FCC Test Report

FCC ID	:	**2ALXJ-MTW200**
Equipment	:	**Meeting OWL™**
Model No.	:	**MTW200**
Brand Name	:	**OWLLabs™**
Applicant	:	**Owl Labs Inc**
Address	:	**33-1/2 Union Sq Somerville US 02143 United States Of America**
Standard	:	**47 CFR FCC Part 15.407**
Received Date	:	**Jul. 17, 2019**
Tested Date	:	**Jul. 25 ~ Jul. 31, 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: **Approved by:**

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

Testing Laboratory 2732

Table of Contents

1 GENERAL DESCRIPTION 5

1.1 Information 5
1.2 Local Support Equipment List 8
1.3 Test Setup Chart 8
1.4 The Equipment List 9
1.5 Testing Applied Standards 11
1.6 Deviation from Test Standard and Measurement Procedure 11
1.7 Measurement Uncertainty 11

2 TEST CONFIGURATION 12

2.1 Testing Condition 12
2.2 The Worst Test Modes and Channel Details 12

3 TRANSMITTER TEST RESULTS 13

3.1 Conducted Emissions 13
3.2 Emission Bandwidth 18
3.3 RF Output Power 27
3.4 Peak Power Spectral Density 30
3.5 Transmitter Radiated and Band Edge Emissions 40
3.6 Frequency Stability 83

4 TEST LABORATORY INFORMATION 85

Release Record

Report No.	Version	Description	Issued Date
FR971702AN	Rev. 01	Initial issue	Aug. 12, 2019

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 4.478MHz 48.33 (Margin -7.67dB) - QP	Pass
15.407(b) 15.209	Radiated Emissions	[dBuV/m at 3m]: 5453.00MHz 52.99 (Margin -1.01dB) - AV	Pass
15.407(a)	Emission Bandwidth	Meet the requirement of limit	Pass
15.407(e)	6dB bandwidth	Meet the requirement of limit	Pass
15.407(a)	RF Output Power	Max Power [dBm]: 5150-5250MHz: 20.92 5725-5850MHz: 21.10	Pass
15.407(a)	Peak Power Spectral Density	Meet the requirement of limit	Pass
15.407(g)	Frequency Stability	Meet the requirement of limit	Pass
15.203	Antenna Requirement	Meet the requirement of limit	Pass

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1 General Description

1.1 Information

1.1.1 Specification of the Equipment under Test (EUT)

RF General Information					
Frequency Range (MHz)	**IEEE Std. 802.11**	**Ch. Freq. (MHz)**	**Channel Number**	**Transmit Chains (N_{TX})**	**Data Rate / MCS**
5150-5250	a	5180-5240	36-48 [4]	2	6-54 Mbps
5150-5250	n (HT20)	5180-5240	36-48 [4]	2	MCS 0-15
5150-5250	n (HT40)	5190-5230	38-46 [2]	2	MCS 0-15
5150-5250	ac (VHT20)	5180-5240	36-48 [4]	2	MCS 0-9
5150-5250	ac (VHT40)	5190-5230	38-46 [2]	2	MCS 0-9
5150-5250	ac (VHT80)	5210	42 [1]	2	MCS 0-9
Note 1: RF output power specifies that Maximum Conducted Output Power. Note 2: 802.11a/n/ac uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.					

RF General Information					
Frequency Range (MHz)	**IEEE Std. 802.11**	**Ch. Freq. (MHz)**	**Channel Number**	**Transmit Chains (N_{TX})**	**Data Rate / MCS**
5725-5850	a	5745-5825	149-165 [5]	2	6-54 Mbps
5725-5850	n (HT20)	5745-5825	149-165 [5]	2	MCS 0-15
5725-5850	n (HT40)	5755-5795	151-159 [2]	2	MCS 0-15
5725-5850	ac (VHT20)	5745-5825	149-165 [5]	2	MCS 0-9
5725-5850	ac (VHT40)	5755-5795	151-159 [2]	2	MCS 0-9
5725-5850	ac (VHT80)	5775	155 [1]	2	MCS 0-9
Note 1: RF output power specifies that Maximum Conducted Output Power. Note 2: 802.11a/n/ac uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.					

1.1.2 Antenna Details

Ant. No.	Model	Type	Connector	Gain (dBi)	Remarks
1	SRF2W012-150	PCB	MHF IPEX	4.0	---

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	12Vdc from adapter

1.1.4 Accessories

Accessories		
No.	**Equipment**	**Description**
1	AC Adapter	Brand: HOLOTO Model: ADS-40SI-12-2 12036E Power Rating: I/P: 100-240Vac, 50/60Hz, 1A Max O/P: 12Vdc, 3A Power Line: DC 1.49m non-shielded without core AC 2.13m non-shielded without core
2	USB Cable	1.97m non-shielded without core

1.1.5 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	---	---

1.1.6 Test Tool and Duty Cycle

Test Tool	QRCT, Version: 3.0.298.0		
Duty Cycle and Duty Factor	**Mode**	**Duty Cycle (%)**	**Duty Factor (dB)**
	11a	99.44	0.02
	VHT20	99.40	0.03
	VHT40	97.64	0.10
	VHT80	94.12	0.26

1.1.7 Power Index of Test Tool

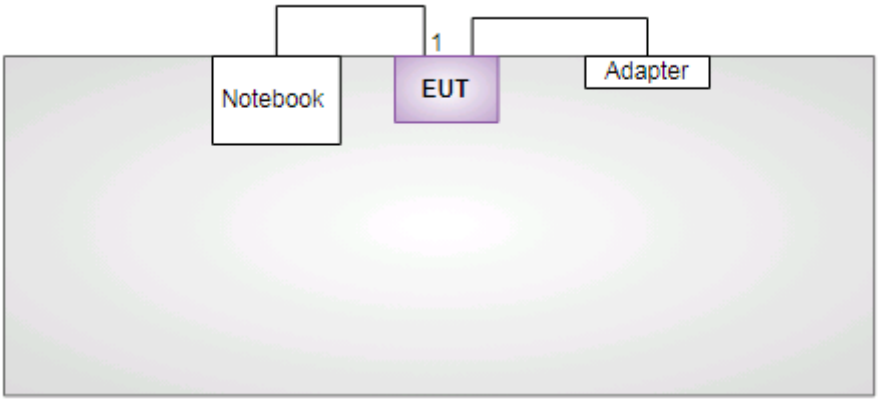
For Frequency band 5150-5250 MHz		
Modulation Mode	**Test Frequency (MHz)**	**Power Index**
11a	5180	18.0
11a	5200	18.5
11a	5240	18.5
VHT20	5180	17.5
VHT20	5200	18.5
VHT20	5240	18.5
VHT40	5190	13.5
VHT40	5230	13.0
VHT80	5210	12.5

For Frequency band 5725~5850 MHz		
Modulation Mode	**Test Frequency (MHz)**	**Power Index**
11a	5745	19.0
11a	5785	18.5
11a	5825	19.0
VHT20	5745	19.0
VHT20	5785	18.5
VHT20	5825	19.0
VHT40	5755	16.0
VHT40	5795	15.5
VHT80	5775	16.0

1.2 Local Support Equipment List

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

1.3 Test Setup Chart

Test Setup Diagram	
	
No.	**Signal cable / Length (m)**
1	USB, 1.97m non-shielded without core

1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Receiver	R&S	ESR3	101657	Jan. 08, 2019	Jan. 07, 2020
LISN	R&S	ENV216	101579	Mar. 08, 2019	Mar. 07, 2020
LISN (Support Unit)	SCHWARZBECK	Schwarzbeck 8127	8127-666	Nov. 29, 2018	Nov. 28, 2019
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Oct. 23, 2018	Oct. 22, 2019
50 ohm terminal (Support Unit)	NA	50	04	May 28, 2019	May 27, 2020
Measurement Software	AUDIX	e3	6.120210k	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101498	Dec. 27, 2018	Dec. 26, 2019
Receiver	R&S	ESR3	101658	Dec. 11, 2018	Dec. 10, 2019
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Jul. 12, 2019	Jul. 11, 2020
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 18, 2018	Dec. 17, 2019
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 15, 2018	Nov. 14, 2019
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 09, 2018	Nov. 08, 2019
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 08, 2018	Oct. 07, 2019
Preamplifier	EMC	EMC02325	980225	Jul. 09, 2019	Jul. 08, 2020
Preamplifier	Agilent	83017A	MY39501308	Oct. 04, 2018	Oct. 03, 2019
Preamplifier	EMC	EMC184045B	980192	Aug. 09, 2018	Aug. 08, 2019
RF Cable	EMC	EMC104-SM-SM-8000	181106	Oct. 08, 2018	Oct. 07, 2019
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Oct. 08, 2018	Oct. 07, 2019
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Oct. 08, 2018	Oct. 07, 2019
LF cable 1M	EMC	EMCCFD400-NM-NM-1000	160502	Oct. 08, 2018	Oct. 07, 2019
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Oct. 08, 2018	Oct. 07, 2019
LF cable 10M	Woken	CFD400NL-LW	CFD400NL-002	Oct. 08, 2018	Oct. 07, 2019
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101063	Apr. 17, 2019	Apr. 16, 2020
Spectrum Analyzer	R&**S**	FSV40	101499	Jan. 07, 2019	Jan. 06, 2020
Power Meter	Anritsu	ML2495A	1241002	Oct. 09, 2018	Oct. 08, 2019
Power Sensor	Anritsu	MA2411B	1207366	Oct. 09, 2018	Oct. 08, 2019
DC POWER SOURCE	GW INSTEK	GPC-6030D	EM892433	Oct. 25, 2018	Oct. 24, 2019
AC POWER SOURCE	APC	AFC-500W	F312060012	Nov. 29, 2018	Nov. 28, 2019
Measurement Software	Sporton	Sporton_1	1.3.30	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

1.5 Testing Applied Standards

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

47 CFR FCC Part 15.407
ANSI C63.10-2013
FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01
FCC KDB 662911 D01 Multiple Transmitter Output v02r01
FCC KDB 412172 D01 Determining ERP and EIRP v01r01

1.6 Deviation from Test Standard and Measurement Procedure

None

1.7 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Measurement Uncertainty	
Parameters	**Uncertainty**
Bandwidth	±34.130 Hz
Conducted power	±0.808 dB
Frequency error	$\pm 1 \times 10^{-9}$
Power density	±0.583 dB
Conducted emission	±2.715 dB
AC conducted emission	±2.92 dB
Radiated emission ≤ 1GHz	±3.41 dB
Radiated emission > 1GHz	±4.59 dB
Time	±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	03CH01-WS	25-27°C / 65-66%	Akun Chung
RF Conducted	TH01-WS	24°C / 65%	Brad Wu

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

2.2 The Worst Test Modes and Channel Details

For Frequency band 5150-5250 MHz				
Test item	**Modulation Mode**	**Test Frequency (MHz)**	**Data Rate**	**Test Configuration**
Conducted Emissions	11a	5200	6 Mbps	---
Radiated Emissions ≤1GHz	11a	5200	6 Mbps	---
RF Output Power Radiated Emissions >1GHz 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	---	---

For Frequency band 5725-5850 MHz				
Test item	**Modulation Mode**	**Test Frequency (MHz)**	**Data Rate**	**Test Configuration**
Conducted Emissions	VHT20	5825	MCS 0	---
Radiated Emissions ≤1GHz	VHT20	5825	MCS 0	---
Radiated Emissions >1GHz 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	---	---

3 Transmitter Test Results

3.1 Conducted Emissions

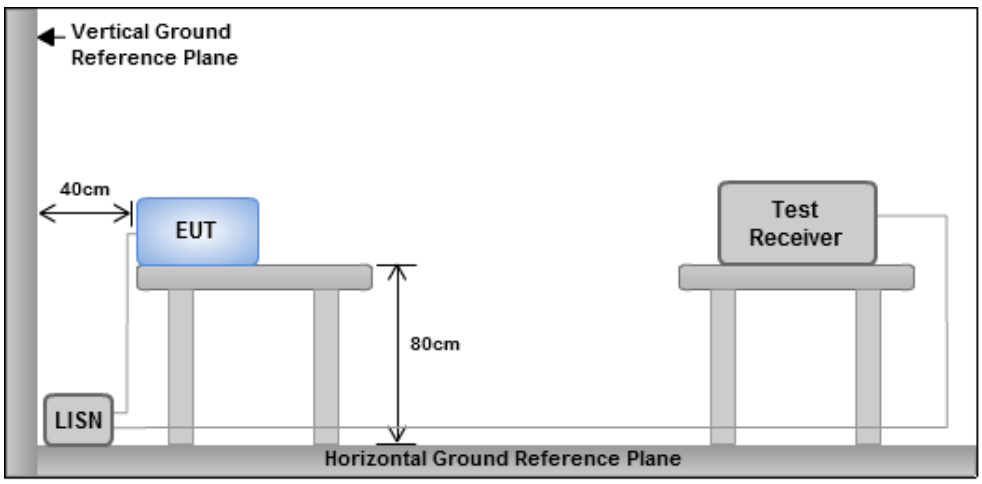
3.1.1 Limit of Conducted Emissions

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

3.1.2 Test Procedures

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

3.1.3 Test Setup

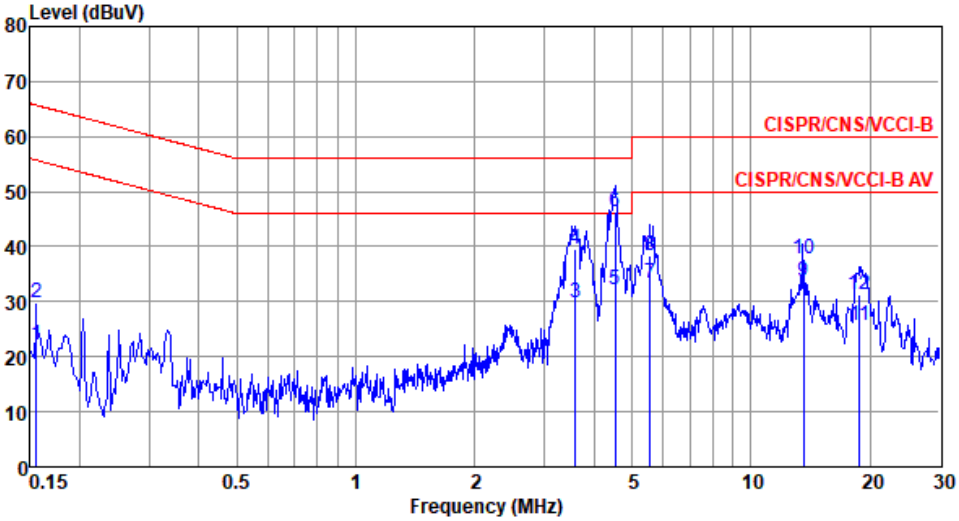


Note: 1. Support units were connected to second LISN.

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

3.1.4 Test Result of Conducted Emissions

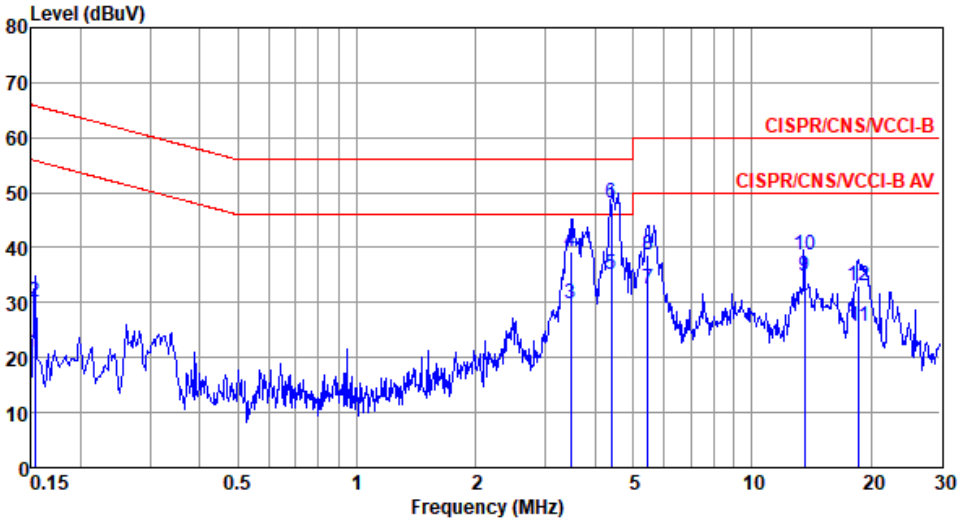
Modulation	11a	Test Freq. (MHz)	5200
Power Phase	Line		



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.156	22.09	55.69	-33.60	12.51	9.53	0.05	Average
2	0.156	29.73	65.69	-35.96	20.15	9.53	0.05	QP
3	3.603	29.67	46.00	-16.33	19.80	9.61	0.26	Average
4	3.603	39.42	56.00	-16.58	29.55	9.61	0.26	QP
5	4.525	32.11	46.00	-13.89	22.19	9.62	0.30	Average
6*	4.525	46.21	56.00	-9.79	36.29	9.62	0.30	QP
7	5.564	33.25	50.00	-16.75	23.29	9.62	0.34	Average
8	5.564	38.29	60.00	-21.71	28.33	9.62	0.34	QP
9	13.562	33.77	50.00	-16.23	23.59	9.65	0.53	Average
10	13.562	37.88	60.00	-22.12	27.70	9.65	0.53	QP
11	18.820	25.71	50.00	-24.29	15.46	9.66	0.59	Average
12	18.820	31.21	60.00	-28.79	20.96	9.66	0.59	QP

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

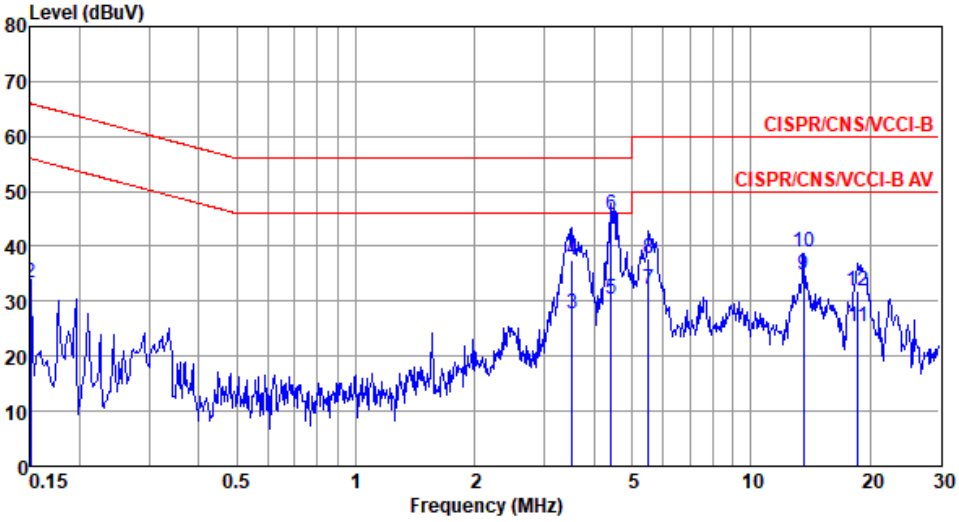
Modulation	11a	Test Freq. (MHz)	5200
Power Phase	Neutral		



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.153	21.08	55.82	-34.74	11.46	9.57	0.05	Average
2	0.153	29.97	65.82	-35.85	20.35	9.57	0.05	QP
3	3.472	29.80	46.00	-16.20	19.89	9.66	0.25	Average
4	3.472	39.31	56.00	-16.69	29.40	9.66	0.25	QP
5	4.407	35.26	46.00	-10.74	25.29	9.67	0.30	Average
6*	4.407	48.27	56.00	-7.73	38.30	9.67	0.30	QP
7	5.447	32.40	50.00	-17.60	22.39	9.68	0.33	Average
8	5.447	38.72	60.00	-21.28	28.71	9.68	0.33	QP
9	13.559	34.86	50.00	-15.14	24.58	9.75	0.53	Average
10	13.559	38.73	60.00	-21.27	28.45	9.75	0.53	QP
11	18.622	25.58	50.00	-24.42	15.19	9.80	0.59	Average
12	18.622	32.99	60.00	-27.01	22.60	9.80	0.59	QP

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

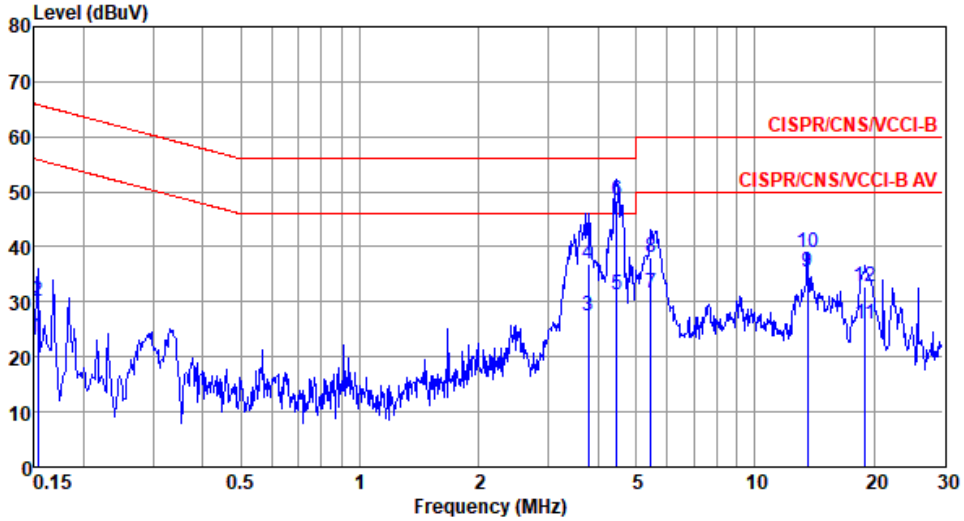
Modulation	VHT20	Test Freq. (MHz)	5825
Power Phase	Line		



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.150	23.81	56.00	-32.19	14.23	9.53	0.05	Average
2	0.150	33.41	66.00	-32.59	23.83	9.53	0.05	QP
3	3.528	27.75	46.00	-18.25	17.88	9.61	0.26	Average
4	3.528	37.58	56.00	-18.42	27.71	9.61	0.26	QP
5	4.430	30.33	46.00	-15.67	20.42	9.61	0.30	Average
6*	4.430	45.88	56.00	-10.12	35.97	9.61	0.30	QP
7	5.505	32.05	50.00	-17.95	22.09	9.62	0.34	Average
8	5.505	37.91	60.00	-22.09	27.95	9.62	0.34	QP
9	13.561	34.97	50.00	-15.03	24.79	9.65	0.53	Average
10	13.561	39.05	60.00	-20.95	28.87	9.65	0.53	QP
11	18.622	25.33	50.00	-24.67	15.08	9.66	0.59	Average
12	18.622	31.82	60.00	-28.18	21.57	9.66	0.59	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)	5825
Power Phase	Neutral		



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.153	23.52	55.82	-32.30	13.90	9.57	0.05	Average
2	0.153	30.04	65.82	-35.78	20.42	9.57	0.05	QP
3	3.779	27.54	46.00	-18.46	17.61	9.66	0.27	Average
4	3.779	36.83	56.00	-19.17	26.90	9.66	0.27	QP
5	4.478	31.35	46.00	-14.65	21.38	9.67	0.30	Average
6*	4.478	48.33	56.00	-7.67	38.36	9.67	0.30	QP
7	5.447	31.67	50.00	-18.33	21.66	9.68	0.33	Average
8	5.447	37.94	60.00	-22.06	27.93	9.68	0.33	QP
9	13.561	35.44	50.00	-14.56	25.16	9.75	0.53	Average
10	13.561	39.03	60.00	-20.97	28.75	9.75	0.53	QP
11	19.021	26.05	50.00	-23.95	15.66	9.80	0.59	Average
12	19.021	32.72	60.00	-27.28	22.33	9.80	0.59	QP

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

3.2 Emission Bandwidth

3.2.1 Limit of Emission bandwidth

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

3.2.2 Test Procedures

26dB Bandwidth

1. Set RBW = approximately 1% of the emission bandwidth.
2. Set the VBW > RBW, Detector = Peak.
3. Trace mode = max hold.
4. Measure the maximum width of the emission that is 26 dB down from the peak of the emission.

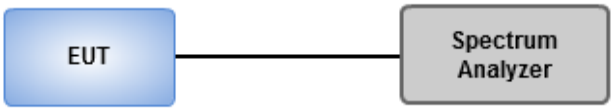
Occupied Bandwidth

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

6dB Bandwidth

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

3.2.3 Test Setup



3.2.4 Test Result of Emission Bandwidth

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	29.71M	17.366M	17M4D1D	23.043M	16.57M
802.11ac VHT20_Nss1,(MCS0)_2TX	30.507M	17.873M	17M9D1D	22.826M	17.728M
802.11ac VHT40_Nss1,(MCS0)_2TX	41.159M	36.324M	36M3D1D	40.435M	36.179M
802.11ac VHT80_Nss1,(MCS0)_2TX	83.478M	75.832M	75M8D1D	82.609M	75.543M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	16.304M	16.643M	16M6D1D	14.928M	16.57M
802.11ac VHT20_Nss1,(MCS0)_2TX	17.536M	17.8M	17M8D1D	15M	17.656M
802.11ac VHT40_Nss1,(MCS0)_2TX	35.217M	36.324M	36M3D1D	34.928M	36.179M
802.11ac VHT80_Nss1,(MCS0)_2TX	75.362M	75.832M	75M8D1D	75.072M	75.832M

Max-N dB = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
Max-OBW = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
Min-OBW = Minimum 99% occupied bandwidth;

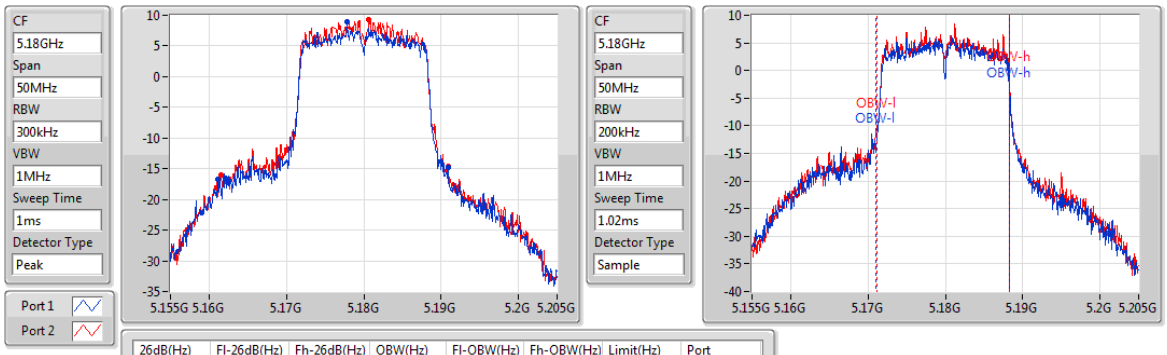
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	29.71M	17.366M	29.42M	17.149M
5200MHz	Pass	Inf	26.884M	16.787M	23.116M	16.57M
5240MHz	Pass	Inf	23.623M	16.57M	23.043M	16.57M
5745MHz	Pass	500k	14.928M	16.57M	15.362M	16.643M
5785MHz	Pass	500k	16.304M	16.57M	16.232M	16.643M
5825MHz	Pass	500k	15.87M	16.57M	15.29M	16.643M
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	23.406M	17.8M	22.971M	17.728M
5200MHz	Pass	Inf	30.507M	17.873M	22.826M	17.728M
5240MHz	Pass	Inf	24.348M	17.8M	24.203M	17.728M
5745MHz	Pass	500k	15.725M	17.656M	17.536M	17.8M
5785MHz	Pass	500k	16.014M	17.728M	15.072M	17.8M
5825MHz	Pass	500k	15M	17.728M	16.232M	17.8M
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	41.014M	36.324M	40.435M	36.324M
5230MHz	Pass	Inf	41.159M	36.179M	40.725M	36.179M
5755MHz	Pass	500k	35.072M	36.179M	35.072M	36.324M
5795MHz	Pass	500k	35.217M	36.324M	34.928M	36.179M
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	83.478M	75.832M	82.609M	75.543M
5775MHz	Pass	500k	75.072M	75.832M	75.362M	75.832M

Port X-N dB = Port **X** 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band
Port X-OBW = Port **X** 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_2TX EBW

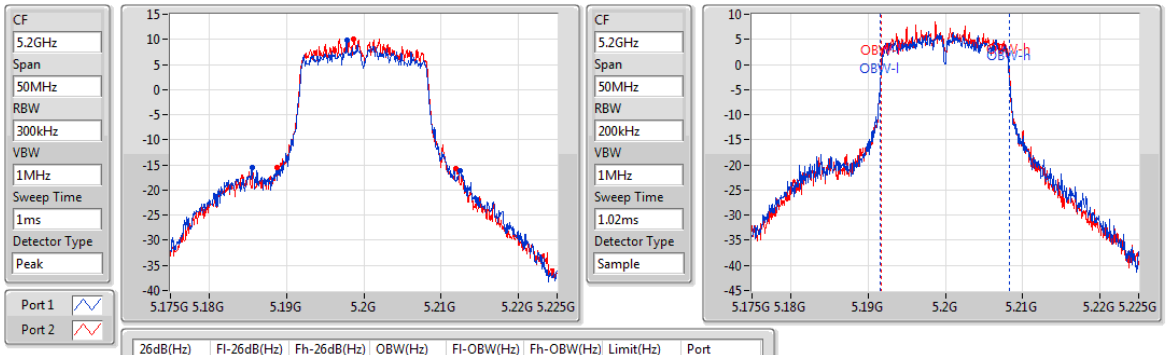
5180MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
29.71M	5.161159G	5.19087G	17.366M	5.170955G	5.188321G	Inf	1
29.42M	5.161522G	5.190942G	17.149M	5.1711G	5.188249G	Inf	2

802.11a_Nss1,(6Mbps)_2TX EBW

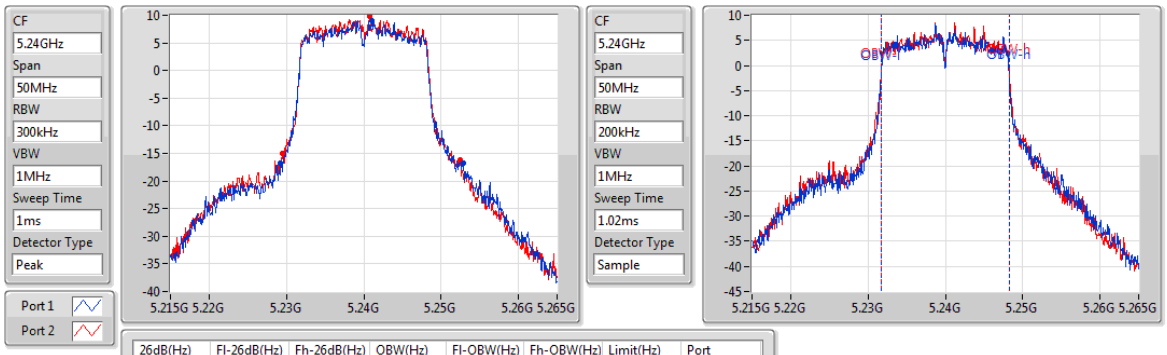
5200MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
26.884M	5.18558G	5.212464G	16.787M	5.191534G	5.208321G	Inf	1
23.116M	5.188841G	5.211957G	16.57M	5.191679G	5.208249G	Inf	2

802.11a_Nss1,(6Mbps)_2TX EBW

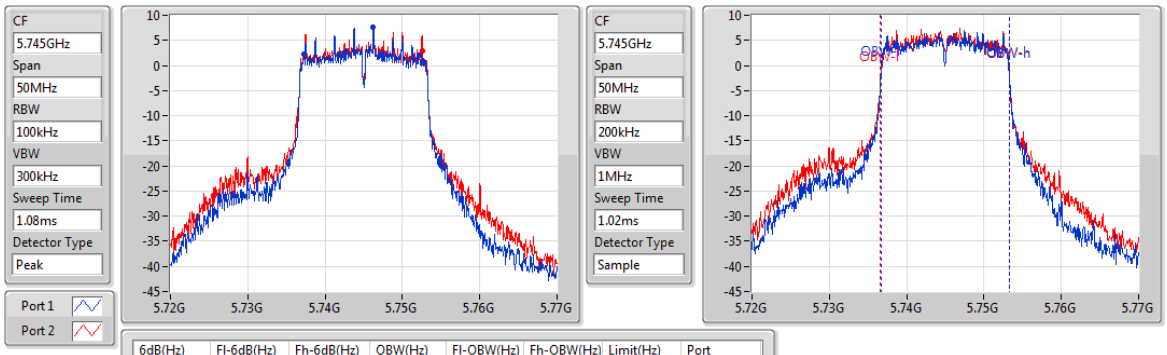
5240MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
23.623M	5.229275G	5.252899G	16.57M	5.231679G	5.248249G	Inf	1
23.043M	5.22942G	5.252464G	16.57M	5.231679G	5.248249G	Inf	2

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

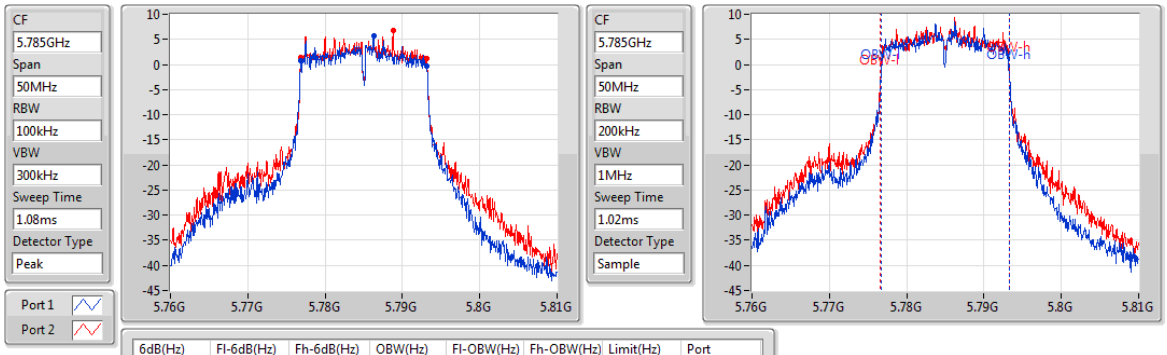
5745MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
14.928M	5.737246G	5.752174G	16.57M	5.736679G	5.753249G	500k	1
15.362M	5.737246G	5.752609G	16.643M	5.736606G	5.753249G	500k	2

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

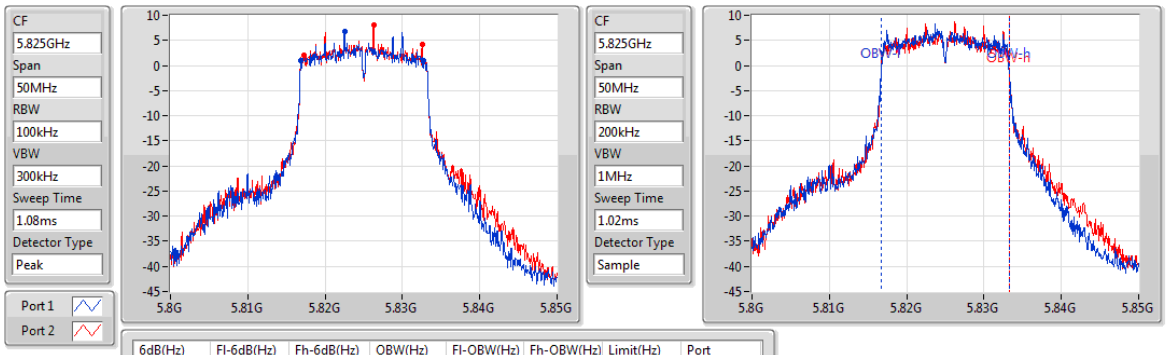
5785MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.304M	5.776884G	5.793188G	16.57M	5.776679G	5.793249G	500k	1
16.232M	5.776884G	5.793116G	16.643M	5.776606G	5.793249G	500k	2

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

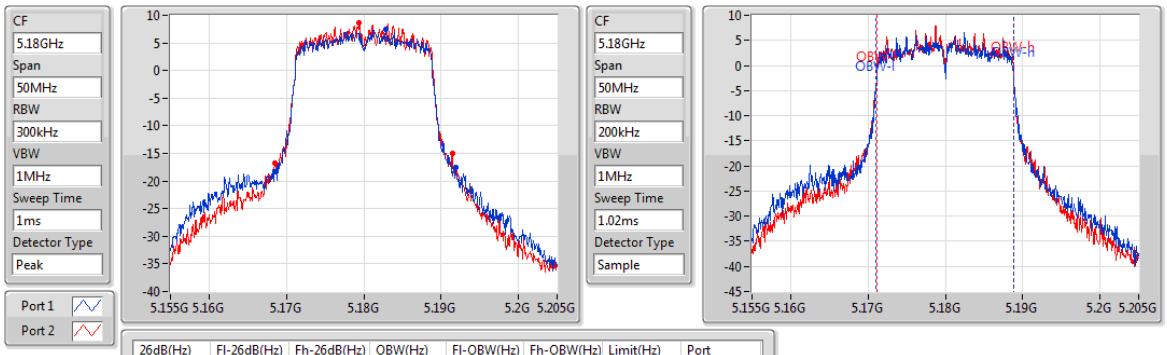
5825MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15.87M	5.816884G	5.832754G	16.57M	5.816679G	5.833249G	500k	1
15.29M	5.817246G	5.832536G	16.643M	5.816679G	5.833321G	500k	2

802.11ac VHT20_Nss1,(MCS0)_2TX EBW

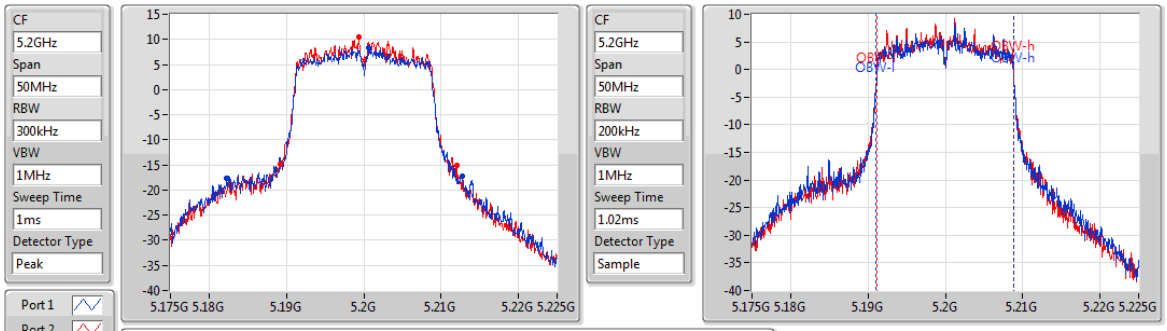
5180MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
23.406M	5.168478G	5.191884G	17.8M	5.171027G	5.188828G	Inf	1
22.971M	5.168478G	5.191449G	17.728M	5.1711G	5.188828G	Inf	2

802.11ac VHT20_Nss1,(MCS0)_2TX EBW

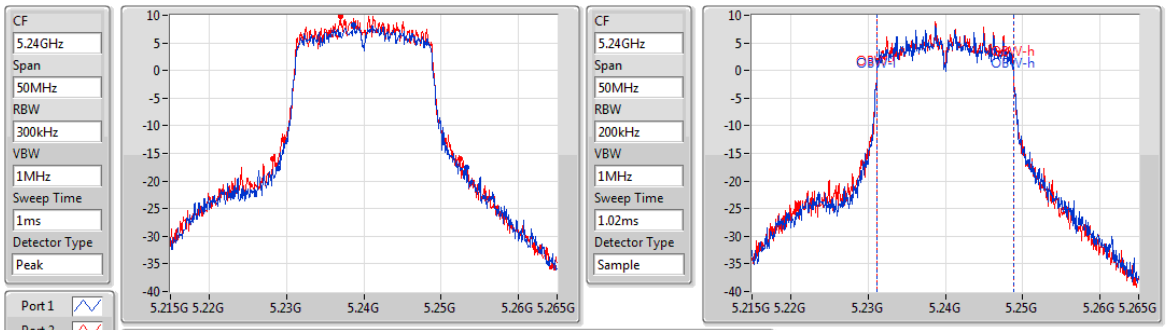
5200MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
30.507M	5.182246G	5.212754G	17.873M	5.191027G	5.2089G	Inf	1
22.826M	5.189203G	5.212029G	17.728M	5.1911G	5.208828G	Inf	2

802.11ac VHT20_Nss1,(MCS0)_2TX EBW

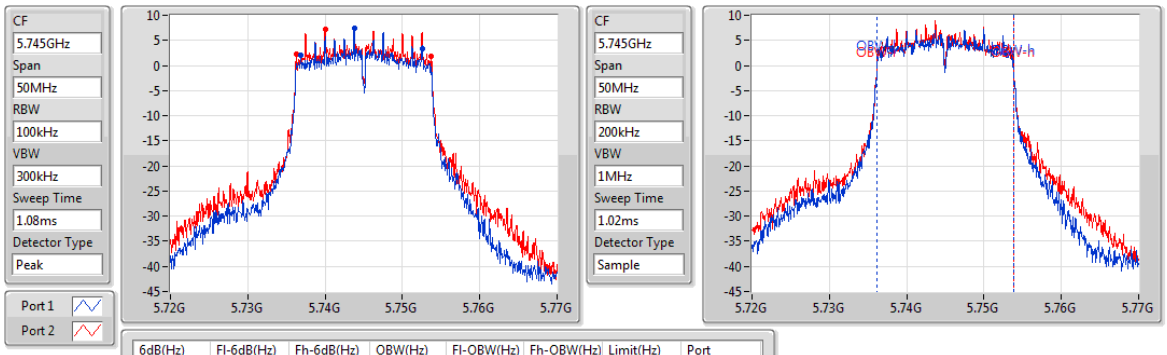
5240MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
24.348M	5.228913G	5.253261G	17.8M	5.2311G	5.2489G	Inf	1
24.203M	5.228261G	5.252464G	17.728M	5.2311G	5.248828G	Inf	2

802.11ac VHT20_Nss1,(MCS0)_2TX EBW

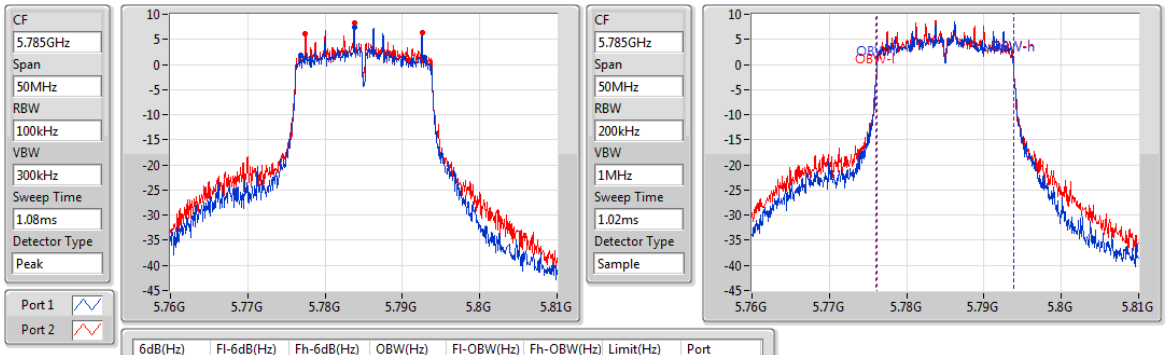
5745MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15.725M	5.736884G	5.752609G	17.656M	5.736172G	5.753828G	500k	1
17.536M	5.736232G	5.753768G	17.8M	5.7361G	5.7539G	500k	2

802.11ac VHT20_Nss1,(MCS0)_2TX EBW

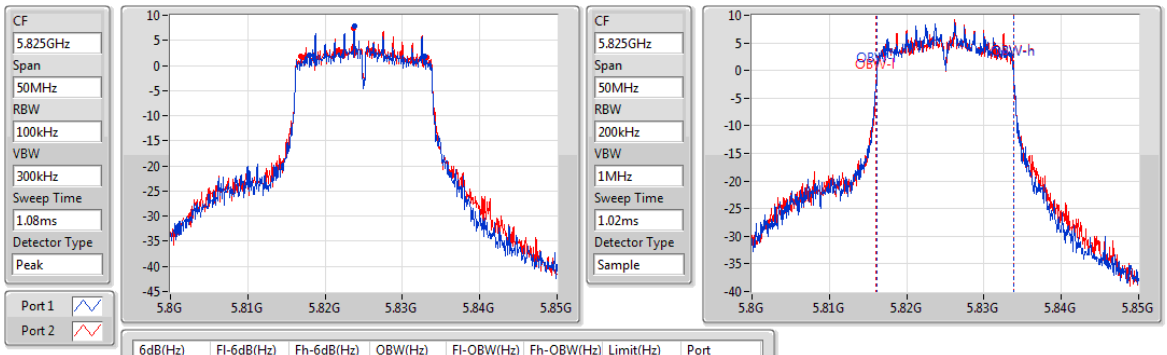
5785MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.014M	5.776884G	5.792899G	17.728M	5.7761G	5.793828G	500k	1
15.072M	5.777464G	5.792536G	17.8M	5.776027G	5.793828G	500k	2

802.11ac VHT20_Nss1,(MCS0)_2TX EBW

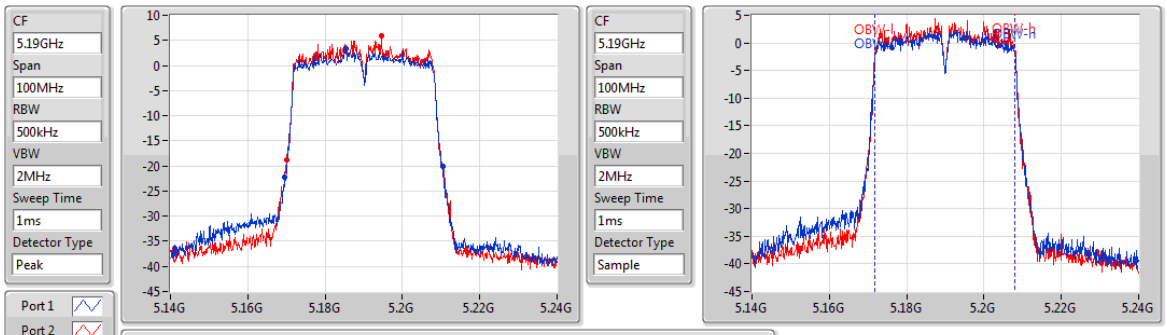
5825MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15M	5.817899G	5.832899G	17.728M	5.8161G	5.833828G	500k	1
16.232M	5.816884G	5.833116G	17.8M	5.816027G	5.833828G	500k	2

802.11ac VHT40_Nss1,(MCS0)_2TX EBW

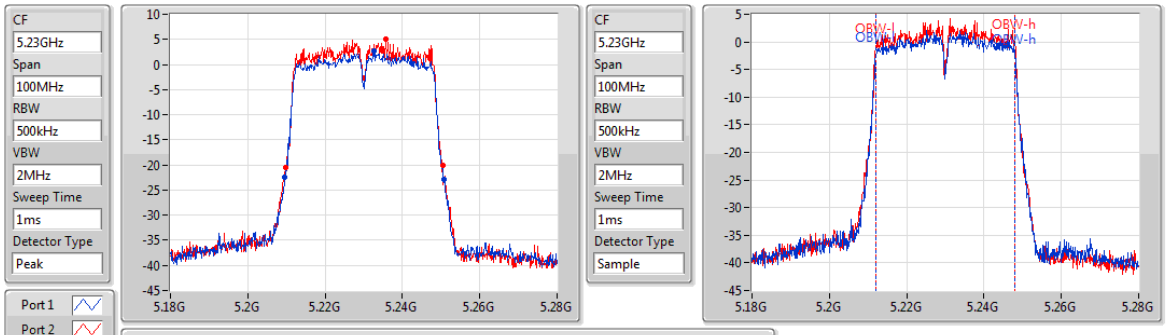
5190MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
41.014M	5.169565G	5.21058G	36.324M	5.171766G	5.20809G	Inf	1
40.435M	5.17G	5.210435G	36.324M	5.171766G	5.20809G	Inf	2

802.11ac VHT40_Nss1,(MCS0)_2TX EBW

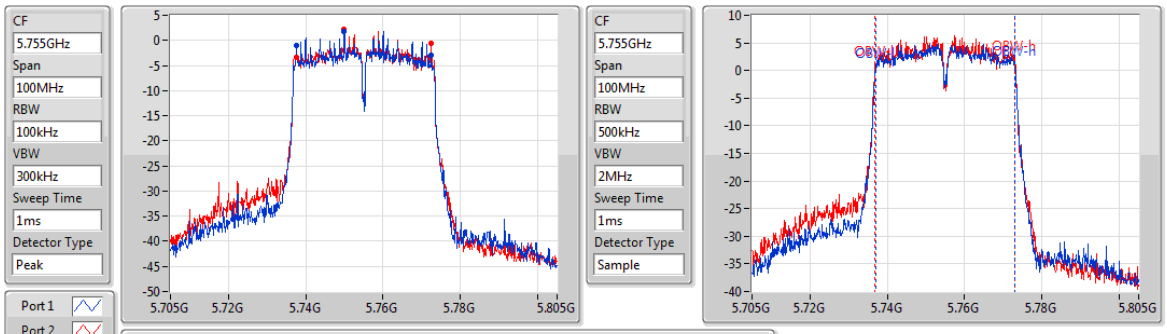
5230MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
41.159M	5.209565G	5.250725G	36.179M	5.21191G	5.24809G	Inf	1
40.725M	5.20971G	5.250435G	36.179M	5.21191G	5.24809G	Inf	2

802.11ac VHT40_Nss1,(MCS0)_2TX EBW

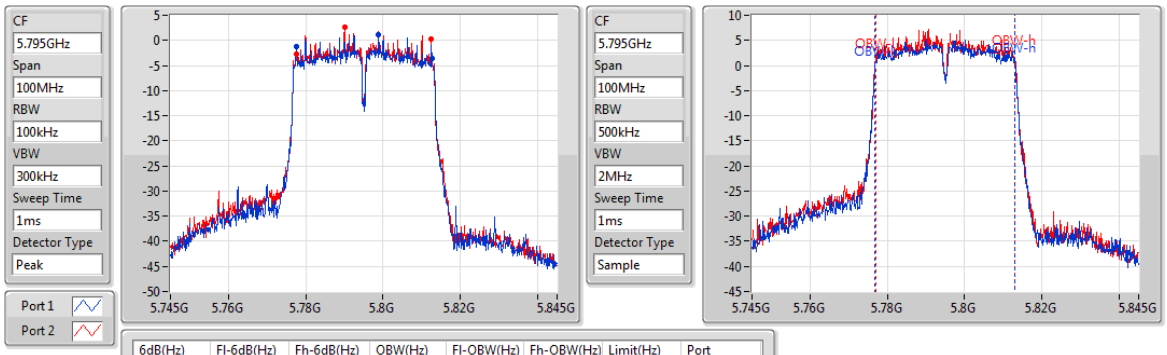
5755MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
35.072M	5.737464G	5.772536G	36.179M	5.73691G	5.77309G	500k	1
35.072M	5.737464G	5.772536G	36.324M	5.736766G	5.77309G	500k	2

802.11ac VHT40_Nss1,(MCS0)_2TX EBW

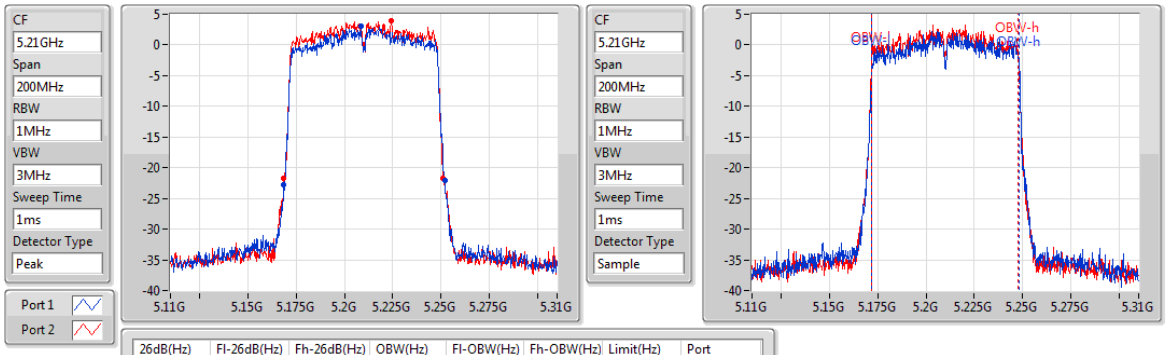
5795MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
35.217M	5.777464G	5.812681G	36.324M	5.776766G	5.81309G	500k	1
34.928M	5.777609G	5.812536G	36.179M	5.77691G	5.81309G	500k	2

802.11ac VHT80_Nss1,(MCS0)_2TX EBW

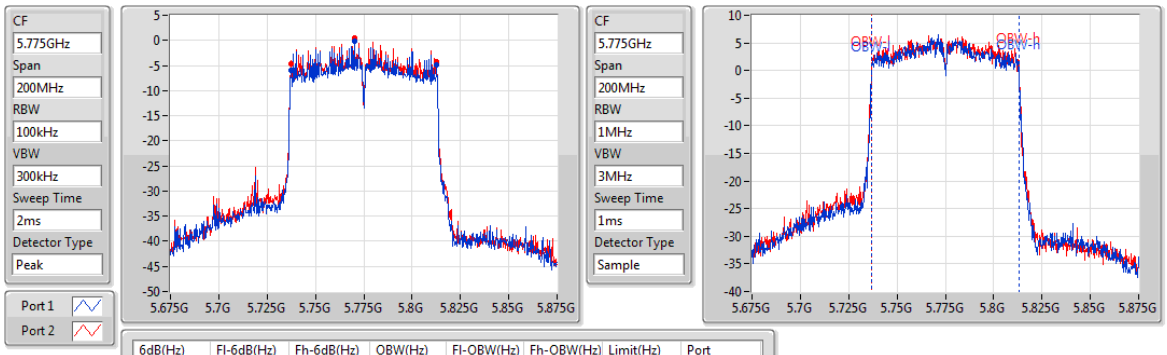
5210MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
83.478M	5.168551G	5.252029G	75.832M	5.172084G	5.247916G	Inf	1
82.609M	5.168551G	5.251159G	75.543M	5.172084G	5.247627G	Inf	2

802.11ac VHT80_Nss1,(MCS0)_2TX EBW

5775MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
75.072M	5.737609G	5.812681G	75.832M	5.737084G	5.812916G	500k	1
75.362M	5.737319G	5.812681G	75.832M	5.737084G	5.812916G	500k	2

3.3 RF Output Power

3.3.1 Limit of RF Output Power

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

Frequency Band (MHz)		**Limit**
☒	5725 ~ 5850	Conducted Power: 1 W

3.3.2 Test Procedures

Method PM-G (Measurement using a gated RF average power meter)

Measurements is performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

3.3.3 Test Setup

3.3.4 Test Result of Maximum Conducted Output Power

Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.15-5.25GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	20.92	0.12359	24.92	0.31046
802.11ac VHT20_Nss1,(MCS0)_2TX	20.91	0.12331	24.91	0.30974
802.11ac VHT40_Nss1,(MCS0)_2TX	15.53	0.03573	19.53	0.08974
802.11ac VHT80_Nss1,(MCS0)_2TX	14.69	0.02944	18.69	0.07396
5.725-5.85GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	21.06	0.12764	25.06	0.32063
802.11ac VHT20_Nss1,(MCS0)_2TX	21.10	0.12882	25.10	0.32359
802.11ac VHT40_Nss1,(MCS0)_2TX	18.66	0.07345	22.66	0.18450
802.11ac VHT80_Nss1,(MCS0)_2TX	18.44	0.06982	22.44	0.17539

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	4.00	17.18	17.55	20.38	24.00	24.38	30.00
5200MHz	Pass	4.00	17.71	18.11	20.92	24.00	24.92	30.00
5240MHz	Pass	4.00	17.74	18.01	20.89	24.00	24.89	30.00
5745MHz	Pass	4.00	17.81	17.96	20.90	30.00	24.90	36.00
5785MHz	Pass	4.00	17.95	18.14	21.06	30.00	25.06	36.00
5825MHz	Pass	4.00	17.93	18.06	21.01	30.00	25.01	36.00
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	4.00	16.69	17.05	19.88	24.00	23.88	30.00
5200MHz	Pass	4.00	17.70	18.10	20.91	24.00	24.91	30.00
5240MHz	Pass	4.00	17.73	18.02	20.89	24.00	24.89	30.00
5745MHz	Pass	4.00	17.62	18.06	20.86	30.00	24.86	36.00
5785MHz	Pass	4.00	17.69	18.12	20.92	30.00	24.92	36.00
5825MHz	Pass	4.00	18.03	18.14	21.10	30.00	25.10	36.00
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5190MHz	Pass	4.00	12.03	12.37	15.21	24.00	19.21	30.00
5230MHz	Pass	4.00	12.27	12.75	15.53	24.00	19.53	30.00
5755MHz	Pass	4.00	15.11	15.54	18.34	30.00	22.34	36.00
5795MHz	Pass	4.00	15.61	15.69	18.66	30.00	22.66	36.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5210MHz	Pass	4.00	11.45	11.90	14.69	24.00	18.69	30.00
5775MHz	Pass	4.00	15.34	15.52	18.44	30.00	22.44	36.00

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

3.4 Peak Power Spectral Density

3.4.1 Limit of Peak Power Spectral Density

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

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

3.4.2 Test Procedures

For 5150 ~ 5250 MHz

Duty cycle ≥ 98 %

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

Duty cycle < 98 %

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

For 5725 ~ 5850 MHz

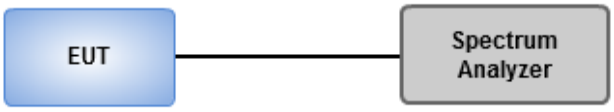
Duty cycle ≥ 98 %

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

Duty cycle < 98 %

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

3.4.3 Test Setup



3.4.4 Test Result of Peak Power Spectral Density

Summary

Mode	PD (dBm/RBW)	EIRP PD (dBm/RBW)
5.15-5.25GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	8.58	15.59
802.11ac VHT20_Nss1,(MCS0)_2TX	8.19	15.20
802.11ac VHT40_Nss1,(MCS0)_2TX	2.71	9.72
802.11ac VHT80_Nss1,(MCS0)_2TX	-3.86	3.15
5.725-5.85GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	7.26	14.27
802.11ac VHT20_Nss1,(MCS0)_2TX	6.71	13.72
802.11ac VHT40_Nss1,(MCS0)_2TX	0.97	7.98
802.11ac VHT80_Nss1,(MCS0)_2TX	-2.15	4.86

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

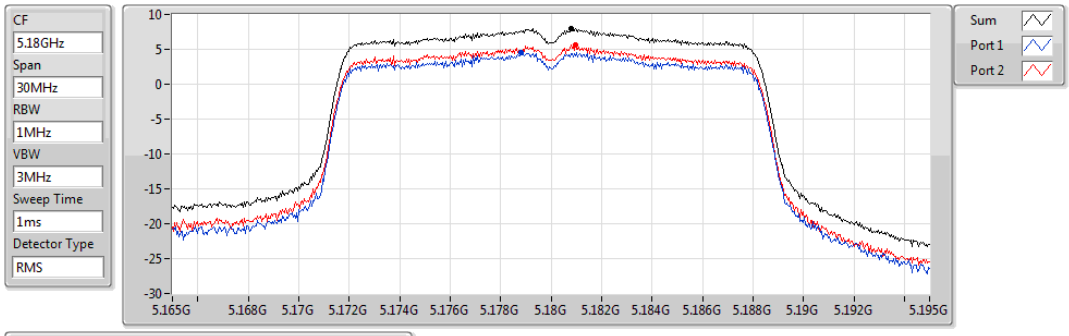
Result

Mode	Result	DG (dBi)	Port 1 (dBm/ RBW)	Port 2 (dBm/R BW)	PD (dBm/R BW)	PD Limit (dBm/R BW)	EIRP PD (dBm/R BW)	EIRP PD Limit (dBm/R BW)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	7.01	4.55	5.60	8.03	9.99	15.04	17.00
5200MHz	Pass	7.01	5.26	6.01	8.58	9.99	15.59	17.00
5240MHz	Pass	7.01	5.31	5.60	8.28	9.99	15.29	17.00
5745MHz	Pass	7.01	4.09	4.46	7.01	28.99	14.02	36.00
5785MHz	Pass	7.01	4.06	4.57	7.15	28.99	14.16	36.00
5825MHz	Pass	7.01	4.46	4.37	7.26	28.99	14.27	36.00
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	7.01	3.69	4.47	7.05	9.99	14.06	17.00
5200MHz	Pass	7.01	4.97	5.48	8.14	9.99	15.15	17.00
5240MHz	Pass	7.01	4.91	5.57	8.19	9.99	15.20	17.00
5745MHz	Pass	7.01	3.81	4.35	6.71	28.99	13.72	36.00
5785MHz	Pass	7.01	3.89	3.96	6.67	28.99	13.68	36.00
5825MHz	Pass	7.01	3.74	3.98	6.71	28.99	13.72	36.00
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5190MHz	Pass	7.01	-0.61	-0.01	2.71	9.99	9.72	17.00
5230MHz	Pass	7.01	-1.18	-0.54	2.13	9.99	9.14	17.00
5755MHz	Pass	7.01	-2.35	-1.99	0.84	28.99	7.85	36.00
5795MHz	Pass	7.01	-2.23	-1.83	0.97	28.99	7.98	36.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5210MHz	Pass	7.01	-7.22	-6.55	-3.86	9.99	3.15	17.00
5775MHz	Pass	7.01	-5.26	-4.97	-2.15	28.99	4.86	36.00

DG = Directional Gain=4 dBi + 10*log(1/2)= 7.01 dBi;
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;

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

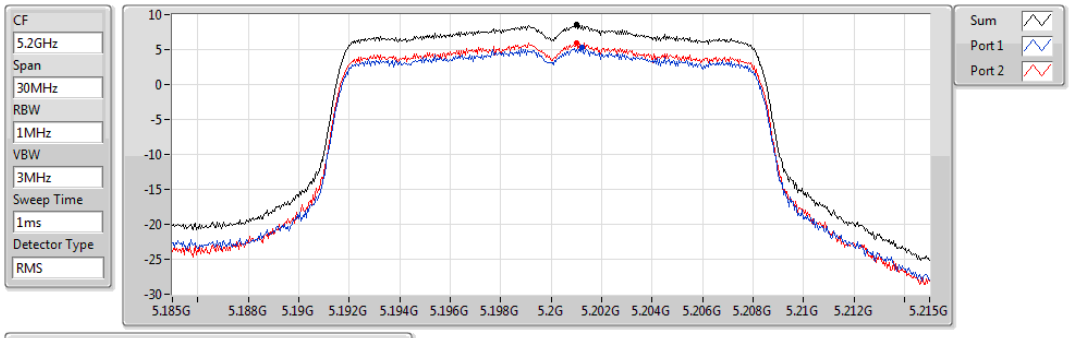
5180MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.03	8.03	4.55	5.60

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

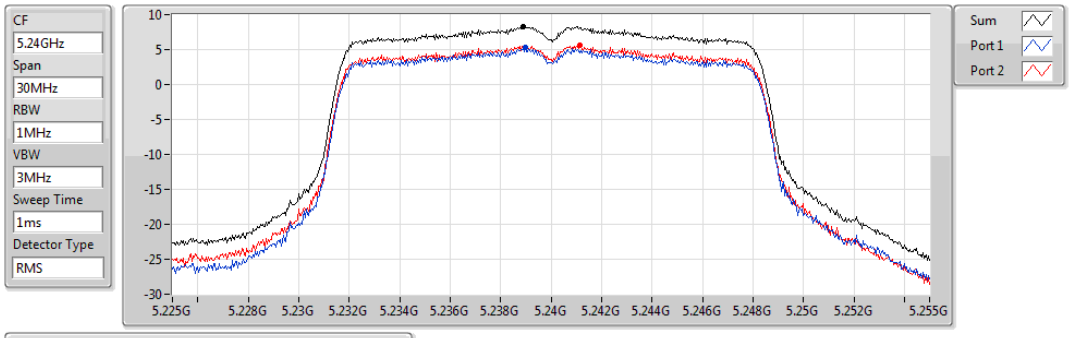
5200MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.58	8.58	5.26	6.01

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

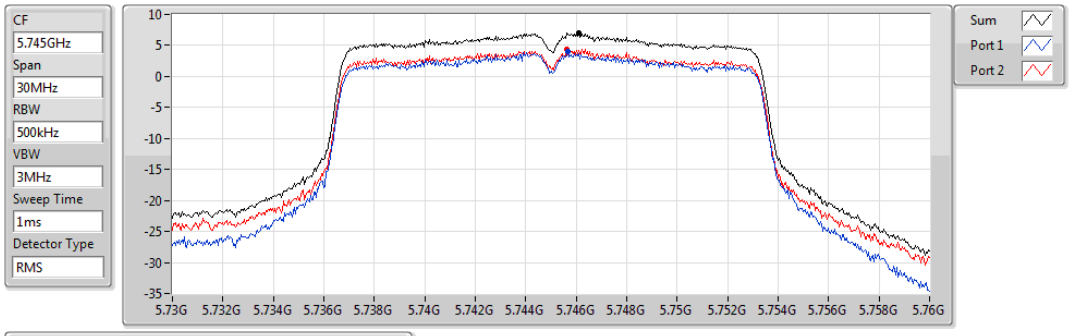
5240MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.28	8.28	5.31	5.60

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

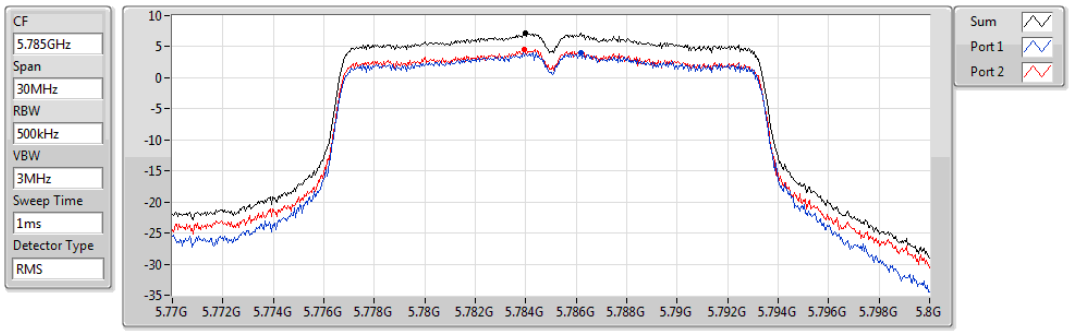
5745MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.01	7.01	4.09	4.46

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

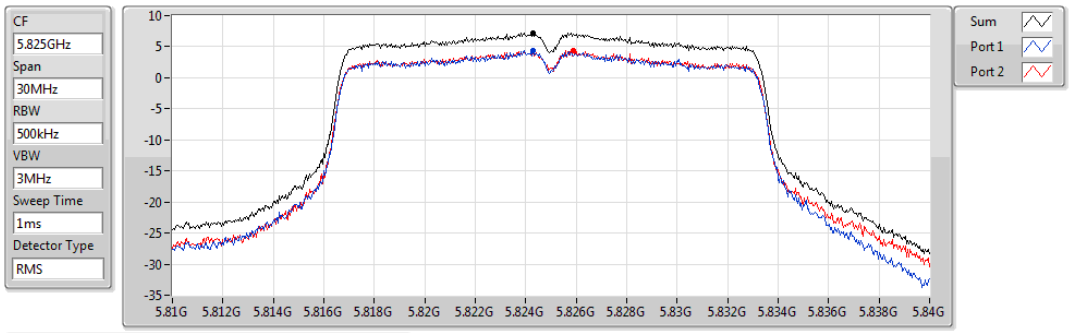
5785MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.15	7.15	4.06	4.57

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

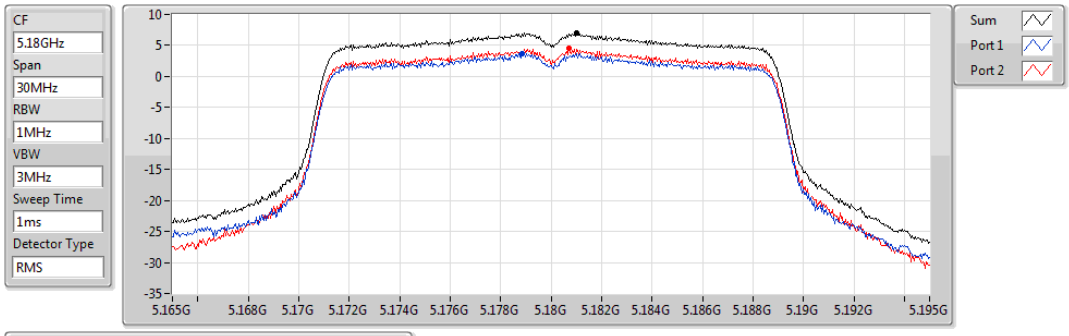
5825MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.26	7.26	4.46	4.37

802.11ac VHT20_Nss1,(MCS0)_2TX **PSD**

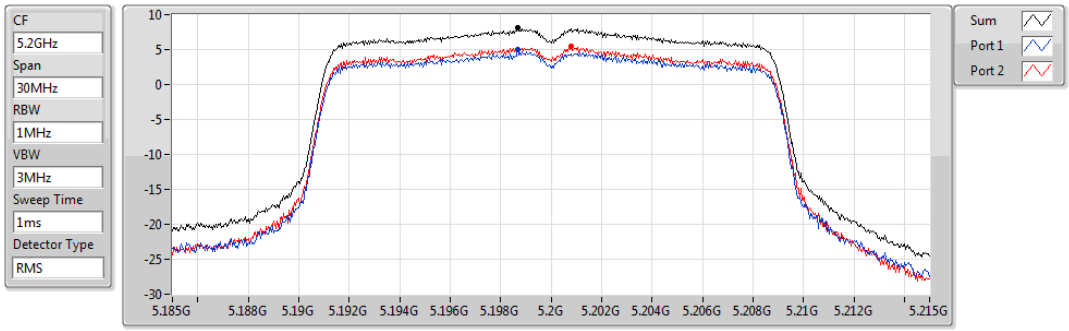
5180MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.05	7.05	3.69	4.47

802.11ac VHT20_Nss1,(MCS0)_2TX **PSD**

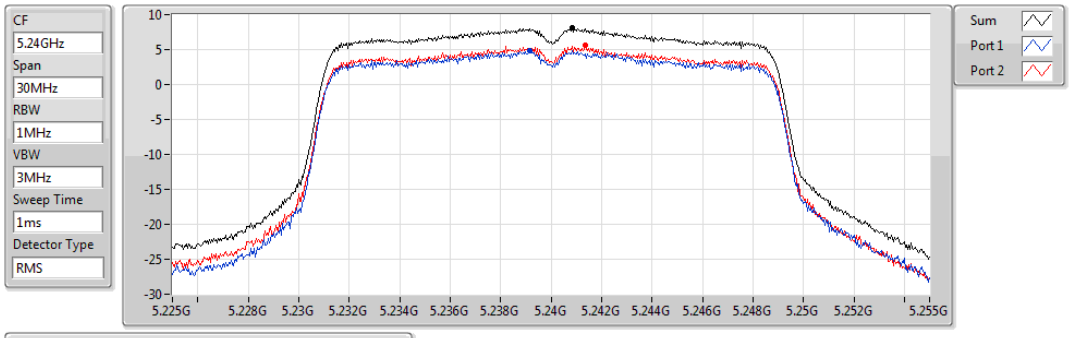
5200MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.14	8.14	4.97	5.48

802.11ac VHT20_Nss1,(MCS0)_2TX **PSD**

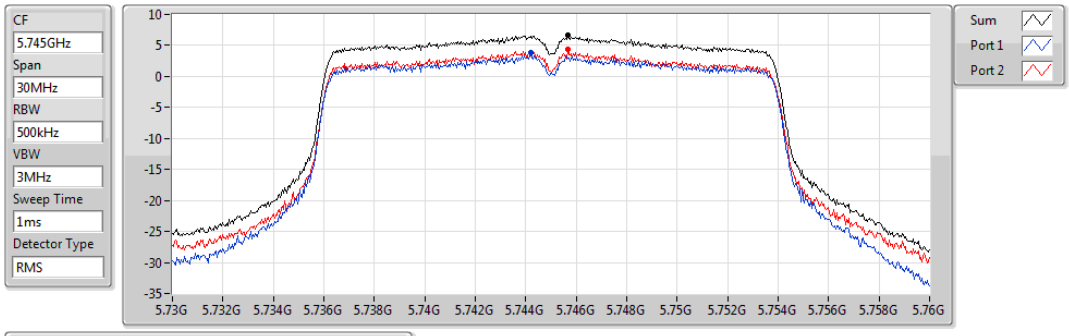
5240MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.19	8.19	4.91	5.57

802.11ac VHT20_Nss1,(MCS0)_2TX **PSD**

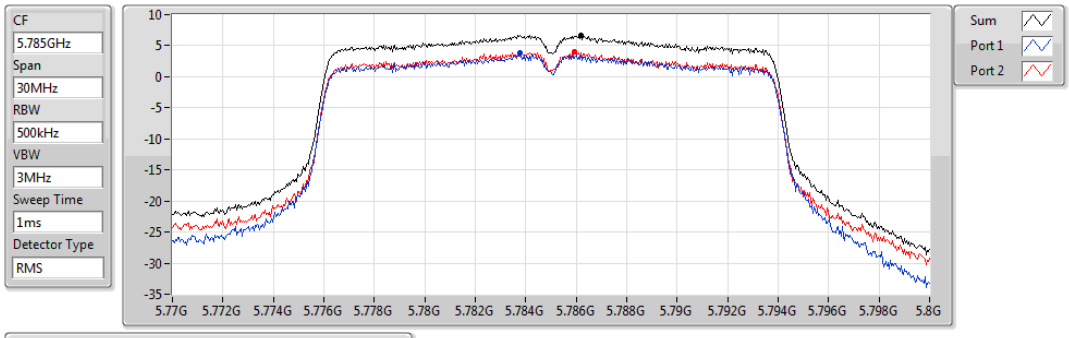
5745MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.71	6.71	3.81	4.35

802.11ac VHT20_Nss1,(MCS0)_2TX **PSD**

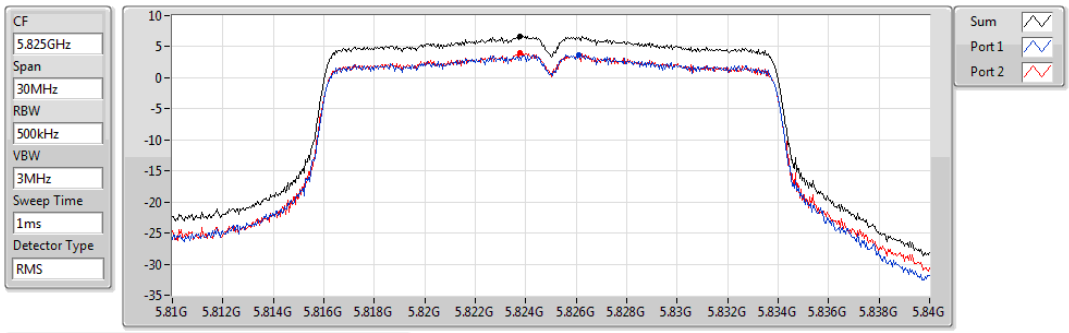
5785MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.67	6.67	3.89	3.96

802.11ac VHT20_Nss1,(MCS0)_2TX **PSD**

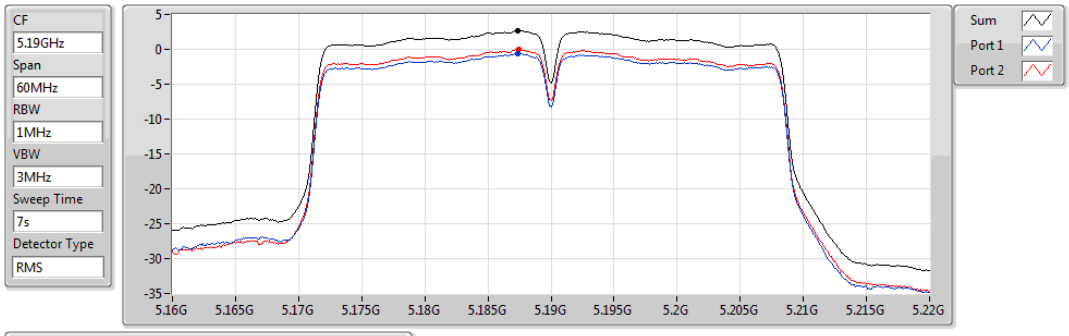
5825MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.71	6.71	3.74	3.98

802.11ac VHT40_Nss1,(MCS0)_2TX **PSD**

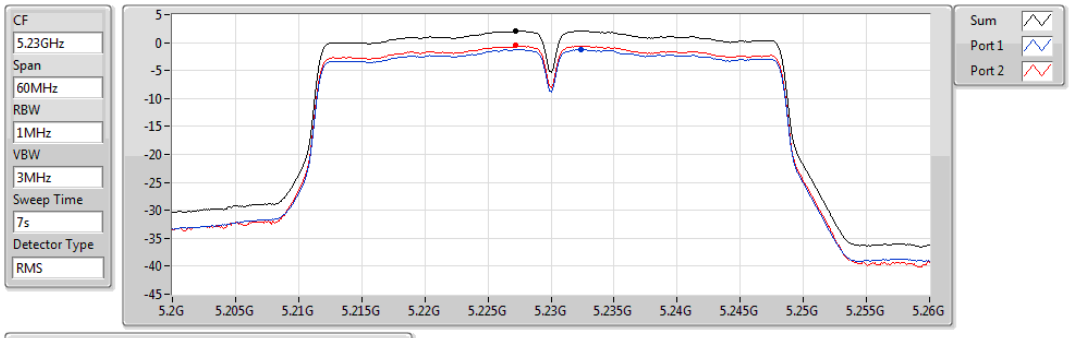
5190MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.71	2.71	-0.61	-0.01

802.11ac VHT40_Nss1,(MCS0)_2TX **PSD**

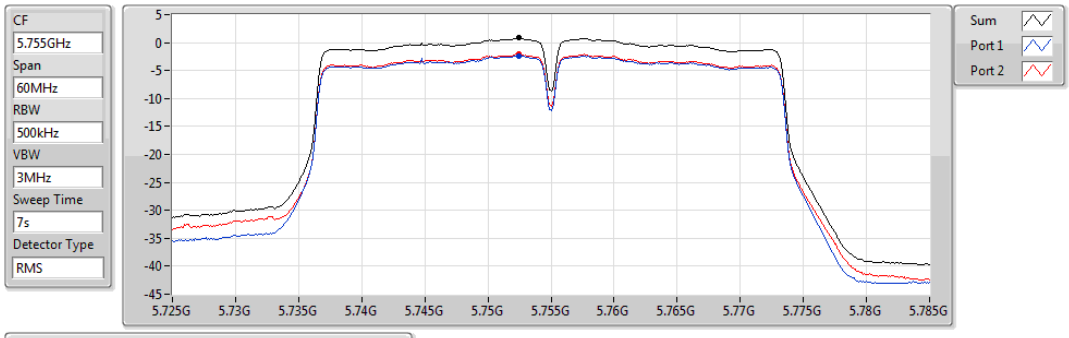
5230MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.13	2.13	-1.18	-0.54

802.11ac VHT40_Nss1,(MCS0)_2TX **PSD**

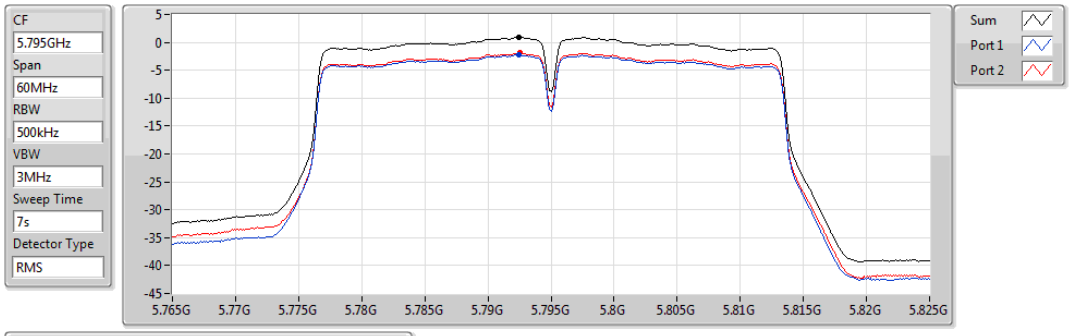
5755MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.84	0.84	-2.35	-1.99

802.11ac VHT40_Nss1,(MCS0)_2TX **PSD**

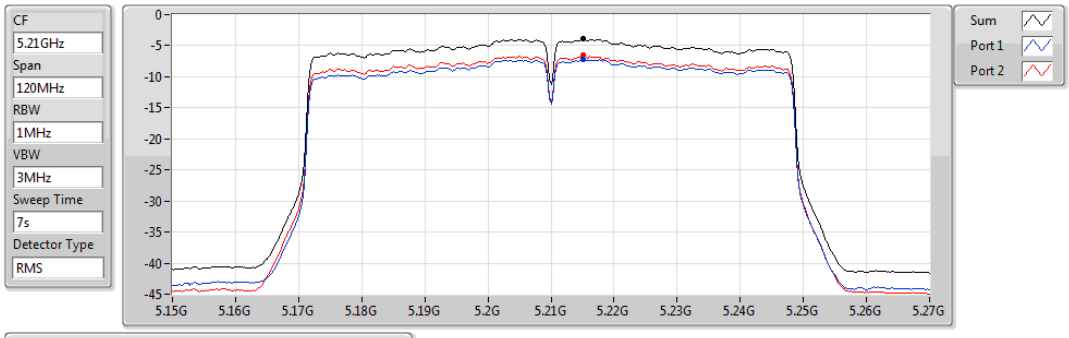
5795MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.97	0.97	-2.23	-1.83

802.11ac VHT80_Nss1,(MCS0)_2TX **PSD**

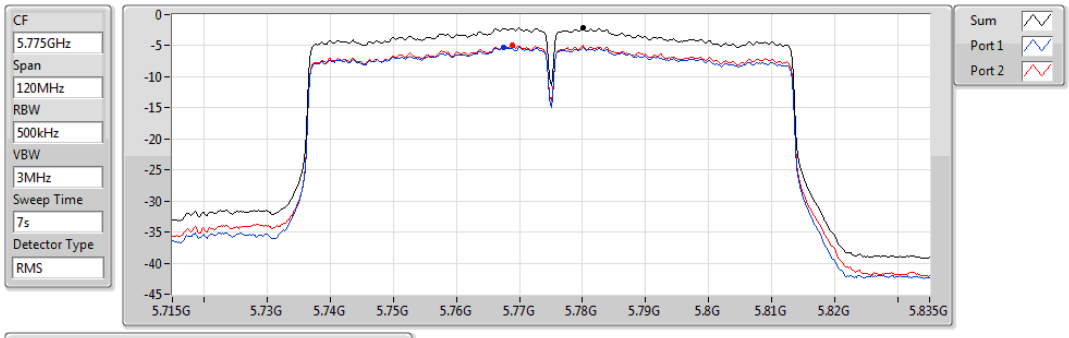
5210MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-3.86	-3.86	-7.22	-6.55

802.11ac VHT80_Nss1,(MCS0)_2TX **PSD**

5775MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-2.15	-2.15	-5.26	-4.97

3.5 Transmitter Radiated and Band Edge Emissions

3.5.1 Limit of Transmitter Radiated and Band Edge Emissions

Restricted Band Emissions Limit			
Frequency Range (MHz)	**Field Strength (uV/m)**	**Field Strength (dBuV/m)**	**Measure Distance (m)**
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1:
Qusai-Peak value is measured for frequency below 1GHz except for 9–90 kHz, 110–490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit
Note 2:
Measurements may be performed at a distance other than what is specified provided. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor as below, Frequency at or above 30 MHz: 20 dB/decade Frequency below 30 MHz: 40 dB/decade.

Un-restricted band emissions above 1GHz Limit	
Operating Band	**Limit**
5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.725 - 5.850 GHz	All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Note 1: Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

3.5.2 Test Procedures

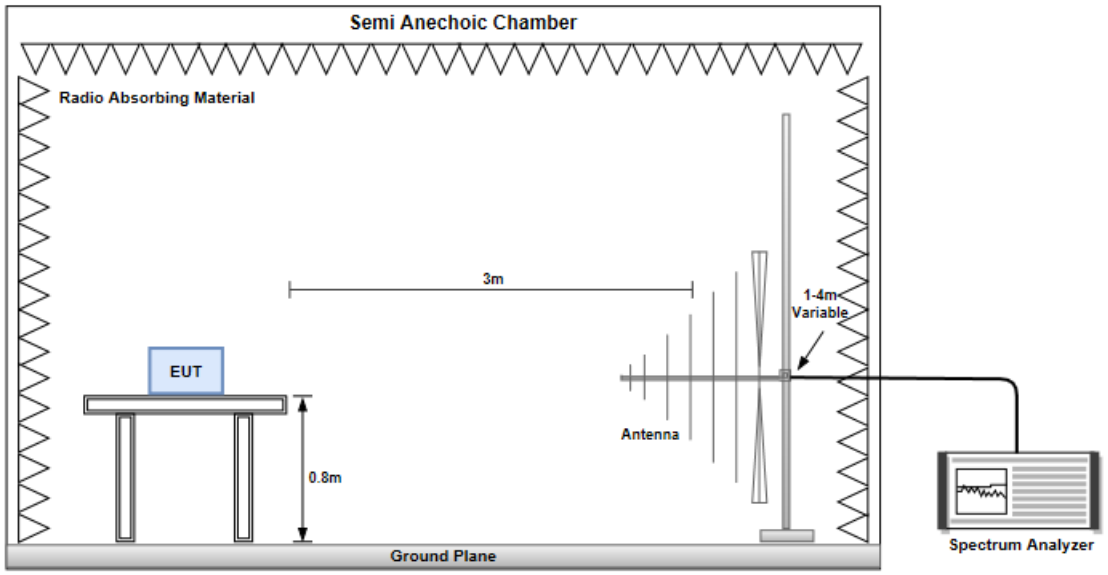
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at test table. For emissions testing at or below 1 GHz, the table height is 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height is 1.5 m
2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
3. This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

Note:

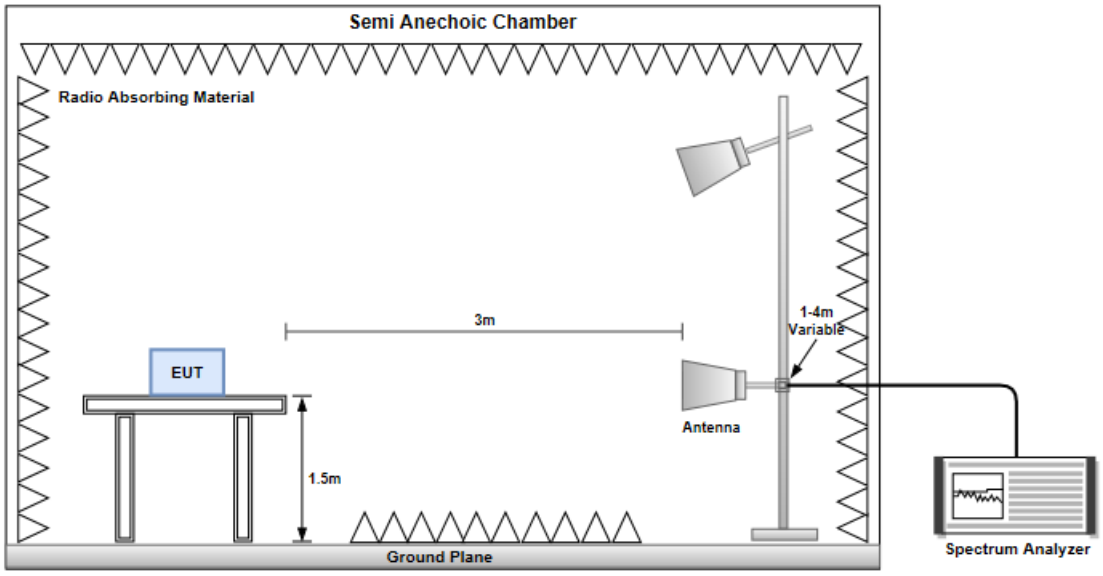
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

3.5.3 Test Setup

Radiated Emissions below 1 GHz

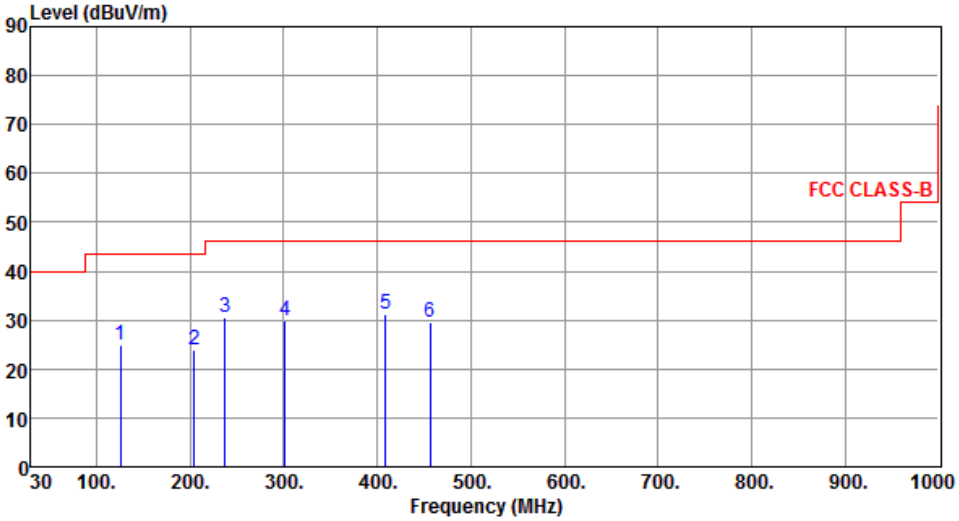


Radiated Emissions above 1 GHz



3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

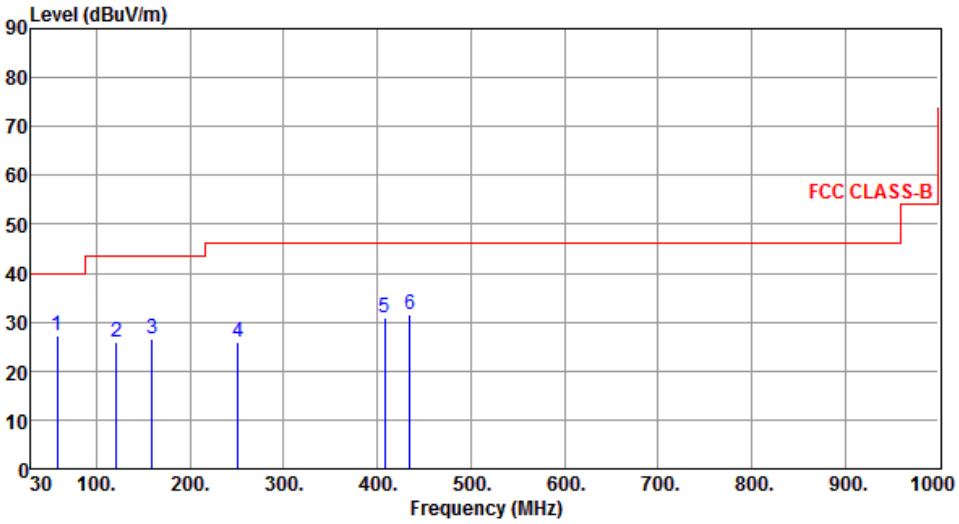
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	125.51	24.85	43.50	-18.65	35.07	-10.22	Peak	---	---
2	204.52	23.95	43.50	-19.55	36.14	-12.19	Peak	---	---
3	236.99	30.71	46.00	-15.29	41.34	-10.63	Peak	---	---
4	301.88	29.89	46.00	-16.11	37.91	-8.02	Peak	---	---
5	408.64	31.21	46.00	-14.79	36.59	-5.38	Peak	---	---
6	456.20	29.52	46.00	-16.48	33.53	-4.01	Peak	---	---

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

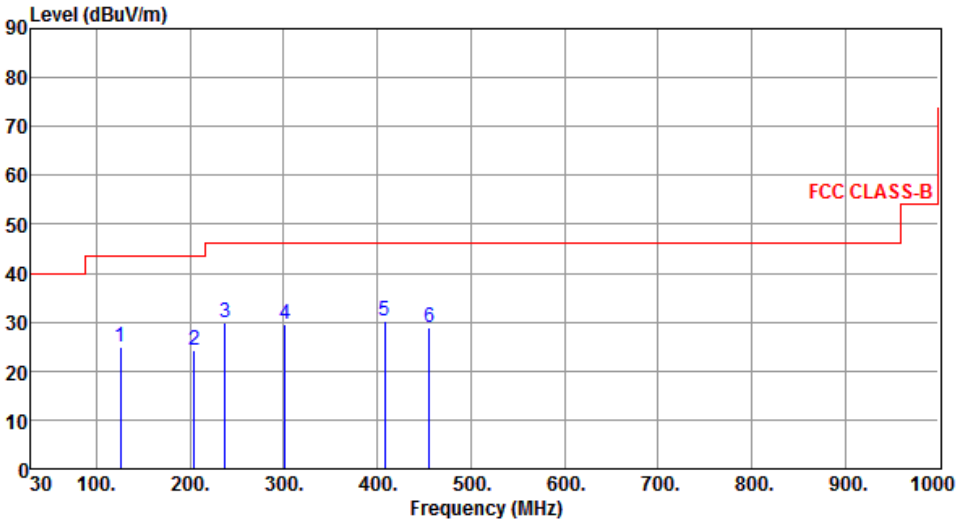
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	58.26	27.24	40.00	-12.76	36.30	-9.06	Peak	---	---
2	121.63	25.92	43.50	-17.58	36.46	-10.54	Peak	---	---
3	159.60	26.52	43.50	-16.98	35.01	-8.49	Peak	---	---
4	250.81	25.82	46.00	-20.18	35.80	-9.98	Peak	---	---
5	407.60	30.88	46.00	-15.12	36.28	-5.40	Peak	---	---
6	434.80	31.66	46.00	-14.34	36.14	-4.48	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.

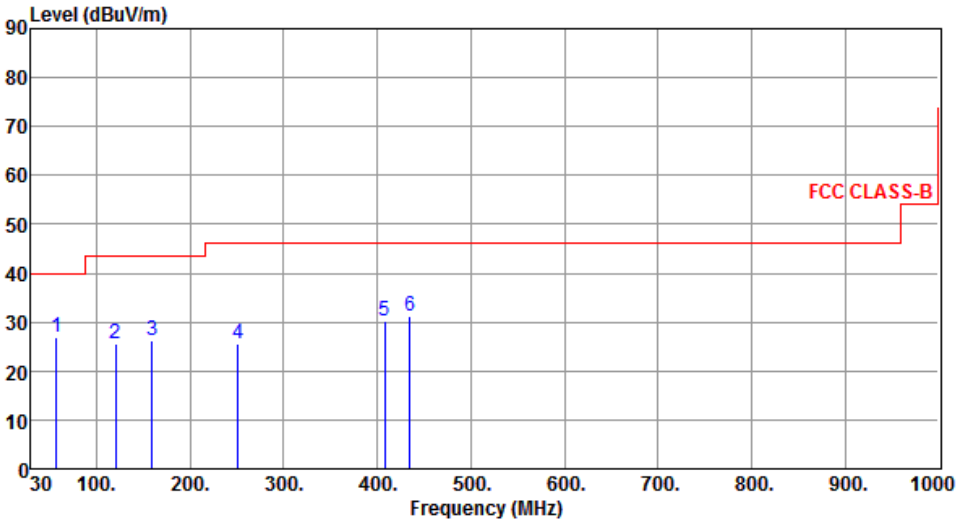
Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	126.03	24.92	43.50	-18.58	35.08	-10.16	Peak	---	---
2	204.60	24.34	43.50	-19.16	36.52	-12.18	Peak	---	---
3	237.58	30.04	46.00	-15.96	40.60	-10.56	Peak	---	---
4	301.60	29.56	46.00	-16.44	37.60	-8.04	Peak	---	---
5	408.30	30.09	46.00	-15.91	35.47	-5.38	Peak	---	---
6	455.83	28.90	46.00	-17.10	32.91	-4.01	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	VHT20	Test Freq. (MHz)	5825
Polarization	Vertical		

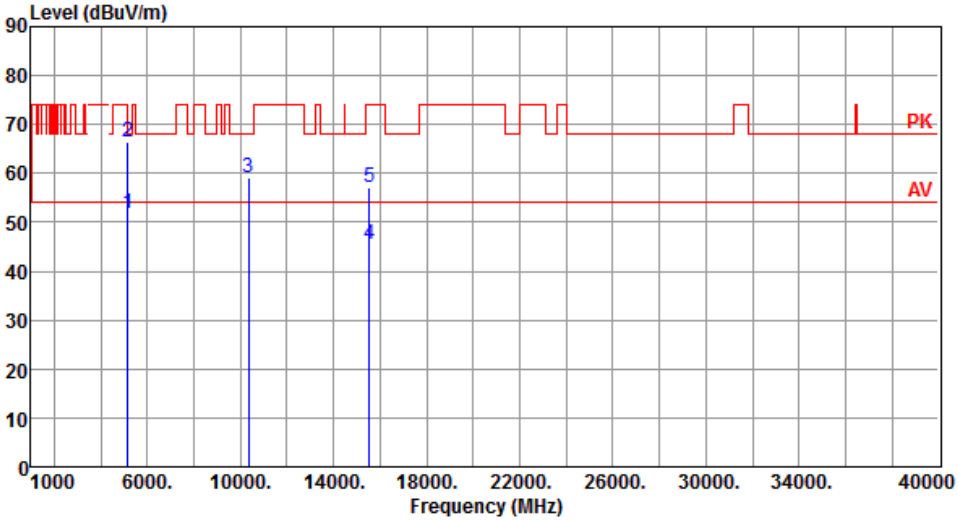


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	57.16	26.84	40.00	-13.16	35.70	-8.86	Peak	---	---
2	120.21	25.41	43.50	-18.09	36.09	-10.68	Peak	---	---
3	159.01	26.33	43.50	-17.17	34.76	-8.43	Peak	---	---
4	251.16	25.44	46.00	-20.56	35.40	-9.96	Peak	---	---
5	408.30	30.22	46.00	-15.78	35.60	-5.38	Peak	---	---
6	434.49	31.24	46.00	-14.76	35.73	-4.49	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

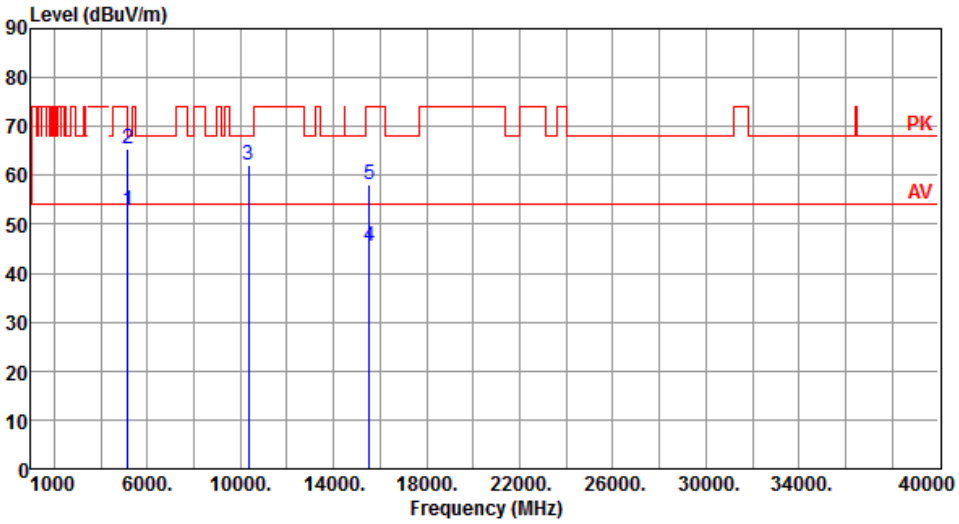
Modulation	11a	Test Freq. (MHz)	5180
Polarization	Horizontal		



	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	51.91	54.00	-2.09	47.37	4.54	Average	100	74
2	5150.00	66.35	74.00	-7.65	61.81	4.54	Peak	100	74
3	10360.00	59.21	68.20	-8.99	45.43	13.78	Peak	113	69
4	15540.00	45.56	54.00	-8.44	31.28	14.28	Average	100	89
5	15540.00	57.14	74.00	-16.86	42.86	14.28	Peak	100	89

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).

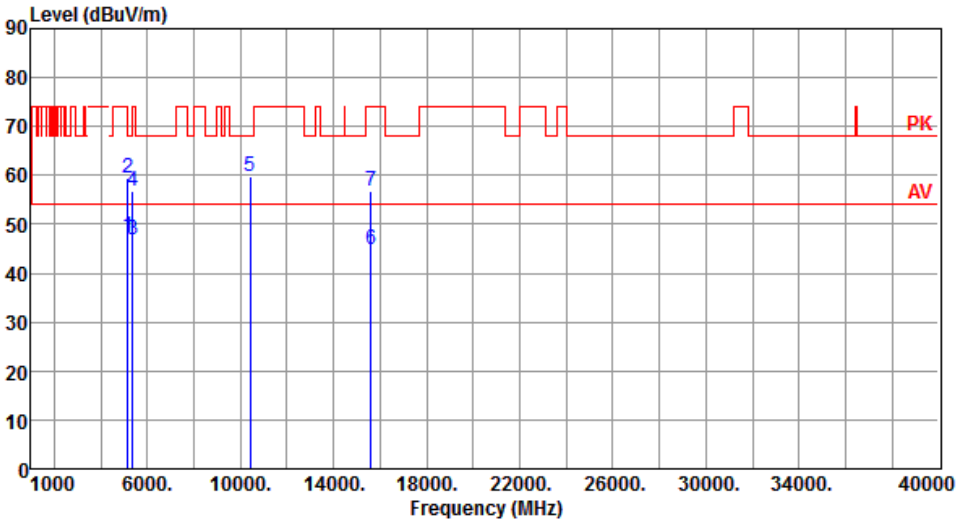
Modulation	11a	Test Freq. (MHz)	5180
Polarization	Vertical		



	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	52.74	54.00	-1.26	48.20	4.54	Average	378	117
2	5150.00	65.54	74.00	-8.46	61.00	4.54	Peak	378	117
3	10360.00	62.15	68.20	-6.05	48.37	13.78	Peak	100	59
4	15540.00	45.56	54.00	-8.44	31.28	14.28	Average	100	59
5	15540.00	58.10	74.00	-15.90	43.82	14.28	Peak	100	59

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).

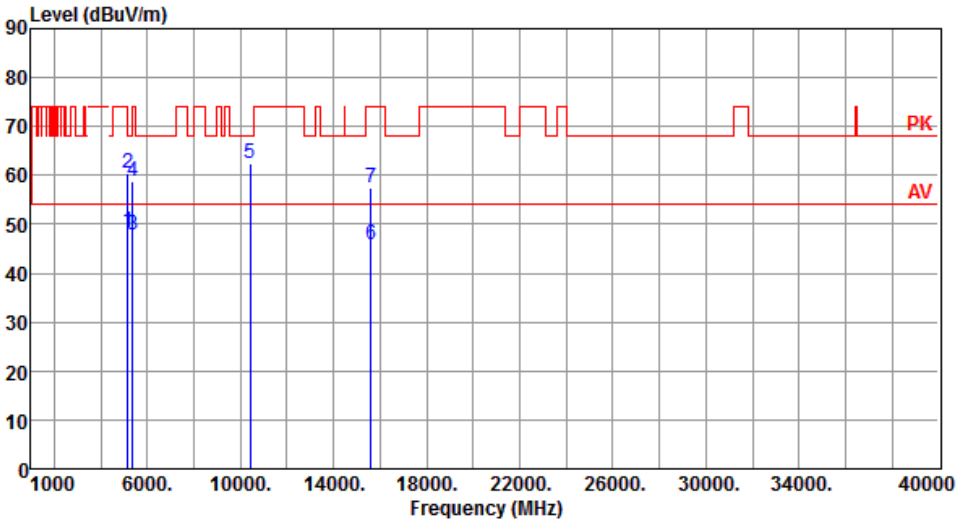
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Horizontal		



	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	47.41	54.00	-6.59	42.87	4.54	Average	100	71
2	5150.00	59.39	74.00	-14.61	54.85	4.54	Peak	100	71
3	5350.00	46.87	54.00	-7.13	42.74	4.13	Average	100	71
4	5350.00	56.81	74.00	-17.19	52.68	4.13	Peak	100	71
5	10400.00	59.72	68.20	-8.48	45.83	13.89	Peak	116	72
6	15600.00	44.95	54.00	-9.05	30.85	14.10	Average	100	81
7	15600.00	56.85	74.00	-17.15	42.75	14.10	Peak	100	81

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

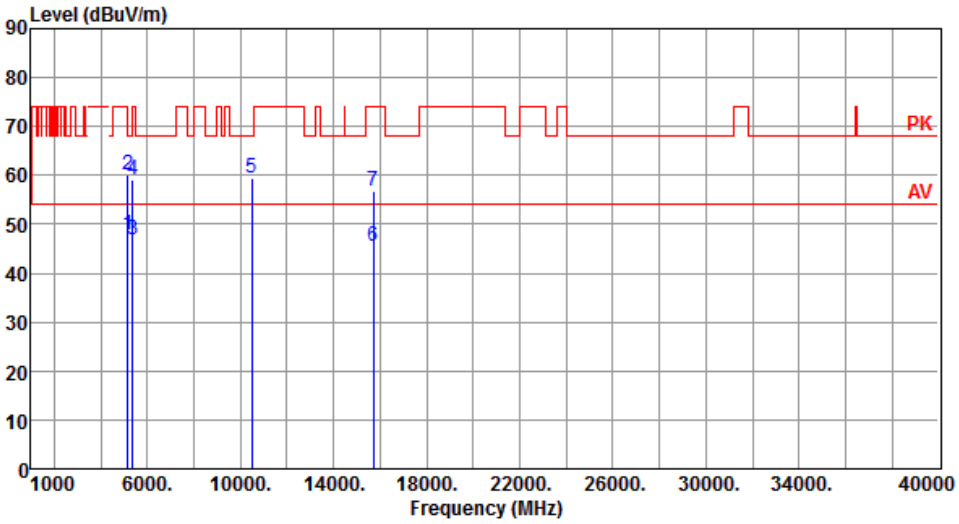
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Vertical		



	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	48.49	54.00	-5.51	43.95	4.54	Average	385	120
2	5150.00	60.39	74.00	-13.61	55.85	4.54	Peak	385	120
3	5350.00	47.96	54.00	-6.04	43.83	4.13	Average	385	120
4	5350.00	58.89	74.00	-15.11	54.76	4.13	Peak	385	120
5	10400.00	62.59	68.20	-5.61	48.70	13.89	Peak	115	68
6	15600.00	45.96	54.00	-8.04	31.86	14.10	Average	100	72
7	15600.00	57.37	74.00	-16.63	43.27	14.10	Peak	100	72

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).

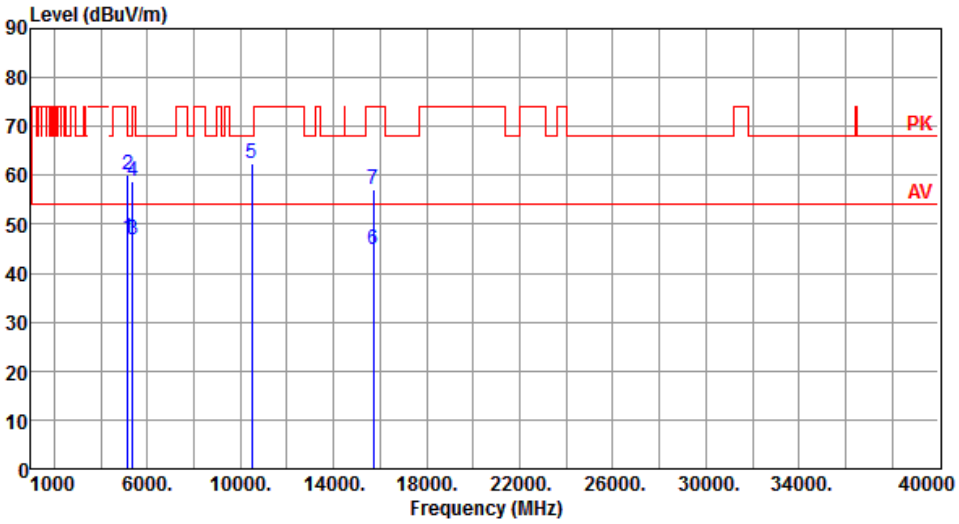
Modulation	11a	Test Freq. (MHz)	5240
Polarization	Horizontal		



	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	47.75	54.00	-6.25	43.21	4.54	Average	100	77
2	5150.00	59.97	74.00	-14.03	55.43	4.54	Peak	100	77
3	5350.00	46.91	54.00	-7.09	42.78	4.13	Average	100	77
4	5350.00	58.98	74.00	-15.02	54.85	4.13	Peak	100	77
5	10480.00	59.51	68.20	-8.69	45.63	13.88	Peak	116	72
6	15720.00	45.52	54.00	-8.48	31.63	13.89	Average	100	92
7	15720.00	56.82	74.00	-17.18	42.93	13.89	Peak	100	92

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).

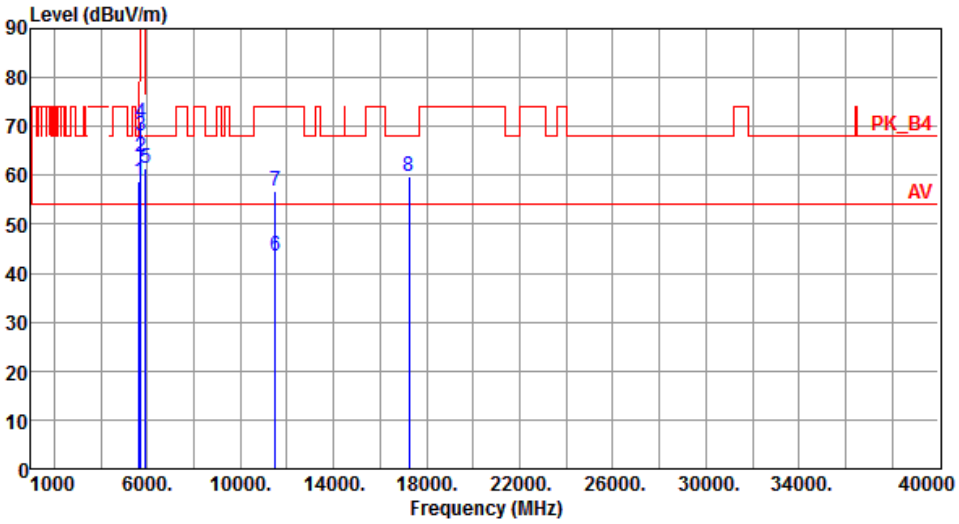
Modulation	11a	**Test Freq. (MHz)**	5240
Polarization	Vertical		



	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	47.31	54.00	-6.69	42.77	4.54	Average	374	115
2	5150.00	60.18	74.00	-13.82	55.64	4.54	Peak	374	115
3	5350.00	46.97	54.00	-7.03	42.84	4.13	Average	374	115
4	5350.00	58.88	74.00	-15.12	54.75	4.13	Peak	374	115
5	10480.00	62.54	68.20	-5.66	48.66	13.88	Peak	100	58
6	15720.00	44.94	54.00	-9.06	31.05	13.89	Average	100	62
7	15720.00	57.14	74.00	-16.86	43.25	13.89	Peak	100	62

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

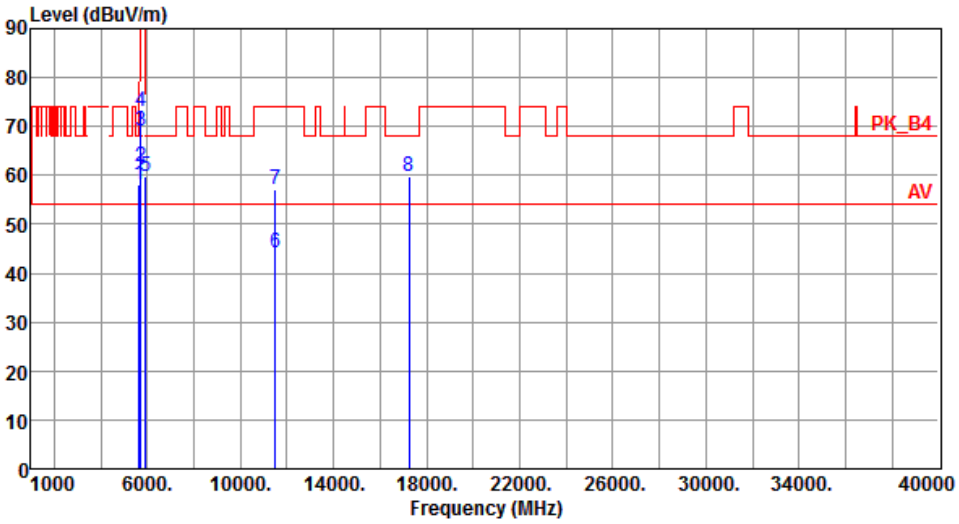
Modulation	11a	Test Freq. (MHz)	5745
Polarization	Horizontal		



	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	58.81	68.20	-9.39	53.84	4.97	Peak	184	85
2	5700.00	63.74	105.20	-41.46	58.58	5.16	Peak	184	85
3	5720.00	67.93	110.80	-42.87	62.70	5.23	Peak	184	85
4	5725.00	70.65	122.20	-51.55	65.40	5.25	Peak	184	85
5	5925.00	61.50	68.20	-6.70	55.41	6.09	Peak	184	85
6	11490.00	43.60	54.00	-10.40	29.48	14.12	Average	100	108
7	11490.00	56.94	74.00	-17.06	42.82	14.12	Peak	100	108
8	17235.00	59.77	68.20	-8.43	42.54	17.23	Peak	100	93

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).

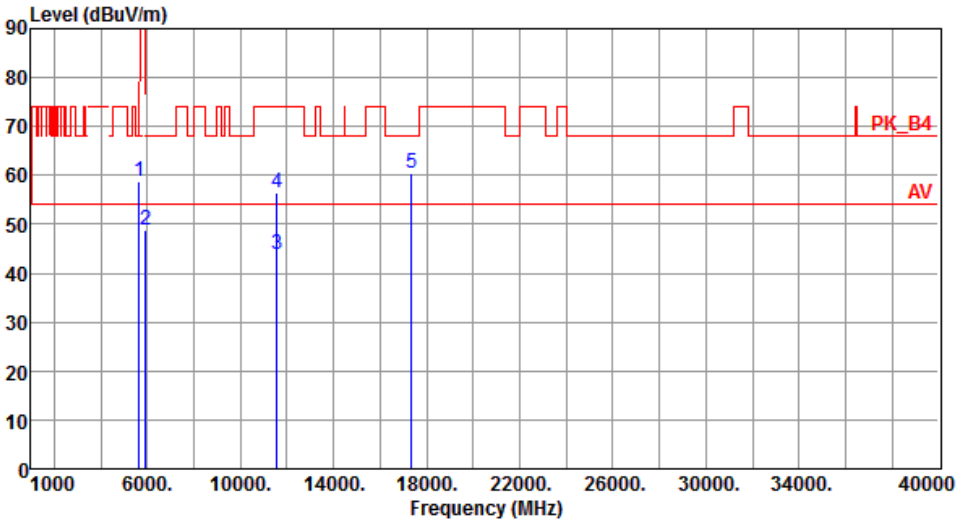
Modulation	11a	Test Freq. (MHz)	5745
Polarization	Vertical		



	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	58.25	68.20	-9.95	53.28	4.97	Peak	159	117
2	5700.00	61.66	105.20	-43.54	56.50	5.16	Peak	159	117
3	5720.00	69.16	110.80	-41.64	63.93	5.23	Peak	159	117
4	5725.00	73.11	122.20	-49.09	67.86	5.25	Peak	159	117
5	5925.00	59.69	68.20	-8.51	53.60	6.09	Peak	159	117
6	11490.00	44.24	54.00	-9.76	30.12	14.12	Average	100	280
7	11490.00	57.09	74.00	-16.91	42.97	14.12	Peak	100	280
8	17235.00	59.86	68.20	-8.34	42.63	17.23	Peak	100	269

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).

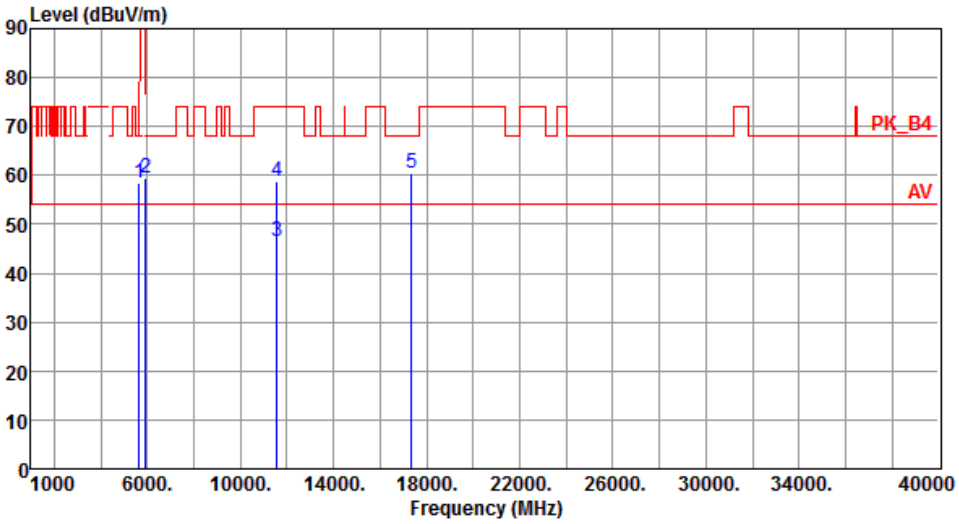
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Horizontal		



	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	58.92	68.20	-9.28	53.95	4.97	Peak	179	87
2	5925.00	48.93	68.20	-19.27	42.84	6.09	Peak	179	87
3	11570.00	43.91	54.00	-10.09	29.96	13.95	Average	100	103
4	11570.00	56.42	74.00	-17.58	42.47	13.95	Peak	100	103
5	17355.00	60.44	68.20	-7.76	42.82	17.62	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).

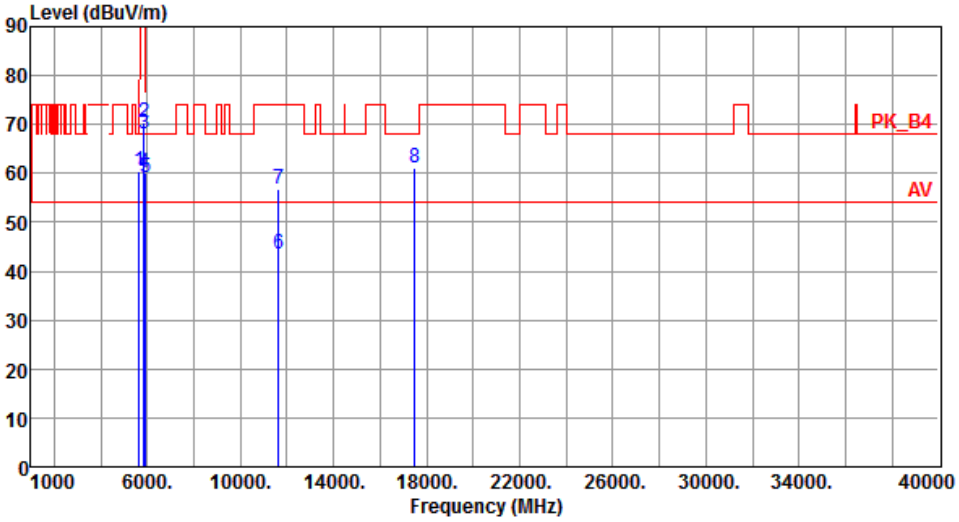
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Vertical		



	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	58.37	68.20	-9.83	53.40	4.97	Peak	172	129
2	5925.00	59.61	68.20	-8.59	53.52	6.09	Peak	172	129
3	11570.00	46.66	54.00	-7.34	32.71	13.95	Average	260	277
4	11570.00	58.81	74.00	-15.19	44.86	13.95	Peak	260	277
5	17355.00	60.49	68.20	-7.71	42.87	17.62	Peak	100	280

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

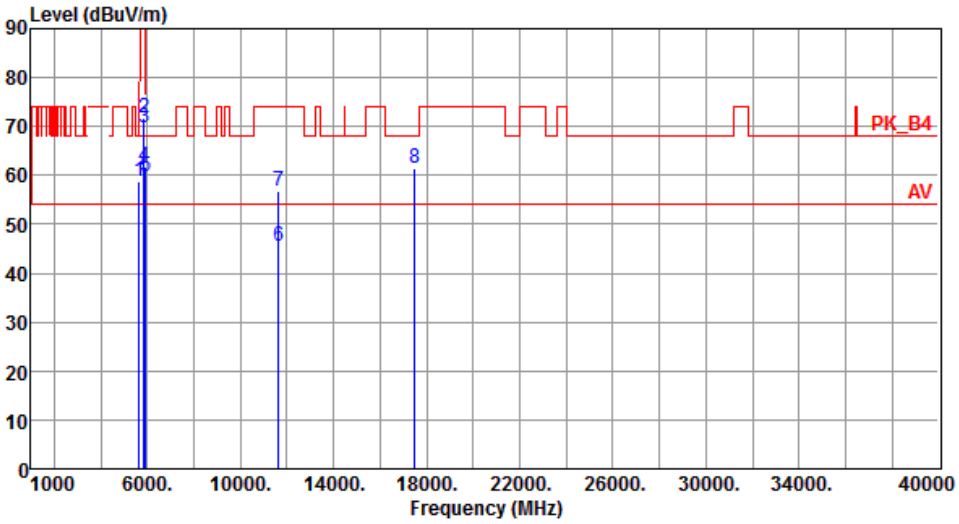
Modulation	11a	Test Freq. (MHz)	5825
Polarization	Horizontal		



	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	60.44	68.20	-7.76	55.47	4.97	Peak	188	78
2	5850.00	70.29	122.20	-51.91	64.48	5.81	Peak	188	78
3	5855.00	68.23	110.80	-42.57	62.40	5.83	Peak	188	78
4	5875.00	60.16	105.20	-45.04	54.26	5.90	Peak	188	78
5	5925.00	59.23	68.20	-8.97	53.14	6.09	Peak	188	78
6	11650.00	43.55	54.00	-10.45	29.93	13.62	Average	100	102
7	11650.00	56.83	74.00	-17.17	43.21	13.62	Peak	100	102
8	17475.00	61.16	68.20	-7.04	43.26	17.90	Peak	100	108

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		

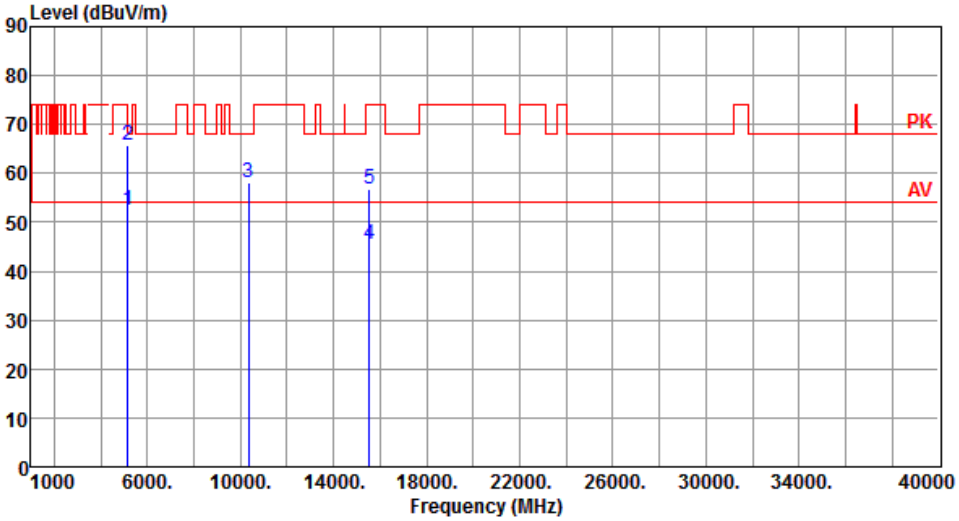


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.91	68.20	-9.29	53.94	4.97	Peak	162	118
2	5850.00	71.84	122.20	-50.36	66.03	5.81	Peak	162	118
3	5855.00	69.70	110.80	-41.10	63.87	5.83	Peak	162	118
4	5875.00	61.62	105.20	-43.58	55.72	5.90	Peak	162	118
5	5925.00	59.91	68.20	-8.29	53.82	6.09	Peak	162	118
6	11650.00	45.39	54.00	-8.61	31.77	13.62	Average	100	276
7	11650.00	56.92	74.00	-17.08	43.30	13.62	Peak	100	276
8	17475.00	61.50	68.20	-6.70	43.60	17.90	Peak	100	271

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

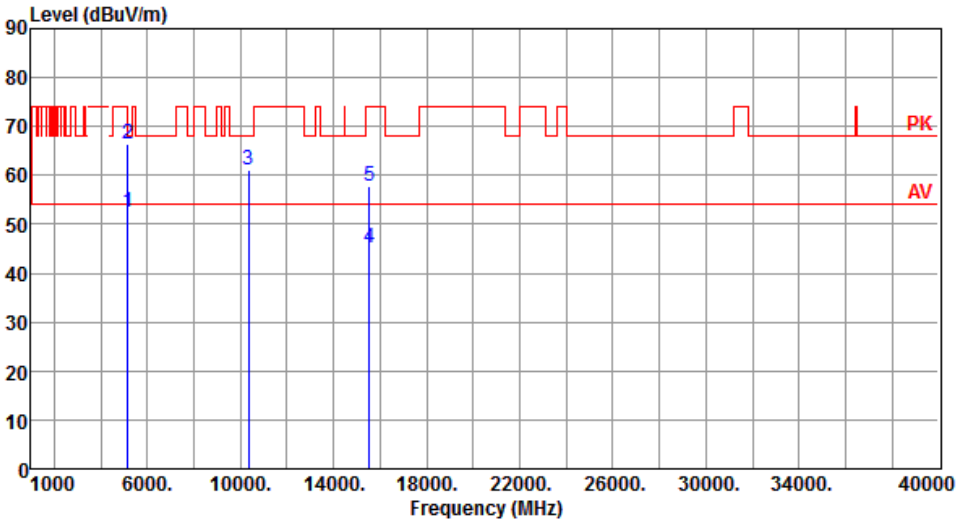
Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Horizontal		



	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	52.38	54.00	-1.62	47.84	4.54	Average	288	84
2	5150.00	65.85	74.00	-8.15	61.31	4.54	Peak	288	84
3	10360.00	58.03	68.20	-10.17	44.25	13.78	Peak	100	70
4	15540.00	45.39	54.00	-8.61	31.11	14.28	Average	100	92
5	15540.00	56.86	74.00	-17.14	42.58	14.28	Peak	100	92

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).

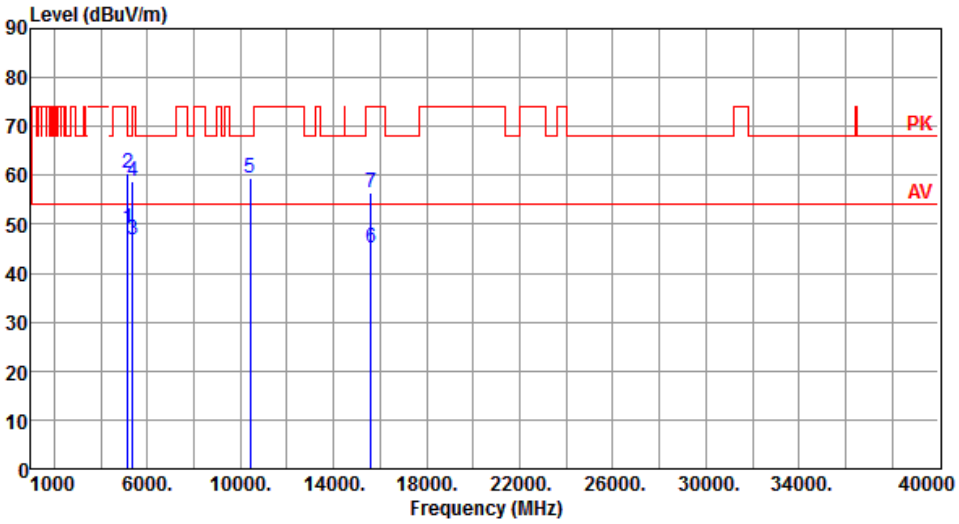
Modulation	VHT20	**Test Freq. (MHz)**	5180
Polarization	Vertical		



	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	52.56	54.00	-1.44	48.02	4.54	Average	351	119
2	5150.00	66.29	74.00	-7.71	61.75	4.54	Peak	351	119
3	10360.00	61.13	68.20	-7.07	47.35	13.78	Peak	100	65
4	15540.00	45.10	54.00	-8.90	30.82	14.28	Average	100	62
5	15540.00	57.80	74.00	-16.20	43.52	14.28	Peak	100	62

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

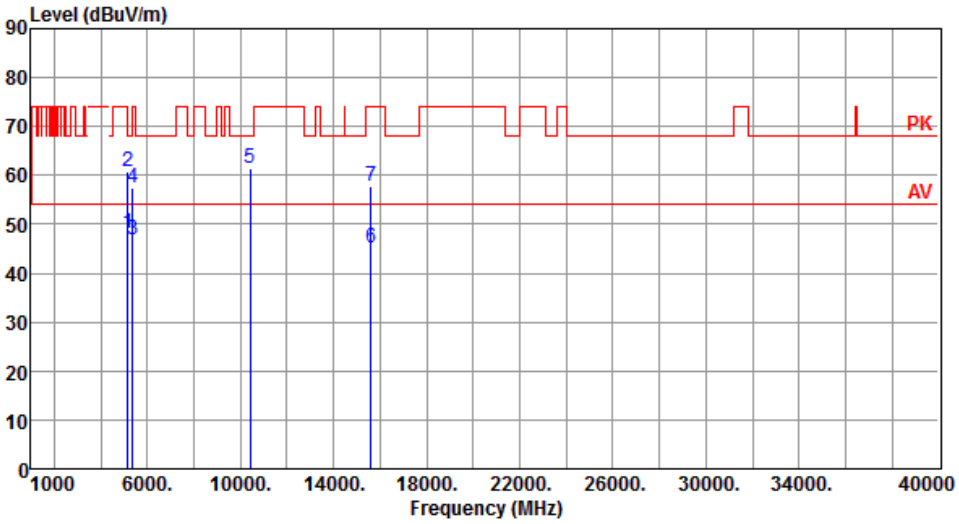
Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Horizontal		



	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	49.30	54.00	-4.70	44.76	4.54	Average	292	86
2	5150.00	60.37	74.00	-13.63	55.83	4.54	Peak	292	86
3	5350.00	46.72	54.00	-7.28	42.59	4.13	Average	292	86
4	5350.00	58.92	74.00	-15.08	54.79	4.13	Peak	292	86
5	10400.00	59.31	68.20	-8.89	45.42	13.89	Peak	100	75
6	15600.00	45.18	54.00	-8.82	31.08	14.10	Average	100	82
7	15600.00	56.51	74.00	-17.49	42.41	14.10	Peak	100	82

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).

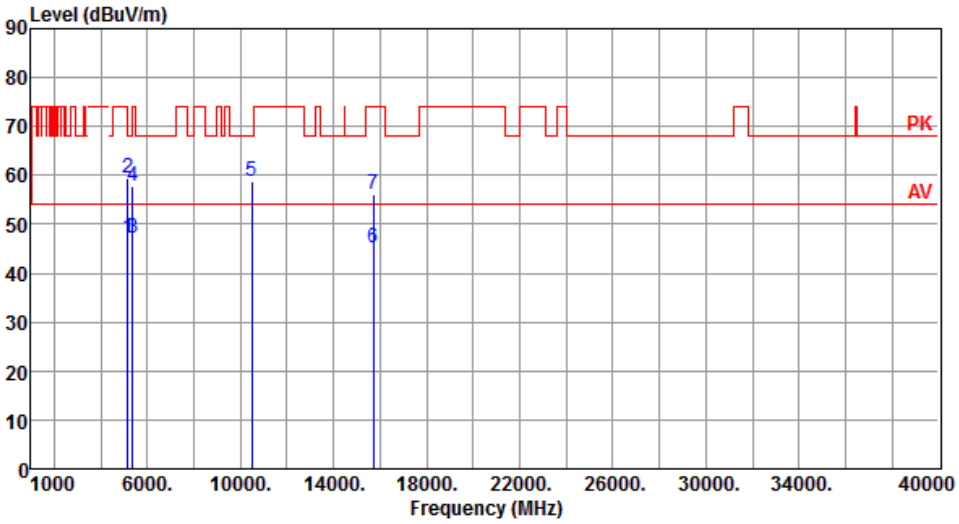
Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Vertical		



	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	48.07	54.00	-5.93	43.53	4.54	Average	356	117
2	5150.00	60.75	74.00	-13.25	56.21	4.54	Peak	356	117
3	5350.00	46.97	54.00	-7.03	42.84	4.13	Average	356	117
4	5350.00	57.36	74.00	-16.64	53.23	4.13	Peak	356	117
5	10400.00	61.48	68.20	-6.72	47.59	13.89	Peak	100	68
6	15600.00	45.20	54.00	-8.80	31.10	14.10	Average	100	59
7	15600.00	57.85	74.00	-16.15	43.75	14.10	Peak	100	59

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).

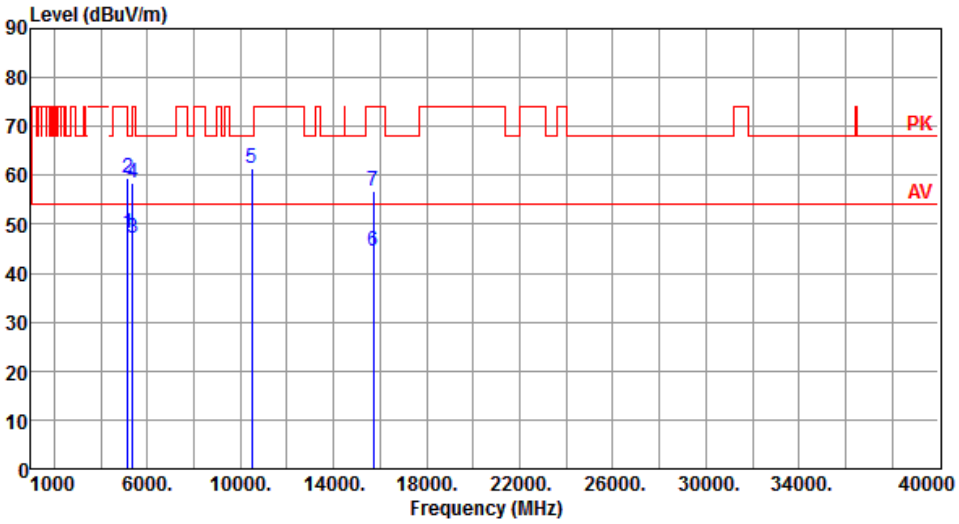
Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Horizontal		



	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	47.07	54.00	-6.93	42.53	4.54	Average	296	86
2	5150.00	59.37	74.00	-14.63	54.83	4.54	Peak	296	86
3	5350.00	47.22	54.00	-6.78	43.09	4.13	Average	296	86
4	5350.00	57.74	74.00	-16.26	53.61	4.13	Peak	296	86
5	10480.00	58.93	68.20	-9.27	45.05	13.88	Peak	100	78
6	15720.00	45.17	54.00	-8.83	31.28	13.89	Average	100	95
7	15720.00	56.28	74.00	-17.72	42.39	13.89	Peak	100	95

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).

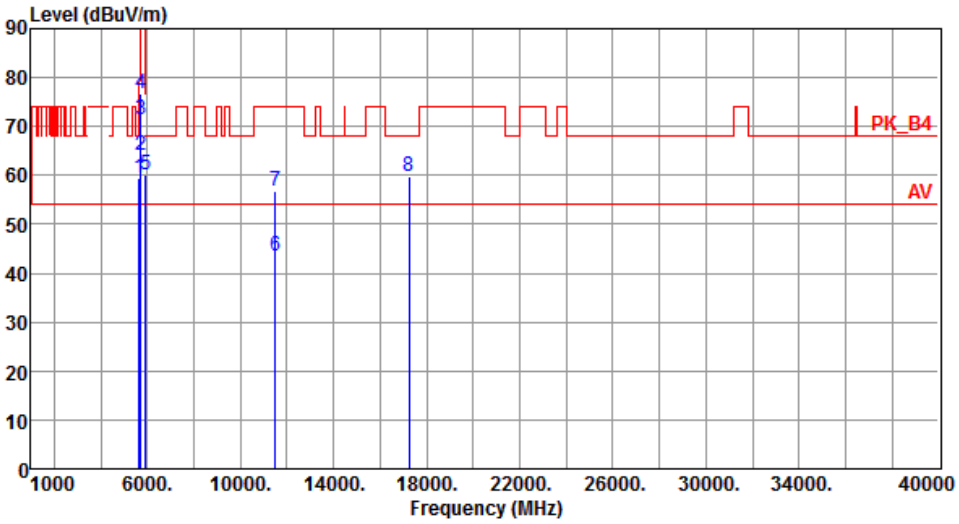
Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Vertical		



	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	48.13	54.00	-5.87	43.59	4.54	Average	360	122
2	5150.00	59.42	74.00	-14.58	54.88	4.54	Peak	360	122
3	5350.00	47.06	54.00	-6.94	42.93	4.13	Average	360	122
4	5350.00	58.59	74.00	-15.41	54.46	4.13	Peak	360	122
5	10480.00	61.45	68.20	-6.75	47.57	13.88	Peak	100	69
6	15720.00	44.43	54.00	-9.57	30.54	13.89	Average	100	63
7	15720.00	56.76	74.00	-17.24	42.87	13.89	Peak	100	63

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).

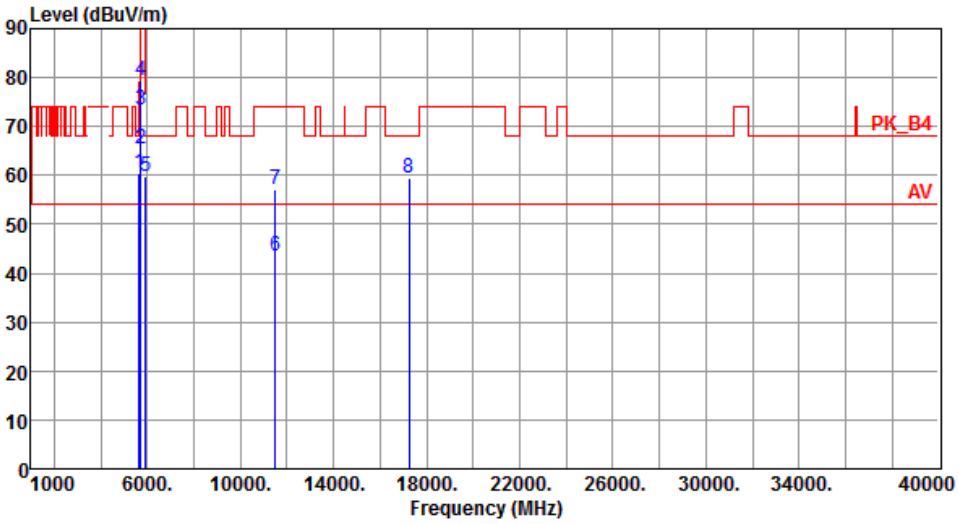
Modulation	VHT20	Test Freq. (MHz)	5745
Polarization	Horizontal		



	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	59.48	68.20	-8.72	54.51	4.97	Peak	188	91
2	5700.00	64.11	105.20	-41.09	58.95	5.16	Peak	188	91
3	5720.00	71.47	110.80	-39.33	66.24	5.23	Peak	188	91
4	5725.00	76.58	122.20	-45.62	71.33	5.25	Peak	188	91
5	5925.00	60.03	68.20	-8.17	53.94	6.09	Peak	188	91
6	11490.00	43.38	54.00	-10.62	29.26	14.12	Average	100	109
7	11490.00	56.71	74.00	-17.29	42.59	14.12	Peak	100	109
8	17235.00	59.66	68.20	-8.54	42.43	17.23	Peak	100	96

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).

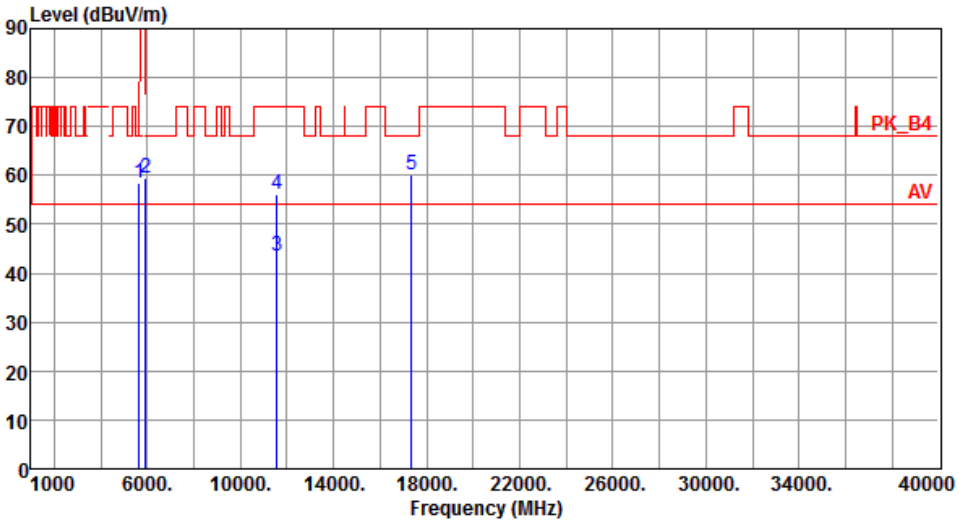
Modulation	VHT20	Test Freq. (MHz)	5745
Polarization	Vertical		



	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	60.58	68.20	-7.62	55.61	4.97	Peak	161	119
2	5700.00	65.37	105.20	-39.83	60.21	5.16	Peak	161	119
3	5720.00	73.54	110.80	-37.26	68.31	5.23	Peak	161	119
4	5725.00	79.50	122.20	-42.70	74.25	5.25	Peak	161	119
5	5925.00	59.93	68.20	-8.27	53.84	6.09	Peak	161	119
6	11490.00	43.44	54.00	-10.56	29.32	14.12	Average	100	279
7	11490.00	56.97	74.00	-17.03	42.85	14.12	Peak	100	279
8	17235.00	59.49	68.20	-8.71	42.26	17.23	Peak	100	258

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).

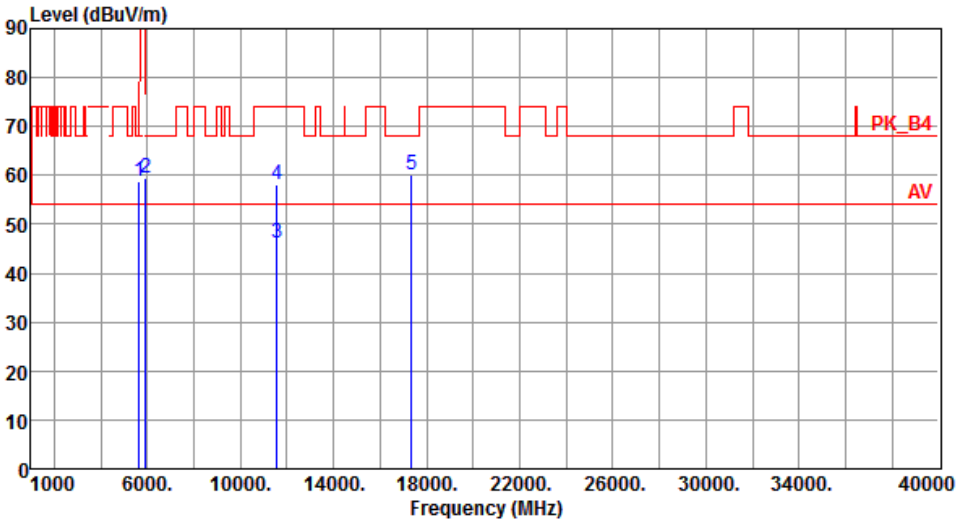
Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.47	68.20	-9.73	53.50	4.97	Peak	182	88
2	5925.00	59.53	68.20	-8.67	53.44	6.09	Peak	182	88
3	11570.00	43.53	54.00	-10.47	29.58	13.95	Average	100	101
4	11570.00	56.12	74.00	-17.88	42.17	13.95	Peak	100	101
5	17355.00	60.18	68.20	-8.02	42.56	17.62	Peak	100	99

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).

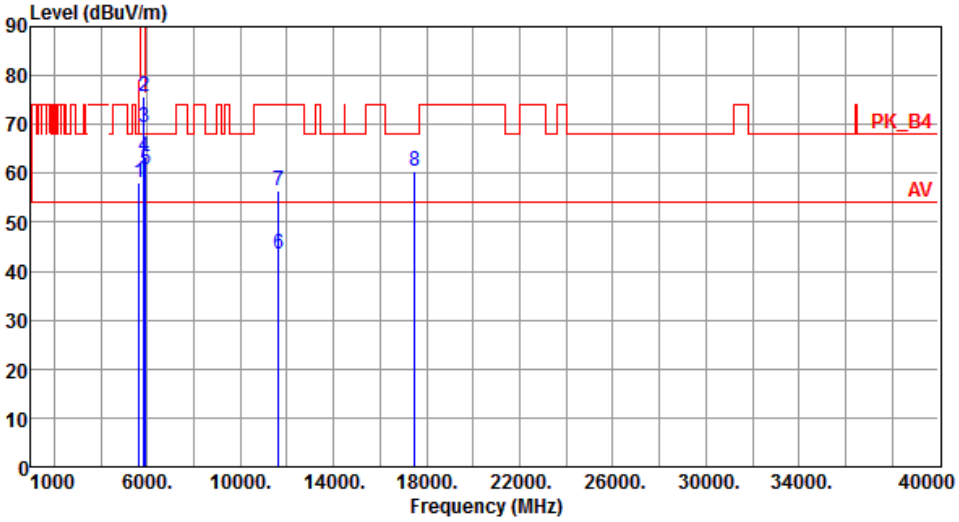
Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Vertical		



	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	58.82	68.20	-9.38	53.85	4.97	Peak	175	131
2	5925.00	59.53	68.20	-8.67	53.44	6.09	Peak	175	131
3	11570.00	46.09	54.00	-7.91	32.14	13.95	Average	252	272
4	11570.00	58.20	74.00	-15.80	44.25	13.95	Peak	252	272
5	17355.00	59.98	68.20	-8.22	42.36	17.62	Peak	100	275

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

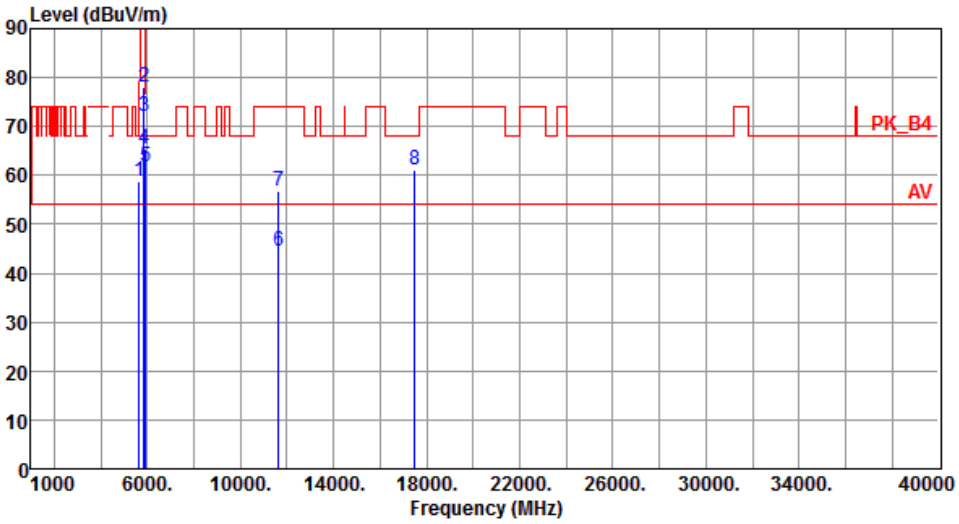
Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.18	68.20	-10.02	53.21	4.97	Peak	172	82
2	5850.00	75.59	122.20	-46.61	69.78	5.81	Peak	172	82
3	5855.00	69.41	110.80	-41.39	63.58	5.83	Peak	172	82
4	5875.00	63.49	105.20	-41.71	57.59	5.90	Peak	172	82
5	5925.00	60.81	68.20	-7.39	54.72	6.09	Peak	172	82
6	11650.00	43.45	54.00	-10.55	29.83	13.62	Average	100	107
7	11650.00	56.55	74.00	-17.45	42.93	13.62	Peak	100	107
8	17475.00	60.60	68.20	-7.60	42.70	17.90	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)	5825
Polarization	Vertical		

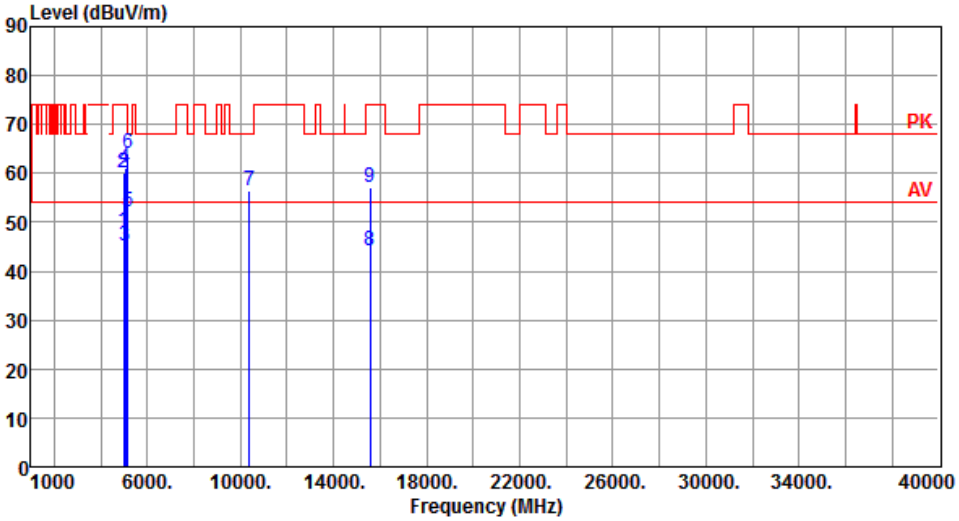


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.74	68.20	-9.46	53.77	4.97	Peak	173	122
2	5850.00	78.18	122.20	-44.02	72.37	5.81	Peak	173	122
3	5855.00	72.16	110.80	-38.64	66.33	5.83	Peak	173	122
4	5875.00	65.43	105.20	-39.77	59.53	5.90	Peak	173	122
5	5925.00	61.80	68.20	-6.40	55.71	6.09	Peak	173	122
6	11650.00	44.51	54.00	-9.49	30.89	13.62	Average	100	271
7	11650.00	56.85	74.00	-17.15	43.23	13.62	Peak	100	271
8	17475.00	61.12	68.20	-7.08	43.22	17.90	Peak	100	279

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

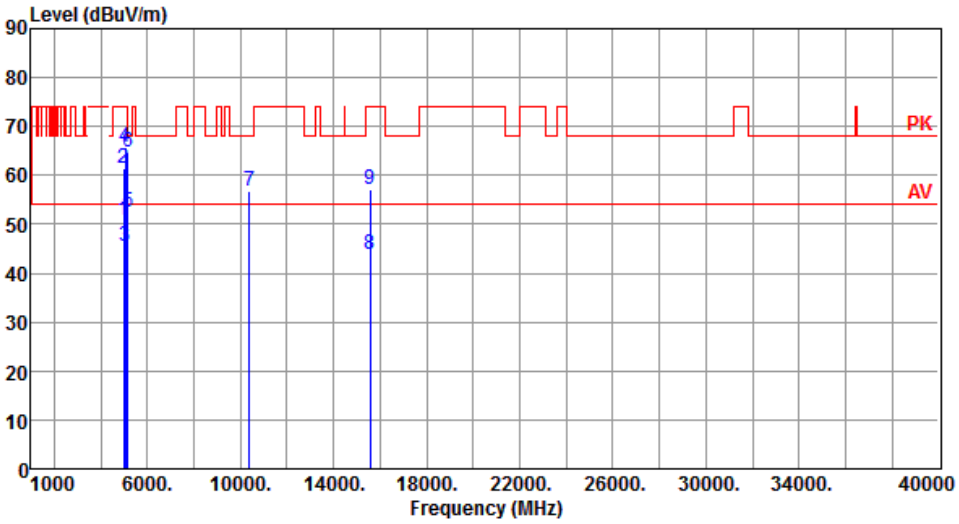
Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	4967.00	48.06	54.00	-5.94	44.16	3.90	Average	301	61
2	4967.00	60.13	74.00	-13.87	56.23	3.90	Peak	301	61
3	5070.00	45.26	54.00	-8.74	40.77	4.49	Average	301	65
4	5070.00	61.11	74.00	-12.89	56.62	4.49	Peak	301	65
5	5150.00	52.01	54.00	-1.99	47.47	4.54	Average	301	65
6	5150.00	64.02	74.00	-9.98	59.48	4.54	Peak	301	65
7	10380.00	56.41	68.20	-11.79	42.57	13.84	Peak	100	103
8	15570.00	44.01	54.00	-9.99	29.82	14.19	Average	100	95
9	15570.00	57.11	74.00	-16.89	42.92	14.19	Peak	100	95

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).

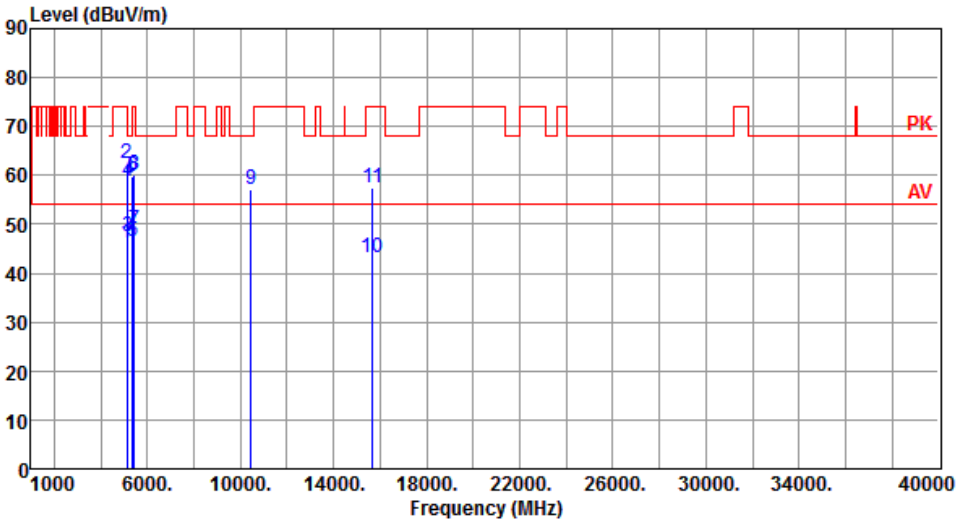
Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	4967.00	50.83	54.00	-3.17	46.93	3.90	Average	292	119
2	4967.00	61.43	74.00	-12.57	57.53	3.90	Peak	292	119
3	5070.00	45.54	54.00	-8.46	41.05	4.49	Average	291	105
4	5070.00	65.91	74.00	-8.09	61.42	4.49	Peak	291	105
5	5150.00	52.59	54.00	-1.41	48.05	4.54	Average	291	100
6	5150.00	64.69	74.00	-9.31	60.15	4.54	Peak	291	100
7	10380.00	56.83	68.20	-11.37	42.99	13.84	Peak	100	263
8	15570.00	43.80	54.00	-10.20	29.61	14.19	Average	100	259
9	15570.00	57.08	74.00	-16.92	42.89	14.19	Peak	100	259

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).

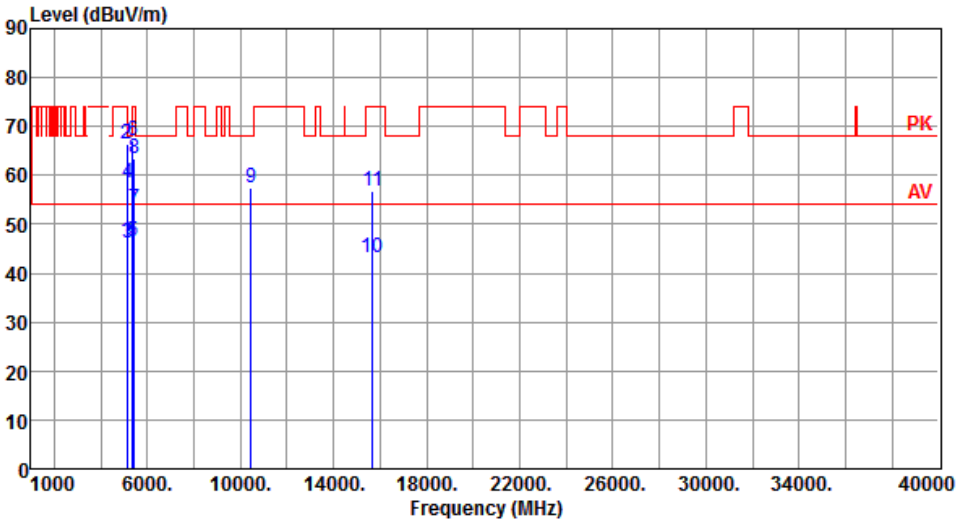
Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5110.00	46.16	54.00	-7.84	41.55	4.61	Average	195	81
2	5110.00	62.60	74.00	-11.40	57.99	4.61	Peak	195	81
3	5150.00	47.47	54.00	-6.53	42.93	4.54	Average	195	81
4	5150.00	58.90	74.00	-15.10	54.36	4.54	Peak	195	81
5	5350.00	46.63	54.00	-7.37	42.50	4.13	Average	195	81
6	5350.00	59.69	74.00	-14.31	55.56	4.13	Peak	195	81
7	5453.00	48.94	54.00	-5.06	44.31	4.63	Average	100	254
8	5453.00	60.05	74.00	-13.95	55.42	4.63	Peak	100	254
9	10460.00	57.17	68.20	-11.03	43.28	13.89	Peak	100	104
10	15690.00	43.33	54.00	-10.67	29.40	13.93	Average	100	102
11	15690.00	57.43	74.00	-16.57	43.50	13.93	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).

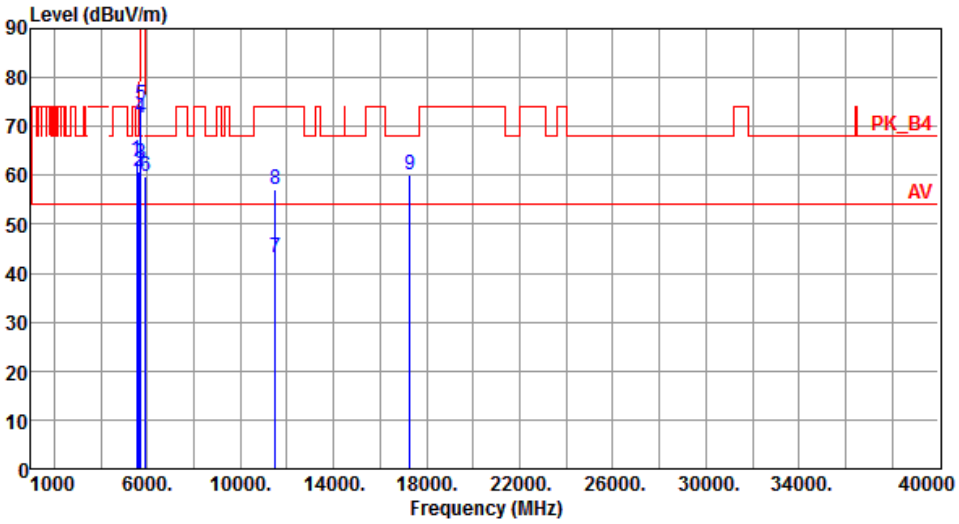
Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5110.00	46.51	54.00	-7.49	41.90	4.61	Average	184	109
2	5110.00	66.31	74.00	-7.69	61.70	4.61	Peak	184	109
3	5150.00	46.07	54.00	-7.93	41.53	4.54	Average	184	109
4	5150.00	58.50	74.00	-15.50	53.96	4.54	Peak	184	109
5	5350.00	46.62	54.00	-7.38	42.49	4.13	Average	184	109
6	5350.00	66.98	74.00	-7.02	62.85	4.13	Peak	184	109
7	5453.00	52.99	54.00	-1.01	48.36	4.63	Average	316	97
8	5453.00	63.53	74.00	-10.47	58.90	4.63	Peak	316	97
9	10460.00	57.47	68.20	-10.73	43.58	13.89	Peak	100	271
10	15690.00	43.24	54.00	-10.76	29.31	13.93	Average	100	263
11	15690.00	56.68	74.00	-17.32	42.75	13.93	Peak	100	263

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).

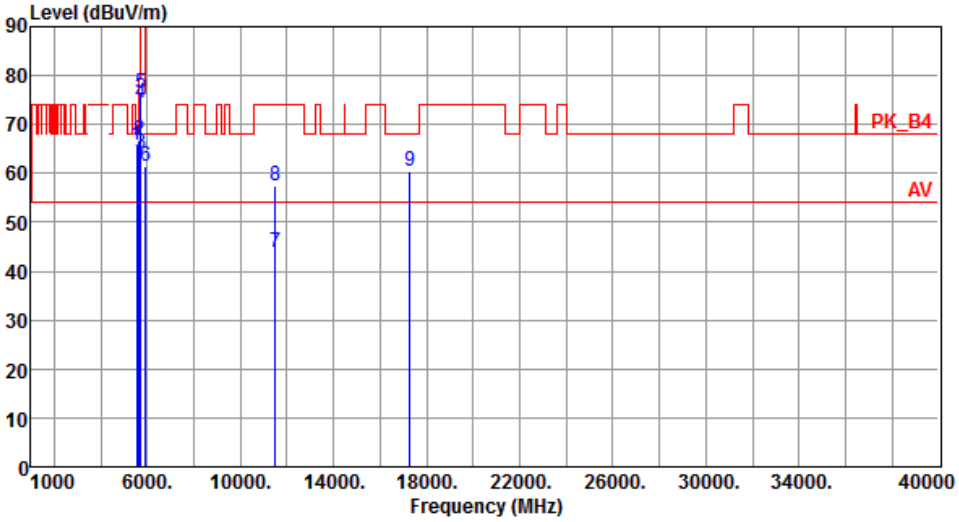
Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5532.00	63.17	68.20	-5.03	58.48	4.69	Peak	100	246
2	5650.00	60.81	68.20	-7.39	55.84	4.97	Peak	180	87
3	5700.00	62.36	105.20	-42.84	57.20	5.16	Peak	180	87
4	5720.00	71.69	110.80	-39.11	66.46	5.23	Peak	180	87
5	5725.00	74.42	122.20	-47.78	69.17	5.25	Peak	180	87
6	5925.00	59.91	68.20	-8.29	53.82	6.09	Peak	180	87
7	11510.00	43.10	54.00	-10.90	28.99	14.11	Average	180	105
8	11510.00	57.06	74.00	-16.94	42.95	14.11	Peak	180	105
9	17265.00	60.17	68.20	-8.03	42.86	17.31	Peak	180	95

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).

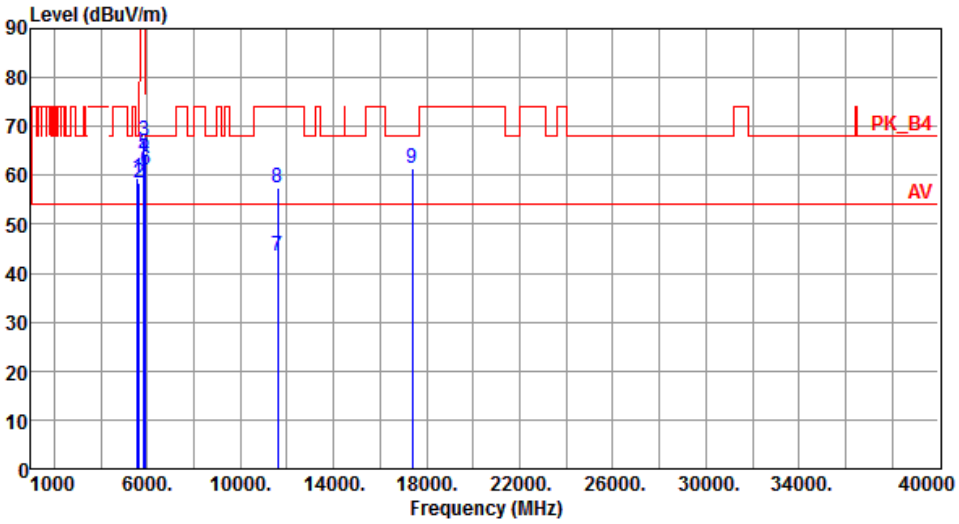
Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5532.00	65.90	68.20	-2.30	61.21	4.69	Peak	150	134
2	5650.00	66.59	68.20	-1.61	61.62	4.97	Peak	187	124
3	5700.00	64.02	105.20	-41.18	58.86	5.16	Peak	187	124
4	5720.00	74.55	110.80	-36.25	69.32	5.23	Peak	187	124
5	5725.00	76.23	122.20	-45.97	70.98	5.25	Peak	187	124
6	5925.00	61.49	68.20	-6.71	55.40	6.09	Peak	187	124
7	11510.00	43.80	54.00	-10.20	29.69	14.11	Average	100	275
8	11510.00	57.61	74.00	-16.39	43.50	14.11	Peak	100	275
9	17265.00	60.55	68.20	-7.65	43.24	17.31	Peak	100	276

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).

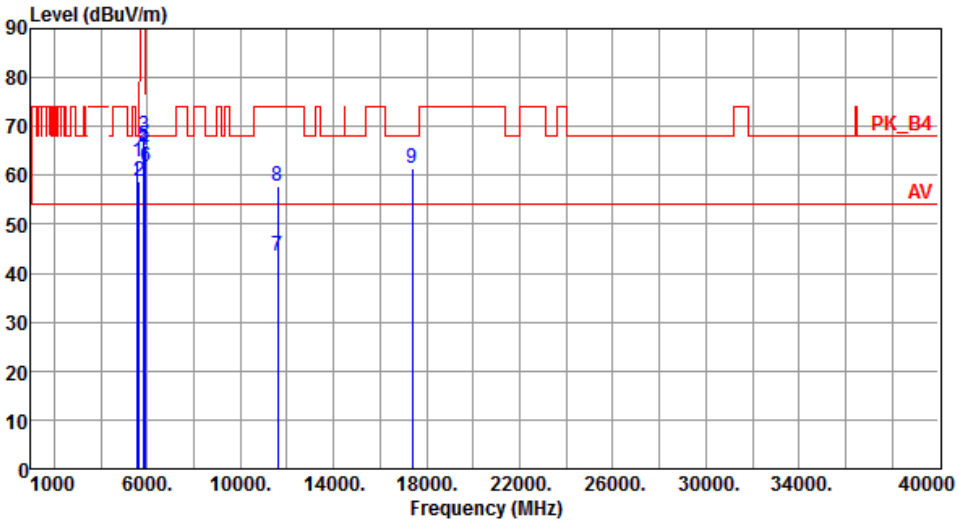
Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5572.00	59.58	68.20	-8.62	54.86	4.72	Peak	100	244
2	5650.00	58.45	68.20	-9.75	53.48	4.97	Peak	184	82
3	5850.00	67.05	122.20	-55.15	61.24	5.81	Peak	184	82
4	5855.00	63.68	110.80	-47.12	57.85	5.83	Peak	184	82
5	5875.00	64.45	105.20	-40.75	58.55	5.90	Peak	184	82
6	5925.00	60.97	68.20	-7.23	54.88	6.09	Peak	184	82
7	11590.00	43.53	54.00	-10.47	29.64	13.89	Average	100	102
8	11590.00	57.39	74.00	-16.61	43.50	13.89	Peak	100	102
9	17385.00	61.36	68.20	-6.84	43.61	17.75	Peak	100	96

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		

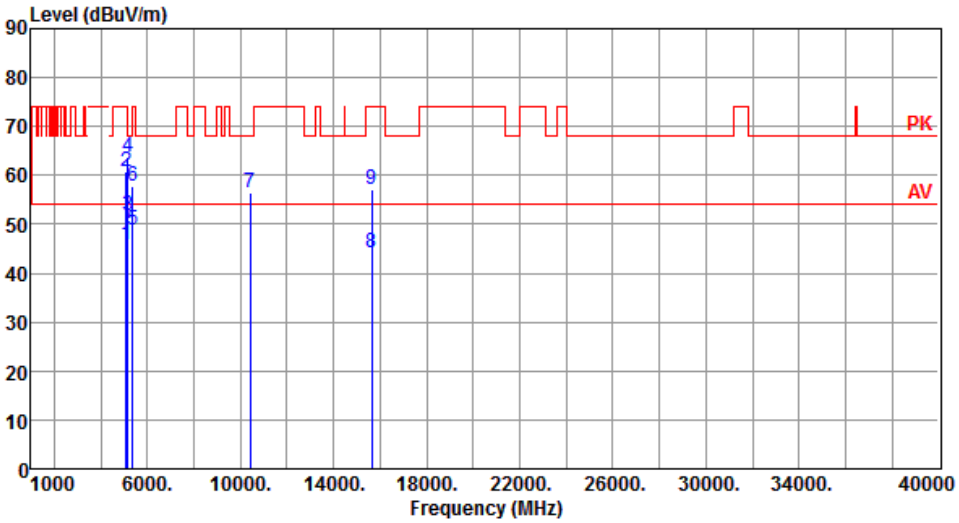


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5572.00	62.62	68.20	-5.58	57.90	4.72	Peak	299	94
2	5650.00	58.90	68.20	-9.30	53.93	4.97	Peak	171	129
3	5850.00	67.96	122.20	-54.24	62.15	5.81	Peak	171	129
4	5855.00	65.24	110.80	-45.56	59.41	5.83	Peak	171	129
5	5875.00	66.04	105.20	-39.16	60.14	5.90	Peak	171	129
6	5925.00	61.72	68.20	-6.48	55.63	6.09	Peak	171	129
7	11590.00	43.49	54.00	-10.51	29.60	13.89	Average	100	274
8	11590.00	57.84	74.00	-16.16	43.95	13.89	Peak	100	274
9	17385.00	61.31	68.20	-6.89	43.56	17.75	Peak	100	271

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

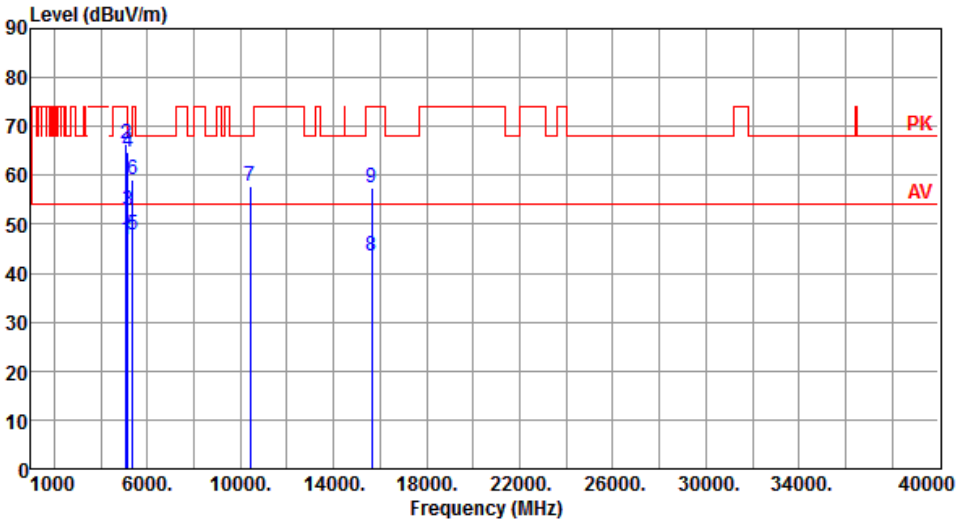
Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5090.00	45.78	54.00	-8.22	41.21	4.57	Average	100	67
2	5090.00	60.82	74.00	-13.18	56.25	4.57	Peak	100	67
3	5150.00	51.81	54.00	-2.19	47.27	4.54	Average	285	68
4	5150.00	63.91	74.00	-10.09	59.37	4.54	Peak	285	68
5	5350.00	48.92	54.00	-5.08	44.79	4.13	Average	100	67
6	5350.00	57.70	74.00	-16.30	53.57	4.13	Peak	100	67
7	10420.00	56.41	68.20	-11.79	42.52	13.89	Peak	100	104
8	15630.00	44.01	54.00	-9.99	29.97	14.04	Average	100	108
9	15630.00	57.29	74.00	-16.71	43.25	14.04	Peak	100	108

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).

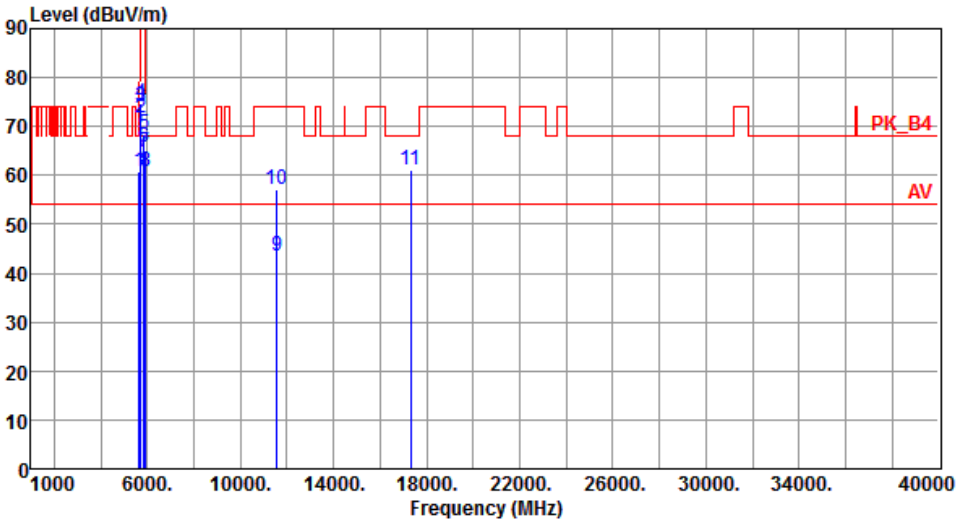
Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5090.00	46.68	54.00	-7.32	42.11	4.57	Average	100	112
2	5090.00	66.47	74.00	-7.53	61.90	4.57	Peak	100	112
3	5150.00	52.88	54.00	-1.12	48.34	4.54	Average	167	109
4	5150.00	64.61	74.00	-9.39	60.07	4.54	Peak	167	109
5	5350.00	47.66	54.00	-6.34	43.53	4.13	Average	167	109
6	5350.00	58.97	74.00	-15.03	54.84	4.13	Peak	167	109
7	10420.00	57.85	68.20	-10.35	43.96	13.89	Peak	100	272
8	15630.00	43.66	54.00	-10.34	29.62	14.04	Average	100	282
9	15630.00	57.59	74.00	-16.41	43.55	14.04	Peak	100	282

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).

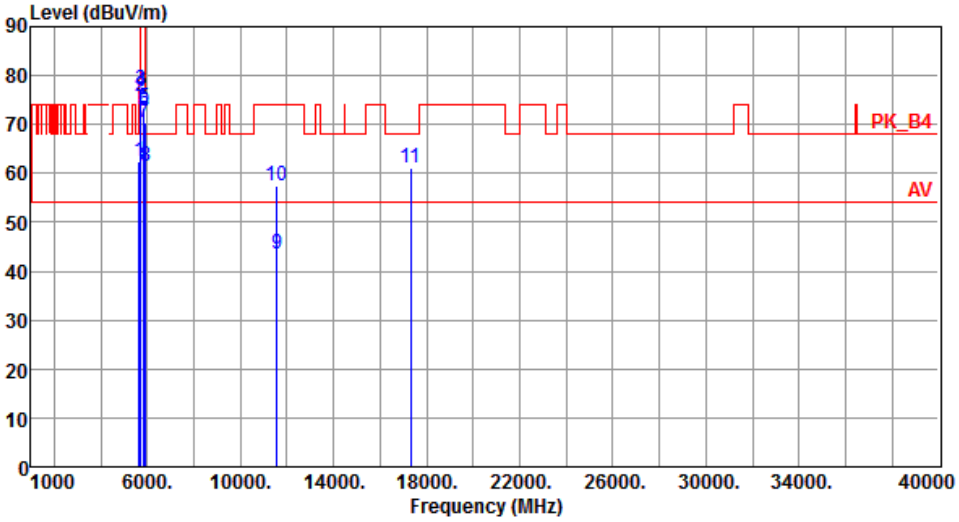
Modulation	VHT80	Test Freq. (MHz)	5775
Polarization	Horizontal		



	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	60.62	68.20	-7.58	55.65	4.97	Peak	183	87
2	5700.00	71.89	105.20	-33.31	66.73	5.16	Peak	183	87
3	5720.00	74.07	110.80	-36.73	68.84	5.23	Peak	183	87
4	5725.00	74.79	122.20	-47.41	69.54	5.25	Peak	183	87
5	5850.00	68.46	122.20	-53.74	62.65	5.81	Peak	183	87
6	5855.00	65.78	110.80	-45.02	59.95	5.83	Peak	183	87
7	5875.00	64.60	105.20	-40.60	58.70	5.90	Peak	183	87
8	5925.00	60.93	68.20	-7.27	54.84	6.09	Peak	183	87
9	11550.00	43.47	54.00	-10.53	29.47	14.00	Average	100	110
10	11550.00	57.20	74.00	-16.80	43.20	14.00	Peak	100	110
11	17325.00	61.07	68.20	-7.13	43.58	17.49	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	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	62.52	68.20	-5.68	57.55	4.97	Peak	163	119
2	5700.00	75.59	105.20	-29.61	70.43	5.16	Peak	163	119
3	5720.00	76.91	110.80	-33.89	71.68	5.23	Peak	163	119
4	5725.00	76.77	122.20	-45.43	71.52	5.25	Peak	163	119
5	5850.00	73.36	122.20	-48.84	67.55	5.81	Peak	163	119
6	5855.00	72.79	110.80	-38.01	66.96	5.83	Peak	163	119
7	5875.00	70.31	105.20	-34.89	64.41	5.90	Peak	163	119
8	5925.00	61.39	68.20	-6.81	55.30	6.09	Peak	163	119
9	11550.00	43.66	54.00	-10.34	29.66	14.00	Average	100	272
10	11550.00	57.58	74.00	-16.42	43.58	14.00	Peak	100	272
11	17325.00	61.15	68.20	-7.05	43.66	17.49	Peak	100	280

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

3.6 Frequency Stability

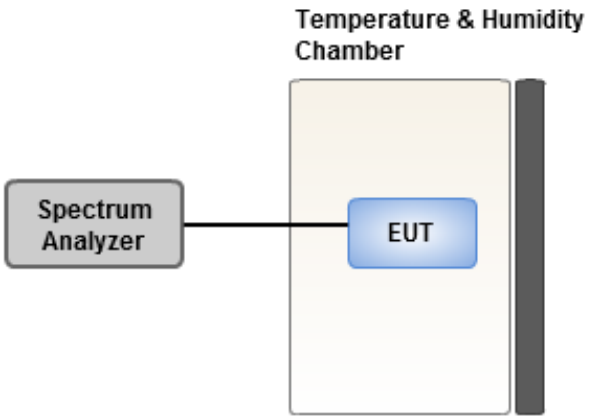
3.6.1 Limit of Frequency Stability

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°CVmax	4.93	4.96	5.21	5.01
T20°CVmin	5.07	4.97	4.91	5.37
T50°CVnom	4.11	4.40	4.02	4.35
T40°CVnom	4.68	4.97	4.75	4.71
T30°CVnom	2.72	2.77	3.04	2.83
T20°CVnom	4.36	4.41	4.92	5.09
T10°CVnom	5.00	4.62	5.78	5.54
T0°CVnom	4.83	5.22	4.74	5.32
T-10°CVnom	3.45	3.27	3.16	3.20
T-20°CVnom	2.49	2.99	2.24	2.72
T-30°CVnom	-0.48	-0.48	-0.26	-0.41
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°CVmax	3.99	3.95	3.69	4.05
T20°CVmin	4.66	4.27	3.68	4.09
T50°CVnom	3.58	3.62	4.20	3.65
T40°CVnom	3.62	3.60	4.24	3.56
T30°CVnom	2.45	2.98	2.65	2.65
T20°CVnom	4.15	4.08	4.44	4.55
T10°CVnom	3.44	3.96	3.62	3.36
T0°CVnom	4.56	4.68	4.50	5.13
T-10°CVnom	2.90	3.26	2.94	3.63
T-20°CVnom	2.50	2.45	2.40	2.65
T-30°CVnom	0.07	0.41	0.62	0.62
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.

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

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

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

==END==