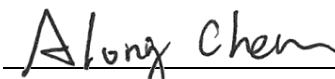


FCC Test Report

FCC ID : P27OC845
Equipment : Waterproof FHD IP Camera
Model No. : OC845
Brand Name : ADT
Multiple Listing : Refer to item 1.1.1 for more details.
Applicant : Sercomm Corporation
Address : 8F, No. 3-1, YuanQu St., NanKang, Taipei 115,
Taiwan, R.O.C.
Standard : 47 CFR FCC Part 15.407
Received Date : Aug. 27, 2019
Tested Date : Sep. 03 ~ Sep. 19, 2019

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

Reviewed by:


Along Chen / Assistant Manager

Approved by:

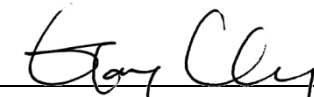

Gary Chang / Manager



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Release Record

Report No.	Version	Description	Issued Date
FR982702AN	Rev. 01	Initial issue	Oct. 22, 2019

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.255MHz 34.38 (Margin -17.22dB) - AV	Pass
15.407(b) 15.209	Radiated Emissions	[dBuV/m at 3m]: 11570.00MHz 52.99 (Margin -1.01dB) - AV	Pass
15.407(a)	Emission Bandwidth	Meet the requirement of limit	Pass
15.407(e)	6dB bandwidth	Meet the requirement of limit	Pass
15.407(a)	RF Output Power	Max Power [dBm]: 5150-5250MHz: 21.47 5725-5850MHz: 21.54	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 Product Details

The following models are provided to this EUT.

Model Name	Description
OC845	Main tested model
OC845xxxxxxxx	the 1st x should be "blank" or "-"; the rest x could be 0 to 9, A to Z, a to z for marketing purpose.
✦ All models are electrically identical, different model names are for marketing purpose.	

1.1.2 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	a	5180-5240	36-48 [4]	1	6-54 Mbps
5150-5250	n (HT20)	5180-5240	36-48 [4]	2	MCS 0-15
5150-5250	n (HT40)	5190-5230	38-46 [2]	2	MCS 0-15
5150-5250	ac (VHT20)	5180-5240	36-48 [4]	2	MCS 0-9
5150-5250	ac (VHT40)	5190-5230	38-46 [2]	2	MCS 0-9
5150-5250	ac (VHT80)	5210	42 [1]	2	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.					

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N _{TX})	Data Rate / MCS
5725-5850	a	5745-5825	149-165 [5]	1	6-54 Mbps
5725-5850	n (HT20)	5745-5825	149-165 [5]	2	MCS 0-15
5725-5850	n (HT40)	5755-5795	151-159 [2]	2	MCS 0-15
5725-5850	ac (VHT20)	5745-5825	149-165 [5]	2	MCS 0-9
5725-5850	ac (VHT40)	5755-5795	151-159 [2]	2	MCS 0-9
5725-5850	ac (VHT80)	5775	155 [1]	2	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.					

1.1.3 Antenna Details

Ant. No.	Model	Type	Connector	Operating Frequencies (MHz) / Antenna Gain (dBi)		
				2400~2483.5	5150~5250	5725~5850
1	Ant 1	Dipole	I-PEX	3.6	3.15	3.81
2	Ant 2	Dipole	I-PEX	3.17	2.81	3.71

1.1.4 Power Supply Type of Equipment under Test (EUT)

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

1.1.5 Accessories

Accessories		
No.	Equipment	Description
1	AC adapter	Brand: APD Model: WB-18D12FU I/P: 100-240Vac, 50-60Hz, 0.5A Max O/P: 12Vdc, 1.5A Power Line: 3m non-shielded without core

1.1.6 Channel List

For Frequency band 5150-5250 MHz			
802.11 a / HT20 / VHT20		HT40 / VHT40	
Channel	Frequency(MHz)	Channel	Frequency(MHz)
36	5180	38	5190
40	5200	46	5230
44	5220	VHT80	
48	5240	42	5210

For Frequency band 5725~5850 MHz			
802.11 a / HT20 / VHT20		HT40 / VHT40	
Channel	Frequency(MHz)	Channel	Frequency(MHz)
149	5745	151	5755
153	5765	159	5795
157	5785	VHT80	
161	5805	155	5775
165	5825	---	---

1.1.7 Test Tool and Duty Cycle

Test Tool	TeraTerm, V4.80		
Duty Cycle and Duty Factor	Mode	Duty Cycle (%)	Duty Factor (dB)
	11a	95.03%	0.22
	VHT20	93.08%	0.31
	VHT40	86.67%	0.62
	VHT80	77.03%	1.13

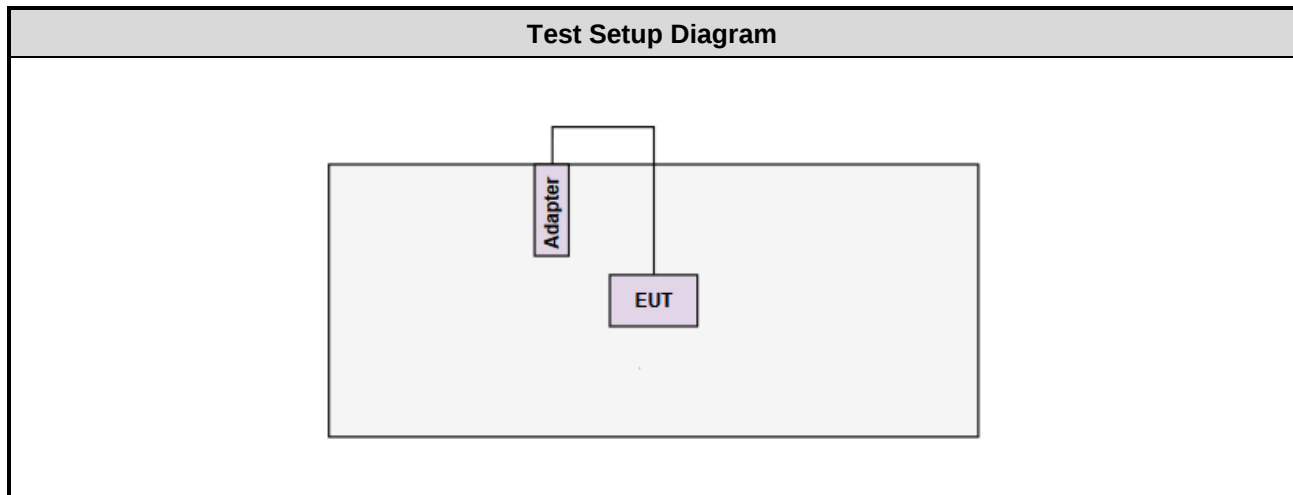
1.1.8 Power Index of Test Tool

Modulation Mode	Test Frequency (MHz)	Power Index
11a	5180	41
11a	5200	41
11a	5240	41
11a	5745	33
11a	5785	33
11a	5825	33
VHT20	5180	40/40
VHT20	5200	42/42
VHT20	5240	41/41
VHT20	5745	39/36
VHT20	5785	39/35
VHT20	5825	39/35
VHT40	5190	34/34
VHT40	5230	44/44
VHT40	5755	41/38
VHT40	5795	41/38
VHT80	5210	31/31
VHT80	5775	40/37

1.2 Local Support Equipment List

Support Equipment List					
No.	Equipment	Brand	Model	FCC ID	Remarks
1	Notebook	DELL	Latitude E5470	DoC	---

1.3 Test Setup Chart



Note: The support notebook is disconnected from EUT and removed from test table after sending command to EUT to control EUT to transmit continuously.

1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Receiver	R&S	ESR3	101657	Jan. 08, 2019	Jan. 07, 2020
LISN	R&S	ENV216	101579	Mar. 08, 2019	Mar. 07, 2020
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Oct. 23, 2018	Oct. 22, 2019
Measurement Software	AUDIX	e3	6.120210k	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101498	Dec. 27, 2018	Dec. 26, 2019
Receiver	R&S	ESR3	101658	Dec. 11, 2018	Dec. 10, 2019
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Jul. 12, 2019	Jul. 11, 2020
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 18, 2018	Dec. 17, 2019
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 15, 2018	Nov. 14, 2019
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 09, 2018	Nov. 08, 2019
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 08, 2018	Oct. 07, 2019
Preamplifier	EMC	EMC02325	980225	Jul. 09, 2019	Jul. 08, 2020
Preamplifier	Agilent	83017A	MY39501308	Oct. 04, 2018	Oct. 03, 2019
Preamplifier	EMC	EMC184045B	980192	Aug. 01, 2019	Jul. 31, 2020
RF Cable	EMC	EMC104-SM-SM-8000	181106	Oct. 08, 2018	Oct. 07, 2019
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Oct. 08, 2018	Oct. 07, 2019
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Oct. 08, 2018	Oct. 07, 2019
LF cable 1M	EMC	EMCCFD400-NM-NM-1000	160502	Oct. 08, 2018	Oct. 07, 2019
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Oct. 08, 2018	Oct. 07, 2019
LF cable 10M	Woken	CFD400NL-LW	CFD400NL-002	Oct. 08, 2018	Oct. 07, 2019
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)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101063	Apr. 17, 2019	Apr. 16, 2020
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Dec. 05, 2018	Dec. 04, 2019
Power Meter	Anritsu	ML2495A	1241002	Oct. 09, 2018	Oct. 08, 2019
Power Sensor	Anritsu	MA2411B	1207366	Oct. 09, 2018	Oct. 08, 2019
AC POWER SOURCE	APC	AFC-500W	F312060012	Nov. 29, 2018	Nov. 28, 2019
Measurement Software	Sporton	Sporton_1	1.3.30	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

1.5 Testing Applied Standards

According to the specification of EUT, the EUT must comply with following standards and KDB documents.

47 CFR FCC Part 15.407

ANSI C63.10-2013

FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

FCC KDB 412172 D01 Determining ERP and EIRP v01r01

1.6 Deviation from Test Standard and Measurement Procedure

None

1.7 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. 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 ≤ 1 GHz	± 3.41 dB
Radiated emission > 1 GHz	± 4.59 dB
Time	$\pm 0.1\%$
Temperature	± 0.4 °C

2 Test Configuration

2.1 Testing Condition

Test Item	Test Site	Ambient Condition	Tested By
AC Conduction	CO01-WS	24°C / 62%	Alex Tsai
Radiated Emissions	03CH01-WS	23-24°C / 63-64%	Akun Chung Aska Huang
RF Conducted	TH01-WS	25°C / 63%	Aska Huang

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

2.2 The Worst Test Modes and Channel Details

For Frequency band 5150-5250 MHz				
Test item	Modulation Mode	Test Frequency (MHz)	Data Rate	Test Configuration
Conducted Emissions	VHT40	5230	MCS 0	---
Radiated Emissions ≤1GHz	VHT40	5230	MCS 0	---
RF Output Power	11a	5180 / 5200 / 5240	6 Mbps	---
Radiated Emissions >1GHz	VHT20	5180 / 5200 / 5240	MCS 0	
Emission Bandwidth	VHT40	5190 / 5230	MCS 0	
Peak Power Spectral Density	VHT80	5210	MCS 0	
Frequency Stability	Un-modulation	5200	---	---
NOTE:				
1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The Z-plane results were found as the worst case and were shown in this report.				

For Frequency band 5725-5850 MHz				
Test item	Modulation Mode	Test Frequency (MHz)	Data Rate	Test Configuration
Conducted Emissions	VHT40	5795	MCS 0	---
Radiated Emissions ≤1GHz	VHT40	5795	MCS 0	---
Radiated Emissions >1GHz	11a	5745 / 5785 / 5825	6 Mbps	---
Emission Bandwidth	VHT20	5745 / 5785 / 5825	MCS 0	
6dB bandwidth	VHT40	5755 / 5795	MCS 0	
Peak Power Spectral Density	VHT80	5775	MCS 0	
Frequency Stability	Un-modulation	5785	---	---
NOTE:				
1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The Z-plane results were found as the worst case and were shown in this report.				

3 Transmitter Test Results

3.1 Conducted Emissions

3.1.1 Limit of Conducted Emissions

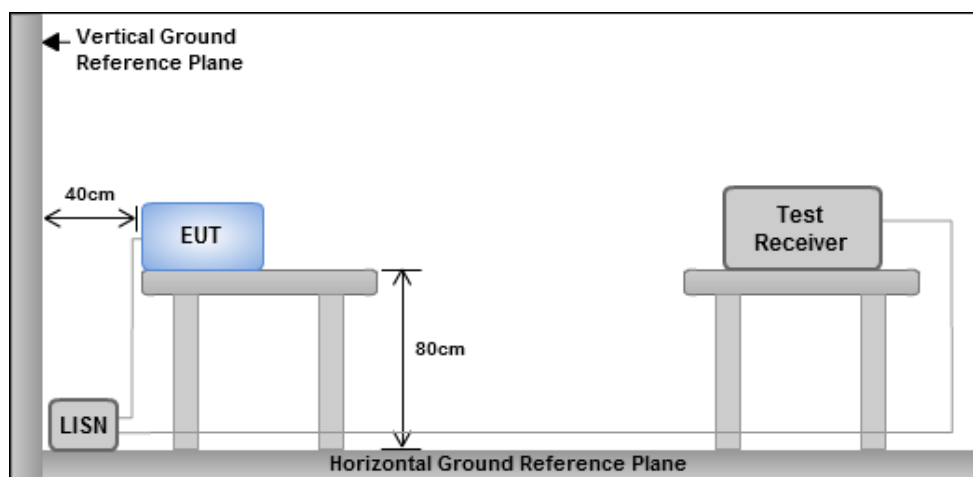
Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

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.

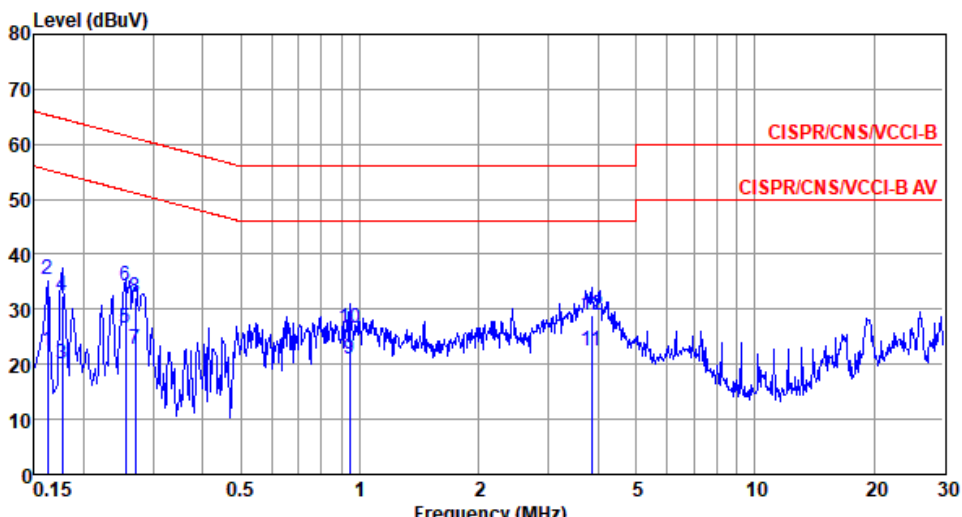
3.1.3 Test Setup



- 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	VHT40	Test Freq. (MHz)	5230
Power Phase	Line		

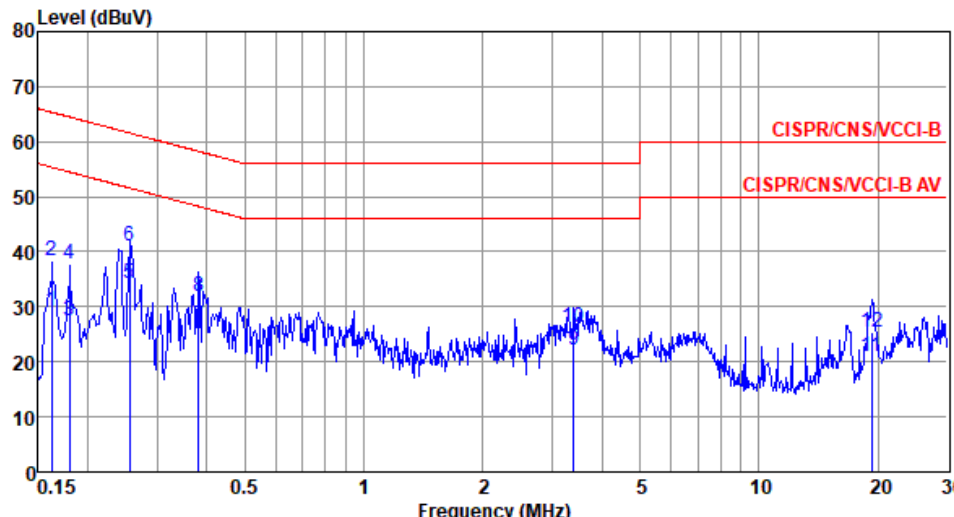


	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.162	22.50	55.34	-32.84	12.77	9.53	0.06	Average
2	0.162	35.44	65.34	-29.90	25.71	9.53	0.06	QP
3	0.177	20.16	54.64	-34.48	10.40	9.54	0.06	Average
4	0.177	32.53	64.64	-32.11	22.77	9.54	0.06	QP
5	0.255	26.60	51.60	-25.00	16.77	9.55	0.07	Average
6	0.255	34.30	61.60	-27.30	24.47	9.55	0.07	QP
7	0.270	22.78	51.12	-28.34	12.94	9.55	0.07	Average
8	0.270	32.15	61.12	-28.97	22.31	9.55	0.07	QP
9	0.943	20.90	46.00	-25.10	10.90	9.60	0.10	Average
10	0.943	26.51	56.00	-29.49	16.51	9.60	0.10	QP
11*	3.860	22.43	46.00	-23.57	12.17	9.61	0.27	Average
12	3.860	28.80	56.00	-27.20	18.54	9.61	0.27	QP

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

2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

Modulation	VHT40	Test Freq. (MHz)	5230
Power Phase	Neutral		

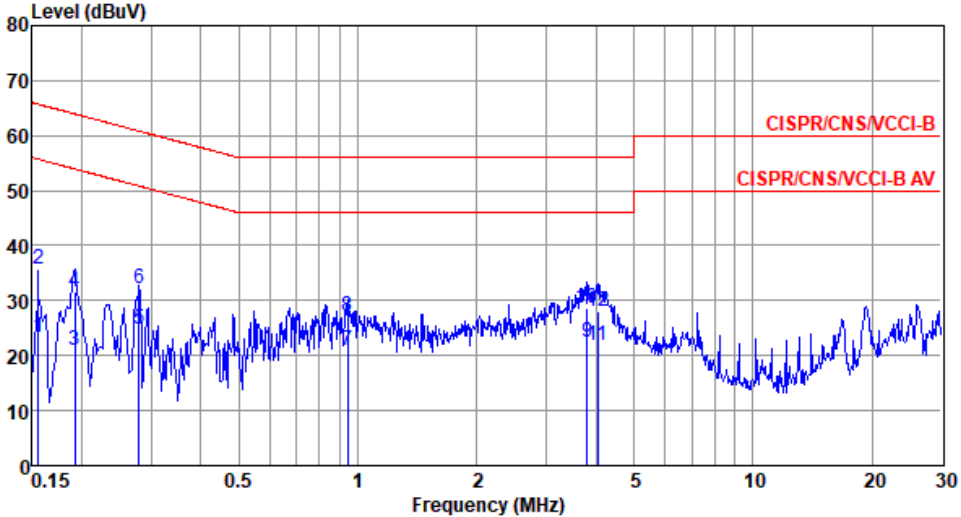


	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.162	29.13	55.34	-26.21	19.38	9.57	0.06	Average
2	0.162	38.46	65.34	-26.88	28.71	9.57	0.06	QP
3	0.180	27.42	54.50	-27.08	17.65	9.58	0.06	Average
4	0.180	37.72	64.50	-26.78	27.95	9.58	0.06	QP
5*	0.255	34.38	51.60	-17.22	24.59	9.59	0.07	Average
6	0.255	41.09	61.60	-20.51	31.30	9.59	0.07	QP
7	0.381	26.46	48.25	-21.79	16.65	9.61	0.08	Average
8	0.381	31.88	58.25	-26.37	22.07	9.61	0.08	QP
9	3.399	22.04	46.00	-23.96	11.87	9.66	0.25	Average
10	3.399	26.22	56.00	-29.78	16.05	9.66	0.25	QP
11	19.326	21.08	50.00	-28.92	10.23	9.81	0.60	Average
12	19.326	25.37	60.00	-34.63	14.52	9.81	0.60	QP

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

Note 2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

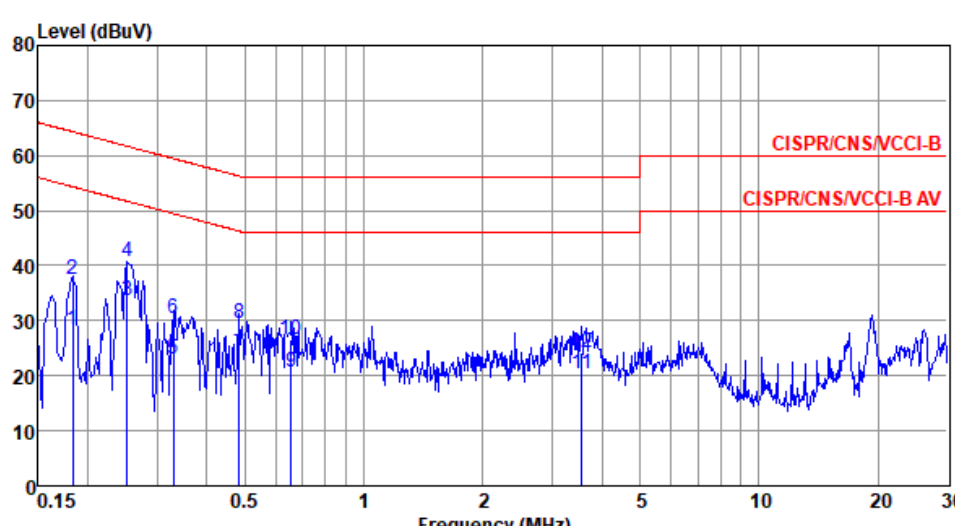
Modulation	VHT40	Test Freq. (MHz)	5795
Power Phase	Line		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.156	23.44	55.69	-32.25	13.73	9.53	0.05	Average
2	0.156	35.60	65.69	-30.09	25.89	9.53	0.05	QP
3	0.192	20.89	53.93	-33.04	11.10	9.54	0.07	Average
4	0.192	31.69	63.93	-32.24	21.90	9.54	0.07	QP
5	0.279	24.92	50.85	-25.93	15.08	9.55	0.07	Average
6	0.279	32.20	60.85	-28.65	22.36	9.55	0.07	QP
7	0.943	20.96	46.00	-25.04	10.96	9.60	0.10	Average
8	0.943	27.12	56.00	-28.88	17.12	9.60	0.10	QP
9*	3.799	22.49	46.00	-23.51	12.23	9.61	0.27	Average
10	3.799	28.77	56.00	-27.23	18.51	9.61	0.27	QP
11	4.049	21.86	46.00	-24.14	11.59	9.61	0.28	Average
12	4.049	28.15	56.00	-27.85	17.88	9.61	0.28	QP

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

Modulation	VHT40	Test Freq. (MHz)	5795
Power Phase	Neutral		



	Freq MHz	Level dBuV	Limit dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.183	28.33	54.33	-26.00	18.56	9.58	0.06	Average
2	0.183	37.44	64.33	-26.89	27.67	9.58	0.06	QP
3*	0.252	33.72	51.69	-17.97	23.93	9.59	0.07	Average
4	0.252	40.88	61.69	-20.81	31.09	9.59	0.07	QP
5	0.330	23.05	49.44	-26.39	13.24	9.60	0.08	Average
6	0.330	30.48	59.44	-28.96	20.67	9.60	0.08	QP
7	0.484	23.85	46.27	-22.42	14.01	9.62	0.08	Average
8	0.484	29.42	56.27	-26.85	19.58	9.62	0.08	QP
9	0.654	20.56	46.00	-25.44	10.66	9.63	0.09	Average
10	0.654	26.44	56.00	-29.56	16.54	9.63	0.09	QP
11	3.565	20.43	46.00	-25.57	10.25	9.66	0.26	Average
12	3.565	24.18	56.00	-31.82	14.00	9.66	0.26	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.

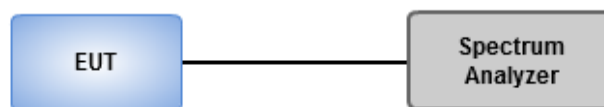
Occupied Bandwidth

1. Set RBW = 1 % to 5 % of the OBW.
2. Set VBW $\geq$ 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

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	31.449M	16.787M	16M8D1D	22.754M	16.643M
802.11ac VHT20_Nss1,(MCS0)_2TX	27.899M	17.873M	17M9D1D	22.681M	17.728M
802.11ac VHT40_Nss1,(MCS0)_2TX	47.971M	36.614M	36M6D1D	43.768M	36.324M
802.11ac VHT80_Nss1,(MCS0)_2TX	82.319M	75.253M	75M3D1D	81.449M	75.253M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	16.377M	16.715M	16M7D1D	16.304M	16.715M
802.11ac VHT20_Nss1,(MCS0)_2TX	17.609M	17.873M	17M9D1D	16.812M	17.8M
802.11ac VHT40_Nss1,(MCS0)_2TX	36.377M	37.048M	37M0D1D	35.362M	36.614M
802.11ac VHT80_Nss1,(MCS0)_2TX	75.362M	75.253M	75M3D1D	74.203M	75.253M

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

Max-OBW = Maximum 99% occupied bandwidth;

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

Min-OBW = Minimum 99% occupied bandwidth;

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11a_Nss1,(6Mbps)_1TX	-	-	-	-	-	-
5180MHz	Pass	Inf	23.768M	16.643M		
5200MHz	Pass	Inf	22.754M	16.715M		
5240MHz	Pass	Inf	31.449M	16.787M		
5745MHz	Pass	500k	16.377M	16.715M		
5785MHz	Pass	500k	16.377M	16.715M		
5825MHz	Pass	500k	16.304M	16.715M		
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	22.971M	17.728M	22.681M	17.728M
5200MHz	Pass	Inf	26.739M	17.873M	23.116M	17.728M
5240MHz	Pass	Inf	27.899M	17.873M	23.188M	17.8M
5745MHz	Pass	500k	17.536M	17.873M	17.609M	17.8M
5785MHz	Pass	500k	17.609M	17.873M	17.609M	17.8M
5825MHz	Pass	500k	17.246M	17.873M	16.812M	17.873M
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	43.768M	36.469M	43.768M	36.614M
5230MHz	Pass	Inf	47.536M	36.324M	47.971M	36.469M
5755MHz	Pass	500k	36.232M	36.614M	35.362M	36.614M
5795MHz	Pass	500k	36.377M	37.048M	35.652M	36.903M
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	81.449M	75.253M	82.319M	75.253M
5775MHz	Pass	500k	74.203M	75.253M	75.362M	75.253M

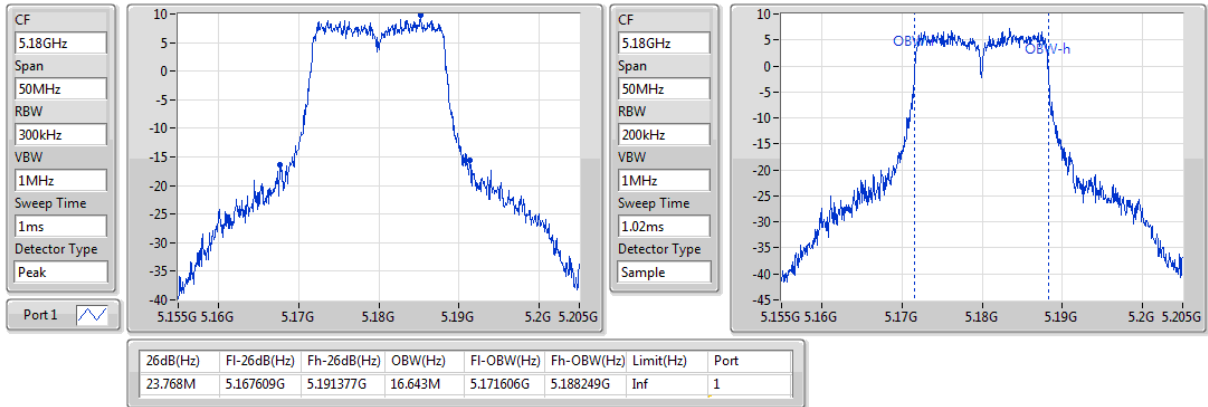
Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band

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

802.11a_Nss1,(6Mbps)_1TX

EBW

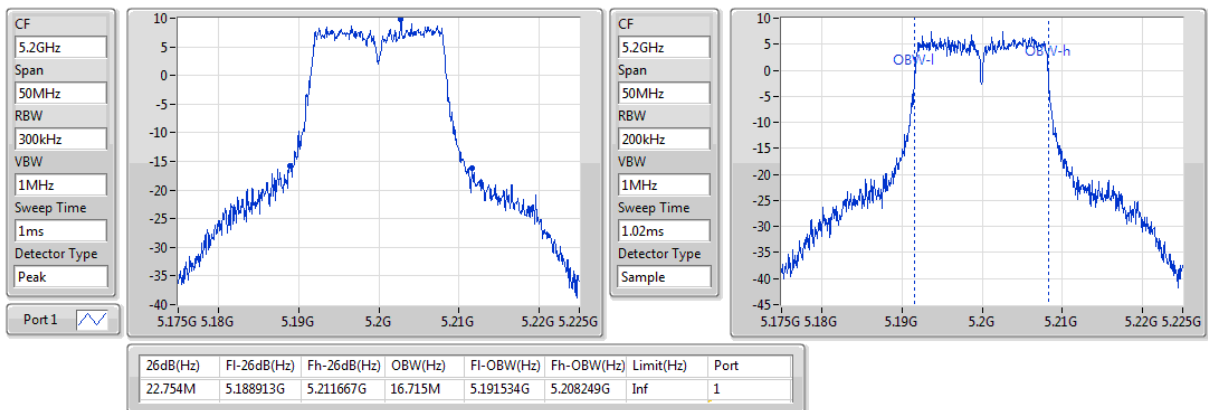
5180MHz



802.11a_Nss1,(6Mbps)_1TX

EBW

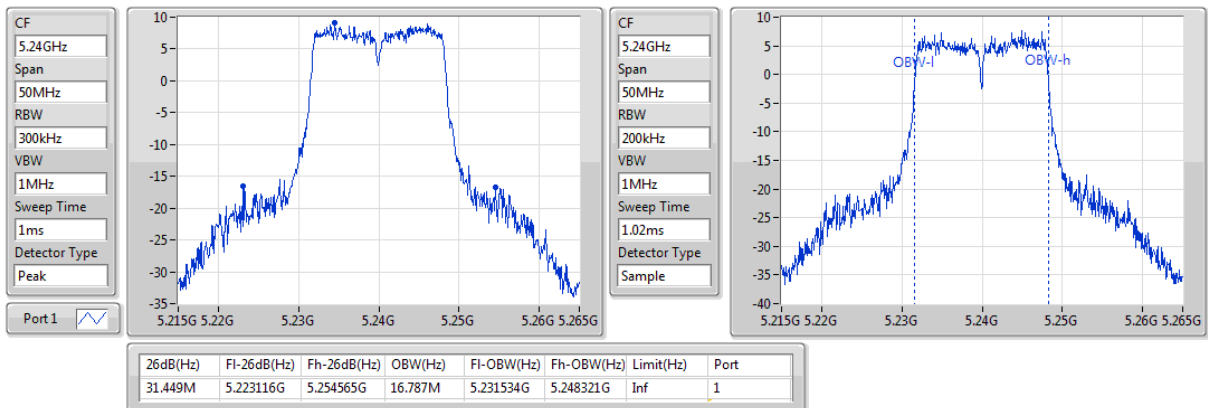
5200MHz



802.11a_Nss1,(6Mbps)_1TX

EBW

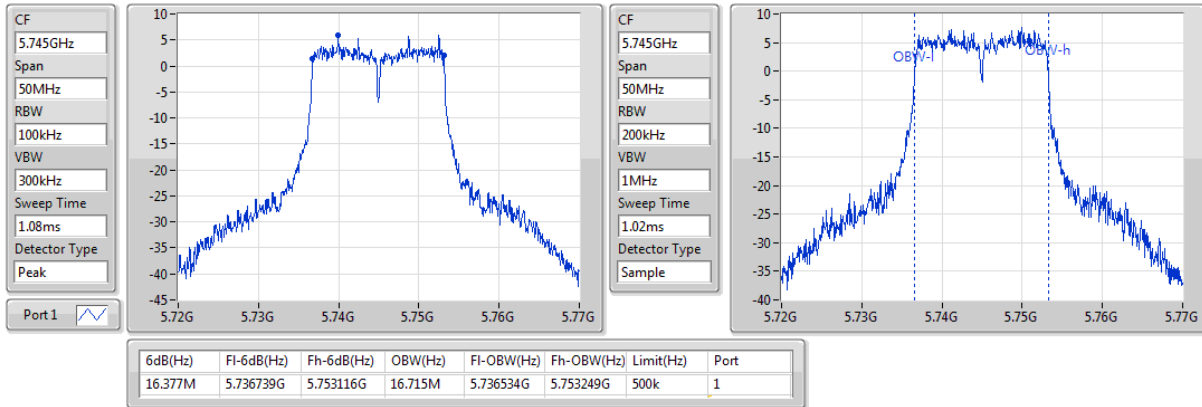
5240MHz



802.11a_Nss1,(6Mbps)_1TX

EBW

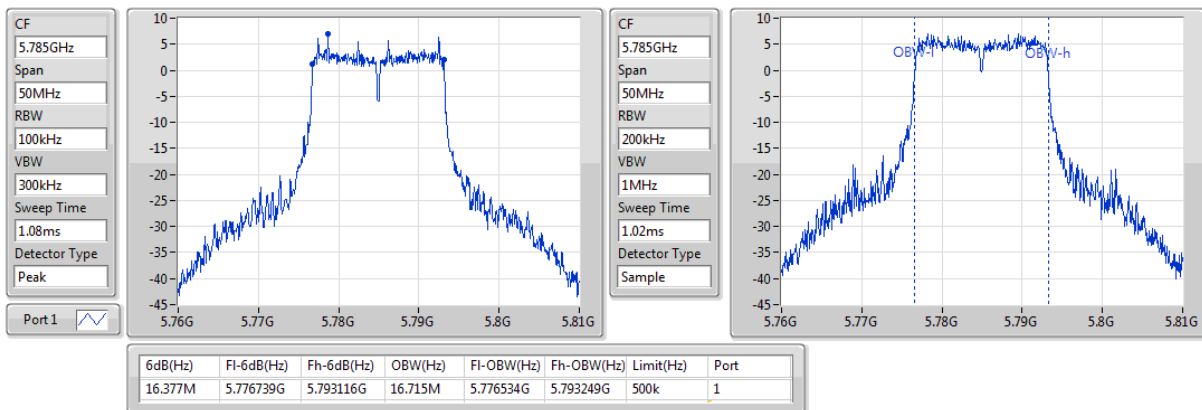
5745MHz



802.11a_Nss1,(6Mbps)_1TX

EBW

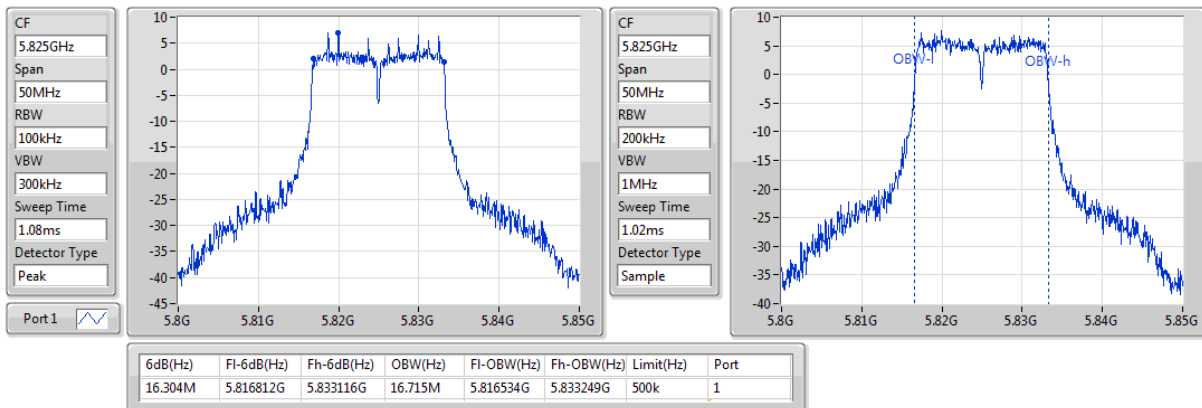
5785MHz



802.11a_Nss1,(6Mbps)_1TX

EBW

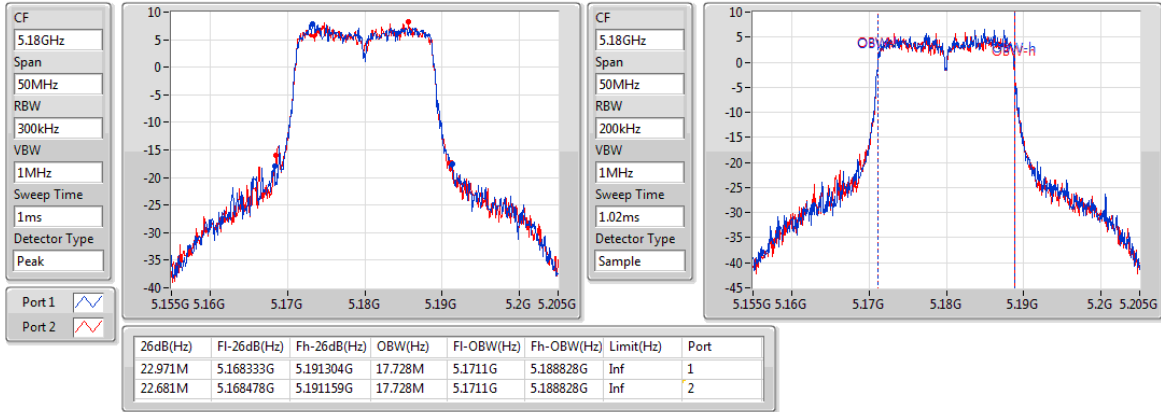
5825MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

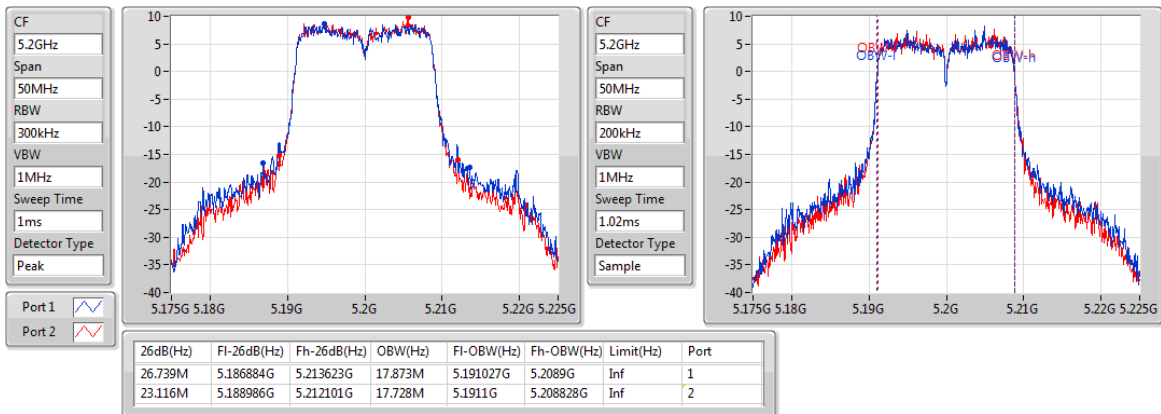
5180MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

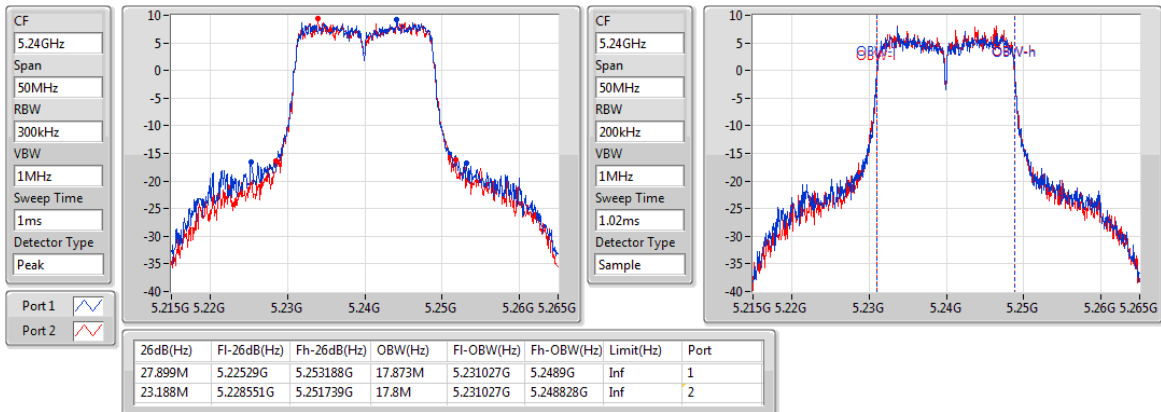
5200MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

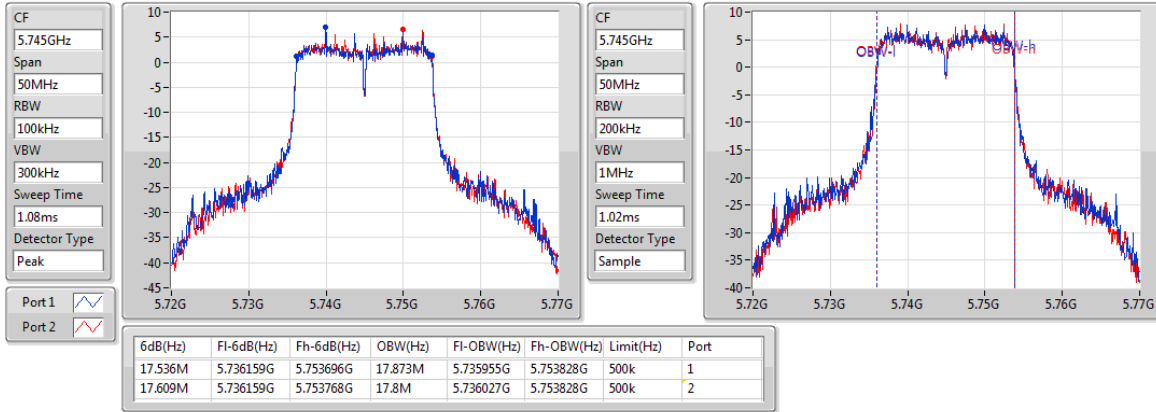
5240MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

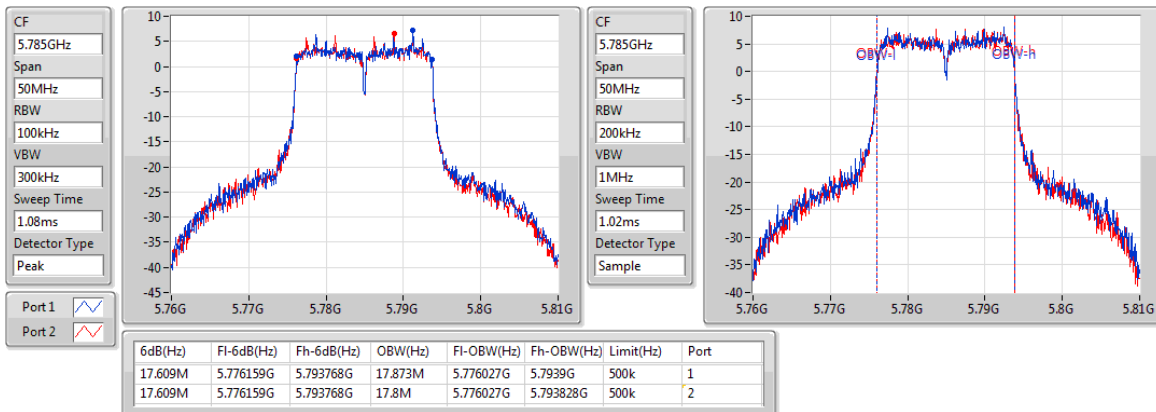
5745MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

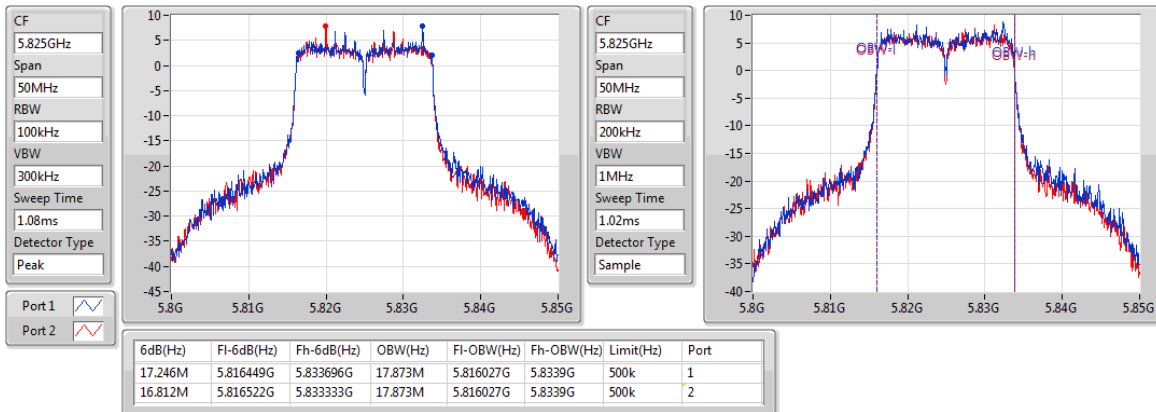
5785MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

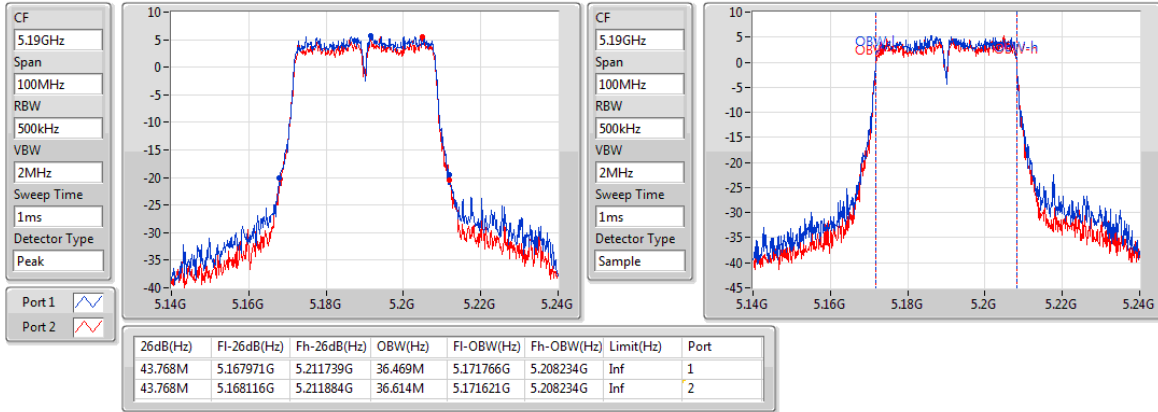
5825MHz



802.11ac VHT40_Nss1,(MCS0)_2TX

EBW

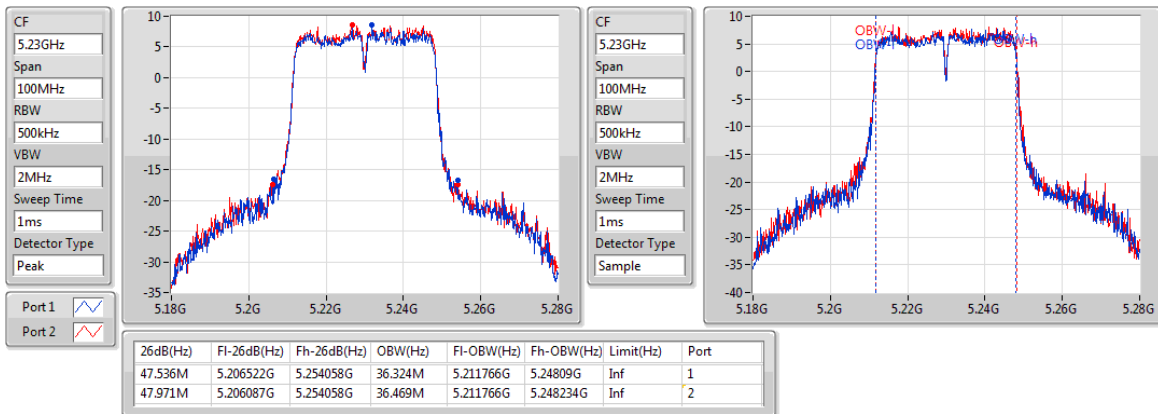
5190MHz



802.11ac VHT40_Nss1,(MCS0)_2TX

EBW

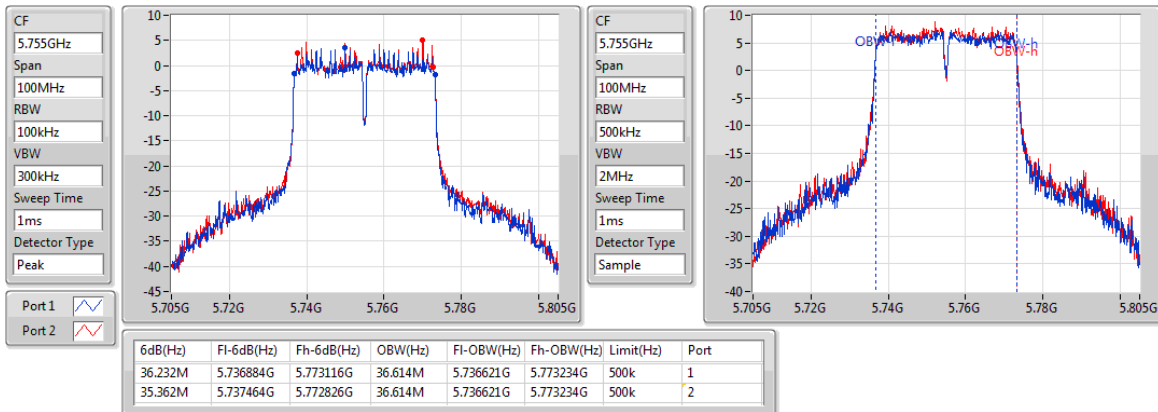
5230MHz



802.11ac VHT40_Nss1,(MCS0)_2TX

EBW

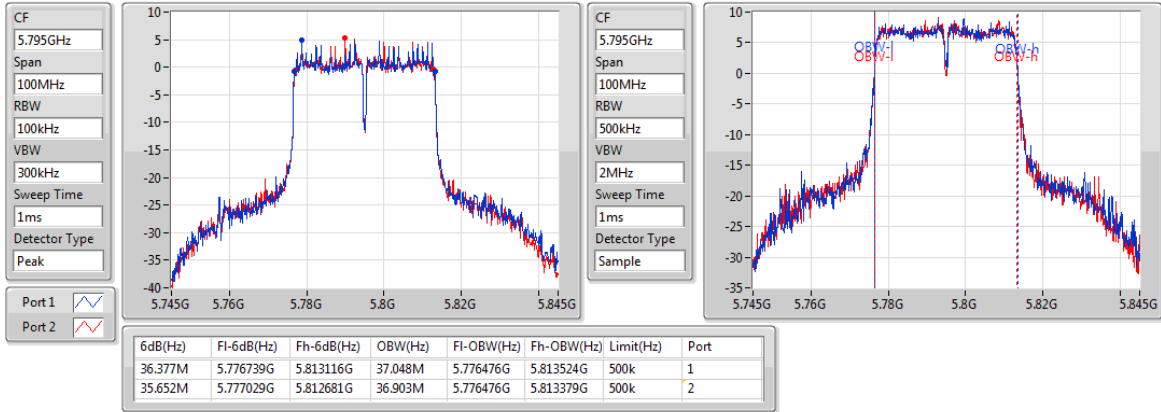
5755MHz



802.11ac VHT40_Nss1,(MCS0)_2TX

EBW

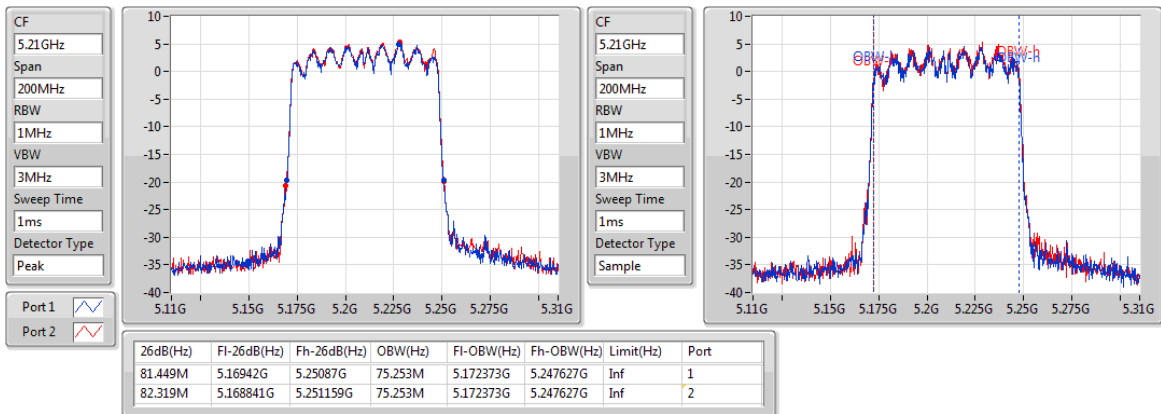
5795MHz



802.11ac VHT80_Nss1,(MCS0)_2TX

EBW

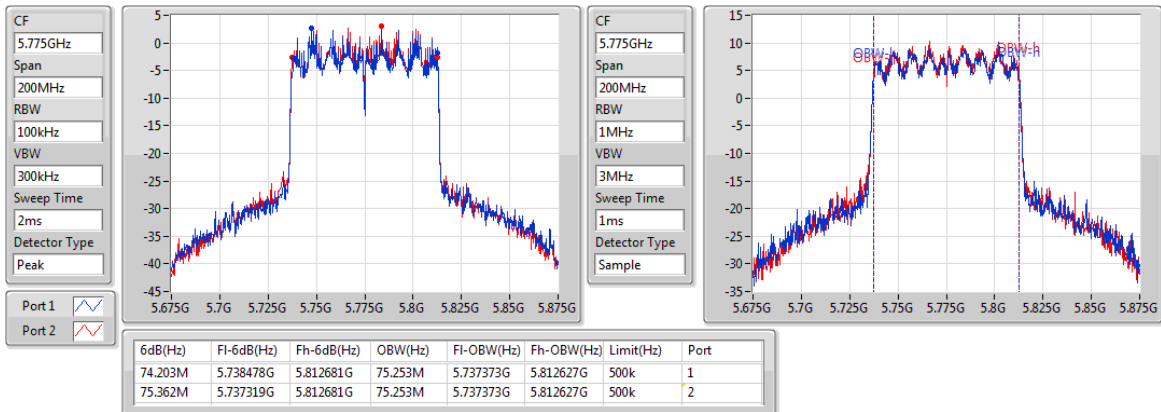
5210MHz



802.11ac VHT80_Nss1,(MCS0)_2TX

EBW

5775MHz



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

Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.15-5.25GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	18.40	0.06918	21.55	0.14289
802.11ac VHT20_Nss1,(MCS0)_2TX	21.18	0.13122	24.33	0.27102
802.11ac VHT40_Nss1,(MCS0)_2TX	21.47	0.14028	24.62	0.28973
802.11ac VHT80_Nss1,(MCS0)_2TX	16.82	0.04808	19.97	0.09931
5.725-5.85GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	18.32	0.06792	22.13	0.16331
802.11ac VHT20_Nss1,(MCS0)_2TX	21.52	0.14191	25.33	0.34119
802.11ac VHT40_Nss1,(MCS0)_2TX	21.54	0.14256	25.35	0.34277
802.11ac VHT80_Nss1,(MCS0)_2TX	21.40	0.13804	25.21	0.33189

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11a_Nss1,(6Mbps)_1TX	-	-	-	-	-	-	-	-
5180MHz	Pass	3.15	18.40		18.40	30.00	21.55	36.00
5200MHz	Pass	3.15	18.22		18.22	30.00	21.37	36.00
5240MHz	Pass	3.15	18.32		18.32	30.00	21.47	36.00
5745MHz	Pass	3.81	18.21		18.21	30.00	22.02	36.00
5785MHz	Pass	3.81	18.32		18.32	30.00	22.13	36.00
5825MHz	Pass	3.81	18.12		18.12	30.00	21.93	36.00
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	3.15	17.42	17.21	20.33	30.00	23.48	36.00
5200MHz	Pass	3.15	18.21	18.13	21.18	30.00	24.33	36.00
5240MHz	Pass	3.15	18.11	18.01	21.07	30.00	24.22	36.00
5745MHz	Pass	3.81	18.43	18.21	21.33	30.00	25.14	36.00
5785MHz	Pass	3.81	18.51	18.46	21.50	30.00	25.31	36.00
5825MHz	Pass	3.81	18.56	18.45	21.52	30.00	25.33	36.00
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5190MHz	Pass	3.15	15.86	15.23	18.57	30.00	21.72	36.00
5230MHz	Pass	3.15	18.43	18.49	21.47	30.00	24.62	36.00
5755MHz	Pass	3.81	18.41	18.55	21.49	30.00	25.30	36.00
5795MHz	Pass	3.81	18.45	18.60	21.54	30.00	25.35	36.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5210MHz	Pass	3.15	13.86	13.75	16.82	30.00	19.97	36.00
5775MHz	Pass	3.81	18.33	18.45	21.40	30.00	25.21	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

Duty cycle $\geq 98\%$

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

Duty cycle $< 98\%$

1. Set RBW = 1 MHz, VBW = 3 MHz, Detector = RMS.
2. Set sweep time $\geq 10 \times (\text{number of points in sweep}) \times (\text{total on/off period of the transmitted signal})$.
3. Perform a single sweep.
4. Use the peak marker function to determine the maximum amplitude level.
5. Add $10 \log(1/x)$, where x is the duty cycle.

For 5725 ~ 5850 MHz

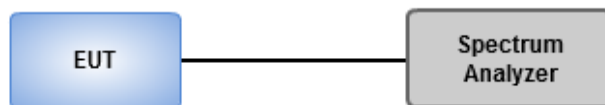
Duty cycle $\geq 98\%$

1. Set RBW = 500 kHz, VBW = 3 MHz, Sweep time = auto, Detector = RMS.
2. Trace average 100 traces.
3. Use the peak marker function to determine the maximum amplitude level.

Duty cycle $< 98\%$

1. Set RBW = 500 kHz, VBW = 3 MHz, Detector = RMS.
2. Set sweep time $\geq 10 \times (\text{number of points in sweep}) \times (\text{total on/off period of the transmitted signal})$.
3. Perform a single sweep.
4. Use the peak marker function to determine the maximum amplitude level.
5. Add $10 \log(1/x)$, where x is the duty cycle.

3.4.3 Test Setup



3.4.4 Test Result of Peak Power Spectral Density

Summary

Mode	PD (dBm/RBW)	EIRP PD (dBm/RBW)
5.15-5.25GHz	-	-
802.11a_Nss1,(6Mbps)_1TX	5.59	8.74
802.11ac VHT20_Nss1,(MCS0)_2TX	8.16	14.15
802.11ac VHT40_Nss1,(MCS0)_2TX	5.32	11.31
802.11ac VHT80_Nss1,(MCS0)_2TX	-0.98	5.01
5.725-5.85GHz	-	-
802.11a_Nss1,(6Mbps)_1TX	3.77	7.58
802.11ac VHT20_Nss1,(MCS0)_2TX	6.85	13.62
802.11ac VHT40_Nss1,(MCS0)_2TX	4.08	10.85
802.11ac VHT80_Nss1,(MCS0)_2TX	2.22	8.99

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

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)	EIRP PD (dBm/RBW)	EIRP PD Limit (dBm/RBW)
802.11a_Nss1,(6Mbps)_1TX	-	-	-	-	-	-	-	-
5180MHz	Pass	3.15	5.49		5.49	17.00	8.64	23.00
5200MHz	Pass	3.15	5.51		5.51	17.00	8.66	23.00
5240MHz	Pass	3.15	5.59		5.59	17.00	8.74	23.00
5745MHz	Pass	3.81	3.69		3.69	30.00	7.50	36.00
5785MHz	Pass	3.81	3.65		3.65	30.00	7.46	36.00
5825MHz	Pass	3.81	3.77		3.77	30.00	7.58	36.00
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	5.99	4.37	4.21	7.28	17.00	13.27	23.00
5200MHz	Pass	5.99	5.01	5.10	8.06	17.00	14.05	23.00
5240MHz	Pass	5.99	4.99	5.35	8.16	17.00	14.15	23.00
5745MHz	Pass	6.77	3.73	3.81	6.71	29.23	13.48	36.00
5785MHz	Pass	6.77	3.55	3.89	6.70	29.23	13.47	36.00
5825MHz	Pass	6.77	3.84	3.98	6.85	29.23	13.62	36.00
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5190MHz	Pass	5.99	-0.69	-0.85	2.21	17.00	8.20	23.00
5230MHz	Pass	5.99	2.13	2.51	5.32	17.00	11.31	23.00
5755MHz	Pass	6.77	0.73	1.08	3.92	29.23	10.69	36.00
5795MHz	Pass	6.77	0.83	1.34	4.08	29.23	10.85	36.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5210MHz	Pass	5.99	-4.12	-3.84	-0.98	17.00	5.01	23.00
5775MHz	Pass	6.77	-1.01	-0.52	2.22	29.23	8.99	36.00

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

DG = Directional Gain

For 1TX

Directional Gain = max gain of single antenna;

For 2TX

5.15 ~ 5.25 GHz, Directional Gain = $10 * \log((10^{3.15/20} + 10^{2.81/20})^2/2) = 5.99$ dBi

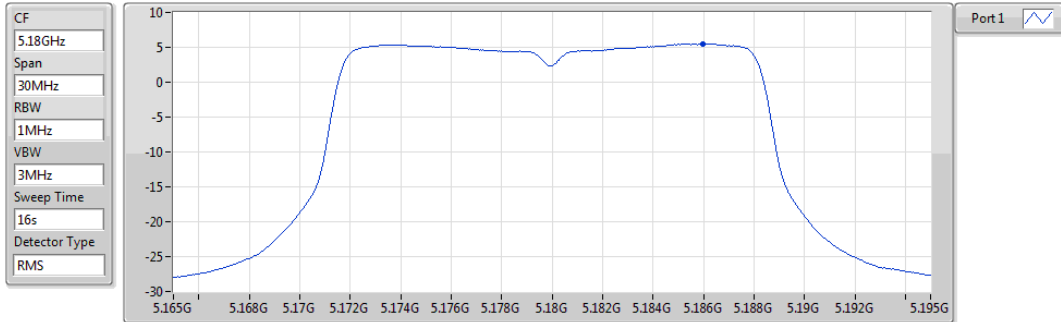
5.725 ~ 5.85 GHz, Directional Gain = $10 * \log((10^{3.81/20} + 10^{3.71/20})^2/2) = 6.77$ dBi > 6 dBi, Limit shall be reduced to 30 dBm – (6.77 dBi – 6 dBi) = 29.23 dBm

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

802.11a_Nss1,(6Mbps)_1TX

PSD

5180MHz

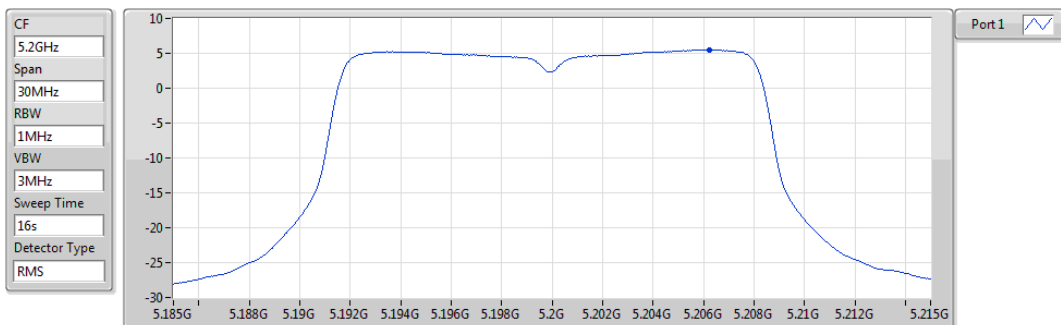


Sum	PD	Port 1
(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)
5.49	5.49	5.49

802.11a_Nss1,(6Mbps)_1TX

PSD

5200MHz

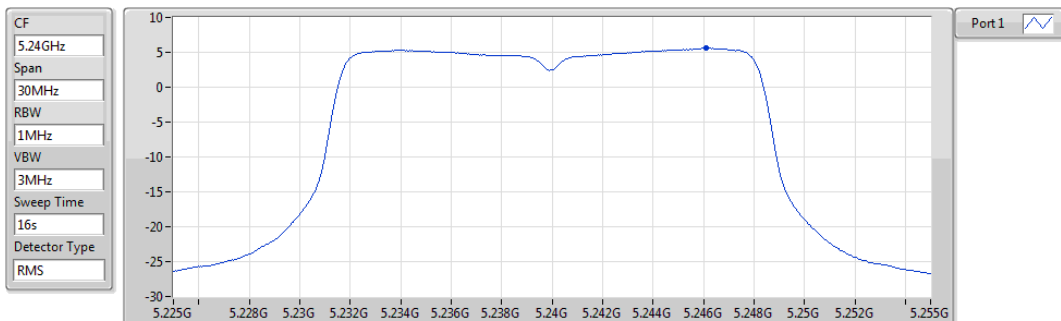


Sum	PD	Port 1
(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)
5.51	5.51	5.51

802.11a_Nss1,(6Mbps)_1TX

PSD

5240MHz

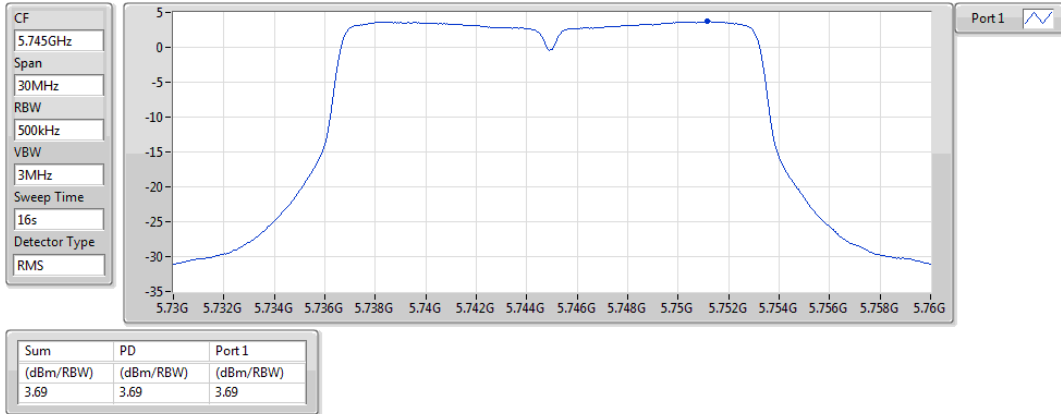


Sum	PD	Port 1
(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)
5.59	5.59	5.59

802.11a_Nss1,(6Mbps)_1TX

PSD

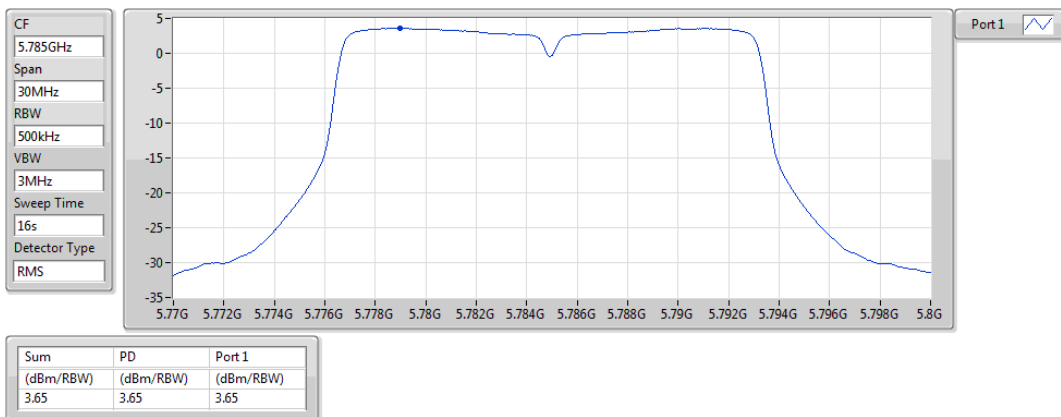
5745MHz



802.11a_Nss1,(6Mbps)_1TX

PSD

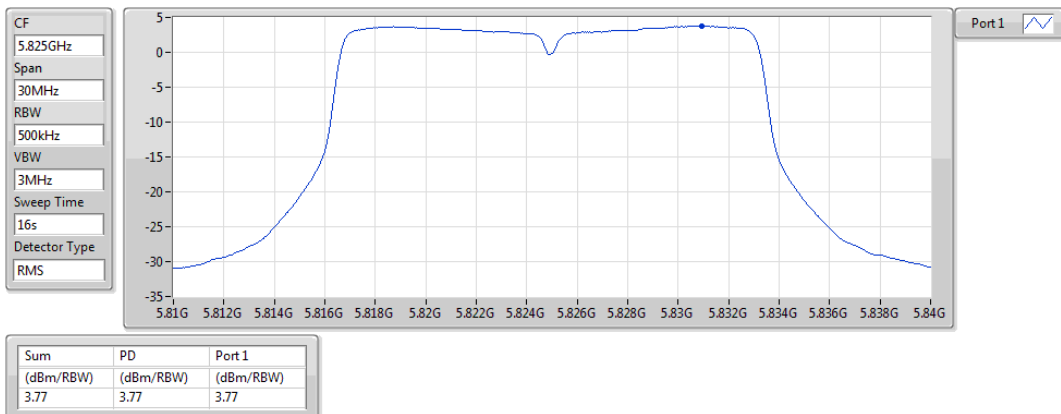
5785MHz



802.11a_Nss1,(6Mbps)_1TX

PSD

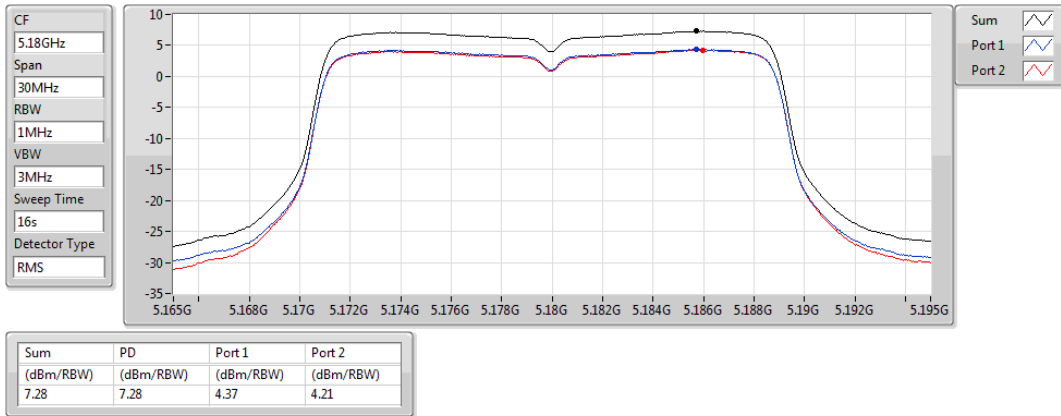
5825MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

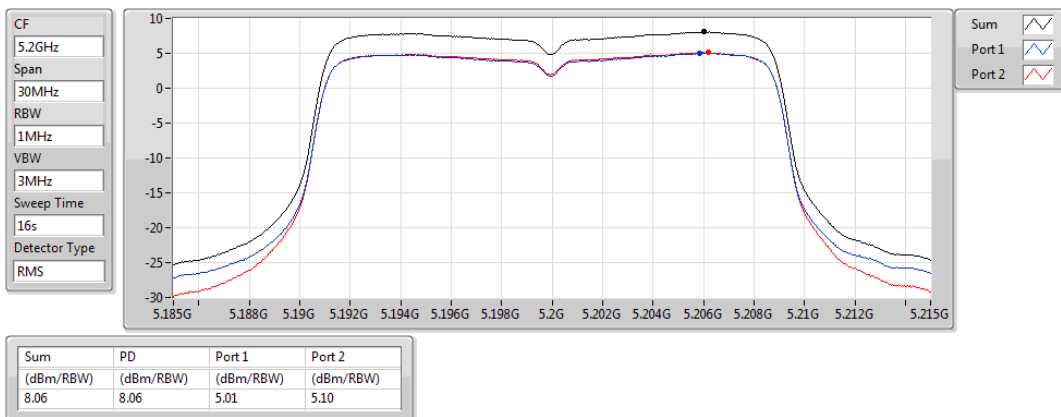
5180MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

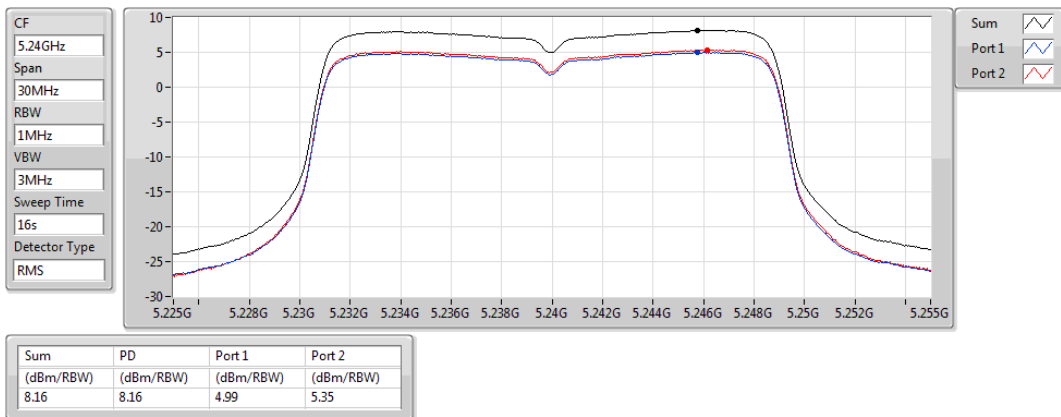
5200MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

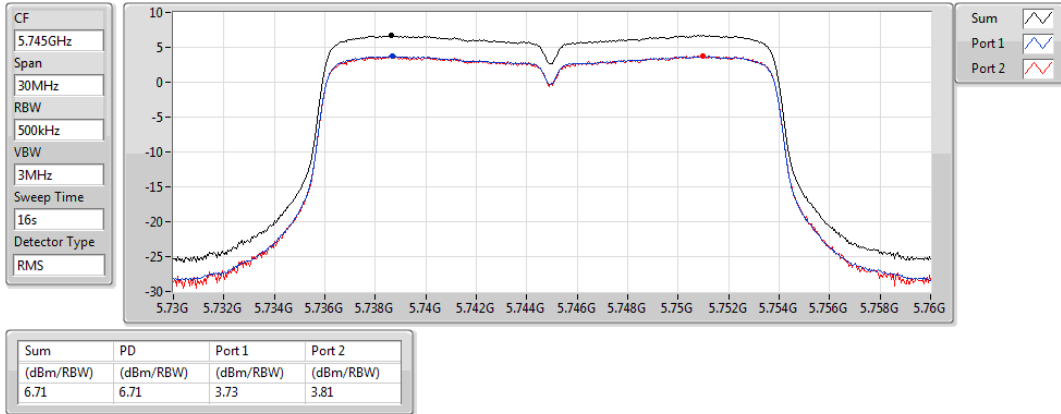
5240MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

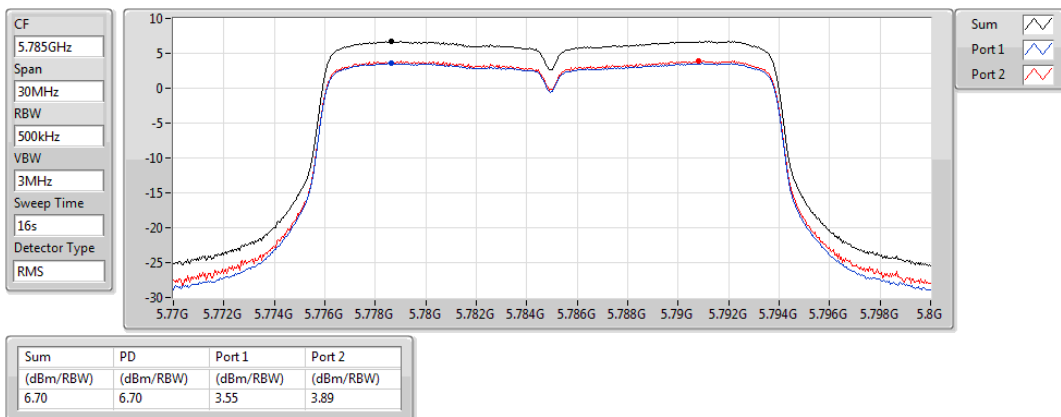
5745MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

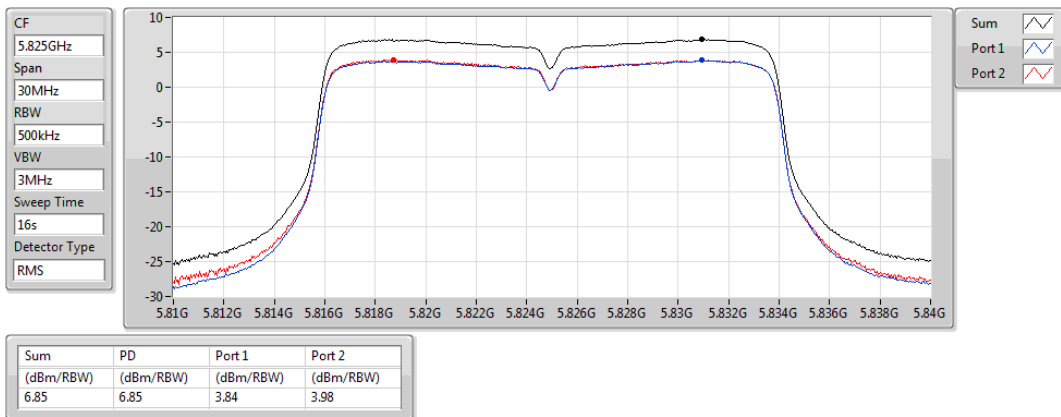
5785MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

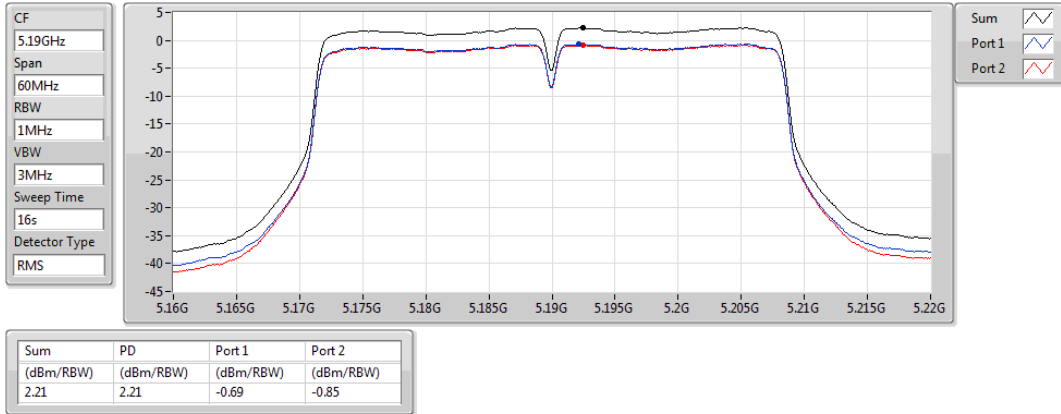
5825MHz



802.11ac VHT40_Nss1,(MCS0)_2TX

PSD

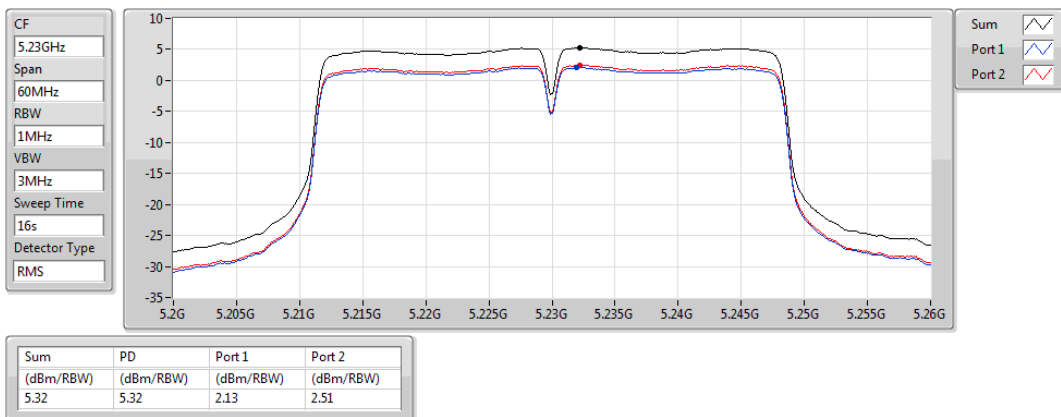
5190MHz



802.11ac VHT40_Nss1,(MCS0)_2TX

PSD

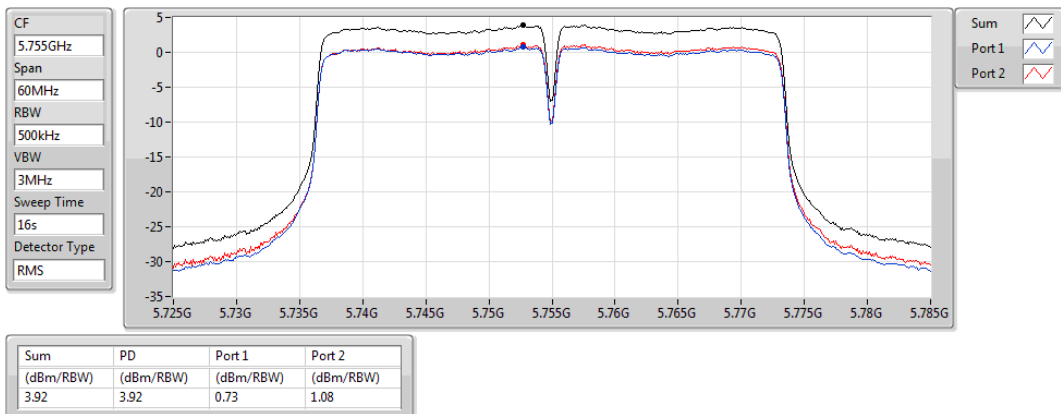
5230MHz



802.11ac VHT40_Nss1,(MCS0)_2TX

PSD

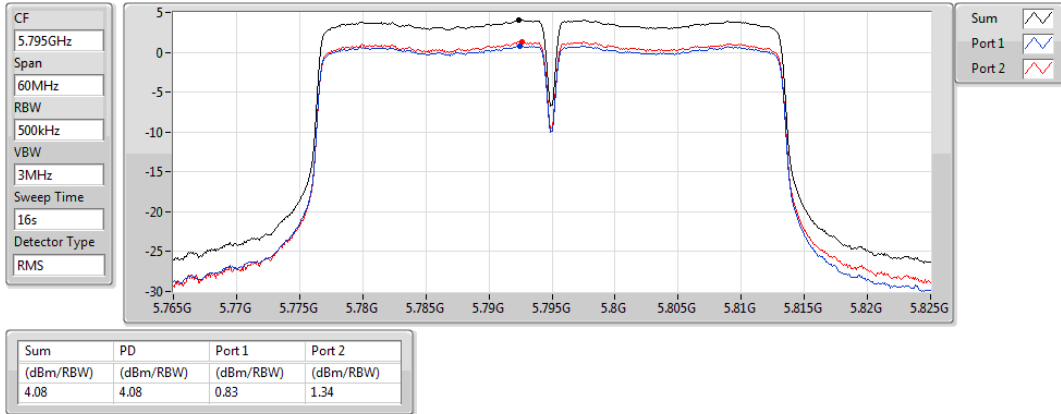
5755MHz



802.11ac VHT40_Nss1,(MCS0)_2TX

PSD

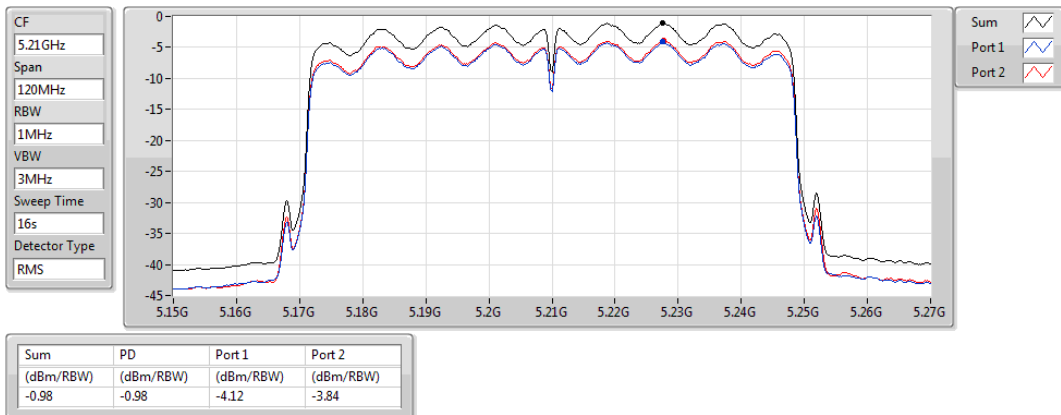
5795MHz



802.11ac VHT80_Nss1,(MCS0)_2TX

PSD

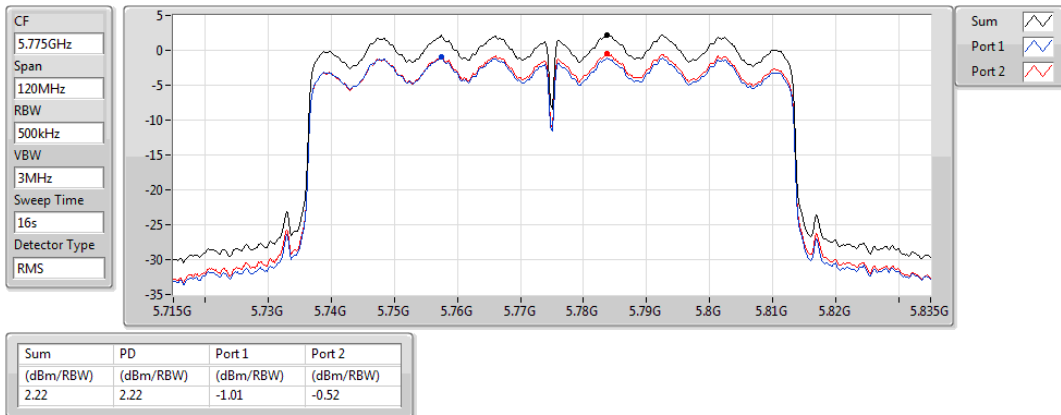
5210MHz



802.11ac VHT80_Nss1,(MCS0)_2TX

PSD

5775MHz



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

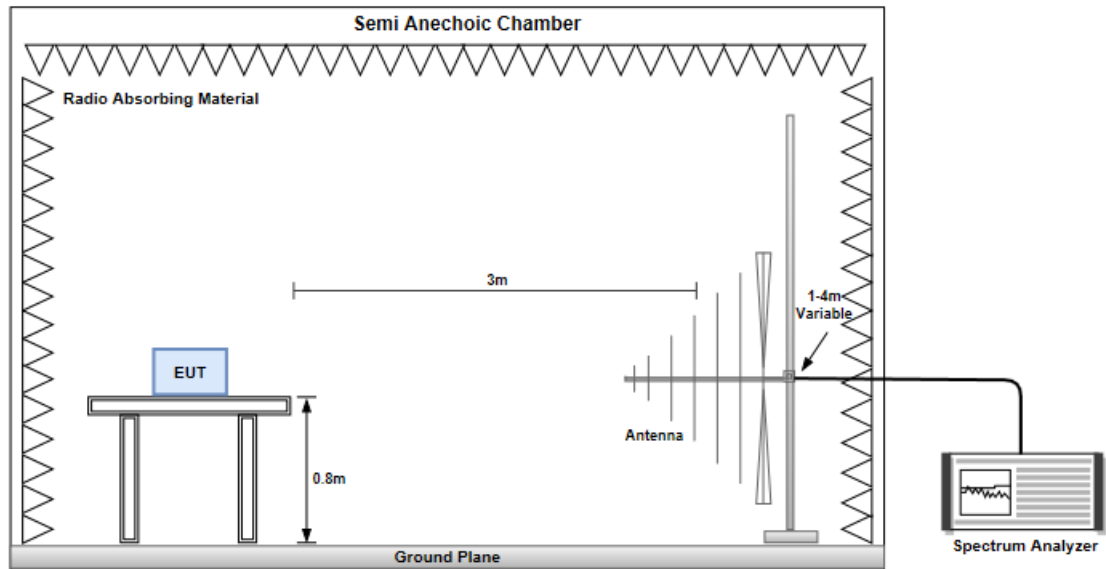
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360° . A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission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

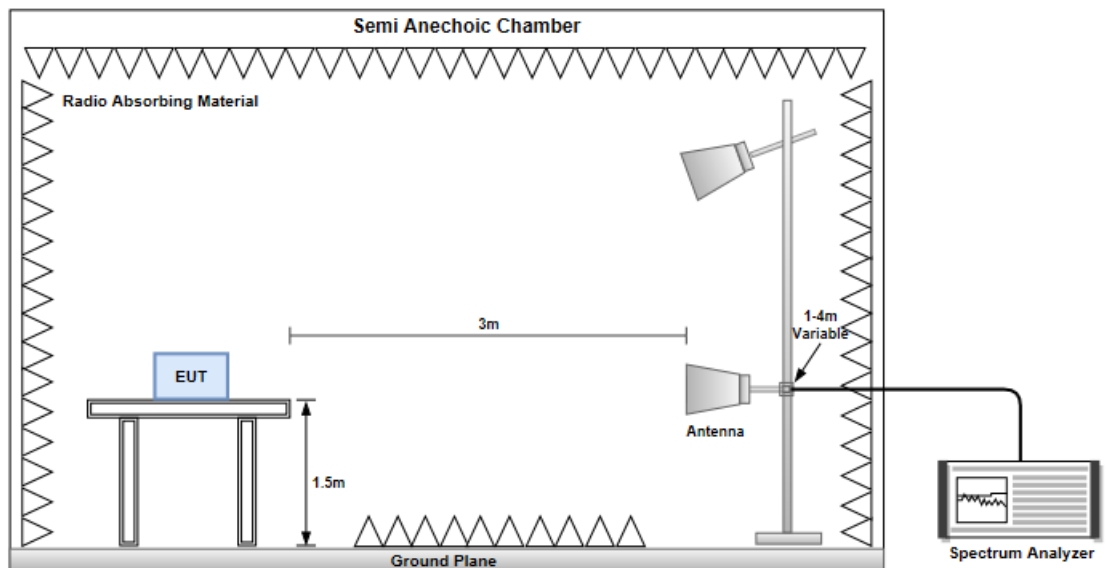
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

3.5.3 Test Setup

Radiated Emissions below 1 GHz

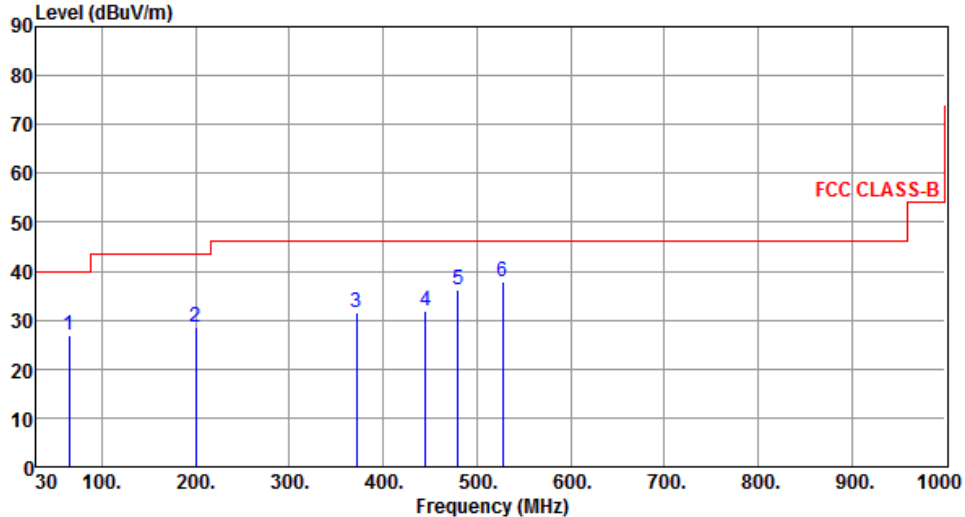


Radiated Emissions above 1 GHz



3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Horizontal		



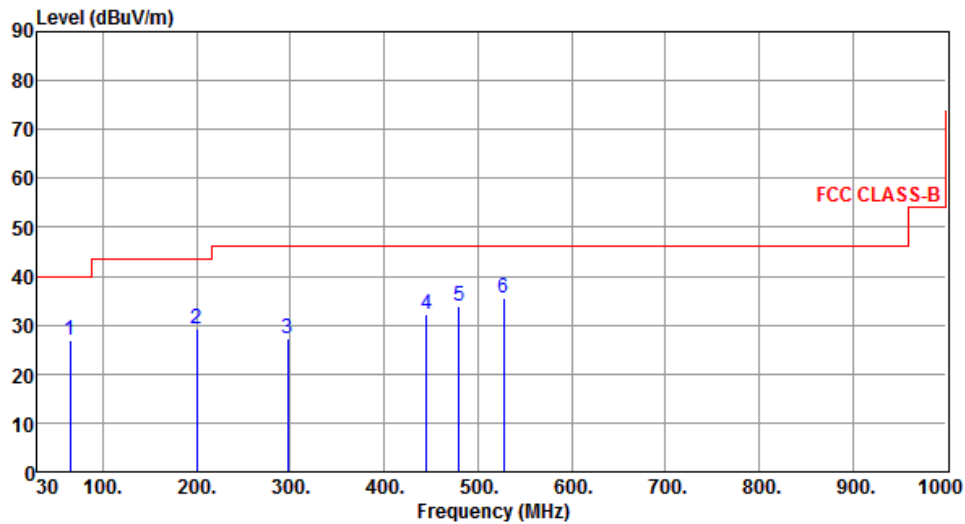
The graph displays the radiated unwanted emissions for a VHT40 transmitter. The y-axis represents the emission level in dBUV/m, ranging from 0 to 90. The x-axis represents the frequency in MHz, ranging from 30 to 1000. A red line indicates the FCC CLASS-B limit, which is 40 dBUV/m from 30 MHz to 100 MHz, 45 dBUV/m from 100 MHz to 1000 MHz, and 55 dBUV/m from 1000 MHz to 1100 MHz. Six measured peaks are labeled with numbers 1 through 6, corresponding to the data in the table below.

	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	64.92	26.77	40.00	-13.23	26.77	0.00	Peak	---	---
2	199.75	28.65	43.50	-14.85	40.67	-12.02	Peak	---	---
3	371.44	31.56	46.00	-14.44	37.74	-6.18	Peak	---	---
4	445.16	31.80	46.00	-14.20	35.94	-4.14	Peak	---	---
5	480.08	36.24	46.00	-9.76	39.81	-3.57	Peak	---	---
6	527.61	37.76	46.00	-8.24	40.51	-2.75	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	VHT40	Test Freq. (MHz)	5230
Polarization	Vertical		
Level (dBuV/m) </			

Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Horizontal		



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	64.92	27.04	40.00	-12.96	36.74	-9.70	Peak	---	---
2	199.75	29.27	43.50	-14.23	41.29	-12.02	Peak	---	---
3	296.75	27.22	46.00	-18.78	35.39	-8.17	Peak	---	---
4	445.16	32.14	46.00	-13.86	32.14	0.00	Peak	---	---
5	480.08	33.76	46.00	-12.24	37.33	-3.57	Peak	---	---
6	527.61	35.65	46.00	-10.35	38.40	-2.75	Peak	---	---

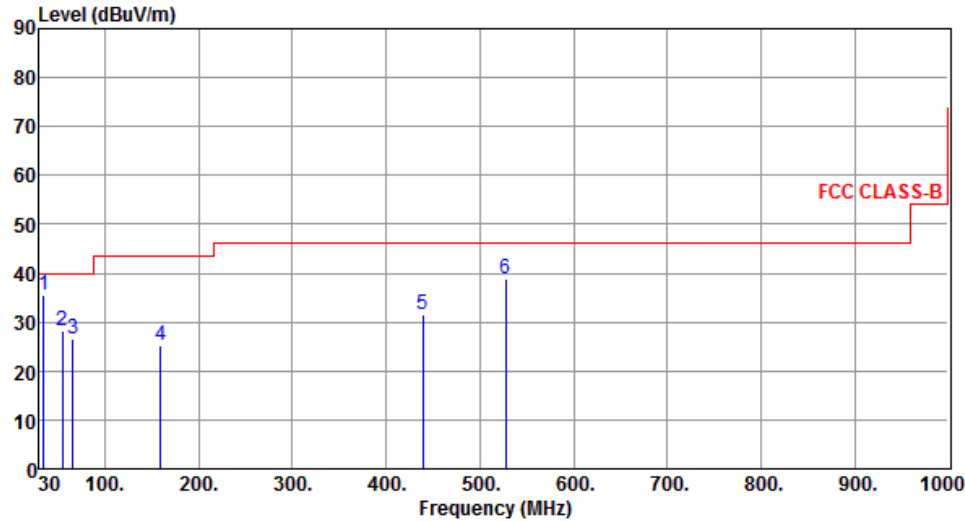
Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor* (dB)

*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	VHT40	Test Freq. (MHz)	5795
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	34.85	35.61	40.00	-4.39	44.90	-9.29	Peak	---	---
2	54.25	28.29	40.00	-11.71	36.97	-8.68	Peak	---	---
3	65.89	26.67	40.00	-13.33	36.74	-10.07	Peak	---	---
4	159.01	25.08	43.50	-18.42	25.08	0.00	Peak	---	---
5	439.34	31.49	46.00	-14.51	35.86	-4.37	Peak	---	---
6	527.61	38.87	46.00	-7.13	41.62	-2.75	Peak	---	---

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

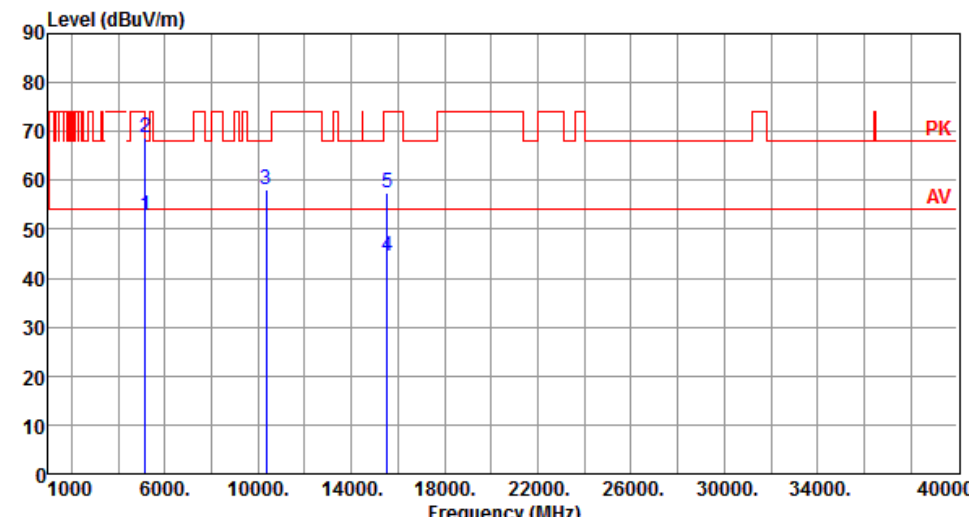
Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).

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		
Level (dBuV/m)			

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

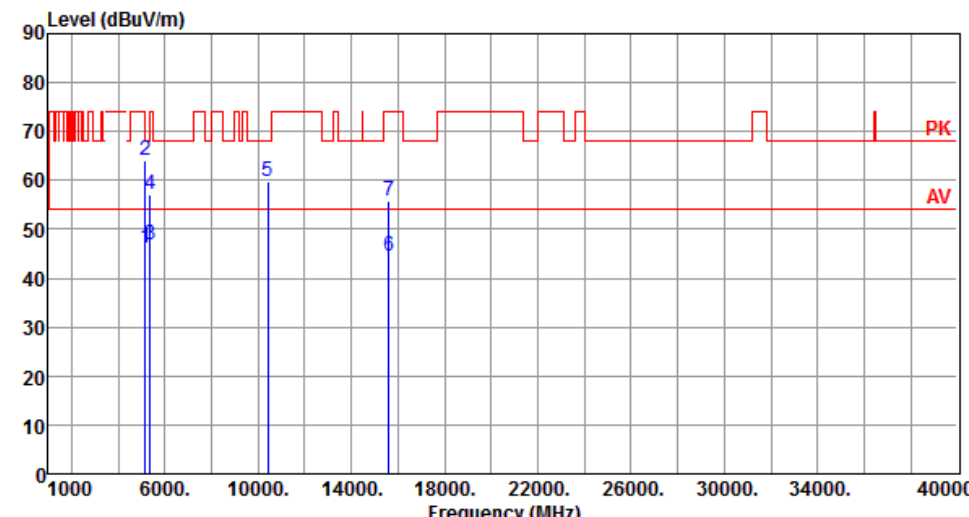


	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.86	54.00	-1.14	48.32	4.54	Average	182	69
2	5150.00	68.60	74.00	-5.40	64.06	4.54	Peak	182	69
3	10360.00	57.99	68.20	-10.21	44.21	13.78	Peak	187	78
4	15540.00	44.53	54.00	-9.47	30.25	14.28	Average	100	54
5	15540.00	57.49	74.00	-16.51	43.21	14.28	Peak	100	54

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

Modulation	11a	Test Freq. (MHz)	5200
Polarization	Horizontal		
Level (dBuV/m) </			

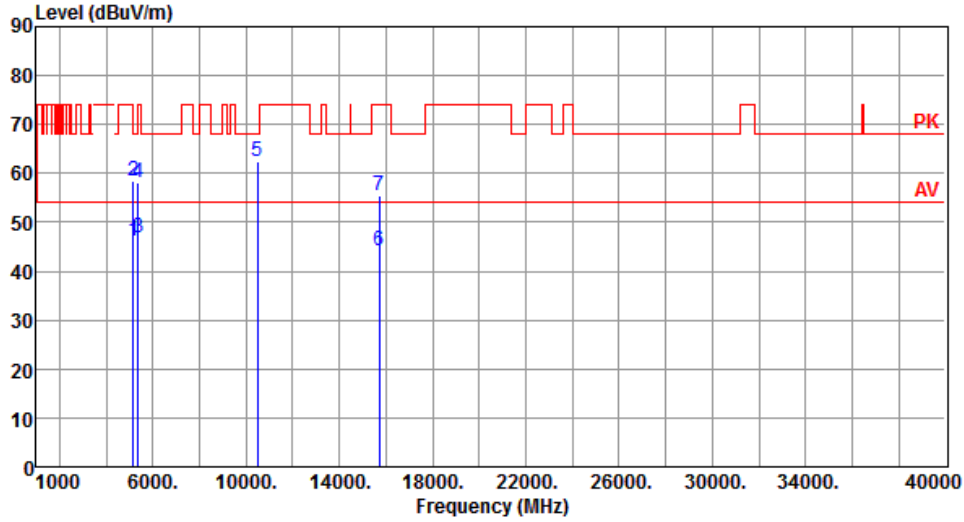
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Vertical		



	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	46.11	54.00	-7.89	41.57	4.54	Average	186	69
2	5150.00	64.12	74.00	-9.88	59.58	4.54	Peak	186	69
3	5350.00	46.96	54.00	-7.04	42.83	4.13	Average	186	69
4	5350.00	57.07	74.00	-16.93	52.94	4.13	Peak	186	69
5	10400.00	59.81	68.20	-8.39	45.92	13.89	Peak	184	81
6	15600.00	44.35	54.00	-9.65	30.25	14.10	Average	100	53
7	15600.00	55.87	74.00	-18.13	41.77	14.10	Peak	100	53

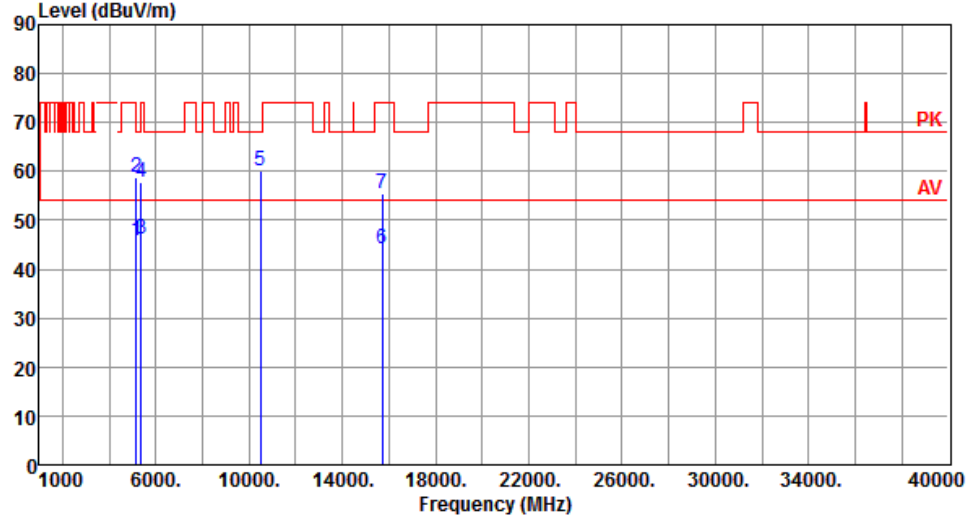
Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).

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

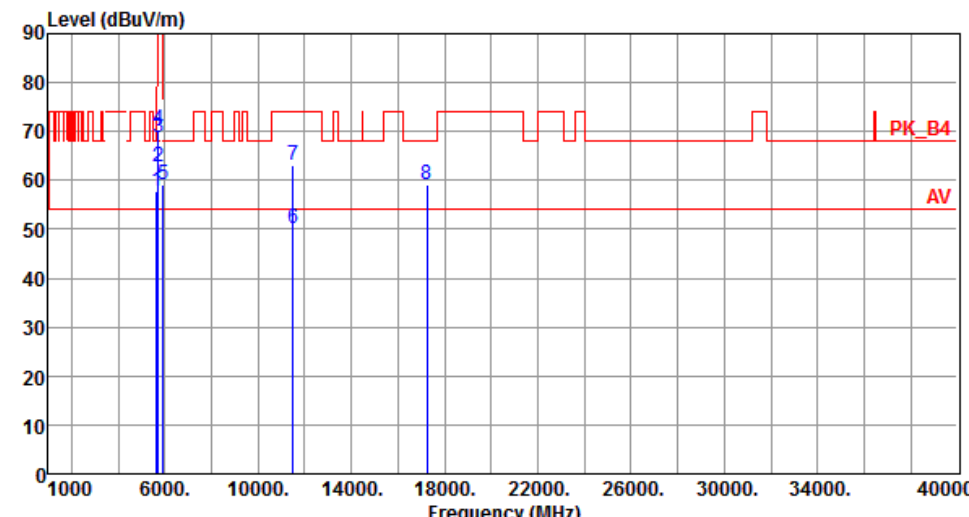


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.09	54.00	-7.91	41.55	4.54	Average	186	69
2	5150.00	58.39	74.00	-15.61	53.85	4.54	Peak	186	69
3	5350.00	46.84	54.00	-7.16	42.71	4.13	Average	186	69
4	5350.00	57.98	74.00	-16.02	53.85	4.13	Peak	186	69
5	10480.00	62.54	68.20	-5.66	48.66	13.88	Peak	100	247
6	15720.00	44.31	54.00	-9.69	30.42	13.89	Average	100	102
7	15720.00	55.31	74.00	-18.69	41.42	13.89	Peak	100	102

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																																																																																		
 <table><thead><tr><th></th><th>Freq. MHz</th><th>Emission level dBuV/m</th><th>Limit dBuV/m</th><th>Margin dB</th><th>SA reading dBuV</th><th>Factor dB</th><th>Remark</th><th>ANT High cm</th><th>Turn Table deg</th></tr></thead><tbody><tr><td>1</td><td>5150.00</td><td>45.79</td><td>54.00</td><td>-8.21</td><td>41.25</td><td>4.54</td><td>Average</td><td>188</td><td>70</td></tr><tr><td>2</td><td>5150.00</td><td>58.76</td><td>74.00</td><td>-15.24</td><td>54.22</td><td>4.54</td><td>Peak</td><td>188</td><td>70</td></tr><tr><td>3</td><td>5350.00</td><td>46.17</td><td>54.00</td><td>-7.83</td><td>42.04</td><td>4.13</td><td>Average</td><td>188</td><td>70</td></tr><tr><td>4</td><td>5350.00</td><td>57.86</td><td>74.00</td><td>-16.14</td><td>53.73</td><td>4.13</td><td>Peak</td><td>188</td><td>70</td></tr><tr><td>5</td><td>10480.00</td><td>60.13</td><td>68.20</td><td>-8.07</td><td>46.25</td><td>13.88</td><td>Peak</td><td>185</td><td>83</td></tr><tr><td>6</td><td>15720.00</td><td>44.16</td><td>54.00</td><td>-9.84</td><td>30.27</td><td>13.89</td><td>Average</td><td>100</td><td>56</td></tr><tr><td>7</td><td>15720.00</td><td>55.56</td><td>74.00</td><td>-18.44</td><td>41.67</td><td>13.89</td><td>Peak</td><td>100</td><td>56</td></tr></tbody></table>					Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg	1	5150.00	45.79	54.00	-8.21	41.25	4.54	Average	188	70	2	5150.00	58.76	74.00	-15.24	54.22	4.54	Peak	188	70	3	5350.00	46.17	54.00	-7.83	42.04	4.13	Average	188	70	4	5350.00	57.86	74.00	-16.14	53.73	4.13	Peak	188	70	5	10480.00	60.13	68.20	-8.07	46.25	13.88	Peak	185	83	6	15720.00	44.16	54.00	-9.84	30.27	13.89	Average	100	56	7	15720.00	55.56	74.00	-18.44	41.67	13.89	Peak	100	56
	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	45.79	54.00	-8.21	41.25	4.54	Average	188	70																																																																										
2	5150.00	58.76	74.00	-15.24	54.22	4.54	Peak	188	70																																																																										
3	5350.00	46.17	54.00	-7.83	42.04	4.13	Average	188	70																																																																										
4	5350.00	57.86	74.00	-16.14	53.73	4.13	Peak	188	70																																																																										
5	10480.00	60.13	68.20	-8.07	46.25	13.88	Peak	185	83																																																																										
6	15720.00	44.16	54.00	-9.84	30.27	13.89	Average	100	56																																																																										
7	15720.00	55.56	74.00	-18.44	41.67	13.89	Peak	100	56																																																																										
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		

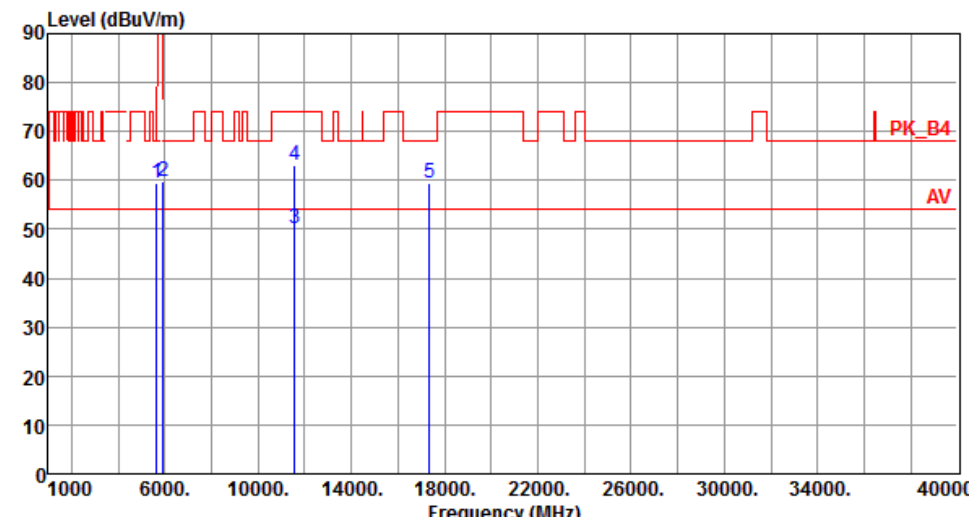


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	57.92	68.20	-10.28	52.95	4.97	Peak	345	52
2	5700.00	62.84	105.20	-42.36	57.68	5.16	Peak	345	52
3	5720.00	68.59	110.80	-42.21	63.36	5.23	Peak	345	52
4	5725.00	70.24	122.20	-51.96	64.99	5.25	Peak	345	52
5	5925.00	59.08	68.20	-9.12	52.99	6.09	Peak	345	52
6	11490.00	50.14	54.00	-3.86	36.02	14.12	Average	114	263
7	11490.00	63.03	74.00	-10.97	48.91	14.12	Peak	114	263
8	17235.00	59.08	68.20	-9.12	41.85	17.23	Peak	100	107

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		
Level (dBUV/m) </			

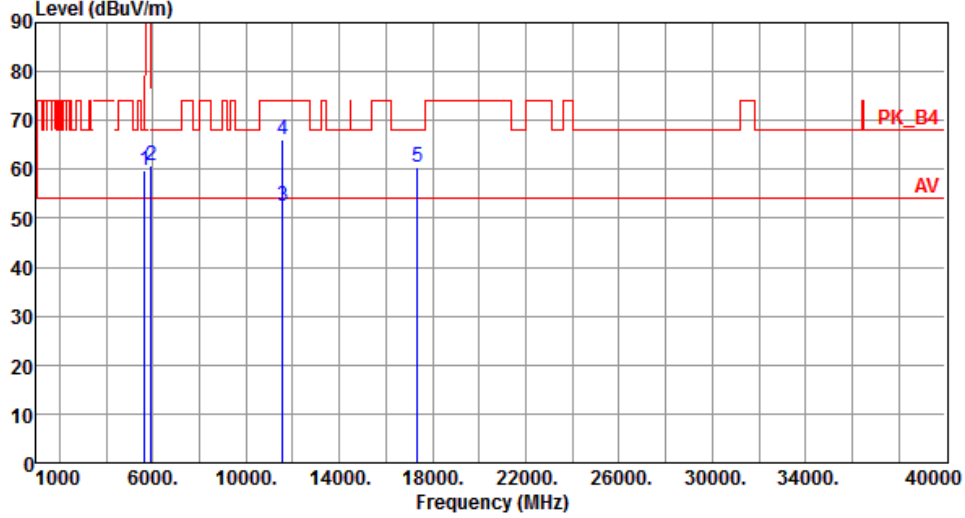
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Horizontal		



	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	59.44	68.20	-8.76	54.47	4.97	Peak	343	57
2	5925.00	59.83	68.20	-8.37	53.74	6.09	Peak	343	57
3	11570.00	50.09	54.00	-3.91	36.14	13.95	Average	100	268
4	11570.00	63.19	74.00	-10.81	49.24	13.95	Peak	100	268
5	17355.00	59.56	68.20	-8.64	41.94	17.62	Peak	343	57

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		



	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	59.81	68.20	-8.39	54.84	4.97	Peak	284	153
2	5925.00	60.83	68.20	-7.37	54.74	6.09	Peak	284	153
3	11570.00	52.42	54.00	-1.58	38.47	13.95	Average	167	327
4	11570.00	66.22	74.00	-7.78	52.27	13.95	Peak	167	327
5	17355.00	60.50	68.20	-7.70	42.88	17.62	Peak	100	51

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).

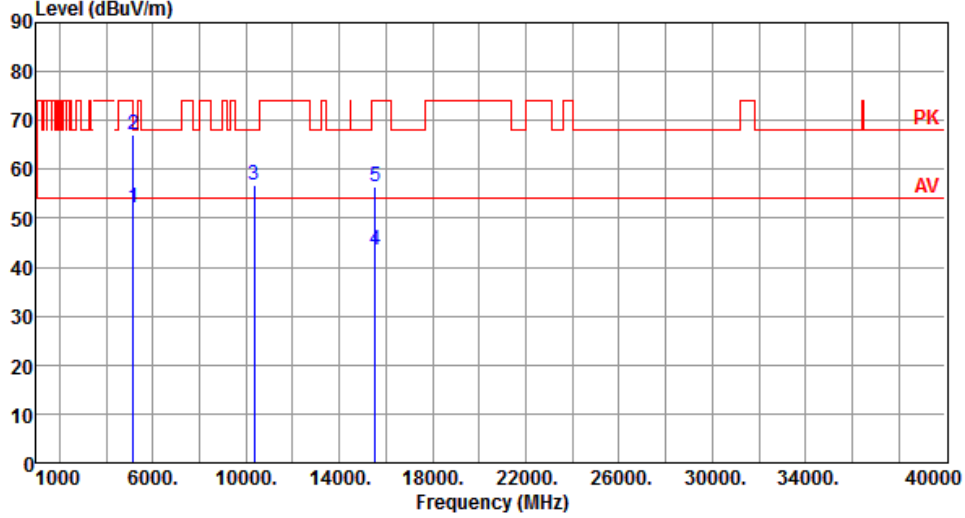
Modulation	11a	Test Freq. (MHz)	5825
Polarization	Horizontal		
Level (dBuV/m) </			

Modulation	11a	Test Freq. (MHz)	5825
Polarization	Vertical		
Level (dBuV/m) </			

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

Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Horizontal		
Level (dBuV/m) </			

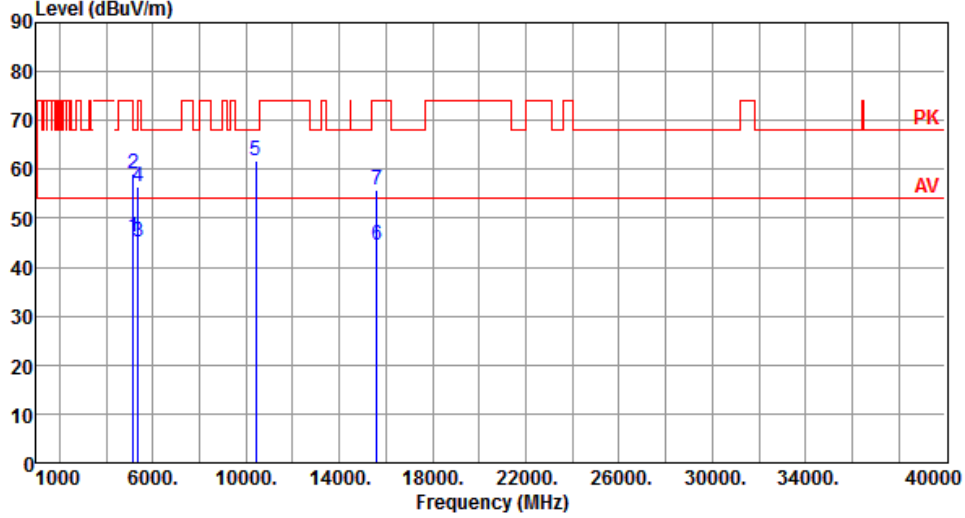
Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Vertical		



	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	52.14	54.00	-1.86	47.60	4.54	Average	185	65
2	5150.00	67.13	74.00	-6.87	62.59	4.54	Peak	185	65
3	10360.00	56.78	68.20	-11.42	43.00	13.78	Peak	199	295
4	15540.00	43.46	54.00	-10.54	29.18	14.28	Average	100	303
5	15540.00	56.58	74.00	-17.42	42.30	14.28	Peak	100	303

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).

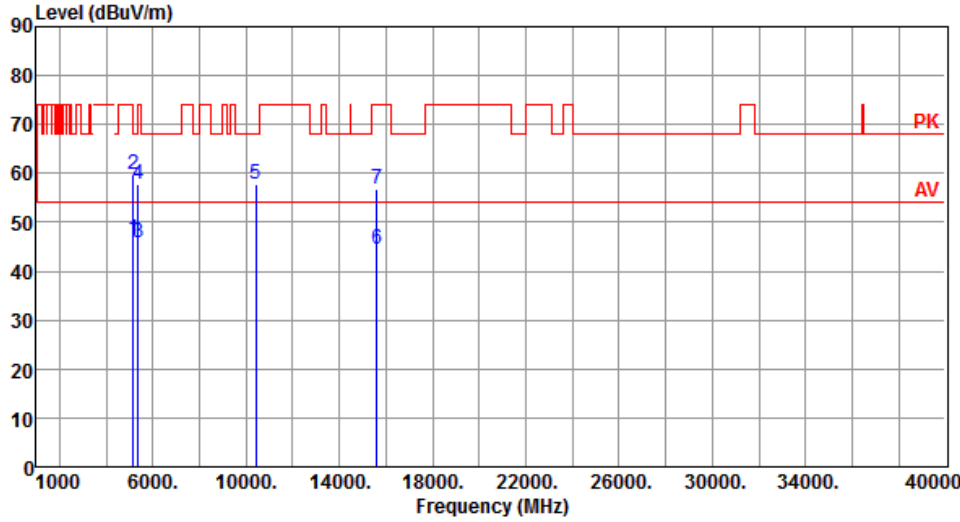
Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Horizontal		



	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	46.05	54.00	-7.95	41.51	4.54	Average	340	94
2	5150.00	59.10	74.00	-14.90	54.56	4.54	Peak	340	94
3	5350.00	45.32	54.00	-8.68	41.19	4.13	Average	340	94
4	5350.00	56.53	74.00	-17.47	52.40	4.13	Peak	340	94
5	10400.00	61.68	68.20	-6.52	47.79	13.89	Peak	196	15
6	15600.00	44.41	54.00	-9.59	30.31	14.10	Average	100	105
7	15600.00	55.94	74.00	-18.06	41.84	14.10	Peak	100	105

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		

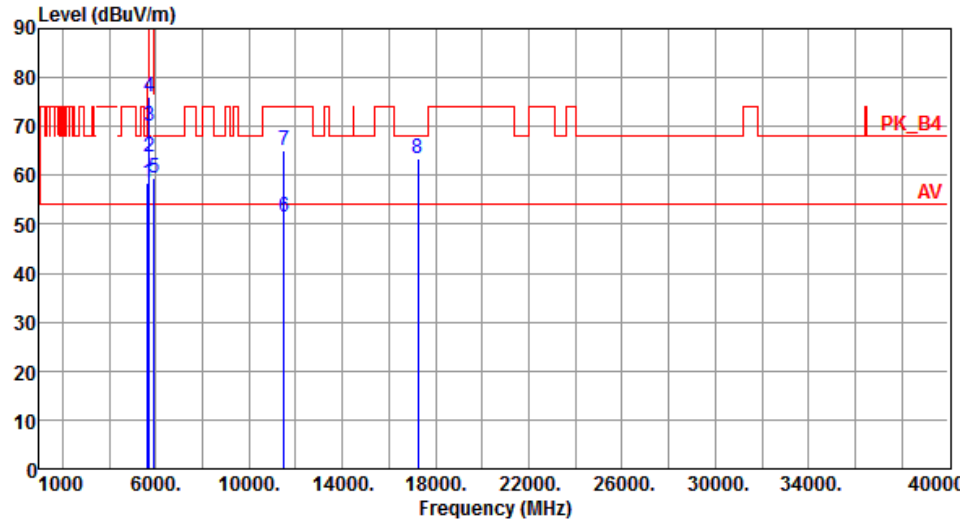


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.52	54.00	-7.48	41.98	4.54	Average	187	68
2	5150.00	59.86	74.00	-14.14	55.32	4.54	Peak	187	68
3	5350.00	45.96	54.00	-8.04	41.83	4.13	Average	187	68
4	5350.00	57.64	74.00	-16.36	53.51	4.13	Peak	187	68
5	10400.00	57.90	68.20	-10.30	44.01	13.89	Peak	205	294
6	15600.00	44.35	54.00	-9.65	30.25	14.10	Average	100	305
7	15600.00	56.75	74.00	-17.25	42.65	14.10	Peak	100	305

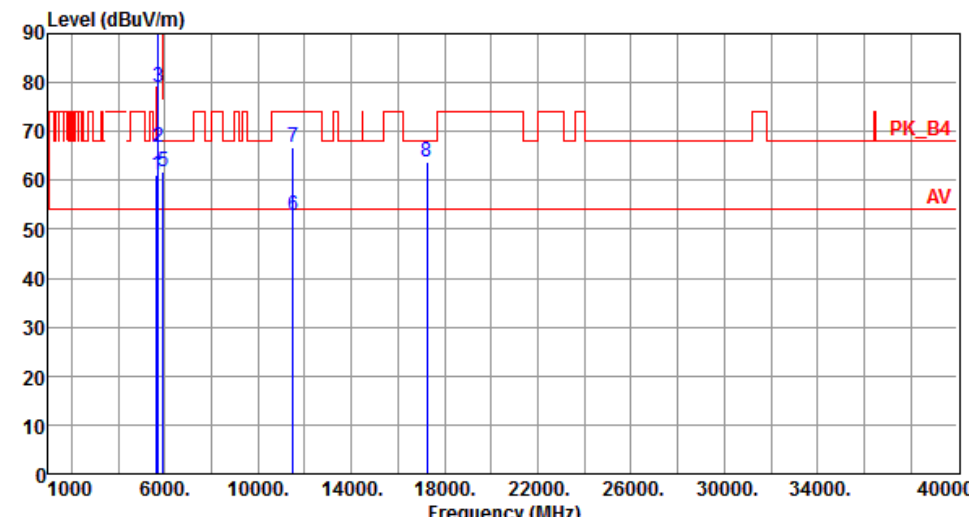
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Horizontal		
Level (dBUV/m) </			

Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Vertical		
Level (dBuV/m)			

Modulation	VHT20	Test Freq. (MHz)	5745																																																																																										
Polarization	Horizontal																																																																																												
 <table><tr><th></th><th>Freq. MHz</th><th>Emission level dBuV/m</th><th>Limit dBuV/m</th><th>Margin dB</th><th>SA reading dBuV</th><th>Factor dB</th><th>Remark</th><th>ANT High cm</th><th>Turn Table deg</th></tr><tr><td>1</td><td>5650.00</td><td>58.55</td><td>68.20</td><td>-9.65</td><td>53.58</td><td>4.97</td><td>Peak</td><td>294</td><td>81</td></tr><tr><td>2</td><td>5700.00</td><td>63.85</td><td>105.20</td><td>-41.35</td><td>58.69</td><td>5.16</td><td>Peak</td><td>294</td><td>81</td></tr><tr><td>3</td><td>5720.00</td><td>70.23</td><td>110.80</td><td>-40.57</td><td>65.00</td><td>5.23</td><td>Peak</td><td>294</td><td>81</td></tr><tr><td>4</td><td>5725.00</td><td>76.10</td><td>122.20</td><td>-46.10</td><td>70.85</td><td>5.25</td><td>Peak</td><td>294</td><td>81</td></tr><tr><td>5</td><td>5925.00</td><td>59.59</td><td>68.20</td><td>-8.61</td><td>53.50</td><td>6.09</td><td>Peak</td><td>294</td><td>81</td></tr><tr><td>6</td><td>11490.00</td><td>51.48</td><td>54.00</td><td>-2.52</td><td>37.36</td><td>14.12</td><td>Average</td><td>279</td><td>76</td></tr><tr><td>7</td><td>11490.00</td><td>65.13</td><td>74.00</td><td>-8.87</td><td>51.01</td><td>14.12</td><td>Peak</td><td>279</td><td>76</td></tr><tr><td>8</td><td>17235.00</td><td>63.30</td><td>68.20</td><td>-4.90</td><td>46.07</td><td>17.23</td><td>Peak</td><td>100</td><td>247</td></tr></table>					Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg	1	5650.00	58.55	68.20	-9.65	53.58	4.97	Peak	294	81	2	5700.00	63.85	105.20	-41.35	58.69	5.16	Peak	294	81	3	5720.00	70.23	110.80	-40.57	65.00	5.23	Peak	294	81	4	5725.00	76.10	122.20	-46.10	70.85	5.25	Peak	294	81	5	5925.00	59.59	68.20	-8.61	53.50	6.09	Peak	294	81	6	11490.00	51.48	54.00	-2.52	37.36	14.12	Average	279	76	7	11490.00	65.13	74.00	-8.87	51.01	14.12	Peak	279	76	8	17235.00	63.30	68.20	-4.90	46.07	17.23	Peak	100	247
	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	58.55	68.20	-9.65	53.58	4.97	Peak	294	81																																																																																				
2	5700.00	63.85	105.20	-41.35	58.69	5.16	Peak	294	81																																																																																				
3	5720.00	70.23	110.80	-40.57	65.00	5.23	Peak	294	81																																																																																				
4	5725.00	76.10	122.20	-46.10	70.85	5.25	Peak	294	81																																																																																				
5	5925.00	59.59	68.20	-8.61	53.50	6.09	Peak	294	81																																																																																				
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8	17235.00	63.30	68.20	-4.90	46.07	17.23	Peak	100	247																																																																																				
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		

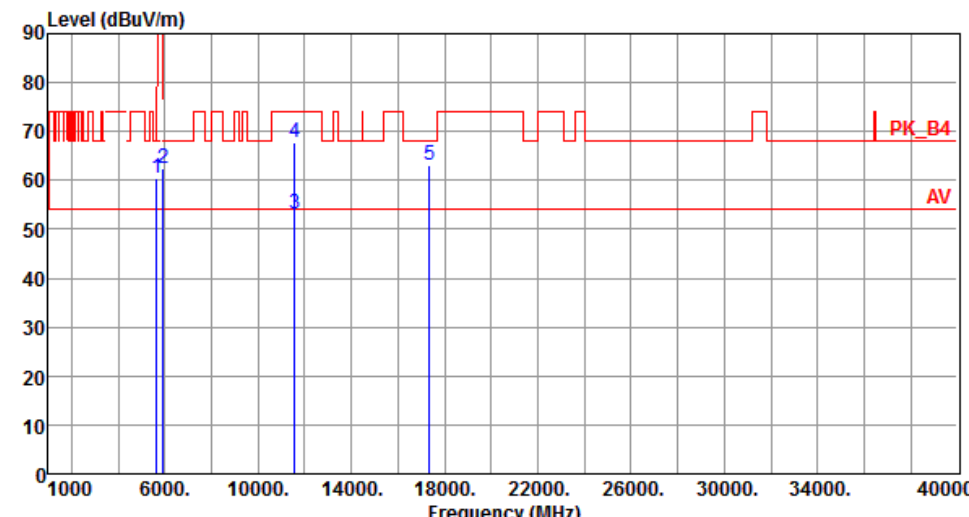


	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	61.27	68.20	-6.93	56.30	4.97	Peak	222	364
2	5700.00	66.82	105.20	-38.38	61.66	5.16	Peak	222	364
3	5720.00	79.14	110.80	-31.66	73.91	5.23	Peak	222	364
4	5725.00	90.33	122.20	-31.87	85.08	5.25	Peak	222	364
5	5925.00	61.65	68.20	-6.55	55.56	6.09	Peak	222	364
6	11490.00	52.95	54.00	-1.05	38.83	14.12	Average	188	324
7	11490.00	66.90	74.00	-7.10	52.78	14.12	Peak	188	324
8	17235.00	63.66	68.20	-4.54	46.43	17.23	Peak	100	267

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		
Level (dBuV/m) </			

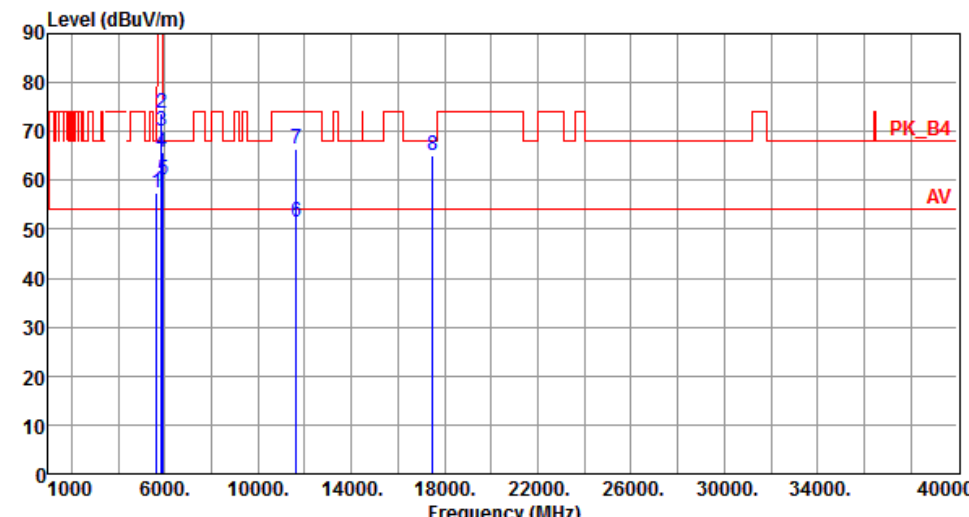
Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Vertical		



	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	60.42	68.20	-7.78	55.45	4.97	Peak	100	357
2	5925.00	62.31	68.20	-5.89	56.22	6.09	Peak	100	357
3	11570.00	52.99	54.00	-1.01	39.04	13.95	Average	350	347
4	11570.00	67.62	74.00	-6.38	53.67	13.95	Peak	350	347
5	17355.00	63.05	68.20	-5.15	45.43	17.62	Peak	100	170

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).

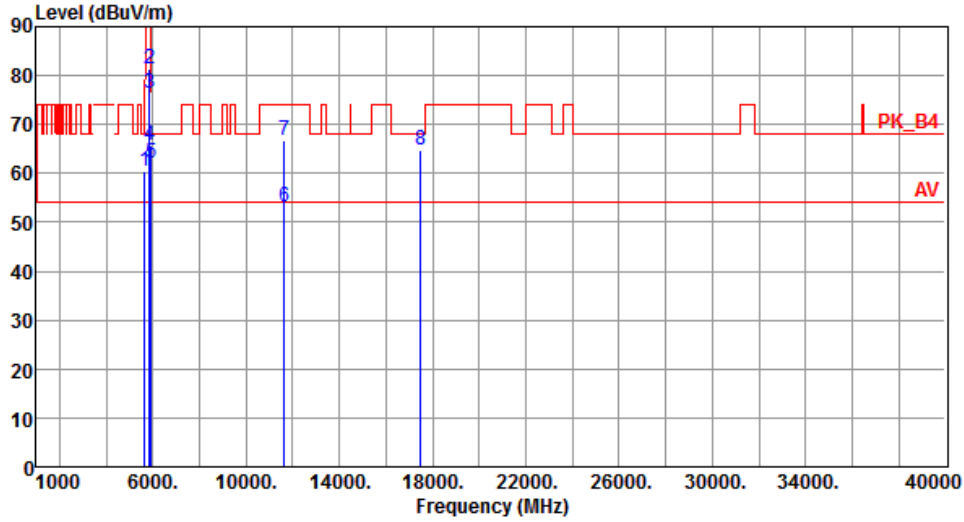
Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Horizontal		



	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	57.34	68.20	-10.86	52.37	4.97	Peak	295	83
2	5850.00	73.68	122.20	-48.52	67.87	5.81	Peak	295	83
3	5855.00	70.22	110.80	-40.58	64.39	5.83	Peak	295	83
4	5875.00	65.87	105.20	-39.33	59.97	5.90	Peak	295	83
5	5925.00	60.04	68.20	-8.16	53.95	6.09	Peak	295	83
6	11650.00	51.56	54.00	-2.44	37.94	13.62	Average	316	48
7	11650.00	66.36	74.00	-7.64	52.74	13.62	Peak	316	48
8	17475.00	65.05	68.20	-3.15	47.15	17.90	Peak	166	21

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		

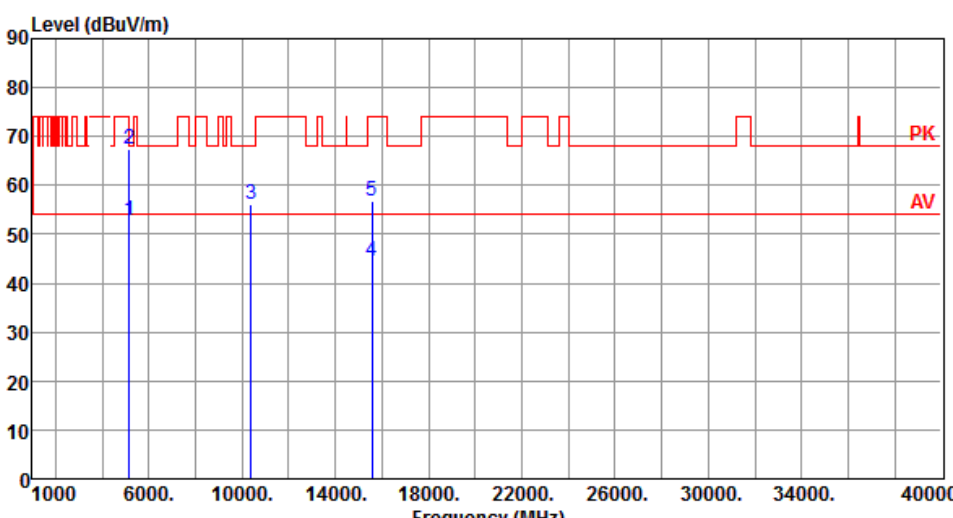


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	60.37	68.20	-7.83	55.40	4.97	Peak	233	1
2	5850.00	81.49	122.20	-40.71	75.68	5.81	Peak	233	1
3	5855.00	76.54	110.80	-34.26	70.71	5.83	Peak	233	1
4	5875.00	65.70	105.20	-39.50	59.80	5.90	Peak	233	1
5	5925.00	62.19	68.20	-6.01	56.10	6.09	Peak	233	1
6	11650.00	52.98	54.00	-1.02	39.36	13.62	Average	388	333
7	11650.00	66.85	74.00	-7.15	53.23	13.62	Peak	388	333
8	17475.00	64.63	68.20	-3.57	46.73	17.90	Peak	152	313

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		

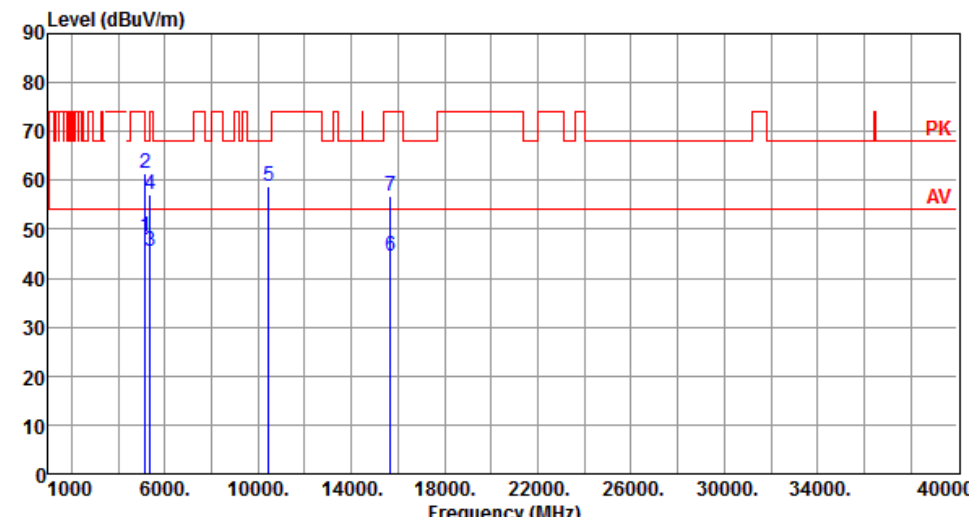


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.81	54.00	-1.19	48.27	4.54	Average	319	94
2	5150.00	67.52	74.00	-6.48	62.98	4.54	Peak	319	94
3	10380.00	56.23	68.20	-11.97	42.39	13.84	Peak	100	23
4	15570.00	44.41	54.00	-9.59	30.22	14.19	Average	100	103
5	15570.00	56.80	74.00	-17.20	42.61	14.19	Peak	100	103

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		
Level (dBuV/m) </			

Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Horizontal		



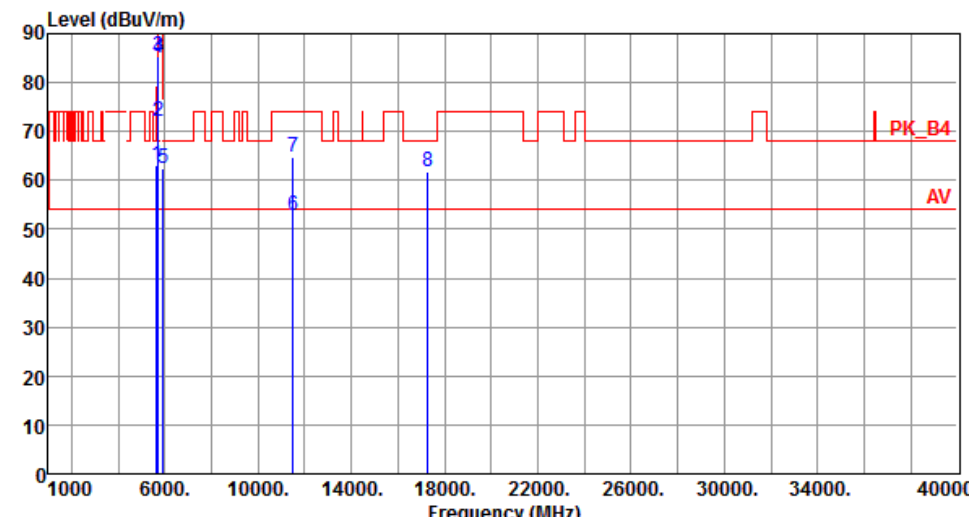
	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	48.50	54.00	-5.50	43.96	4.54	Average	312	94
2	5150.00	61.45	74.00	-12.55	56.91	4.54	Peak	312	94
3	5350.00	45.64	54.00	-8.36	41.51	4.13	Average	312	94
4	5350.00	57.14	74.00	-16.86	53.01	4.13	Peak	312	94
5	10460.00	58.62	68.20	-9.58	44.73	13.89	Peak	181	20
6	15690.00	44.45	54.00	-9.55	30.52	13.93	Average	100	105
7	15690.00	56.77	74.00	-17.23	42.84	13.93	Peak	100	105

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		
Level (dBuV/m) <			

Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Horizontal		
Level (dBuV/m)			

Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Vertical		



	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	62.98	68.20	-5.22	58.01	4.97	Peak	212	3
2	5700.00	72.23	105.20	-32.97	67.07	5.16	Peak	212	3
3	5720.00	85.38	110.80	-25.42	80.15	5.23	Peak	212	3
4	5725.00	85.04	122.20	-37.16	79.79	5.25	Peak	212	3
5	5925.00	62.37	68.20	-5.83	56.28	6.09	Peak	212	3
6	11510.00	52.94	54.00	-1.06	38.83	14.11	Average	390	335
7	11510.00	64.81	74.00	-9.19	50.70	14.11	Peak	390	335
8	17265.00	61.62	68.20	-6.58	44.31	17.31	Peak	100	133

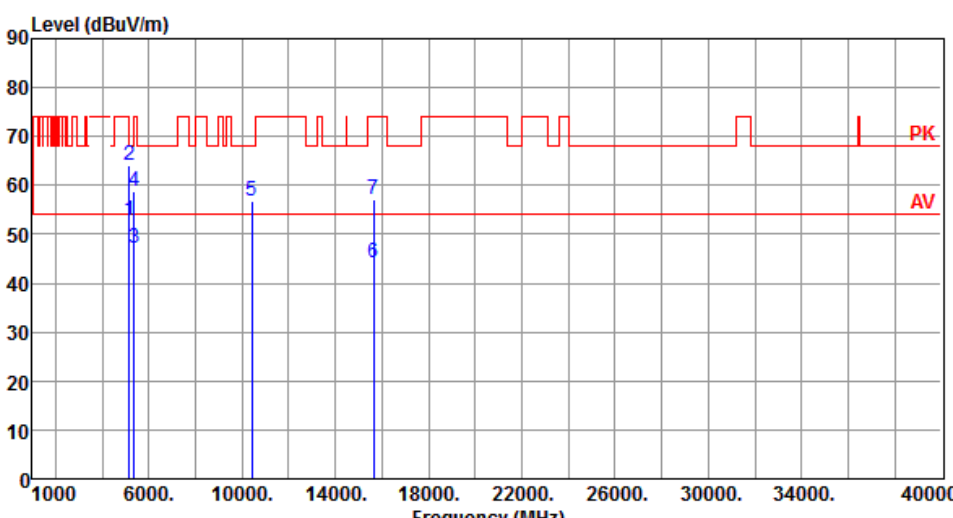
Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).

Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Horizontal		
Level (dBuV/m) <			

Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Vertical		
Level (dBuV/m) </			

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

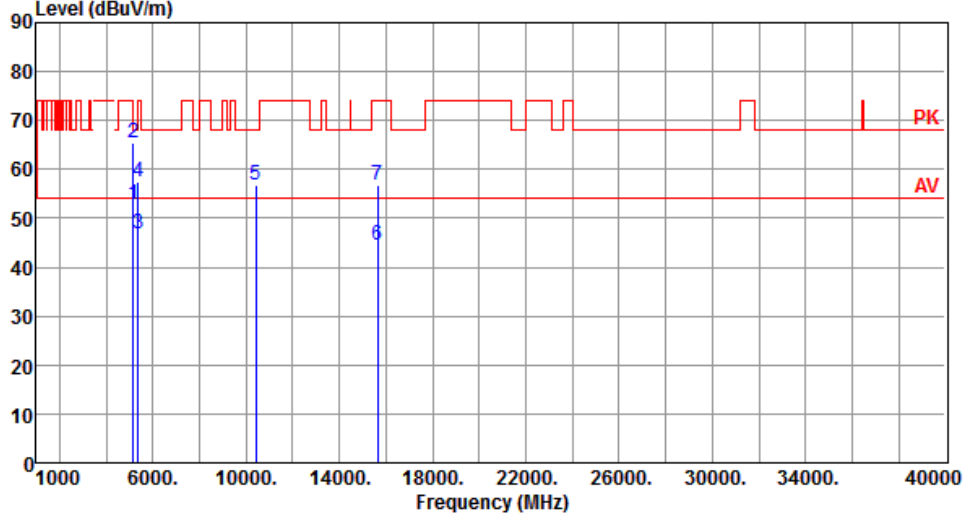
Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Horizontal		



	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	52.85	54.00	-1.15	48.31	4.54	Average	310	92
2	5150.00	63.97	74.00	-10.03	59.43	4.54	Peak	310	92
3	5350.00	47.32	54.00	-6.68	43.19	4.13	Average	306	95
4	5350.00	58.70	74.00	-15.30	54.57	4.13	Peak	306	95
5	10420.00	56.76	68.20	-11.44	42.87	13.89	Peak	100	13
6	15630.00	44.30	54.00	-9.70	30.26	14.04	Average	100	102
7	15630.00	57.15	74.00	-16.85	43.11	14.04	Peak	100	102

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).

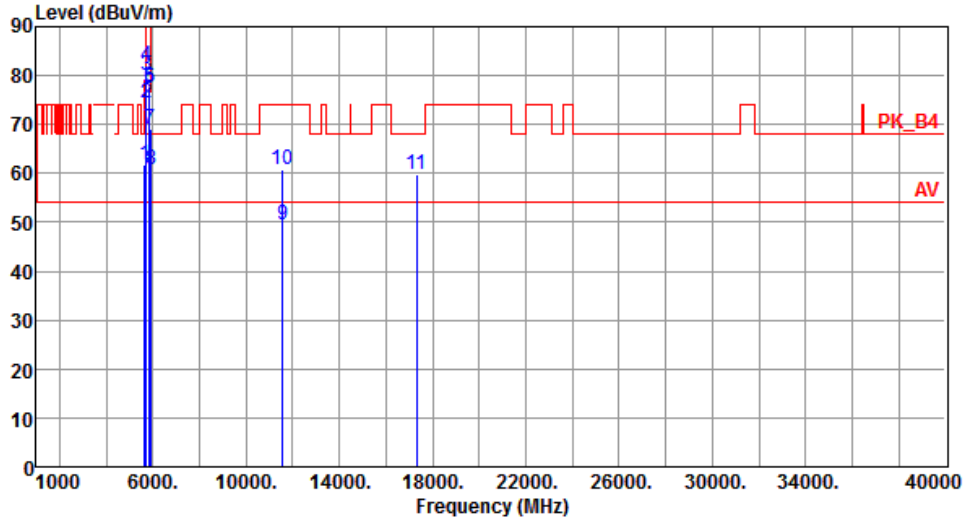
Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Vertical		



	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	52.81	54.00	-1.19	48.27	4.54	Average	205	65
2	5150.00	65.35	74.00	-8.65	60.81	4.54	Peak	205	65
3	5350.00	46.96	54.00	-7.04	42.83	4.13	Average	207	66
4	5350.00	57.37	74.00	-16.63	53.24	4.13	Peak	207	66
5	10420.00	56.83	68.20	-11.37	42.94	13.89	Peak	100	293
6	15630.00	44.60	54.00	-9.40	30.56	14.04	Average	100	303
7	15630.00	56.89	74.00	-17.11	42.85	14.04	Peak	100	303

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).

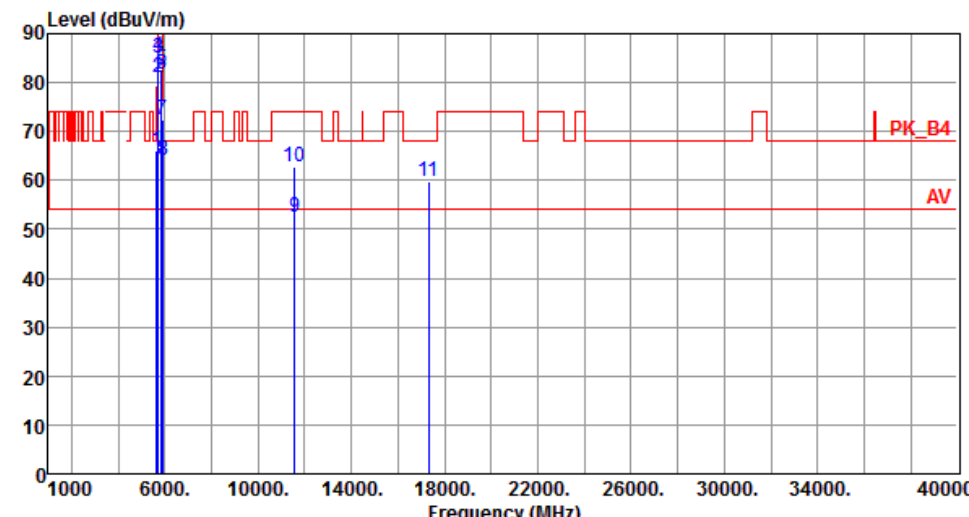
Modulation	VHT80	Test Freq. (MHz)	5775
Polarization	Horizontal		



	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	61.68	68.20	-6.52	56.71	4.97	Peak	100	260
2	5700.00	74.43	105.20	-30.77	69.27	5.16	Peak	100	260
3	5720.00	80.19	110.80	-30.61	74.96	5.23	Peak	100	260
4	5725.00	82.19	122.20	-40.01	76.94	5.25	Peak	100	260
5	5850.00	77.43	122.20	-44.77	71.62	5.81	Peak	100	260
6	5855.00	77.66	110.80	-33.14	71.83	5.83	Peak	100	260
7	5875.00	69.13	105.20	-36.07	63.23	5.90	Peak	100	260
8	5925.00	60.92	68.20	-7.28	54.83	6.09	Peak	100	260
9	11550.00	49.55	54.00	-4.45	35.55	14.00	Average	100	265
10	11550.00	60.77	74.00	-13.23	46.77	14.00	Peak	100	265
11	17325.00	59.66	68.20	-8.54	42.17	17.49	Peak	100	141

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		



	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	66.11	68.20	-2.09	61.14	4.97	Peak	215	1
2	5700.00	80.94	105.20	-24.26	75.78	5.16	Peak	215	1
3	5720.00	85.11	110.80	-25.69	79.88	5.23	Peak	215	1
4	5725.00	85.48	122.20	-36.72	80.23	5.25	Peak	215	1
5	5850.00	82.83	122.20	-39.37	77.02	5.81	Peak	215	1
6	5855.00	81.80	110.80	-29.00	75.97	5.83	Peak	215	1
7	5875.00	72.56	105.20	-32.64	66.66	5.90	Peak	215	1
8	5925.00	64.19	68.20	-4.01	58.10	6.09	Peak	215	1
9	11550.00	52.45	54.00	-1.55	38.45	14.00	Average	203	30
10	11550.00	62.63	74.00	-11.37	48.63	14.00	Peak	203	30
11	17325.00	59.71	68.20	-8.49	42.22	17.49	Peak	100	115

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

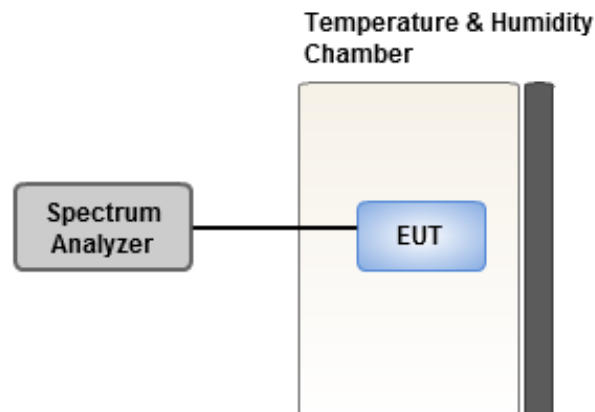
3.6.1 Limit of Frequency Stability

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

Frequency: 5200 MHz	Frequency Drift (ppm)			
Temperature (°C)	0 minute	2 minutes	5 minutes	10 minutes
T20°C Vmax	1.06	0.82	1.15	0.61
T20°C Vmin	1.88	1.93	2.06	1.91
T50°C Vnom	1.26	1.85	1.17	1.66
T40°C Vnom	1.18	1.80	1.74	0.90
T30°C Vnom	1.26	1.03	1.65	1.63
T20°C Vnom	1.67	1.93	1.63	1.81
T10°C Vnom	1.53	1.32	2.22	1.64
T0°C Vnom	1.64	1.47	2.23	1.60
T-10°C Vnom	2.25	2.18	2.78	2.87
T-20°C Vnom	2.23	2.37	1.91	2.82
T-30°C Vnom	1.58	1.74	2.00	2.01
Vnom [Vac]: 120		Vmax [Vac]: 138		Vmin [Vac]: 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°C Vmax	1.36	1.64	1.15	1.23
T20°C Vmin	1.36	1.78	1.89	1.89
T50°C Vnom	1.26	1.04	1.59	1.31
T40°C Vnom	1.44	1.73	1.33	0.98
T30°C Vnom	1.34	2.07	1.45	1.99
T20°C Vnom	1.57	1.42	1.92	2.18
T10°C Vnom	1.51	2.03	1.62	1.39
T0°C Vnom	1.27	1.94	1.34	1.63
T-10°C Vnom	1.96	1.92	2.21	2.09
T-20°C Vnom	1.95	2.63	2.70	1.96
T-30°C Vnom	1.91	1.77	1.68	1.95
Vnom [Vac]: 120		Vmax [Vac]: 138		Vmin [Vac]: 102
Tnom [°C]: 20		Tmax [°C]: 50		Tmin [°C]: -30

4 Test laboratory information

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

International Certification 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>.

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Kwei Shan Site II

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No. 14-1, Lane 19, Wen San 3rd
St., Kwei Shan District, Tao Yuan
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