00
5200MHz	Pass	3.20	15.42	15.42	24.00	18.62	30.00
5240MHz	Pass	3.20	16.19	16.19	24.00	19.39	30.00
5745MHz	Pass	3.70	16.55	16.55	30.00	20.25	36.00
5785MHz	Pass	3.70	16.52	16.52	30.00	20.22	36.00
5825MHz	Pass	3.70	16.48	16.48	30.00	20.18	36.00
802.11n HT40_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
5190MHz	Pass	3.20	13.66	13.66	24.00	16.86	30.00
5230MHz	Pass	3.20	15.64	15.64	24.00	18.84	30.00
5755MHz	Pass	3.70	15.34	15.34	30.00	19.04	36.00
5795MHz	Pass	3.70	15.66	15.66	30.00	19.36	36.00
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
5180MHz	Pass	3.20	15.97	15.97	24.00	19.17	30.00
5200MHz	Pass	3.20	15.51	15.51	24.00	18.71	30.00
5240MHz	Pass	3.20	16.28	16.28	24.00	19.48	30.00
5745MHz	Pass	3.70	16.61	16.61	30.00	20.31	36.00
5785MHz	Pass	3.70	16.58	16.58	30.00	20.28	36.00
5825MHz	Pass	3.70	16.53	16.53	30.00	20.23	36.00
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
5190MHz	Pass	3.20	13.72	13.72	24.00	16.92	30.00
5230MHz	Pass	3.20	15.72	15.72	24.00	18.92	30.00
5755MHz	Pass	3.70	15.43	15.43	30.00	19.13	36.00
5795MHz	Pass	3.70	15.72	15.72	30.00	19.42	36.00
802.11ac VHT80_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
5210MHz	Pass	3.20	12.52	12.52	24.00	15.72	30.00
5775MHz	Pass	3.70	12.51	12.51	30.00	16.21	36.00

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

Aux Antenna

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.15-5.25GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	15.52	0.03565	18.72	0.07447
802.11n HT20_Nss1,(MCS0)_1TX	15.35	0.03428	18.55	0.07161
802.11n HT40_Nss1,(MCS0)_1TX	14.65	0.02917	17.85	0.06095
802.11ac VHT20_Nss1,(MCS0)_1TX	15.42	0.03483	18.62	0.07278
802.11ac VHT40_Nss1,(MCS0)_1TX	14.71	0.02958	17.91	0.06180
802.11ac VHT80_Nss1,(MCS0)_1TX	11.15	0.01303	14.35	0.02723
5.725-5.85GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	15.66	0.03681	19.36	0.08630
802.11n HT20_Nss1,(MCS0)_1TX	15.48	0.03532	19.18	0.08279
802.11n HT40_Nss1,(MCS0)_1TX	14.28	0.02679	17.98	0.06281
802.11ac VHT20_Nss1,(MCS0)_1TX	15.54	0.03581	19.24	0.08395
802.11ac VHT40_Nss1,(MCS0)_1TX	14.35	0.02723	18.05	0.06383
802.11ac VHT80_Nss1,(MCS0)_1TX	11.12	0.01294	14.82	0.03034

Result

Mode	Result	DG (dBi)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11a_Nss1,(6Mbps)_1TX	-	-	-	-	-	-	-
5180MHz	Pass	3.20	15.22	15.22	24.00	18.42	30.00
5200MHz	Pass	3.20	14.82	14.82	24.00	18.02	30.00
5240MHz	Pass	3.20	15.52	15.52	24.00	18.72	30.00
5745MHz	Pass	3.70	15.66	15.66	30.00	19.36	36.00
5785MHz	Pass	3.70	15.61	15.61	30.00	19.31	36.00
5825MHz	Pass	3.70	15.45	15.45	30.00	19.15	36.00
802.11n HT20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
5180MHz	Pass	3.20	15.19	15.19	24.00	18.39	30.00
5200MHz	Pass	3.20	14.66	14.66	24.00	17.86	30.00
5240MHz	Pass	3.20	15.35	15.35	24.00	18.55	30.00
5745MHz	Pass	3.70	15.32	15.32	30.00	19.02	36.00
5785MHz	Pass	3.70	15.48	15.48	30.00	19.18	36.00
5825MHz	Pass	3.70	15.27	15.27	30.00	18.97	36.00
802.11n HT40_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
5190MHz	Pass	3.20	12.49	12.49	24.00	15.69	30.00
5230MHz	Pass	3.20	14.65	14.65	24.00	17.85	30.00
5755MHz	Pass	3.70	14.28	14.28	30.00	17.98	36.00
5795MHz	Pass	3.70	14.21	14.21	30.00	17.91	36.00
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
5180MHz	Pass	3.20	15.26	15.26	24.00	18.46	30.00
5200MHz	Pass	3.20	14.71	14.71	24.00	17.91	30.00
5240MHz	Pass	3.20	15.42	15.42	24.00	18.62	30.00
5745MHz	Pass	3.70	15.45	15.45	30.00	19.15	36.00
5785MHz	Pass	3.70	15.54	15.54	30.00	19.24	36.00
5825MHz	Pass	3.70	15.38	15.38	30.00	19.08	36.00
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
5190MHz	Pass	3.20	12.58	12.58	24.00	15.78	30.00
5230MHz	Pass	3.20	14.71	14.71	24.00	17.91	30.00
5755MHz	Pass	3.70	14.35	14.35	30.00	18.05	36.00
5795MHz	Pass	3.70	14.28	14.28	30.00	17.98	36.00
802.11ac VHT80_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
5210MHz	Pass	3.20	11.15	11.15	24.00	14.35	30.00
5775MHz	Pass	3.70	11.12	11.12	30.00	14.82	36.00

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

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

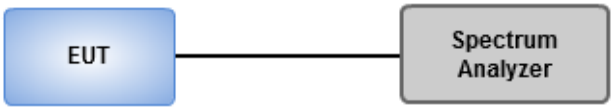
For 5150 ~ 5250 MHz

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.

For 5725 ~ 5850 MHz

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.

3.4.3 Test Setup



3.4.4 Test Result of Peak Power Spectral Density

Ambient Condition	23°C / 63%	Tested By	Brad Wu

Summary

Mode	PD (dBm/RBW)	EIRP PD (dBm/RBW)
5.15-5.25GHz	-	-
802.11a_Nss1,(6Mbps)_1TX	3.97	7.17
802.11ac VHT20_Nss1,(MCS0)_1TX	3.37	6.57
802.11ac VHT40_Nss1,(MCS0)_1TX	-0.31	2.89
802.11ac VHT80_Nss1,(MCS0)_1TX	-5.79	-2.59
5.725-5.85GHz	-	-
802.11a_Nss1,(6Mbps)_1TX	2.65	6.35
802.11ac VHT20_Nss1,(MCS0)_1TX	2.56	6.26
802.11ac VHT40_Nss1,(MCS0)_1TX	-1.65	2.05
802.11ac VHT80_Nss1,(MCS0)_1TX	-6.90	-3.20

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

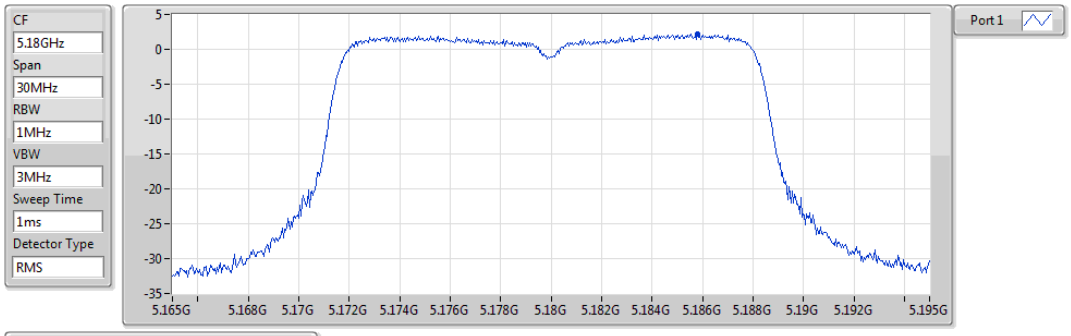
Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)	EIRP PD (dBm/RBW)	EIRP PD Limit (dBm/RBW)
802.11a_Nss1,(6Mbps)_1TX	-	-	-	-	-	-	-
5180MHz	Pass	3.20	2.25	2.25	11.00	5.45	17.00
5200MHz	Pass	3.20	2.87	2.87	11.00	6.07	17.00
5240MHz	Pass	3.20	3.97	3.97	11.00	7.17	17.00
5745MHz	Pass	3.70	2.65	2.65	30.00	6.35	36.00
5785MHz	Pass	3.70	2.58	2.58	30.00	6.28	36.00
5825MHz	Pass	3.70	2.13	2.13	30.00	5.83	36.00
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
5180MHz	Pass	3.20	2.78	2.78	11.00	5.98	17.00
5200MHz	Pass	3.20	2.49	2.49	11.00	5.69	17.00
5240MHz	Pass	3.20	3.37	3.37	11.00	6.57	17.00
5745MHz	Pass	3.70	2.56	2.56	30.00	6.26	36.00
5785MHz	Pass	3.70	2.16	2.16	30.00	5.86	36.00
5825MHz	Pass	3.70	1.71	1.71	30.00	5.41	36.00
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
5190MHz	Pass	3.20	-1.94	-1.94	11.00	1.26	17.00
5230MHz	Pass	3.20	-0.31	-0.31	11.00	2.89	17.00
5755MHz	Pass	3.70	-1.65	-1.65	30.00	2.05	36.00
5795MHz	Pass	3.70	-2.18	-2.18	30.00	1.52	36.00
802.11ac VHT80_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
5210MHz	Pass	3.20	-5.79	-5.79	11.00	-2.59	17.00
5775MHz	Pass	3.70	-6.90	-6.90	30.00	-3.20	36.00

DG = Directional Gain; **RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;
PD = maximum power density; **Port X** = Port X power density;

802.11a_Nss1,(6Mbps)_1TX **PSD**

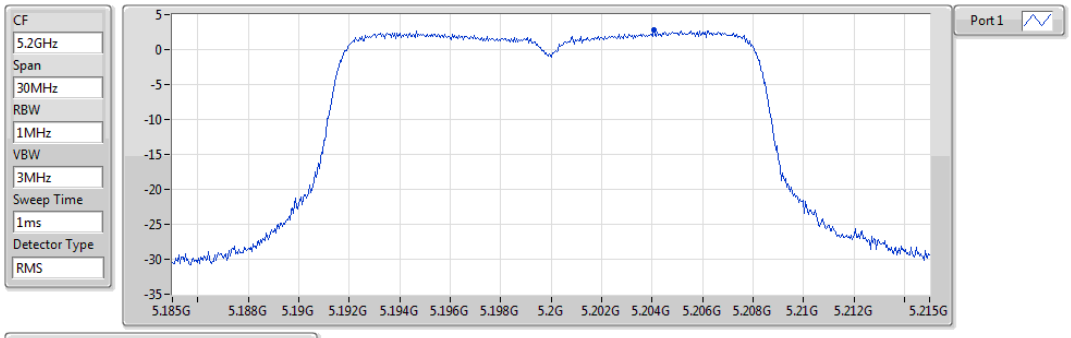
5180MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.25	2.25	2.25

802.11a_Nss1,(6Mbps)_1TX **PSD**

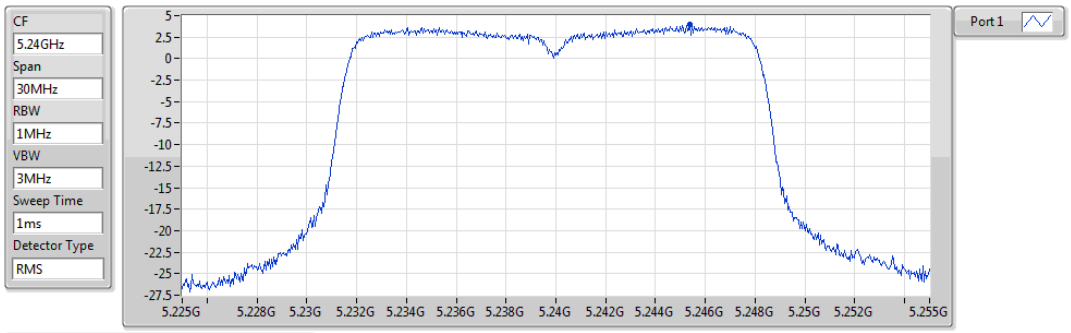
5200MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.87	2.87	2.87

802.11a_Nss1,(6Mbps)_1TX **PSD**

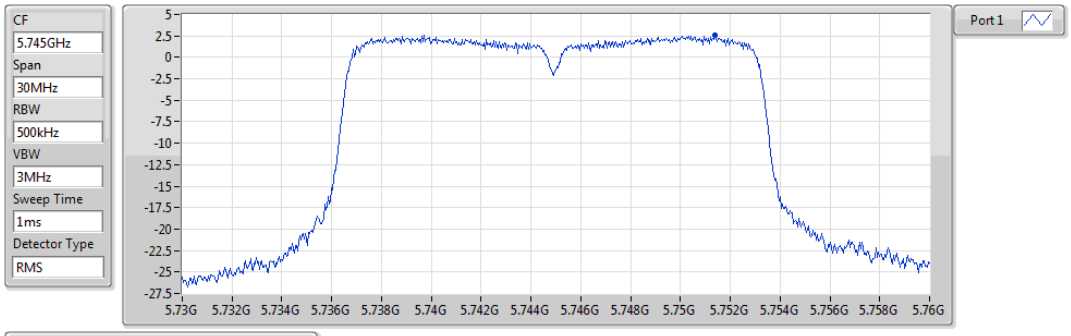
5240MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.97	3.97	3.97

802.11a_Nss1,(6Mbps)_1TX **PSD**

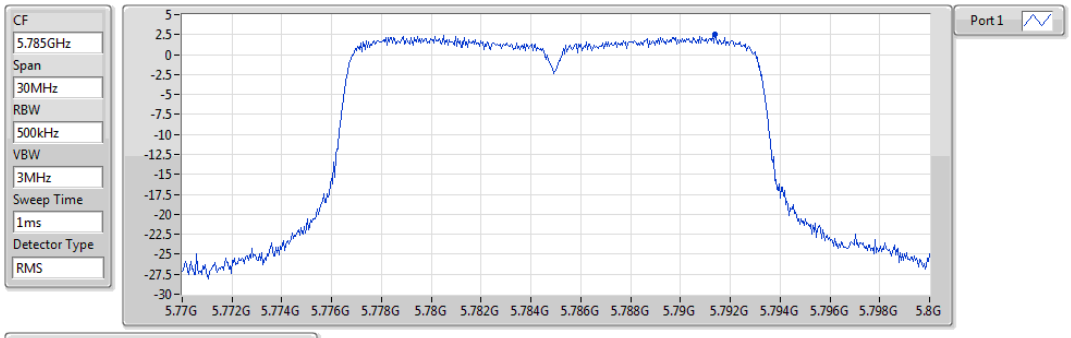
5745MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.65	2.65	2.65

802.11a_Nss1,(6Mbps)_1TX **PSD**

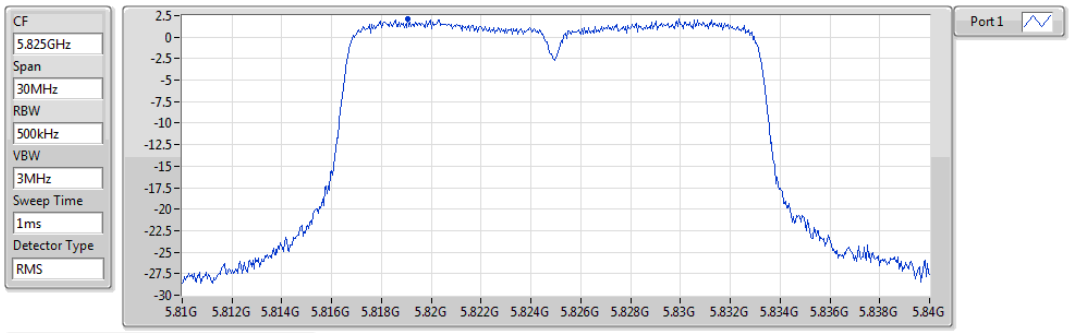
5785MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.58	2.58	2.58

802.11a_Nss1,(6Mbps)_1TX **PSD**

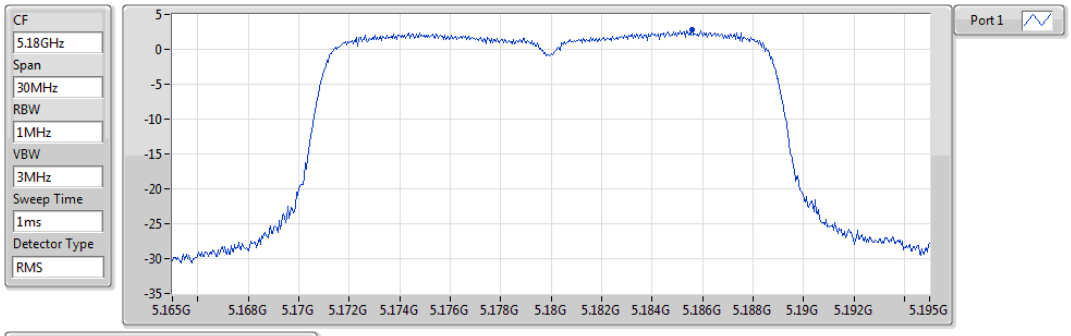
5825MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.13	2.13	2.13

802.11ac VHT20_Nss1,(MCS0)_1TX **PSD**

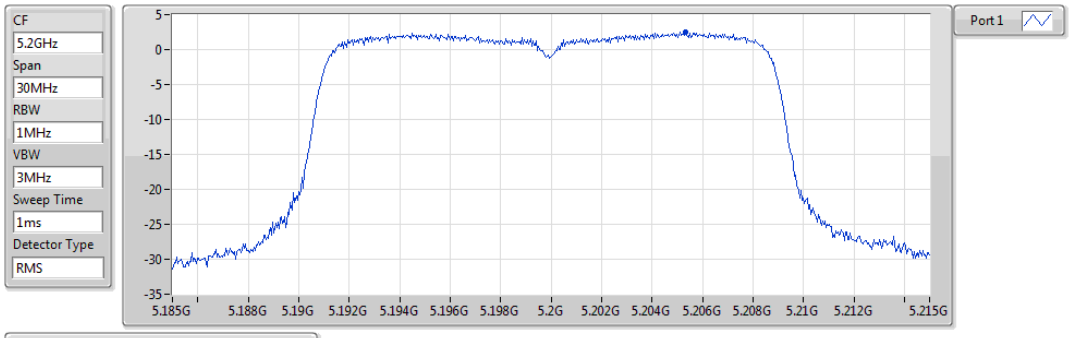
5180MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.78	2.78	2.78

802.11ac VHT20_Nss1,(MCS0)_1TX **PSD**

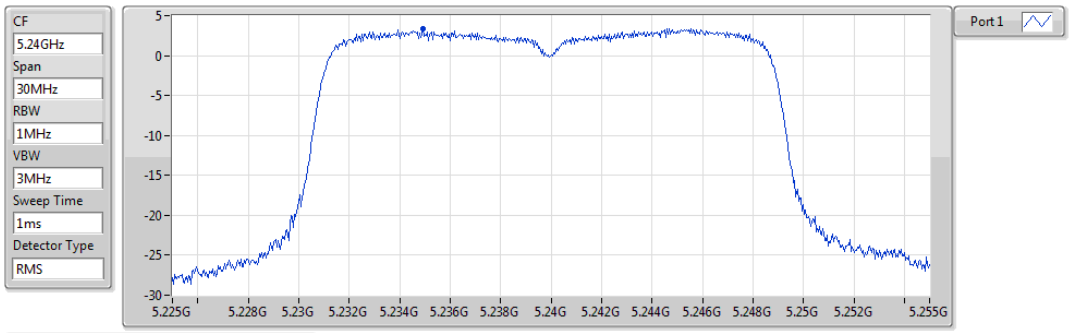
5200MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.49	2.49	2.49

802.11ac VHT20_Nss1,(MCS0)_1TX **PSD**

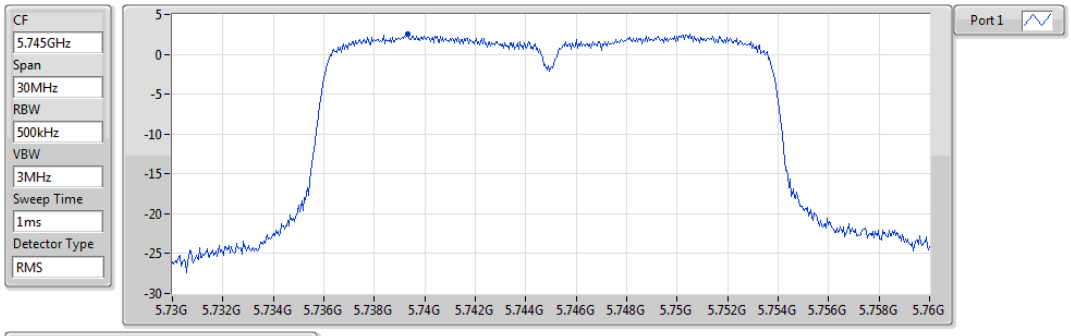
5240MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.37	3.37	3.37

802.11ac VHT20_Nss1,(MCS0)_1TX **PSD**

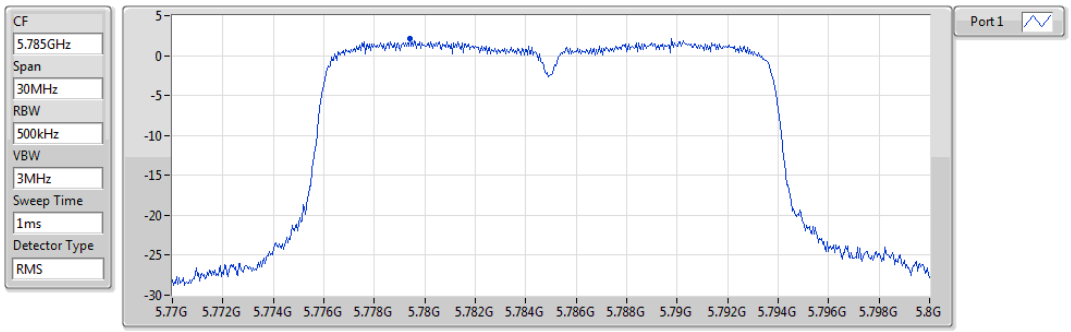
5745MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.56	2.56	2.56

802.11ac VHT20_Nss1,(MCS0)_1TX **PSD**

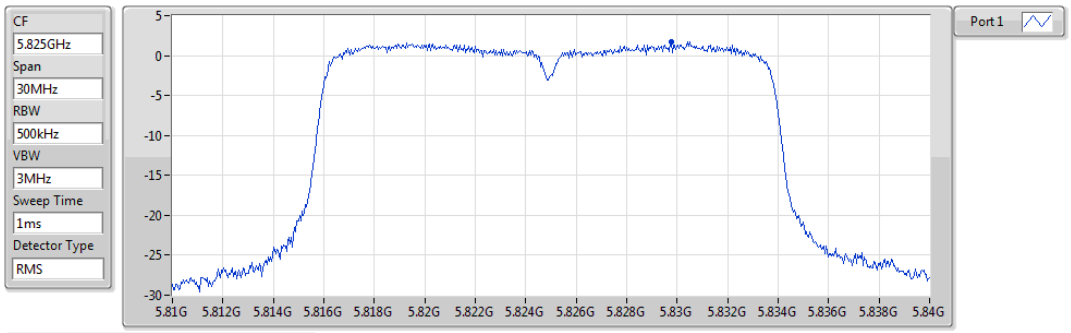
5785MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.16	2.16	2.16

802.11ac VHT20_Nss1,(MCS0)_1TX **PSD**

5825MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.71	1.71	1.71

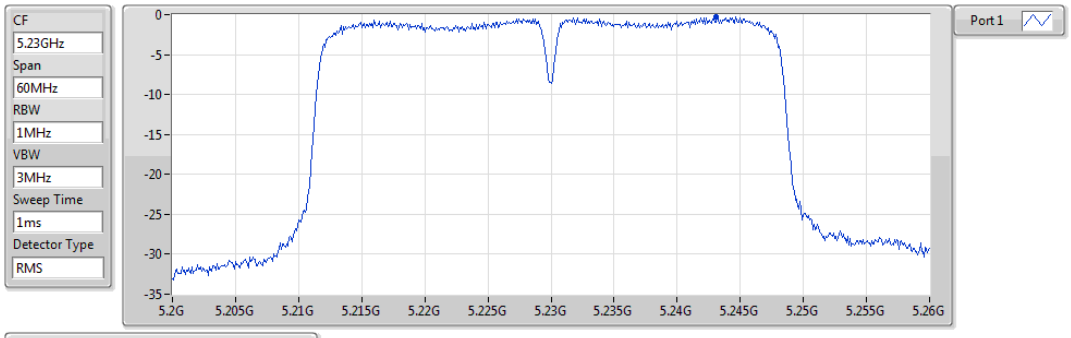
802.11ac VHT40_Nss1,(MCS0)_1TX **PSD**

5190MHz

Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-1.94	-1.94	-1.94

802.11ac VHT40_Nss1,(MCS0)_1TX **PSD**

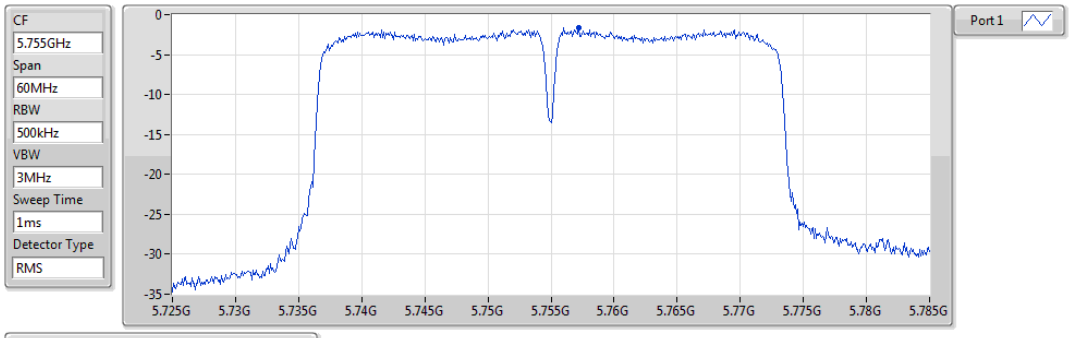
5230MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.31	-0.31	-0.31

802.11ac VHT40_Nss1,(MCS0)_1TX **PSD**

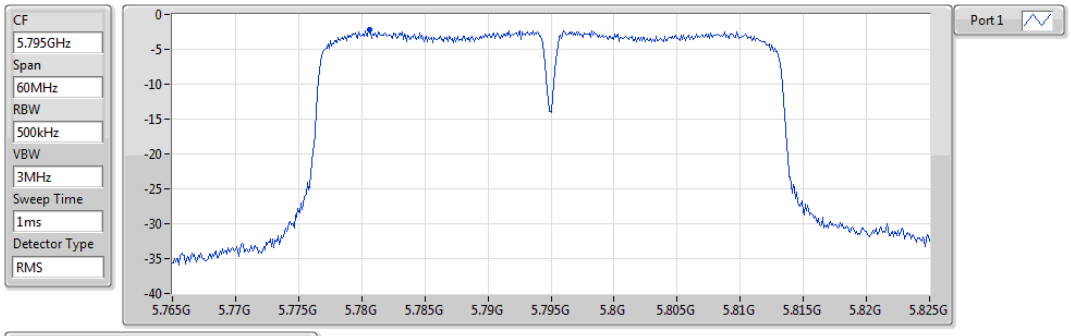
5755MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-1.65	-1.65	-1.65

802.11ac VHT40_Nss1,(MCS0)_1TX **PSD**

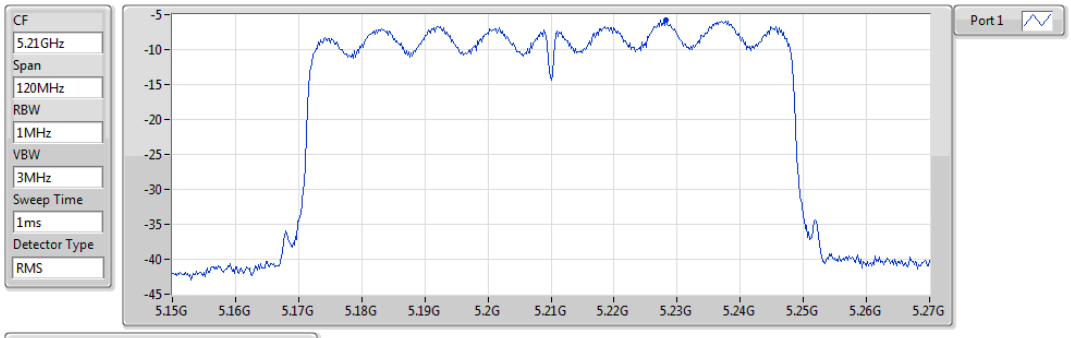
5795MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-2.18	-2.18	-2.18

802.11ac VHT80_Nss1,(MCS0)_1TX **PSD**

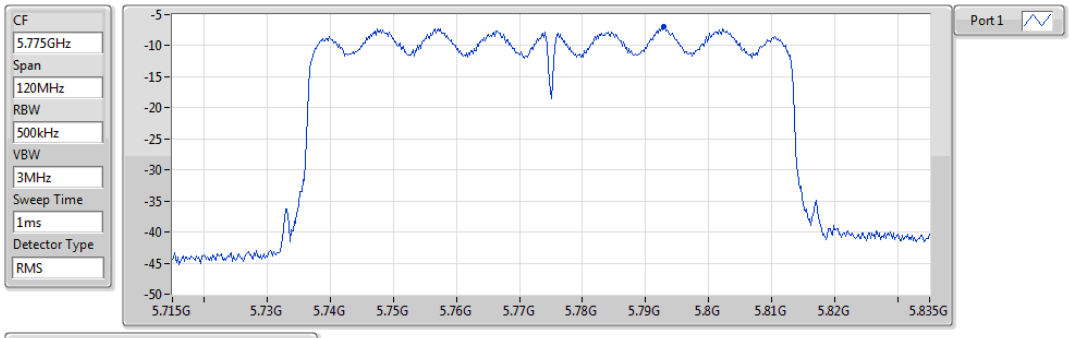
5210MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-5.79	-5.79	-5.79

802.11ac VHT80_Nss1,(MCS0)_1TX **PSD**

5775MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-6.90	-6.90	-6.90

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

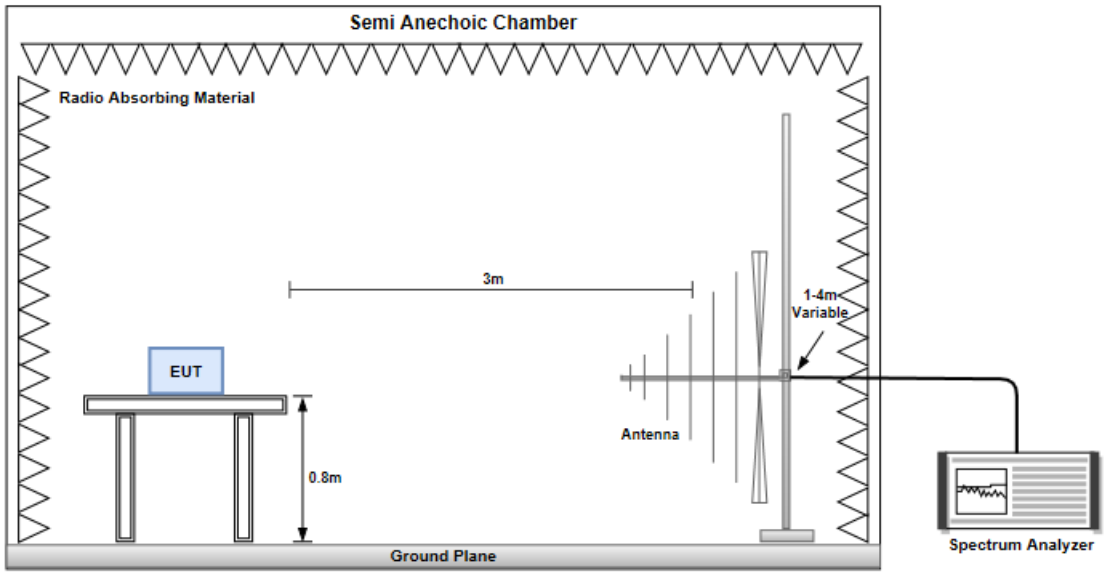
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission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

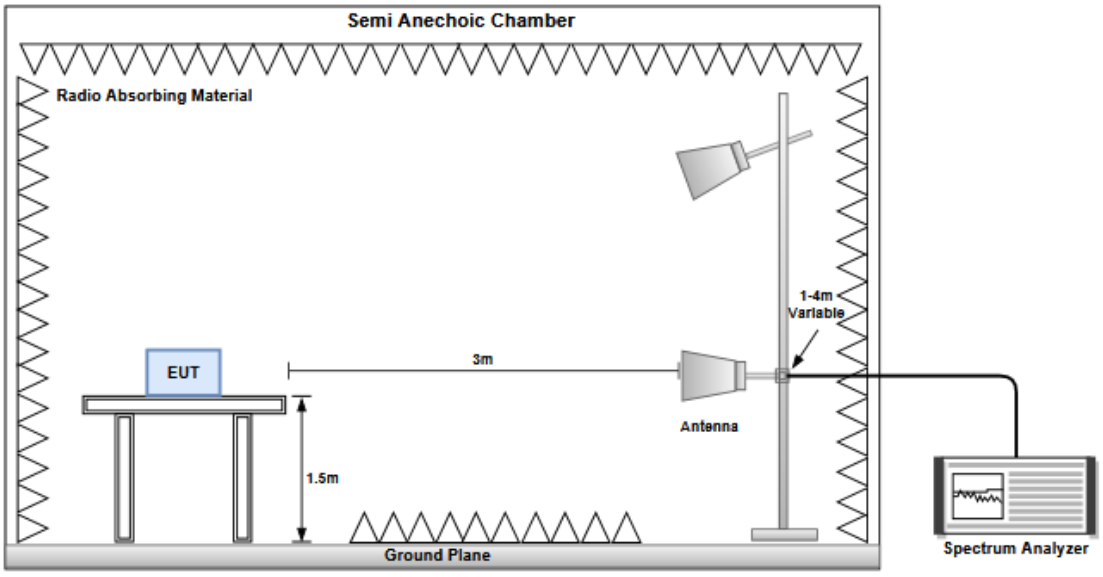
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

3.5.3 Test Setup

Radiated Emissions below 1 GHz



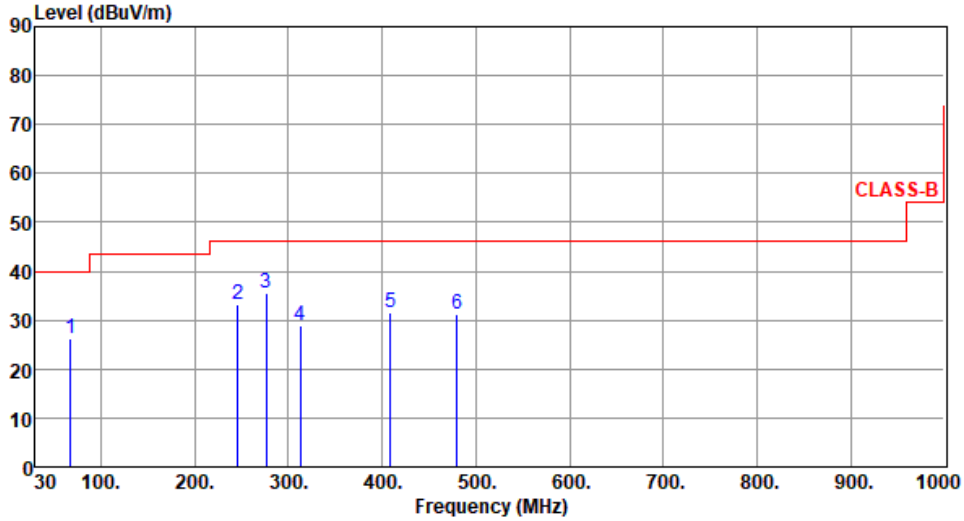
Radiated Emissions above 1 GHz



3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

Modulation	11a	Test Freq. (MHz)	5240
Polarization	Horizontal		

Test By :BRAD WU Temperature(℃):23 Humidity(%):65

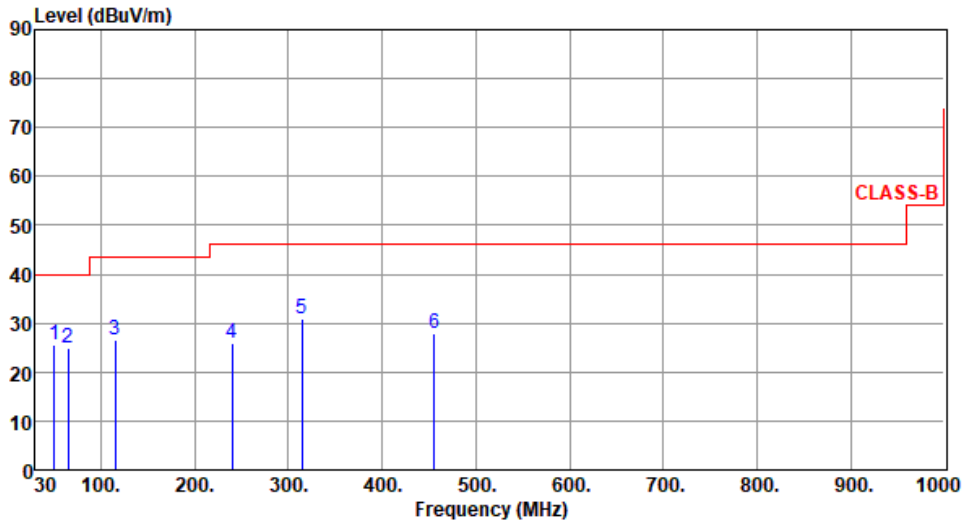


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	67.24	26.25	40.00	-13.75	36.62	-10.37	Peak	---	---
2	245.88	33.19	46.00	-12.81	43.52	-10.33	Peak	---	---
3	276.52	35.64	46.00	-10.36	44.81	-9.17	Peak	---	---
4	312.45	28.97	46.00	-17.03	37.17	-8.20	Peak	---	---
5	408.51	31.66	46.00	-14.34	37.26	-5.60	Peak	---	---
6	479.85	31.24	46.00	-14.76	34.75	-3.51	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Modulation	11a	Test Freq. (MHz)	5240
Polarization	Vertical		

Test By :BRAD WU Temperature(℃):23 Humidity(%):65

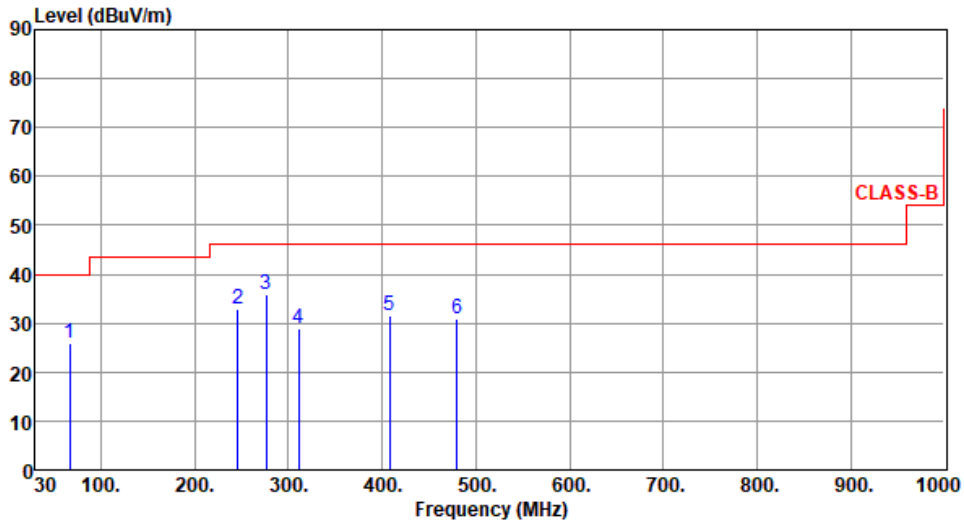


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	50.35	25.48	40.00	-14.52	34.43	-8.95	Peak	---	---
2	65.13	24.98	40.00	-15.02	35.04	-10.06	Peak	---	---
3	114.81	26.52	43.50	-16.98	38.26	-11.74	Peak	---	---
4	240.06	25.87	46.00	-20.13	36.47	-10.60	Peak	---	---
5	314.69	30.94	46.00	-15.06	39.03	-8.09	Peak	---	---
6	455.95	27.79	46.00	-18.21	31.74	-3.95	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Modulation	11a	Test Freq. (MHz)	5745
Polarization	Horizontal		

Test By :BRAD WU Temperature(℃):23 Humidity(%):65

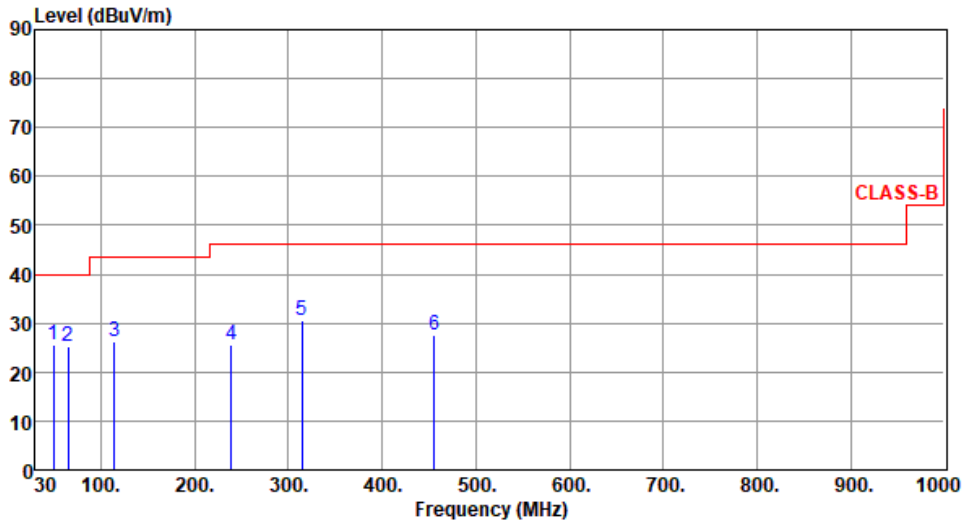


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	66.86	25.93	40.00	-14.07	36.32	-10.39	Peak	---	---
2	246.31	32.97	46.00	-13.03	43.29	-10.32	Peak	---	---
3	276.38	35.81	46.00	-10.19	44.98	-9.17	Peak	---	---
4	311.30	28.84	46.00	-17.16	37.10	-8.26	Peak	---	---
5	408.30	31.51	46.00	-14.49	37.11	-5.60	Peak	---	---
6	480.08	30.91	46.00	-15.09	34.42	-3.51	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Modulation	11a	Test Freq. (MHz)	5745
Polarization	Vertical		

Test By :BRAD WU Temperature(℃):23 Humidity(%):65



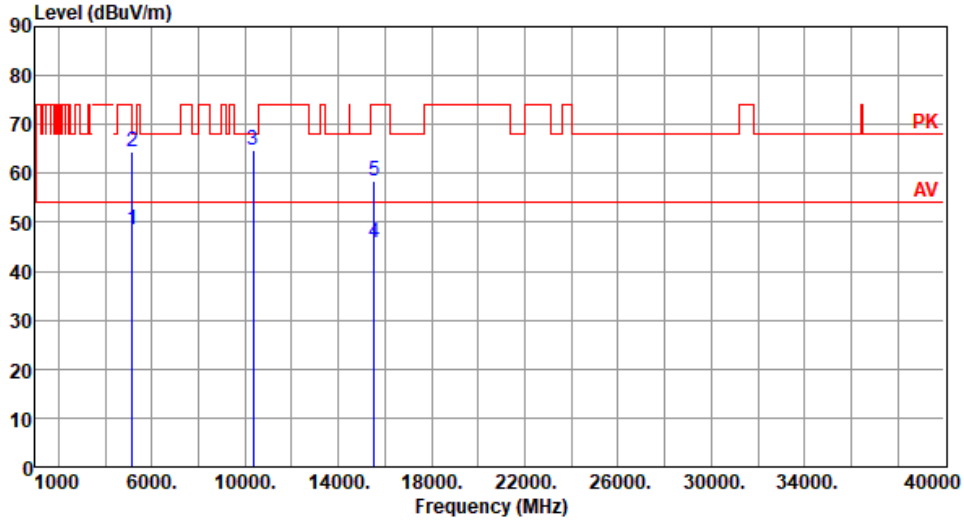
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	49.40	25.64	40.00	-14.36	34.43	-8.79	Peak	---	---
2	64.92	25.12	40.00	-14.88	35.08	-9.96	Peak	---	---
3	114.39	26.25	43.50	-17.25	37.99	-11.74	Peak	---	---
4	239.52	25.52	46.00	-20.48	36.16	-10.64	Peak	---	---
5	314.21	30.67	46.00	-15.33	38.78	-8.11	Peak	---	---
6	455.83	27.52	46.00	-18.48	31.47	-3.95	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

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

Modulation	11a	Test Freq. (MHz)	5180
Polarization	Horizontal		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

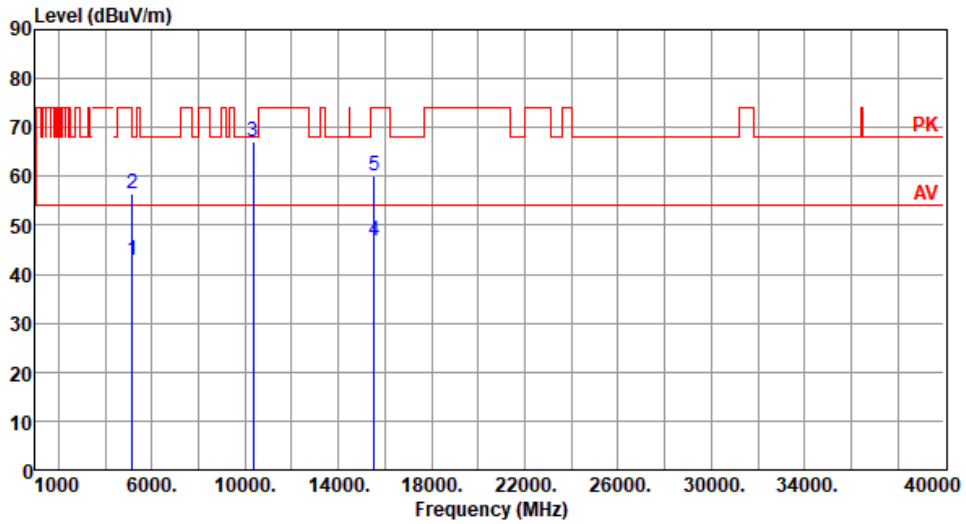


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	48.62	54.00	-5.38	42.61	6.01	Average	100	245
2	5150.00	64.33	74.00	-9.67	58.32	6.01	Peak	100	245
3	10360.00	64.86	68.20	-3.34	50.71	14.15	Peak	105	278
4	15540.00	45.74	54.00	-8.26	29.37	16.37	Average	100	14
5	15540.00	58.31	74.00	-15.69	41.94	16.37	Peak	100	14

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

Modulation	11a	Test Freq. (MHz)	5180
Polarization	Vertical		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

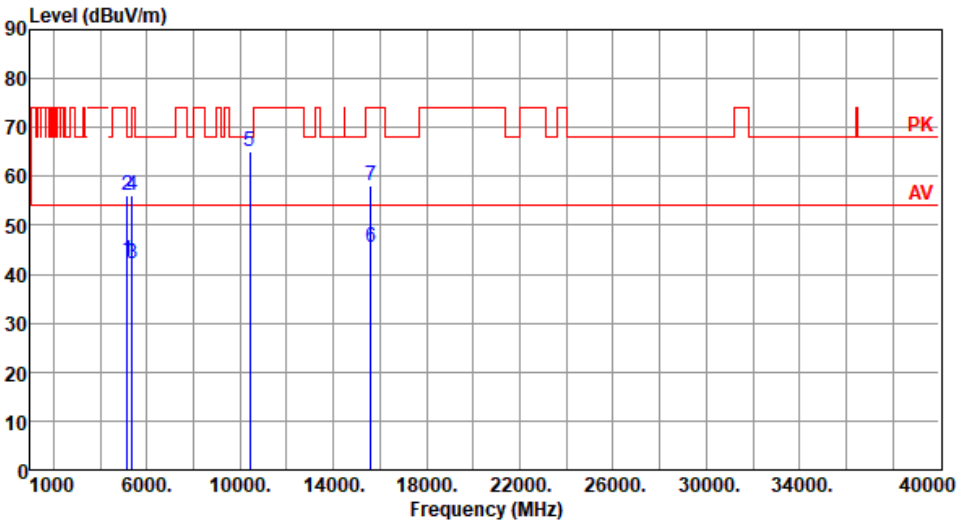


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	42.79	54.00	-11.21	36.78	6.01	Average	342	118
2	5150.00	56.35	74.00	-17.65	50.34	6.01	Peak	342	118
3	10360.00	67.10	68.20	-1.10	52.95	14.15	Peak	102	1
4	15540.00	46.92	54.00	-7.08	30.55	16.37	Average	100	18
5	15540.00	60.18	74.00	-13.82	43.81	16.37	Peak	100	18

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

Modulation	11a	Test Freq. (MHz)	5200
Polarization	Horizontal		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

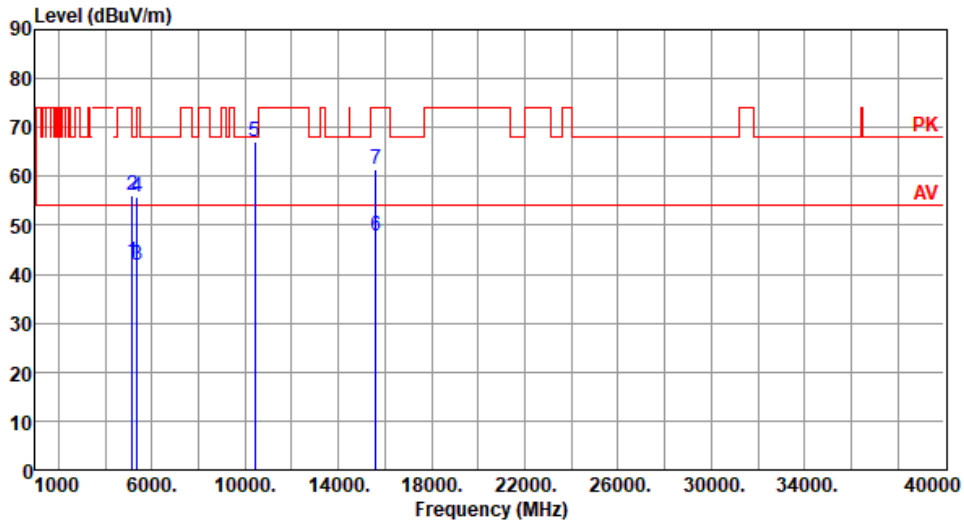


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	42.71	54.00	-11.29	36.70	6.01	Average	101	242
2	5150.00	56.11	74.00	-17.89	50.10	6.01	Peak	101	242
3	5350.00	42.02	54.00	-11.98	36.44	5.58	Average	101	242
4	5350.00	55.97	74.00	-18.03	50.39	5.58	Peak	101	242
5	10400.00	65.02	68.20	-3.18	50.66	14.36	Peak	103	275
6	15600.00	45.62	54.00	-8.38	29.37	16.25	Average	100	8
7	15600.00	58.25	74.00	-15.75	42.00	16.25	Peak	100	8

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

Modulation	11a	Test Freq. (MHz)	5200
Polarization	Vertical		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

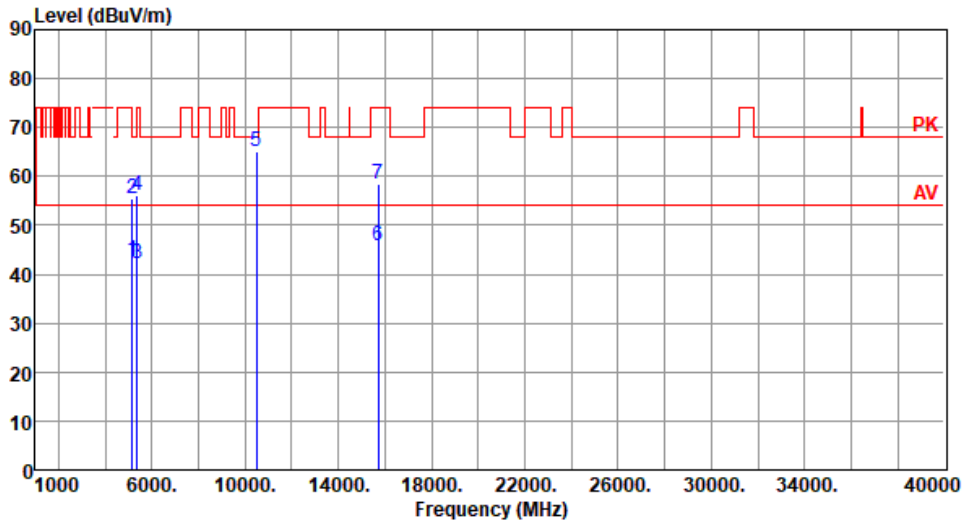


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	42.67	54.00	-11.33	36.66	6.01	Average	346	119
2	5150.00	56.09	74.00	-17.91	50.08	6.01	Peak	346	119
3	5350.00	41.80	54.00	-12.20	36.22	5.58	Average	346	119
4	5350.00	55.92	74.00	-18.08	50.34	5.58	Peak	346	119
5	10400.00	67.17	68.20	-1.03	52.81	14.36	Peak	101	2
6	15600.00	47.80	54.00	-6.20	31.55	16.25	Average	100	75
7	15600.00	61.48	74.00	-12.52	45.23	16.25	Peak	100	75

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

Modulation	11a	Test Freq. (MHz)	5240
Polarization	Horizontal		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

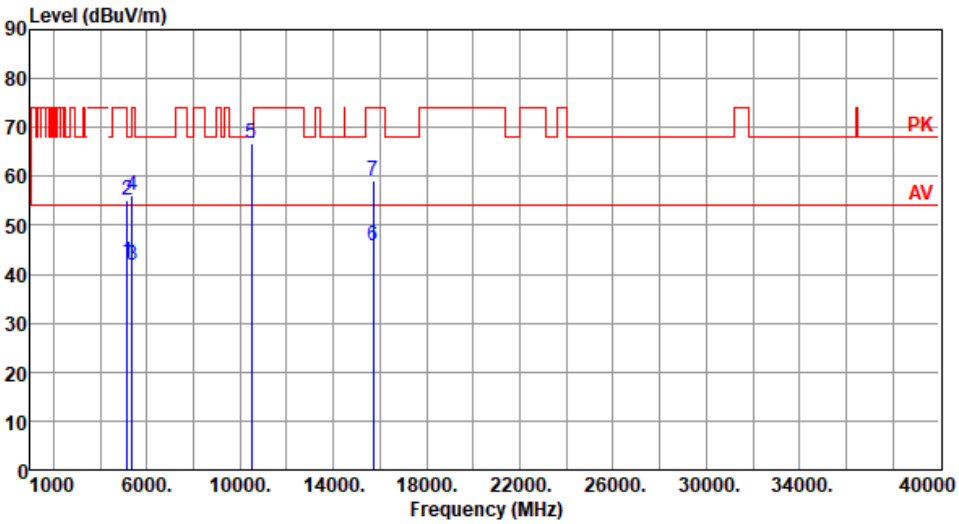


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	42.69	54.00	-11.31	36.68	6.01	Average	107	252
2	5150.00	55.52	74.00	-18.48	49.51	6.01	Peak	107	252
3	5350.00	42.10	54.00	-11.90	36.52	5.58	Average	107	252
4	5350.00	56.07	74.00	-17.93	50.49	5.58	Peak	107	252
5	10480.00	65.16	68.20	-3.04	50.62	14.54	Peak	105	268
6	15720.00	45.74	54.00	-8.26	30.17	15.57	Average	102	16
7	15720.00	58.39	74.00	-15.61	42.82	15.57	Peak	102	16

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

Modulation	11a	Test Freq. (MHz)	5240
Polarization	Vertical		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

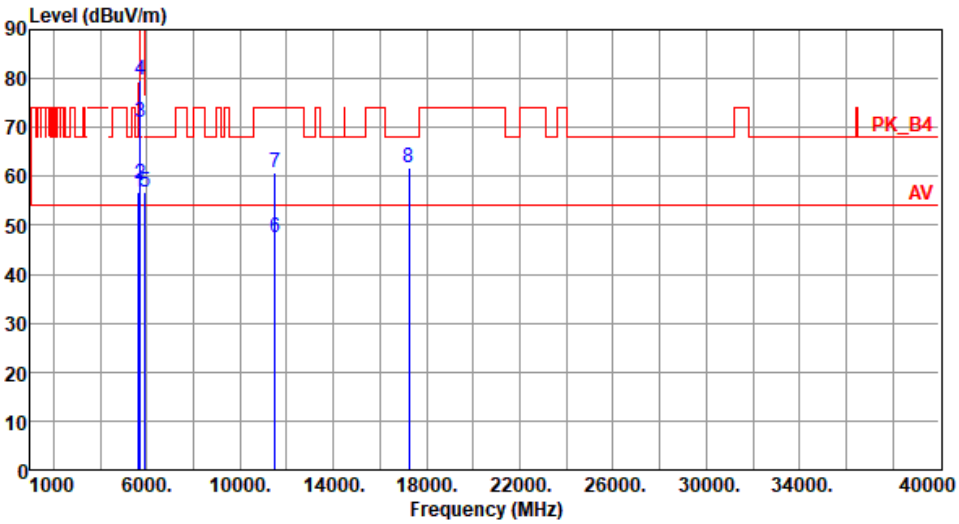


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	42.65	54.00	-11.35	36.64	6.01	Average	342	118
2	5150.00	55.24	74.00	-18.76	49.23	6.01	Peak	342	118
3	5350.00	41.83	54.00	-12.17	36.25	5.58	Average	342	118
4	5350.00	55.98	74.00	-18.02	50.40	5.58	Peak	342	118
5	10480.00	66.68	68.20	-1.52	52.14	14.54	Peak	102	3
6	15720.00	45.78	54.00	-8.22	30.21	15.57	Average	108	66
7	15720.00	59.13	74.00	-14.87	43.56	15.57	Peak	108	66

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

Modulation	11a	Test Freq. (MHz)	5745
Polarization	Horizontal		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

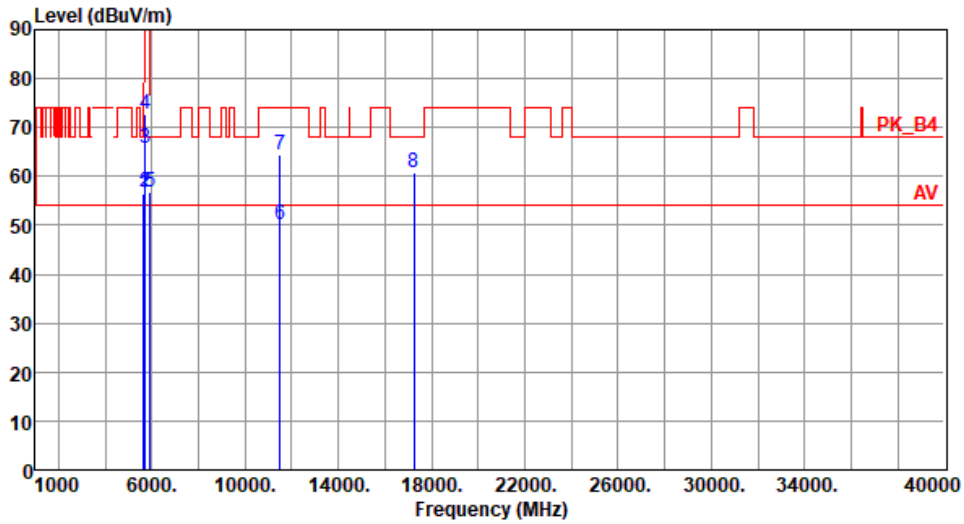


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	56.63	68.20	-11.57	50.36	6.27	Peak	108	298
2	5700.00	58.57	105.20	-46.63	52.20	6.37	Peak	108	298
3	5720.00	70.96	110.80	-39.84	64.46	6.50	Peak	108	298
4	5725.00	79.61	122.20	-42.59	73.08	6.53	Peak	108	298
5	5925.00	56.70	68.20	-11.50	49.77	6.93	Peak	108	298
6	11490.00	47.51	54.00	-6.49	32.52	14.99	Average	105	229
7	11490.00	60.84	74.00	-13.16	45.85	14.99	Peak	105	229
8	17235.00	61.74	68.20	-6.46	43.67	18.07	Peak	110	25

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

Modulation	11a	Test Freq. (MHz)	5745
Polarization	Vertical		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

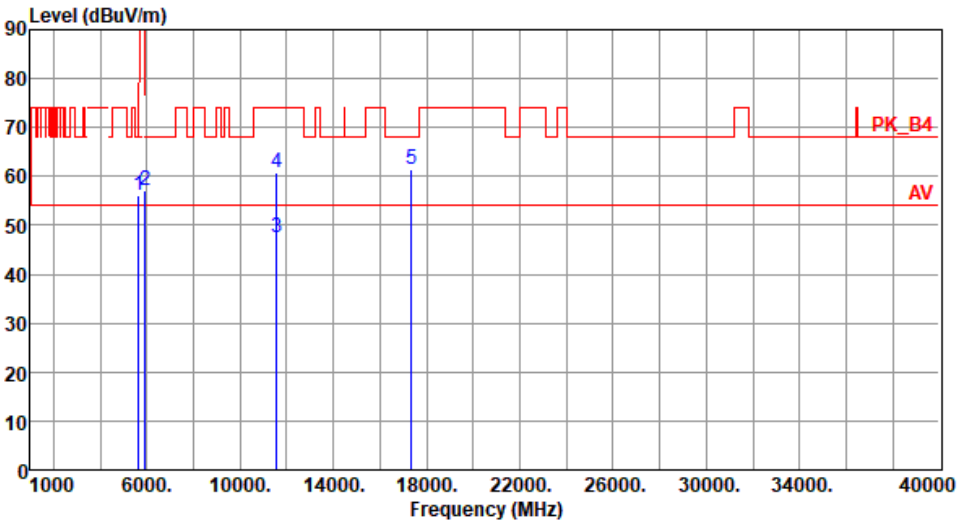


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	56.49	68.20	-11.71	50.22	6.27	Peak	325	128
2	5700.00	56.83	105.20	-48.37	50.46	6.37	Peak	325	128
3	5720.00	65.82	110.80	-44.98	59.32	6.50	Peak	325	128
4	5725.00	72.59	122.20	-49.61	66.06	6.53	Peak	325	128
5	5925.00	56.64	68.20	-11.56	49.71	6.93	Peak	325	128
6	11490.00	50.12	54.00	-3.88	35.13	14.99	Average	302	187
7	11490.00	64.50	74.00	-9.50	49.51	14.99	Peak	302	187
8	17235.00	60.68	68.20	-7.52	42.61	18.07	Peak	100	58

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

Modulation	11a	Test Freq. (MHz)	5785
Polarization	Horizontal		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

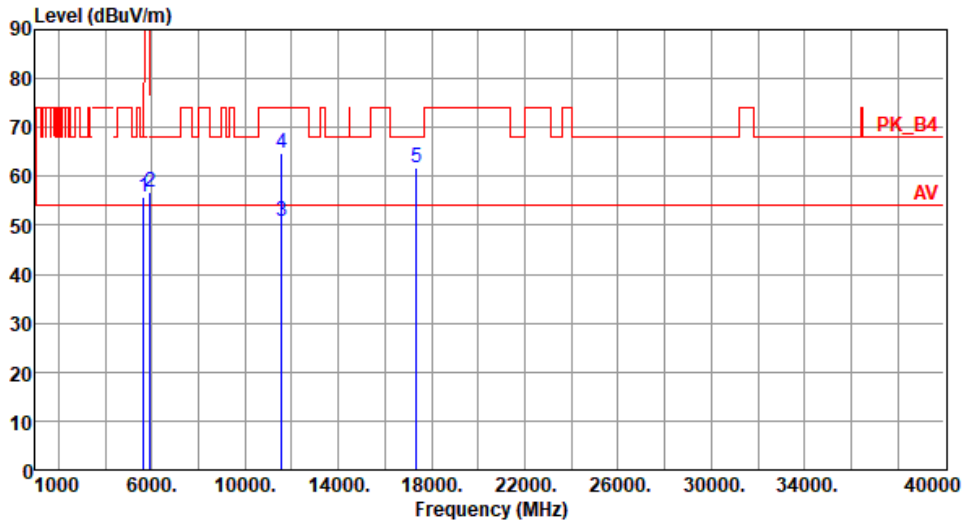


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	56.09	68.20	-12.11	49.82	6.27	Peak	108	296
2	5925.00	57.14	68.20	-11.06	50.21	6.93	Peak	108	296
3	11570.00	47.36	54.00	-6.64	32.50	14.86	Average	103	226
4	11570.00	60.69	74.00	-13.31	45.83	14.86	Peak	103	226
5	17355.00	61.60	68.20	-6.60	42.88	18.72	Peak	106	19

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

Modulation	11a	Test Freq. (MHz)	5785
Polarization	Vertical		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

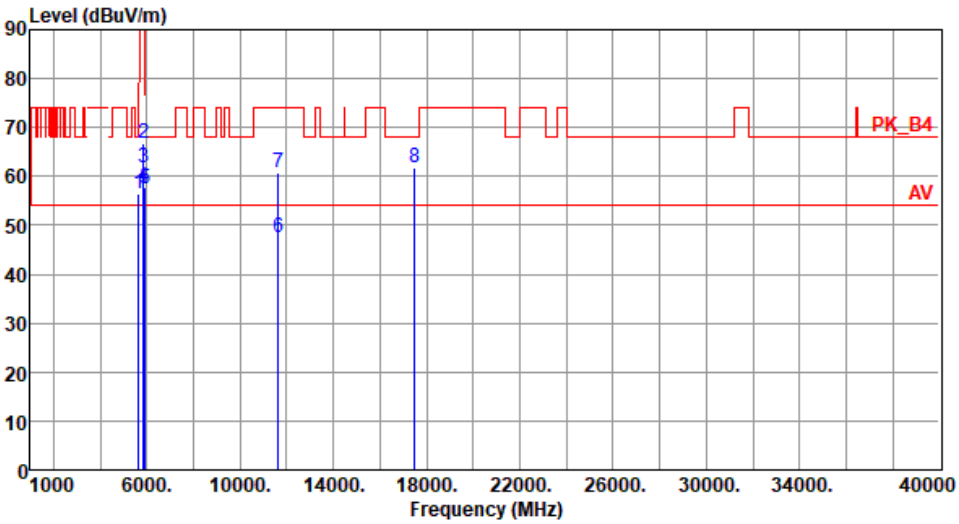


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	55.81	68.20	-12.39	49.54	6.27	Peak	329	130
2	5925.00	56.74	68.20	-11.46	49.81	6.93	Peak	329	130
3	11570.00	50.67	54.00	-3.33	35.81	14.86	Average	305	187
4	11570.00	64.85	74.00	-9.15	49.99	14.86	Peak	305	187
5	17355.00	61.87	68.20	-6.33	43.15	18.72	Peak	100	62

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

Modulation	11a	Test Freq. (MHz)	5825
Polarization	Horizontal		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

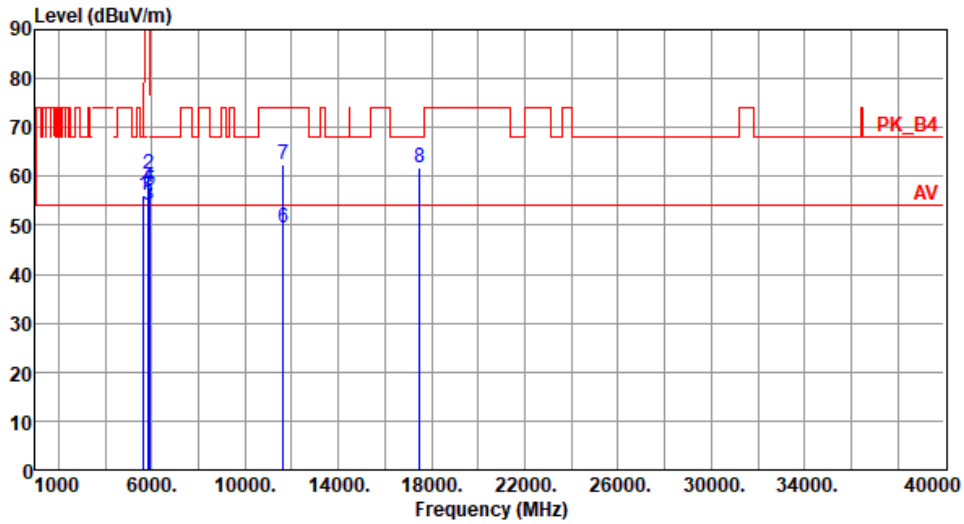


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	56.39	68.20	-11.81	50.12	6.27	Peak	109	298
2	5850.00	66.76	122.20	-55.44	59.87	6.89	Peak	109	298
3	5855.00	61.84	110.80	-48.96	54.95	6.89	Peak	109	298
4	5875.00	57.85	105.20	-47.35	50.97	6.88	Peak	109	298
5	5925.00	57.38	68.20	-10.82	50.45	6.93	Peak	109	298
6	11650.00	47.45	54.00	-6.55	32.79	14.66	Average	104	228
7	11650.00	60.84	74.00	-13.16	46.18	14.66	Peak	104	228
8	17475.00	61.72	68.20	-6.48	42.42	19.30	Peak	112	35

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

Modulation	11a	Test Freq. (MHz)	5825
Polarization	Vertical		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66



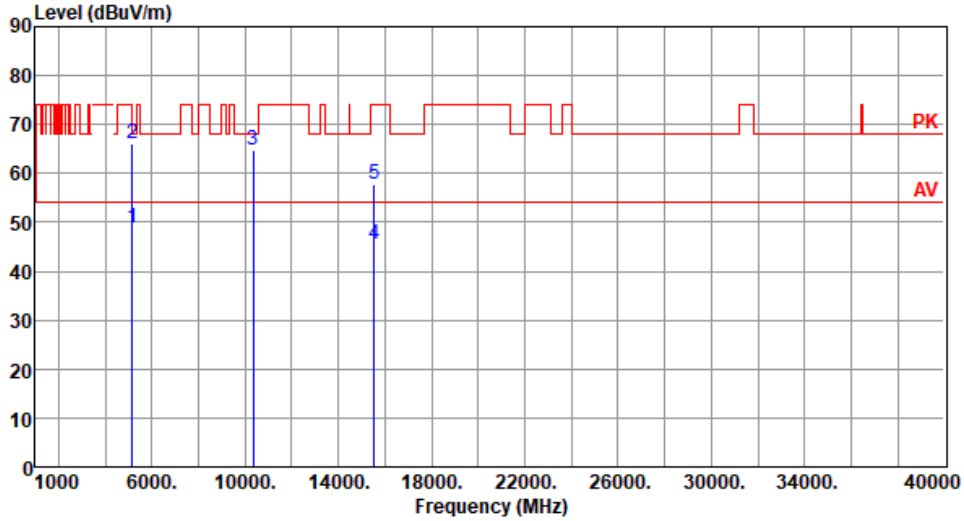
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	56.25	68.20	-11.95	49.98	6.27	Peak	324	125
2	5850.00	60.29	122.20	-61.91	53.40	6.89	Peak	324	125
3	5855.00	54.21	110.80	-56.59	47.32	6.89	Peak	324	125
4	5875.00	57.69	105.20	-47.51	50.81	6.88	Peak	324	125
5	5925.00	57.24	68.20	-10.96	50.31	6.93	Peak	324	125
6	11650.00	49.48	54.00	-4.52	34.82	14.66	Average	298	185
7	11650.00	62.51	74.00	-11.49	47.85	14.66	Peak	298	185
8	17475.00	61.65	68.20	-6.55	42.35	19.30	Peak	100	52

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

3.5.6 Transmitter Radiated Unwanted Emissions (Above 1GHz) for VHT20

Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Horizontal		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

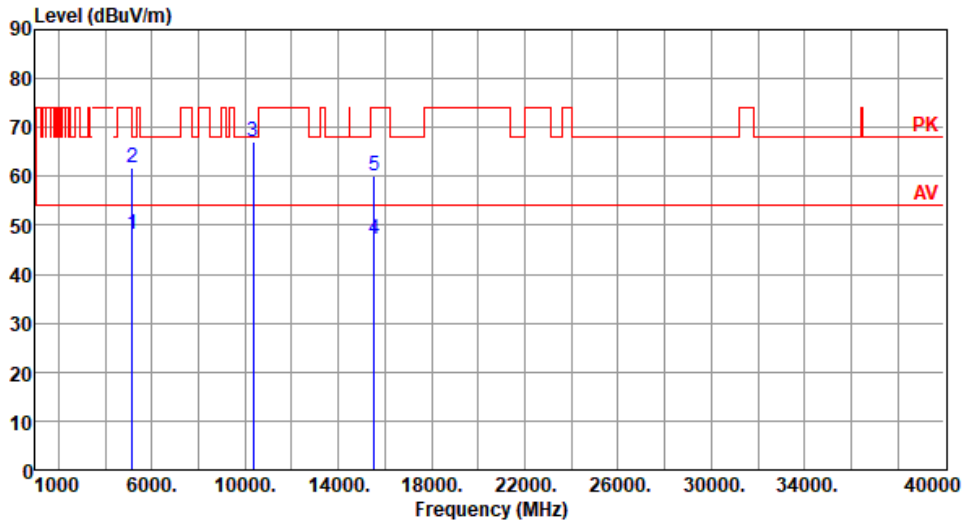


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	48.66	54.00	-5.34	42.65	6.01	Average	103	242
2	5150.00	66.13	74.00	-7.87	60.12	6.01	Peak	103	242
3	10360.00	64.59	68.20	-3.61	50.44	14.15	Peak	100	286
4	15540.00	45.61	54.00	-8.39	29.24	16.37	Average	100	280
5	15540.00	57.90	74.00	-16.10	41.53	16.37	Peak	100	280

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

Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Vertical		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

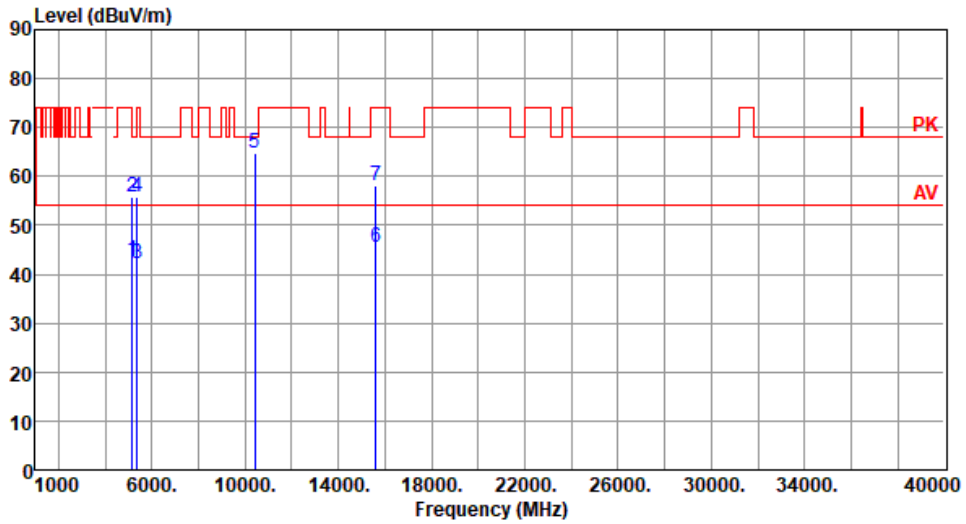


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	48.25	54.00	-5.75	42.24	6.01	Average	352	122
2	5150.00	61.89	74.00	-12.11	55.88	6.01	Peak	352	122
3	10360.00	66.95	68.20	-1.25	52.80	14.15	Peak	103	5
4	15540.00	47.14	54.00	-6.86	30.77	16.37	Average	100	25
5	15540.00	60.25	74.00	-13.75	43.88	16.37	Peak	100	25

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

Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Horizontal		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

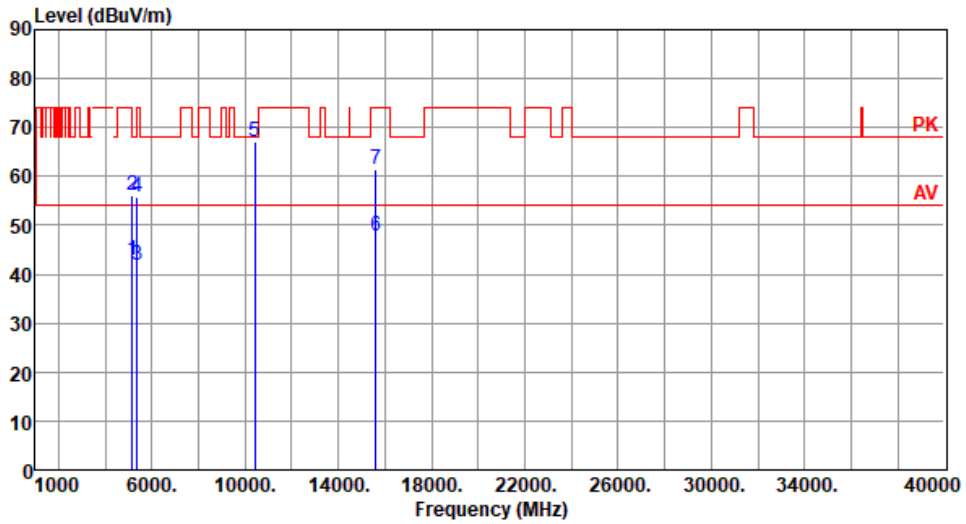


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	42.92	54.00	-11.08	36.91	6.01	Average	102	242
2	5150.00	55.75	74.00	-18.25	49.74	6.01	Peak	102	242
3	5350.00	42.16	54.00	-11.84	36.58	5.58	Average	102	242
4	5350.00	55.70	74.00	-18.30	50.12	5.58	Peak	102	242
5	10400.00	64.86	68.20	-3.34	50.50	14.36	Peak	105	281
6	15600.00	45.54	54.00	-8.46	29.29	16.25	Average	102	11
7	15600.00	58.19	74.00	-15.81	41.94	16.25	Peak	102	11

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

Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Vertical		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

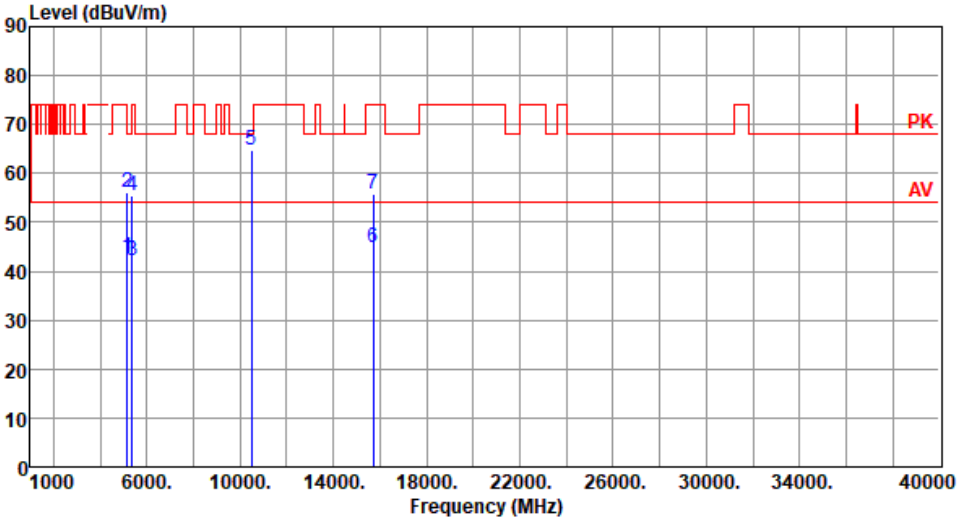


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	42.81	54.00	-11.19	36.80	6.01	Average	345	116
2	5150.00	56.14	74.00	-17.86	50.13	6.01	Peak	345	116
3	5350.00	41.95	54.00	-12.05	36.37	5.58	Average	345	116
4	5350.00	55.86	74.00	-18.14	50.28	5.58	Peak	345	116
5	10400.00	66.95	68.20	-1.25	52.59	14.36	Peak	110	6
6	15600.00	47.69	54.00	-6.31	31.44	16.25	Average	105	81
7	15600.00	61.44	74.00	-12.56	45.19	16.25	Peak	105	81

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

Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Horizontal		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

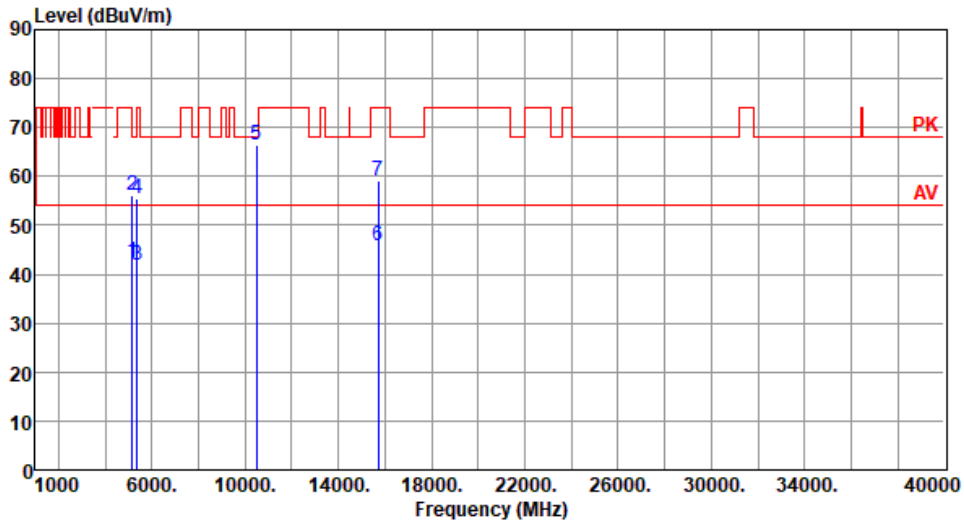


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	42.82	54.00	-11.18	36.81	6.01	Average	105	243
2	5150.00	56.03	74.00	-17.97	50.02	6.01	Peak	105	243
3	5350.00	42.32	54.00	-11.68	36.74	5.58	Average	105	243
4	5350.00	55.53	74.00	-18.47	49.95	5.58	Peak	105	243
5	10480.00	64.68	68.20	-3.52	50.14	14.54	Peak	100	286
6	15720.00	44.90	54.00	-9.10	29.33	15.57	Average	100	292
7	15720.00	55.75	74.00	-18.25	40.18	15.57	Peak	100	292

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

Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Vertical		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

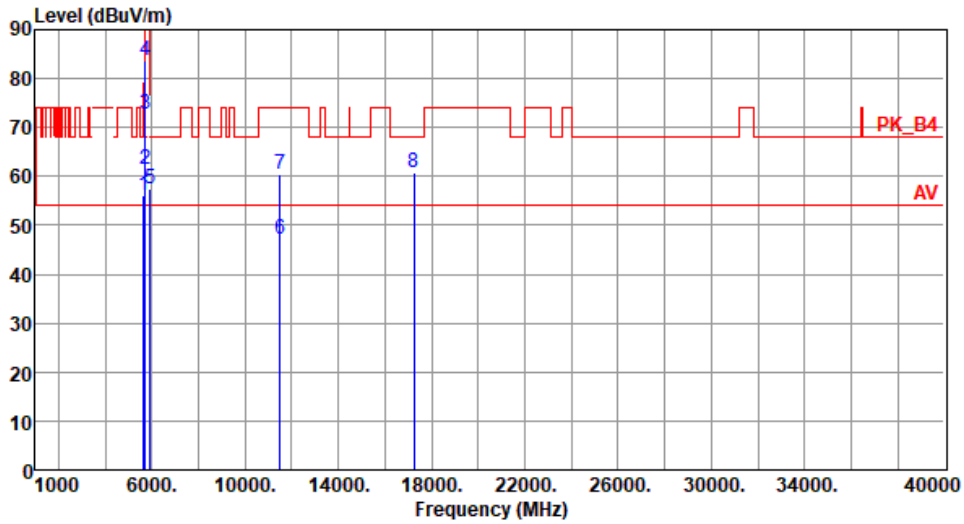


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	42.55	54.00	-11.45	36.54	6.01	Average	356	123
2	5150.00	56.06	74.00	-17.94	50.05	6.01	Peak	356	123
3	5350.00	41.69	54.00	-12.31	36.11	5.58	Average	356	123
4	5350.00	55.58	74.00	-18.42	50.00	5.58	Peak	356	123
5	10480.00	66.52	68.20	-1.68	51.98	14.54	Peak	108	9
6	15720.00	45.81	54.00	-8.19	30.24	15.57	Average	110	61
7	15720.00	59.22	74.00	-14.78	43.65	15.57	Peak	110	61

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

Modulation	VHT20	Test Freq. (MHz)	5745
Polarization	Horizontal		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

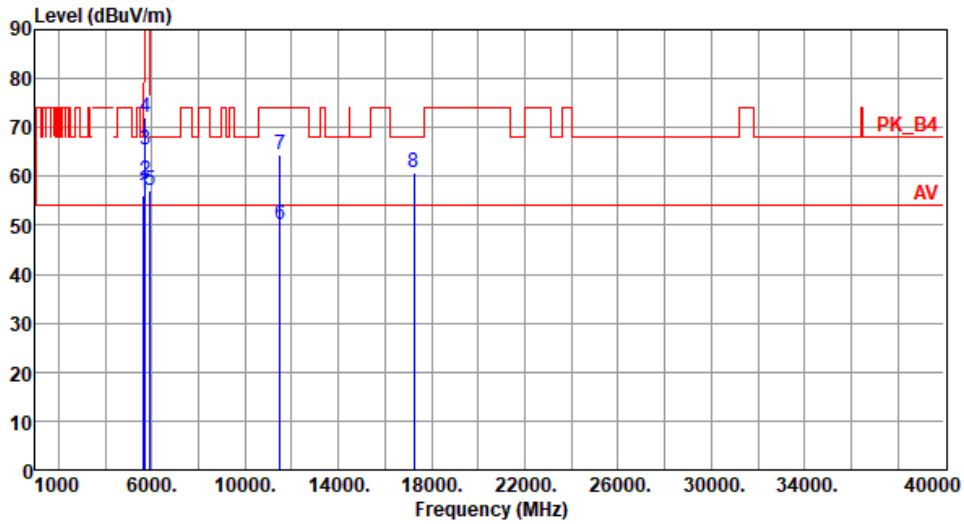


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	56.29	68.20	-11.91	50.02	6.27	Peak	105	296
2	5700.00	61.46	105.20	-43.74	55.09	6.37	Peak	105	296
3	5720.00	72.78	110.80	-38.02	66.28	6.50	Peak	105	296
4	5725.00	83.54	122.20	-38.66	77.01	6.53	Peak	105	296
5	5925.00	57.58	68.20	-10.62	50.65	6.93	Peak	105	296
6	11490.00	47.24	54.00	-6.76	32.25	14.99	Average	100	227
7	11490.00	60.59	74.00	-13.41	45.60	14.99	Peak	100	227
8	17235.00	60.61	68.20	-7.59	42.54	18.07	Peak	100	223

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

Modulation	VHT20	Test Freq. (MHz)	5745
Polarization	Vertical		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

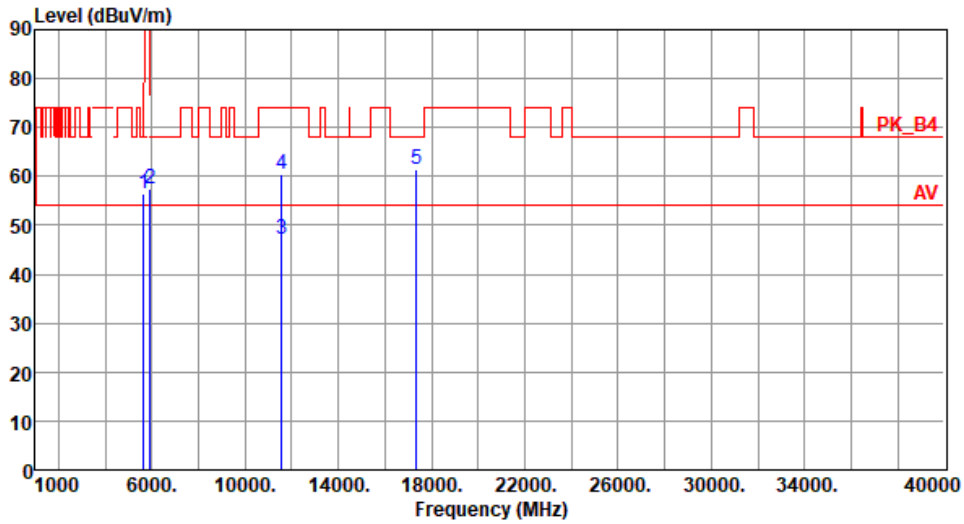


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	56.27	68.20	-11.93	50.00	6.27	Peak	333	323
2	5700.00	59.22	105.20	-45.98	52.85	6.37	Peak	333	323
3	5720.00	65.34	110.80	-45.46	58.84	6.50	Peak	333	323
4	5725.00	72.15	122.20	-50.05	65.62	6.53	Peak	333	323
5	5925.00	57.13	68.20	-11.07	50.20	6.93	Peak	333	323
6	11490.00	50.25	54.00	-3.75	35.26	14.99	Average	303	186
7	11490.00	64.58	74.00	-9.42	49.59	14.99	Peak	303	186
8	17235.00	60.62	68.20	-7.58	42.55	18.07	Peak	106	43

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

Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Horizontal		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

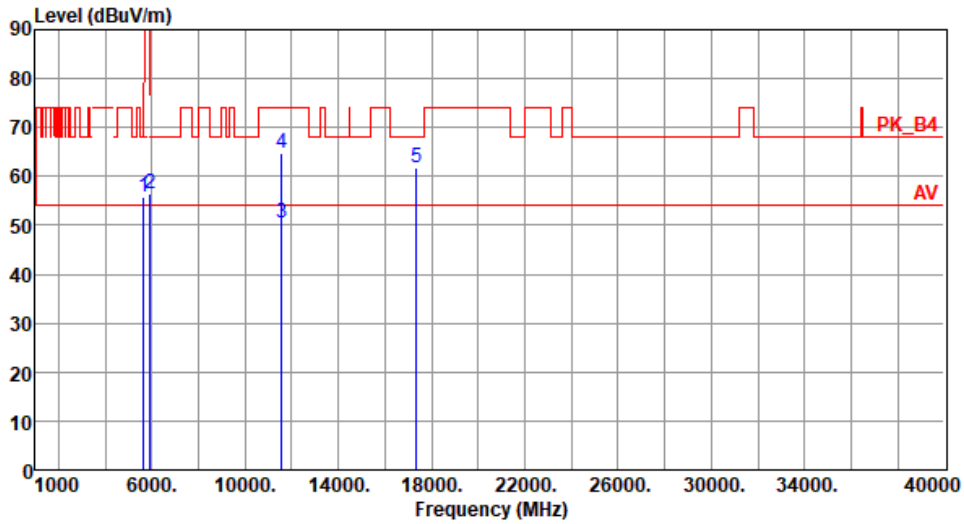


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	56.39	68.20	-11.81	50.12	6.27	Peak	101	300
2	5925.00	57.34	68.20	-10.86	50.41	6.93	Peak	101	300
3	11570.00	47.29	54.00	-6.71	32.43	14.86	Average	109	228
4	11570.00	60.58	74.00	-13.42	45.72	14.86	Peak	109	228
5	17355.00	61.52	68.20	-6.68	42.80	18.72	Peak	102	23

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

Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Vertical		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

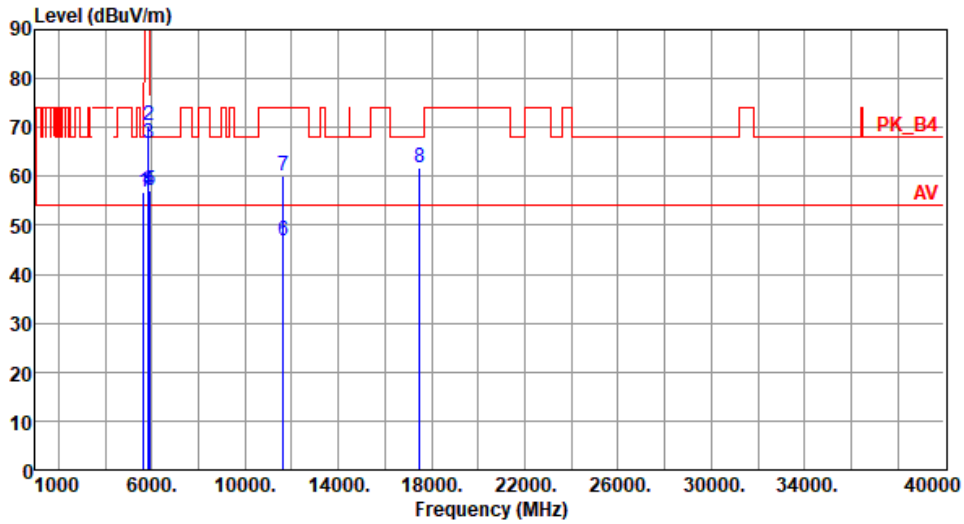


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	55.86	68.20	-12.34	49.59	6.27	Peak	328	131
2	5925.00	56.62	68.20	-11.58	49.69	6.93	Peak	328	131
3	11570.00	50.58	54.00	-3.42	35.72	14.86	Average	301	194
4	11570.00	64.72	74.00	-9.28	49.86	14.86	Peak	301	194
5	17355.00	61.92	68.20	-6.28	43.20	18.72	Peak	110	46

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

Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Horizontal		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

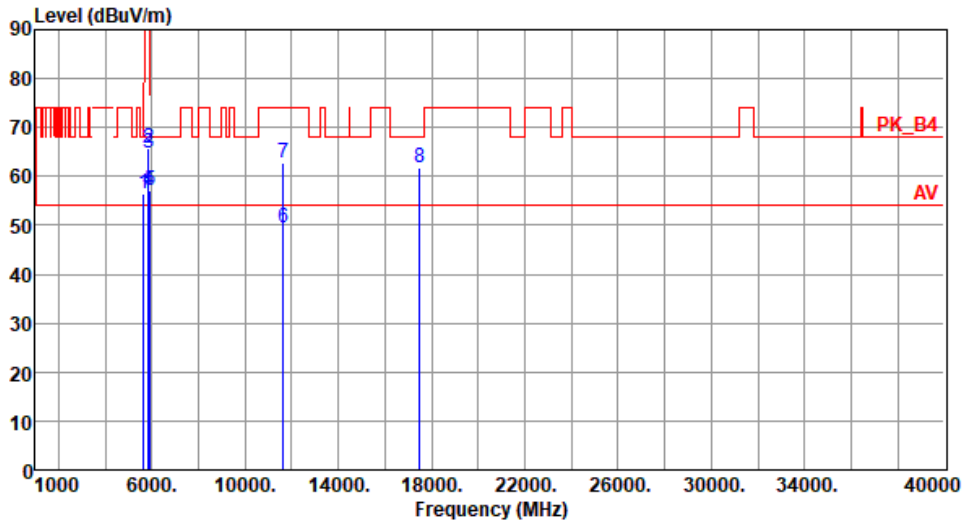


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	56.72	68.20	-11.48	50.45	6.27	Peak	102	299
2	5850.00	70.30	122.20	-51.90	63.41	6.89	Peak	102	299
3	5855.00	66.70	110.80	-44.10	59.81	6.89	Peak	102	299
4	5875.00	57.10	105.20	-48.10	50.22	6.88	Peak	102	299
5	5925.00	57.09	68.20	-11.11	50.16	6.93	Peak	102	299
6	11650.00	46.76	54.00	-7.24	32.10	14.66	Average	100	226
7	11650.00	60.11	74.00	-13.89	45.45	14.66	Peak	100	226
8	17475.00	61.80	68.20	-6.40	42.50	19.30	Peak	100	222

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

Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Vertical		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66



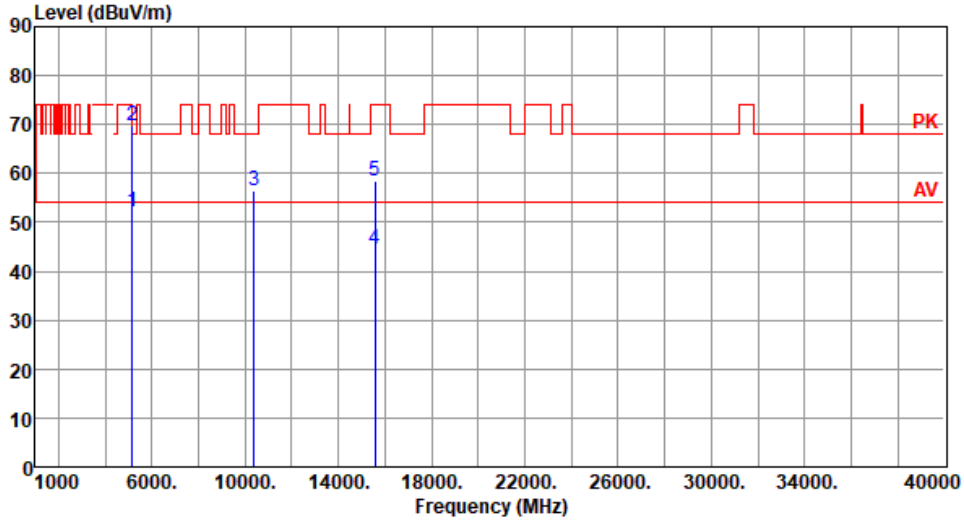
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	56.52	68.20	-11.68	50.25	6.27	Peak	354	325
2	5850.00	65.89	122.20	-56.31	59.00	6.89	Peak	354	325
3	5855.00	64.89	110.80	-45.91	58.00	6.89	Peak	354	325
4	5875.00	57.09	105.20	-48.11	50.21	6.88	Peak	354	325
5	5925.00	57.04	68.20	-11.16	50.11	6.93	Peak	354	325
6	11650.00	49.56	54.00	-4.44	34.90	14.66	Average	295	196
7	11650.00	62.64	74.00	-11.36	47.98	14.66	Peak	295	196
8	17475.00	61.86	68.20	-6.34	42.56	19.30	Peak	103	41

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

3.5.7 Transmitter Radiated Unwanted Emissions (Above 1GHz) for VHT40

Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Horizontal		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

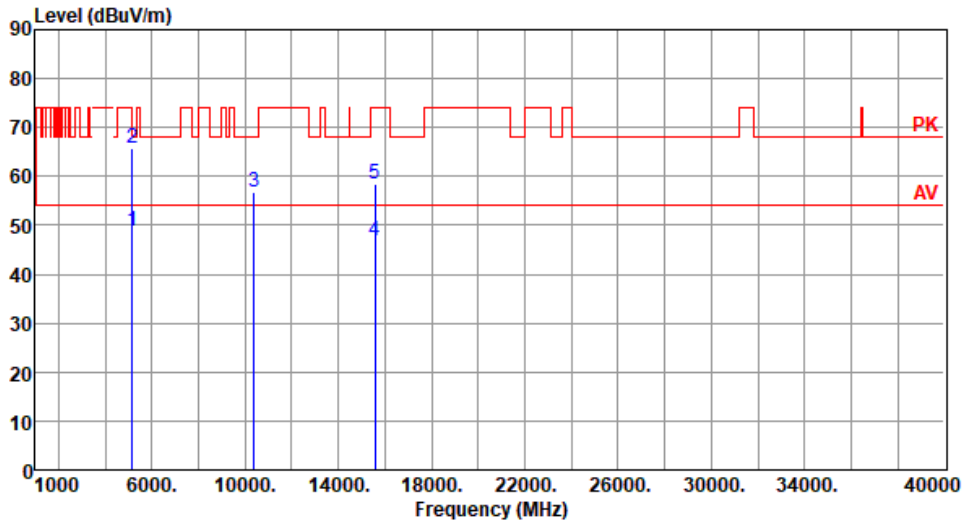


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.20	54.00	-1.80	46.19	6.01	Average	101	243
2	5150.00	69.82	74.00	-4.18	63.81	6.01	Peak	101	243
3	10380.00	56.54	68.20	-11.66	42.28	14.26	Peak	100	286
4	15570.00	44.54	54.00	-9.46	28.23	16.31	Average	100	287
5	15570.00	58.59	74.00	-15.41	42.28	16.31	Peak	100	287

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

Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Vertical		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

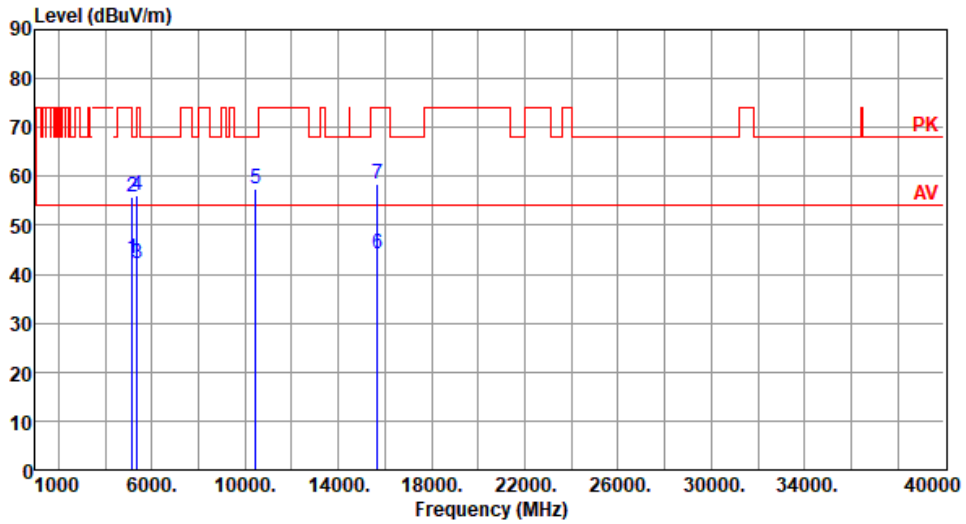


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	48.69	54.00	-5.31	42.68	6.01	Average	341	106
2	5150.00	65.91	74.00	-8.09	59.90	6.01	Peak	341	106
3	10380.00	56.81	68.20	-11.39	42.55	14.26	Peak	100	7
4	15570.00	46.97	54.00	-7.03	30.66	16.31	Average	100	8
5	15570.00	58.59	74.00	-15.41	42.28	16.31	Peak	100	8

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

Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Horizontal		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

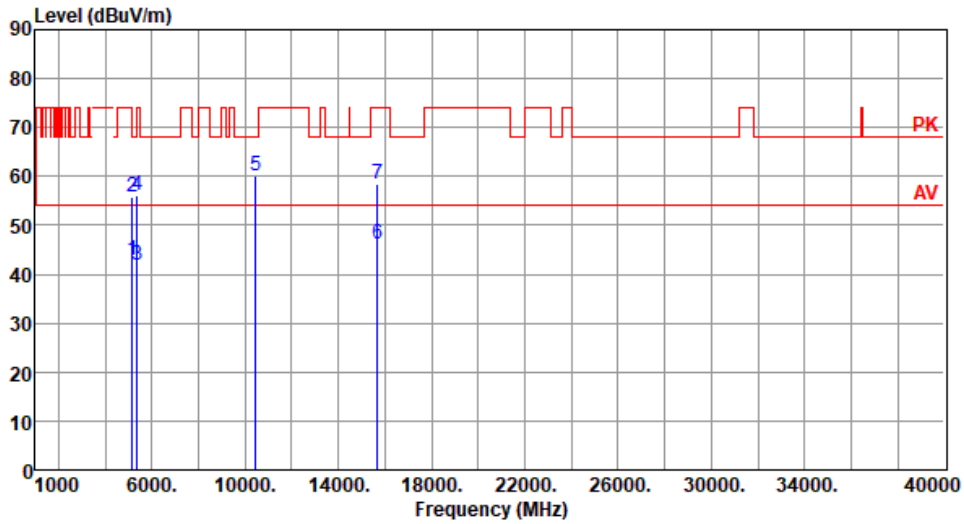


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	43.07	54.00	-10.93	37.06	6.01	Average	114	244
2	5150.00	55.93	74.00	-18.07	49.92	6.01	Peak	114	244
3	5350.00	42.24	54.00	-11.76	36.66	5.58	Average	114	244
4	5350.00	56.06	74.00	-17.94	50.48	5.58	Peak	114	244
5	10460.00	57.50	68.20	-10.70	43.00	14.50	Peak	100	286
6	15690.00	44.09	54.00	-9.91	28.44	15.65	Average	100	287
7	15690.00	58.51	74.00	-15.49	42.86	15.65	Peak	100	287

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

Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Vertical		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

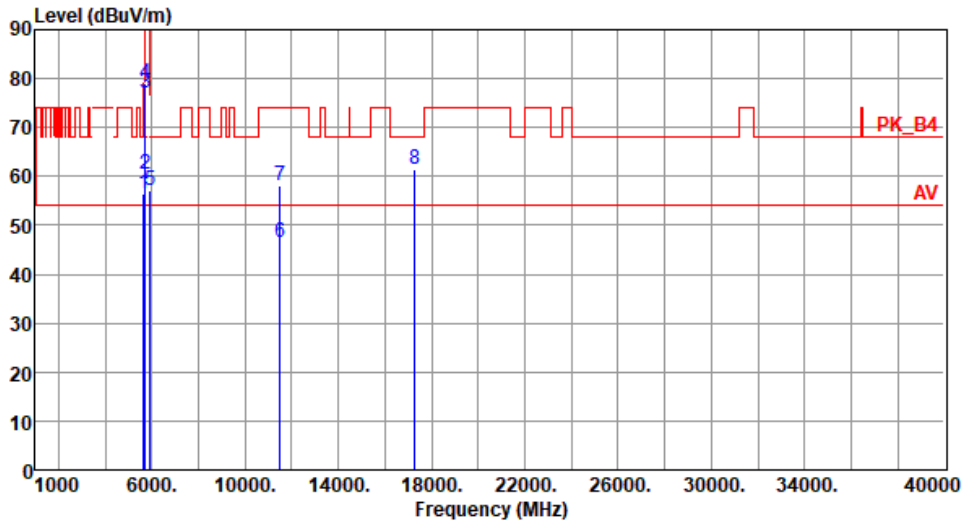


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	42.81	54.00	-11.19	36.80	6.01	Average	346	111
2	5150.00	55.69	74.00	-18.31	49.68	6.01	Peak	346	111
3	5350.00	41.85	54.00	-12.15	36.27	5.58	Average	346	111
4	5350.00	55.96	74.00	-18.04	50.38	5.58	Peak	346	111
5	10460.00	60.00	68.20	-8.20	45.50	14.50	Peak	101	8
6	15690.00	46.31	54.00	-7.69	30.66	15.65	Average	100	80
7	15690.00	58.45	74.00	-15.55	42.80	15.65	Peak	100	80

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

Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Horizontal		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

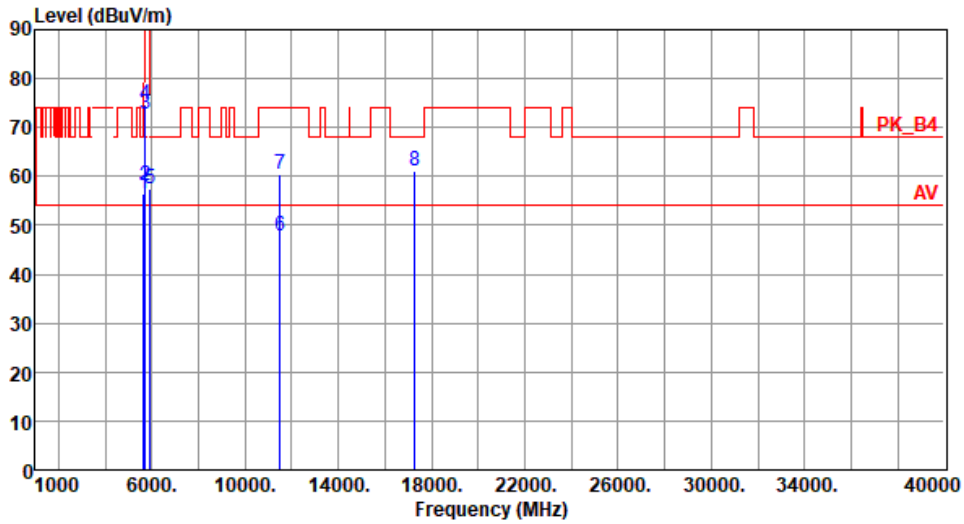


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	56.35	68.20	-11.85	50.08	6.27	Peak	102	296
2	5700.00	60.60	105.20	-44.60	54.23	6.37	Peak	102	296
3	5720.00	77.19	110.80	-33.61	70.69	6.50	Peak	102	296
4	5725.00	79.20	122.20	-43.00	72.67	6.53	Peak	102	296
5	5925.00	57.19	68.20	-11.01	50.26	6.93	Peak	102	296
6	11510.00	46.47	54.00	-7.53	31.50	14.97	Average	100	227
7	11510.00	58.23	74.00	-15.77	43.26	14.97	Peak	100	227
8	17265.00	61.50	68.20	-6.70	43.25	18.25	Peak	100	224

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

Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Vertical		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

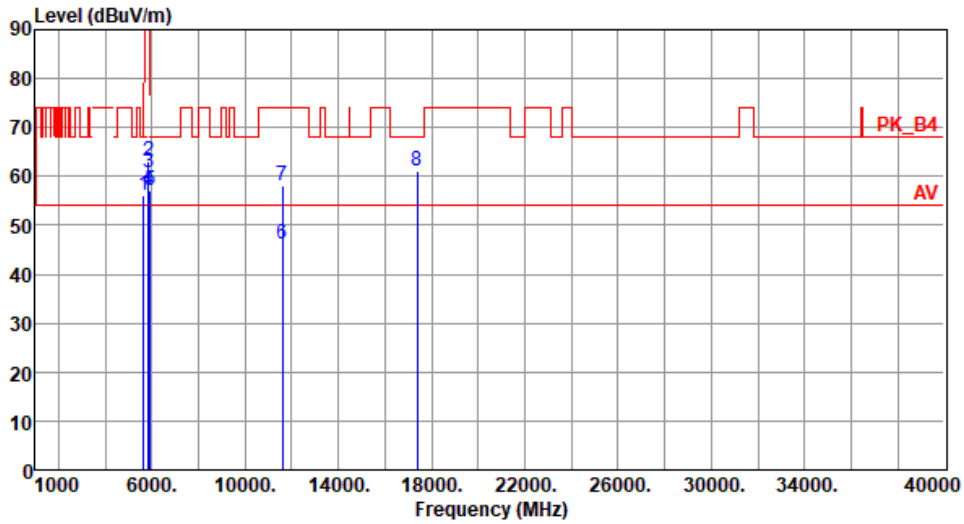


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	56.61	68.20	-11.59	50.34	6.27	Peak	314	101
2	5700.00	58.14	105.20	-47.06	51.77	6.37	Peak	314	101
3	5720.00	72.82	110.80	-37.98	66.32	6.50	Peak	314	101
4	5725.00	74.88	122.20	-47.32	68.35	6.53	Peak	314	101
5	5925.00	57.36	68.20	-10.84	50.43	6.93	Peak	314	101
6	11510.00	47.84	54.00	-6.16	32.87	14.97	Average	300	194
7	11510.00	60.48	74.00	-13.52	45.51	14.97	Peak	300	194
8	17265.00	61.05	68.20	-7.15	42.80	18.25	Peak	100	50

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

Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Horizontal		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

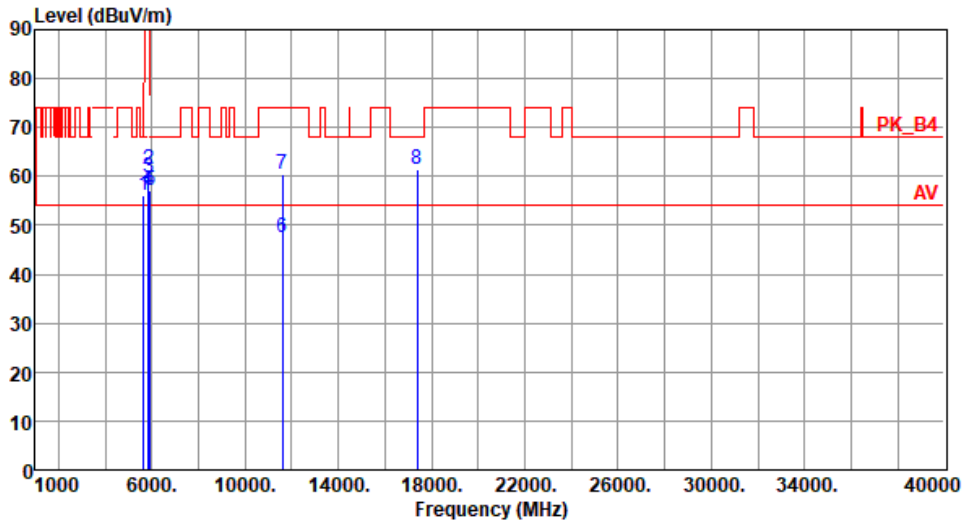


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	56.29	68.20	-11.91	50.02	6.27	Peak	100	296
2	5850.00	63.24	122.20	-58.96	56.35	6.89	Peak	100	296
3	5855.00	60.88	110.80	-49.92	53.99	6.89	Peak	100	296
4	5875.00	57.18	105.20	-48.02	50.30	6.88	Peak	100	296
5	5925.00	57.07	68.20	-11.13	50.14	6.93	Peak	100	296
6	11590.00	46.12	54.00	-7.88	31.29	14.83	Average	100	288
7	11590.00	58.07	74.00	-15.93	43.24	14.83	Peak	100	288
8	17385.00	61.12	68.20	-7.08	42.26	18.86	Peak	100	287

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

Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Vertical		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66



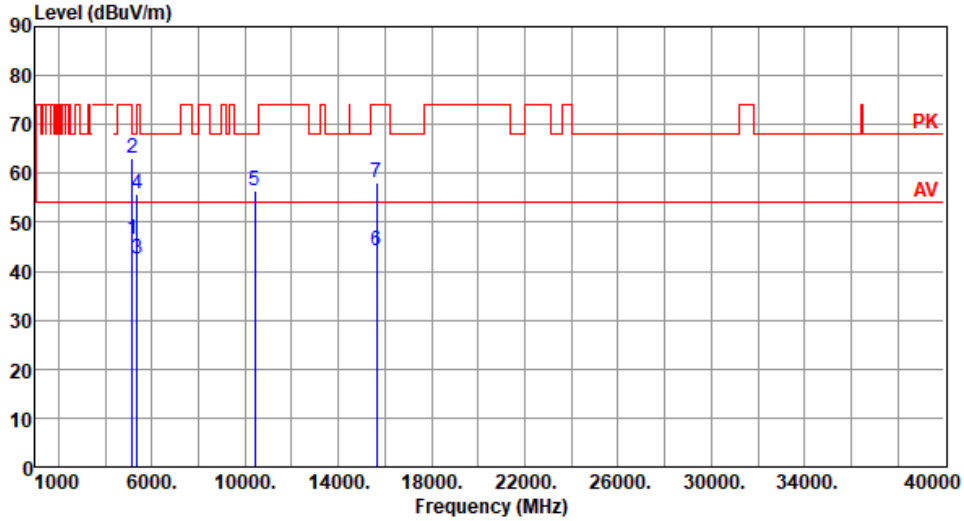
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	56.28	68.20	-11.92	50.01	6.27	Peak	357	327
2	5850.00	61.58	122.20	-60.62	54.69	6.89	Peak	357	327
3	5855.00	59.74	110.80	-51.06	52.85	6.89	Peak	357	327
4	5875.00	57.04	105.20	-48.16	50.16	6.88	Peak	357	327
5	5925.00	56.99	68.20	-11.21	50.06	6.93	Peak	357	327
6	11590.00	47.43	54.00	-6.57	32.60	14.83	Average	306	196
7	11590.00	60.43	74.00	-13.57	45.60	14.83	Peak	306	196
8	17385.00	61.53	68.20	-6.67	42.67	18.86	Peak	100	49

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

3.5.8 Transmitter Radiated Unwanted Emissions (Above 1GHz) for VHT80

Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Horizontal		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

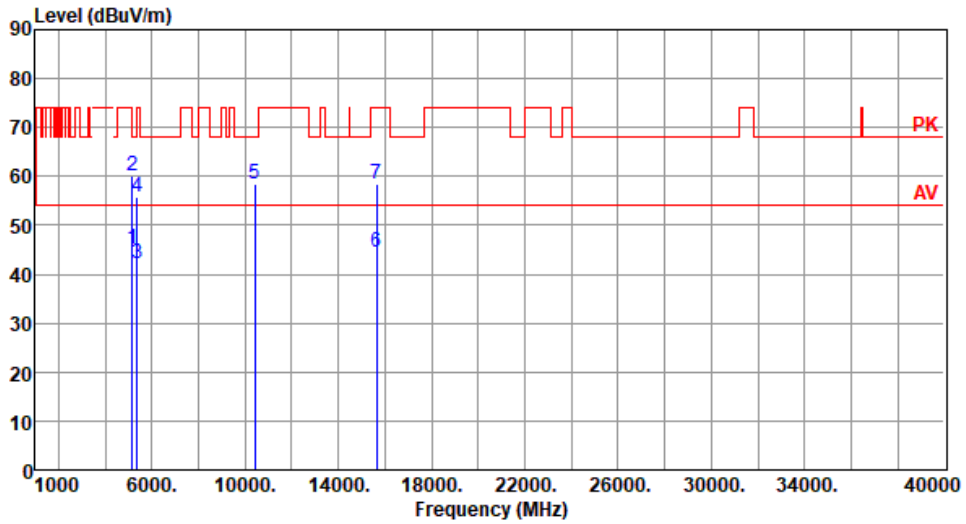


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.37	54.00	-7.63	40.36	6.01	Average	101	244
2	5150.00	63.25	74.00	-10.75	57.24	6.01	Peak	101	244
3	5350.00	42.43	54.00	-11.57	36.85	5.58	Average	101	244
4	5350.00	55.74	74.00	-18.26	50.16	5.58	Peak	101	244
5	10420.00	56.41	68.20	-11.79	42.00	14.41	Peak	100	289
6	15630.00	44.23	54.00	-9.77	28.18	16.05	Average	100	287
7	15630.00	58.15	74.00	-15.85	42.10	16.05	Peak	100	287

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

Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Vertical		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

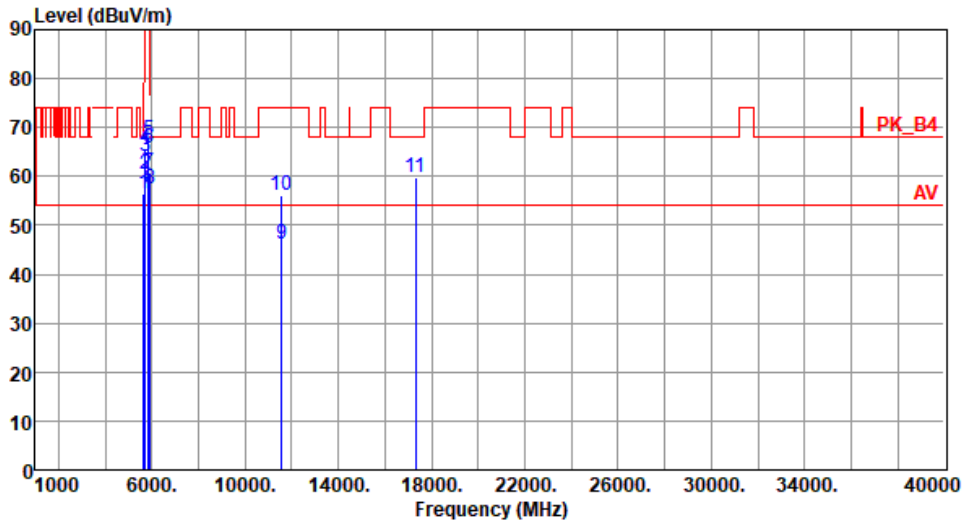


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	45.08	54.00	-8.92	39.07	6.01	Average	294	109
2	5150.00	60.22	74.00	-13.78	54.21	6.01	Peak	294	109
3	5350.00	42.10	54.00	-11.90	36.52	5.58	Average	294	109
4	5350.00	55.70	74.00	-18.30	50.12	5.58	Peak	294	109
5	10420.00	58.29	68.20	-9.91	43.88	14.41	Peak	100	5
6	15630.00	44.55	54.00	-9.45	28.50	16.05	Average	100	6
7	15630.00	58.55	74.00	-15.45	42.50	16.05	Peak	100	6

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

Modulation	VHT80	Test Freq. (MHz)	5775
Polarization	Horizontal		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66

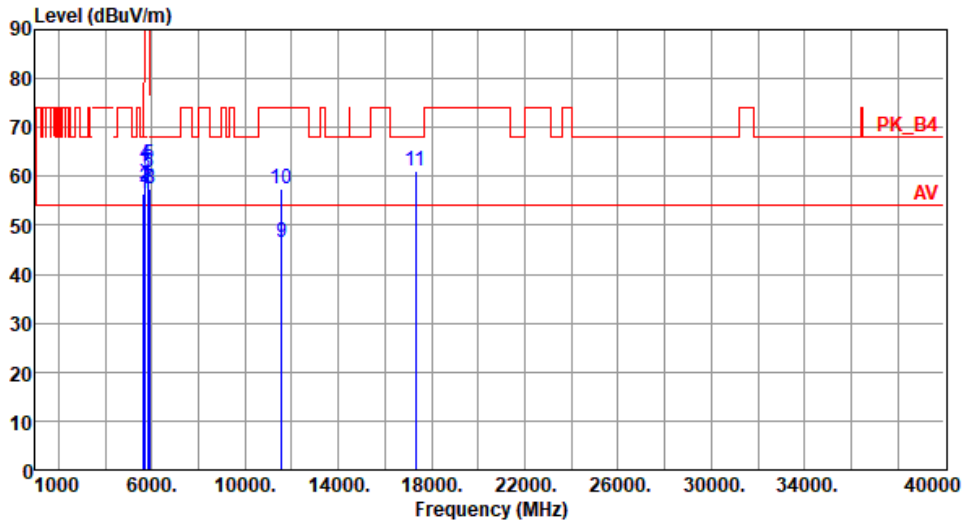


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	56.41	68.20	-11.79	50.14	6.27	Peak	102	295
2	5700.00	60.32	105.20	-44.88	53.95	6.37	Peak	102	295
3	5720.00	64.11	110.80	-46.69	57.61	6.50	Peak	102	295
4	5725.00	65.74	122.20	-56.46	59.21	6.53	Peak	102	295
5	5850.00	67.41	122.20	-54.79	60.52	6.89	Peak	102	295
6	5855.00	65.86	110.80	-44.94	58.97	6.89	Peak	102	295
7	5875.00	60.72	105.20	-44.48	53.84	6.88	Peak	102	295
8	5925.00	57.44	68.20	-10.76	50.51	6.93	Peak	102	295
9	11550.00	46.12	54.00	-7.88	31.21	14.91	Average	100	222
10	11550.00	56.10	74.00	-17.90	41.19	14.91	Peak	100	222
11	17325.00	59.73	68.20	-8.47	41.16	18.57	Peak	100	229

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

Modulation	VHT80	Test Freq. (MHz)	5775
Polarization	Vertical		

Test By :BRAD WU Temperature(℃):23 Humidity(%):66



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	56.48	68.20	-11.72	50.21	6.27	Peak	315	104
2	5700.00	57.76	105.20	-47.44	51.39	6.37	Peak	315	104
3	5720.00	60.76	110.80	-50.04	54.26	6.50	Peak	315	104
4	5725.00	62.60	122.20	-59.60	56.07	6.53	Peak	315	104
5	5850.00	62.30	122.20	-59.90	55.41	6.89	Peak	315	104
6	5855.00	60.73	110.80	-50.07	53.84	6.89	Peak	315	104
7	5875.00	57.58	105.20	-47.62	50.70	6.88	Peak	315	104
8	5925.00	57.49	68.20	-10.71	50.56	6.93	Peak	315	104
9	11550.00	46.45	54.00	-7.55	31.54	14.91	Average	100	192
10	11550.00	57.56	74.00	-16.44	42.65	14.91	Peak	100	192
11	17325.00	61.16	68.20	-7.04	42.59	18.57	Peak	100	184

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

3.6 Frequency Stability

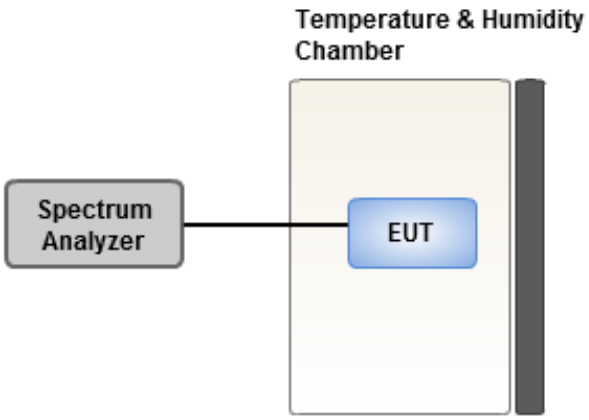
3.6.1 Limit of Frequency Stability

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

3.6.2 Test Procedures

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

3.6.3 Test Setup



3.6.4 Test Result of Frequency Stability

Ambient Condition	23°C / 63%	Tested By	Brad Wu

Frequency: 5200 MHz	Frequency Drift (ppm)			
Temperature (°C)	0 minute	2 minutes	5 minutes	10 minutes
T20°CVmax	4.47	4.53	4.51	4.62
T20°CVmin	3.79	3.59	3.74	4.14
T50°CVnom	5.71	5.95	5.58	5.28
T40°CVnom	4.11	4.35	4.20	4.38
T30°CVnom	3.07	2.93	2.78	3.06
T20°CVnom	4.13	3.94	4.11	4.00
T10°CVnom	3.96	3.98	4.21	4.32
T0°CVnom	3.54	4.09	3.62	3.18
T-10°CVnom	3.37	4.01	3.98	3.24
T-20°CVnom	2.26	1.75	2.13	2.63
T-30°CVnom	1.53	1.67	1.81	2.22
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 (°C)	0 minute	2 minutes	5 minutes	10 minutes
T20°CVmax	4.37	4.27	5.16	4.50
T20°CVmin	3.44	3.46	3.57	4.01
T50°CVnom	5.46	5.75	5.42	6.08
T40°CVnom	3.69	4.27	4.30	3.54
T30°CVnom	2.86	2.92	2.80	3.29
T20°CVnom	3.94	4.12	4.27	3.55
T10°CVnom	4.08	4.41	3.89	4.05
T0°CVnom	2.95	3.26	2.65	3.05
T-10°CVnom	2.91	3.39	3.05	2.93
T-20°CVnom	1.95	2.21	1.54	1.98
T-30°CVnom	1.73	1.80	1.45	1.56
Vnom [V]: 120		Vmax [V]: 138		Vmin [V]: 102
Tnom [°C]: 20		Tmax [°C]: 50		Tmin [°C]: -30

4 Test laboratory information

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

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

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

Linkou	**Kwei Shan**	**Kwei Shan Site II**
Tel: 886-2-2601-1640	Tel: 886-3-271-8666	Tel: 886-3-271-8640
No. 30-2, Ding Fwu Tsuen, Lin Kou District, New Taipei City, Taiwan, R.O.C.	No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan District, Tao Yuan City 333, Taiwan, R.O.C.	No. 14-1, Lane 19, Wen San 3rd St., Kwei Shan District, Tao Yuan City 333, Taiwan, R.O.C.

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

Tel: 886-3-271-8666
Fax: 886-3-318-0155
Email: ICC_Service@icertifi.com.tw

==END==