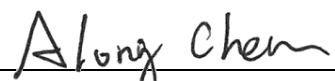


FCC Test Report

FCC ID : P27RP324
Equipment : AC2100 Wi-Fi Mesh Extender
Model No. : RP324
Multiple Listing : Refer to item 1.1.1 for more details.
Brand Name : Sercomm
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 : Oct. 02, 2019
Tested Date : Oct. 05 ~ Nov. 12, 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:

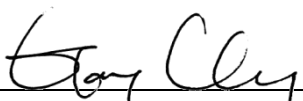

Gary Chang / Manager



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Release Record

Report No.	Version	Description	Issued Date
FR9O0208AN	Rev. 01	Initial issue	Dec. 09, 2019

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.334MHz 44.45 (Margin -4.90dB) - AV	Pass
15.407(b) 15.209	Radiated Emissions	[dBuV/m at 3m]: 5650.00MHz 67.20 (Margin -1.00dB) - 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]: <i>Non-beamforming mode</i> 5150-5250MHz: 25.78 5725-5850MHz: 25.73 <i>Beamforming mode</i> 5150-5250MHz: 25.48 5725-5850MHz: 25.14	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
RP324	Main tested model.
RP324XX	the 1st X should be "blank" or "-"; the rest X could be 0 to 9, A to Z, "blank" or "-", 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 5725-5850	a	5180-5240 5745-5825	36-48 [4] 149-165 [5]	4	6-54 Mbps
5150-5250 5725-5850	n (HT20)	5180-5240 5745-5825	36-48 [4] 149-165 [5]	4	MCS 0-31
5150-5250 5725-5850	n (HT40)	5190-5230 5755-5795	38-46 [2] 151-159 [2]	4	MCS 0-31
5150-5250 5725-5850	ac (VHT20)	5180-5240 5745-5825	36-48 [4] 149-165 [5]	4	MCS 0-9
5150-5250 5725-5850	ac (VHT40)	5190-5230 5755-5795	38-46 [2] 151-159 [2]	4	MCS 0-9
5150-5250 5725-5850	ac (VHT80)	5210 5775	42 [1] 155 [1]	4	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: 802.11ac supports beamforming function.					

1.1.3 Antenna Details

Ant. No.	Model	Type	Connector	Operating Frequencies (MHz) / Antenna Gain (dBi)		
				2400~2483.5	5150~5250	5725~5850
1	RP324	Dipole	i-pex	2.37	2.38	2.3
2	RP324	Dipole	i-pex	3.14	3.25	3.14
3	RP324	PIFA	NA	--	3.04	3.13
4	RP324	PIFA	NA	--	3.14	3.2

1.1.4 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	12V/1A
-------------------	--------

1.1.5 Accessories

N/A

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	Non-beamforming: MT7615 QA, V0.0.2.0 Beamforming: Putty, V0.60.0.0				
Duty Cycle and Duty Factor	Mode	Non-beamforming		Beamforming	
		Duty cycle (%)	Duty factor (dB)	Duty cycle (%)	Duty factor (dB)
	11a	98.97%	0.05	---	---
	VHT20	98.90%	0.05	99.57%	0.02
	VHT40	96.93%	0.14	96.57%	0.15
	VHT80	93.36%	0.30	97.16%	0.13

1.1.8 Power Index of Test Tool

Modulation Mode	Test Frequency (MHz)	Power Index	
		Non-Beamforming	Beamforming
11a	5180	14	---
11a	5200	1A	---
11a	5240	1E	---
11a	5745	20	---
11a	5785	20	---
11a	5825	20	---
VHT20	5180	17	24
VHT20	5200	1D	31
VHT20	5240	23	36
VHT20	5745	24	36
VHT20	5785	24	36
VHT20	5825	24	37
VHT40	5190	11	17
VHT40	5230	1A	27
VHT40	5755	1F	28
VHT40	5795	24	36
VHT80	5210	09	10
VHT80	5775	18	22

1.2 Local Support Equipment List

Non-beamforming mode

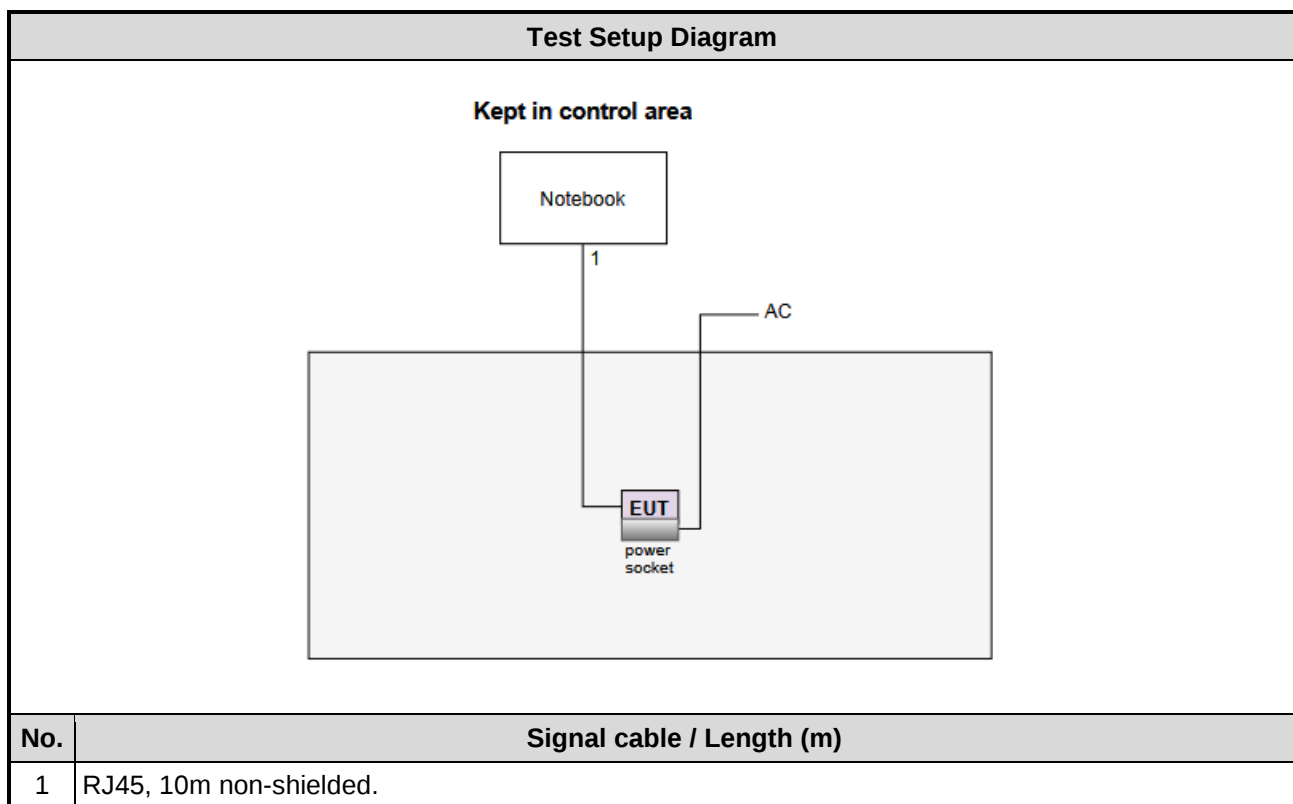
Support Equipment List					
No.	Equipment	Brand	Model	FCC ID	Remarks
1	Notebook	DELL	Latitude E6430	DoC	---

Beamforming mode

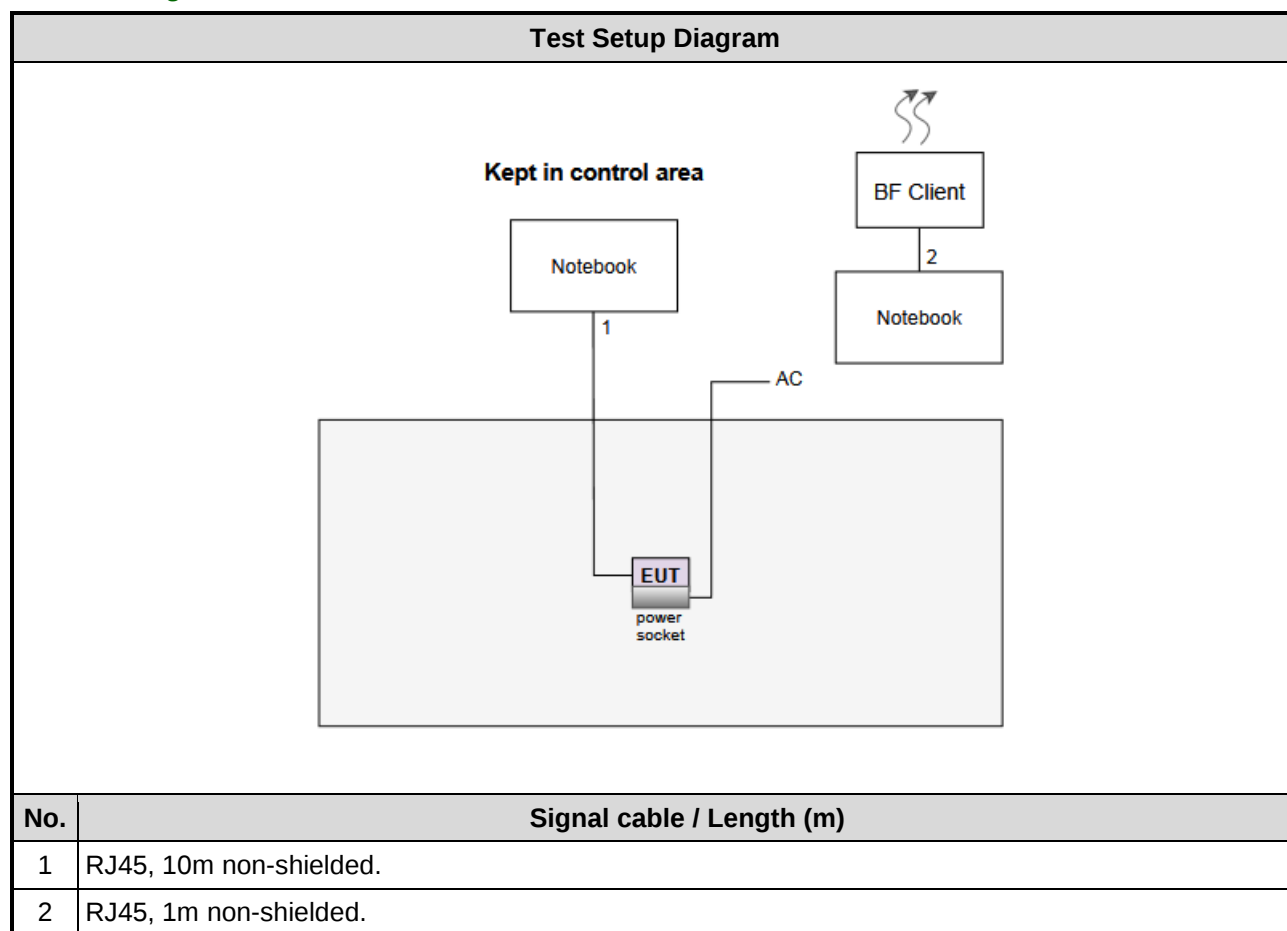
Support Equipment List					
No.	Equipment	Brand	Model	FCC ID	Remarks
1	Notebook	DELL	Latitude E6430	DoC	---
2	Notebook	DELL	Latitude E5470	DoC	---
3	BF Client (AC2100 Wi-Fi Mesh Extender)	Sercomm	RP324	---	---

1.3 Test Setup Chart

Non-beamforming mode



Beamforming mode



1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Tested Date	Oct. 21, 2019				
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 chamber 3 / (03CH03-WS)				
Tested Date	Oct. 05 ~ Oct. 07, 2019				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101499	Jan. 07, 2019	Jan. 06, 2020
Receiver	R&S	ESR3	101658	Dec. 11, 2018	Dec. 10, 2019
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-685	Apr. 17, 2019	Apr. 16, 2020
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1206	Jan. 07, 2019	Jan. 06, 2020
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	980187	Aug. 14, 2019	Aug. 13, 2020
Preamplifier	Agilent	83017A	MY53270014	Aug. 07, 2019	Aug. 06, 2020
Preamplifier	EMC	EMC184045B	980192	Aug. 01, 2019	Jul. 31, 2020
RF cable-3M	HUBER+SUHNER	SUCOFLEX104	MY22620/4	Sep. 27, 2019	Sep. 26, 2020
RF cable-8M	EMC	EMC104-SM-SM-8000	181107	Sep. 27, 2019	Sep. 26, 2020
RF cable-1M	HUBER+SUHNER	SUCOFLEX104	MY22624/4	Sep. 27, 2019	Sep. 26, 2020
LF cable-0.8M	EMC	EMC8D-NM-NM-800	EMC8D-NM-NM-800-001	Sep. 27, 2019	Sep. 26, 2020
LF cable-3M	EMC	EMC8D-NM-NM-3000	131103	Sep. 27, 2019	Sep. 26, 2020
LF cable-13M	EMC	EMC8D-NM-NM-13000	131104	Sep. 27, 2019	Sep. 26, 2020
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Tested Date	Nov. 12, 2019				
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. 23, 2019	Oct. 22, 2020
Power Sensor	Anritsu	MA2411B	1207366	Oct. 23, 2019	Oct. 22, 2020
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	± 3.96 dB
Radiated emission > 1 GHz	± 4.51 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 / 58%	Alex Tsai
Radiated Emissions	03CH03-WS	24-25°C / 61-64%	Roger Lu
RF Conducted	TH01-WS	21°C / 63%	Brad Wu

- FCC Designation No.: TW0009
- FCC site registration No.: 207696
- ISSED#: 10807A
- CAB identifier: TW2732

2.2 The Worst Test Modes and Channel Details

Non-beamforming mode

For Frequency band 5150-5250 MHz				
Test item	Modulation Mode	Test Frequency (MHz)	Data Rate (Mbps) / MCS	Test Configuration
Conducted Emissions	VHT20	5240	MCS 0	---
Radiated Emissions ≤ 1 GHz	VHT20	5240	MCS 0	---
RF Output Power	11a VHT20 VHT40 VHT80	5180 / 5200 / 5240 5180 / 5200 / 5240 5190 / 5230 5210	6 Mbps MCS 0 MCS 0 MCS 0	---
Radiated Emissions > 1 GHz 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	---
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 X-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 (Mbps) / MCS	Test Configuration
Conducted Emissions	11a	5745	6 Mbps	---
Radiated Emissions ≤ 1 GHz	11a	5745	6 Mbps	---
RF Output Power	11a VHT20 VHT40 VHT80	5745 / 5785 / 5825 5745 / 5785 / 5825 5755 / 5795 5775	6 Mbps MCS 0 MCS 0 MCS 0	---
Radiated Emissions > 1 GHz 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	---
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 X-plane results were found as the worst case and were shown in this report.				

Beamforming mode

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

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

3 Transmitter Test Results

3.1 Conducted Emissions

3.1.1 Limit of Conducted Emissions

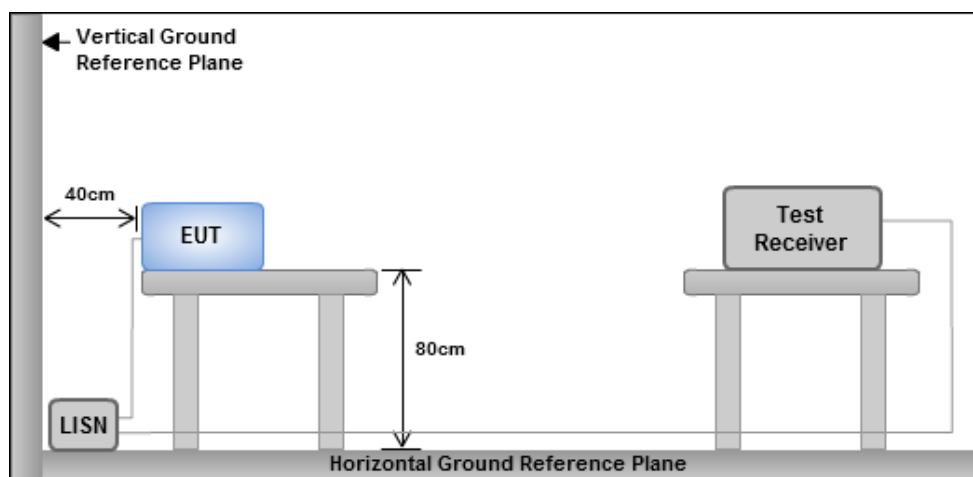
Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

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

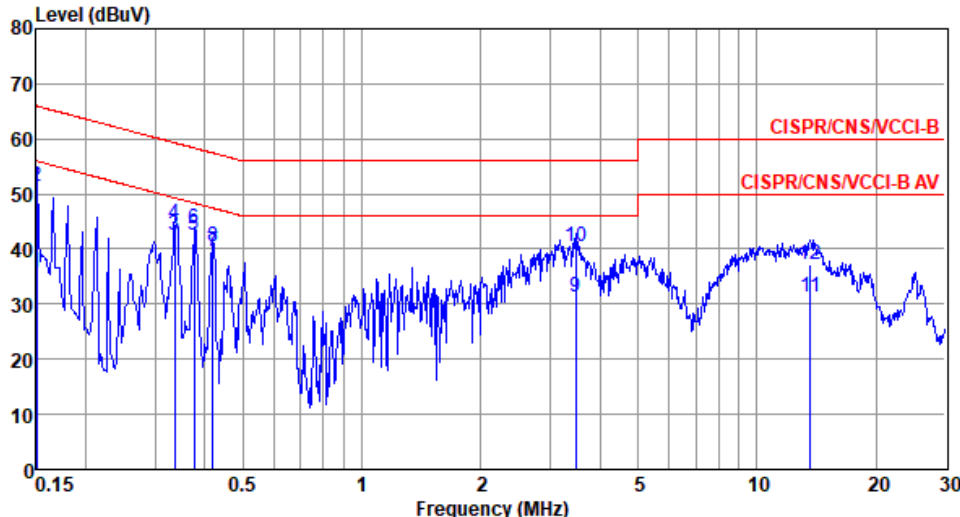


- Note: 1. Support units were connected to second LISN.
 2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

3.1.4 Test Result of Conducted Emissions

Non-beamforming mode

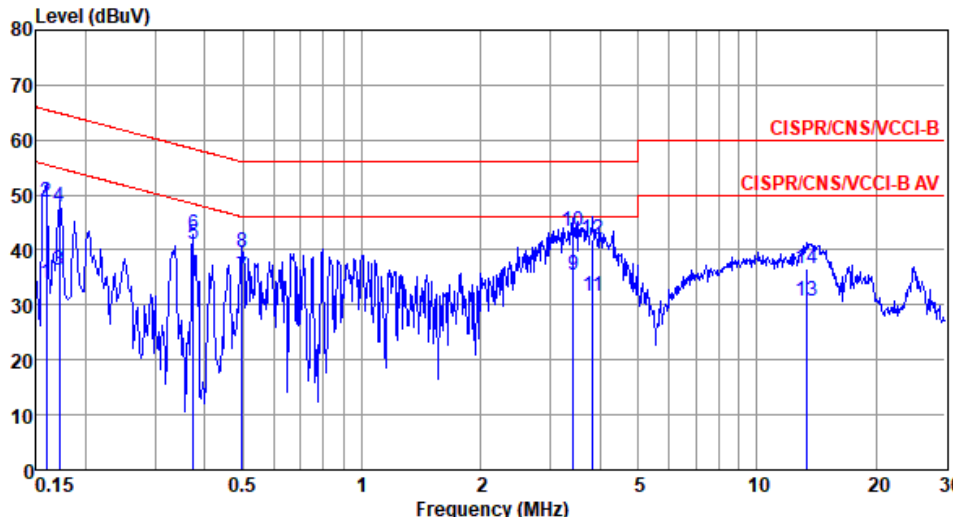
Modulation	VHT20	Test Freq. (MHz)	5240
Power Phase	Line		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.150	35.77	56.00	-20.23	26.07	9.53	0.05	Average
2	0.150	51.31	66.00	-14.69	41.61	9.53	0.05	QP
3	0.336	42.39	49.31	-6.92	32.51	9.56	0.08	Average
4	0.336	44.72	59.31	-14.59	34.84	9.56	0.08	QP
5*	0.377	42.39	48.34	-5.95	32.49	9.57	0.08	Average
6	0.377	43.65	58.34	-14.69	33.75	9.57	0.08	QP
7	0.419	39.47	47.46	-7.99	29.56	9.57	0.08	Average
8	0.419	40.59	57.46	-16.87	30.68	9.57	0.08	QP
9	3.472	31.19	46.00	-14.81	20.95	9.61	0.25	Average
10	3.472	40.55	56.00	-15.45	30.31	9.61	0.25	QP
11	13.623	31.26	50.00	-18.74	20.64	9.65	0.53	Average
12	13.623	37.18	60.00	-22.82	26.56	9.65	0.53	QP

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

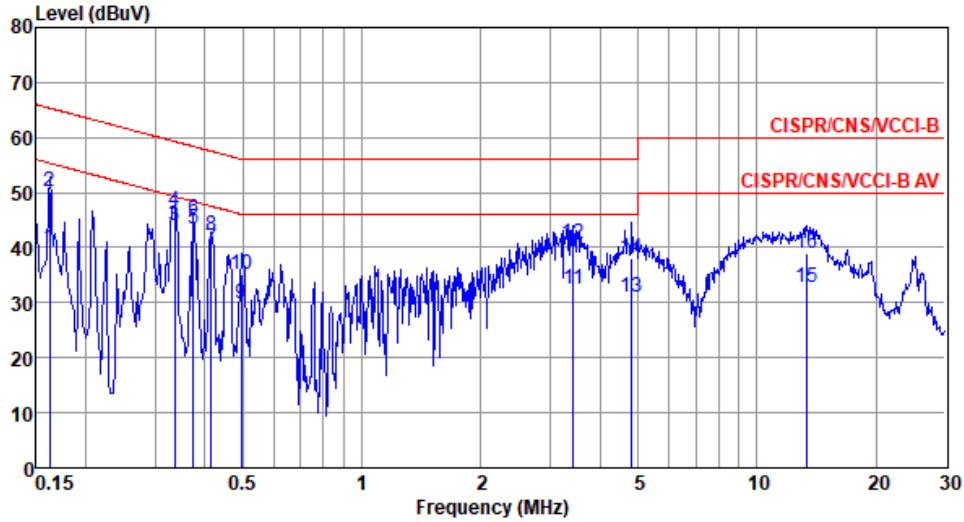
Modulation	VHT20	Test Freq. (MHz)	5240
Power Phase	Neutral		



	Freq	Level	Limit	Over	Read	LISN	cable	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.159	34.01	55.52	-21.51	24.27	9.57	0.05	Average
2	0.159	48.64	65.52	-16.88	38.90	9.57	0.05	QP
3	0.171	36.19	54.90	-18.71	26.44	9.57	0.06	Average
4	0.171	47.73	64.90	-17.17	37.98	9.57	0.06	QP
5*	0.375	41.17	48.39	-7.22	31.36	9.61	0.08	Average
6	0.375	42.72	58.39	-15.67	32.91	9.61	0.08	QP
7	0.497	35.06	46.05	-10.99	25.21	9.62	0.08	Average
8	0.497	39.54	56.05	-16.51	29.69	9.62	0.08	QP
9	3.436	35.37	46.00	-10.63	25.20	9.66	0.25	Average
10	3.436	43.35	56.00	-12.65	33.18	9.66	0.25	QP
11	3.840	31.47	46.00	-14.53	21.28	9.66	0.27	Average
12	3.840	41.87	56.00	-14.13	31.68	9.66	0.27	QP
13	13.408	30.81	50.00	-19.19	20.21	9.75	0.53	Average
14	13.408	36.53	60.00	-23.47	25.93	9.75	0.53	QP

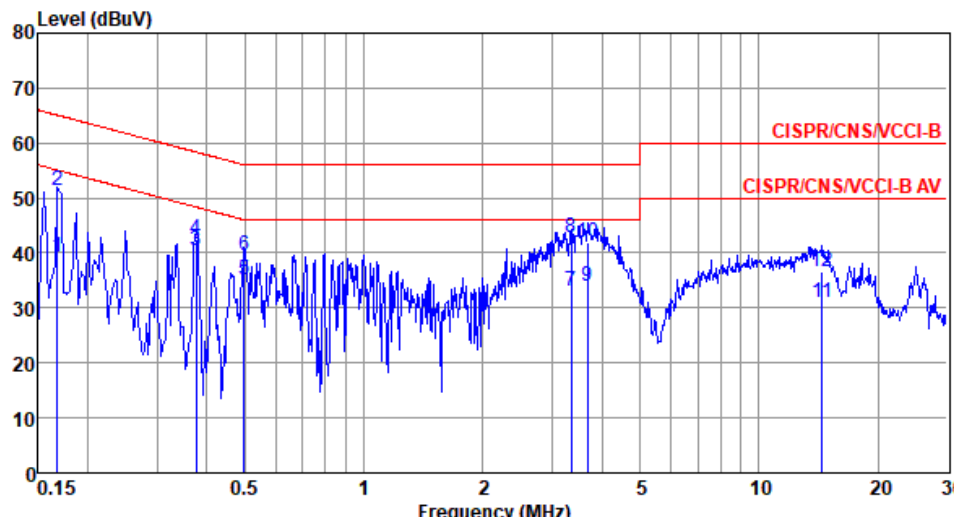
Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).
 2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

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



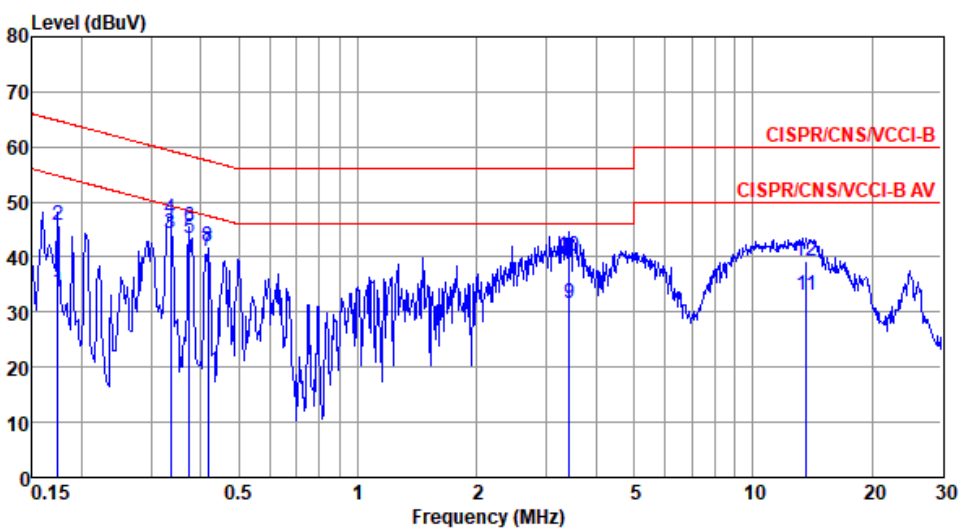
	Freq MHz	Level dBUV	Limit Line dBUV	Over Limit dB	Read Level dBUV	LISN factor dB	cable loss dB	Remark
1	0.162	39.84	55.34	-15.50	30.11	9.53	0.06	Average
2	0.162	50.27	65.34	-15.07	40.54	9.53	0.06	QP
3	0.336	43.89	49.31	-5.42	34.01	9.56	0.08	Average
4	0.336	46.71	59.31	-12.60	36.83	9.56	0.08	QP
5*	0.375	43.29	48.39	-5.10	33.39	9.57	0.08	Average
6	0.375	45.25	58.39	-13.14	35.35	9.57	0.08	QP
7	0.415	39.75	47.55	-7.80	29.84	9.57	0.08	Average
8	0.415	42.23	57.55	-15.32	32.32	9.57	0.08	QP
9	0.494	29.72	46.10	-16.38	19.79	9.58	0.08	Average
10	0.494	35.04	56.10	-21.06	25.11	9.58	0.08	QP
11	3.436	32.33	46.00	-13.67	22.09	9.61	0.25	Average
12	3.436	40.79	56.00	-15.21	30.55	9.61	0.25	QP
13	4.822	31.13	46.00	-14.87	20.82	9.62	0.31	Average
14	4.822	38.23	56.00	-17.77	27.92	9.62	0.31	QP
15	13.337	32.89	50.00	-17.11	22.28	9.65	0.52	Average
16	13.337	39.07	60.00	-20.93	28.46	9.65	0.52	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																																																																																																																																									
Level (dBuV)  <table><tr><th></th><th>Freq</th><th>Level</th><th>Limit</th><th>Over</th><th>Read</th><th>LISN</th><th>cable</th><th></th></tr><tr><th></th><th>MHz</th><th>dBuV</th><th>Line</th><th>Limit</th><th>Level</th><th>factor</th><th>loss</th><th>Remark</th></tr><tr><th></th><th></th><th></th><th>dBuV</th><th>dB</th><th>dBuV</th><th>dB</th><th>dB</th><th></th></tr><tr><td>1</td><td>0.168</td><td>39.17</td><td>55.08</td><td>-15.91</td><td>29.42</td><td>9.57</td><td>0.06</td><td>Average</td></tr><tr><td>2</td><td>0.168</td><td>51.31</td><td>65.08</td><td>-13.77</td><td>41.56</td><td>9.57</td><td>0.06</td><td>QP</td></tr><tr><td>3*</td><td>0.377</td><td>40.46</td><td>48.34</td><td>-7.88</td><td>30.65</td><td>9.61</td><td>0.08</td><td>Average</td></tr><tr><td>4</td><td>0.377</td><td>42.58</td><td>58.34</td><td>-15.76</td><td>32.77</td><td>9.61</td><td>0.08</td><td>QP</td></tr><tr><td>5</td><td>0.497</td><td>35.09</td><td>46.05</td><td>-10.96</td><td>25.24</td><td>9.62</td><td>0.08</td><td>Average</td></tr><tr><td>6</td><td>0.497</td><td>39.53</td><td>56.05</td><td>-16.52</td><td>29.68</td><td>9.62</td><td>0.08</td><td>QP</td></tr><tr><td>7</td><td>3.346</td><td>33.15</td><td>46.00</td><td>-12.85</td><td>22.98</td><td>9.66</td><td>0.25</td><td>Average</td></tr><tr><td>8</td><td>3.346</td><td>42.83</td><td>56.00</td><td>-13.17</td><td>32.66</td><td>9.66</td><td>0.25</td><td>QP</td></tr><tr><td>9</td><td>3.681</td><td>33.90</td><td>46.00</td><td>-12.10</td><td>23.72</td><td>9.66</td><td>0.26</td><td>Average</td></tr><tr><td>10</td><td>3.681</td><td>41.91</td><td>56.00</td><td>-14.09</td><td>31.73</td><td>9.66</td><td>0.26</td><td>QP</td></tr><tr><td>11</td><td>14.440</td><td>31.03</td><td>50.00</td><td>-18.97</td><td>20.39</td><td>9.76</td><td>0.55</td><td>Average</td></tr><tr><td>12</td><td>14.440</td><td>36.73</td><td>60.00</td><td>-23.27</td><td>26.09</td><td>9.76</td><td>0.55</td><td>QP</td></tr></table>					Freq	Level	Limit	Over	Read	LISN	cable			MHz	dBuV	Line	Limit	Level	factor	loss	Remark				dBuV	dB	dBuV	dB	dB		1	0.168	39.17	55.08	-15.91	29.42	9.57	0.06	Average	2	0.168	51.31	65.08	-13.77	41.56	9.57	0.06	QP	3*	0.377	40.46	48.34	-7.88	30.65	9.61	0.08	Average	4	0.377	42.58	58.34	-15.76	32.77	9.61	0.08	QP	5	0.497	35.09	46.05	-10.96	25.24	9.62	0.08	Average	6	0.497	39.53	56.05	-16.52	29.68	9.62	0.08	QP	7	3.346	33.15	46.00	-12.85	22.98	9.66	0.25	Average	8	3.346	42.83	56.00	-13.17	32.66	9.66	0.25	QP	9	3.681	33.90	46.00	-12.10	23.72	9.66	0.26	Average	10	3.681	41.91	56.00	-14.09	31.73	9.66	0.26	QP	11	14.440	31.03	50.00	-18.97	20.39	9.76	0.55	Average	12	14.440	36.73	60.00	-23.27	26.09	9.76	0.55	QP
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Beamforming mode

Modulation	VHT20	Test Freq. (MHz)	5240
Power Phase	Line		

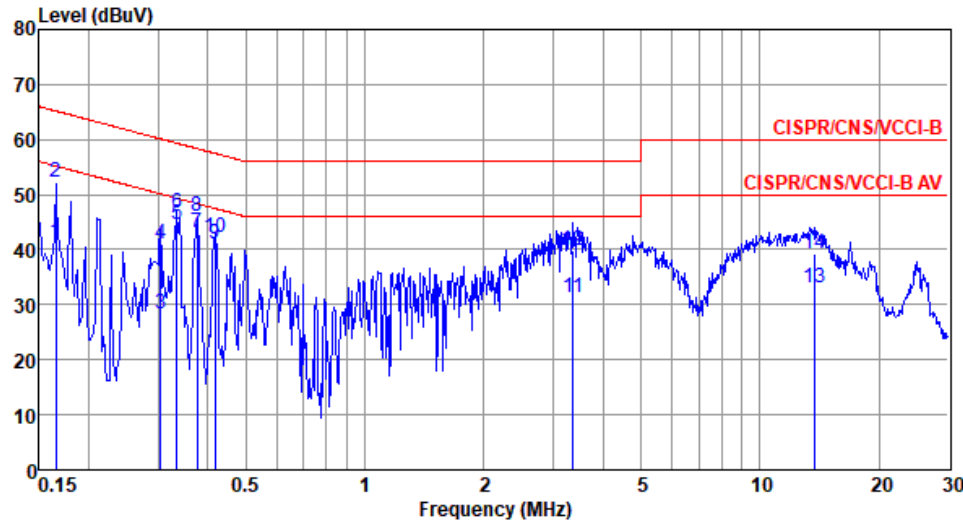


	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.174	33.68	54.77	-21.09	23.92	9.54	0.06	Average
2	0.174	45.80	64.77	-18.97	36.04	9.54	0.06	QP
3	0.336	44.18	49.31	-5.13	34.30	9.56	0.08	Average
4	0.336	46.81	59.31	-12.50	36.93	9.56	0.08	QP
5*	0.375	43.44	48.39	-4.95	33.54	9.57	0.08	Average
6	0.375	45.35	58.39	-13.04	35.45	9.57	0.08	QP
7	0.417	40.90	47.51	-6.61	30.99	9.57	0.08	Average
8	0.417	42.03	57.51	-15.48	32.12	9.57	0.08	QP
9	3.436	31.60	46.00	-14.40	21.36	9.61	0.25	Average
10	3.436	40.21	56.00	-15.79	29.97	9.61	0.25	QP
11	13.623	33.10	50.00	-16.90	22.48	9.65	0.53	Average
12	13.623	39.29	60.00	-20.71	28.67	9.65	0.53	QP

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

Modulation	VHT20	Test Freq. (MHz)	5240																																																																																																																														
Power Phase	Neutral																																																																																																																																
Level (dBuV) <table><thead><tr><th></th><th>Freq</th><th>Level</th><th>Limit</th><th>Over</th><th>Read</th><th>LISN</th><th>cable</th><th>Remark</th></tr><tr><th></th><th>MHz</th><th>dBuV</th><th>dBuV</th><th>dB</th><th>dBuV</th><th>dB</th><th>dB</th><th></th></tr></thead><tbody><tr><td>1</td><td>0.168</td><td>39.28</td><td>55.08</td><td>-15.80</td><td>29.53</td><td>9.57</td><td>0.06</td><td>Average</td></tr><tr><td>2</td><td>0.168</td><td>51.49</td><td>65.08</td><td>-13.59</td><td>41.74</td><td>9.57</td><td>0.06</td><td>QP</td></tr><tr><td>3*</td><td>0.375</td><td>41.31</td><td>48.39</td><td>-7.08</td><td>31.50</td><td>9.61</td><td>0.08</td><td>Average</td></tr><tr><td>4</td><td>0.375</td><td>43.02</td><td>58.39</td><td>-15.37</td><td>33.21</td><td>9.61</td><td>0.08</td><td>QP</td></tr><tr><td>5</td><td>0.505</td><td>32.92</td><td>46.00</td><td>-13.08</td><td>23.07</td><td>9.62</td><td>0.08</td><td>Average</td></tr><tr><td>6</td><td>0.505</td><td>38.38</td><td>56.00</td><td>-17.62</td><td>28.53</td><td>9.62</td><td>0.08</td><td>QP</td></tr><tr><td>7</td><td>3.328</td><td>33.35</td><td>46.00</td><td>-12.65</td><td>23.18</td><td>9.66</td><td>0.25</td><td>Average</td></tr><tr><td>8</td><td>3.328</td><td>41.42</td><td>56.00</td><td>-14.58</td><td>31.25</td><td>9.66</td><td>0.25</td><td>QP</td></tr><tr><td>9</td><td>3.528</td><td>33.42</td><td>46.00</td><td>-12.58</td><td>23.24</td><td>9.66</td><td>0.26</td><td>Average</td></tr><tr><td>10</td><td>3.528</td><td>41.91</td><td>56.00</td><td>-14.09</td><td>31.73</td><td>9.66</td><td>0.26</td><td>QP</td></tr><tr><td>11</td><td>14.288</td><td>31.65</td><td>50.00</td><td>-18.35</td><td>21.01</td><td>9.76</td><td>0.55</td><td>Average</td></tr><tr><td>12</td><td>14.288</td><td>37.33</td><td>60.00</td><td>-22.67</td><td>26.69</td><td>9.76</td><td>0.55</td><td>QP</td></tr></tbody></table>					Freq	Level	Limit	Over	Read	LISN	cable	Remark		MHz	dBuV	dBuV	dB	dBuV	dB	dB		1	0.168	39.28	55.08	-15.80	29.53	9.57	0.06	Average	2	0.168	51.49	65.08	-13.59	41.74	9.57	0.06	QP	3*	0.375	41.31	48.39	-7.08	31.50	9.61	0.08	Average	4	0.375	43.02	58.39	-15.37	33.21	9.61	0.08	QP	5	0.505	32.92	46.00	-13.08	23.07	9.62	0.08	Average	6	0.505	38.38	56.00	-17.62	28.53	9.62	0.08	QP	7	3.328	33.35	46.00	-12.65	23.18	9.66	0.25	Average	8	3.328	41.42	56.00	-14.58	31.25	9.66	0.25	QP	9	3.528	33.42	46.00	-12.58	23.24	9.66	0.26	Average	10	3.528	41.91	56.00	-14.09	31.73	9.66	0.26	QP	11	14.288	31.65	50.00	-18.35	21.01	9.76	0.55	Average	12	14.288	37.33	60.00	-22.67	26.69	9.76	0.55	QP
	Freq	Level	Limit	Over	Read	LISN	cable	Remark																																																																																																																									
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Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).																																																																																																																																	
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Modulation	VHT40	Test Freq. (MHz)	5795
Power Phase	Line		

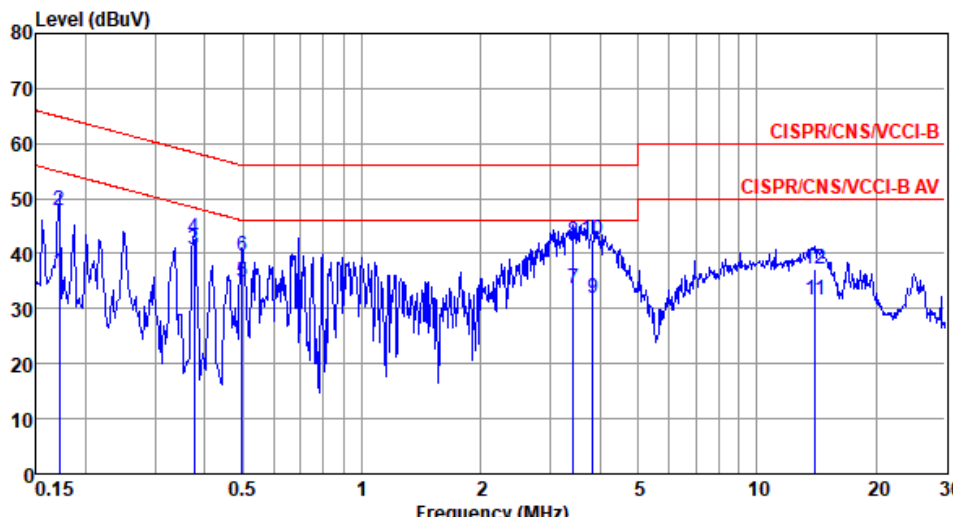


Freq	Level	Limit	Over	Read	LISN	cable	Remark	
MHz	dBuV	dBuV	Limit	Level	factor	loss		
			dB	dBuV	dB	dB		
1	0.165	41.31	55.21	-13.90	31.58	9.53	0.06	Average
2	0.165	52.22	65.21	-12.99	42.49	9.53	0.06	QP
3	0.303	28.21	50.15	-21.94	18.34	9.56	0.08	Average
4	0.303	40.91	60.15	-19.24	31.04	9.56	0.08	QP
5*	0.334	44.45	49.35	-4.90	34.57	9.56	0.08	Average
6	0.334	46.78	59.35	-12.57	36.90	9.56	0.08	QP
7	0.377	43.09	48.34	-5.25	33.19	9.57	0.08	Average
8	0.377	46.02	58.34	-12.32	36.12	9.57	0.08	QP
9	0.417	40.93	47.51	-6.58	31.02	9.57	0.08	Average
10	0.417	42.10	57.51	-15.41	32.19	9.57	0.08	QP
11	3.364	31.27	46.00	-14.73	21.04	9.61	0.25	Average
12	3.364	39.95	56.00	-16.05	29.72	9.61	0.25	QP
13	13.768	33.15	50.00	-16.85	22.53	9.65	0.53	Average
14	13.768	39.16	60.00	-20.84	28.54	9.65	0.53	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	0.171	36.59	54.90	-18.31	26.84	9.57	0.06	Average
2	0.171	47.90	64.90	-17.00	38.15	9.57	0.06	QP
3*	0.377	40.83	48.34	-7.51	31.02	9.61	0.08	Average
4	0.377	42.75	58.34	-15.59	32.94	9.61	0.08	QP
5	0.497	34.97	46.05	-11.08	25.12	9.62	0.08	Average
6	0.497	39.68	56.05	-16.37	29.83	9.62	0.08	QP
7	3.436	33.77	46.00	-12.23	23.60	9.66	0.25	Average
8	3.436	42.27	56.00	-13.73	32.10	9.66	0.25	QP
9	3.840	32.01	46.00	-13.99	21.82	9.66	0.27	Average
10	3.840	42.62	56.00	-13.38	32.43	9.66	0.27	QP
11	14.063	31.48	50.00	-18.52	20.85	9.76	0.54	Average
12	14.063	37.17	60.00	-22.83	26.54	9.76	0.54	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.

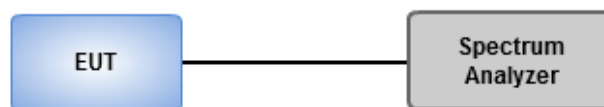
Occupied Bandwidth

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

Non-beamforming mode

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)_4TX	32.681M	17.077M	17M1D1D	19.493M	16.353M
802.11ac VHT20_Nss1,(MCS0)_4TX	36.377M	18.234M	18M2D1D	19.71M	17.511M
802.11ac VHT40_Nss1,(MCS0)_4TX	40.58M	36.179M	36M2D1D	39.565M	36.035M
802.11ac VHT80_Nss1,(MCS0)_4TX	81.159M	75.253M	75M3D1D	79.42M	74.964M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	16.304M	18.162M	18M2D1D	14.058M	16.787M
802.11ac VHT20_Nss1,(MCS0)_4TX	17.319M	18.379M	18M4D1D	13.188M	17.8M
802.11ac VHT40_Nss1,(MCS0)_4TX	35.072M	37.192M	37M2D1D	32.609M	36.179M
802.11ac VHT80_Nss1,(MCS0)_4TX	75.072M	75.253M	75M3D1D	72.754M	74.964M

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

Max-OBW = Maximum 99% occupied bandwidth;

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

Min-OBW = Minimum 99% occupied bandwidth;

Result

Mode	Result	Limit (Hz)	Port 1- N dB (Hz)	Port 1 -OBW (Hz)	Port 2 -N dB (Hz)	Port 2 -OBW (Hz)	Port 3 -N dB (Hz)	Port 3 -OBW (Hz)	Port 4 -N dB (Hz)	Port 4 -OBW (Hz)
802.11a_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	19.855M	16.425M	19.71M	16.425M	19.855M	16.425M	19.493M	16.353M
5200MHz	Pass	Inf	20M	16.498M	23.551M	16.498M	24.13M	16.498M	24.783M	16.498M
5240MHz	Pass	Inf	30.725M	16.715M	28.986M	16.715M	29.058M	17.077M	32.681M	16.932M
5745MHz	Pass	500k	16.304M	17.004M	16.304M	17.221M	14.058M	17.077M	15.725M	18.09M
5785MHz	Pass	500k	14.42M	16.86M	16.087M	17.221M	15.145M	16.86M	15.072M	18.162M
5825MHz	Pass	500k	15.072M	16.932M	14.42M	16.86M	15.145M	16.787M	15.29M	17.077M
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	20M	17.511M	19.71M	17.511M	20M	17.511M	20.217M	17.583M
5200MHz	Pass	Inf	19.928M	17.583M	19.783M	17.511M	19.928M	17.583M	20.29M	17.583M
5240MHz	Pass	Inf	33.696M	17.873M	33.551M	18.162M	36.377M	18.162M	34.348M	18.234M
5745MHz	Pass	500k	15.435M	17.873M	13.188M	18.09M	15.145M	18.017M	13.768M	18.234M
5785MHz	Pass	500k	15.145M	17.8M	16.667M	18.162M	16.957M	17.945M	15.145M	18.379M
5825MHz	Pass	500k	15.435M	17.8M	15.652M	17.8M	17.319M	17.873M	15.072M	17.945M
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5190MHz	Pass	Inf	40.29M	36.035M	39.71M	36.035M	40M	36.035M	40.145M	36.035M
5230MHz	Pass	Inf	40.58M	36.035M	39.565M	36.035M	40M	36.035M	40M	36.179M
5755MHz	Pass	500k	33.913M	36.179M	34.493M	36.179M	32.609M	36.179M	32.609M	36.324M
5795MHz	Pass	500k	35.072M	36.469M	33.913M	36.614M	35.072M	36.469M	35.072M	37.192M
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5210MHz	Pass	Inf	81.159M	75.253M	79.42M	74.964M	80.29M	75.253M	79.42M	74.964M
5775MHz	Pass	500k	75.072M	75.253M	72.754M	74.964M	73.623M	74.964M	75.072M	75.253M

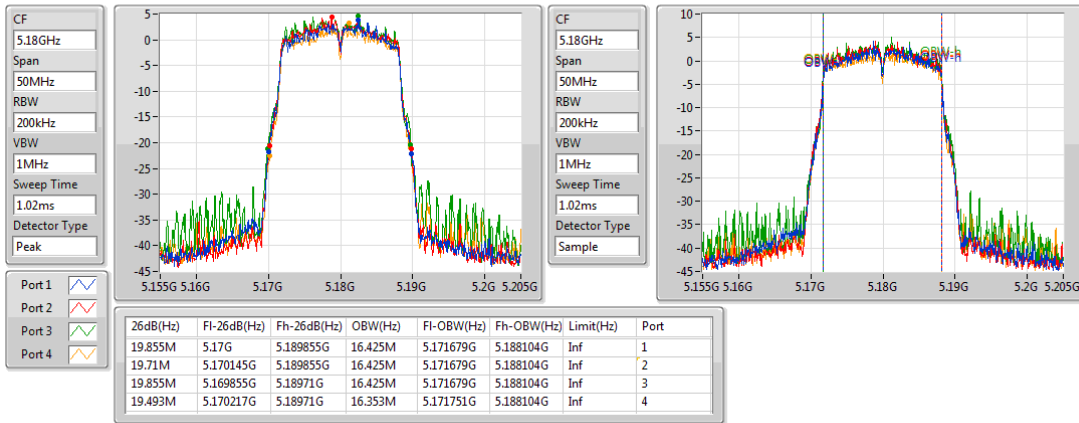
Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band

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

802.11a_Nss1,(6Mbps)_4TX

EBW

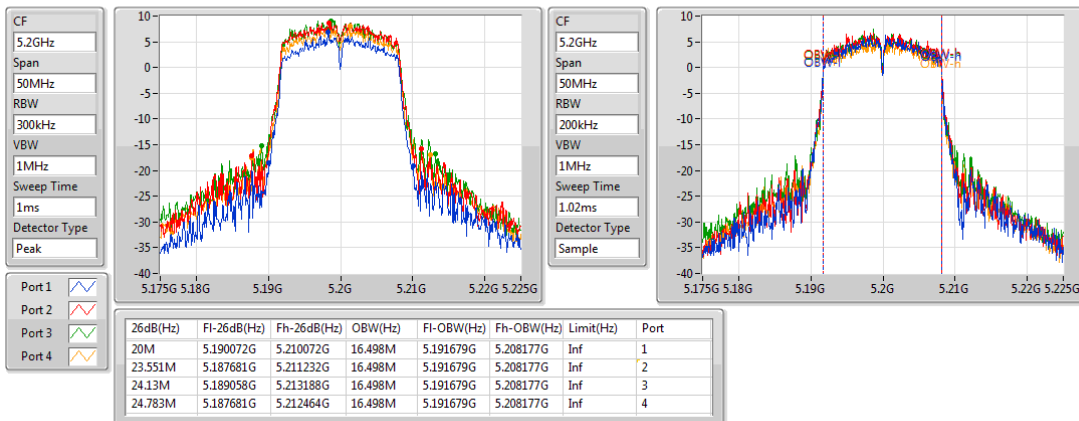
5180MHz



802.11a_Nss1,(6Mbps)_4TX

EBW

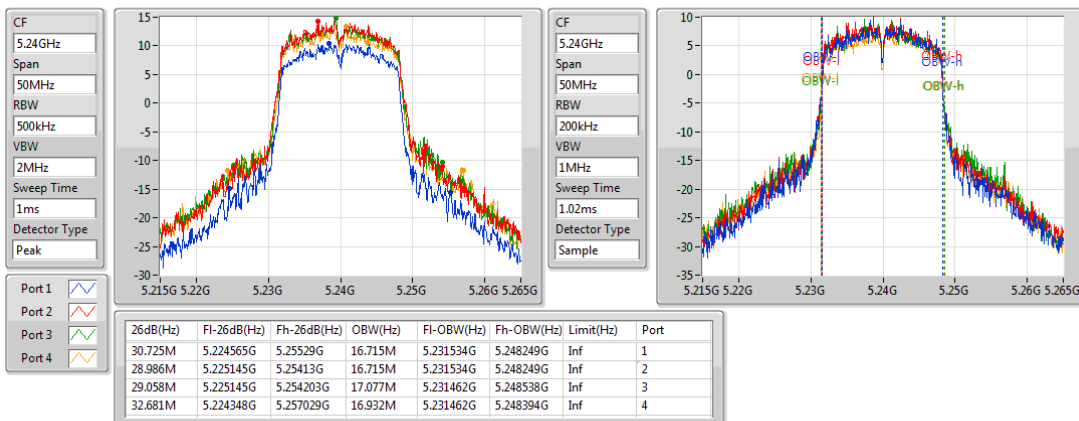
5200MHz



802.11a_Nss1,(6Mbps)_4TX

EBW

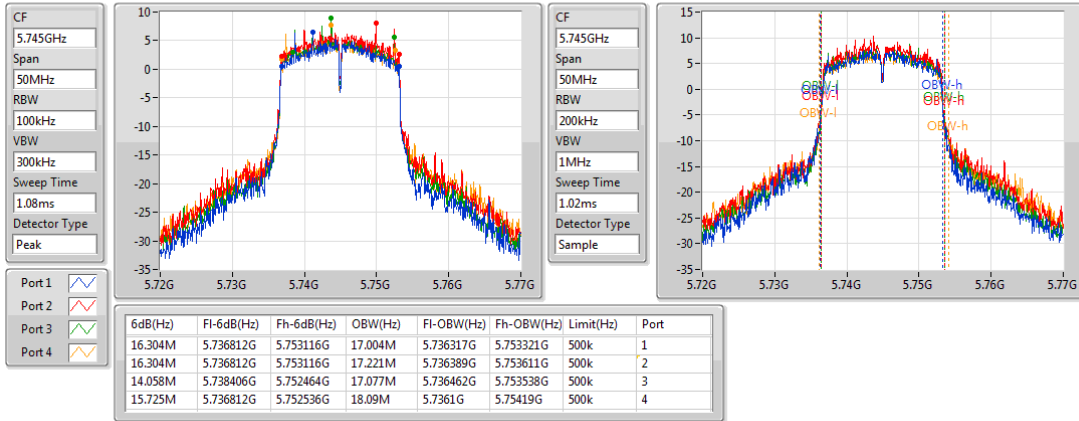
5240MHz



802.11a_Nss1,(6Mbps)_4TX

EBW

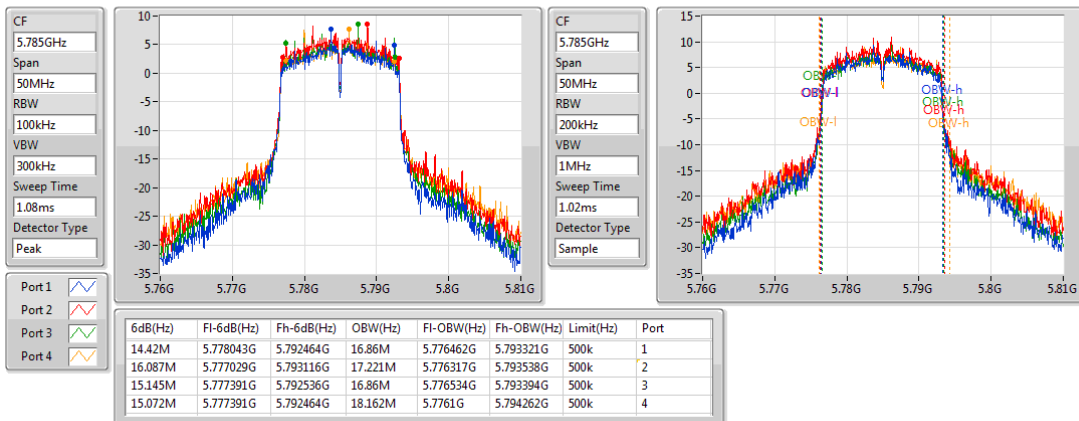
5745MHz



802.11a_Nss1,(6Mbps)_4TX

EBW

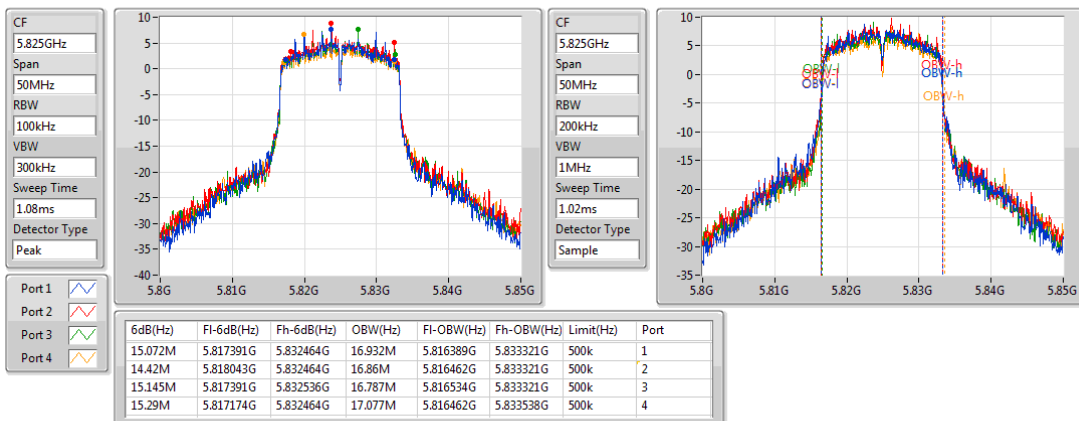
5785MHz



802.11a_Nss1,(6Mbps)_4TX

EBW

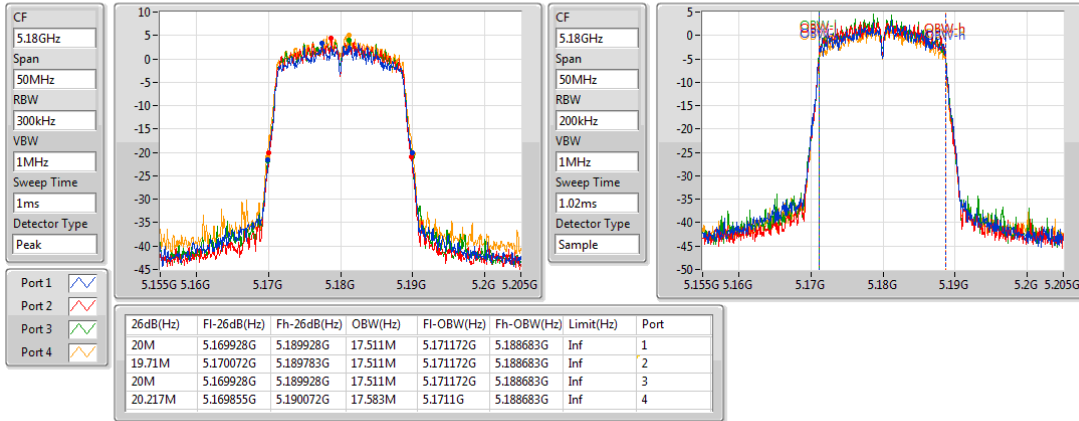
5825MHz



802.11ac VHT20_Nss1,(MCS0)_4TX

EBW

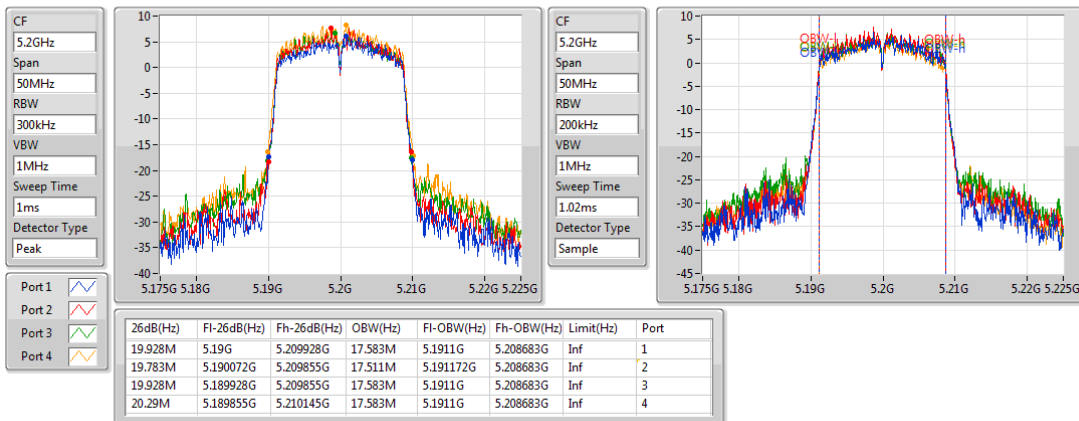
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802.11ac VHT20_Nss1,(MCS0)_4TX

EBW

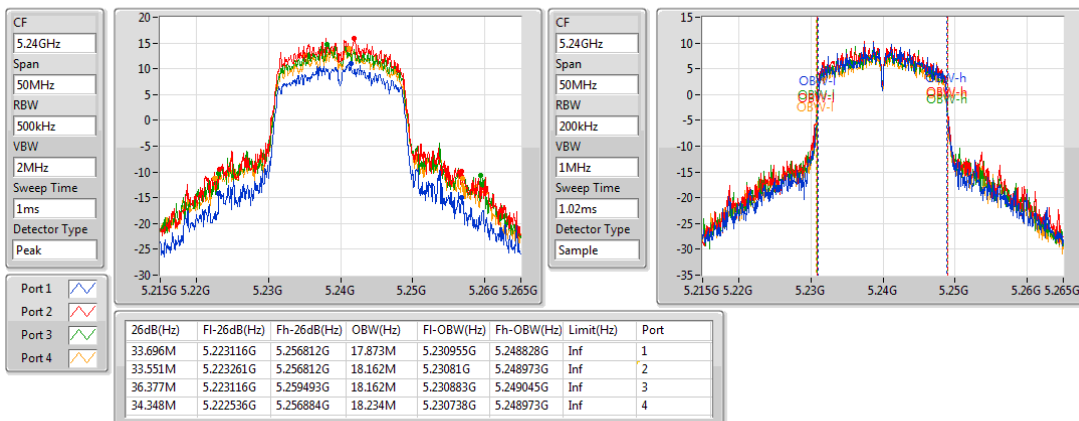
5200MHz



802.11ac VHT20_Nss1,(MCS0)_4TX

EBW

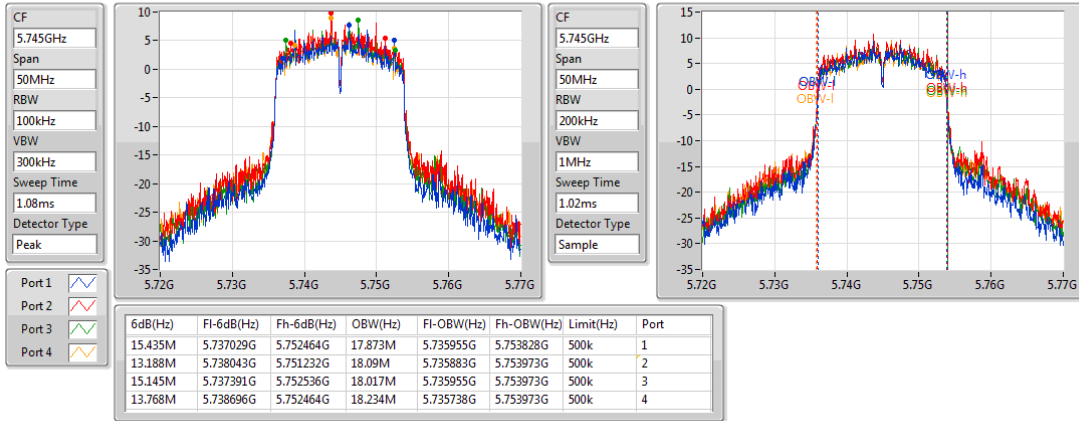
5240MHz



802.11ac VHT20_Nss1,(MCS0)_4TX

EBW

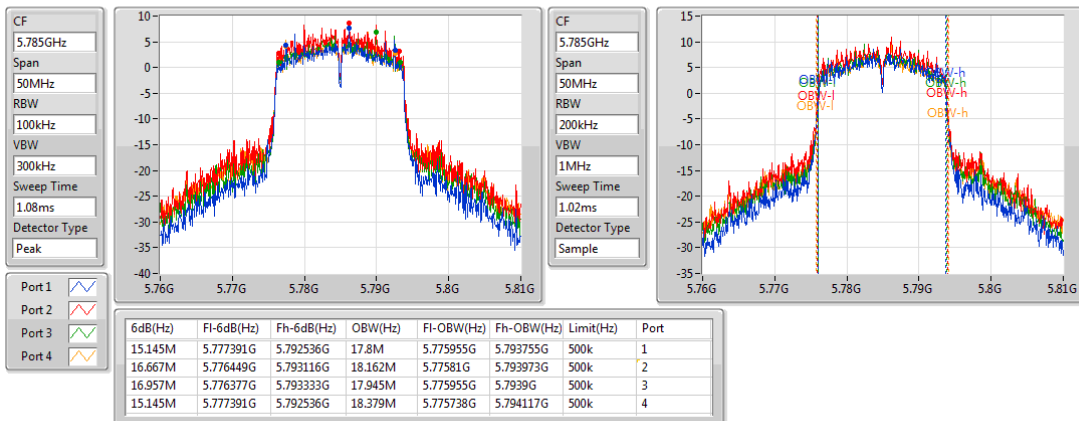
5745MHz



802.11ac VHT20_Nss1,(MCS0)_4TX

EBW

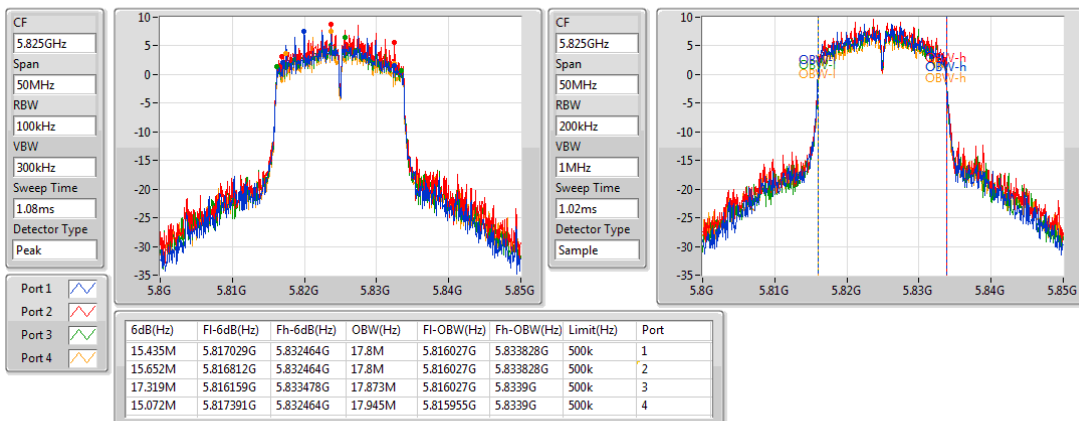
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802.11ac VHT20_Nss1,(MCS0)_4TX

EBW

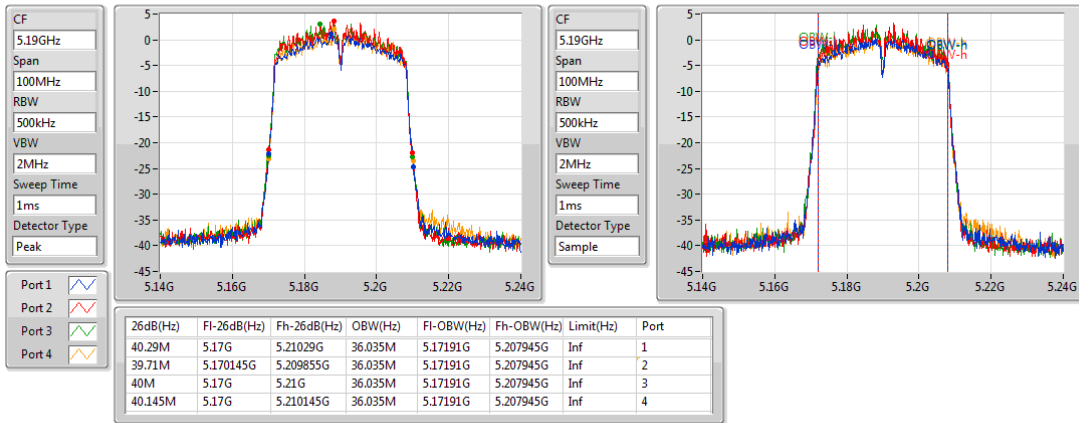
5825MHz



802.11ac VHT40_Nss1,(MCS0)_4TX

EBW

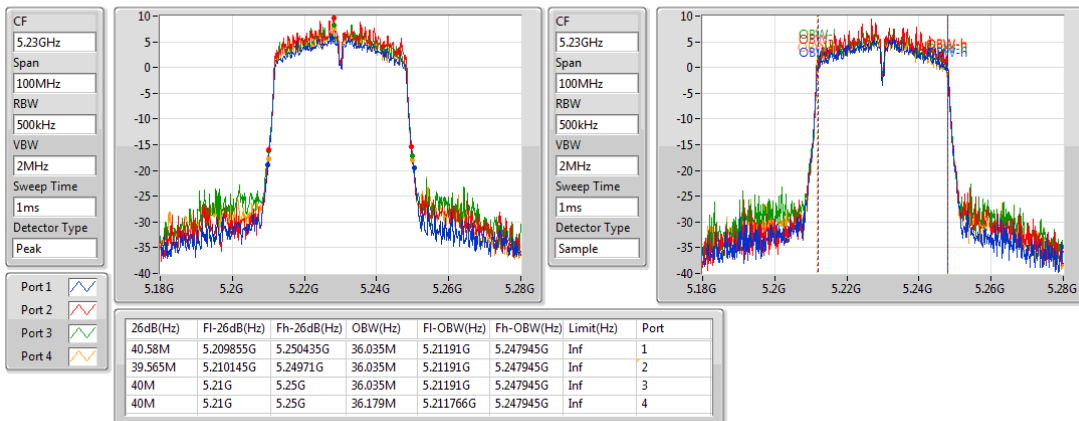
5190MHz



802.11ac VHT40_Nss1,(MCS0)_4TX

EBW

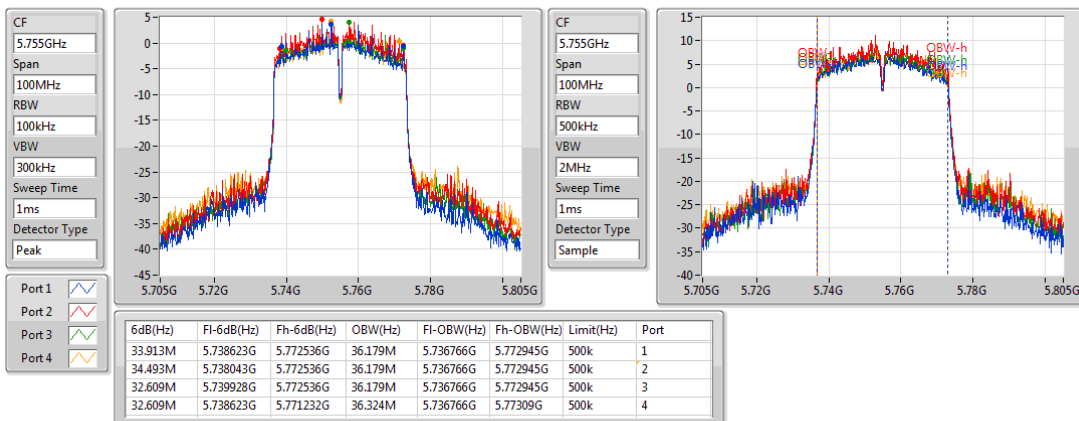
5230MHz



802.11ac VHT40_Nss1,(MCS0)_4TX

EBW

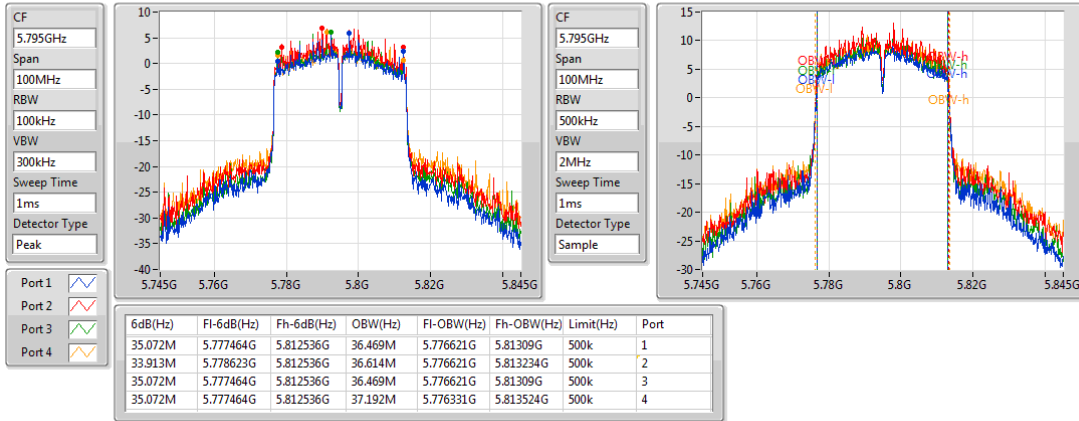
5755MHz



802.11ac VHT40_Nss1,(MCS0)_4TX

EBW

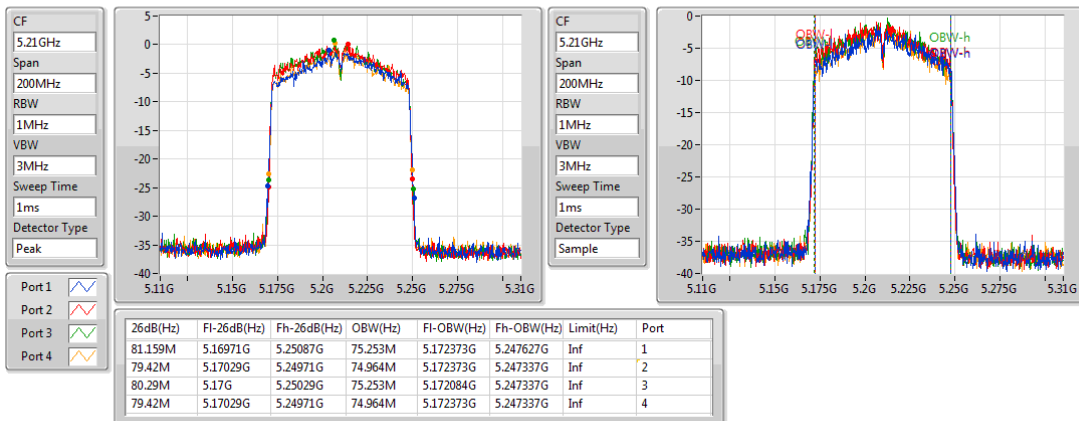
5795MHz



802.11ac VHT80_Nss1,(MCS0)_4TX

EBW

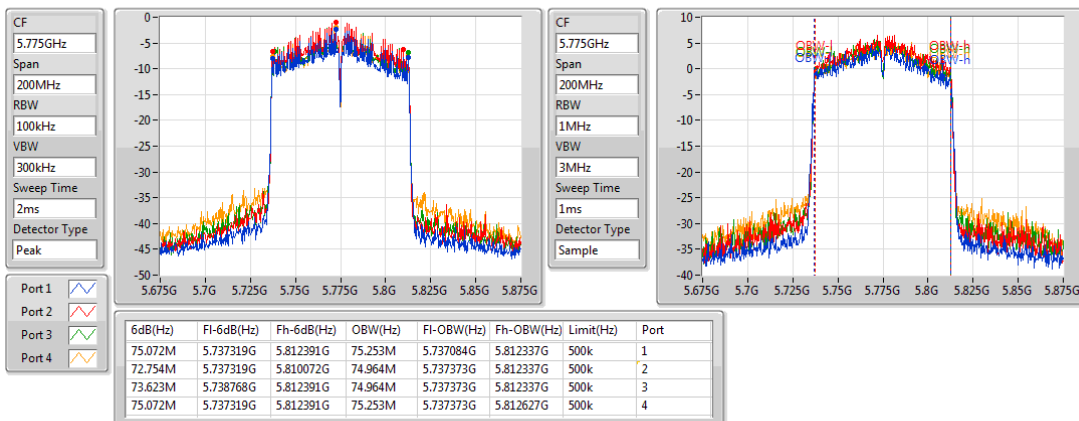
5210MHz



802.11ac VHT80_Nss1,(MCS0)_4TX

EBW

5775MHz



Beamforming mode

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	41.884M	18.379M	18M4D1D	20.435M	17.728M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	41.449M	36.469M	36M5D1D	40.145M	36.179M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	81.449M	76.122M	76M1D1D	80.87M	75.832M
5.725-5.85GHz	-	-	-	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	17.536M	18.307M	18M3D1D	11.232M	17.728M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	35.797M	37.337M	37M3D1D	30M	36.179M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	75.942M	75.832M	75M8D1D	66.377M	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)	Port 2 -N dB (Hz)	Port 2 -OBW (Hz)	Port 3 -N dB (Hz)	Port 3 -OBW (Hz)	Port 4 -N dB (Hz)	Port 4 -OBW (Hz)
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	20.507M	17.728M	20.507M	17.728M	20.435M	17.728M	20.652M	17.728M
5200MHz	Pass	Inf	20.435M	17.728M	22.464M	17.8M	26.159M	17.8M	26.087M	17.945M
5240MHz	Pass	Inf	38.333M	18.162M	32.319M	18.017M	41.884M	18.162M	40.797M	18.379M
5745MHz	Pass	500k	15.29M	17.945M	15.87M	18.017M	17.101M	18.09M	17.174M	18.307M
5785MHz	Pass	500k	16.449M	17.873M	16.812M	18.234M	15.145M	18.162M	17.536M	18.234M
5825MHz	Pass	500k	16.377M	17.873M	11.232M	17.728M	16.159M	17.945M	15M	18.162M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5190MHz	Pass	Inf	40.58M	36.324M	40.145M	36.324M	40.58M	36.179M	40.725M	36.179M
5230MHz	Pass	Inf	41.014M	36.324M	41.014M	36.179M	40.435M	36.324M	41.449M	36.469M
5755MHz	Pass	500k	35.507M	36.179M	34.493M	36.324M	35.652M	36.324M	30M	36.324M
5795MHz	Pass	500k	31.304M	36.758M	32.609M	37.048M	35.072M	36.903M	35.797M	37.337M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5210MHz	Pass	Inf	81.449M	75.832M	81.449M	76.122M	80.87M	75.832M	81.159M	75.832M
5775MHz	Pass	500k	75.942M	75.832M	66.377M	75.832M	75.072M	75.543M	70.145M	75.543M

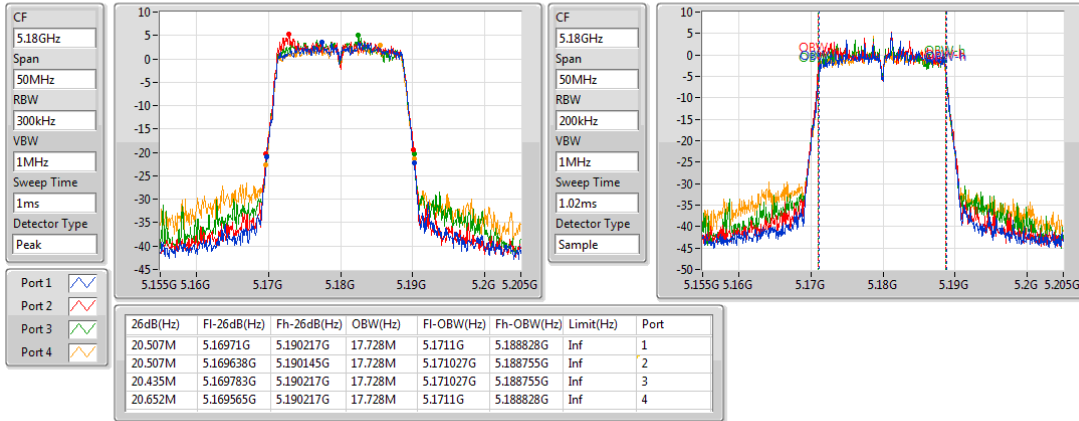
Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band

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

802.11ac VHT20-BF_Nss1,(MCS0)_4TX

EBW

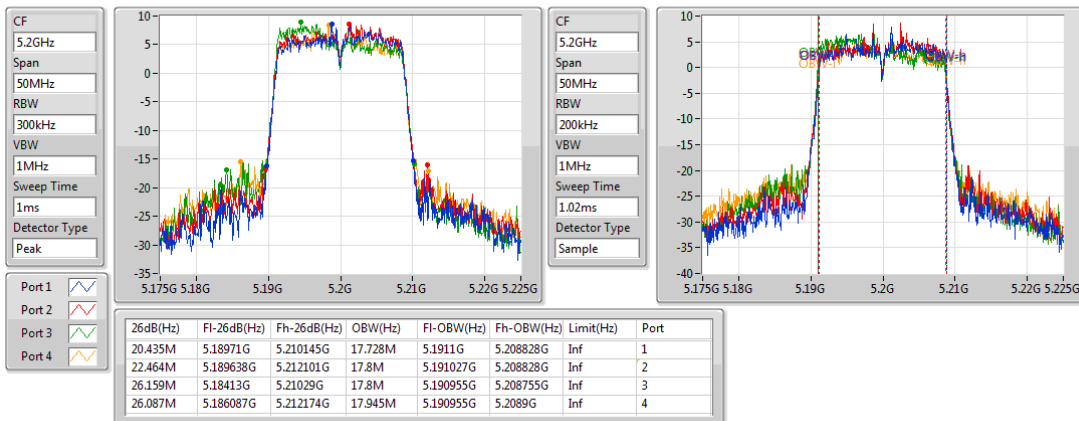
5180MHz



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

EBW

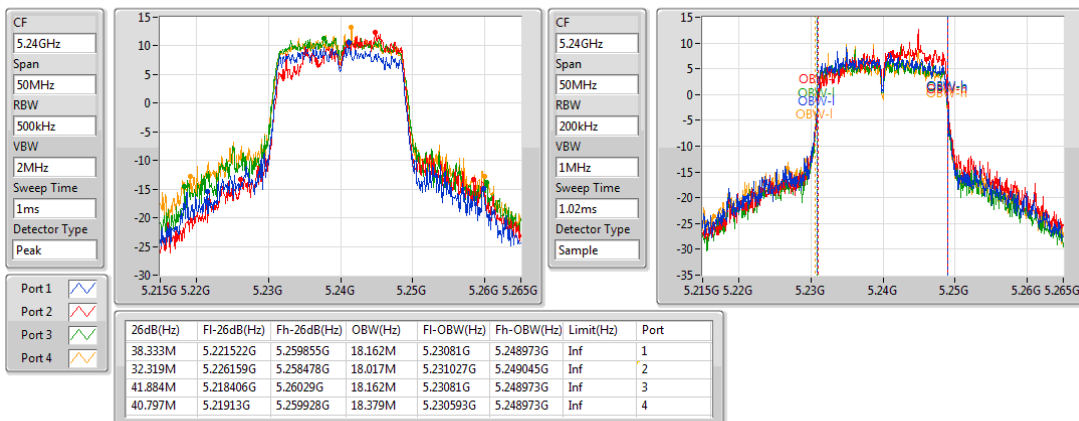
5200MHz



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

EBW

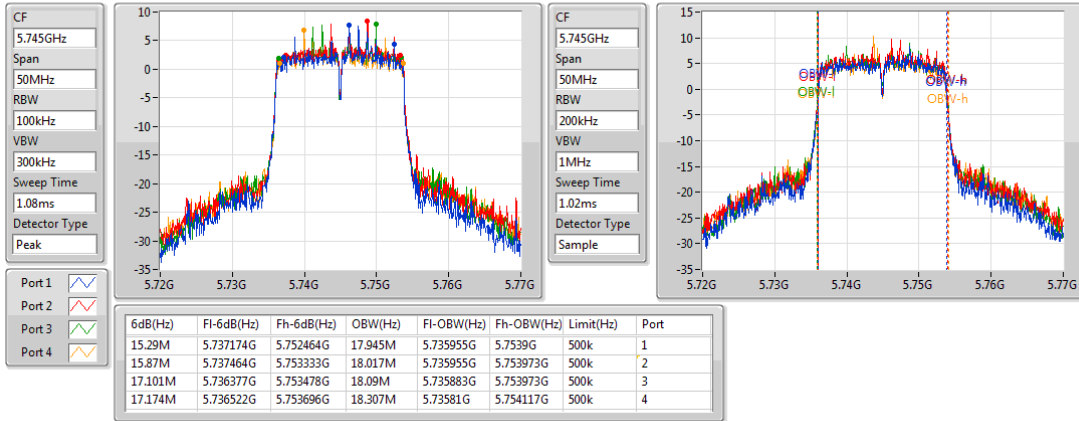
5240MHz



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

EBW

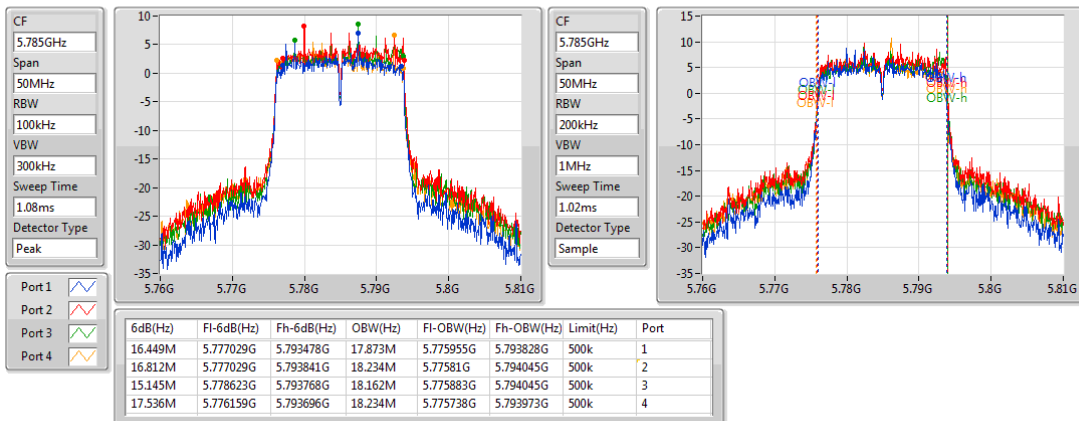
5745MHz



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

EBW

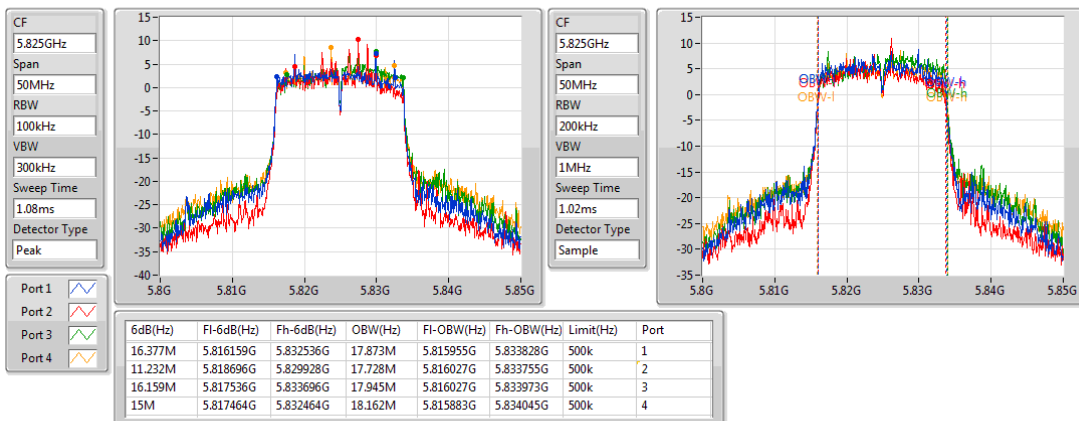
5785MHz



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

EBW

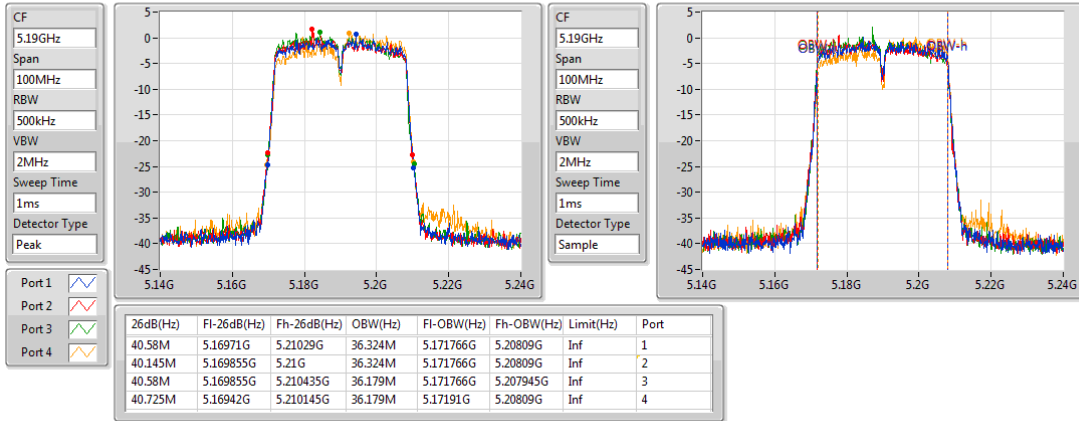
5825MHz



802.11ac VHT40-BF_Nss1,(MCS0)_4TX

EBW

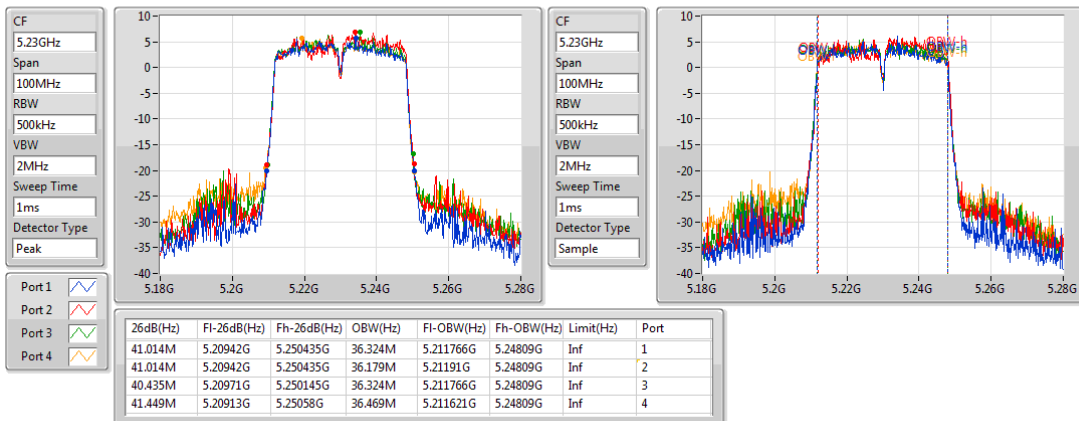
5190MHz



802.11ac VHT40-BF_Nss1,(MCS0)_4TX

EBW

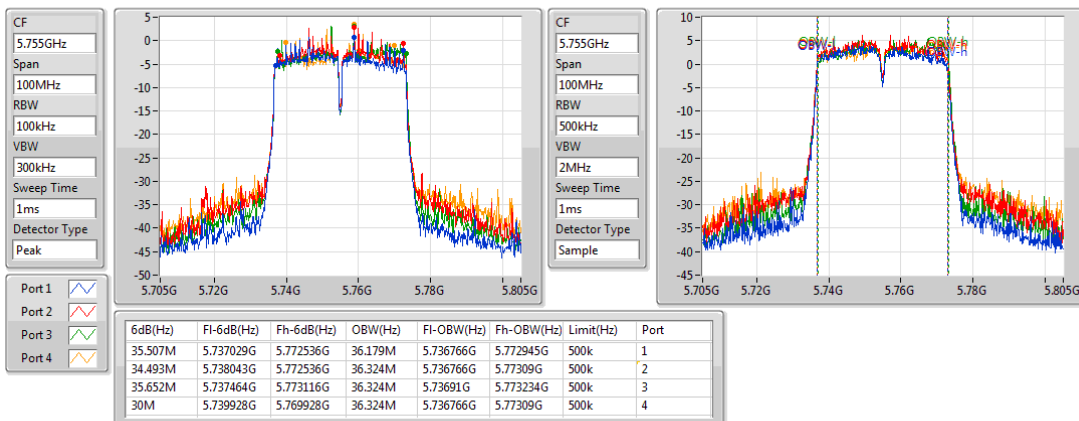
5230MHz



802.11ac VHT40-BF_Nss1,(MCS0)_4TX

EBW

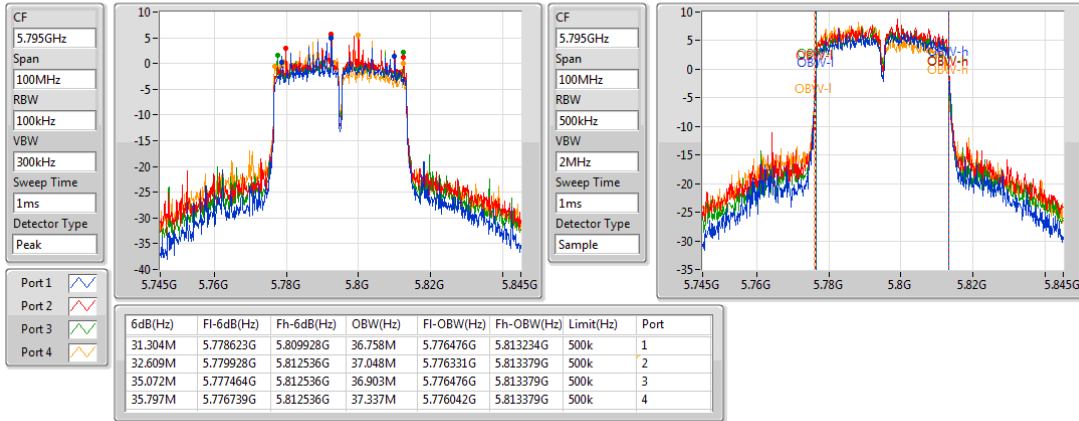
5755MHz



802.11ac VHT40-BF_Nss1,(MCS0)_4TX

EBW

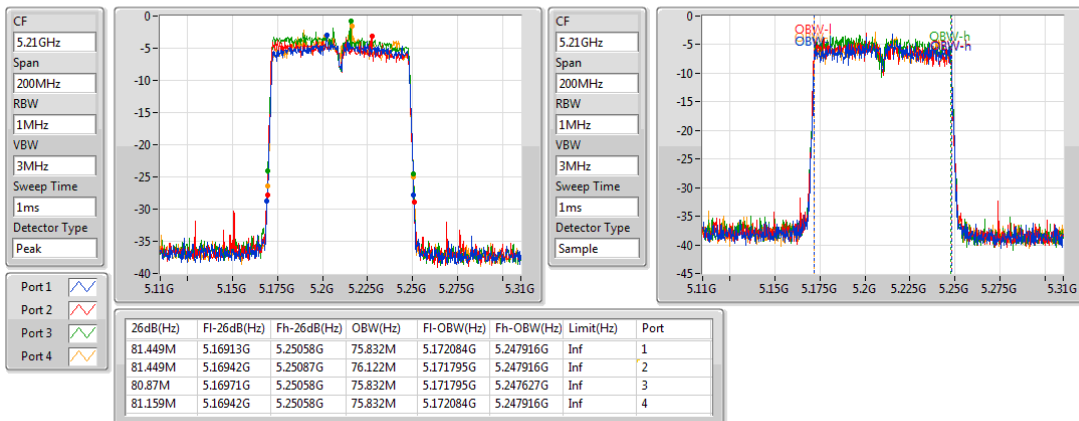
5795MHz



802.11ac VHT80-BF_Nss1,(MCS0)_4TX

EBW

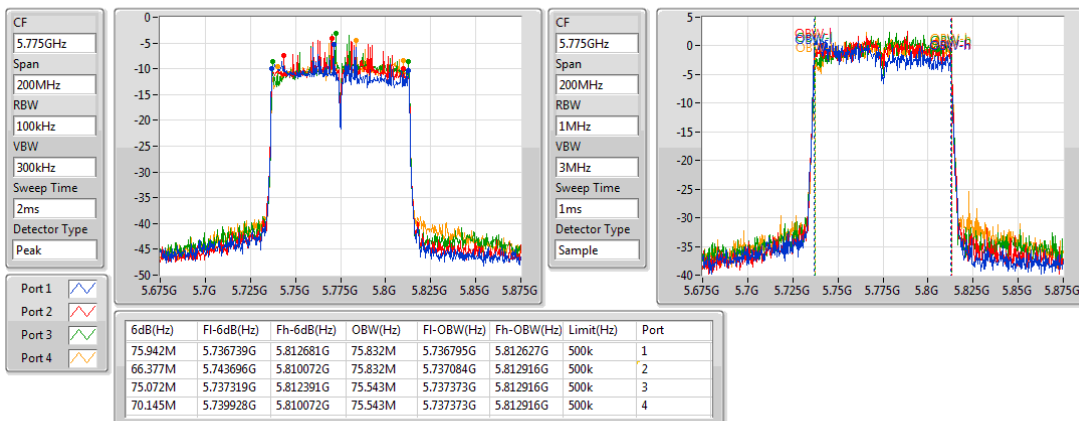
5210MHz



802.11ac VHT80-BF_Nss1,(MCS0)_4TX

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

Non-beamforming mode

Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.15-5.25GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	25.55	0.35892	28.80	0.75858
802.11ac VHT20_Nss1,(MCS0)_4TX	25.78	0.37844	29.03	0.79983
802.11ac VHT40_Nss1,(MCS0)_4TX	22.06	0.16069	25.31	0.33963
802.11ac VHT80_Nss1,(MCS0)_4TX	13.69	0.02339	16.94	0.04943
5.725-5.85GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	25.73	0.37411	28.93	0.78163
802.11ac VHT20_Nss1,(MCS0)_4TX	25.68	0.36983	28.88	0.77268
802.11ac VHT40_Nss1,(MCS0)_4TX	25.56	0.35975	28.76	0.75162
802.11ac VHT80_Nss1,(MCS0)_4TX	20.23	0.10544	23.43	0.22029

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11a_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	3.25	14.01	14.92	15.11	13.81	20.52	30.00	23.77	36.00
5200MHz	Pass	3.25	17.41	18.12	17.98	16.95	23.66	30.00	26.91	36.00
5240MHz	Pass	3.25	19.38	20.14	19.66	18.85	25.55	30.00	28.80	36.00
5745MHz	Pass	3.20	19.42	20.36	19.58	19.39	25.73	30.00	28.93	36.00
5785MHz	Pass	3.20	19.23	20.42	19.51	19.26	25.65	30.00	28.85	36.00
5825MHz	Pass	3.20	19.16	20.02	19.32	18.61	25.33	30.00	28.53	36.00
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	3.25	13.53	14.53	14.69	13.33	20.08	30.00	23.33	36.00
5200MHz	Pass	3.25	16.63	17.71	17.62	16.51	23.17	30.00	26.42	36.00
5240MHz	Pass	3.25	19.71	20.35	19.69	19.22	25.78	30.00	29.03	36.00
5745MHz	Pass	3.20	19.34	20.29	19.46	19.48	25.68	30.00	28.88	36.00
5785MHz	Pass	3.20	19.12	20.28	19.32	19.25	25.54	30.00	28.74	36.00
5825MHz	Pass	3.20	19.02	19.95	19.14	19.15	25.35	30.00	28.55	36.00
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5190MHz	Pass	3.25	11.02	11.56	11.98	10.61	17.34	30.00	20.59	36.00
5230MHz	Pass	3.25	15.56	16.58	16.42	15.48	22.06	30.00	25.31	36.00
5755MHz	Pass	3.20	17.19	18.49	17.53	17.56	23.74	30.00	26.94	36.00
5795MHz	Pass	3.20	19.18	20.36	19.26	19.25	25.56	30.00	28.76	36.00
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5210MHz	Pass	3.25	7.01	7.71	8.52	7.28	13.69	30.00	16.94	36.00
5775MHz	Pass	3.20	13.55	14.74	14.38	14.09	20.23	30.00	23.43	36.00

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

Beamforming mode

Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.15-5.25GHz	-	-	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	25.48	0.35318	34.46	2.79254
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	21.92	0.15560	30.90	1.23027
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	13.44	0.02208	22.42	0.17458
5.725-5.85GHz	-	-	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	25.07	0.32137	34.04	2.53513
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	25.14	0.32659	34.11	2.57632
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	18.59	0.07228	27.56	0.57016

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	8.98	13.61	13.96	14.06	13.34	19.77	27.02	28.75	36.00
5200MHz	Pass	8.98	17.06	17.29	17.16	16.94	23.14	27.02	32.12	36.00
5240MHz	Pass	8.98	19.41	20.11	19.46	18.76	25.48	27.02	34.46	36.00
5745MHz	Pass	8.97	18.84	19.72	18.98	18.59	25.07	27.03	34.04	36.00
5785MHz	Pass	8.97	18.46	19.74	18.86	18.36	24.91	27.03	33.88	36.00
5825MHz	Pass	8.97	18.49	19.74	19.06	18.72	25.05	27.03	34.02	36.00
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5190MHz	Pass	8.98	10.58	10.67	10.81	10.65	16.70	27.02	25.68	36.00
5230MHz	Pass	8.98	15.99	16.01	16.15	15.42	21.92	27.02	30.90	36.00
5755MHz	Pass	8.97	14.86	15.91	15.33	15.46	21.43	27.03	30.40	36.00
5795MHz	Pass	8.97	18.41	19.81	18.93	19.22	25.14	27.03	34.11	36.00
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5210MHz	Pass	8.98	7.05	7.41	7.91	7.28	13.44	27.02	22.42	36.00
5775MHz	Pass	8.97	11.84	12.94	12.68	12.72	18.59	27.03	27.56	36.00

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

For 5150~5250MHz:

Directional gain = $10 \times \log((10^{2.38/20} + 10^{3.25/20} + 10^{3.04/20} + 10^{3.14/20})^2 / 4) = 8.98 \text{ dBi} > 6 \text{ dBi}$

Power limit shall be reduced to $30 \text{ dBm} - (8.98 \text{ dBi} - 6 \text{ dBi}) = 27.02 \text{ dBm}$

For 5725~5850MHz:

Directional gain = $10 \times \log((10^{2.3/20} + 10^{3.14/20} + 10^{3.13/20} + 10^{3.2/20})^2 / 4) = 8.97 \text{ dBi} > 6 \text{ dBi}$

Power limit shall be reduced to $30 \text{ dBm} - (8.97 \text{ dBi} - 6 \text{ dBi}) = 27.03 \text{ dBm}$

3.4 Peak Power Spectral Density

3.4.1 Limit of Peak Power Spectral Density

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

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

3.4.2 Test Procedures

For 5150 ~ 5250 MHz

Duty cycle $\geq 98\%$

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

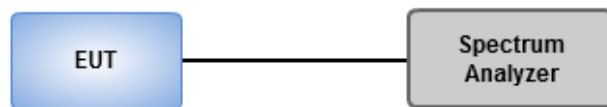
Duty cycle $\geq 98\%$

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

Non-beamforming mode

Summary

Mode	PD (dBm/RBW)	EIRP PD (dBm/RBW)
5.15-5.25GHz	-	-
802.11a_Nss1,(6Mbps)_4TX	13.05	22.03
802.11ac VHT20_Nss1,(MCS0)_4TX	13.65	22.63
802.11ac VHT40_Nss1,(MCS0)_4TX	6.82	15.80
802.11ac VHT80_Nss1,(MCS0)_4TX	-4.68	4.30
5.725-5.85GHz	-	-
802.11a_Nss1,(6Mbps)_4TX	12.02	20.99
802.11ac VHT20_Nss1,(MCS0)_4TX	11.81	20.78
802.11ac VHT40_Nss1,(MCS0)_4TX	8.83	17.80
802.11ac VHT80_Nss1,(MCS0)_4TX	0.51	9.48

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

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)	EIRP PD (dBm/RBW)	EIRP PD Limit (dBm/RBW)
802.11a_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	8.98	2.28	2.73	2.95	1.49	8.15	14.02	17.13	23.00
5200MHz	Pass	8.98	5.58	5.94	5.83	4.83	11.39	14.02	20.37	23.00
5240MHz	Pass	8.98	7.32	8.29	6.71	6.98	13.05	14.02	22.03	23.00
5745MHz	Pass	8.97	5.93	6.72	6.04	5.55	12.00	27.03	20.97	36.00
5785MHz	Pass	8.97	5.66	7.05	6.40	5.61	12.02	27.03	20.99	36.00
5825MHz	Pass	8.97	5.87	6.30	5.66	4.71	11.43	27.03	20.40	36.00
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	8.98	1.35	2.16	2.34	0.93	7.56	14.02	16.54	23.00
5200MHz	Pass	8.98	4.53	5.37	5.10	4.16	10.67	14.02	19.65	23.00
5240MHz	Pass	8.98	7.57	8.59	7.92	7.28	13.65	14.02	22.63	23.00
5745MHz	Pass	8.97	5.49	6.88	5.98	5.65	11.81	27.03	20.78	36.00
5785MHz	Pass	8.97	5.30	6.98	6.28	5.70	11.77	27.03	20.74	36.00
5825MHz	Pass	8.97	5.55	6.45	5.90	5.35	11.51	27.03	20.48	36.00
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5190MHz	Pass	8.98	-4.50	-4.26	-3.65	-4.86	1.66	14.02	10.64	23.00
5230MHz	Pass	8.98	0.51	1.09	1.28	0.45	6.82	14.02	15.80	23.00
5755MHz	Pass	8.97	0.22	1.26	0.61	0.52	6.65	27.03	15.62	36.00
5795MHz	Pass	8.97	2.34	3.59	2.63	2.68	8.83	27.03	17.80	36.00
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5210MHz	Pass	8.98	-10.90	-10.46	-10.15	-11.12	-4.68	14.02	4.30	23.00
5775MHz	Pass	8.97	-6.28	-4.87	-5.23	-5.34	0.51	27.03	9.48	36.00

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

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

For 5150~5250MHz:

Directional gain = $10 \times \log((102.38/20+103.25/20+103.04/20+103.14/20)/2/4) = 8.98 \text{ dBi} > 6 \text{ dBi}$

Power limit shall be reduced to $17 \text{ dBm} - (8.98 \text{ dBi} - 6 \text{ dBi}) = 14.02 \text{ dBm}$

For 5725~5850MHz:

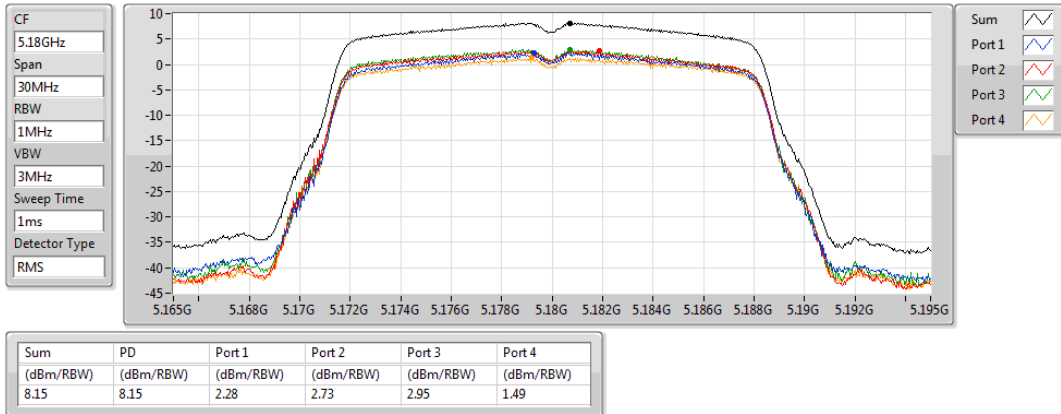
Directional gain = $10 \times \log((102.3/20+103.14/20+103.13/20+103.2/20)/2/4) = 8.97 \text{ dBi} > 6 \text{ dBi}$

Power limit shall be reduced to $30 \text{ dBm} - (8.97 \text{ dBi} - 6 \text{ dBi}) = 27.03 \text{ dBm}$

802.11a_Nss1,(6Mbps)_4TX

PSD

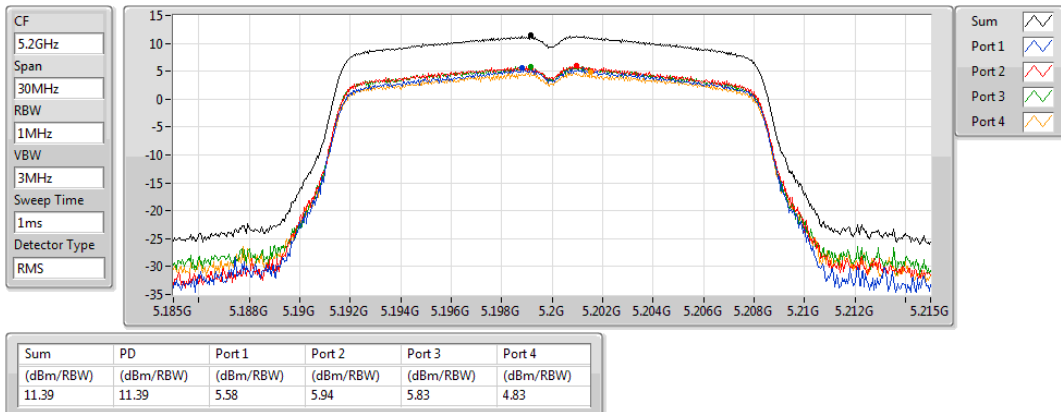
5180MHz



802.11a_Nss1,(6Mbps)_4TX

PSD

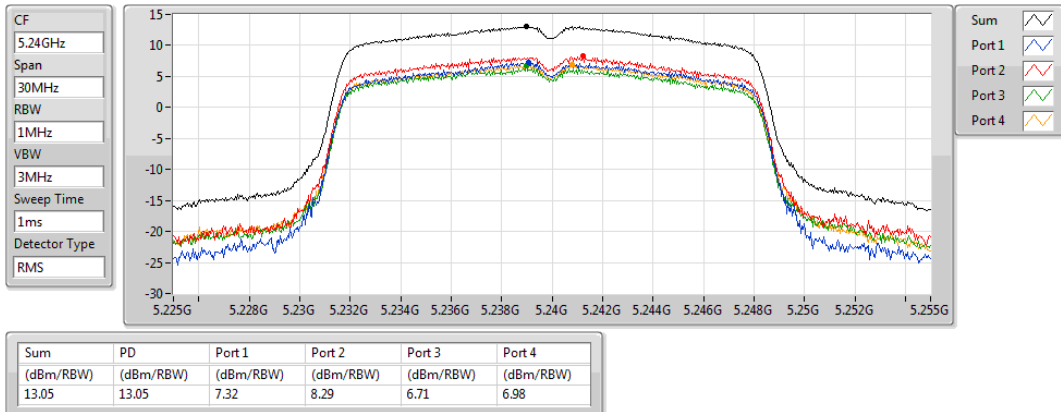
5200MHz



802.11a_Nss1,(6Mbps)_4TX

PSD

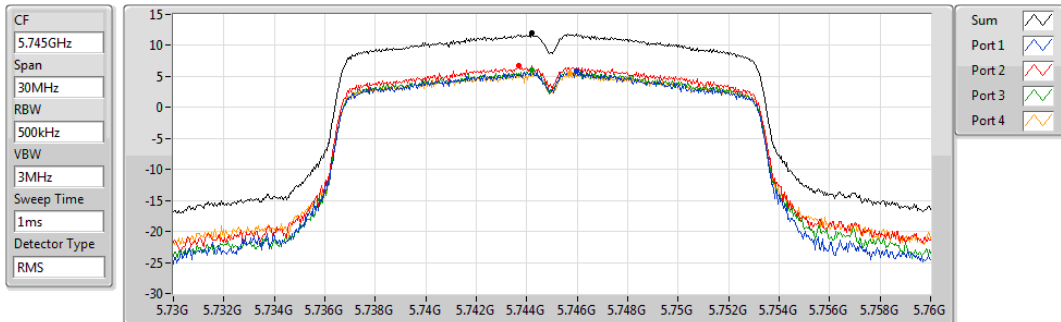
5240MHz



802.11a_Nss1,(6Mbps)_4TX

PSD

5745MHz

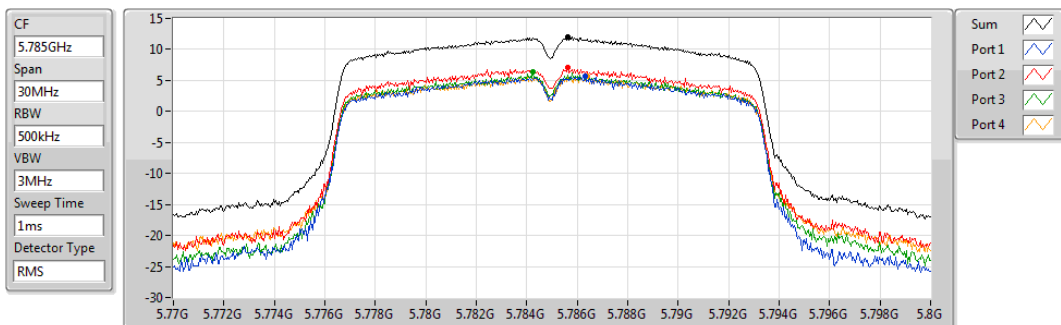


Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
12.00	12.00	5.93	6.72	6.04	5.55

802.11a_Nss1,(6Mbps)_4TX

PSD

5785MHz

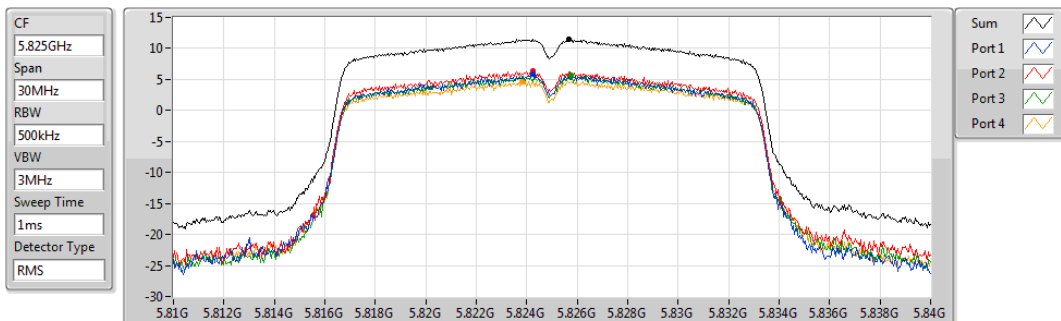


Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
12.02	12.02	5.66	7.05	6.40	5.61

802.11a_Nss1,(6Mbps)_4TX

PSD

5825MHz

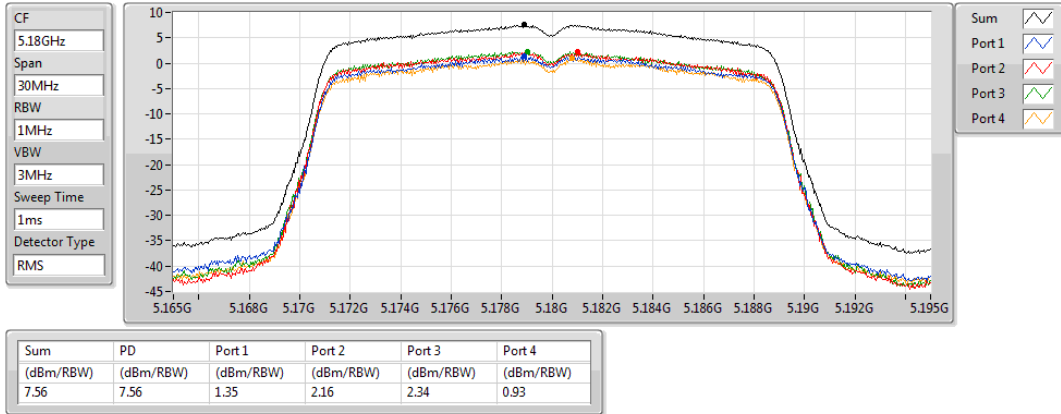


Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
11.43	11.43	5.87	6.30	5.66	4.71

802.11ac VHT20_Nss1,(MCS0)_4TX

PSD

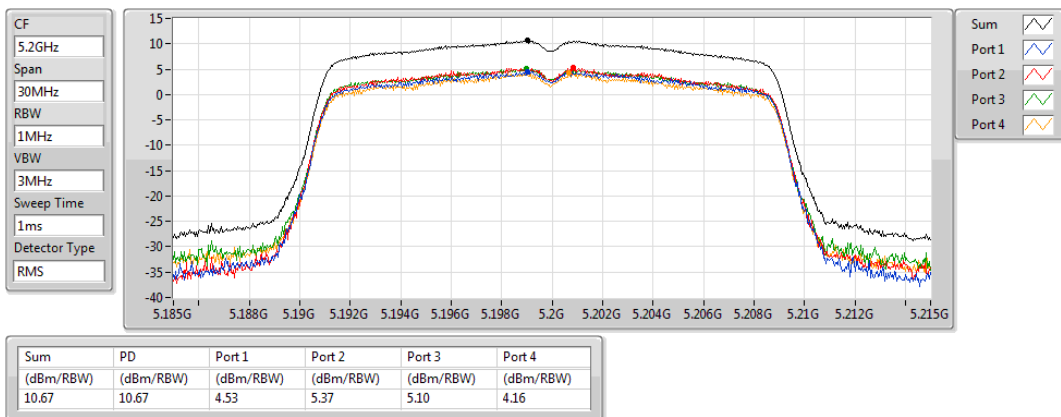
5180MHz



802.11ac VHT20_Nss1,(MCS0)_4TX

PSD

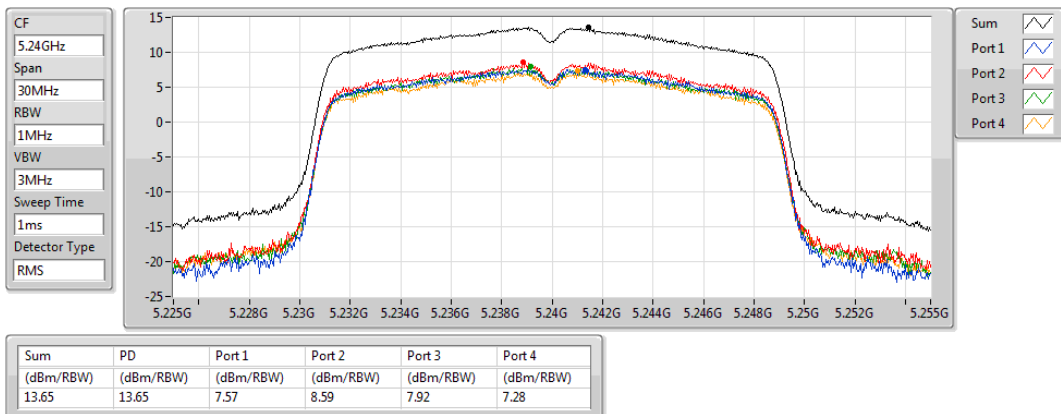
5200MHz



802.11ac VHT20_Nss1,(MCS0)_4TX

PSD

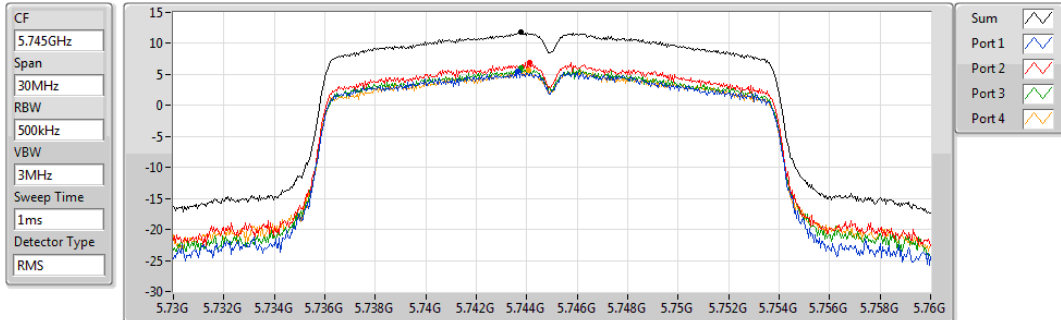
5240MHz



802.11ac VHT20_Nss1,(MCS0)_4TX

PSD

5745MHz

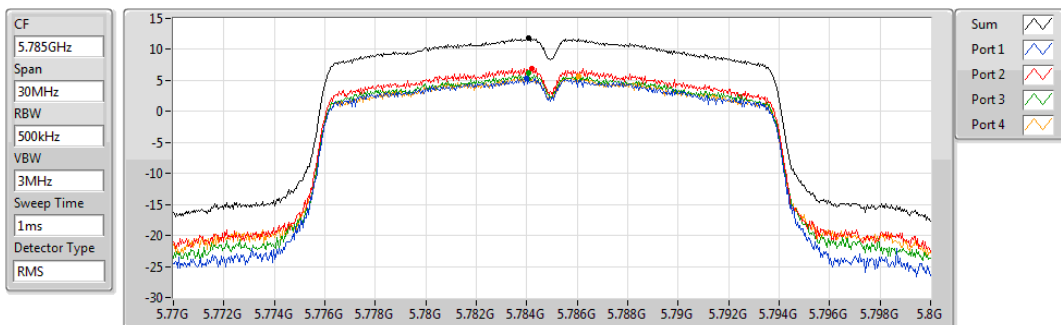


Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
11.81	11.81	5.49	6.88	5.98	5.65

802.11ac VHT20_Nss1,(MCS0)_4TX

PSD

5785MHz

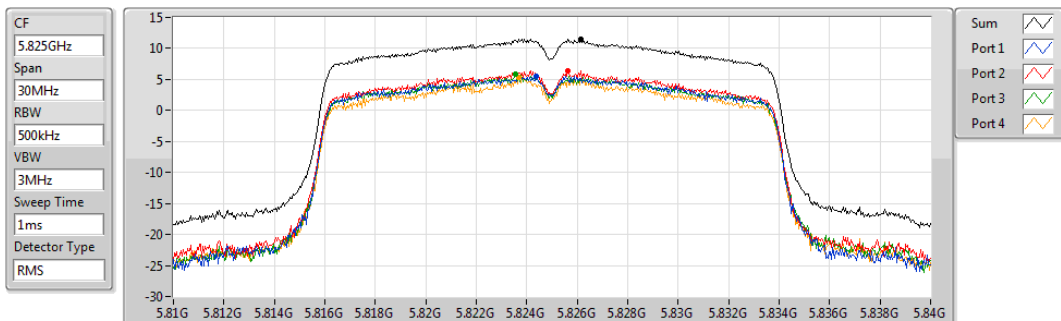


Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
11.77	11.77	5.30	6.98	6.28	5.70

802.11ac VHT20_Nss1,(MCS0)_4TX

PSD

5825MHz

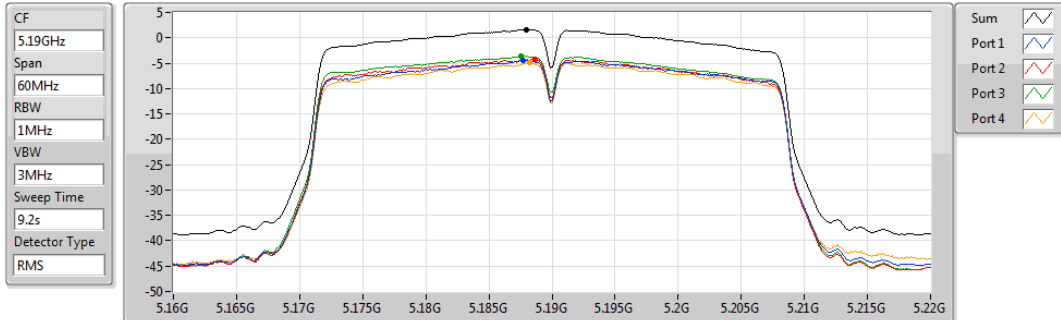


Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
11.51	11.51	5.55	6.45	5.90	5.35

802.11ac VHT40_Nss1,(MCS0)_4TX

PSD

5190MHz

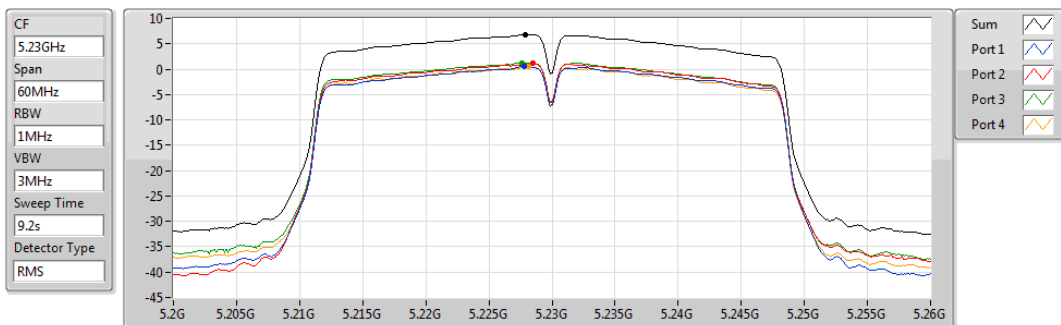


Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.66	1.66	-4.50	-4.26	-3.65	-4.86

802.11ac VHT40_Nss1,(MCS0)_4TX

PSD

5230MHz

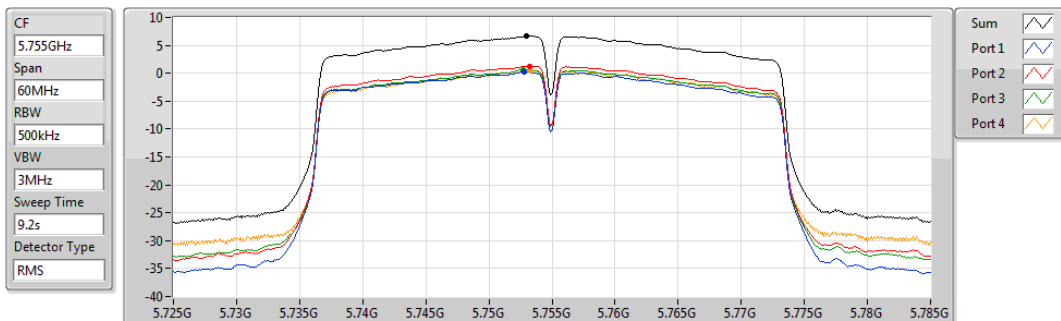


Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.82	6.82	0.51	1.09	1.28	0.45

802.11ac VHT40_Nss1,(MCS0)_4TX

PSD

5755MHz

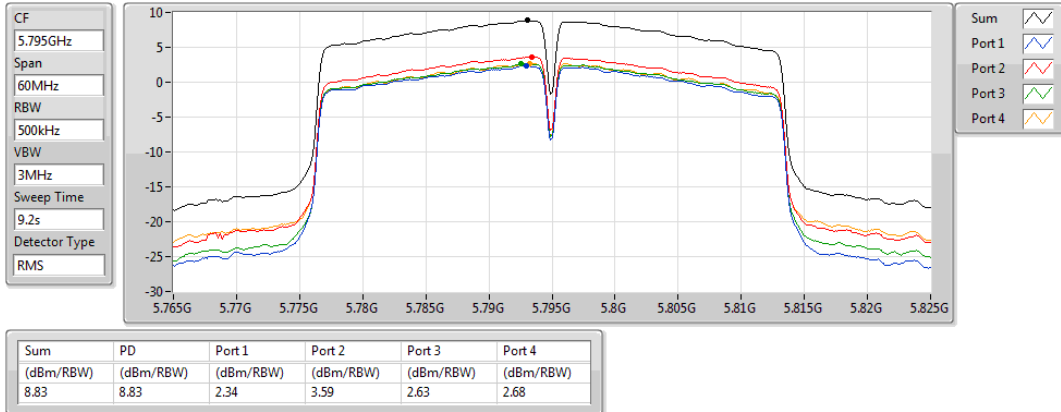


Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.65	6.65	0.22	1.26	0.61	0.52

802.11ac VHT40_Nss1,(MCS0)_4TX

PSD

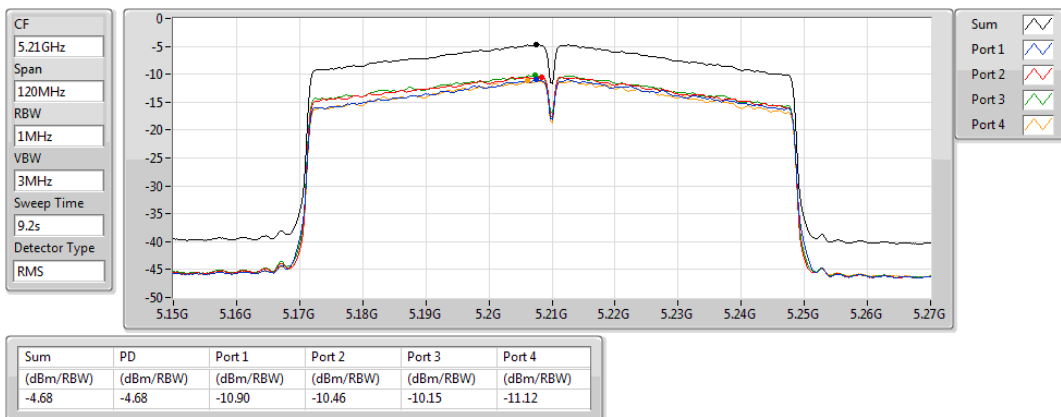
5795MHz



802.11ac VHT80_Nss1,(MCS0)_4TX

PSD

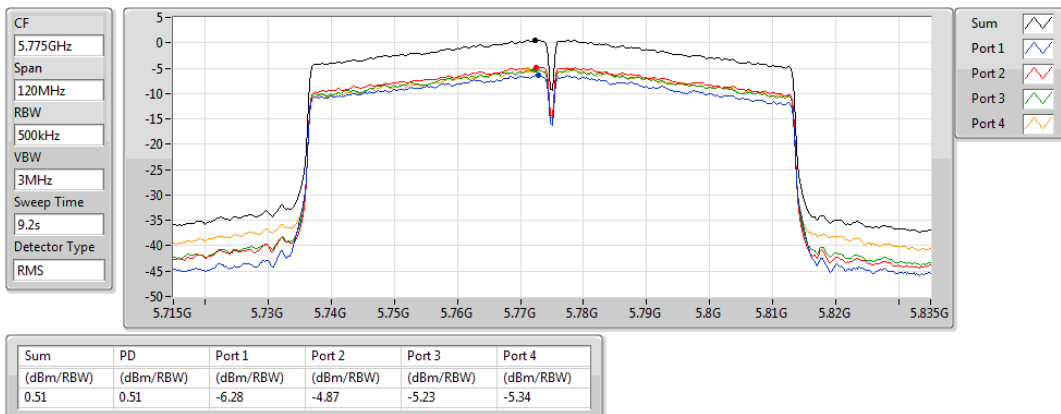
5210MHz



802.11ac VHT80_Nss1,(MCS0)_4TX

PSD

5775MHz



Beamforming mode

Summary

Mode	PD (dBm/RBW)	EIRP PD (dBm/RBW)
5.15-5.25GHz	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	12.09	21.07
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	5.12	14.10
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-7.81	1.17
5.725-5.85GHz	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	10.00	18.97
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	6.03	15.00
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-4.00	4.97

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

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)	EIRP PD (dBm/RBW)	EIRP PD Limit (dBm/RBW)
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	8.98	-0.13	1.65	0.45	-0.07	6.14	14.02	15.12	23.00
5200MHz	Pass	8.98	3.77	4.71	4.41	4.04	9.70	14.02	18.68	23.00
5240MHz	Pass	8.98	6.84	7.13	5.24	6.00	12.09	14.02	21.07	23.00
5745MHz	Pass	8.97	3.87	4.65	4.42	3.63	9.86	27.03	18.83	36.00
5785MHz	Pass	8.97	3.62	4.33	4.51	3.90	9.79	27.03	18.76	36.00
5825MHz	Pass	8.97	3.94	4.95	4.71	4.00	10.00	27.03	18.97	36.00
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5190MHz	Pass	8.98	-6.44	-6.31	-6.25	-5.49	-0.27	14.02	8.71	23.00
5230MHz	Pass	8.98	-0.88	-0.60	-0.64	-1.41	5.12	14.02	14.10	23.00
5755MHz	Pass	8.97	-2.93	-1.32	-1.72	-2.65	3.54	27.03	12.51	36.00
5795MHz	Pass	8.97	-0.72	0.50	0.07	0.14	6.03	27.03	15.00	36.00
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5210MHz	Pass	8.98	-14.07	-13.89	-13.01	-13.29	-7.81	14.02	1.17	23.00
5775MHz	Pass	8.97	-9.64	-9.34	-9.09	-9.33	-4.00	27.03	4.97	36.00

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

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

Note:

For 5150~5250MHz:

Directional gain = $10 \times \log((102.38/20+103.25/20+103.04/20+103.14/20)/4) = 8.98 \text{ dBi} > 6 \text{ dBi}$

Power limit shall be reduced to $17 \text{ dBm} - (8.98 \text{ dBi} - 6 \text{ dBi}) = 14.02 \text{ dBm}$

For 5725~5850MHz:

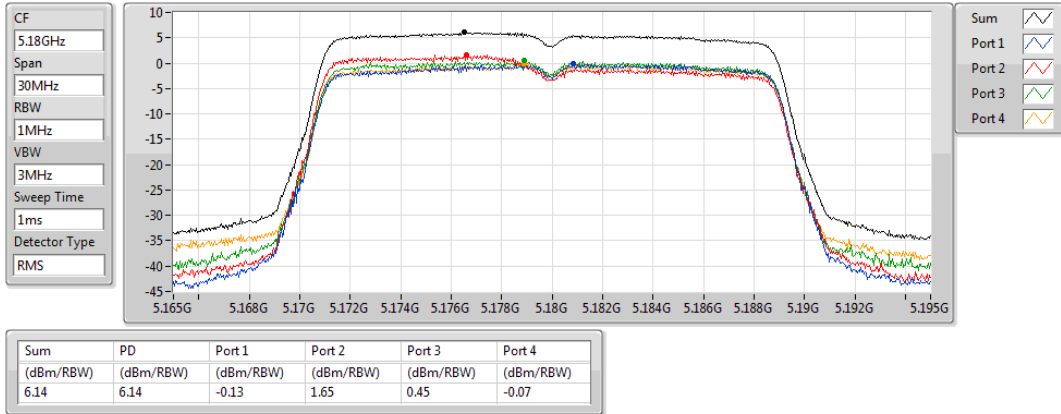
Directional gain = $10 \times \log((102.3/20+103.14/20+103.13/20+103.2/20)/4) = 8.97 \text{ dBi} > 6 \text{ dBi}$

Power limit shall be reduced to $30 \text{ dBm} - (8.97 \text{ dBi} - 6 \text{ dBi}) = 27.03 \text{ dBm}$

802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

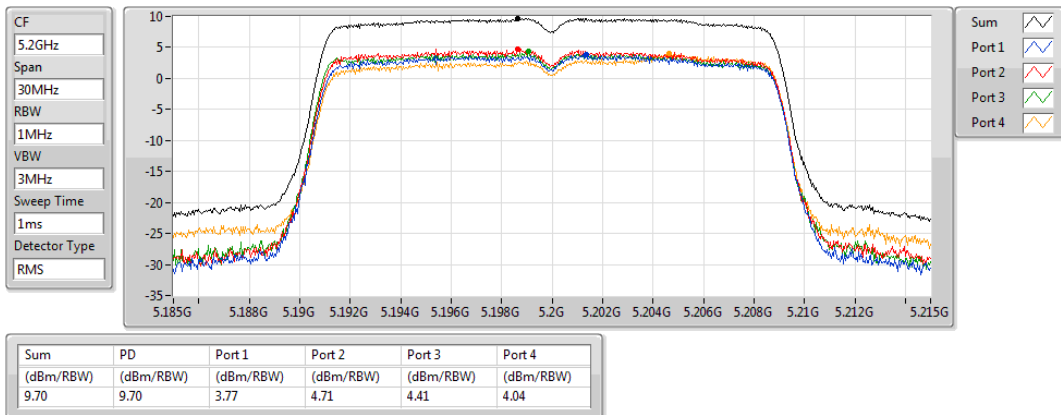
5180MHz



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

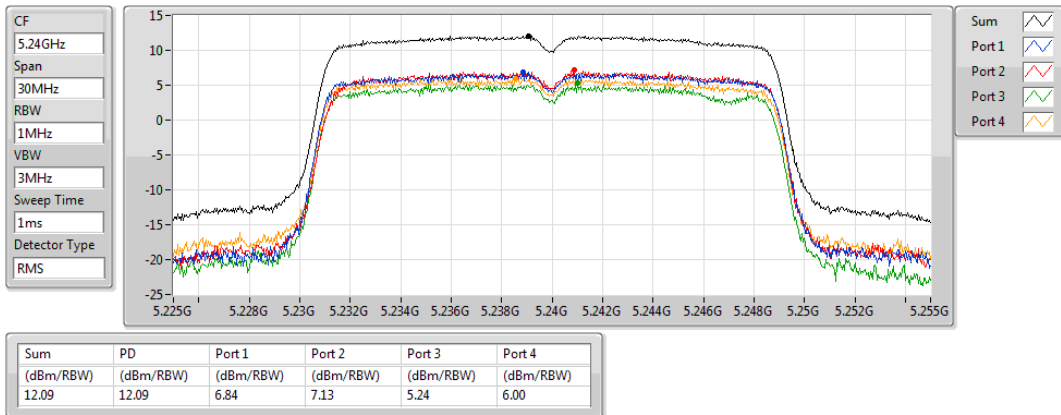
5200MHz



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

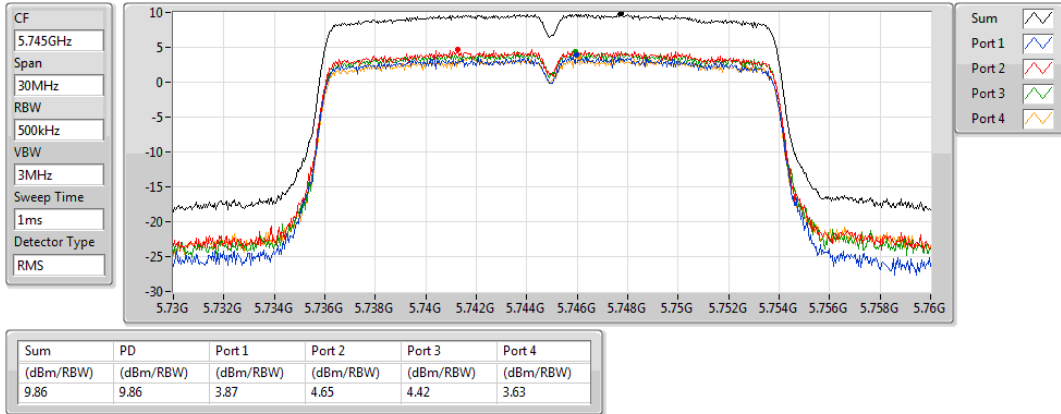
5240MHz



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

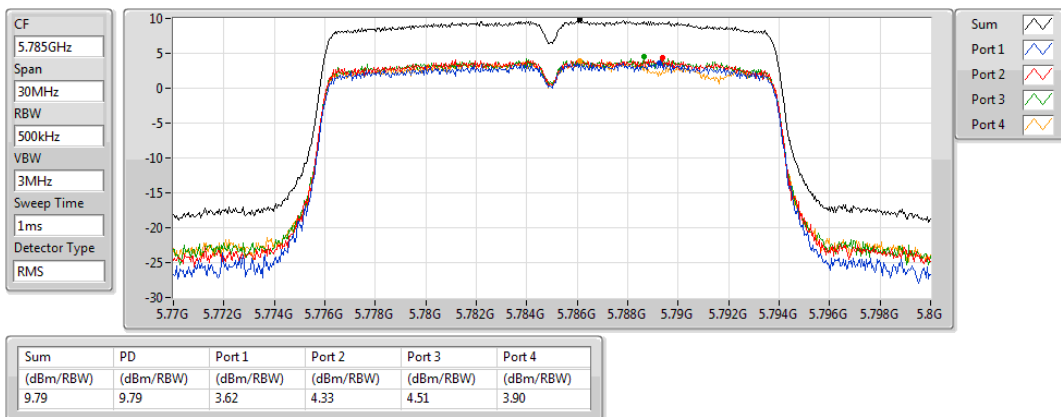
5745MHz



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

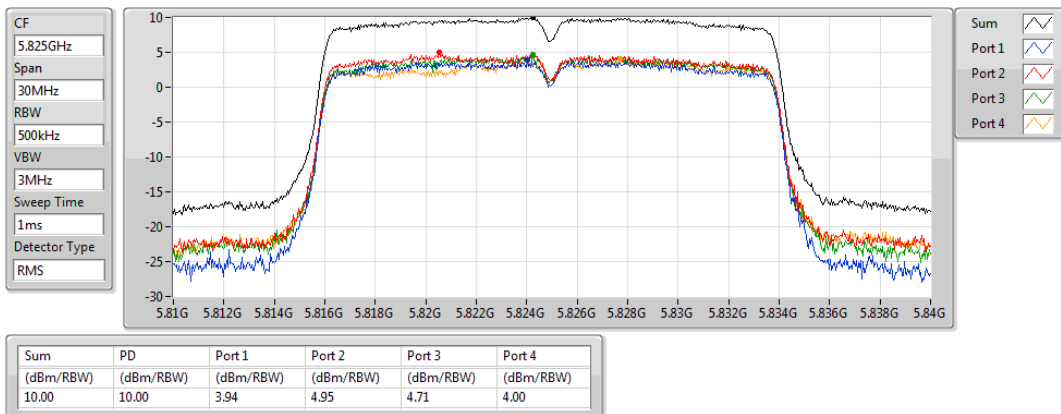
5785MHz



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

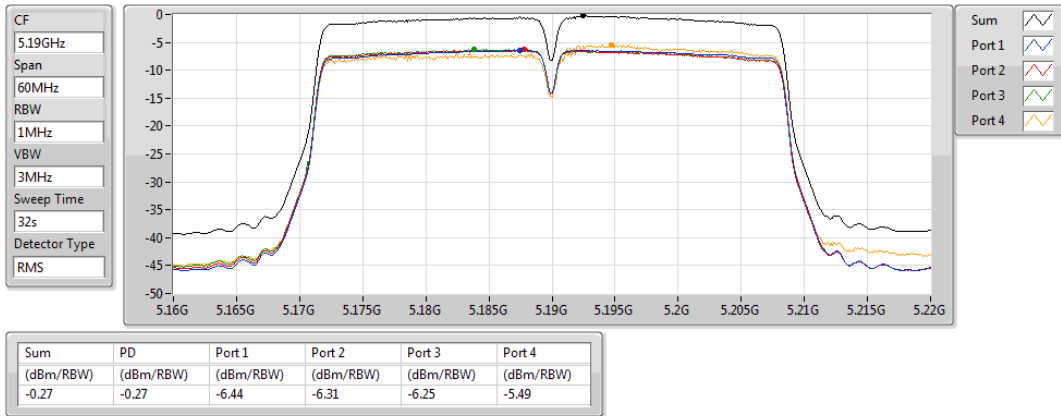
5825MHz



802.11ac VHT40-BF_Nss1,(MCS0)_4TX

PSD

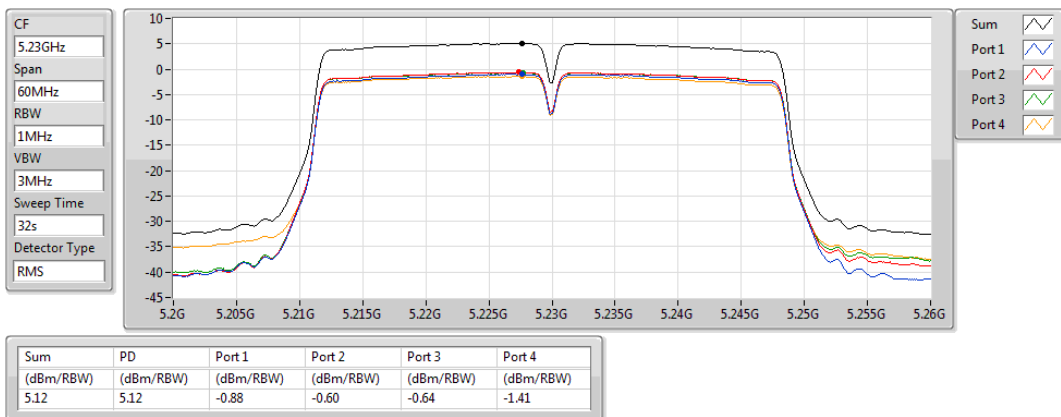
5190MHz



802.11ac VHT40-BF_Nss1,(MCS0)_4TX

PSD

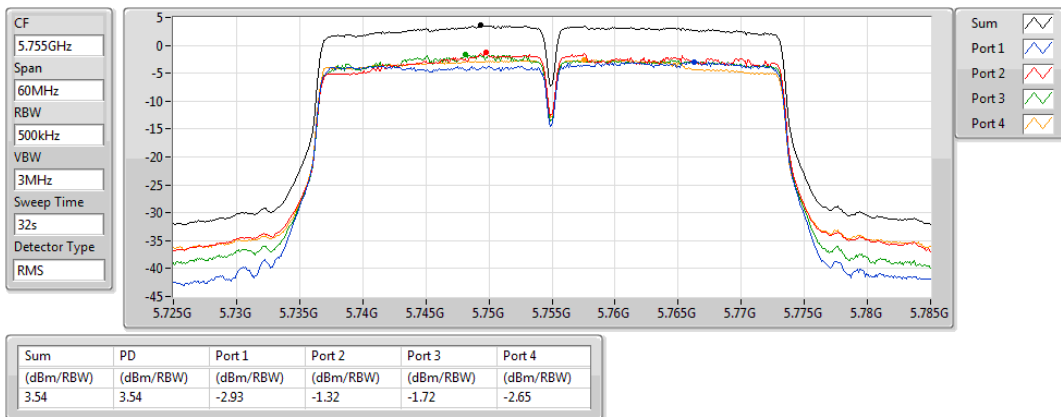
5230MHz



802.11ac VHT40-BF_Nss1,(MCS0)_4TX

PSD

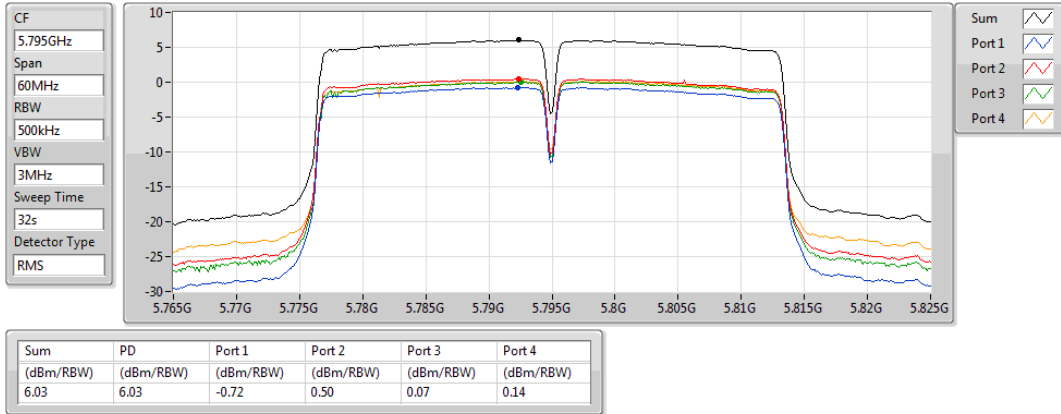
5755MHz



802.11ac VHT40-BF_Nss1,(MCS0)_4TX

PSD

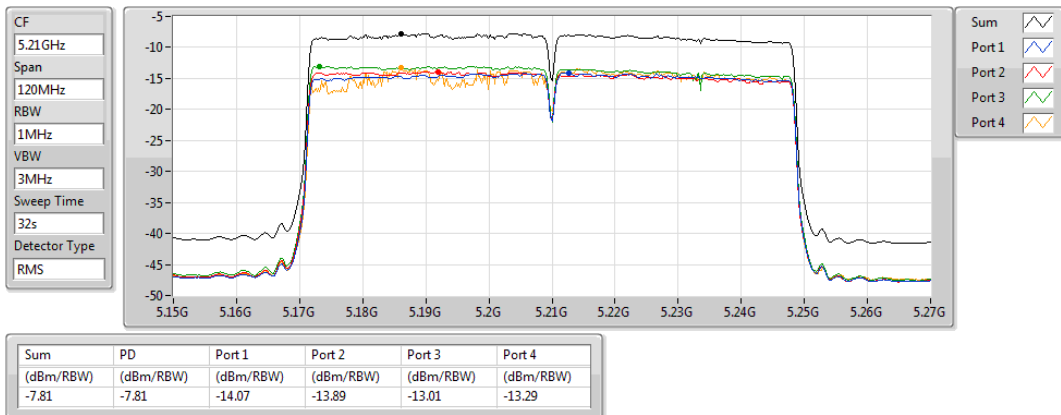
5795MHz



802.11ac VHT80-BF_Nss1,(MCS0)_4TX

PSD

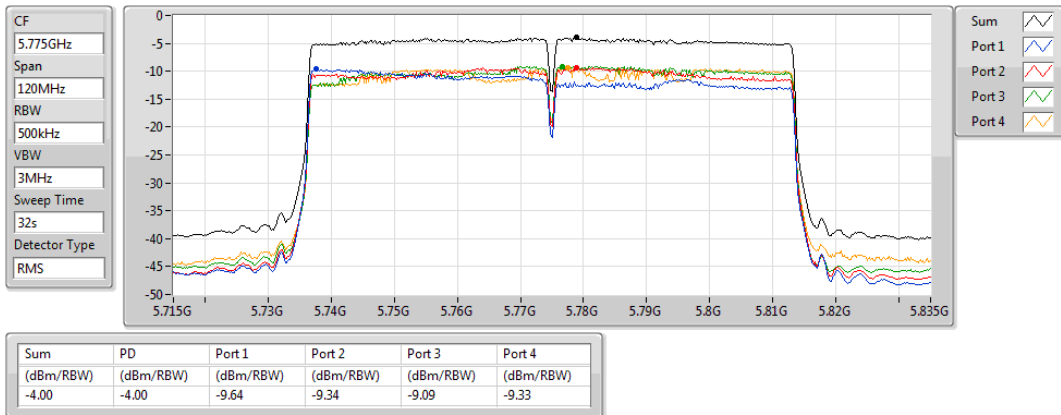
5210MHz



802.11ac VHT80-BF_Nss1,(MCS0)_4TX

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

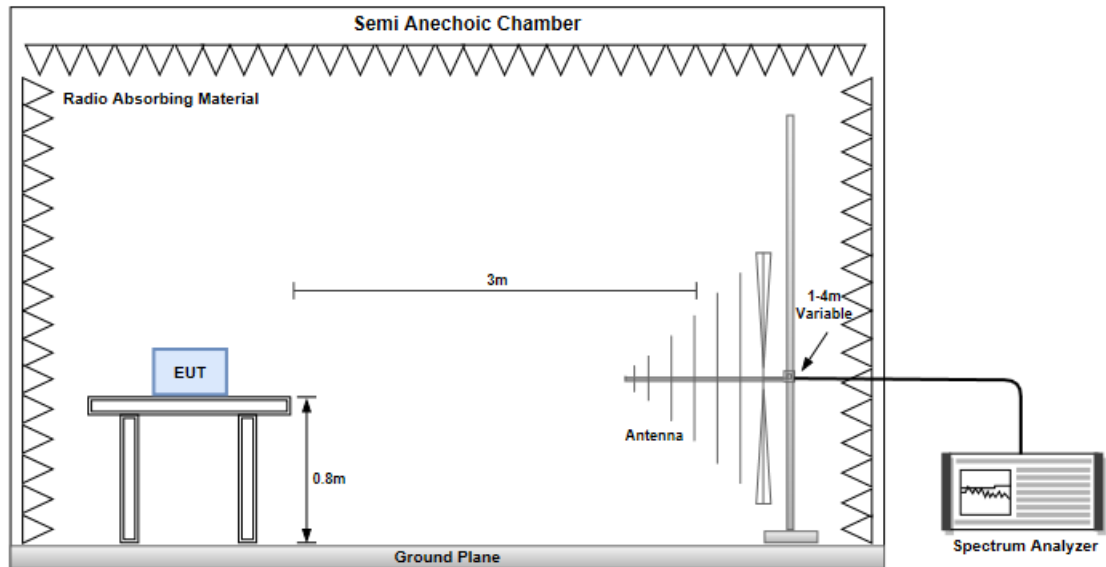
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360° . A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission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

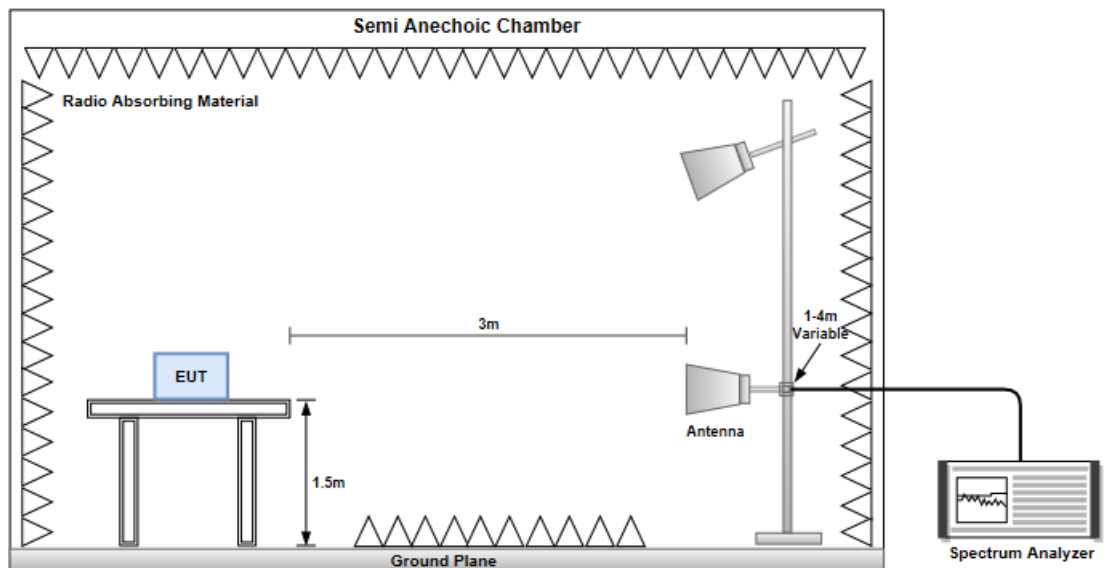
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

3.5.3 Test Setup

Radiated Emissions below 1 GHz



Radiated Emissions above 1 GHz



Non- beamforming mode

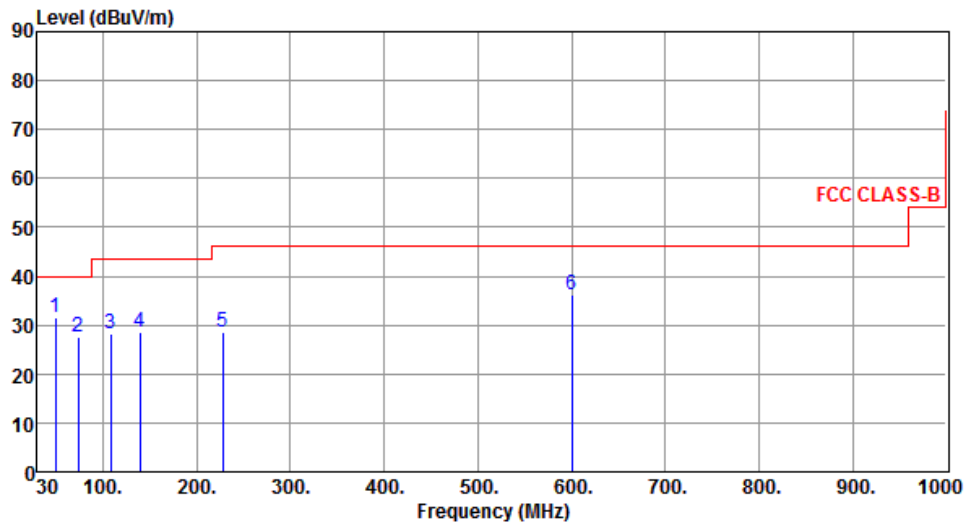
3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

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

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

Modulation	11a	Test Freq. (MHz)	5745
Polarization	Horizontal		
Level (dBuV/m) </			

Modulation	11a	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	49.37	31.69	40.00	-8.31	40.27	-8.58	Peak	---	---
2	73.55	27.48	40.00	-12.52	39.18	-11.70	Peak	---	---
3	108.57	28.34	43.50	-15.16	40.57	-12.23	Peak	---	---
4	139.44	28.46	43.50	-15.04	37.73	-9.27	Peak	---	---
5	227.69	28.55	46.00	-17.45	40.42	-11.87	Peak	---	---
6	600.42	36.13	46.00	-9.87	36.71	-0.58	Peak	---	---

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

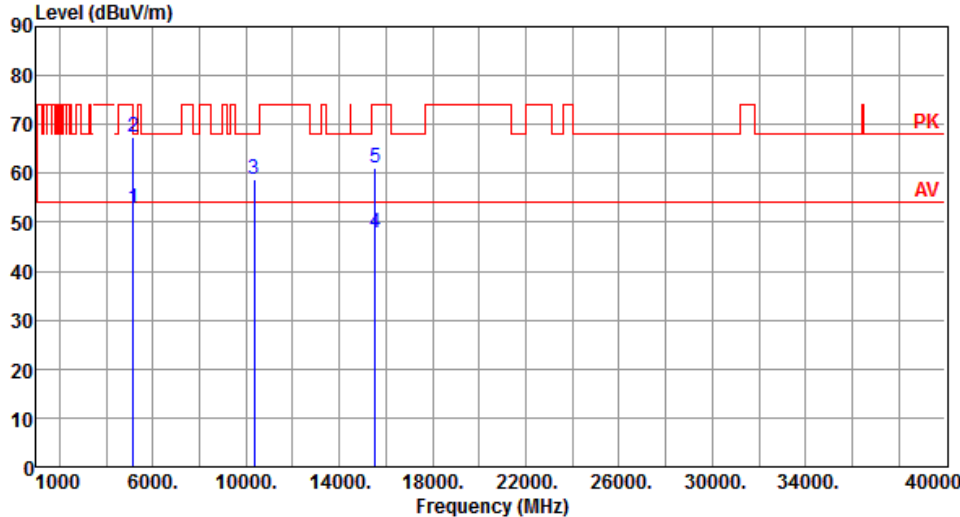
*Factor includes antenna factor , cable loss and amplifier gain

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

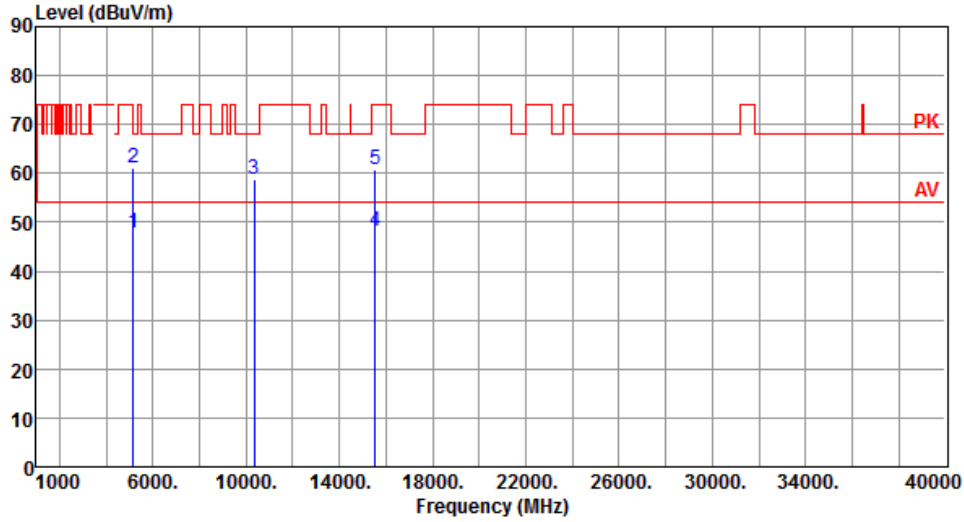
Modulation	11a	Test Freq. (MHz)	5180
Polarization	Horizontal		



	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	52.72	54.00	-1.28	45.30	7.42	Average	212	134
2	5150.00	67.53	74.00	-6.47	60.11	7.42	Peak	212	134
3	10360.00	58.91	68.20	-9.29	42.56	16.35	Peak	100	30
4	15540.00	47.99	54.00	-6.01	30.56	17.43	Average	100	20
5	15540.00	60.96	74.00	-13.04	43.53	17.43	Peak	100	20

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

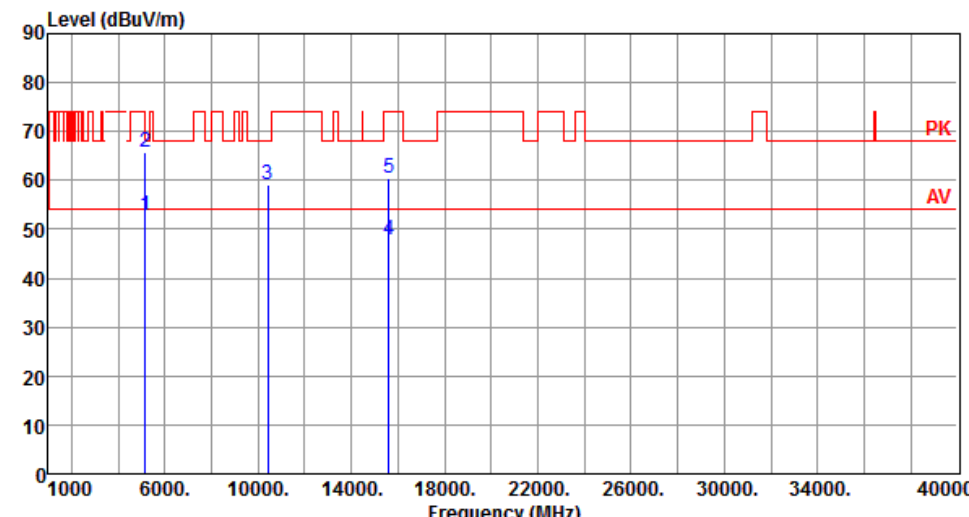
Modulation	11a	Test Freq. (MHz)	5180
Polarization	Vertical		



	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	47.81	54.00	-6.19	40.39	7.42	Average	100	69
2	5150.00	60.99	74.00	-13.01	53.57	7.42	Peak	100	69
3	10360.00	58.78	68.20	-9.42	42.43	16.35	Peak	100	40
4	15540.00	48.07	54.00	-5.93	30.64	17.43	Average	100	30
5	15540.00	60.92	74.00	-13.08	43.49	17.43	Peak	100	30

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

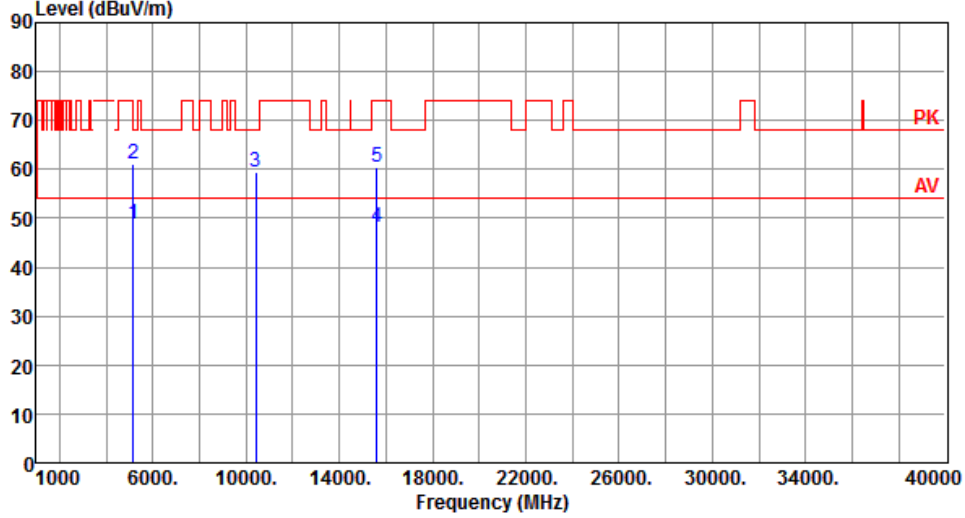
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Horizontal		



	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	52.77	54.00	-1.23	45.35	7.42	Average	209	131
2	5150.00	65.69	74.00	-8.31	58.27	7.42	Peak	209	131
3	10400.00	59.13	68.20	-9.07	42.55	16.58	Peak	100	20
4	15600.00	47.72	54.00	-6.28	30.45	17.27	Average	100	60
5	15600.00	60.48	74.00	-13.52	43.21	17.27	Peak	100	60

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

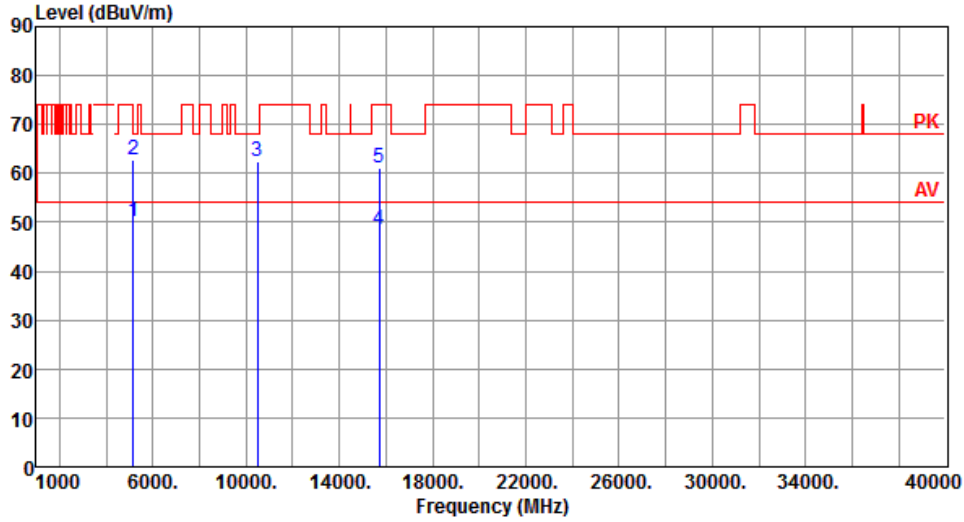
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Vertical		



	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	48.67	54.00	-5.33	41.25	7.42	Average	100	71
2	5150.00	60.99	74.00	-13.01	53.57	7.42	Peak	100	71
3	10400.00	59.38	68.20	-8.82	42.80	16.58	Peak	100	218
4	15600.00	47.99	54.00	-6.01	30.72	17.27	Average	100	298
5	15600.00	60.34	74.00	-13.66	43.07	17.27	Peak	100	298

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).

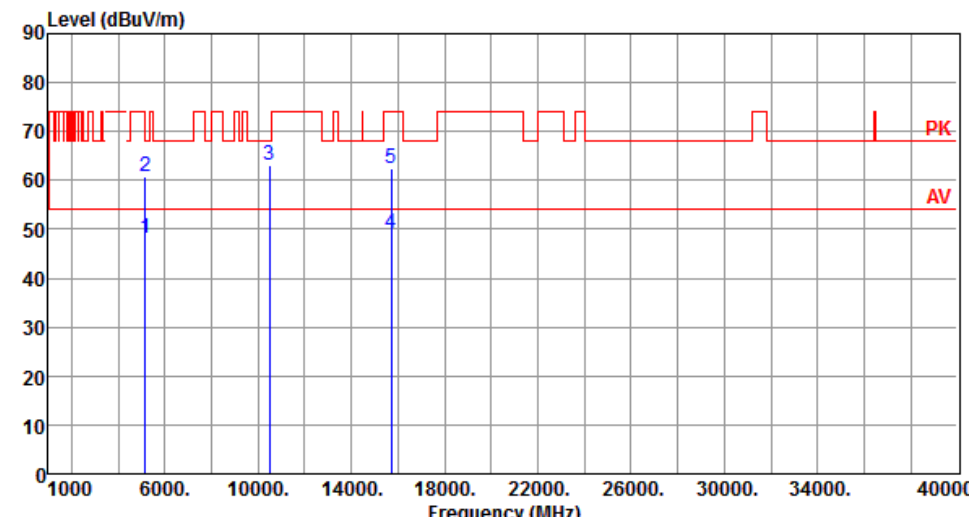
Modulation	11a	Test Freq. (MHz)	5240
Polarization	Horizontal		



	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	50.22	54.00	-3.78	42.80	7.42	Average	214	128
2	5150.00	62.85	74.00	-11.15	55.43	7.42	Peak	214	128
3	10480.00	62.60	68.20	-5.60	46.05	16.55	Peak	173	132
4	15720.00	48.52	54.00	-5.48	31.50	17.02	Average	100	4
5	15720.00	61.27	74.00	-12.73	44.25	17.02	Peak	100	4

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).

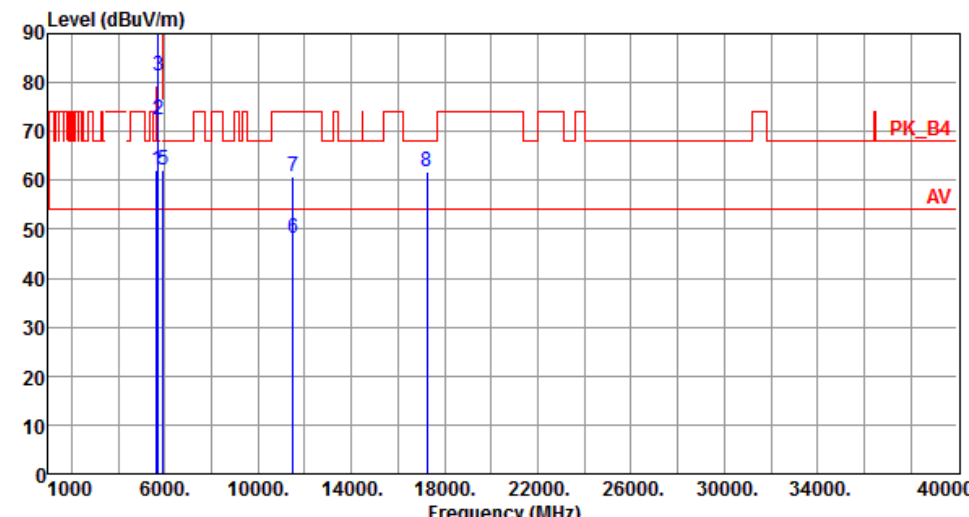
Modulation	11a	Test Freq. (MHz)	5240
Polarization	Vertical		



	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	48.10	54.00	-5.90	40.68	7.42	Average	100	75
2	5150.00	60.86	74.00	-13.14	53.44	7.42	Peak	100	75
3	10480.00	62.95	68.20	-5.25	46.40	16.55	Peak	171	214
4	15720.00	49.31	54.00	-4.69	32.29	17.02	Average	100	301
5	15720.00	62.57	74.00	-11.43	45.55	17.02	Peak	100	301

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).

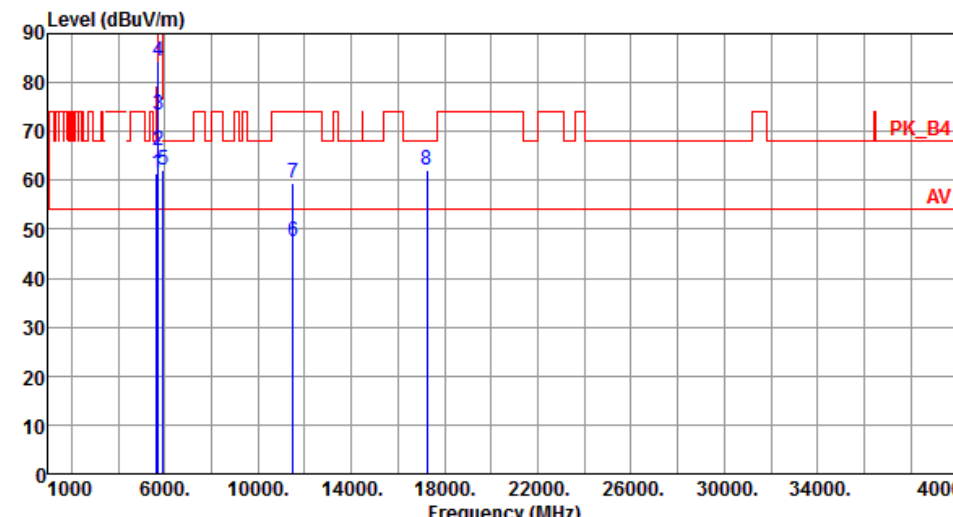
Modulation	11a	Test Freq. (MHz)	5745
Polarization	Horizontal		



	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	62.19	68.20	-6.01	54.80	7.39	Peak	283	121
2	5700.00	72.31	105.20	-32.89	64.61	7.70	Peak	283	121
3	5720.00	81.47	110.80	-29.33	73.73	7.74	Peak	283	121
4	5725.00	92.05	122.20	-30.15	84.29	7.76	Peak	283	121
5	5925.00	62.22	68.20	-5.98	53.95	8.27	Peak	283	121
6	11490.00	48.01	54.00	-5.99	31.16	16.85	Average	103	134
7	11490.00	60.91	74.00	-13.09	44.06	16.85	Peak	103	134
8	17235.00	61.84	68.20	-6.36	43.23	18.61	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).

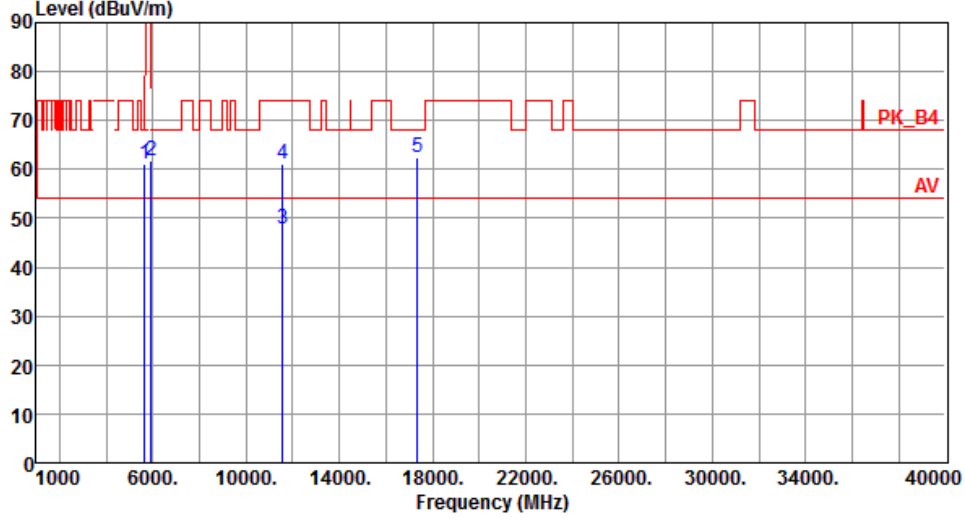
Modulation	11a	Test Freq. (MHz)	5745
Polarization	Vertical		



	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	61.60	68.20	-6.60	54.21	7.39	Peak	100	179
2	5700.00	66.19	105.20	-39.01	58.49	7.70	Peak	100	179
3	5720.00	73.40	110.80	-37.40	65.66	7.74	Peak	100	179
4	5725.00	84.24	122.20	-37.96	76.48	7.76	Peak	100	179
5	5925.00	62.13	68.20	-6.07	53.86	8.27	Peak	100	179
6	11490.00	47.37	54.00	-6.63	30.52	16.85	Average	168	275
7	11490.00	59.47	74.00	-14.53	42.62	16.85	Peak	168	275
8	17235.00	62.06	68.20	-6.14	43.45	18.61	Peak	100	20

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

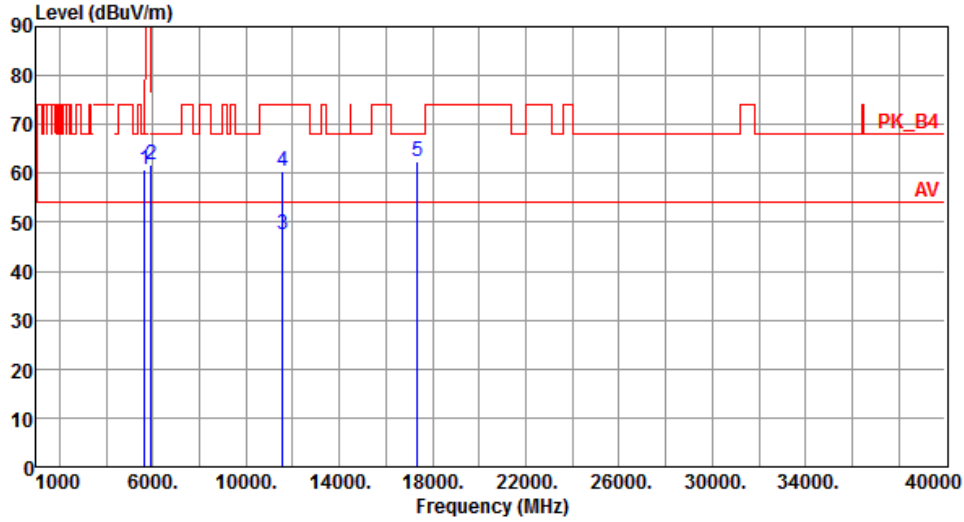
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Horizontal		



	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	60.95	68.20	-7.25	53.56	7.39	Peak	283	127
2	5925.00	61.85	68.20	-6.35	53.58	8.27	Peak	283	127
3	11570.00	47.92	54.00	-6.08	31.21	16.71	Average	105	135
4	11570.00	60.97	74.00	-13.03	44.26	16.71	Peak	105	135
5	17355.00	62.48	68.20	-5.72	43.24	19.24	Peak	100	90

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

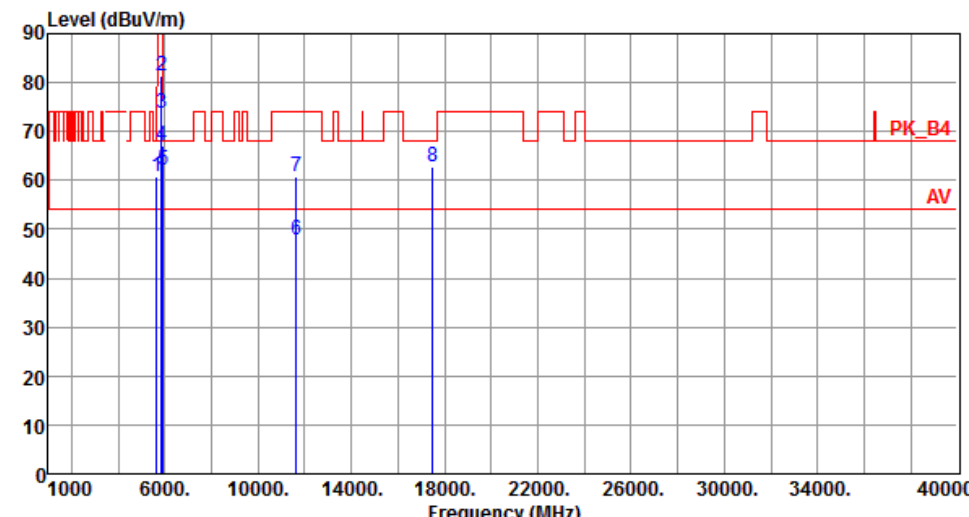
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Vertical		



	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	60.88	68.20	-7.32	53.49	7.39	Peak	100	177
2	5925.00	61.73	68.20	-6.47	53.46	8.27	Peak	100	177
3	11570.00	47.37	54.00	-6.63	30.66	16.71	Average	165	279
4	11570.00	60.57	74.00	-13.43	43.86	16.71	Peak	165	279
5	17355.00	62.44	68.20	-5.76	43.20	19.24	Peak	100	40

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

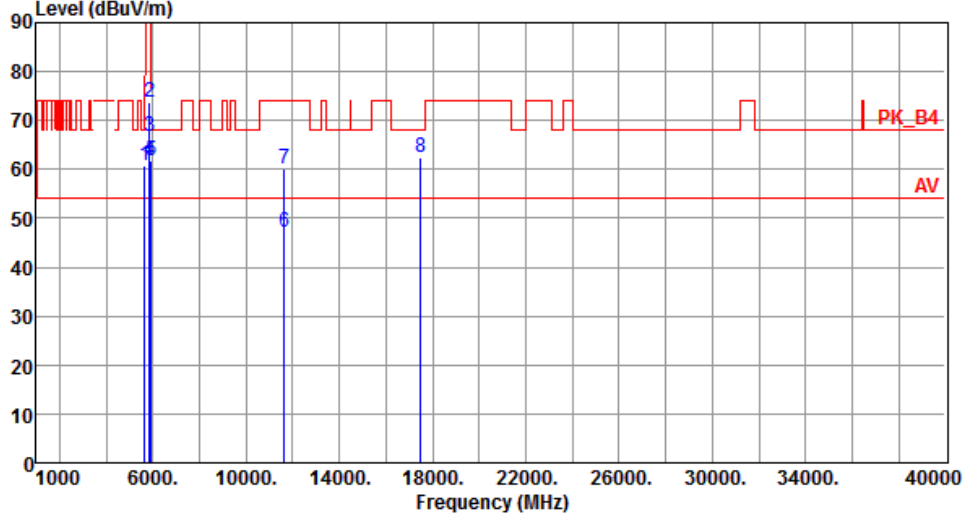
Modulation	11a	Test Freq. (MHz)	5825
Polarization	Horizontal		



	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	60.65	68.20	-7.55	53.26	7.39	Peak	280	129
2	5850.00	81.39	122.20	-40.81	73.27	8.12	Peak	280	129
3	5855.00	73.72	110.80	-37.08	65.59	8.13	Peak	280	129
4	5875.00	67.02	105.20	-38.18	58.84	8.18	Peak	280	129
5	5925.00	61.97	68.20	-6.23	53.70	8.27	Peak	280	129
6	11650.00	47.73	54.00	-6.27	31.25	16.48	Average	100	136
7	11650.00	60.76	74.00	-13.24	44.28	16.48	Peak	100	136
8	17475.00	62.68	68.20	-5.52	42.84	19.84	Peak	100	60

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

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

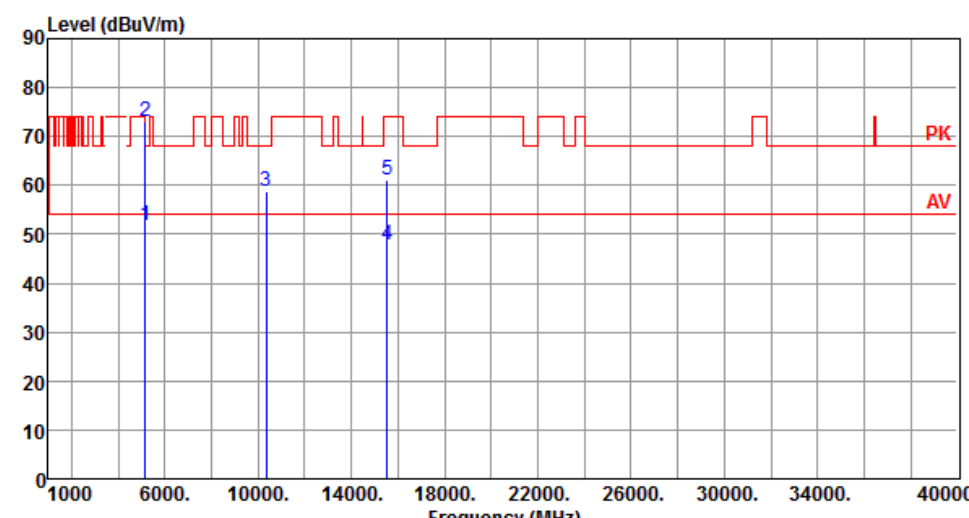


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	60.93	68.20	-7.27	53.54	7.39	Peak	100	177
2	5850.00	73.61	122.20	-48.59	65.49	8.12	Peak	100	177
3	5855.00	66.59	110.80	-44.21	58.46	8.13	Peak	100	177
4	5875.00	61.66	105.20	-43.54	53.48	8.18	Peak	100	177
5	5925.00	61.93	68.20	-6.27	53.66	8.27	Peak	100	177
6	11650.00	47.24	54.00	-6.76	30.76	16.48	Average	165	277
7	11650.00	60.03	74.00	-13.97	43.55	16.48	Peak	165	277
8	17475.00	62.50	68.20	-5.70	42.66	19.84	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).

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

Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Horizontal		



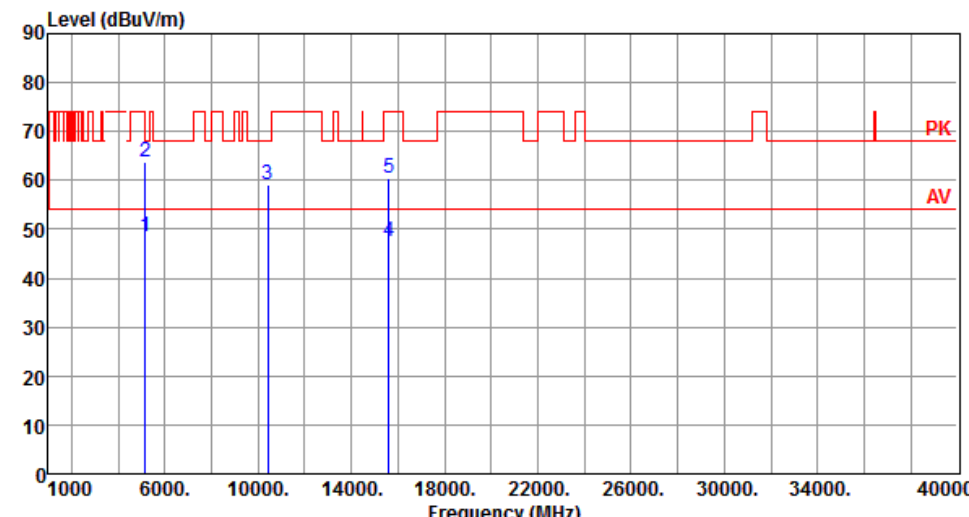
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	51.77	54.00	-2.23	44.35	7.42	Average	229	134
2	5150.00	72.99	74.00	-1.01	65.57	7.42	Peak	229	134
3	10360.00	58.81	68.20	-9.39	42.46	16.35	Peak	100	25
4	15540.00	47.91	54.00	-6.09	30.48	17.43	Average	100	40
5	15540.00	61.04	74.00	-12.96	43.61	17.43	Peak	100	40

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

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

Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Horizontal		
Level (dBuV/m) </			

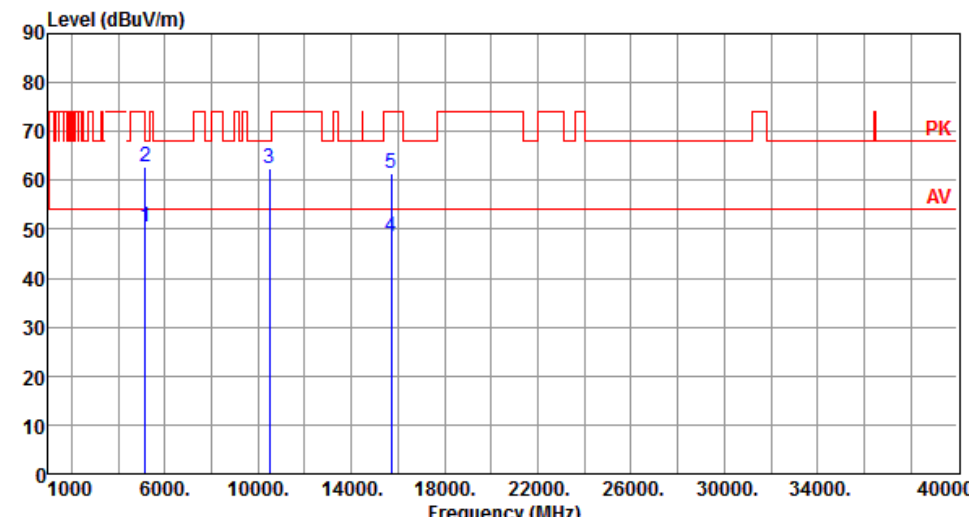
Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Vertical		



	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	48.62	54.00	-5.38	41.20	7.42	Average	100	74
2	5150.00	63.68	74.00	-10.32	56.26	7.42	Peak	100	74
3	10400.00	59.04	68.20	-9.16	42.46	16.58	Peak	100	210
4	15600.00	47.53	54.00	-6.47	30.26	17.27	Average	100	300
5	15600.00	60.52	74.00	-13.48	43.25	17.27	Peak	100	300

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).

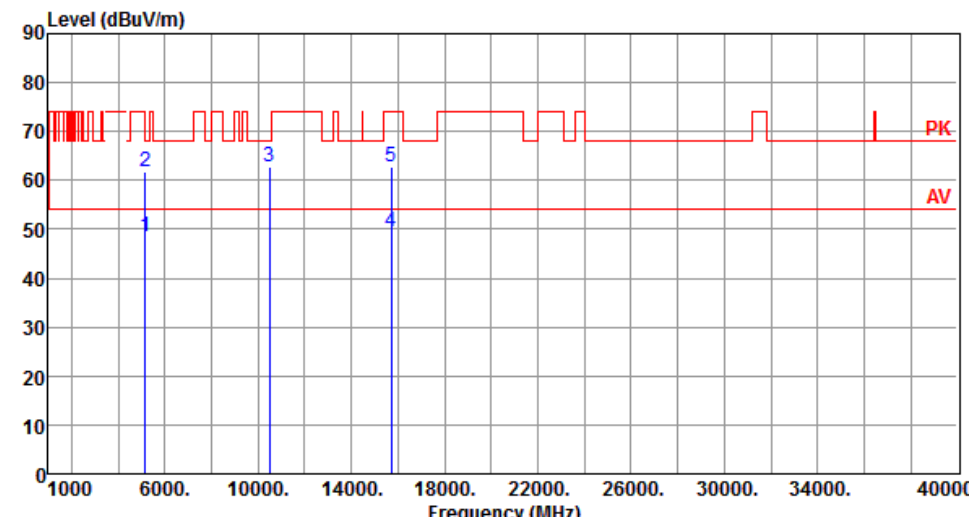
Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Horizontal		



	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	50.49	54.00	-3.51	43.07	7.42	Average	232	131
2	5150.00	62.67	74.00	-11.33	55.25	7.42	Peak	232	131
3	10480.00	62.37	68.20	-5.83	45.82	16.55	Peak	175	133
4	15720.00	48.64	54.00	-5.36	31.62	17.02	Average	100	5
5	15720.00	61.58	74.00	-12.42	44.56	17.02	Peak	100	5

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).

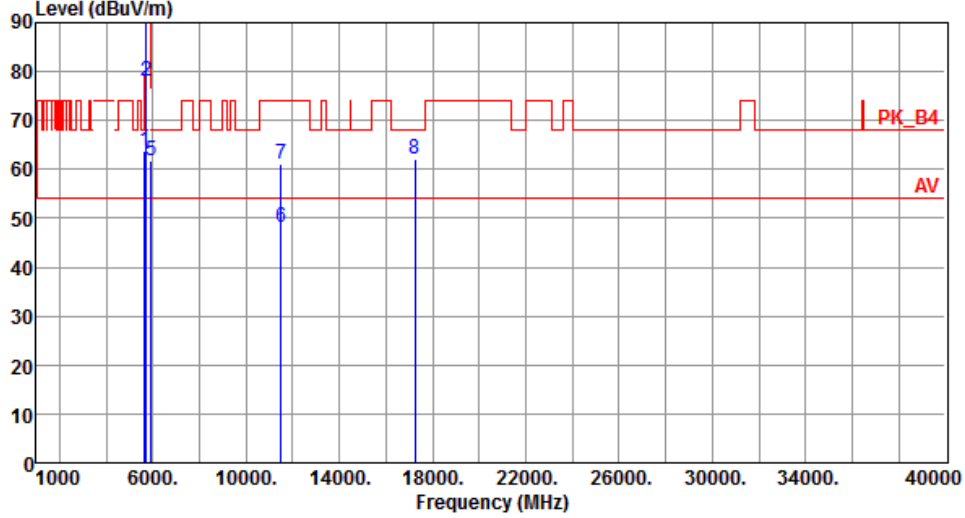
Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Vertical		



	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	48.53	54.00	-5.47	41.11	7.42	Average	100	70
2	5150.00	61.62	74.00	-12.38	54.20	7.42	Peak	100	70
3	10480.00	62.87	68.20	-5.33	46.32	16.55	Peak	169	215
4	15720.00	49.33	54.00	-4.67	32.31	17.02	Average	100	305
5	15720.00	62.67	74.00	-11.33	45.65	17.02	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).

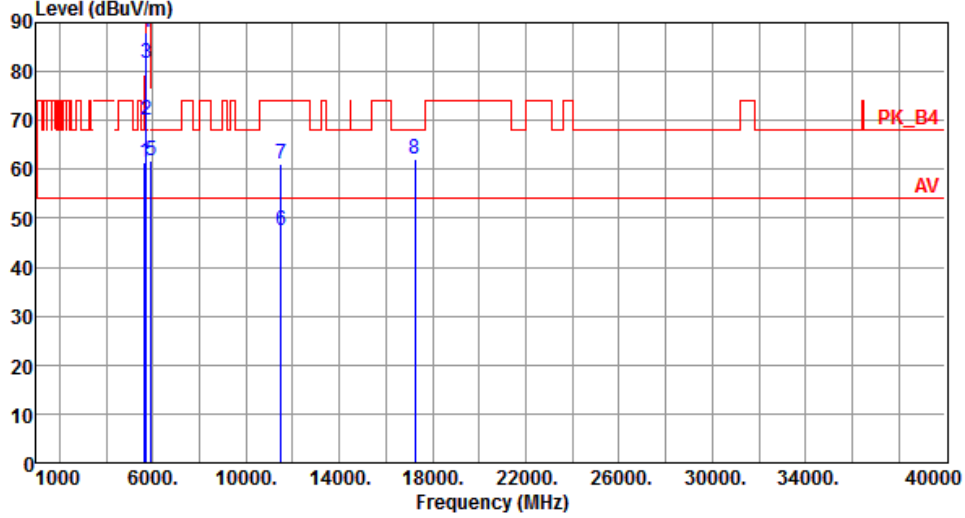
Modulation	VHT20	Test Freq. (MHz)	5745
Polarization	Horizontal		



	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	63.60	68.20	-4.60	56.21	7.39	Peak	277	128
2	5700.00	78.05	105.20	-27.15	70.35	7.70	Peak	277	128
3	5720.00	89.69	110.80	-21.11	81.95	7.74	Peak	277	128
4	5725.00	96.07	122.20	-26.13	88.31	7.76	Peak	277	128
5	5925.00	61.79	68.20	-6.41	53.52	8.27	Peak	277	128
6	11490.00	48.08	54.00	-5.92	31.23	16.85	Average	105	139
7	11490.00	61.08	74.00	-12.92	44.23	16.85	Peak	105	139
8	17235.00	61.96	68.20	-6.24	43.35	18.61	Peak	100	40

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

Modulation	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	61.60	68.20	-6.60	54.21	7.39	Peak	100	182
2	5700.00	70.15	105.20	-35.05	62.45	7.70	Peak	100	182
3	5720.00	81.62	110.80	-29.18	73.88	7.74	Peak	100	182
4	5725.00	87.97	122.20	-34.23	80.21	7.76	Peak	100	182
5	5925.00	61.84	68.20	-6.36	53.57	8.27	Peak	100	182
6	11490.00	47.51	54.00	-6.49	30.66	16.85	Average	165	276
7	11490.00	60.98	74.00	-13.02	44.13	16.85	Peak	165	276
8	17235.00	62.06	68.20	-6.14	43.45	18.61	Peak	100	20

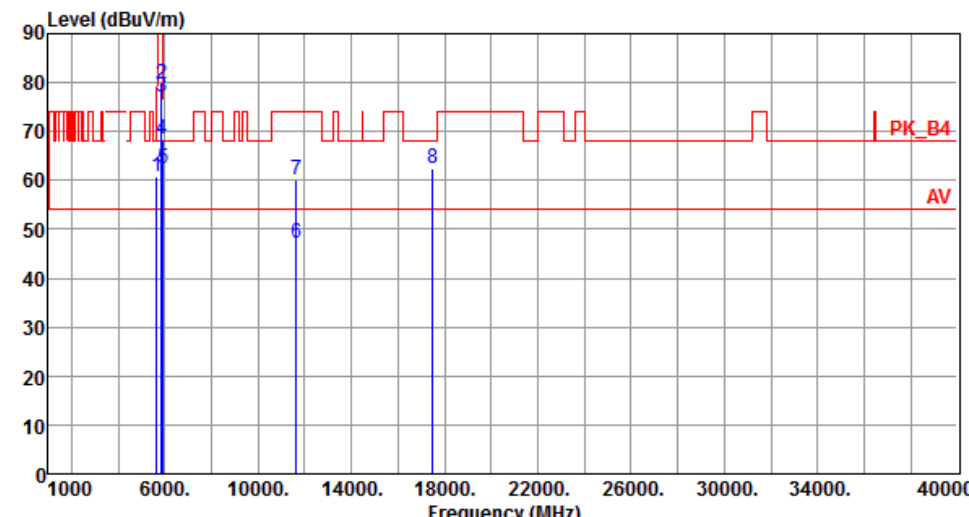
Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).

Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Horizontal		
 </			

Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Vertical		
Level (dBUV/m)			

Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Horizontal		
Level (dBuV/m)			

Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Vertical		

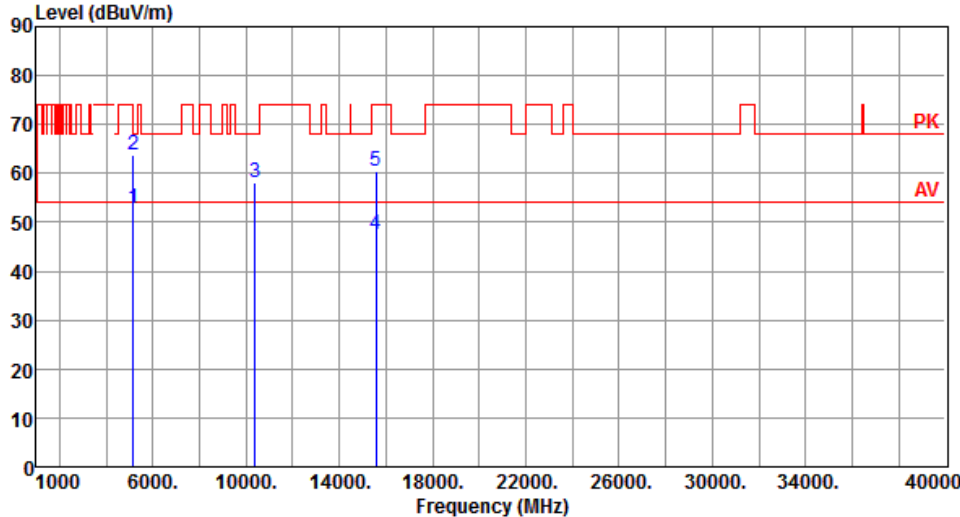


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	60.93	68.20	-7.27	53.54	7.39	Peak	100	179
2	5850.00	79.78	122.20	-42.42	71.66	8.12	Peak	100	179
3	5855.00	76.99	110.80	-33.81	68.86	8.13	Peak	100	179
4	5875.00	68.38	105.20	-36.82	60.20	8.18	Peak	100	179
5	5925.00	62.49	68.20	-5.71	54.22	8.27	Peak	100	179
6	11650.00	47.15	54.00	-6.85	30.67	16.48	Average	165	272
7	11650.00	60.16	74.00	-13.84	43.68	16.48	Peak	165	272
8	17475.00	62.38	68.20	-5.82	42.54	19.84	Peak	100	60

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

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

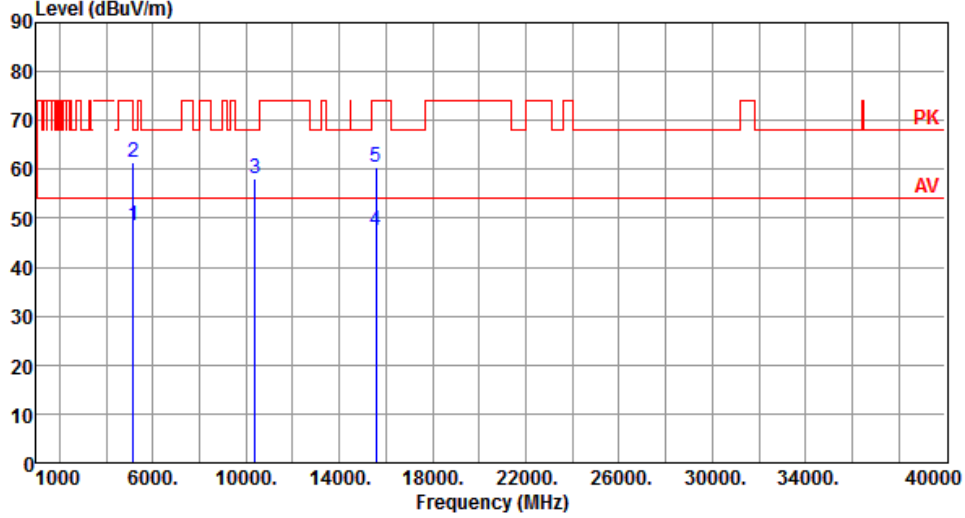
Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Horizontal		



	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	52.86	54.00	-1.14	45.44	7.42	Average	207	135
2	5150.00	63.90	74.00	-10.10	56.48	7.42	Peak	207	135
3	10380.00	58.03	68.20	-10.17	41.57	16.46	Peak	100	20
4	15570.00	47.56	54.00	-6.44	30.21	17.35	Average	100	40
5	15570.00	60.45	74.00	-13.55	43.10	17.35	Peak	100	40

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

Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Vertical		

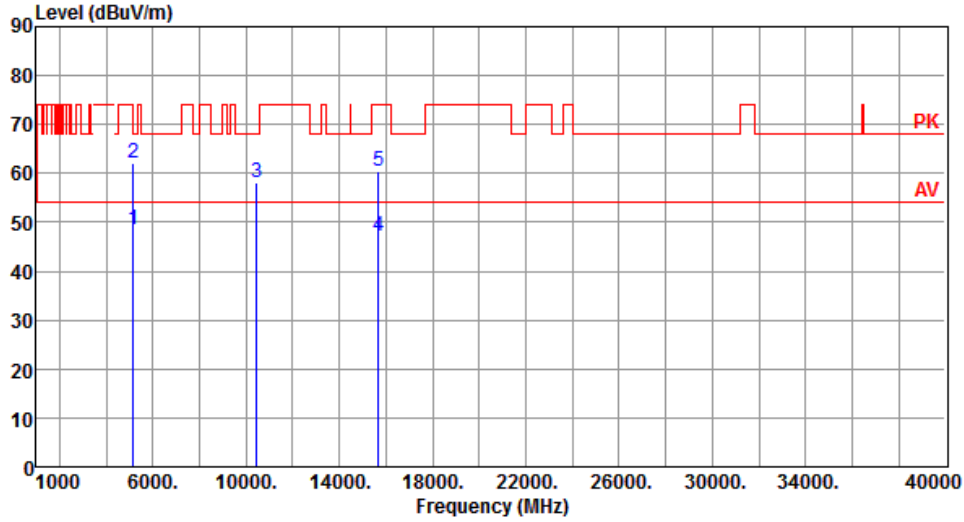


	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	48.62	54.00	-5.38	41.20	7.42	Average	100	85
2	5150.00	61.53	74.00	-12.47	54.11	7.42	Peak	100	85
3	10380.00	58.16	68.20	-10.04	41.70	16.46	Peak	100	40
4	15570.00	47.53	54.00	-6.47	30.18	17.35	Average	100	50
5	15570.00	60.56	74.00	-13.44	43.21	17.35	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)	5230
Polarization	Horizontal		
Level (dBuV/m)			

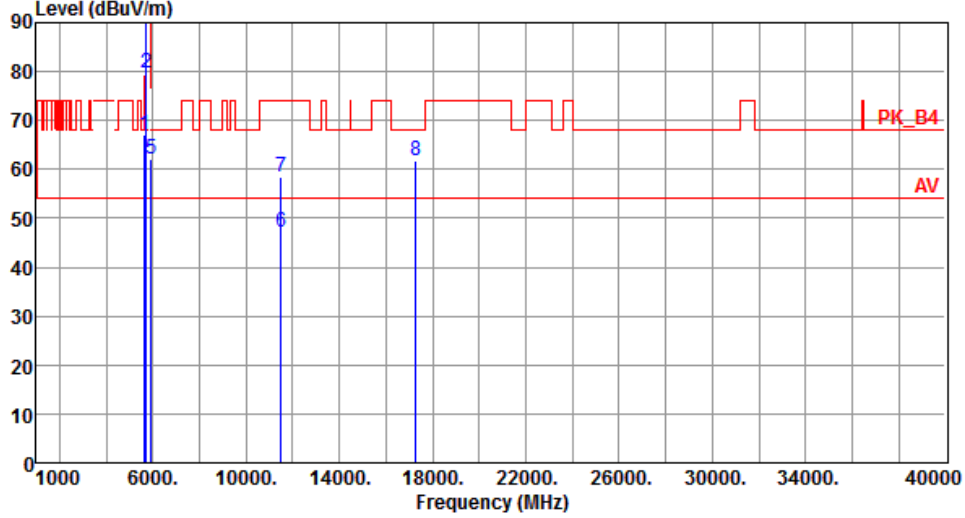
Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Vertical		



	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	48.64	54.00	-5.36	41.22	7.42	Average	100	74
2	5150.00	62.01	74.00	-11.99	54.59	7.42	Peak	100	74
3	10460.00	58.18	68.20	-10.02	41.63	16.55	Peak	100	30
4	15690.00	47.28	54.00	-6.72	30.15	17.13	Average	100	60
5	15690.00	60.46	74.00	-13.54	43.33	17.13	Peak	100	60

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

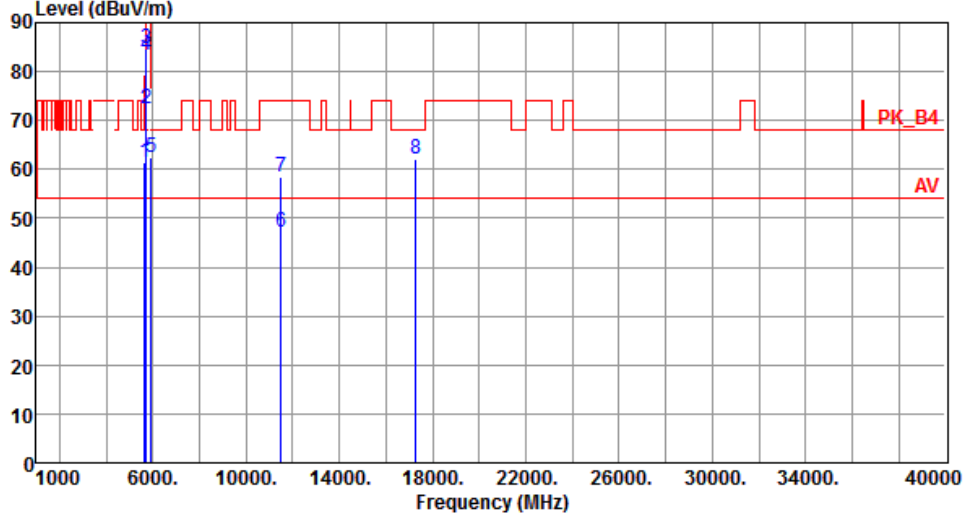
Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Horizontal		



	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	67.13	68.20	-1.07	59.74	7.39	Peak	267	136
2	5700.00	79.74	105.20	-25.46	72.04	7.70	Peak	267	136
3	5720.00	92.71	110.80	-18.09	84.97	7.74	Peak	267	136
4	5725.00	91.33	122.20	-30.87	83.57	7.76	Peak	267	136
5	5925.00	62.02	68.20	-6.18	53.75	8.27	Peak	267	136
6	11510.00	47.18	54.00	-6.82	30.33	16.85	Average	100	40
7	11510.00	58.44	74.00	-15.56	41.59	16.85	Peak	100	40
8	17265.00	61.86	68.20	-6.34	43.12	18.74	Peak	100	30

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

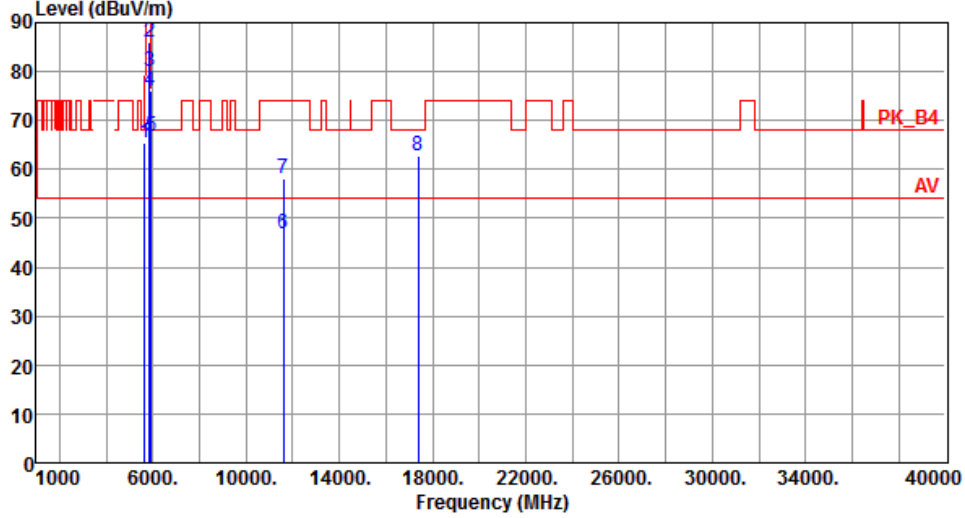
Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Vertical		



	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	61.60	68.20	-6.60	54.21	7.39	Peak	100	178
2	5700.00	72.26	105.20	-32.94	64.56	7.70	Peak	100	178
3	5720.00	84.55	110.80	-26.25	76.81	7.74	Peak	100	178
4	5725.00	83.24	122.20	-38.96	75.48	7.76	Peak	100	178
5	5925.00	62.40	68.20	-5.80	54.13	8.27	Peak	100	178
6	11510.00	47.08	54.00	-6.92	30.23	16.85	Average	100	60
7	11510.00	58.54	74.00	-15.46	41.69	16.85	Peak	100	60
8	17265.00	61.95	68.20	-6.25	43.21	18.74	Peak	100	80

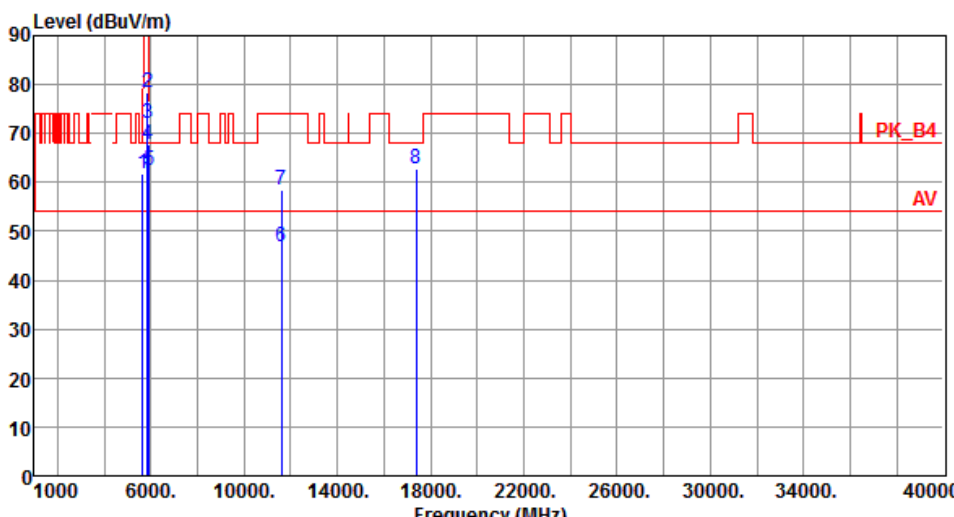
Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).

Modulation	VHT40	Test Freq. (MHz)	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	5650.00	65.38	68.20	-2.82	57.99	7.39	Peak	265	134
2	5850.00	86.14	122.20	-36.06	78.02	8.12	Peak	265	134
3	5855.00	80.06	110.80	-30.74	71.93	8.13	Peak	265	134
4	5875.00	76.07	105.20	-29.13	67.89	8.18	Peak	265	134
5	5925.00	66.90	68.20	-1.30	58.63	8.27	Peak	265	134
6	11590.00	46.89	54.00	-7.11	30.22	16.67	Average	100	20
7	11590.00	58.21	74.00	-15.79	41.54	16.67	Peak	100	20
8	17385.00	62.68	74.00	-11.32	43.26	19.42	Peak	100	90

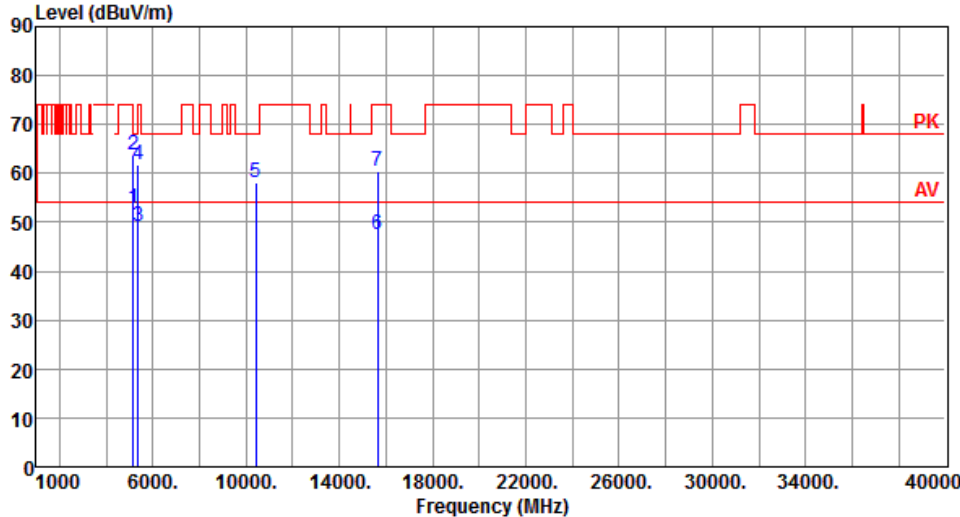
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	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	5650.00	61.65	68.20	-6.55	54.26	7.39	Peak	100	177
2	5850.00	78.37	122.20	-43.83	70.25	8.12	Peak	100	177
3	5855.00	72.01	110.80	-38.79	63.88	8.13	Peak	100	177
4	5875.00	67.62	105.20	-37.58	59.44	8.18	Peak	100	177
5	5925.00	62.39	68.20	-5.81	54.12	8.27	Peak	100	177
6	11590.00	46.84	54.00	-7.16	30.17	16.67	Average	100	40
7	11590.00	58.35	74.00	-15.65	41.68	16.67	Peak	100	40
8	17385.00	62.76	68.20	-5.44	43.34	19.42	Peak	100	90

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

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

Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Horizontal		

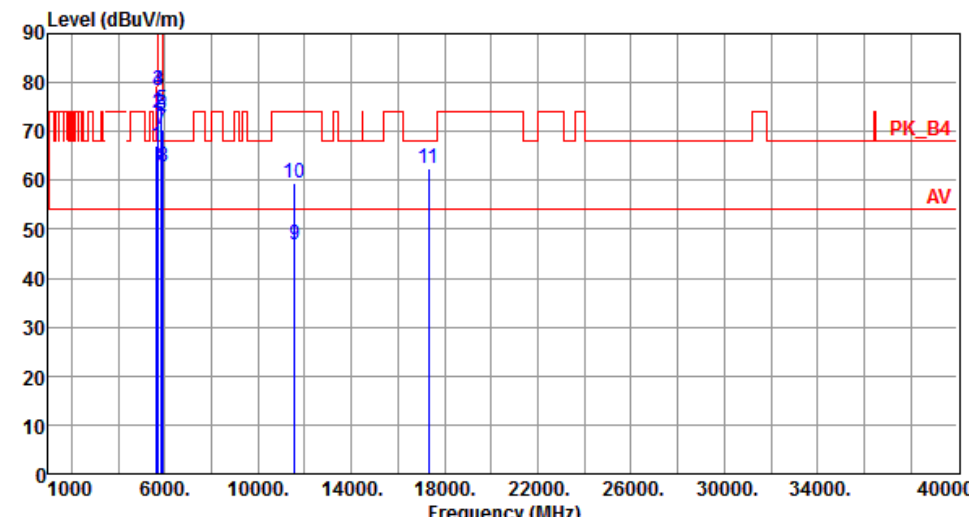


	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.92	54.00	-1.08	45.50	7.42	Average	221	137
2	5150.00	63.79	74.00	-10.21	56.37	7.42	Peak	221	137
3	5350.00	49.30	54.00	-4.70	42.45	6.85	Average	221	137
4	5350.00	61.65	74.00	-12.35	54.80	6.85	Peak	221	137
5	10420.00	58.15	68.20	-10.05	41.58	16.57	Peak	100	20
6	15630.00	47.41	54.00	-6.59	30.18	17.23	Average	100	40
7	15630.00	60.40	74.00	-13.60	43.17	17.23	Peak	100	40

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

Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Vertical		
Level (dBUV/m) </			

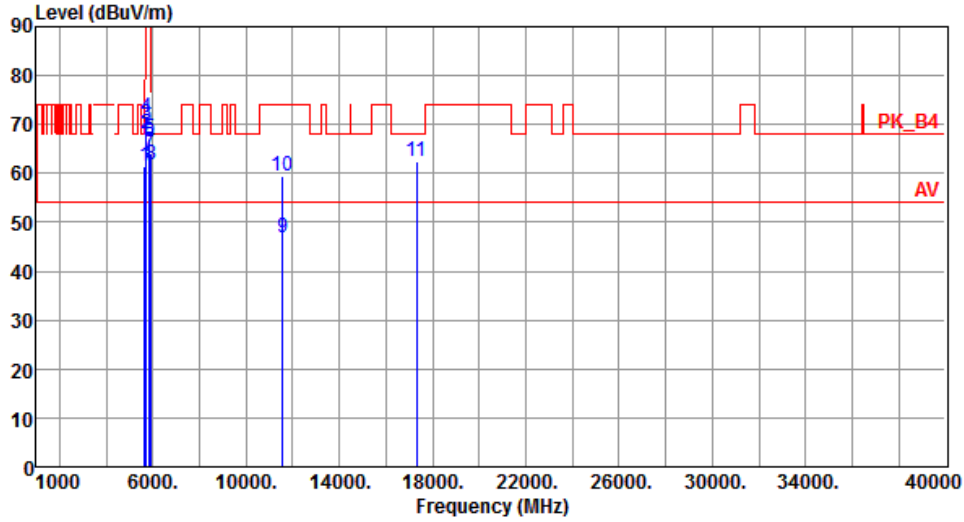
Modulation	VHT80	Test Freq. (MHz)	5775
Polarization	Horizontal		



	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	67.20	68.20	-1.00	59.81	7.39	Peak	279	130
2	5700.00	73.82	105.20	-31.38	66.12	7.70	Peak	279	130
3	5720.00	78.31	110.80	-32.49	70.57	7.74	Peak	279	130
4	5725.00	78.51	122.20	-43.69	70.75	7.76	Peak	279	130
5	5850.00	74.54	122.20	-47.66	66.42	8.12	Peak	279	130
6	5855.00	73.26	110.80	-37.54	65.13	8.13	Peak	279	130
7	5875.00	70.44	105.20	-34.76	62.26	8.18	Peak	279	130
8	5925.00	62.90	68.20	-5.30	54.63	8.27	Peak	279	130
9	11550.00	46.88	54.00	-7.12	30.12	16.76	Average	100	20
10	11550.00	59.35	74.00	-14.65	42.59	16.76	Peak	100	20
11	17325.00	62.57	68.20	-5.63	43.53	19.04	Peak	100	90

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

Modulation	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	61.34	68.20	-6.86	53.95	7.39	Peak	100	181
2	5700.00	68.22	105.20	-36.98	60.52	7.70	Peak	100	181
3	5720.00	70.08	110.80	-40.72	62.34	7.74	Peak	100	181
4	5725.00	71.47	122.20	-50.73	63.71	7.76	Peak	100	181
5	5850.00	67.05	122.20	-55.15	58.93	8.12	Peak	100	181
6	5855.00	66.40	110.80	-44.40	58.27	8.13	Peak	100	181
7	5875.00	64.04	105.20	-41.16	55.86	8.18	Peak	100	181
8	5925.00	61.71	68.20	-6.49	53.44	8.27	Peak	100	181
9	11550.00	46.91	54.00	-7.09	30.15	16.76	Average	100	50
10	11550.00	59.29	74.00	-14.71	42.53	16.76	Peak	100	50
11	17325.00	62.45	68.20	-5.75	43.41	19.04	Peak	100	60

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

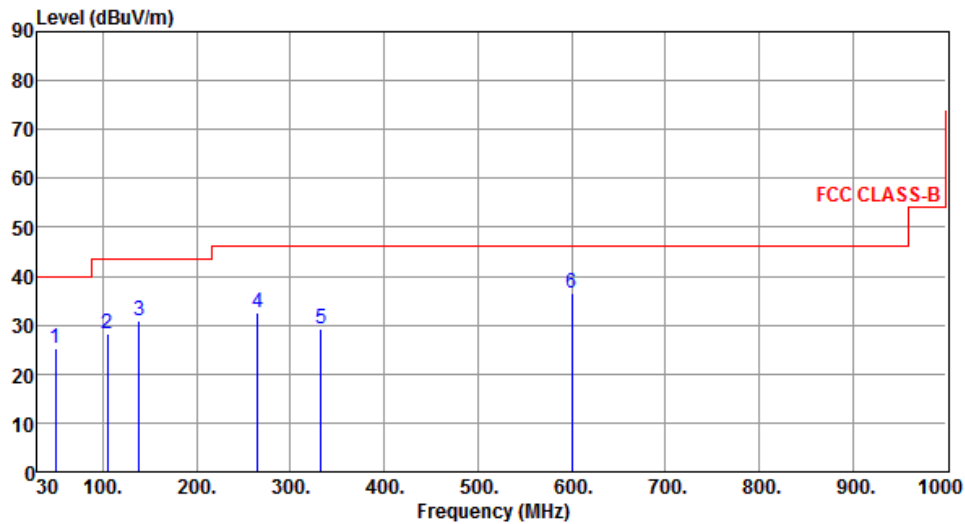
Beamforming mode

3.5.9 Transmitter Radiated Unwanted Emissions (Below 1GHz)

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

Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Vertical		
Level (dBuV/m) 1 2 3 4 5 6 30 100. 200. 300. 400. 500. 600. 700. 800. 900. 1000 Frequency (MHz) <			

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	49.33	25.21	40.00	-14.79	33.78	-8.57	Peak	---	---
2	104.61	28.34	43.50	-15.16	41.11	-12.77	Peak	---	---
3	138.62	30.74	43.50	-12.76	40.05	-9.31	Peak	---	---
4	264.80	32.54	46.00	-13.46	42.13	-9.59	Peak	---	---
5	332.58	29.31	46.00	-16.69	36.51	-7.20	Peak	---	---
6	600.36	36.45	46.00	-9.55	37.04	-0.59	Peak	---	---

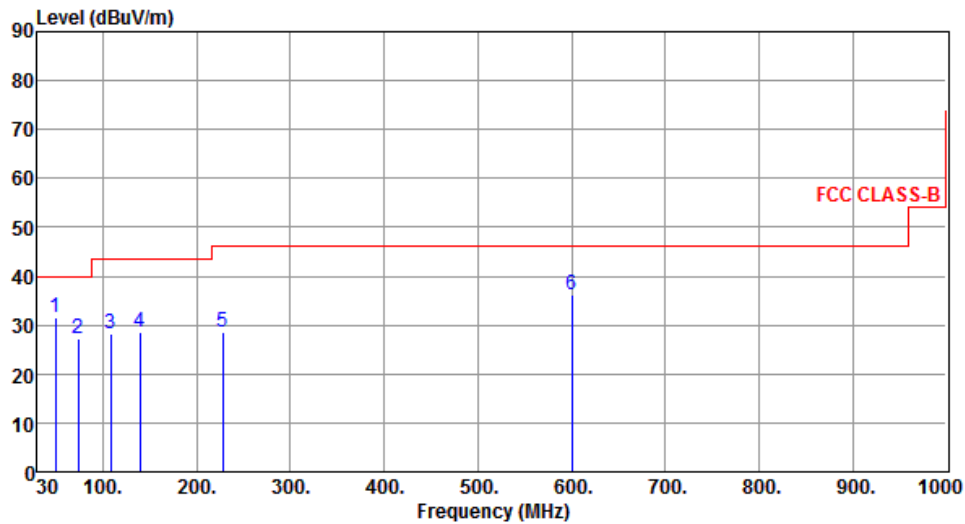
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*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	49.42	31.57	40.00	-8.43	40.15	-8.58	Peak	---	---
2	73.61	27.35	40.00	-12.65	39.07	-11.72	Peak	---	---
3	108.62	28.39	43.50	-15.11	40.61	-12.22	Peak	---	---
4	139.56	28.41	43.50	-15.09	37.68	-9.27	Peak	---	---
5	227.58	28.64	46.00	-17.36	40.54	-11.90	Peak	---	---
6	600.36	36.22	46.00	-9.78	36.81	-0.59	Peak	---	---

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

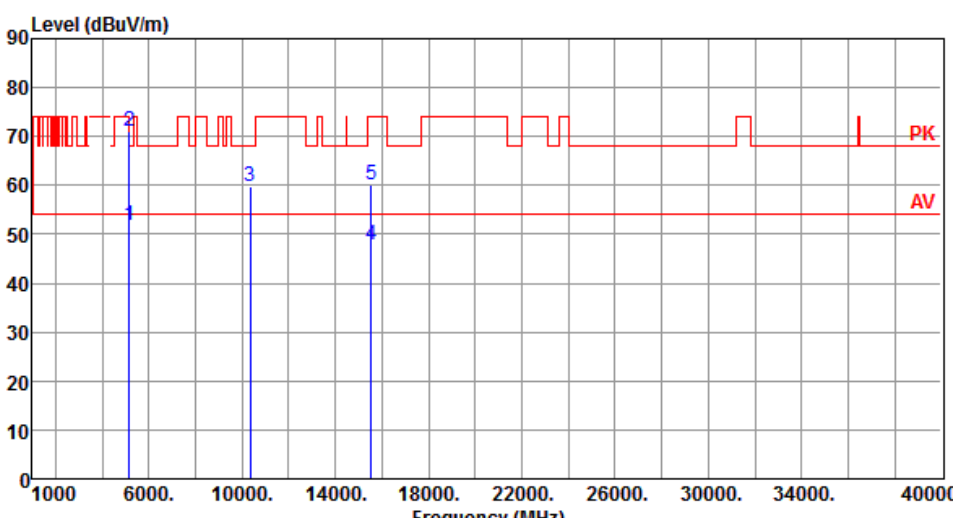
*Factor includes antenna factor , cable loss and amplifier gain

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.

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

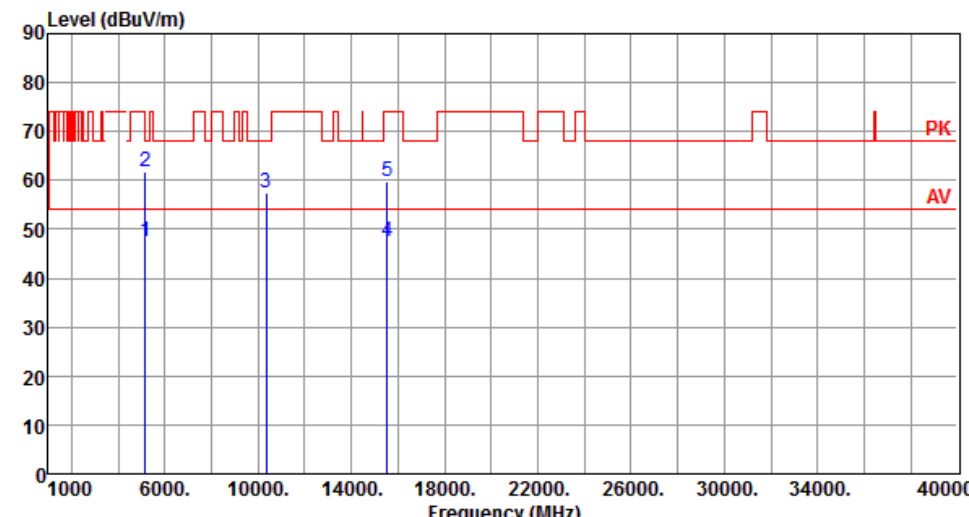
Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Horizontal		



	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	51.69	54.00	-2.31	44.27	7.42	Average	219	134
2	5150.00	71.11	74.00	-2.89	63.69	7.42	Peak	219	134
3	10360.00	59.80	68.20	-8.40	43.45	16.35	Peak	199	108
4	15540.00	47.88	54.00	-6.12	30.45	17.43	Average	100	20
5	15540.00	60.02	74.00	-13.98	42.59	17.43	Peak	100	20

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

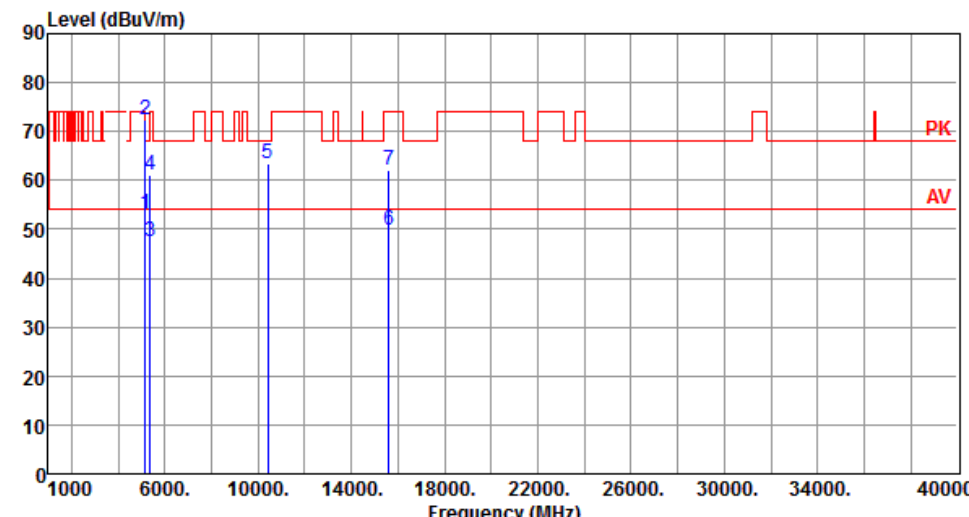
Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Vertical		



	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	47.53	54.00	-6.47	40.11	7.42	Average	165	126
2	5150.00	61.70	74.00	-12.30	54.28	7.42	Peak	165	126
3	10360.00	57.61	68.20	-10.59	41.26	16.35	Peak	100	60
4	15540.00	47.55	54.00	-6.45	30.12	17.43	Average	100	40
5	15540.00	59.88	74.00	-14.12	42.45	17.43	Peak	100	40

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

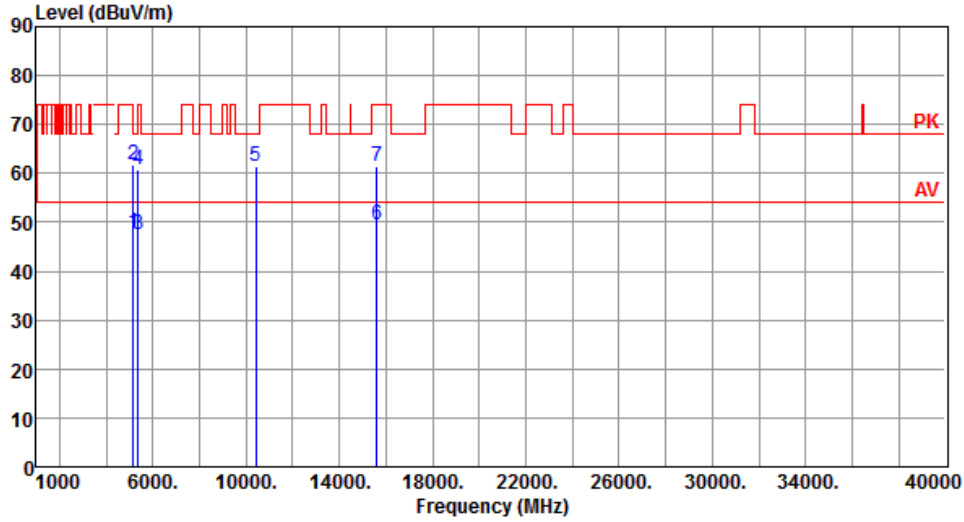
Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Horizontal		



	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	52.99	54.00	-1.01	45.57	7.42	Average	235	130
2	5150.00	72.39	74.00	-1.61	64.97	7.42	Peak	235	130
3	5350.00	47.54	54.00	-6.46	40.69	6.85	Average	235	130
4	5350.00	60.97	74.00	-13.03	54.12	6.85	Peak	235	130
5	10400.00	63.37	68.20	-4.83	46.79	16.58	Peak	205	115
6	15600.00	49.71	54.00	-4.29	32.44	17.27	Average	100	105
7	15600.00	62.13	74.00	-11.87	44.86	17.27	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		



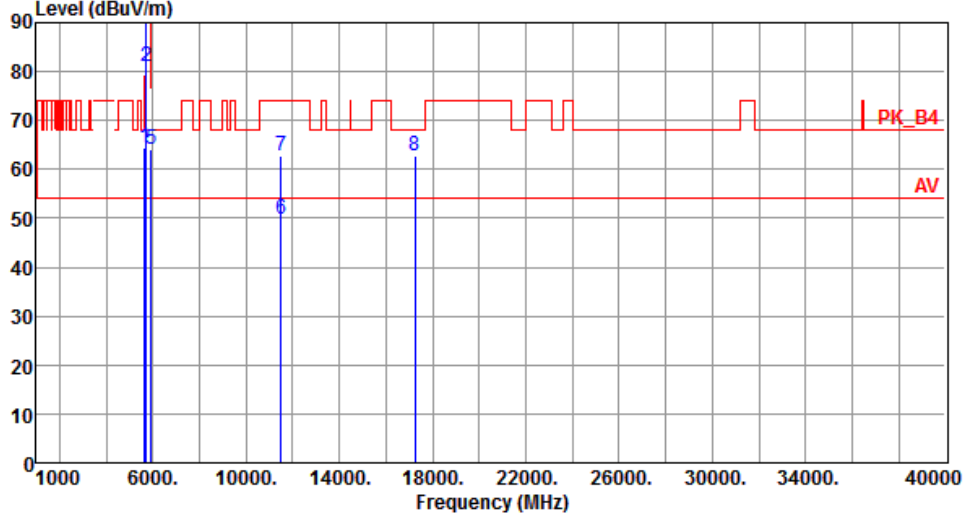
	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	47.77	54.00	-6.23	40.35	7.42	Average	165	124
2	5150.00	61.67	74.00	-12.33	54.25	7.42	Peak	165	124
3	5350.00	47.37	54.00	-6.63	40.52	6.85	Average	165	124
4	5350.00	60.71	74.00	-13.29	53.86	6.85	Peak	165	124
5	10400.00	61.36	68.20	-6.84	44.78	16.58	Peak	100	59
6	15600.00	49.49	54.00	-4.51	32.22	17.27	Average	100	52
7	15600.00	61.52	74.00	-12.48	44.25	17.27	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).

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		

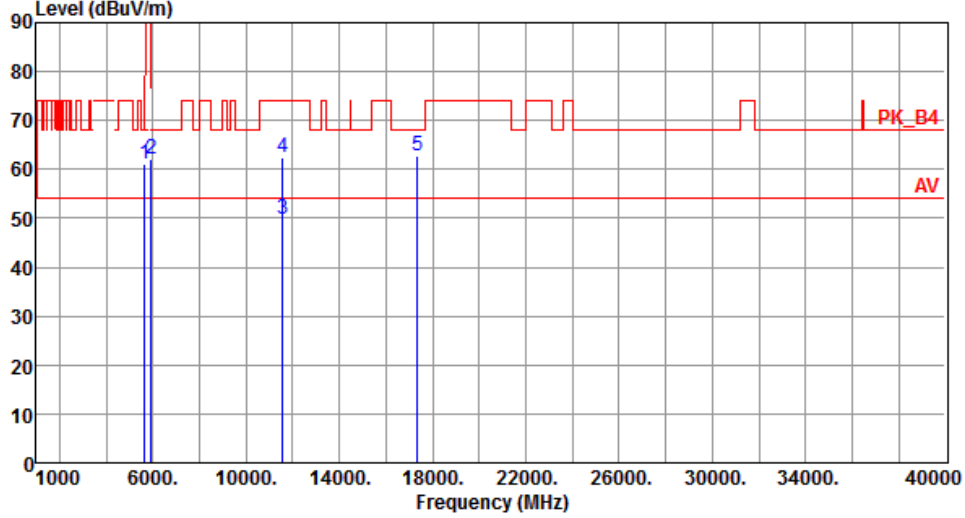


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	64.44	68.20	-3.76	57.05	7.39	Peak	277	104
2	5700.00	81.20	105.20	-24.00	73.50	7.70	Peak	277	104
3	5720.00	90.21	110.80	-20.59	82.47	7.74	Peak	277	104
4	5725.00	99.00	122.20	-23.20	91.24	7.76	Peak	277	104
5	5925.00	63.99	68.20	-4.21	55.72	8.27	Peak	277	104
6	11490.00	49.70	54.00	-4.30	32.85	16.85	Average	244	132
7	11490.00	62.70	74.00	-11.30	45.85	16.85	Peak	244	132
8	17235.00	62.82	68.20	-5.38	44.21	18.61	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	VHT20	Test Freq. (MHz)	5745
Polarization	Vertical		
Level (dBUV/m) <			

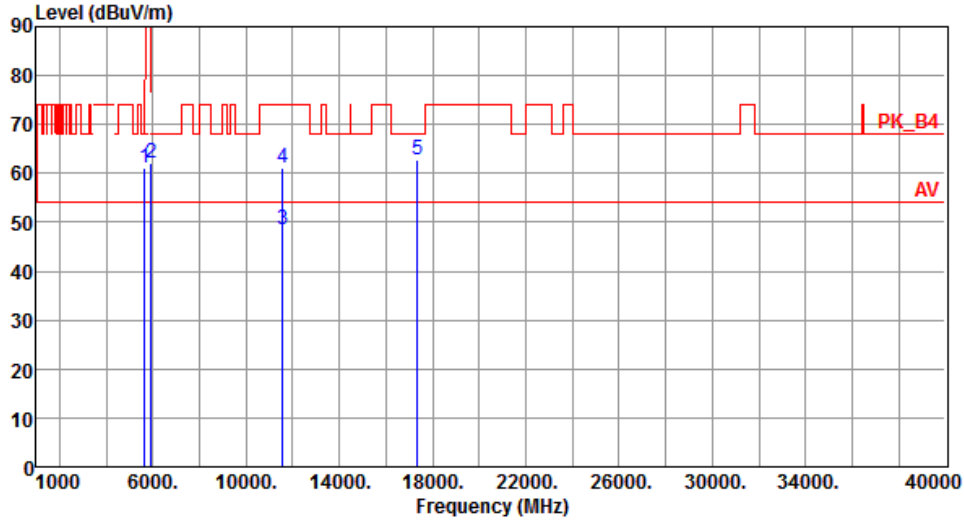
Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Horizontal		



	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	61.23	68.20	-6.97	53.84	7.39	Peak	277	118
2	5925.00	61.98	68.20	-6.22	53.71	8.27	Peak	277	118
3	11570.00	49.76	54.00	-4.24	33.05	16.71	Average	248	131
4	11570.00	62.50	74.00	-11.50	45.79	16.71	Peak	248	131
5	17355.00	62.75	68.20	-5.45	43.51	19.24	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	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	61.04	68.20	-7.16	53.65	7.39	Peak	100	49
2	5925.00	61.94	68.20	-6.26	53.67	8.27	Peak	100	49
3	11570.00	48.37	54.00	-5.63	31.66	16.71	Average	166	32
4	11570.00	61.09	74.00	-12.91	44.38	16.71	Peak	166	32
5	17355.00	62.64	68.20	-5.56	43.40	19.24	Peak	100	40

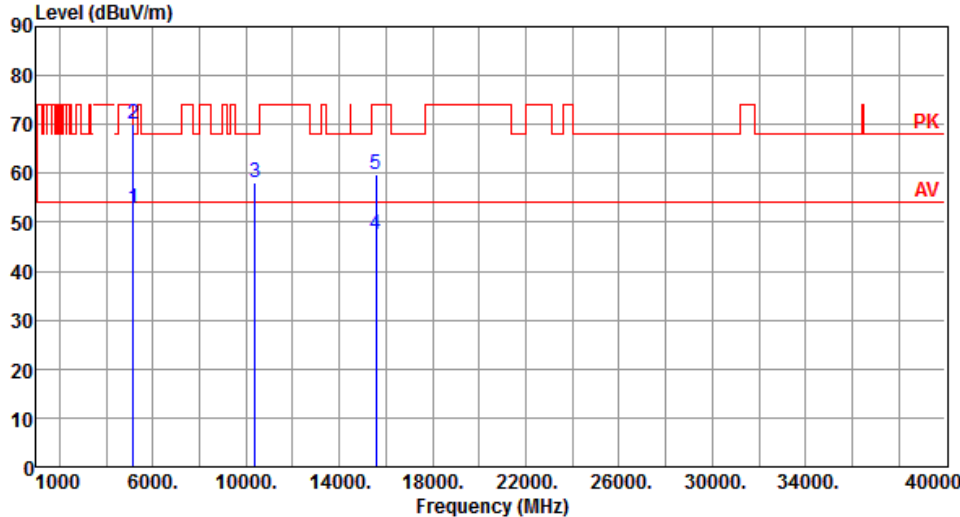
Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).

Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Horizontal		
 </			

Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Vertical		
Level (dBUV/m) </			

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

Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Horizontal		

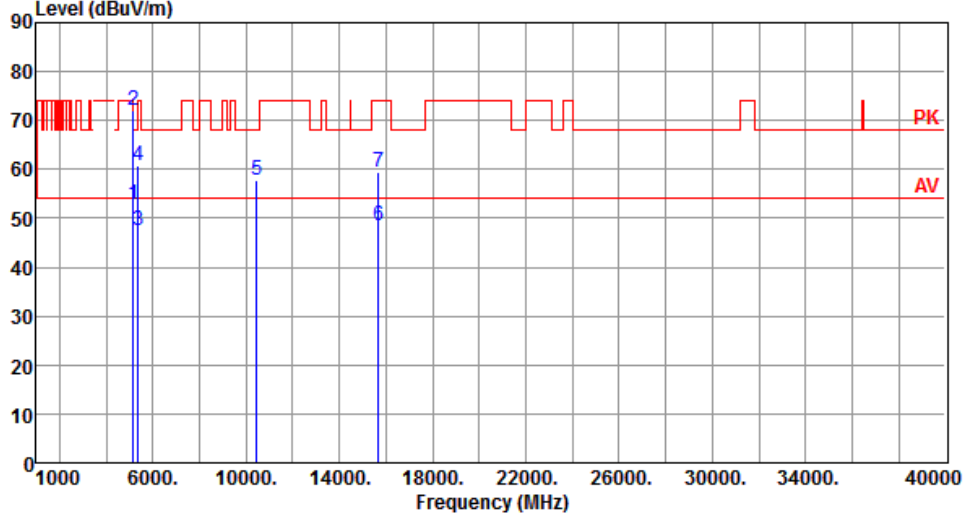


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.67	54.00	-1.33	45.25	7.42	Average	217	127
2	5150.00	70.22	74.00	-3.78	62.80	7.42	Peak	217	127
3	10380.00	58.03	68.20	-10.17	41.57	16.46	Peak	100	60
4	15570.00	47.53	54.00	-6.47	30.18	17.35	Average	100	50
5	15570.00	59.94	74.00	-14.06	42.59	17.35	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)	5190
Polarization	Vertical		
Level (dBuV/m)			

Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Horizontal		

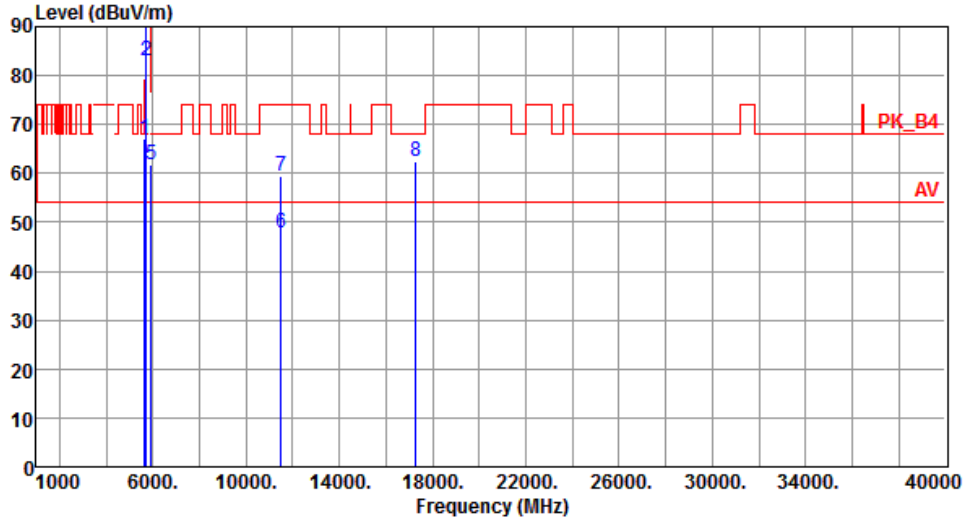


	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.72	54.00	-1.28	45.30	7.42	Average	213	148
2	5150.00	71.92	74.00	-2.08	64.50	7.42	Peak	213	148
3	5350.00	47.49	54.00	-6.51	40.64	6.85	Average	213	148
4	5350.00	60.88	74.00	-13.12	54.03	6.85	Peak	213	148
5	10460.00	57.77	68.20	-10.43	41.22	16.55	Peak	100	90
6	15690.00	48.36	54.00	-5.64	31.23	17.13	Average	100	30
7	15690.00	59.60	74.00	-14.40	42.47	17.13	Peak	100	30

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

Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Vertical		
Level (dBuV/m)			

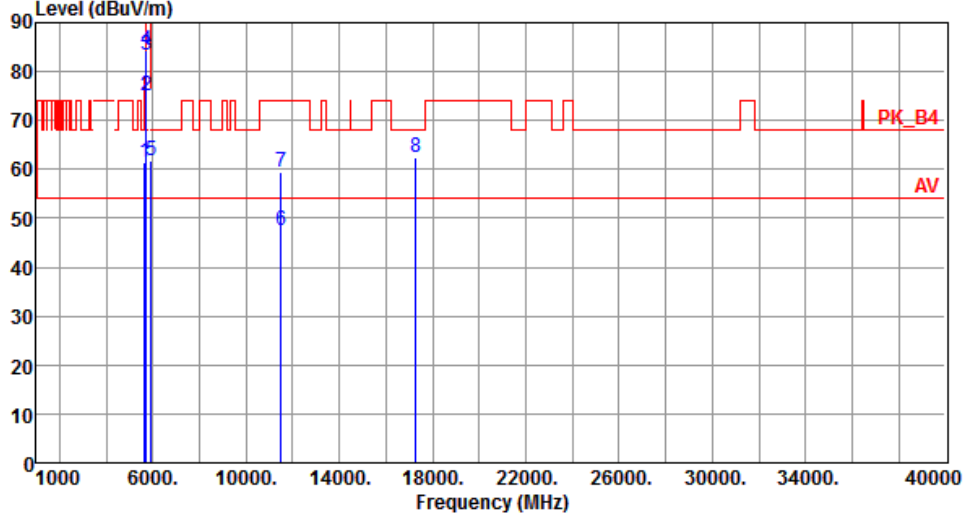
Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Horizontal		



	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	67.19	68.20	-1.01	59.80	7.39	Peak	275	105
2	5700.00	83.12	105.20	-22.08	75.42	7.70	Peak	275	105
3	5720.00	90.48	110.80	-20.32	82.74	7.74	Peak	275	105
4	5725.00	92.60	122.20	-29.60	84.84	7.76	Peak	275	105
5	5925.00	61.75	68.20	-6.45	53.48	8.27	Peak	275	105
6	11510.00	47.72	54.00	-6.28	30.87	16.85	Average	254	135
7	11510.00	59.37	74.00	-14.63	42.52	16.85	Peak	254	135
8	17265.00	62.59	68.20	-5.61	43.85	18.74	Peak	100	100

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		



	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	61.51	68.20	-6.69	54.12	7.39	Peak	100	46
2	5700.00	75.03	105.20	-30.17	67.33	7.70	Peak	100	46
3	5720.00	83.43	110.80	-27.37	75.69	7.74	Peak	100	46
4	5725.00	84.23	122.20	-37.97	76.47	7.76	Peak	100	46
5	5925.00	61.93	68.20	-6.27	53.66	8.27	Peak	100	46
6	11510.00	47.50	54.00	-6.50	30.65	16.85	Average	100	40
7	11510.00	59.41	74.00	-14.59	42.56	16.85	Peak	100	40
8	17265.00	62.39	68.20	-5.81	43.65	18.74	Peak	100	20

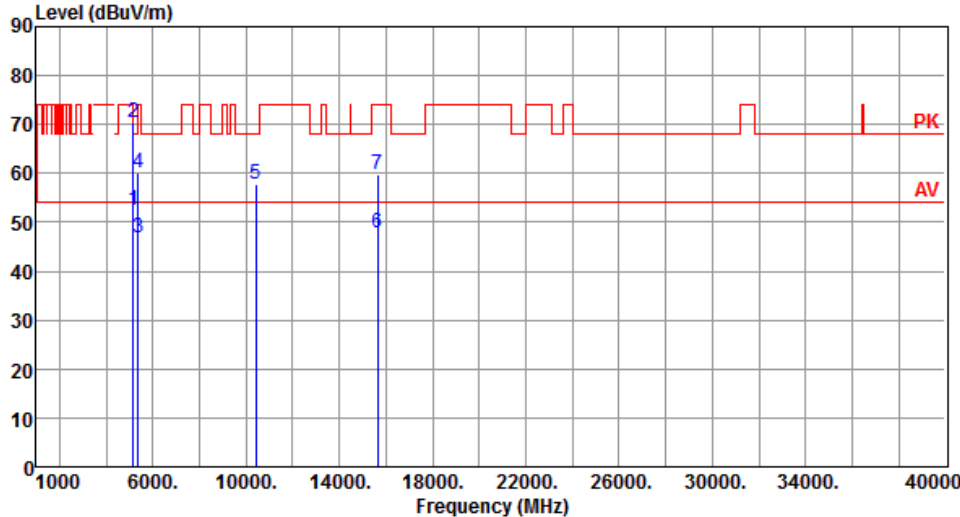
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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

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

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

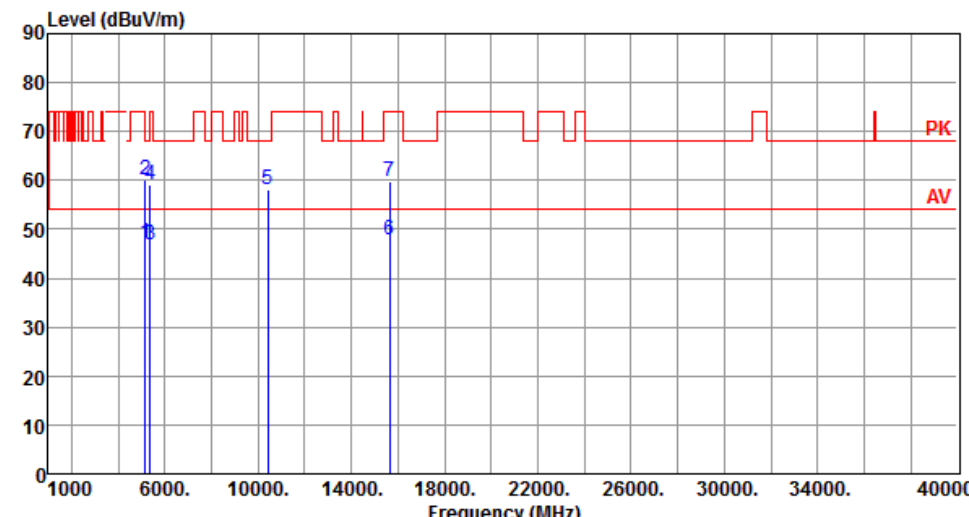
Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Horizontal		



	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	52.61	54.00	-1.39	45.19	7.42	Average	215	140
2	5150.00	70.38	74.00	-3.62	62.96	7.42	Peak	215	140
3	5350.00	46.93	54.00	-7.07	40.08	6.85	Average	215	140
4	5350.00	60.11	74.00	-13.89	53.26	6.85	Peak	215	140
5	10420.00	57.82	68.20	-10.38	41.25	16.57	Peak	100	80
6	15630.00	47.67	54.00	-6.33	30.44	17.23	Average	100	30
7	15630.00	59.76	74.00	-14.24	42.53	17.23	Peak	100	30

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

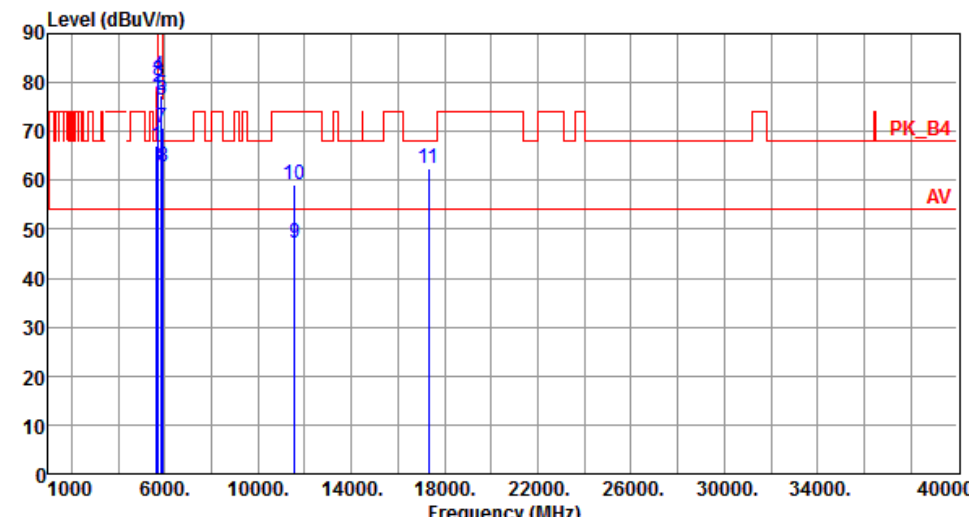
Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Vertical		



	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	46.99	54.00	-7.01	39.57	7.42	Average	163	123
2	5150.00	59.99	74.00	-14.01	52.57	7.42	Peak	163	123
3	5350.00	46.74	54.00	-7.26	39.89	6.85	Average	163	123
4	5350.00	59.26	74.00	-14.74	52.41	6.85	Peak	163	123
5	10420.00	58.03	68.20	-10.17	41.46	16.57	Peak	100	50
6	15630.00	47.70	54.00	-6.30	30.47	17.23	Average	100	20
7	15630.00	59.65	74.00	-14.35	42.42	17.23	Peak	100	20

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

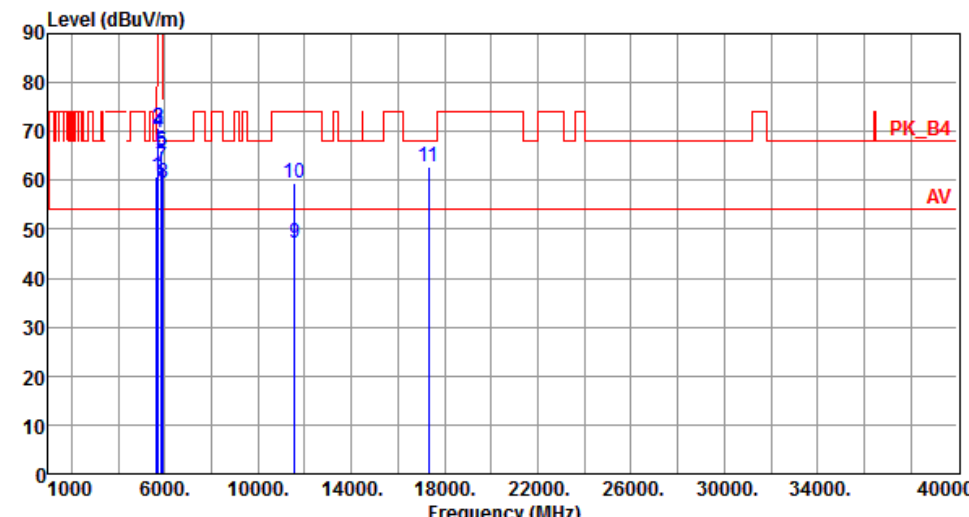
Modulation	VHT80	Test Freq. (MHz)	5775
Polarization	Horizontal		



	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	67.18	68.20	-1.02	59.79	7.39	Peak	265	121
2	5700.00	79.19	105.20	-26.01	71.49	7.70	Peak	265	121
3	5720.00	80.29	110.80	-30.51	72.55	7.74	Peak	265	121
4	5725.00	81.33	122.20	-40.87	73.57	7.76	Peak	265	121
5	5850.00	77.27	122.20	-44.93	69.15	8.12	Peak	265	121
6	5855.00	76.46	110.80	-34.34	68.33	8.13	Peak	265	121
7	5875.00	70.65	105.20	-34.55	62.47	8.18	Peak	265	121
8	5925.00	62.68	68.20	-5.52	54.41	8.27	Peak	265	121
9	11550.00	47.12	54.00	-6.88	30.36	16.76	Average	100	80
10	11550.00	59.22	74.00	-14.78	42.46	16.76	Peak	100	80
11	17325.00	62.50	68.20	-5.70	43.46	19.04	Peak	100	20

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

Modulation	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	60.66	68.20	-7.54	53.27	7.39	Peak	100	52
2	5700.00	70.70	105.20	-34.50	63.00	7.70	Peak	100	52
3	5720.00	70.69	110.80	-40.11	62.95	7.74	Peak	100	52
4	5725.00	69.87	122.20	-52.33	62.11	7.76	Peak	100	52
5	5850.00	65.88	122.20	-56.32	57.76	8.12	Peak	100	52
6	5855.00	65.98	110.80	-44.82	57.85	8.13	Peak	100	52
7	5875.00	62.91	105.20	-42.29	54.73	8.18	Peak	100	52
8	5925.00	59.42	68.20	-8.78	51.15	8.27	Peak	100	52
9	11550.00	47.11	54.00	-6.89	30.35	16.76	Average	100	40
10	11550.00	59.29	74.00	-14.71	42.53	16.76	Peak	100	40
11	17325.00	62.60	68.20	-5.60	43.56	19.04	Peak	100	30

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

3.6 Frequency Stability

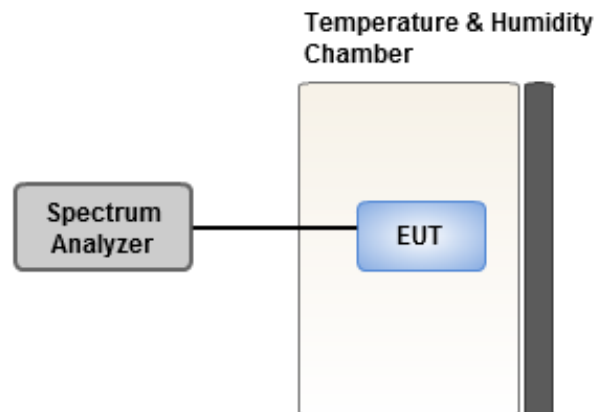
3.6.1 Limit of Frequency Stability

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	-0.34	-0.18	-0.30	-0.08
T20°C Vmin	-0.71	-0.25	-1.03	-0.35
T50°C Vnom	-0.78	-0.21	-0.10	-0.83
T40°C Vnom	-1.05	-1.04	-1.37	-0.49
T30°C Vnom	-0.50	-0.51	-0.13	-0.10
T20°C Vnom	-1.03	-1.05	-0.79	-0.63
T10°C Vnom	-0.77	-0.11	-0.62	-1.07
T0°C Vnom	-3.46	-3.03	-3.46	-3.47
T-10°C Vnom	-4.47	-4.53	-4.14	-4.60
T-20°C Vnom	-3.07	-3.50	-2.78	-2.59
T-30°C Vnom	-6.37	-5.96	-5.71	-5.62
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	0.17	0.22	-0.17	0.36
T20°C Vmin	-0.13	-0.15	-0.02	0.10
T50°C Vnom	-0.35	-0.30	0.13	-0.01
T40°C Vnom	0.75	1.12	0.58	0.79
T30°C Vnom	0.55	0.67	0.18	0.34
T20°C Vnom	-0.39	-0.25	-0.47	-0.16
T10°C Vnom	0.58	0.95	0.47	1.04
T0°C Vnom	-3.38	-3.42	-3.34	-3.10
T-10°C Vnom	-4.00	-3.92	-3.98	-3.96
T-20°C Vnom	-2.13	-2.22	-1.60	-2.25
T-30°C Vnom	-6.27	-6.62	-6.37	-6.29
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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If you have any suggestion, please feel free to contact us as below information.

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