FCC Test Report

FCC ID	:	**I88WAC6552D-S**
Equipment	:	**802.11 ac Unified Pro Outdoor Access Point with Sector Smart Antenna**
Model No.	:	**WAC6552D-S**
Brand Name	:	**ZYXEL**
Applicant	:	**Zyxel Communications Corporation**
Address	:	**No.2 Industry East RD. IX, Hsinchu Science Park, Hsinchu 30075, Taiwan, R.O.C**
Standard	:	**47 CFR FCC Part 15.407**
Received Date	:	**Nov. 17, 2017**
Tested Date	:	**Jun. 22 ~ Jul. 19, 2018**

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

Reviewed by: **Approved by:**

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

Testing Laboratory 2732

Table of Contents

Release Record

Report No.	Version	Description	Issued Date
FR7N1701AN	Rev. 01	Initial issue	Aug. 06, 2018

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 19.021MHz 40.17 (Margin -9.83dB) - AV	Pass
15.407(b) 15.209	Radiated Emissions	[dBuV/m at 3m]: 5435.00MHz 53.88 (Margin -0.12dB) - 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: 27.51 5725-5850MHz: 27.31	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

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**	**Operating Frequencies (MHz) / Antenna Gain (dBi)**		
				2400~2483.5	**5150~5250**	**5725~5850**
1	SECTX-DB r2.0	Direction	I-PEX	0.8	4.22	5.34

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	55Vdc from POE (for support unit only)

1.1.4 Channel List

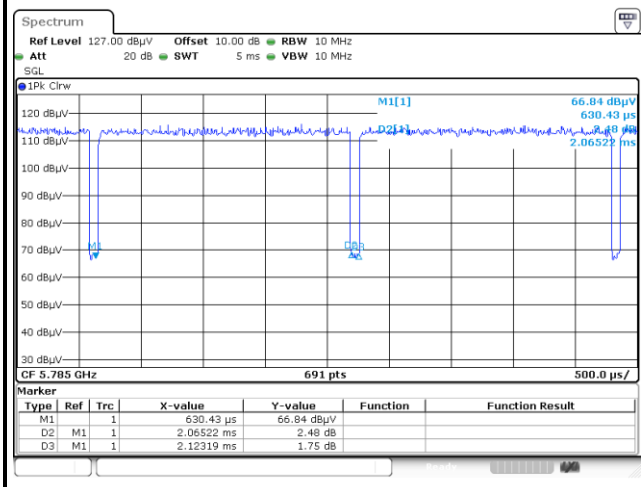
For Frequency band 5150-5250 MHz			
802.11 a / HT20 / VHT20		HT40 / VHT40	
Channel	Frequency(MHz)	Channel	Frequency(MHz)
36	5180	38	5190
40	5200	46	5230
44	5220	VHT80	
48	5240	42	5210

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	---	---

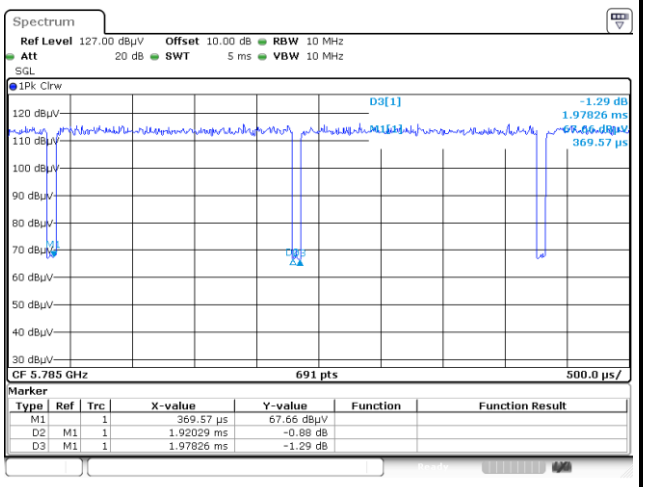
1.1.5 Test Tool and Duty Cycle

Test Tool	cart		
Duty Cycle and Duty Factor	Mode	Duty cycle (%)	Duty factor (dB)
	11a	97.27%	0.12
	VHT20	97.07%	0.13
	VHT40	93.90%	0.27
	VHT80	88.38%	0.54

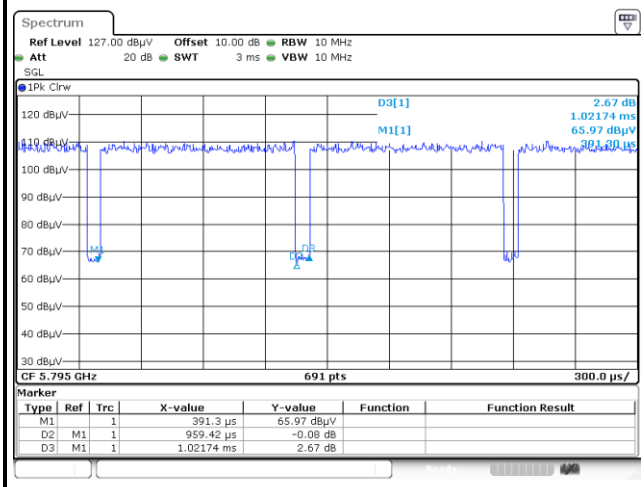
11a



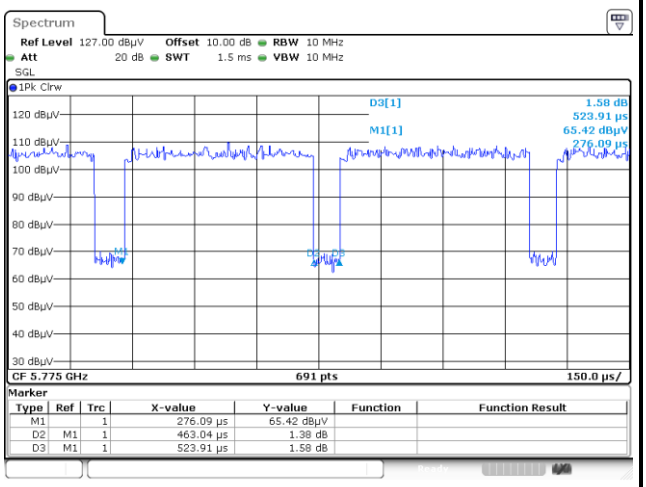
VHT20



VHT40



VHT80



1.1.6 Power Setting

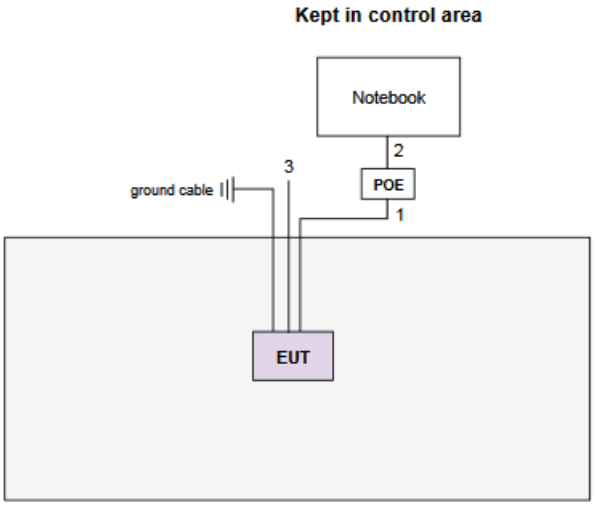
Modulation Mode	Test Frequency (MHz)	Power Set
11a	5180	20.5
11a	5200	25
11a	5240	25
11a	5745	25
11a	5785	25
11a	5825	25
VHT20	5180	20
VHT20	5200	25
VHT20	5240	25
VHT20	5745	25
VHT20	5785	25
VHT20	5825	25
VHT40	5190	15.5
VHT40	5230	25
VHT40	5755	25
VHT40	5795	25
VHT80	5210	14.5
VHT80	5775	22

1.2 Local Support Equipment List

Support Equipment List					
No.	**Equipment**	**Brand**	**Model**	**FCC ID**	**Remarks**
1	Notebook	DELL	Latitude E6440	DoC	---
2	POE	Microsemi	PD9001GR/AC	---	Provided by applicant.

1.3 Test Setup Chart

Test Setup Diagram



No.	Signal cable / Length (m)
1	RJ45, 10m non-shielded.
2	RJ45, 1.5m non-shielded.
3	RJ45 to RS232, 1.8m non-shielded. (Provided by applicant.)

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	Agilent	N9038A	MY53290044	Sep. 26, 2017	Sep. 25, 2018
LISN	R&S	ENV216	101579	Feb. 13, 2018	Feb. 12, 2019
RF Cable-CON	EMC	EMCCFD300-BM-BM-6000	50821	Dec. 18, 2017	Dec. 17, 2018
Measurement Software	AUDIX	e3	6.120210k	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission				
Test Site	966 chamber 3 / (03CH03-WS)				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101499	Jan. 03, 2018	Jan. 02, 2019
Receiver	R&S	ESR3	101658	Nov. 20, 2017	Nov. 19, 2018
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-685	Apr. 19, 2018	Apr. 18, 2019
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1206	Jan. 18, 2018	Jan. 17, 2019
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 23, 2017	Nov. 22, 2018
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 13, 2017	Nov. 12, 2018
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Dec. 07, 2017	Dec. 06, 2018
Preamplifier	EMC	EMC02325	980187	Sep. 04, 2017	Sep. 03, 2018
Preamplifier	Agilent	83017A	MY53270014	Aug. 21, 2017	Aug. 20, 2018
Preamplifier	EMC	EMC184045B	980192	Aug. 22, 2017	Aug. 21, 2018
RF cable-3M	HUBER+SUHNER	SUCOFLEX104	MY22620/4	Nov. 27, 2017	Nov. 26, 2018
RF cable-8M	HUBER+SUHNER	SUCOFLEX104	MY32487/4	Nov. 27, 2017	Nov. 26, 2018
RF cable-1M	HUBER+SUHNER	SUCOFLEX104	MY22624/4	Nov. 27, 2017	Nov. 26, 2018
LF cable-0.8M	EMC	EMC8D-NM-NM-800	EMC8D-NM-NM-800-001	Nov. 27, 2017	Nov. 26, 2018
LF cable-3M	EMC	EMC8D-NM-NM-3000	131103	Nov. 27, 2017	Nov. 26, 2018
LF cable-13M	EMC	EMC8D-NM-NM-13000	131104	Nov. 27, 2017	Nov. 26, 2018
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. 16, 2018	Apr. 15, 2019
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Nov. 27, 2017	Nov. 26, 2018
Power Meter	Anritsu	ML2495A	1241002	Oct. 16, 2017	Oct. 15, 2018
Power Sensor	Anritsu	MA2411B	1207366	Oct. 16, 2017	Oct. 15, 2018
AC POWER SOURCE	APC	AFC-500W	F312060012	Dec. 01, 2017	Nov. 30, 2018
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 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	±34.134 Hz
Conducted power	±0.808 dB
Frequency error	±34.134 Hz
Power density	±0.463 dB
Conducted emission	±2.670 dB
AC conducted emission	±2.90 dB
Radiated emission ≤ 1GHz	±3.66 dB
Radiated emission > 1GHz	±5.37 dB
Time	±0.1%
Temperature	±0.6 °C

2 Test Configuration

2.1 Testing Condition

Test Item	Test Site	Ambient Condition	Tested By
AC Conduction	CO01-WS	23°C / 55%	Alex Tsai
Radiated Emissions	03CH03-WS	25°C / 60-63%	Aska Huang Roger Lu
RF Conducted	TH01-WS	21°C / 63%	Brad Wu

- FCC Designation No.: TW0009
- FCC site registration No.: 207696
- IC site registration No.: 10807C-1

2.2 The Worst Test Modes and Channel Details

For Frequency band 5150-5250 MHz				
Test item	**Modulation Mode**	**Test Frequency (MHz)**	**Data Rate (Mbps) / MCS**	**Test Configuration**
Conducted Emissions	VHT20	5200	MCS 0	---
Radiated Emissions ≤1GHz	VHT20	5200	MCS 0	---
RF Output Power	11a	5180 / 5200 / 5240	6 Mbps	---
	VHT20	5180 / 5200 / 5240	MCS 0	
	VHT40	5190 / 5230	MCS 0	
	VHT80	5210	MCS 0	
Radiated Emissions >1GHz Emission Bandwidth Peak Power Spectral Density	11a	5180 / 5200 / 5240	6 Mbps	---
	VHT20	5180 / 5200 / 5240	MCS 0	
	VHT40	5190 / 5230	MCS 0	
	VHT80	5210	MCS 0	
Frequency Stability	Un-modulation	5200	---	---

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

3 Transmitter Test Results

3.1 Conducted Emissions

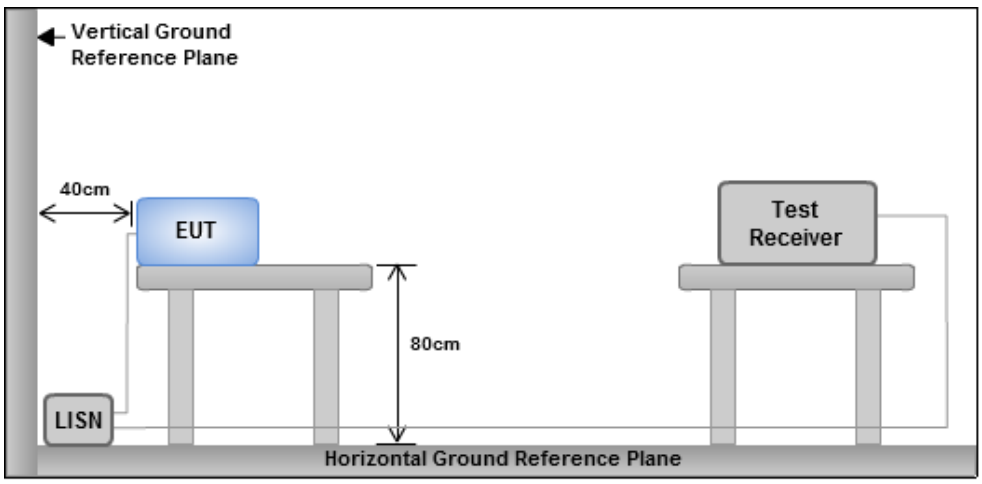
3.1.1 Limit of Conducted Emissions

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

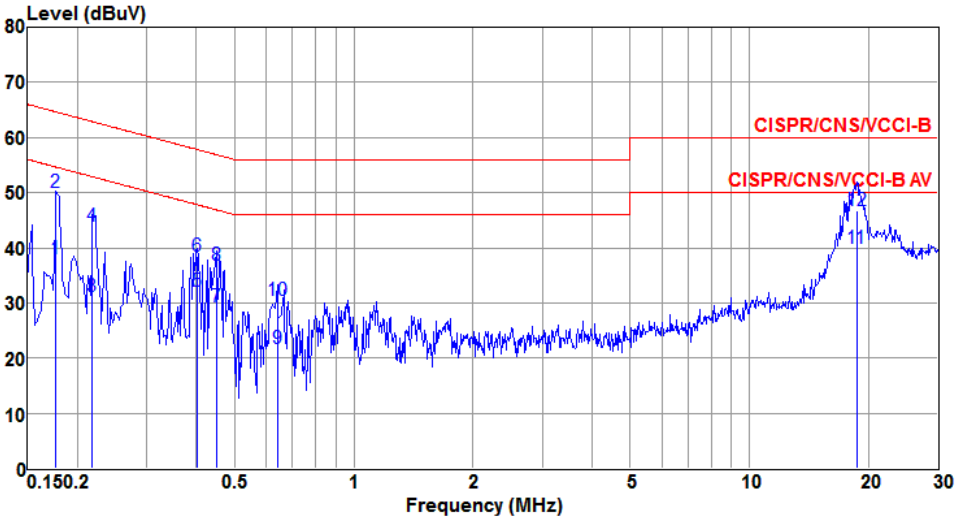


Note: 1. Support units were connected to second LISN.

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

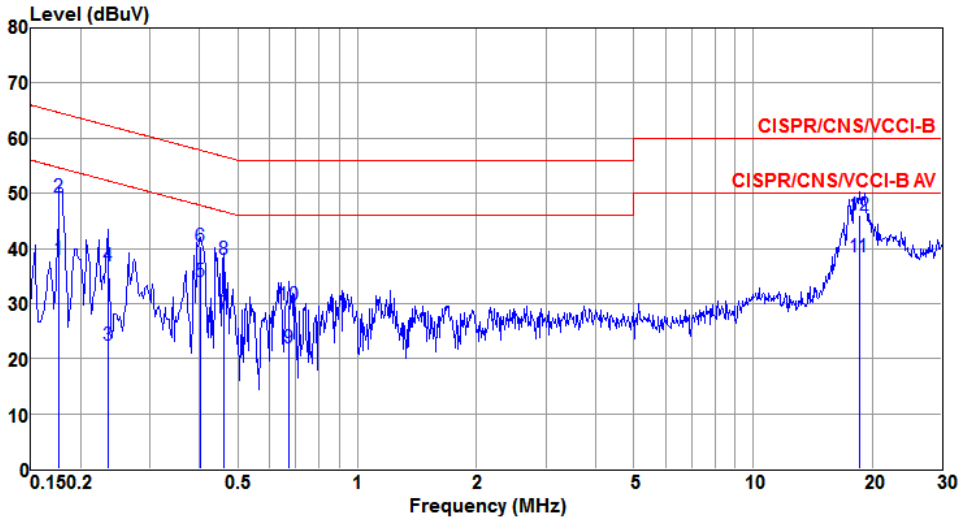
Modulation	VHT20	Test Freq. (MHz)	5200
Power Phase	Line		



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.177	38.01	54.64	-16.63	28.26	9.73	0.02	Average
2	0.177	50.14	64.64	-14.50	40.39	9.73	0.02	QP
3	0.219	31.25	52.88	-21.63	21.49	9.73	0.03	Average
4	0.219	43.88	62.88	-19.00	34.12	9.73	0.03	QP
5	0.402	32.17	47.81	-15.64	22.42	9.73	0.02	Average
6	0.402	38.56	57.81	-19.25	28.81	9.73	0.02	QP
7	0.449	29.38	46.89	-17.51	19.63	9.73	0.02	Average
8	0.449	36.90	56.89	-19.99	27.15	9.73	0.02	QP
9	0.641	21.65	46.00	-24.35	11.89	9.73	0.03	Average
10	0.641	30.43	56.00	-25.57	20.67	9.73	0.03	QP
11@	18.721	39.90	50.00	-10.10	29.83	9.73	0.34	Average
12	18.721	46.62	60.00	-13.38	36.55	9.73	0.34	QP

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

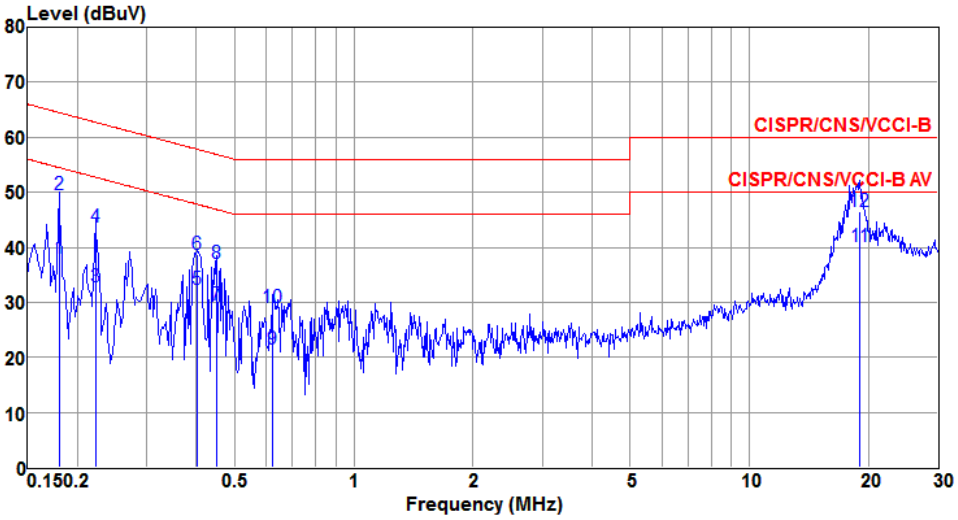
Modulation	VHT20	Test Freq. (MHz)	5200
Power Phase	Neutral		



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.177	38.08	54.64	-16.56	28.39	9.67	0.02	Average
2	0.177	49.31	64.64	-15.33	39.62	9.67	0.02	QP
3	0.234	22.46	52.30	-29.84	12.76	9.67	0.03	Average
4	0.234	36.93	62.30	-25.37	27.23	9.67	0.03	QP
5	0.402	33.95	47.81	-13.86	24.26	9.67	0.02	Average
6	0.402	40.46	57.81	-17.35	30.77	9.67	0.02	QP
7	0.459	28.08	46.71	-18.63	18.39	9.67	0.02	Average
8	0.459	38.08	56.71	-18.63	28.39	9.67	0.02	QP
9	0.672	22.07	46.00	-23.93	12.37	9.67	0.03	Average
10	0.672	29.64	56.00	-26.36	19.94	9.67	0.03	QP
11@	18.524	38.45	50.00	-11.55	28.30	9.82	0.33	Average
12	18.524	46.00	60.00	-14.00	35.85	9.82	0.33	QP

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

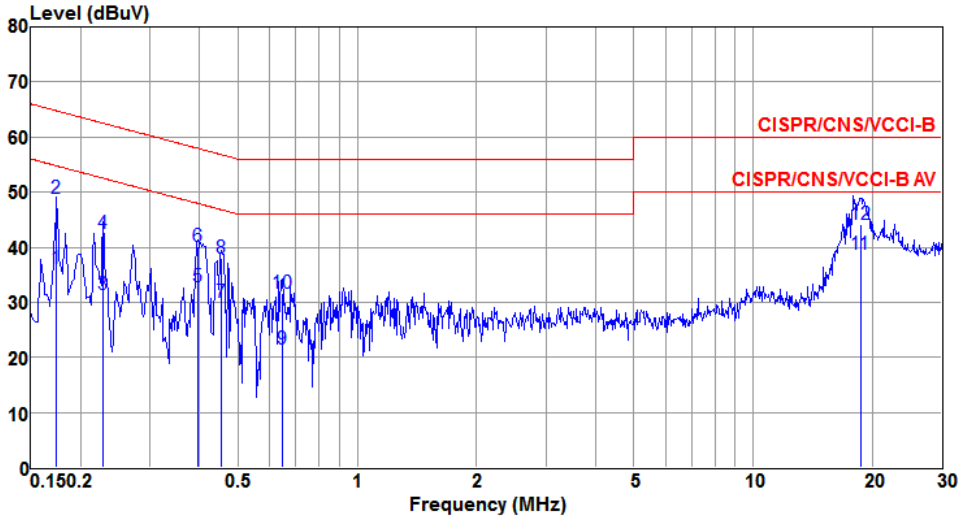
Modulation	11a	Test Freq. (MHz)	5745
Power Phase	Line		



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.180	37.93	54.50	-16.57	28.18	9.73	0.02	Average
2	0.180	49.54	64.50	-14.96	39.79	9.73	0.02	QP
3	0.222	32.71	52.74	-20.03	22.95	9.73	0.03	Average
4	0.222	43.76	62.74	-18.98	34.00	9.73	0.03	QP
5	0.402	32.22	47.81	-15.59	22.47	9.73	0.02	Average
6	0.402	38.78	57.81	-19.03	29.03	9.73	0.02	QP
7	0.449	29.42	46.89	-17.47	19.67	9.73	0.02	Average
8	0.449	36.97	56.89	-19.92	27.22	9.73	0.02	QP
9	0.624	21.45	46.00	-24.55	11.70	9.73	0.02	Average
10	0.624	29.15	56.00	-26.85	19.40	9.73	0.02	QP
11@	19.021	40.17	50.00	-9.83	30.11	9.72	0.34	Average
12	19.021	46.40	60.00	-13.60	36.34	9.72	0.34	QP

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

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



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.174	36.18	54.77	-18.59	26.49	9.67	0.02	Average
2	0.174	48.89	64.77	-15.88	39.20	9.67	0.02	QP
3	0.228	31.35	52.52	-21.17	21.65	9.67	0.03	Average
4	0.228	42.58	62.52	-19.94	32.88	9.67	0.03	QP
5	0.396	32.82	47.95	-15.13	23.13	9.67	0.02	Average
6	0.396	40.23	57.95	-17.72	30.54	9.67	0.02	QP
7	0.454	29.93	46.80	-16.87	20.24	9.67	0.02	Average
8	0.454	38.09	56.80	-18.71	28.40	9.67	0.02	QP
9	0.647	21.40	46.00	-24.60	11.70	9.67	0.03	Average
10	0.647	31.69	56.00	-24.31	21.99	9.67	0.03	QP
11@	18.721	38.64	50.00	-11.36	28.48	9.82	0.34	Average
12	18.721	44.21	60.00	-15.79	34.05	9.82	0.34	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.

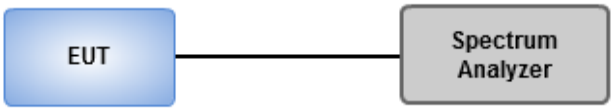
Occupied Bandwidth

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	35.435M	17.511M	17M5D1D	21.667M	16.57M
802.11ac VHT20_Nss1,(MCS0)_2TX	36.159M	18.379M	18M4D1D	22.391M	17.728M
802.11ac VHT40_Nss1,(MCS0)_2TX	66.667M	36.614M	36M6D1D	44.348M	36.179M
802.11ac VHT80_Nss1,(MCS0)_2TX	86.957M	75.832M	75M8D1D	86.377M	75.832M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	16.377M	17.945M	17M9D1D	16.304M	16.86M
802.11ac VHT20_Nss1,(MCS0)_2TX	17.609M	18.741M	18M7D1D	17.174M	18.017M
802.11ac VHT40_Nss1,(MCS0)_2TX	36.087M	36.758M	36M8D1D	35.797M	36.614M
802.11ac VHT80_Nss1,(MCS0)_2TX	75.362M	75.832M	75M8D1D	74.493M	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;

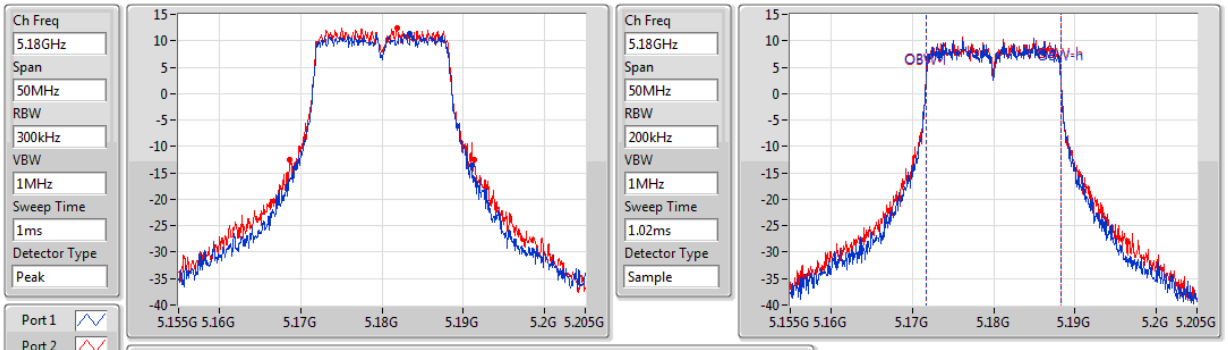
Result

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	21.667M	16.57M	22.681M	16.57M
5200MHz	Pass	Inf	35.435M	17.149M	34.348M	17.511M
5240MHz	Pass	Inf	28.261M	16.86M	30M	17.221M
5745MHz	Pass	500k	16.377M	16.86M	16.304M	17.945M
5785MHz	Pass	500k	16.304M	16.932M	16.377M	17.294M
5825MHz	Pass	500k	16.377M	16.932M	16.377M	17.221M
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	22.391M	17.728M	23.043M	17.8M
5200MHz	Pass	Inf	33.261M	18.09M	36.159M	18.379M
5240MHz	Pass	Inf	28.261M	18.017M	35.435M	18.162M
5745MHz	Pass	500k	17.536M	18.017M	17.536M	18.741M
5785MHz	Pass	500k	17.609M	18.09M	17.319M	18.09M
5825MHz	Pass	500k	17.536M	18.017M	17.174M	18.162M
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	44.783M	36.179M	44.348M	36.469M
5230MHz	Pass	Inf	54.638M	36.614M	66.667M	36.614M
5755MHz	Pass	500k	36.087M	36.758M	36.087M	36.758M
5795MHz	Pass	500k	35.797M	36.758M	35.797M	36.614M
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	86.377M	75.832M	86.957M	75.832M
5775MHz	Pass	500k	74.493M	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

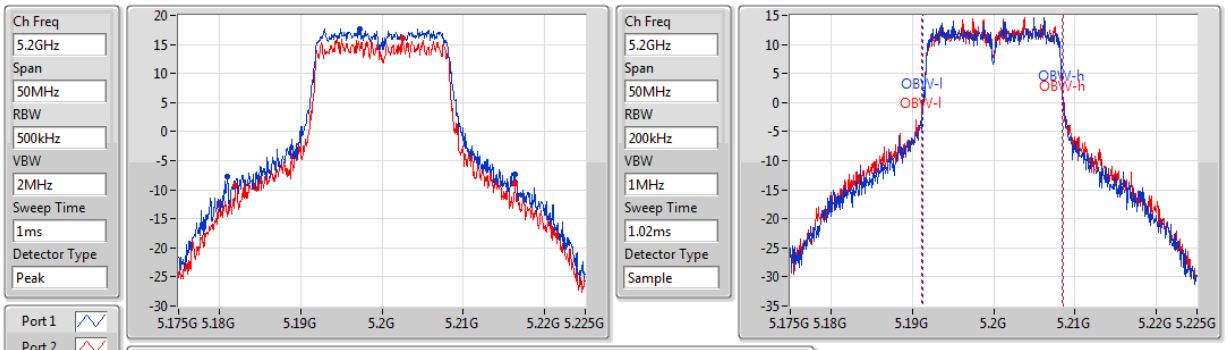
5180MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
21.667M	5.169348G	5.191014G	16.57M	5.171679G	5.188249G	Inf	1
22.681M	5.168696G	5.191377G	16.57M	5.171679G	5.188249G	Inf	2

802.11a_Nss1,(6Mbps)_2TX EBW

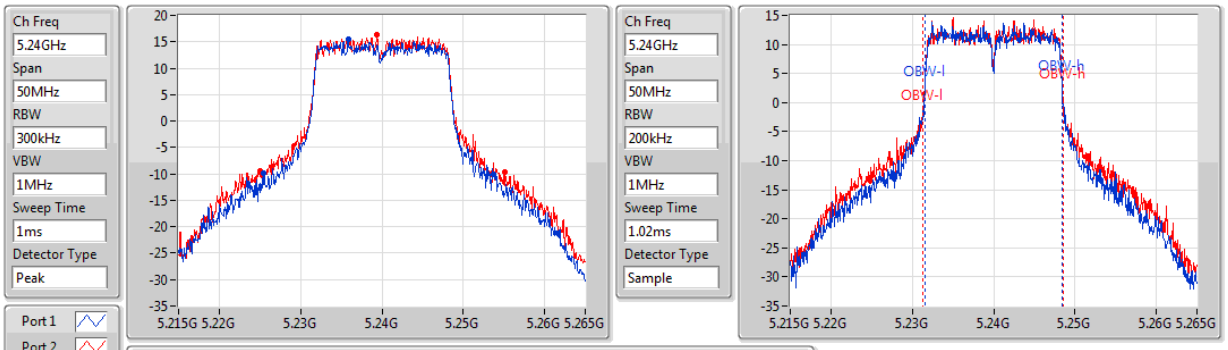
5200MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
35.435M	5.180942G	5.216377G	17.149M	5.191317G	5.208466G	Inf	1
34.348M	5.182029G	5.216377G	17.511M	5.1911G	5.208611G	Inf	2

802.11a_Nss1,(6Mbps)_2TX EBW

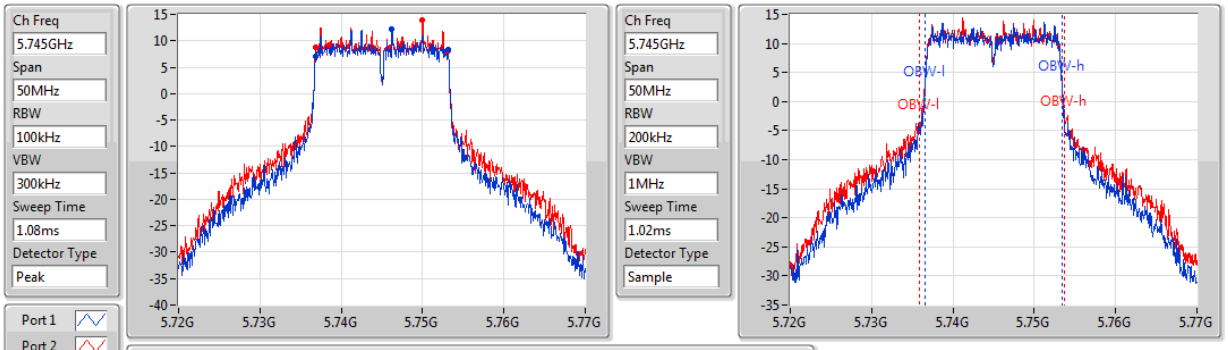
5240MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
28.261M	5.225507G	5.253768G	16.86M	5.231534G	5.248394G	Inf	1
30M	5.225072G	5.255072G	17.221M	5.231317G	5.248538G	Inf	2

802.11a_Nss1,(6Mbps)_2TX EBW

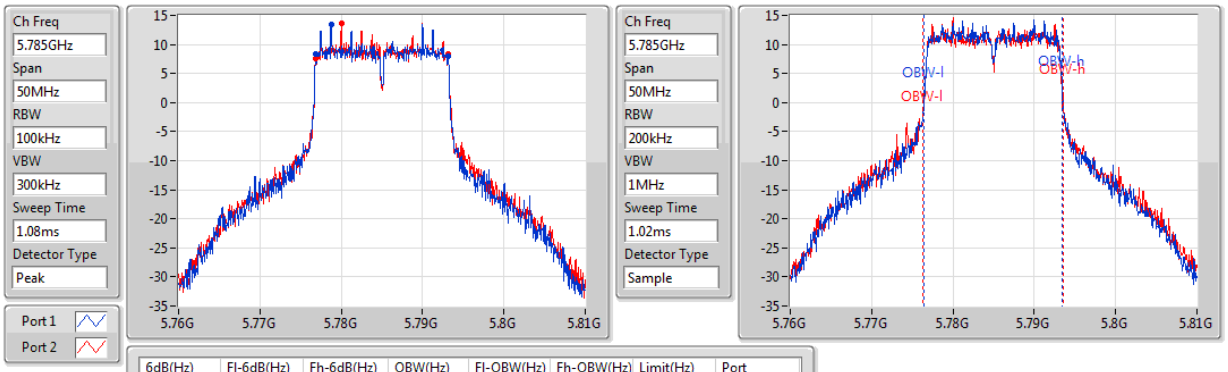
5745MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.377M	5.736812G	5.753188G	16.86M	5.736534G	5.753394G	500k	1
16.304M	5.736884G	5.753188G	17.945M	5.73581G	5.753755G	500k	2

802.11a_Nss1,(6Mbps)_2TX EBW

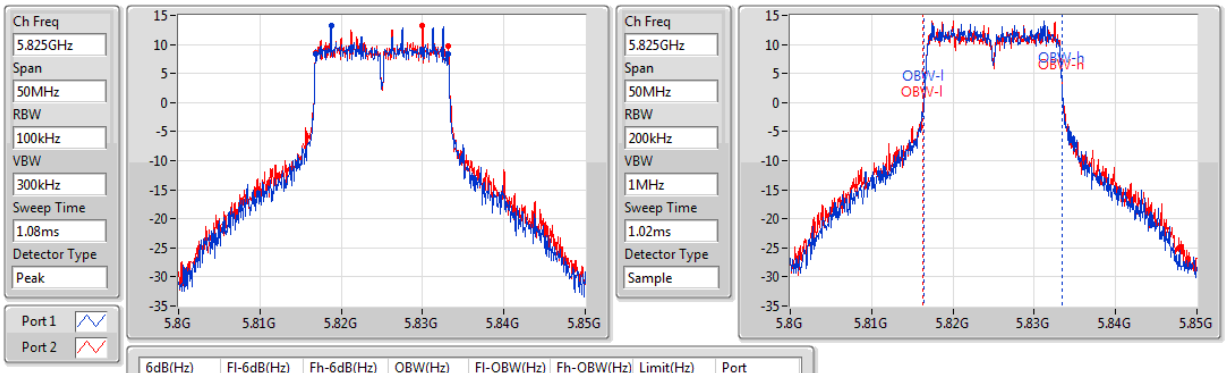
5785MHz



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	16.932M	5.776462G	5.793394G	500k	1
16.377M	5.776812G	5.793188G	17.294M	5.776245G	5.793538G	500k	2

802.11a_Nss1,(6Mbps)_2TX EBW

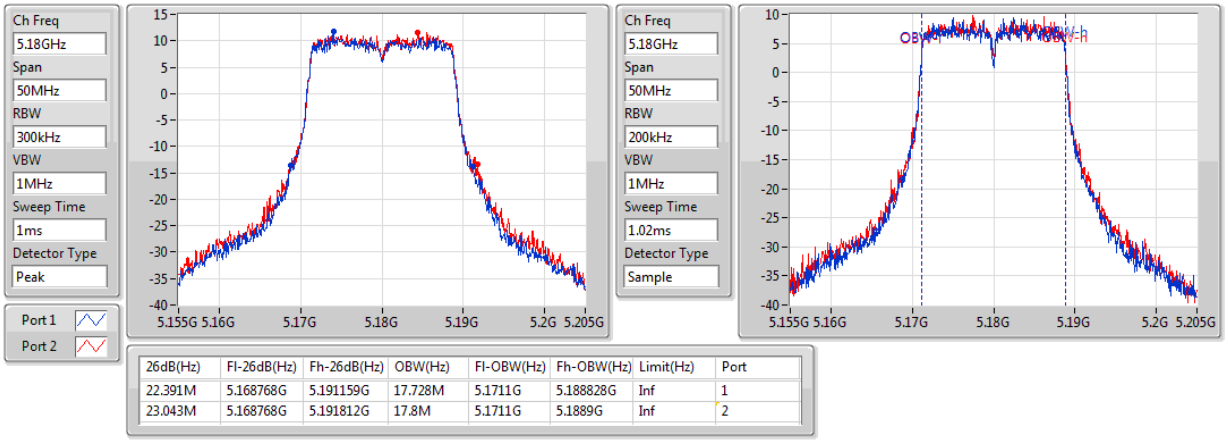
5825MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.377M	5.816812G	5.833188G	16.932M	5.816462G	5.833394G	500k	1
16.377M	5.816812G	5.833188G	17.221M	5.816245G	5.833466G	500k	2

802.11ac VHT20_Nss1,(MCS0)_2TX EBW

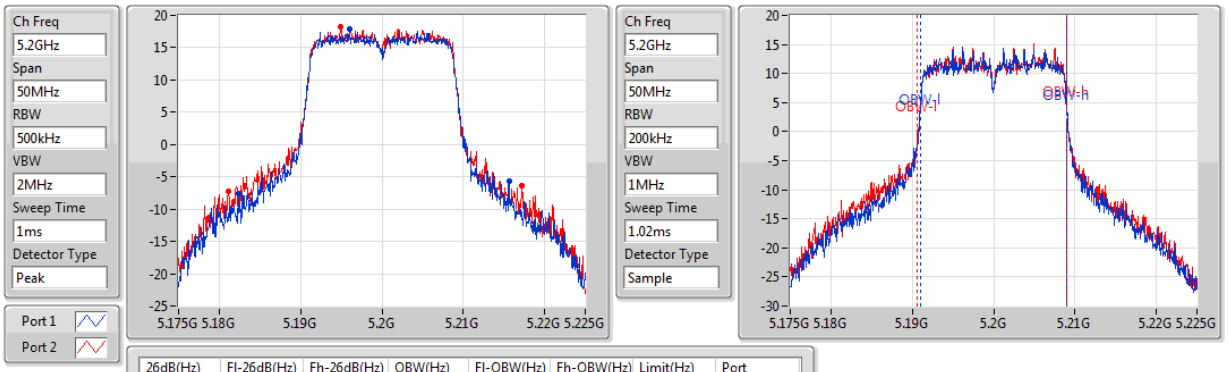
5180MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
22.391M	5.168768G	5.191159G	17.728M	5.1711G	5.188828G	Inf	1
23.043M	5.168768G	5.191812G	17.8M	5.1711G	5.1889G	Inf	2

802.11ac VHT20_Nss1,(MCS0)_2TX EBW

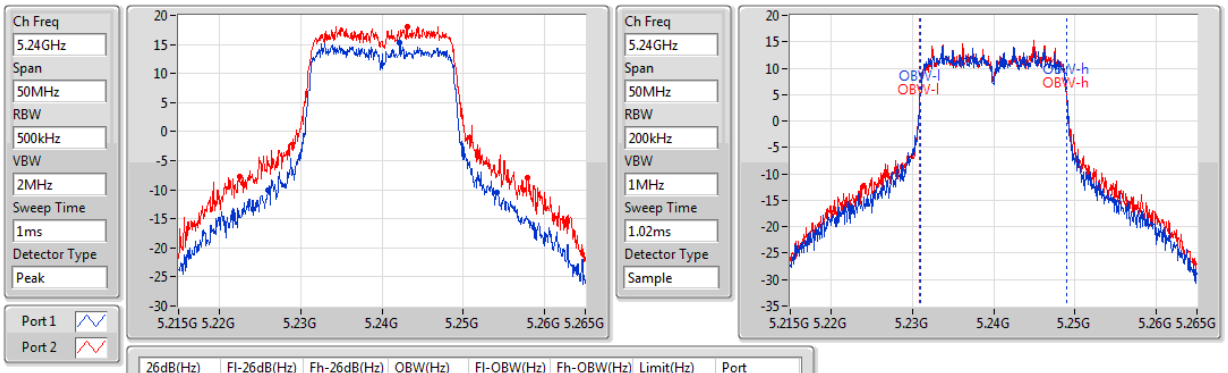
5200MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
33.261M	5.182391G	5.215652G	18.09M	5.190955G	5.209045G	Inf	1
36.159M	5.181087G	5.217246G	18.379M	5.190666G	5.209045G	Inf	2

802.11ac VHT20_Nss1,(MCS0)_2TX EBW

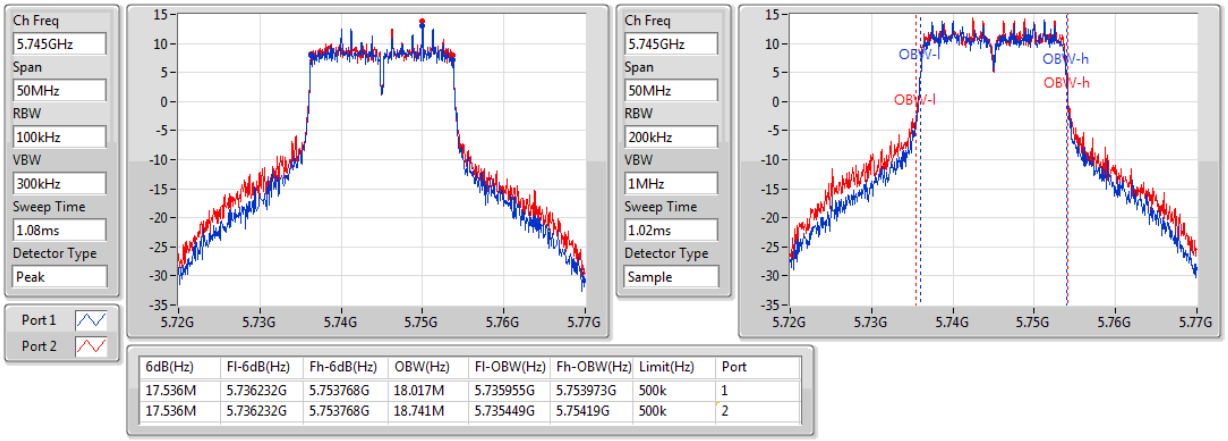
5240MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
28.261M	5.225942G	5.254203G	18.017M	5.230955G	5.248973G	Inf	1
35.435M	5.222464G	5.257899G	18.162M	5.230883G	5.249045G	Inf	2

802.11ac VHT20_Nss1,(MCS0)_2TX EBW

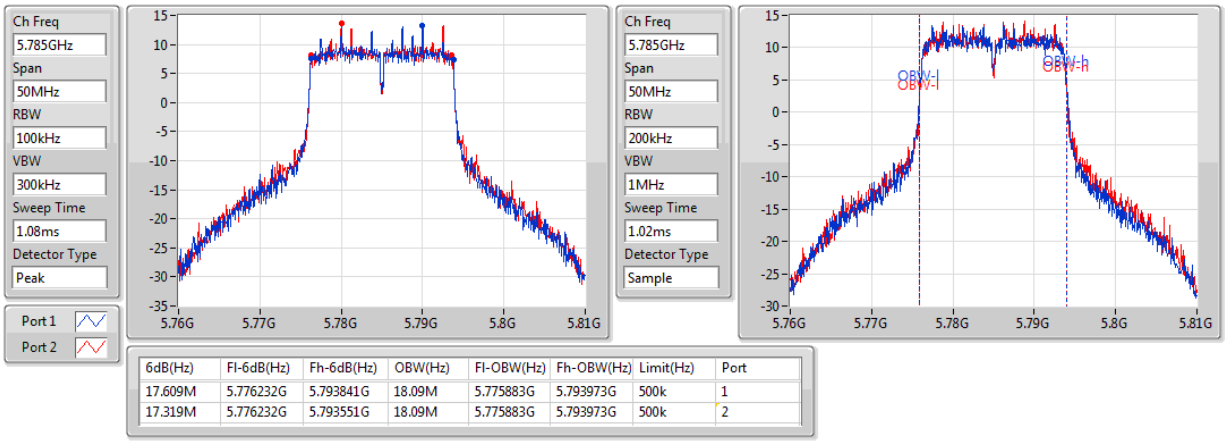
5745MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.536M	5.736232G	5.753768G	18.017M	5.735955G	5.753973G	500k	1
17.536M	5.736232G	5.753768G	18.741M	5.735449G	5.75419G	500k	2

802.11ac VHT20_Nss1,(MCS0)_2TX EBW

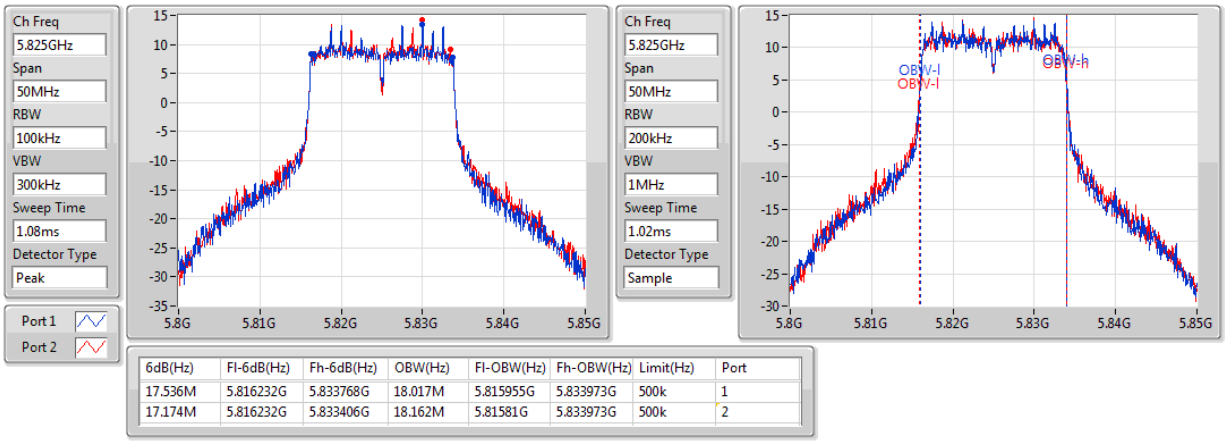
5785MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.609M	5.776232G	5.793841G	18.09M	5.775883G	5.793973G	500k	1
17.319M	5.776232G	5.793551G	18.09M	5.775883G	5.793973G	500k	2

802.11ac VHT20_Nss1,(MCS0)_2TX EBW

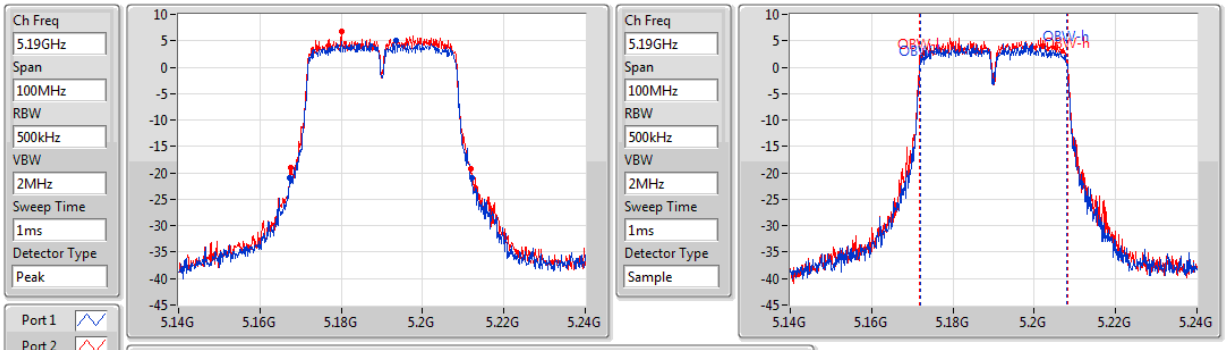
5825MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.536M	5.816232G	5.833768G	18.017M	5.815955G	5.833973G	500k	1
17.174M	5.816232G	5.833406G	18.162M	5.81581G	5.833973G	500k	2

802.11ac VHT40_Nss1,(MCS0)_2TX EBW

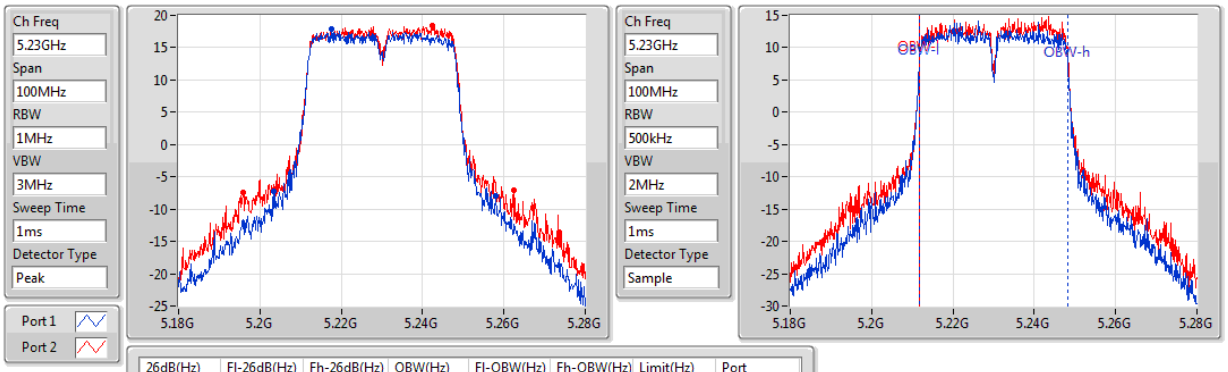
5190MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
44.783M	5.167246G	5.212029G	36.179M	5.17191G	5.20809G	Inf	1
44.348M	5.167536G	5.211884G	36.469M	5.171766G	5.208234G	Inf	2

802.11ac VHT40_Nss1,(MCS0)_2TX EBW

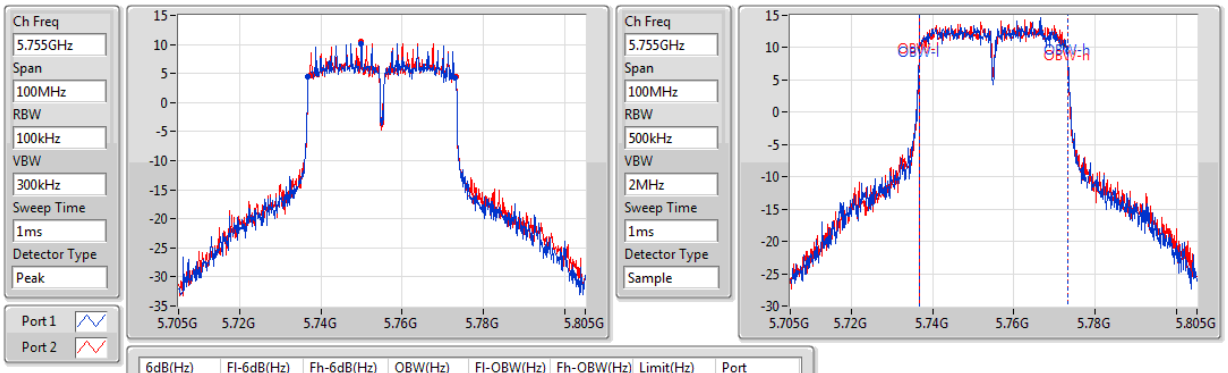
5230MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
54.638M	5.203478G	5.258116G	36.614M	5.211621G	5.248234G	Inf	1
66.667M	5.195797G	5.262464G	36.614M	5.211766G	5.248379G	Inf	2

802.11ac VHT40_Nss1,(MCS0)_2TX EBW

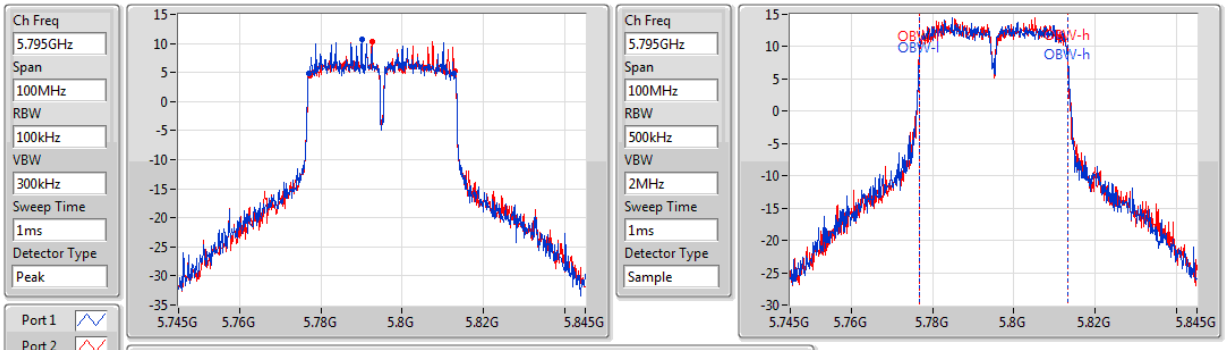
5755MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
36.087M	5.736884G	5.772971G	36.758M	5.736621G	5.773379G	500k	1
36.087M	5.737174G	5.773261G	36.758M	5.736621G	5.773379G	500k	2

802.11ac VHT40_Nss1,(MCS0)_2TX EBW

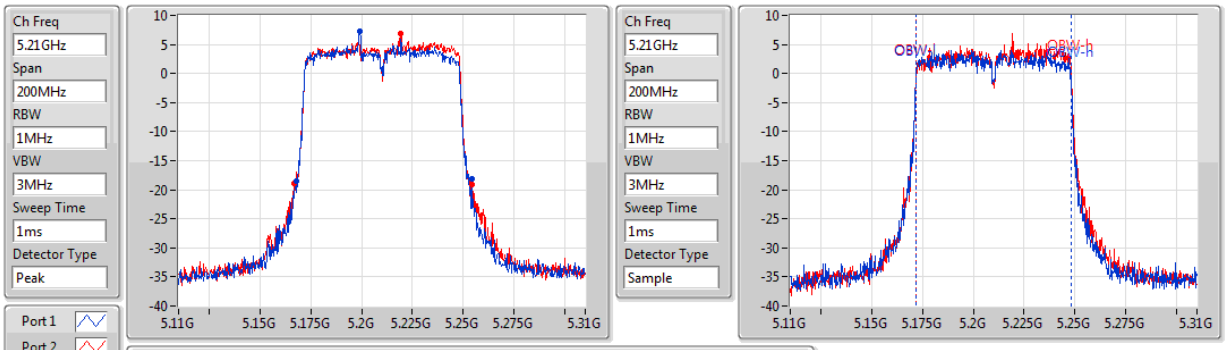
5795MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
35.797M	5.777029G	5.812826G	36.758M	5.776621G	5.813379G	500k	1
35.797M	5.777174G	5.812971G	36.614M	5.776621G	5.813234G	500k	2

802.11ac VHT80_Nss1,(MCS0)_2TX EBW

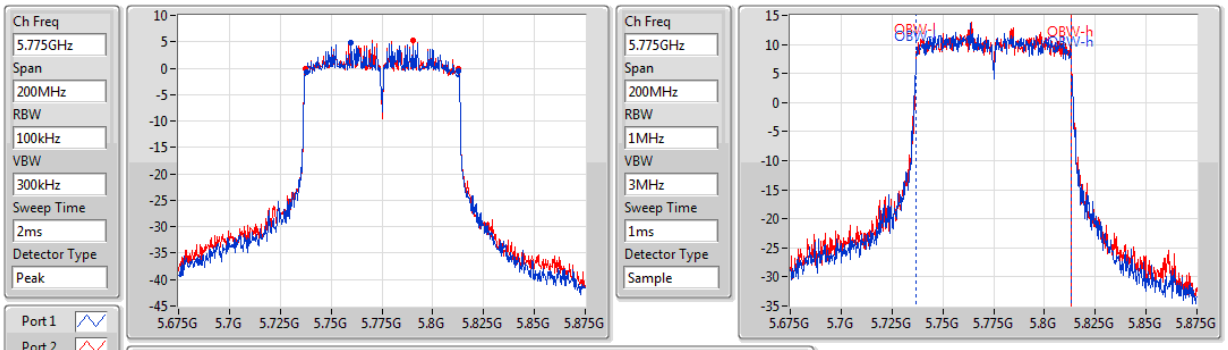
5210MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
86.377M	5.167681G	5.254058G	75.832M	5.172084G	5.247916G	Inf	1
86.957M	5.167101G	5.254058G	75.832M	5.172084G	5.247916G	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
74.493M	5.738188G	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	1 W
Note: “B” is the 26dB emission bandwidth in MHz.		

3.3.2 Test Procedures

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

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

3.3.3 Test Setup

3.3.4 Test Result of Maximum Conducted Output Power

Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.15-5.25GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	27.39	0.54828	31.61	1.44877
802.11ac VHT20_Nss1,(MCS0)_2TX	27.51	0.56364	31.73	1.48936
802.11ac VHT40_Nss1,(MCS0)_2TX	26.74	0.47206	30.96	1.24738
802.11ac VHT80_Nss1,(MCS0)_2TX	16.97	0.04977	21.19	0.13152
5.725-5.85GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	27.31	0.53827	32.65	1.84077
802.11ac VHT20_Nss1,(MCS0)_2TX	27.31	0.53827	32.65	1.84077
802.11ac VHT40_Nss1,(MCS0)_2TX	27.21	0.52602	32.55	1.79887
802.11ac VHT80_Nss1,(MCS0)_2TX	24.53	0.28379	29.87	0.97051

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	4.22	20.48	21.02	23.77	30.00	27.99	36.00
5200MHz	Pass	4.22	24.24	24.52	27.39	30.00	31.61	36.00
5240MHz	Pass	4.22	24.02	24.51	27.28	30.00	31.50	36.00
5745MHz	Pass	5.34	24.03	24.56	27.31	30.00	32.65	36.00
5785MHz	Pass	5.34	24.01	24.32	27.18	30.00	32.52	36.00
5825MHz	Pass	5.34	24.05	24.18	27.13	30.00	32.47	36.00
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	4.22	20.35	20.65	23.51	30.00	27.73	36.00
5200MHz	Pass	4.22	24.38	24.62	27.51	30.00	31.73	36.00
5240MHz	Pass	4.22	24.03	24.52	27.29	30.00	31.51	36.00
5745MHz	Pass	5.34	24.01	24.52	27.28	30.00	32.62	36.00
5785MHz	Pass	5.34	24.04	24.54	27.31	30.00	32.65	36.00
5825MHz	Pass	5.34	24.01	24.22	27.13	30.00	32.47	36.00
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5190MHz	Pass	4.22	15.73	15.38	18.57	30.00	22.79	36.00
5230MHz	Pass	4.22	23.41	24.02	26.74	30.00	30.96	36.00
5755MHz	Pass	5.34	24.02	24.37	27.21	30.00	32.55	36.00
5795MHz	Pass	5.34	24.01	24.24	27.14	30.00	32.48	36.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5210MHz	Pass	4.22	13.67	14.23	16.97	30.00	21.19	36.00
5775MHz	Pass	5.34	21.42	21.61	24.53	30.00	29.87	36.00

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

Maximum e.i.r.p. at any elevation angle above 30 degrees
Result

Mode	Result	Maximum Gain above 30° (dBi)	Total Power (dBm)	E.I.R.P above 30° (dBm)	EIRP Limit-above 30° (dBm)
802.11a_Nss1,(6Mbps)_2TX_5180MHz	Pass	-7.81	23.77	15.96	21.00
802.11a_Nss1,(6Mbps)_2TX_5200MHz	Pass	-7.81	27.39	19.58	21.00
802.11a_Nss1,(6Mbps)_2TX_5240MHz	Pass	-7.81	27.28	19.47	21.00
802.11ac VHT20_Nss1,(MCS0)_2TX_5180MHz	Pass	-7.81	23.51	15.70	21.00
802.11ac VHT20_Nss1,(MCS0)_2TX_5200MHz	Pass	-7.81	27.51	19.70	21.00
802.11ac VHT20_Nss1,(MCS0)_2TX_5240MHz	Pass	-7.81	27.29	19.48	21.00
802.11ac VHT40_Nss1,(MCS0)_2TX_5190MHz	Pass	-7.81	18.57	10.76	21.00
802.11ac VHT40_Nss1,(MCS0)_2TX_5230MHz	Pass	-7.81	26.74	18.93	21.00
802.11ac VHT80_Nss1,(MCS0)_2TX_5210MHz	Pass	-7.81	16.97	9.16	21.00

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

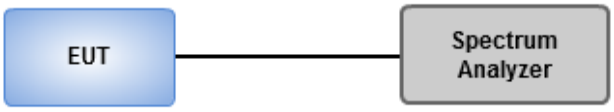
Duty cycle ≥ 98 %

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	14.40	21.63
802.11ac VHT20_Nss1,(MCS0)_2TX	14.12	21.35
802.11ac VHT40_Nss1,(MCS0)_2TX	10.78	18.01
802.11ac VHT80_Nss1,(MCS0)_2TX	-2.32	4.91
5.725-5.85GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	12.68	21.03
802.11ac VHT20_Nss1,(MCS0)_2TX	12.28	20.63
802.11ac VHT40_Nss1,(MCS0)_2TX	9.48	17.83
802.11ac VHT80_Nss1,(MCS0)_2TX	3.80	12.15

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

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)	EIRP PD (dBm/RBW)	EIRP PD Limit (dBm/RBW)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	7.23	7.49	8.15	10.84	15.77	18.07	23.00
5200MHz	Pass	7.23	11.56	11.26	14.40	15.77	21.63	23.00
5240MHz	Pass	7.23	11.23	11.71	14.37	15.77	21.60	23.00
5745MHz	Pass	8.35	9.32	9.84	12.55	27.65	20.90	36.00
5785MHz	Pass	8.35	9.59	9.85	12.68	27.65	21.03	36.00
5825MHz	Pass	8.35	9.56	9.68	12.58	27.65	20.93	36.00
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	7.23	6.77	7.14	9.87	15.77	17.10	23.00
5200MHz	Pass	7.23	11.34	10.89	14.12	15.77	21.35	23.00
5240MHz	Pass	7.23	11.07	11.36	14.09	15.77	21.32	23.00
5745MHz	Pass	8.35	9.00	9.51	12.21	27.65	20.56	36.00
5785MHz	Pass	8.35	9.24	9.33	12.25	27.65	20.60	36.00
5825MHz	Pass	8.35	9.34	9.29	12.28	27.65	20.63	36.00
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5190MHz	Pass	7.23	-1.36	-0.68	1.96	15.77	9.19	23.00
5230MHz	Pass	7.23	7.44	8.19	10.78	15.77	18.01	23.00
5755MHz	Pass	8.35	6.29	6.51	9.40	27.65	17.75	36.00
5795MHz	Pass	8.35	6.45	6.54	9.48	27.65	17.83	36.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5210MHz	Pass	7.23	-5.64	-4.87	-2.32	15.77	4.91	23.00
5775MHz	Pass	8.35	0.71	0.91	3.80	27.65	12.15	36.00

DG = Directional Gain; **RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density;
Port X = Port Xpower density;
Test results of each port are measured value with duty factor

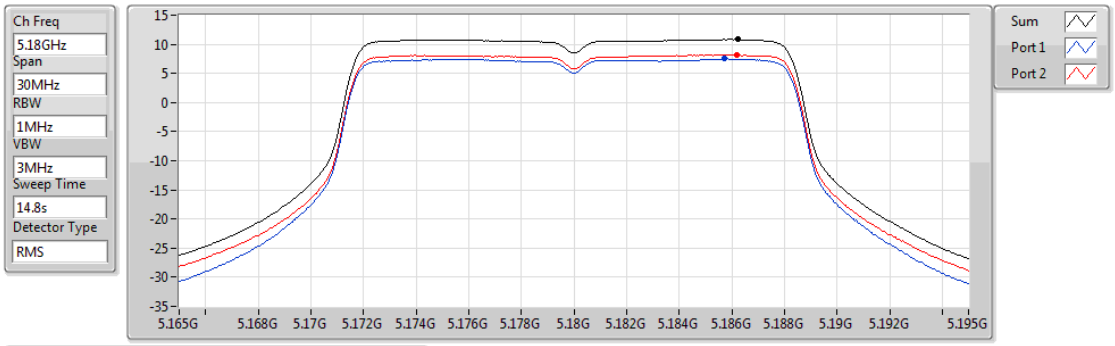
Note:

5150-5250MHz:
Directional gain = 4.22+10* log(2/1) = 7.23 dBi > 6 dBi.
Limit shall be reduced to 17 dBm – (7.23 dBi – 6 dBi) = 15.77 dBm

5745-5825MHz:
Directional gain = 5.34+10* log(2/1) = 8.35 dBi > 6 dBi.
Limit shall be reduced to 30 dBm – (8.35 dBi – 6 dBi) = 27.65 dBm

802.11a_Nss1,(6Mbps)_2TX PSD

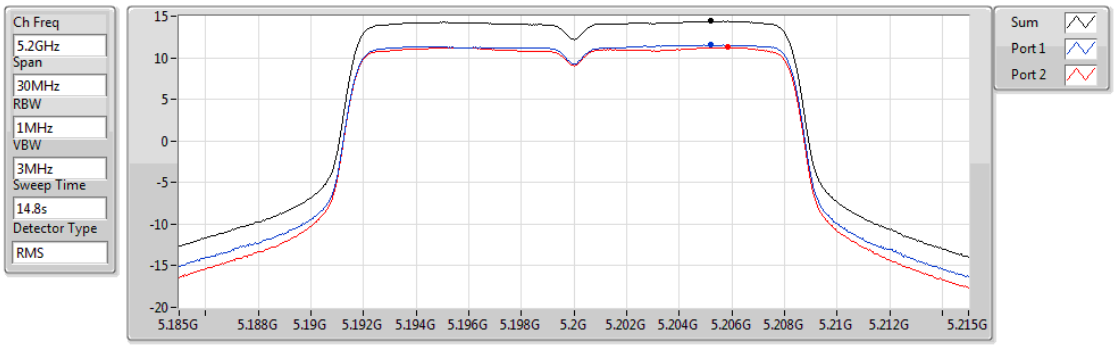
5180MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
10.84	10.84	7.49	8.15

802.11a_Nss1,(6Mbps)_2TX PSD

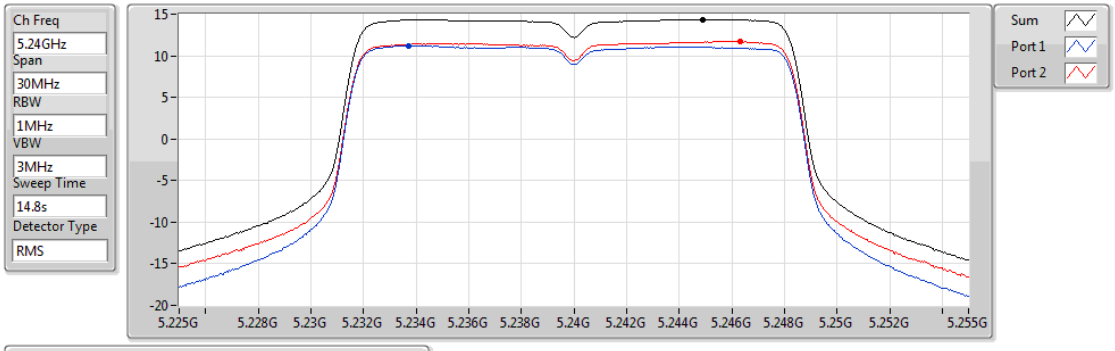
5200MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
14.40	14.40	11.56	11.26

802.11a_Nss1,(6Mbps)_2TX PSD

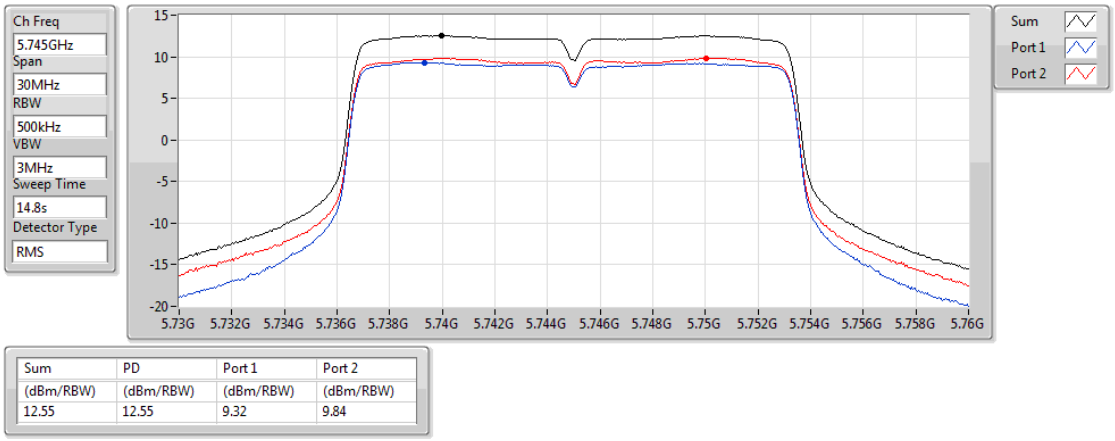
5240MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
14.37	14.37	11.23	11.71

802.11a_Nss1,(6Mbps)_2TX PSD

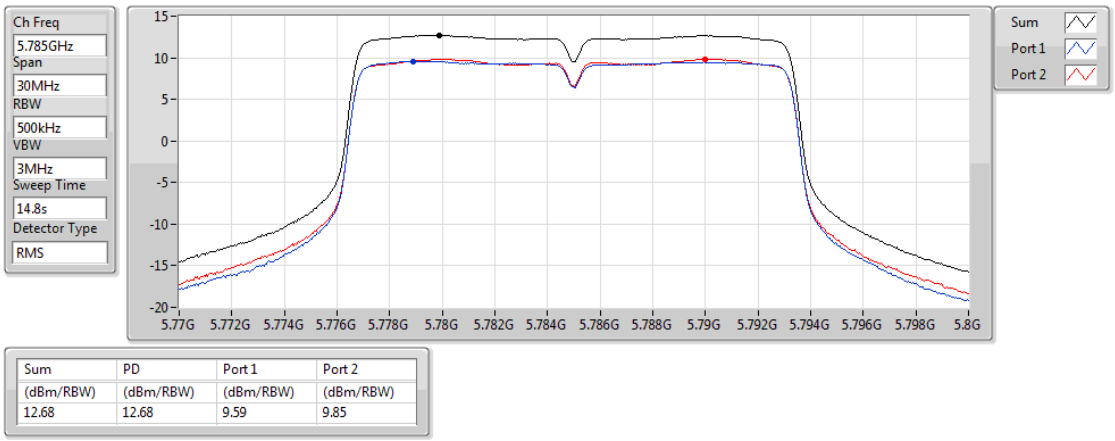
5745MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
12.55	12.55	9.32	9.84

802.11a_Nss1,(6Mbps)_2TX PSD

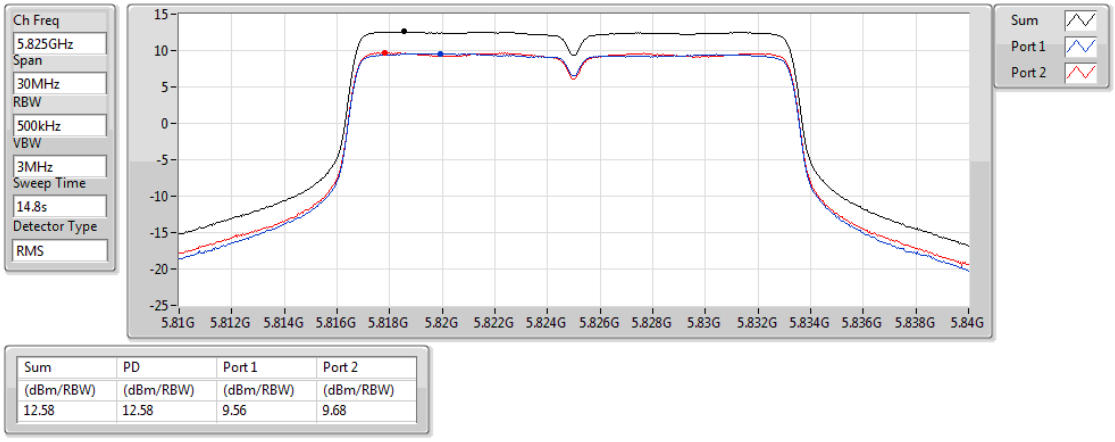
5785MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
12.68	12.68	9.59	9.85

802.11a_Nss1,(6Mbps)_2TX PSD

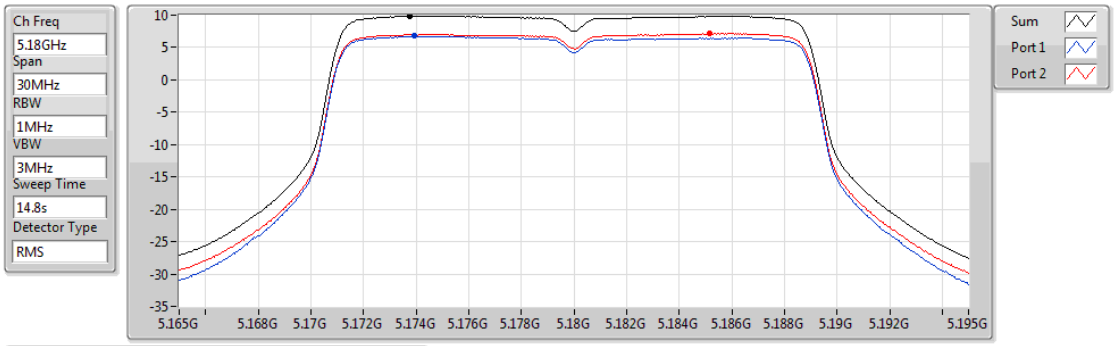
5825MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
12.58	12.58	9.56	9.68

802.11ac VHT20_Nss1,(MCS0)_2TX PSD

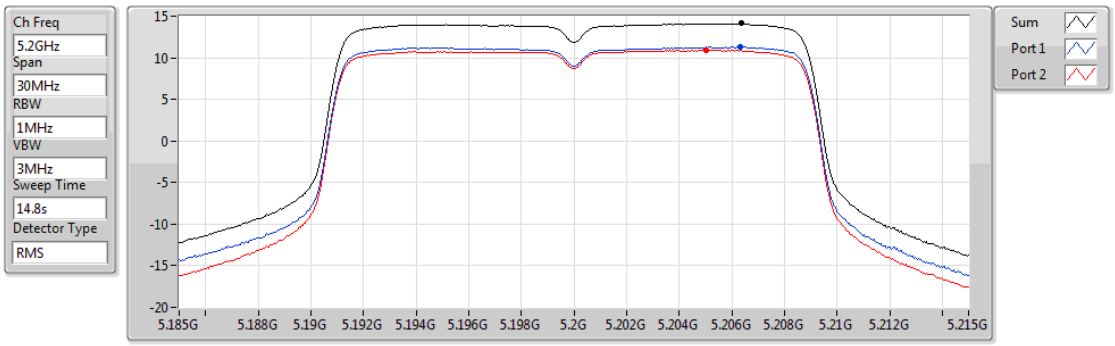
5180MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.87	9.87	6.77	7.14

802.11ac VHT20_Nss1,(MCS0)_2TX PSD

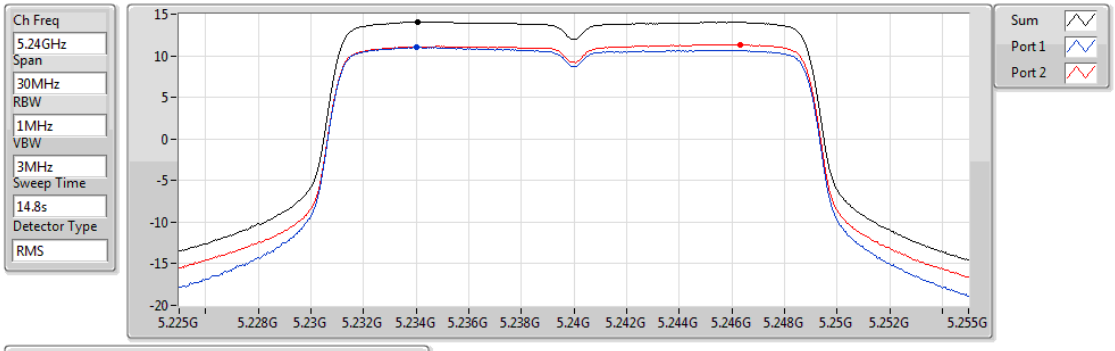
5200MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
14.12	14.12	11.34	10.89

802.11ac VHT20_Nss1,(MCS0)_2TX PSD

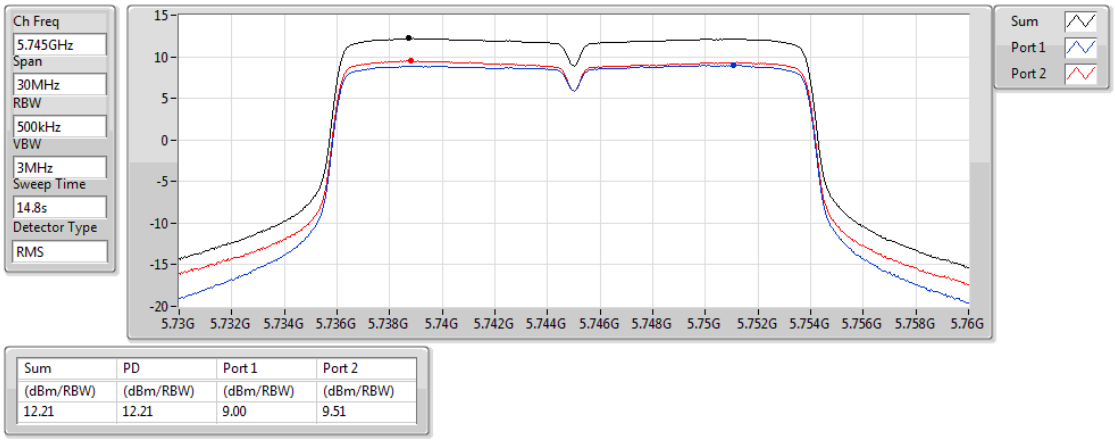
5240MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
14.09	14.09	11.07	11.36

802.11ac VHT20_Nss1,(MCS0)_2TX PSD

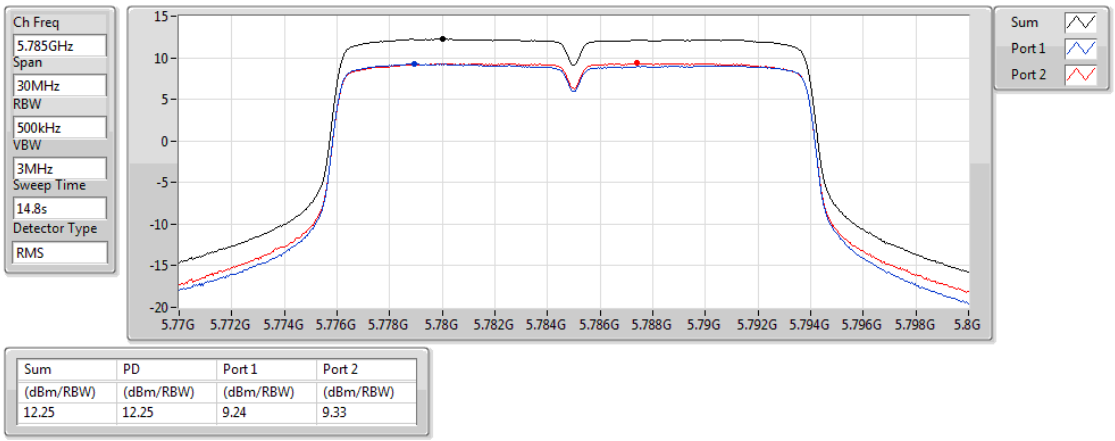
5745MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
12.21	12.21	9.00	9.51

802.11ac VHT20_Nss1,(MCS0)_2TX PSD

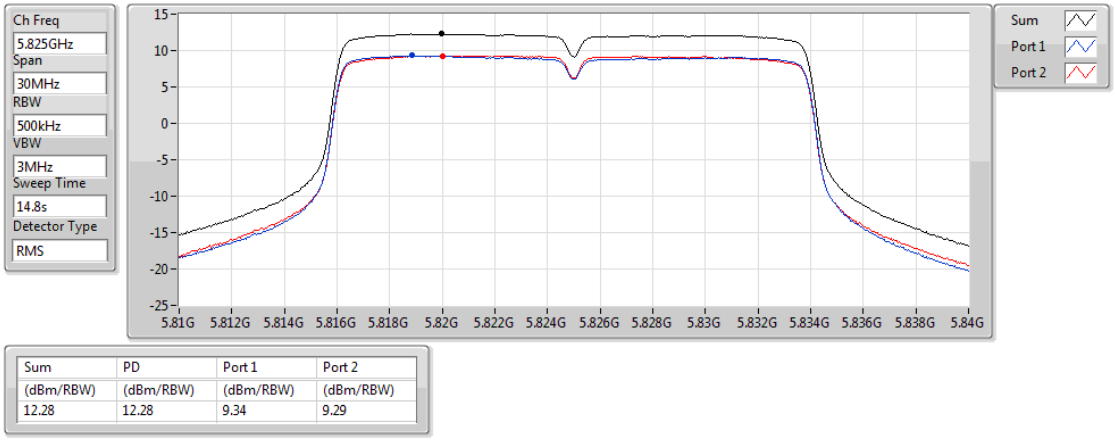
5785MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
12.25	12.25	9.24	9.33

802.11ac VHT20_Nss1,(MCS0)_2TX PSD

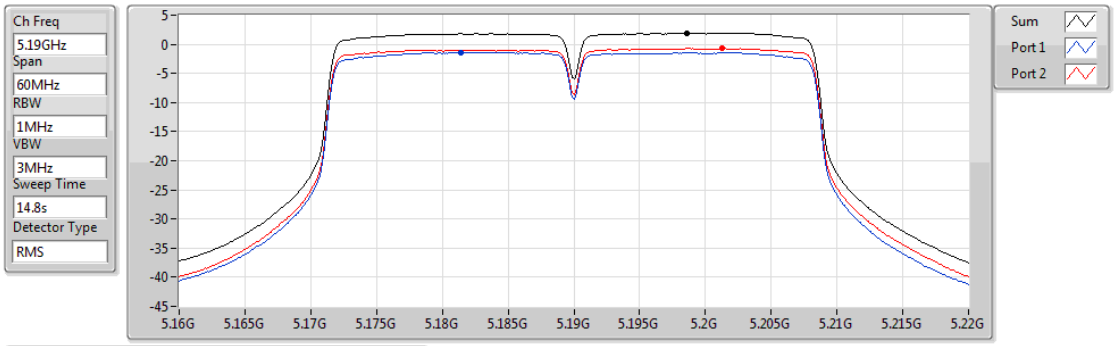
5825MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
12.28	12.28	9.34	9.29

802.11ac VHT40_Nss1,(MCS0)_2TX PSD

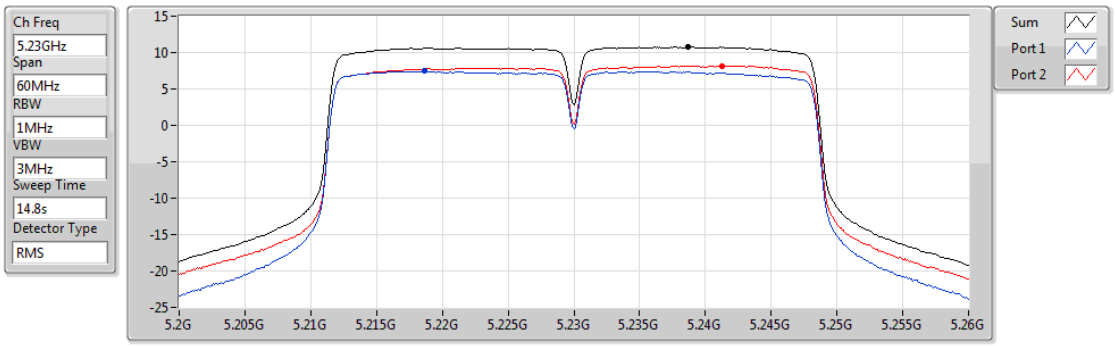
5190MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.96	1.96	-1.36	-0.68

802.11ac VHT40_Nss1,(MCS0)_2TX PSD

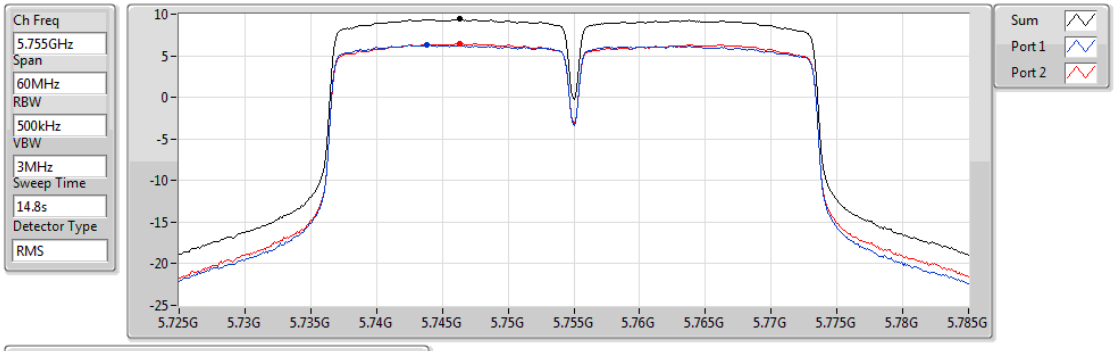
5230MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
10.78	10.78	7.44	8.19

802.11ac VHT40_Nss1,(MCS0)_2TX PSD

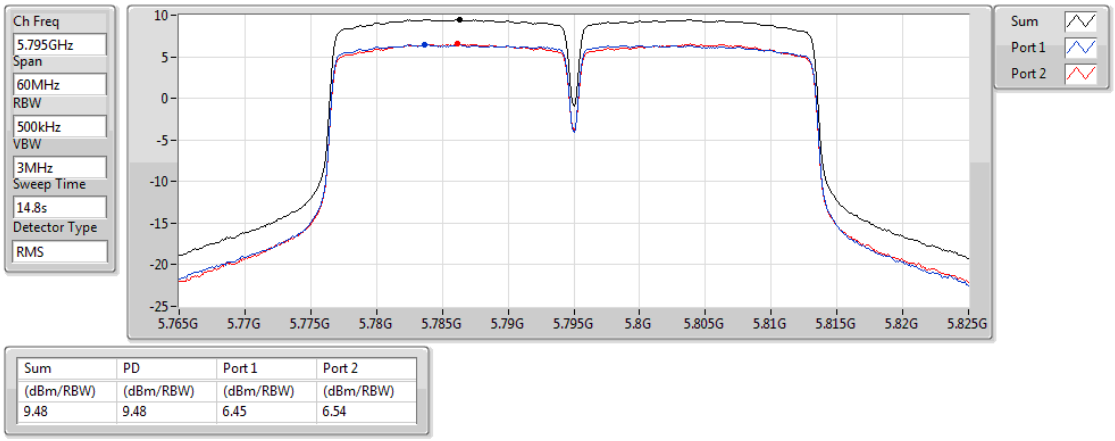
5755MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.40	9.40	6.29	6.51

802.11ac VHT40_Nss1,(MCS0)_2TX PSD

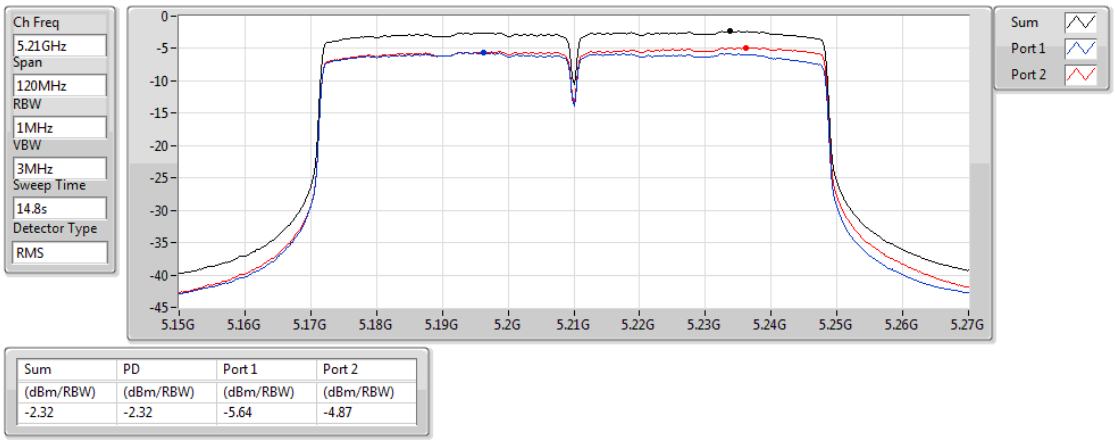
5795MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.48	9.48	6.45	6.54

802.11ac VHT80_Nss1,(MCS0)_2TX PSD

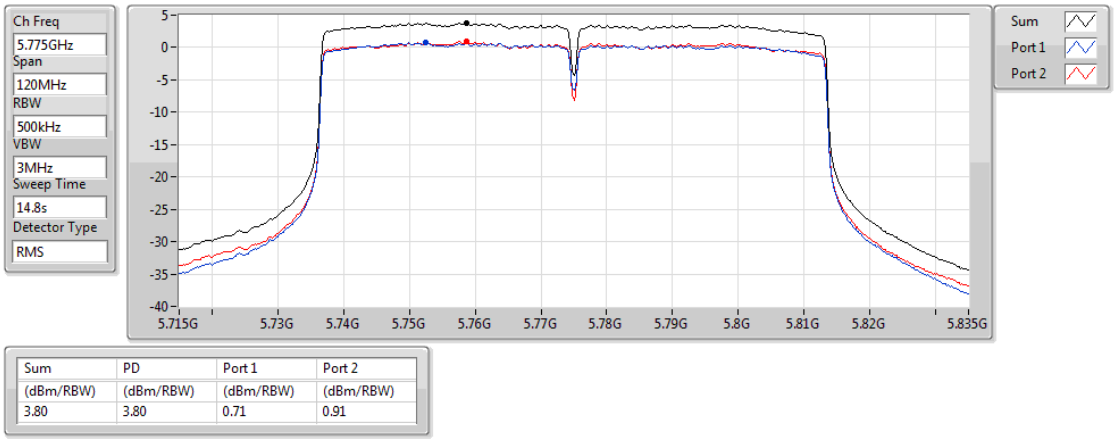
5210MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-2.32	-2.32	-5.64	-4.87

802.11ac VHT80_Nss1,(MCS0)_2TX PSD

5775MHz



Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.80	3.80	0.71	0.91

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

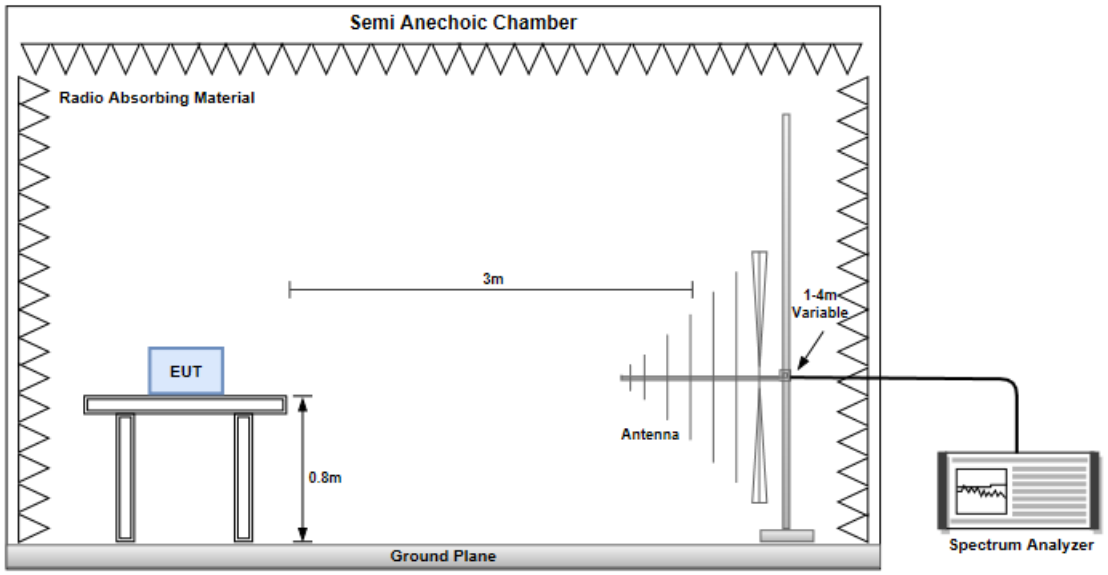
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission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

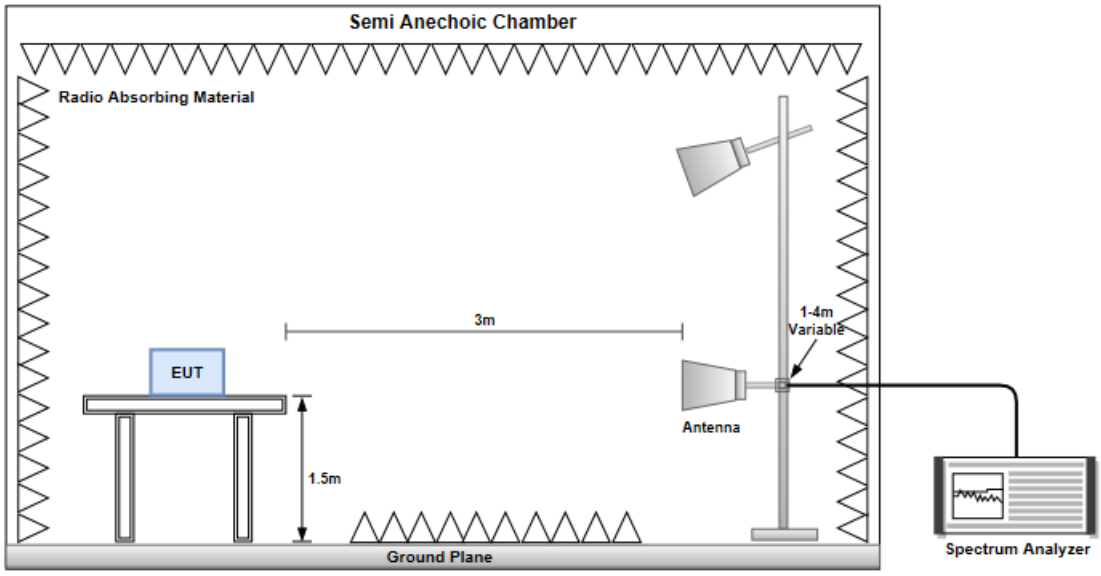
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

3.5.3 Test Setup

Radiated Emissions below 1 GHz

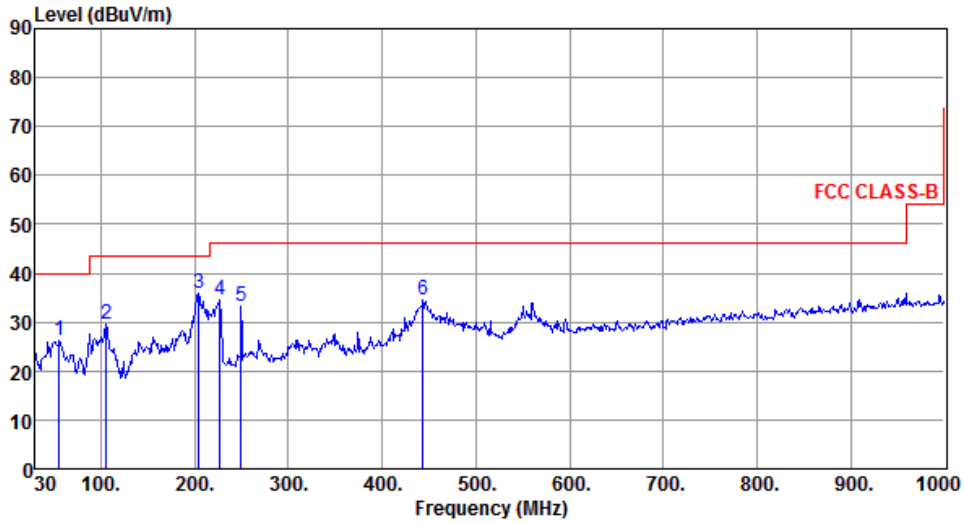


Radiated Emissions above 1 GHz



3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

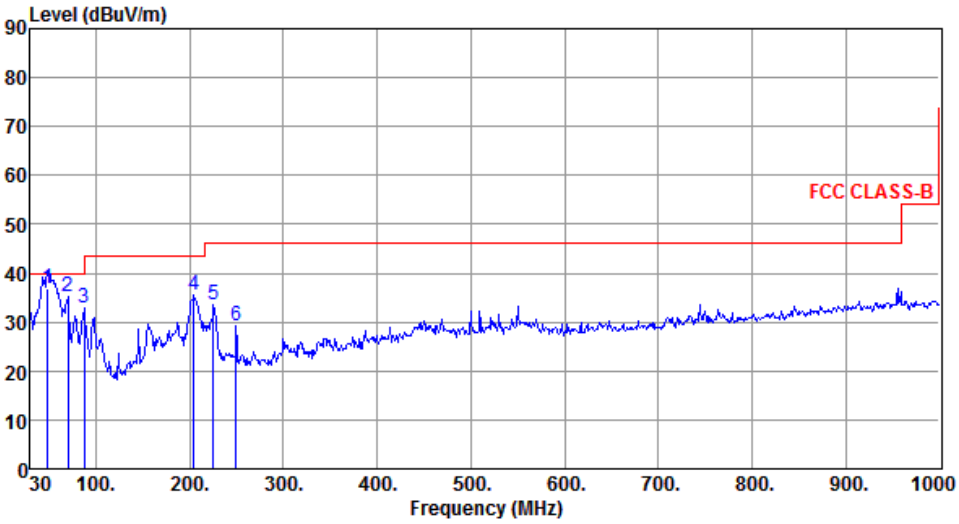
Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	55.22	26.12	40.00	-13.88	34.51	-8.39	Peak	---	---
2	105.66	29.52	43.50	-13.98	41.91	-12.39	Peak	---	---
3	204.60	35.81	43.50	-7.69	46.68	-10.87	Peak	---	---
4	226.91	34.52	46.00	-11.48	44.86	-10.34	Peak	---	---
5	249.22	33.11	46.00	-12.89	42.30	-9.19	Peak	---	---
6	443.22	34.40	46.00	-11.60	38.37	-3.97	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.

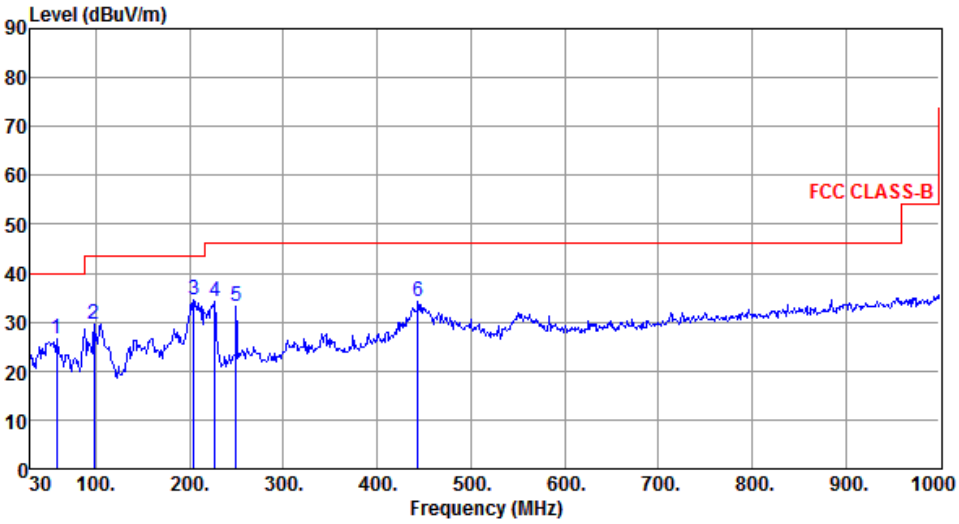
Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	48.43	36.80	40.00	-3.20	44.84	-8.04	QP	100	16
2	69.77	35.34	40.00	-4.66	45.85	-10.51	Peak	---	---
3	87.23	33.03	40.00	-6.97	47.01	-13.98	Peak	---	---
4	204.60	35.62	43.50	-7.88	46.49	-10.87	Peak	---	---
5	224.97	33.55	46.00	-12.45	44.03	-10.48	Peak	---	---
6	249.22	29.24	46.00	-16.76	38.43	-9.19	Peak	---	---

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

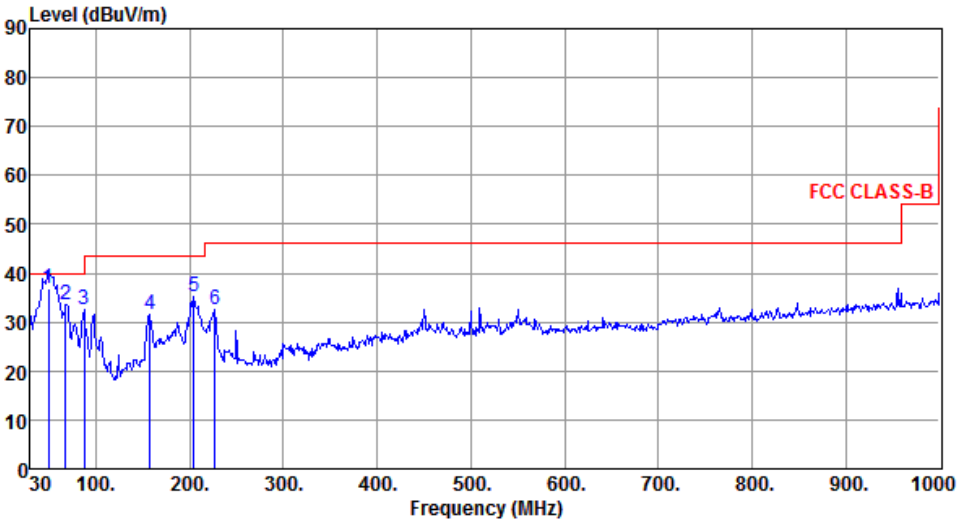
Modulation	11a	Test Freq. (MHz)	5745
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	58.13	26.60	40.00	-13.40	35.20	-8.60	Peak	---	---
2	97.90	29.52	43.50	-13.98	43.11	-13.59	Peak	---	---
3	204.60	34.70	43.50	-8.80	45.57	-10.87	Peak	---	---
4	226.91	34.11	46.00	-11.89	44.45	-10.34	Peak	---	---
5	249.22	33.15	46.00	-12.85	42.34	-9.19	Peak	---	---
6	443.22	34.12	46.00	-11.88	38.09	-3.97	Peak	---	---

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

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

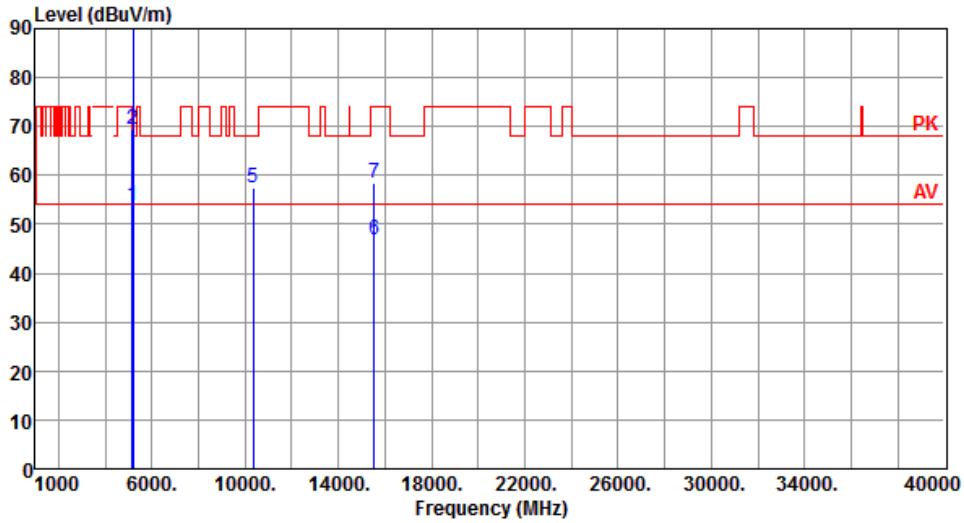


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	49.40	36.75	40.00	-3.25	44.74	-7.99	QP	100	16
2	67.83	33.59	40.00	-6.41	43.76	-10.17	Peak	---	---
3	87.23	32.43	40.00	-7.57	46.41	-13.98	Peak	---	---
4	158.04	31.65	43.50	-11.85	39.74	-8.09	Peak	---	---
5	204.60	35.19	43.50	-8.31	46.06	-10.87	Peak	---	---
6	226.91	32.40	46.00	-13.60	42.74	-10.34	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

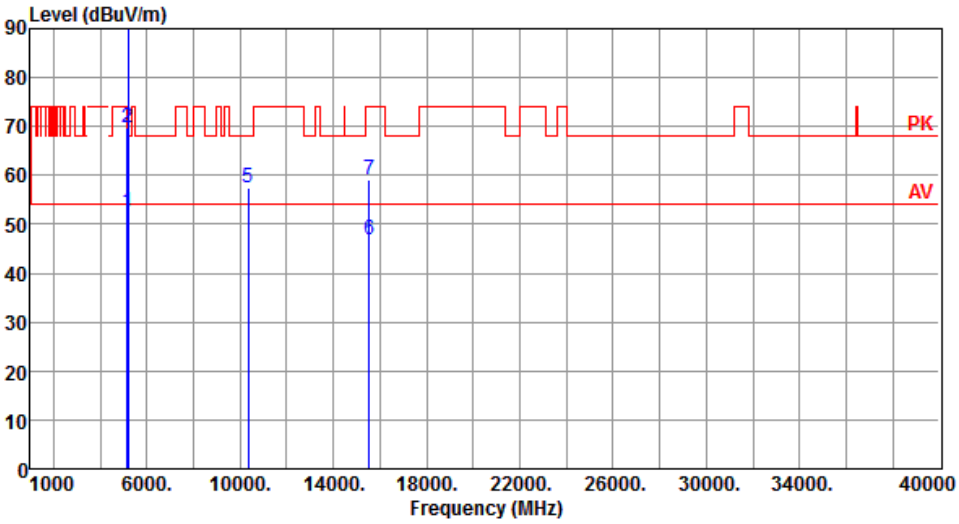
Modulation	11a	Test Freq. (MHz)	5180
Polarization	Horizontal		



		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	53.79	54.00	-0.21	47.58	6.21	Average	140	201
2		5150.00	69.28	74.00	-4.72	63.07	6.21	Peak	140	201
3	*	5180.00	105.05			98.83	6.22	Average	140	201
4	*	5180.00	115.73			109.51	6.22	Peak	140	201
5		10360.00	57.31	68.20	-10.89	41.56	15.75	Peak	100	200
6		15540.00	46.95	54.00	-7.05	30.56	16.39	Average	100	150
7		15540.00	58.55	74.00	-15.45	42.16	16.39	Peak	100	150

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:"*" is Peak / Average value of fundamental frequency

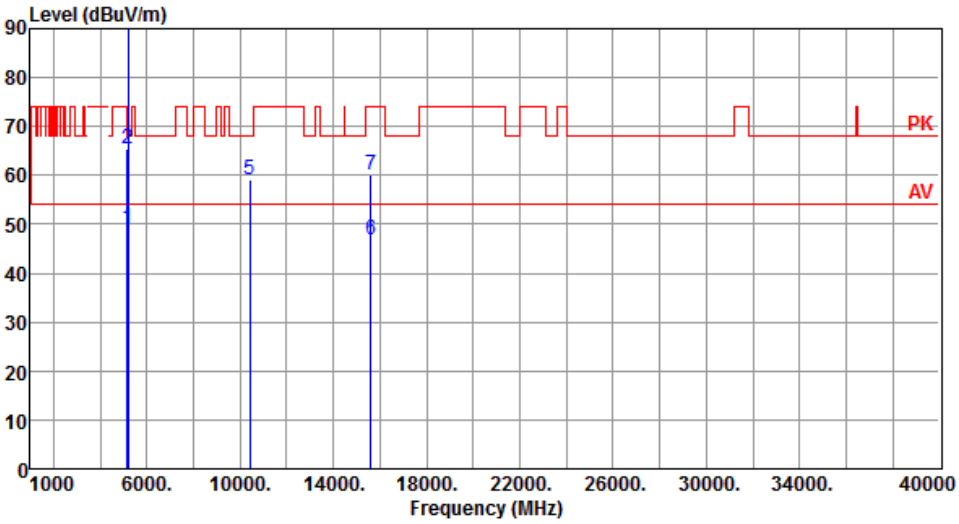
Modulation	11a	Test Freq. (MHz)	5180
Polarization	Vertical		



		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	52.56	54.00	-1.44	46.35	6.21	Average	218	179
2		5150.00	69.66	74.00	-4.34	63.45	6.21	Peak	218	179
3	*	5180.00	103.96			97.74	6.22	Average	218	179
4	*	5180.00	114.79			108.57	6.22	Peak	218	179
5		10360.00	57.60	68.20	-10.60	41.85	15.75	Peak	100	30
6		15540.00	46.84	54.00	-7.16	30.45	16.39	Average	100	50
7		15540.00	58.97	74.00	-15.03	42.58	16.39	Peak	100	50

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

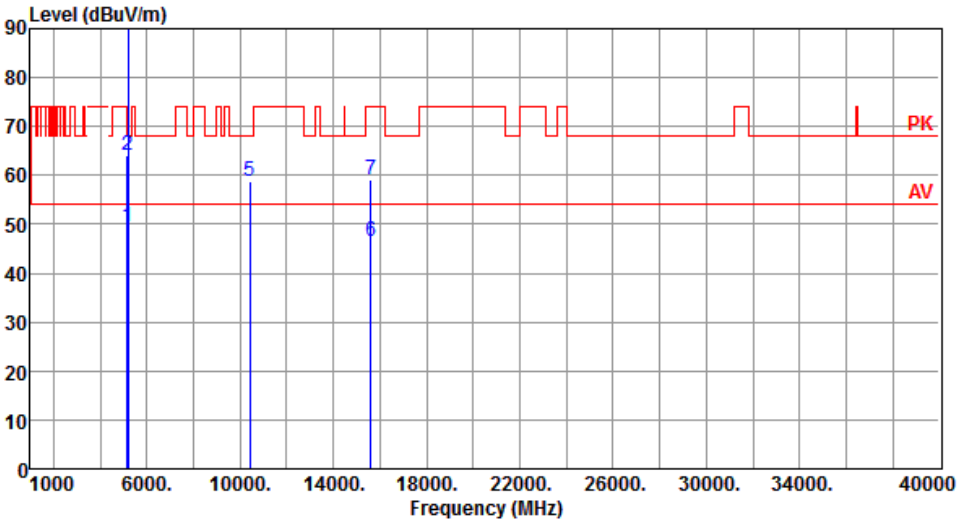
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Horizontal		



		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	49.21	54.00	-4.79	43.00	6.21	Average	100	158
2		5150.00	65.29	74.00	-8.71	59.08	6.21	Peak	100	158
3	*	5200.00	110.11			103.89	6.22	Average	132	158
4	*	5200.00	120.95			114.73	6.22	Peak	132	158
5		10400.00	59.00	68.20	-9.20	43.22	15.78	Peak	153	201
6		15600.00	46.97	54.00	-7.03	30.70	16.27	Average	100	135
7		15600.00	60.17	74.00	-13.83	43.90	16.27	Peak	100	135

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:"*" is Peak / Average value of fundamental frequency

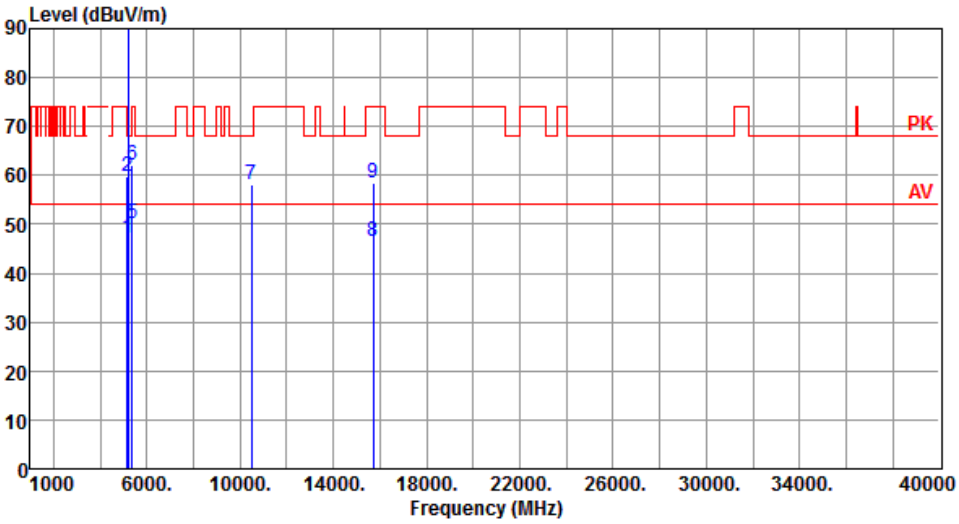
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Vertical		



		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	49.42	54.00	-4.58	43.21	6.21	Average	205	179
2		5150.00	64.11	74.00	-9.89	57.90	6.21	Peak	205	179
3	*	5200.00	107.53			101.31	6.22	Average	205	179
4	*	5200.00	117.93			111.71	6.22	Peak	205	179
5		10400.00	58.62	68.20	-9.58	42.84	15.78	Peak	100	174
6		15600.00	46.55	54.00	-7.45	30.28	16.27	Average	100	168
7		15600.00	59.23	74.00	-14.77	42.96	16.27	Peak	100	168

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:"*" is Peak / Average value of fundamental frequency

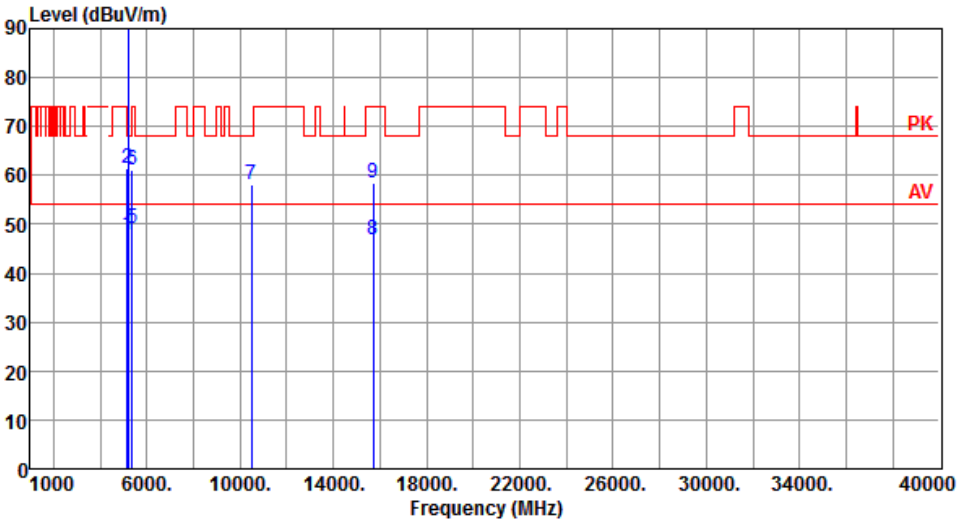
Modulation	11a	Test Freq. (MHz)	5240
Polarization	Horizontal		



		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	47.14	54.00	-6.86	40.93	6.21	Average	153	200
2		5150.00	59.73	74.00	-14.27	53.52	6.21	Peak	153	200
3	*	5240.00	110.05			103.76	6.29	Average	153	200
4	*	5240.00	119.95			113.66	6.29	Peak	153	200
5		5350.00	50.20	54.00	-3.80	43.75	6.45	Average	153	200
6		5350.00	62.09	74.00	-11.91	55.64	6.45	Peak	153	200
7		10480.00	58.02	68.20	-10.18	42.19	15.83	Peak	160	201
8		15720.00	46.34	54.00	-7.66	30.31	16.03	Average	100	173
9		15720.00	58.41	74.00	-15.59	42.38	16.03	Peak	100	173

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:"*" is Peak / Average value of fundamental frequency

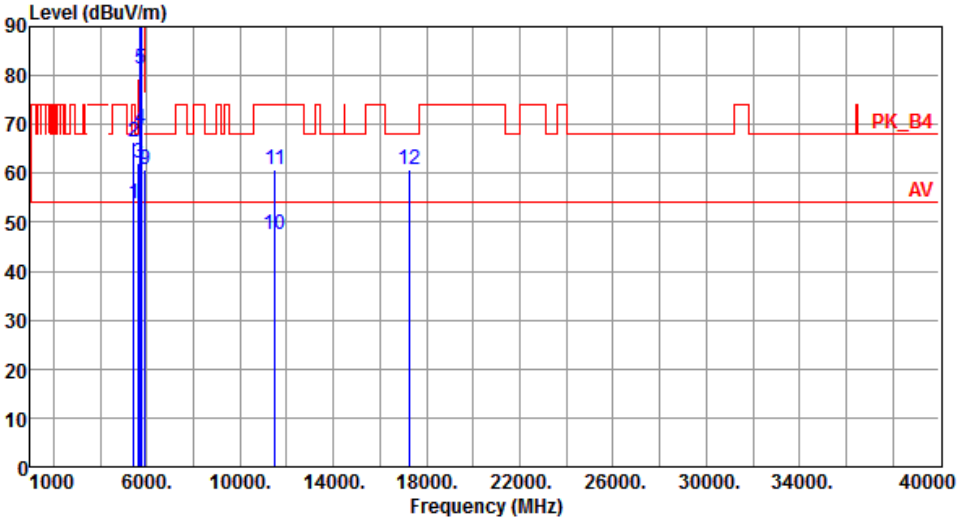
Modulation	11a	Test Freq. (MHz)	5240
Polarization	Vertical		



		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	47.95	54.00	-6.05	41.74	6.21	Average	239	204
2		5150.00	61.49	74.00	-12.51	55.28	6.21	Peak	239	204
3	*	5240.00	108.41			102.12	6.29	Average	239	204
4	*	5240.00	118.43			112.14	6.29	Peak	239	204
5		5350.00	49.08	54.00	-4.92	42.63	6.45	Average	239	204
6		5350.00	60.96	74.00	-13.04	54.51	6.45	Peak	239	204
7		10480.00	58.09	68.20	-10.11	42.26	15.83	Peak	100	184
8		15720.00	46.68	54.00	-7.32	30.65	16.03	Average	100	175
9		15720.00	58.47	74.00	-15.53	42.44	16.03	Peak	100	175

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:"*" is Peak / Average value of fundamental frequency

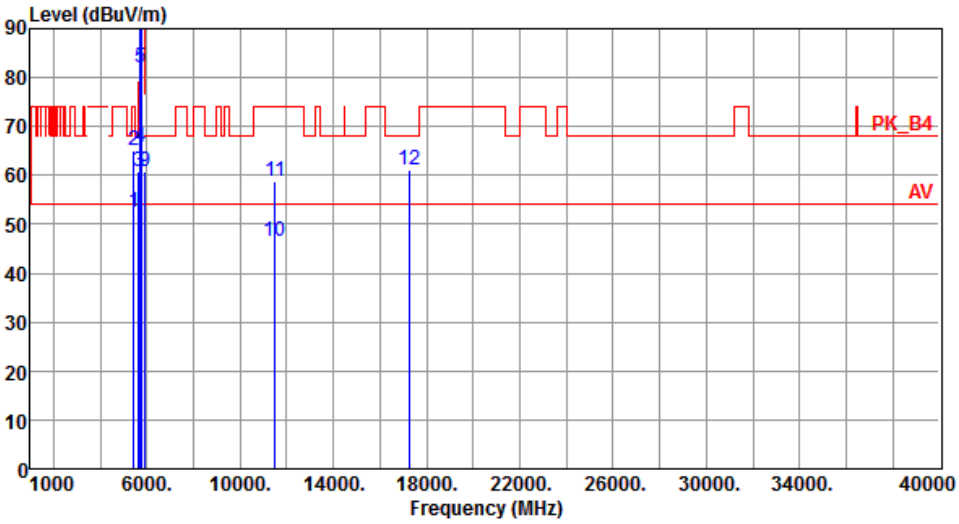
Modulation	11a	Test Freq. (MHz)	5745
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5425.00	53.80	54.00	-0.20	47.25	6.55	Average	187	176
2		5425.00	66.43	74.00	-7.57	59.88	6.55	Peak	187	176
3		5650.00	61.98	68.20	-6.22	55.12	6.86	Peak	187	176
4		5700.00	69.19	105.20	-36.01	62.23	6.96	Peak	187	176
5		5720.00	81.44	110.80	-29.36	74.44	7.00	Peak	187	176
6		5725.00	91.68	122.20	-30.52	84.68	7.00	Peak	187	176
7	*	5745.00	109.41			102.37	7.04	Average	187	176
8	*	5745.00	120.56			113.52	7.04	Peak	187	176
9		5925.00	60.91	68.20	-7.29	53.53	7.38	Peak	187	176
10		11490.00	47.49	54.00	-6.51	31.00	16.49	Average	163	124
11		11490.00	60.74	74.00	-13.26	44.25	16.49	Peak	163	124
12		17235.00	60.81	68.20	-7.39	42.44	18.37	Peak	100	163

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:"*" is Peak / Average value of fundamental frequency

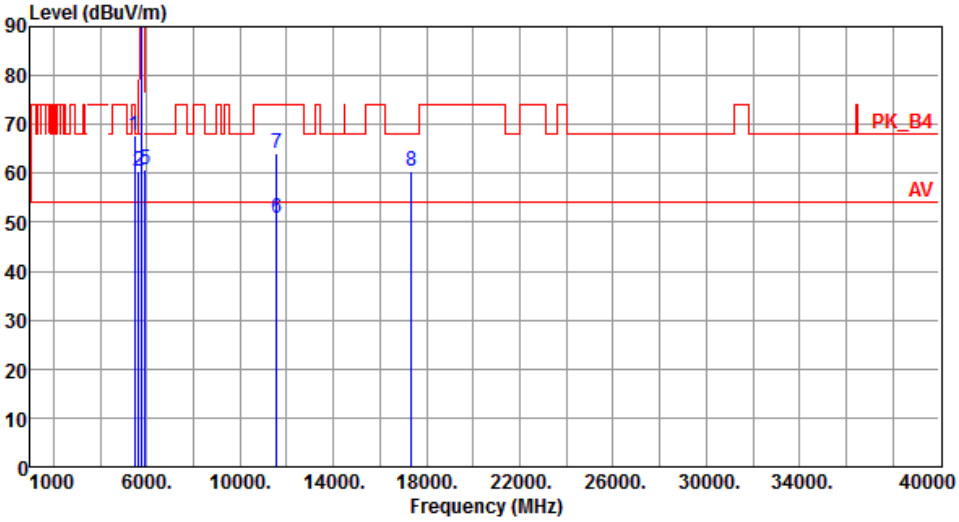
Modulation	11a	Test Freq. (MHz)	5745
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5425.00	52.52	54.00	-1.48	45.97	6.55	Average	190	198
2		5425.00	64.96	74.00	-9.04	58.41	6.55	Peak	190	198
3		5650.00	60.64	68.20	-7.56	53.78	6.86	Peak	152	198
4		5700.00	65.89	105.20	-39.31	58.93	6.96	Peak	152	198
5		5720.00	82.09	110.80	-28.71	75.09	7.00	Peak	152	198
6		5725.00	95.11	122.20	-27.09	88.11	7.00	Peak	152	198
7	*	5745.00	112.81			105.77	7.04	Average	152	198
8	*	5745.00	123.15			116.11	7.04	Peak	152	198
9		5925.00	60.71	68.20	-7.49	53.33	7.38	Peak	152	198
10		11490.00	46.64	54.00	-7.36	30.15	16.49	Average	100	218
11		11490.00	58.72	74.00	-15.28	42.23	16.49	Peak	100	218
12		17235.00	61.22	68.20	-6.98	42.85	18.37	Peak	100	185

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:"*" is Peak / Average value of fundamental frequency

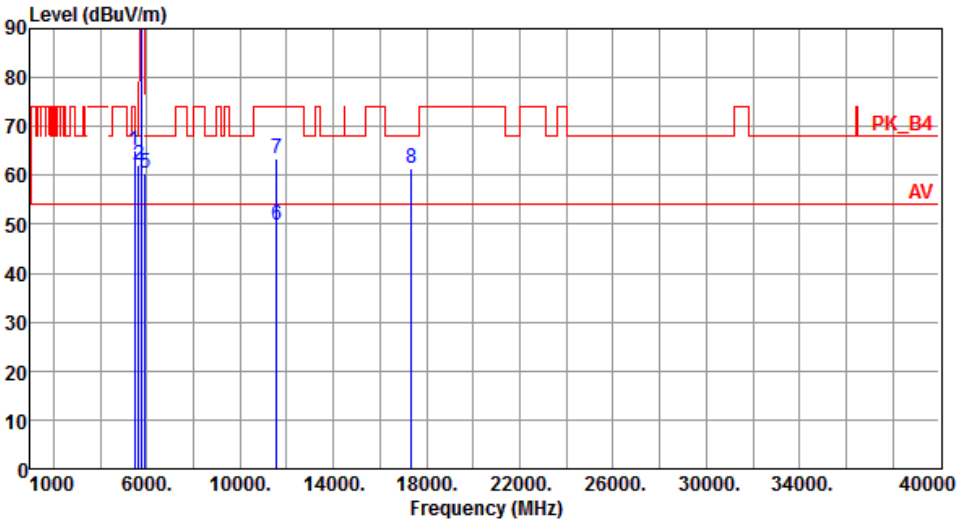
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5465.00	67.85	68.20	-0.35	61.27	6.58	Peak	204	179
2		5650.00	60.44	68.20	-7.76	53.58	6.86	Peak	204	179
3	*	5785.00	109.30			102.17	7.13	Average	204	179
4	*	5785.00	120.77			113.64	7.13	Peak	204	179
5		5925.00	60.94	68.20	-7.26	53.56	7.38	Peak	204	179
6		11570.00	50.81	54.00	-3.19	34.42	16.39	Average	114	128
7		11570.00	64.13	74.00	-9.87	47.74	16.39	Peak	114	128
8		17355.00	60.59	68.20	-7.61	41.86	18.73	Peak	100	181

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:"*" is Peak / Average value of fundamental frequency

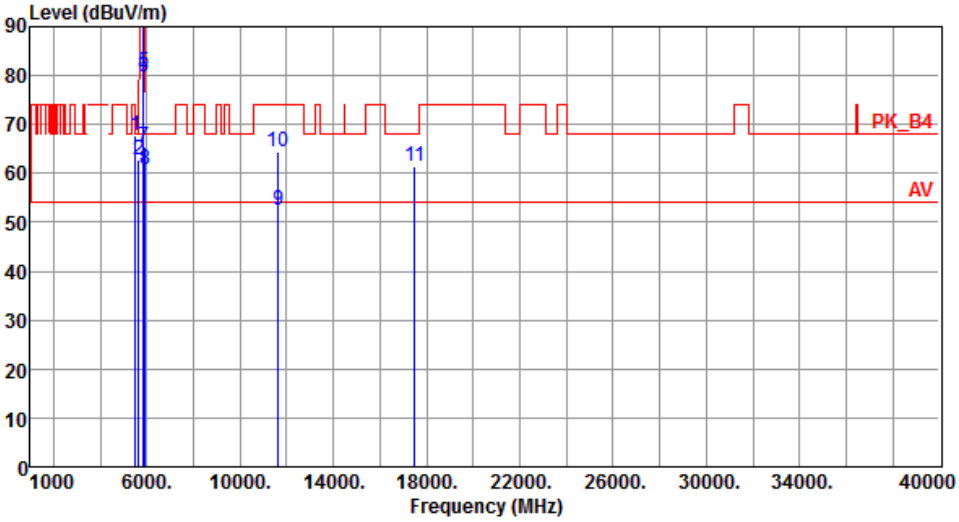
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5465.00	65.18	68.20	-3.02	58.60	6.58	Peak	153	200
2		5650.00	62.22	68.20	-5.98	55.36	6.86	Peak	153	200
3	*	5785.00	111.67			104.54	7.13	Average	153	200
4	*	5785.00	121.90			114.77	7.13	Peak	153	200
5		5925.00	60.48	68.20	-7.72	53.10	7.38	Peak	153	200
6		11570.00	49.82	54.00	-4.18	33.43	16.39	Average	100	218
7		11570.00	63.44	74.00	-10.56	47.05	16.39	Peak	100	218
8		17355.00	61.53	68.20	-6.67	42.80	18.73	Peak	100	175

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:"*" is Peak / Average value of fundamental frequency

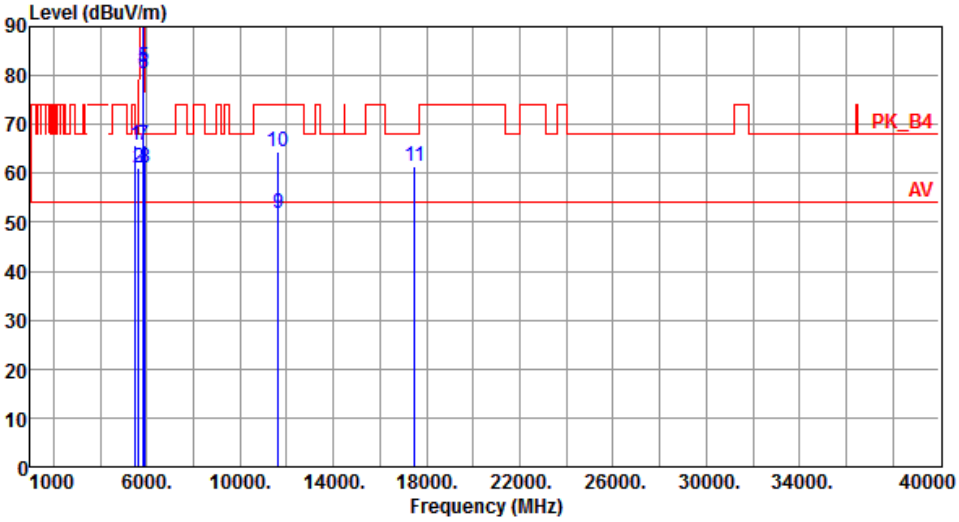
Modulation	11a	Test Freq. (MHz)	5825
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5505.00	67.82	68.20	-0.38	61.20	6.62	Peak	199	177
2		5650.00	62.85	68.20	-5.35	55.99	6.86	Peak	199	177
3	*	5825.00	109.50			102.30	7.20	Average	199	177
4	*	5825.00	119.53			112.33	7.20	Peak	199	177
5		5850.00	80.79	122.20	-41.41	73.55	7.24	Peak	199	177
6		5855.00	79.62	110.80	-31.18	72.36	7.26	Peak	199	177
7		5875.00	65.58	105.20	-39.62	58.29	7.29	Peak	199	177
8		5925.00	60.71	68.20	-7.49	53.33	7.38	Peak	199	177
9		11650.00	52.62	54.00	-1.38	36.35	16.27	Average	100	214
10		11650.00	64.54	74.00	-9.46	48.27	16.27	Peak	100	214
11		17475.00	61.49	68.20	-6.71	42.38	19.11	Peak	100	166

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:"*" is Peak / Average value of fundamental frequency

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

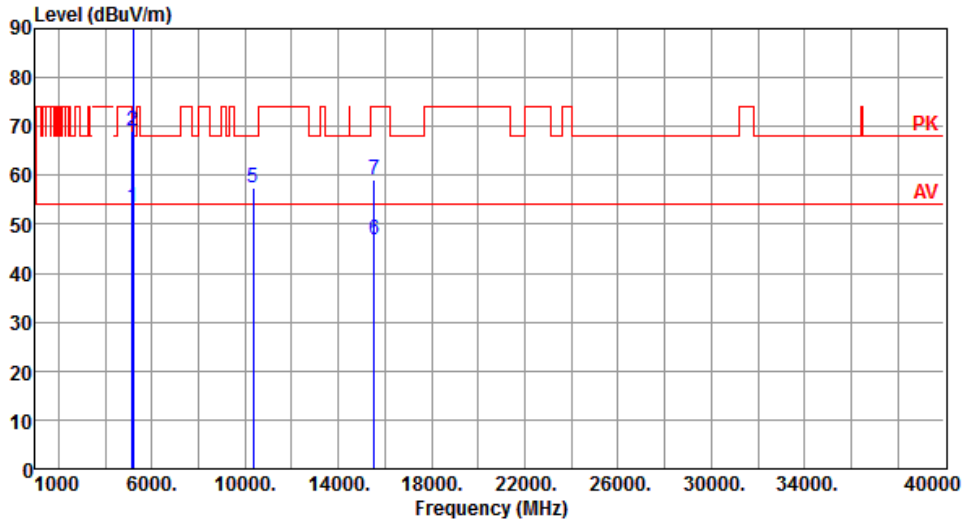


		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5505.00	65.90	68.20	-2.30	59.28	6.62	Peak	156	198
2		5650.00	60.98	68.20	-7.22	54.12	6.86	Peak	156	198
3	*	5825.00	112.02			104.82	7.20	Average	156	198
4	*	5825.00	122.25			115.05	7.20	Peak	156	198
5		5850.00	81.56	122.20	-40.64	74.32	7.24	Peak	156	198
6		5855.00	80.31	110.80	-30.49	73.05	7.26	Peak	156	198
7		5875.00	65.67	105.20	-39.53	58.38	7.29	Peak	156	198
8		5925.00	61.06	68.20	-7.14	53.68	7.38	Peak	156	198
9		11650.00	51.70	54.00	-2.30	35.43	16.27	Average	100	215
10		11650.00	64.58	74.00	-9.42	48.31	16.27	Peak	100	215
11		17475.00	61.53	68.20	-6.67	42.42	19.11	Peak	100	175

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:"*" is Peak / Average value of fundamental frequency

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

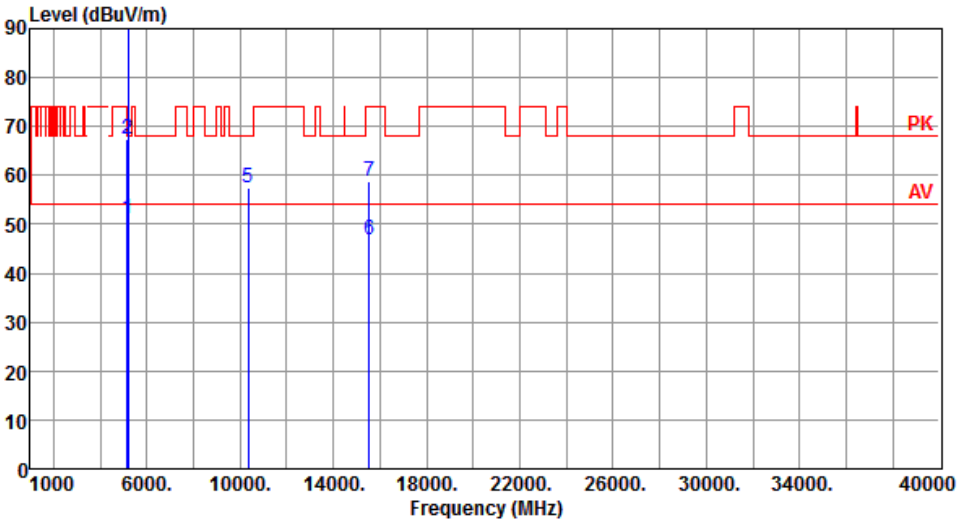
Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Horizontal		



		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	53.61	54.00	-0.39	47.40	6.21	Average	100	175
2		5150.00	68.99	74.00	-5.01	62.78	6.21	Peak	100	175
3	*	5180.00	105.04			98.82	6.22	Average	100	175
4	*	5180.00	115.43			109.21	6.22	Peak	100	175
5		10360.00	57.34	68.20	-10.86	41.59	15.75	Peak	100	200
6		15540.00	46.87	54.00	-7.13	30.48	16.39	Average	100	50
7		15540.00	59.17	74.00	-14.83	42.78	16.39	Peak	100	50

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

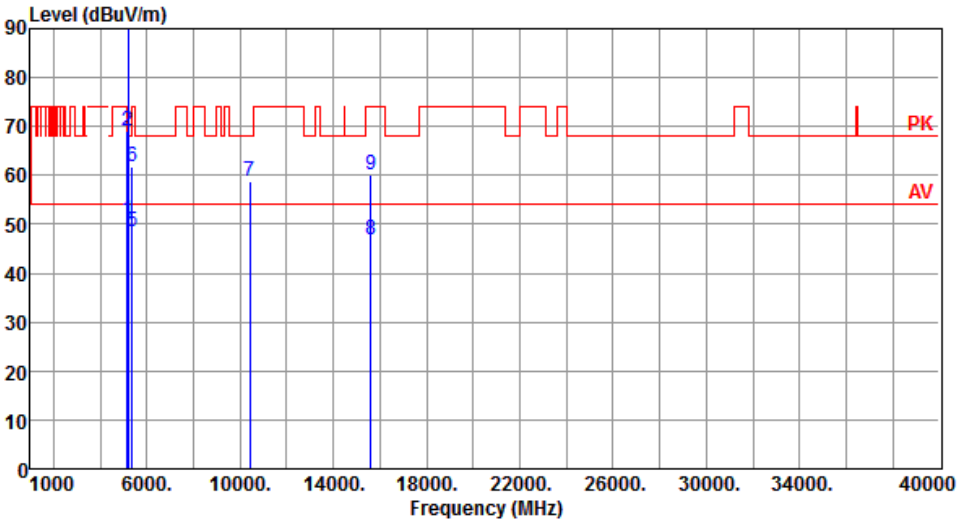
Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Vertical		



		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	51.16	54.00	-2.84	44.95	6.21	Average	235	201
2		5150.00	67.49	74.00	-6.51	61.28	6.21	Peak	235	201
3	*	5180.00	104.58			98.36	6.22	Average	235	201
4	*	5180.00	114.53			108.31	6.22	Peak	235	201
5		10360.00	57.49	68.20	-10.71	41.74	15.75	Peak	100	60
6		15540.00	46.86	54.00	-7.14	30.47	16.39	Average	100	70
7		15540.00	58.91	74.00	-15.09	42.52	16.39	Peak	100	70

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:"*" is Peak / Average value of fundamental frequency

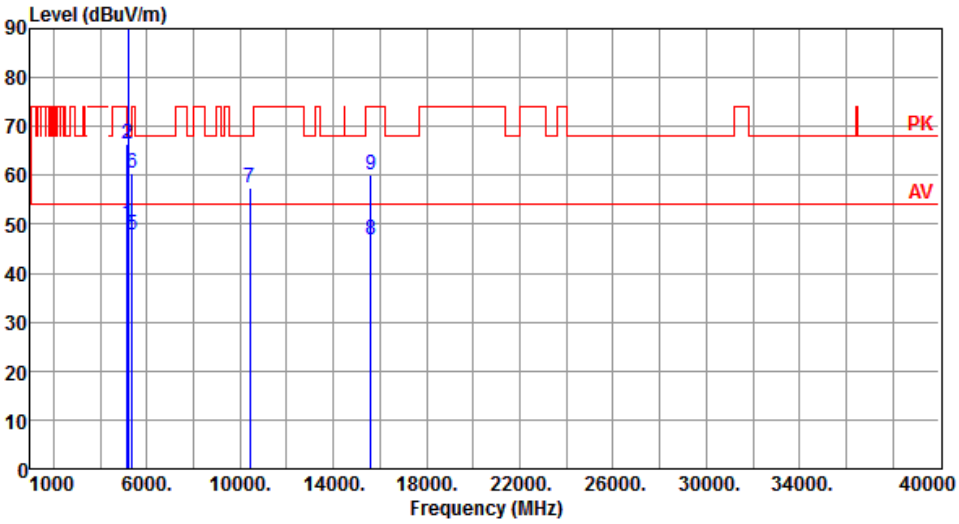
Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Horizontal		



		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	50.94	54.00	-3.06	44.73	6.21	Average	100	160
2		5150.00	69.01	74.00	-4.99	62.80	6.21	Peak	100	160
3	*	5200.00	108.42			102.20	6.22	Average	100	160
4	*	5200.00	118.60			112.38	6.22	Peak	100	160
5		5350.00	48.60	54.00	-5.40	42.15	6.45	Average	100	160
6		5350.00	61.87	74.00	-12.13	55.42	6.45	Peak	100	160
7		10400.00	58.74	68.20	-9.46	42.96	15.78	Peak	100	65
8		15600.00	46.97	54.00	-7.03	30.70	16.27	Average	100	248
9		15600.00	60.07	74.00	-13.93	43.80	16.27	Peak	100	248

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:"*" is Peak / Average value of fundamental frequency

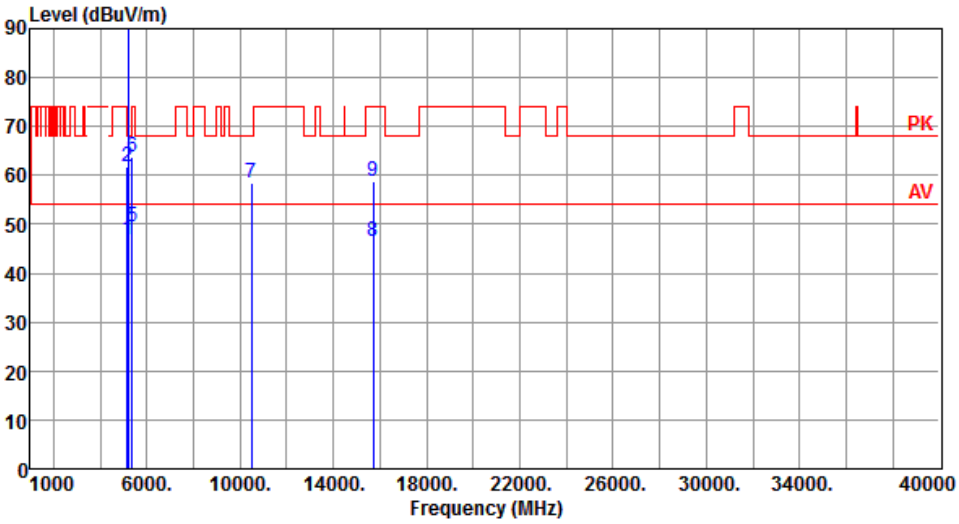
Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Vertical		



		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	50.01	54.00	-3.99	43.80	6.21	Average	240	202
2		5150.00	66.57	74.00	-7.43	60.36	6.21	Peak	240	202
3	*	5200.00	107.70			101.48	6.22	Average	240	202
4	*	5200.00	117.82			111.60	6.22	Peak	240	202
5		5350.00	47.91	54.00	-6.09	41.46	6.45	Average	240	202
6		5350.00	60.47	74.00	-13.53	54.02	6.45	Peak	240	202
7		10400.00	57.60	68.20	-10.60	41.82	15.78	Peak	100	205
8		15600.00	46.80	54.00	-7.20	30.53	16.27	Average	100	212
9		15600.00	59.97	74.00	-14.03	43.70	16.27	Peak	100	212

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:"*" is Peak / Average value of fundamental frequency

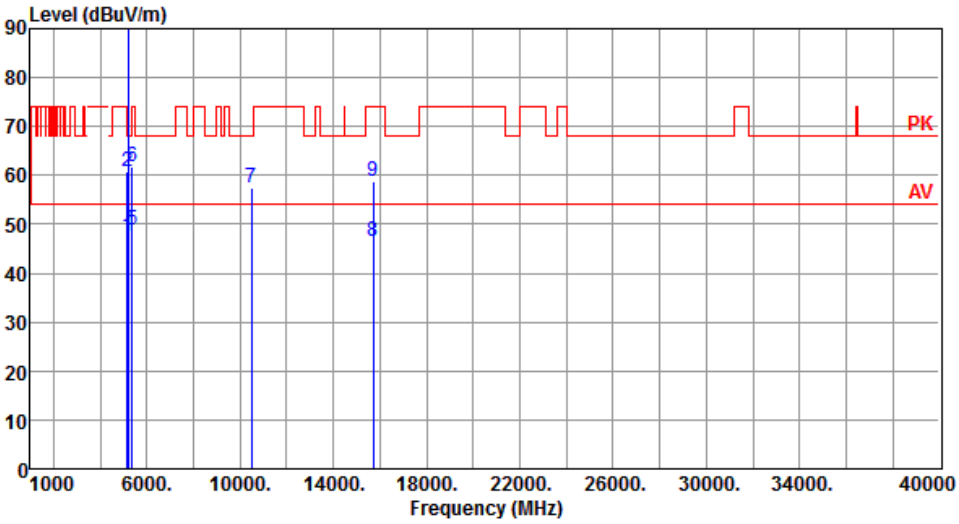
Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Horizontal		



		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	46.99	54.00	-7.01	40.78	6.21	Average	100	162
2		5150.00	61.77	74.00	-12.23	55.56	6.21	Peak	100	162
3	*	5240.00	109.56			103.27	6.29	Average	100	162
4	*	5240.00	120.08			113.79	6.29	Peak	100	162
5		5350.00	49.60	54.00	-4.40	43.15	6.45	Average	100	162
6		5350.00	63.81	74.00	-10.19	57.36	6.45	Peak	100	162
7		10480.00	58.40	68.20	-9.80	42.57	15.83	Peak	100	70
8		15720.00	46.59	54.00	-7.41	30.56	16.03	Average	100	80
9		15720.00	58.81	74.00	-15.19	42.78	16.03	Peak	100	80

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

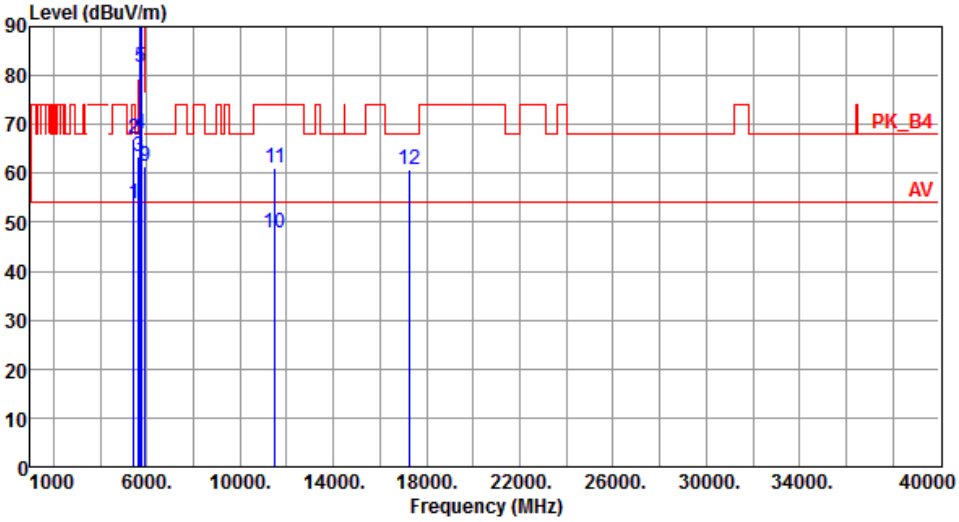
Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Vertical		



		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	47.53	54.00	-6.47	41.32	6.21	Average	236	202
2		5150.00	60.89	74.00	-13.11	54.68	6.21	Peak	236	202
3	*	5240.00	108.20			101.91	6.29	Average	236	202
4	*	5240.00	118.23			111.94	6.29	Peak	236	202
5		5350.00	48.68	54.00	-5.32	42.23	6.45	Average	236	202
6		5350.00	61.68	74.00	-12.32	55.23	6.45	Peak	236	202
7		10480.00	57.43	68.20	-10.77	41.60	15.83	Peak	100	30
8		15720.00	46.59	54.00	-7.41	30.56	16.03	Average	100	50
9		15720.00	58.78	74.00	-15.22	42.75	16.03	Peak	100	50

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

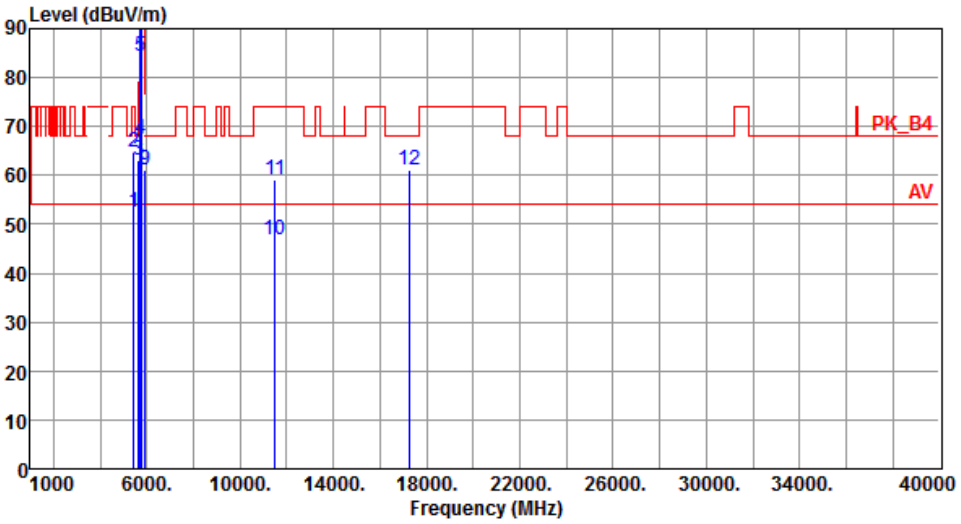
Modulation	VHT20	Test Freq. (MHz)	5745
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5425.00	53.80	54.00	-0.20	47.25	6.55	Average	158	176
2		5425.00	67.05	74.00	-6.95	60.50	6.55	Peak	158	176
3		5650.00	63.27	68.20	-4.93	56.41	6.86	Peak	222	176
4		5700.00	67.99	105.20	-37.21	61.03	6.96	Peak	222	176
5		5720.00	81.54	110.80	-29.26	74.54	7.00	Peak	222	176
6		5725.00	93.34	122.20	-28.86	86.34	7.00	Peak	222	176
7	*	5745.00	109.35			102.31	7.04	Average	222	176
8	*	5745.00	119.42			112.38	7.04	Peak	222	176
9		5925.00	61.55	68.20	-6.65	54.17	7.38	Peak	222	176
10		11490.00	47.74	54.00	-6.26	31.25	16.49	Average	165	124
11		11490.00	61.02	74.00	-12.98	44.53	16.49	Peak	165	124
12		17235.00	60.93	68.20	-7.27	42.56	18.37	Peak	100	157

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:"*" is Peak / Average value of fundamental frequency

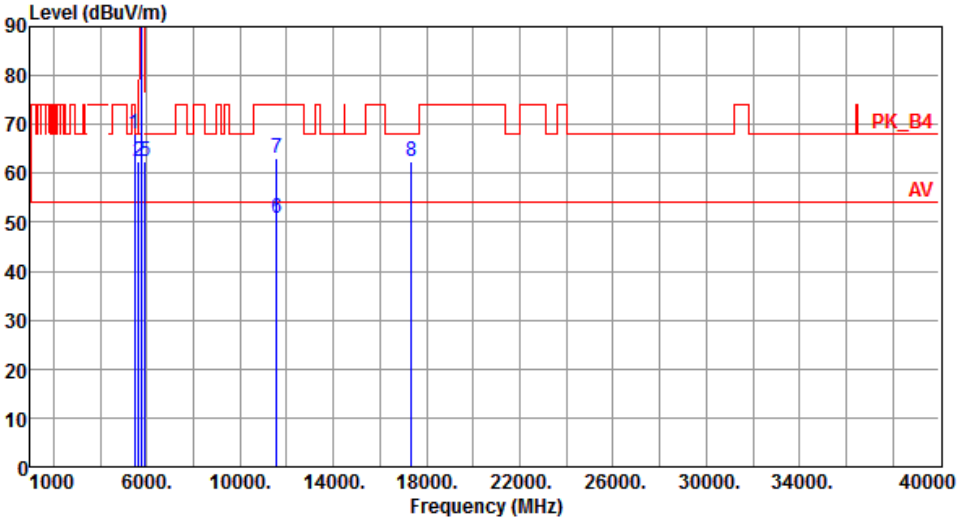
Modulation	VHT20	Test Freq. (MHz)	5745
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5425.00	52.58	54.00	-1.42	46.03	6.55	Average	179	200
2		5425.00	64.60	74.00	-9.40	58.05	6.55	Peak	179	200
3		5650.00	63.00	68.20	-5.20	56.14	6.86	Peak	179	200
4		5700.00	67.56	105.20	-37.64	60.60	6.96	Peak	179	200
5		5720.00	84.29	110.80	-26.51	77.29	7.00	Peak	179	200
6		5725.00	92.21	122.20	-29.99	85.21	7.00	Peak	179	200
7	*	5745.00	112.07			105.03	7.04	Average	179	200
8	*	5745.00	122.18			115.14	7.04	Peak	179	200
9		5925.00	61.26	68.20	-6.94	53.88	7.38	Peak	179	200
10		11490.00	46.77	54.00	-7.23	30.28	16.49	Average	100	215
11		11490.00	59.05	74.00	-14.95	42.56	16.49	Peak	100	215
12		17235.00	61.14	68.20	-7.06	42.77	18.37	Peak	100	182

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:"*" is Peak / Average value of fundamental frequency

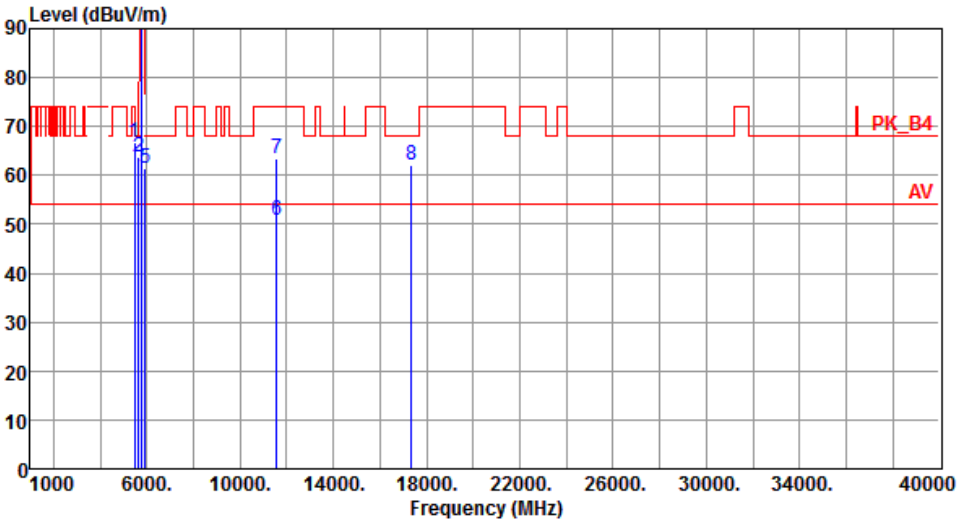
Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5465.00	67.98	68.20	-0.22	61.40	6.58	Peak	171	177
2		5650.00	62.56	68.20	-5.64	55.70	6.86	Peak	240	177
3	*	5785.00	109.23			102.10	7.13	Average	240	177
4	*	5785.00	119.92			112.79	7.13	Peak	240	177
5		5925.00	62.43	68.20	-5.77	55.05	7.38	Peak	240	177
6		11570.00	50.84	54.00	-3.16	34.45	16.39	Average	100	306
7		11570.00	63.04	74.00	-10.96	46.65	16.39	Peak	100	306
8		17355.00	62.56	68.20	-5.64	43.83	18.73	Peak	100	55

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:"*" is Peak / Average value of fundamental frequency

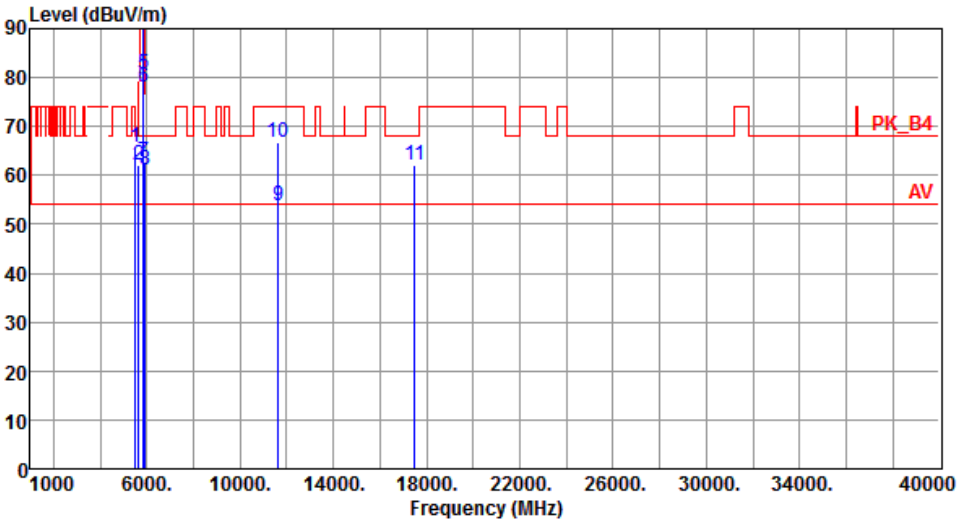
Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5465.00	66.88	68.20	-1.32	60.30	6.58	Peak	174	198
2		5650.00	63.66	68.20	-4.54	56.80	6.86	Peak	174	198
3	*	5785.00	111.17			104.04	7.13	Average	174	198
4	*	5785.00	121.26			114.13	7.13	Peak	174	198
5		5925.00	61.34	68.20	-6.86	53.96	7.38	Peak	174	198
6		11570.00	50.79	54.00	-3.21	34.40	16.39	Average	100	30
7		11570.00	63.49	74.00	-10.51	47.10	16.39	Peak	100	30
8		17355.00	62.24	68.20	-5.96	43.51	18.73	Peak	100	193

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:"*" is Peak / Average value of fundamental frequency

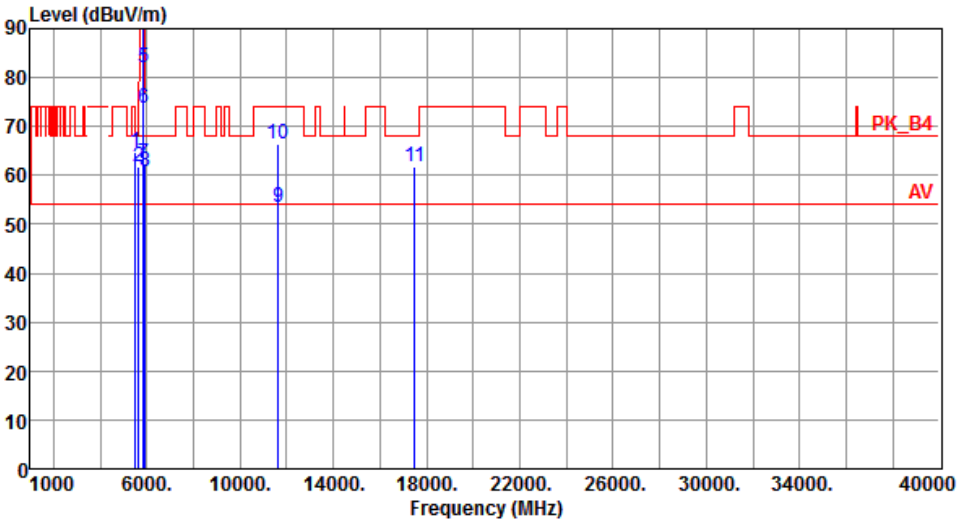
Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5505.00	65.89	68.20	-2.31	59.27	6.62	Peak	175	175
2		5650.00	62.23	68.20	-5.97	55.37	6.86	Peak	224	175
3	*	5825.00	110.93			103.73	7.20	Average	224	175
4	*	5825.00	121.25			114.05	7.20	Peak	224	175
5		5850.00	80.84	122.20	-41.36	73.60	7.24	Peak	224	175
6		5855.00	77.97	110.80	-32.83	70.71	7.26	Peak	224	175
7		5875.00	62.79	105.20	-42.41	55.50	7.29	Peak	224	175
8		5925.00	61.16	68.20	-7.04	53.78	7.38	Peak	224	175
9		11650.00	53.85	54.00	-0.15	37.58	16.27	Average	133	294
10		11650.00	66.79	74.00	-7.21	50.52	16.27	Peak	133	294
11		17475.00	62.01	68.20	-6.19	42.90	19.11	Peak	100	47

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:"*" is Peak / Average value of fundamental frequency

Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Vertical		

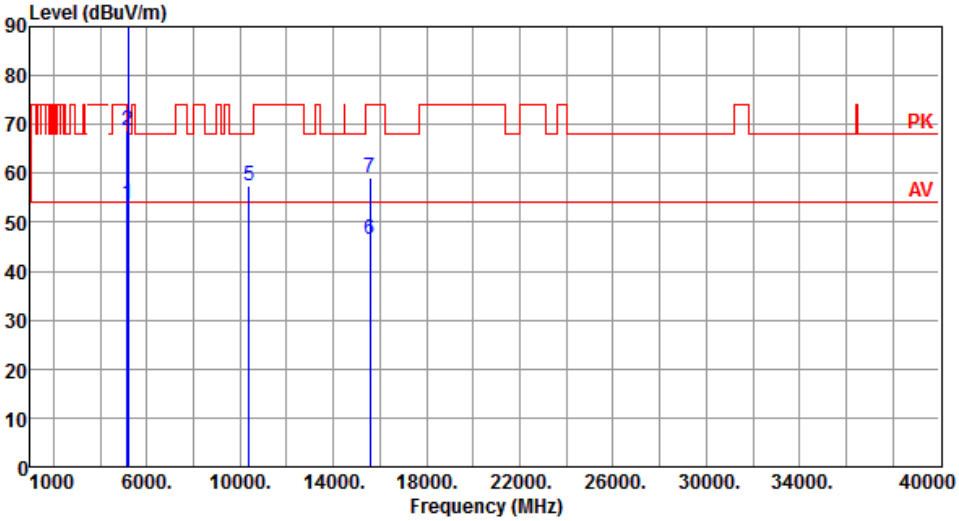


		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5505.00	64.67	68.20	-3.53	58.05	6.62	Peak	173	198
2		5650.00	61.88	68.20	-6.32	55.02	6.86	Peak	173	198
3	*	5825.00	112.18			104.98	7.20	Average	173	198
4	*	5825.00	122.80			115.60	7.20	Peak	173	198
5		5850.00	81.92	122.20	-40.28	74.68	7.24	Peak	173	198
6		5855.00	73.70	110.80	-37.10	66.44	7.26	Peak	173	198
7		5875.00	62.29	105.20	-42.91	55.00	7.29	Peak	173	198
8		5925.00	60.88	68.20	-7.32	53.50	7.38	Peak	173	198
9		11650.00	53.40	54.00	-0.60	37.13	16.27	Average	100	29
10		11650.00	66.29	74.00	-7.71	50.02	16.27	Peak	100	29
11		17475.00	61.81	68.20	-6.39	42.70	19.11	Peak	100	182

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:"*" is Peak / Average value of fundamental frequency

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

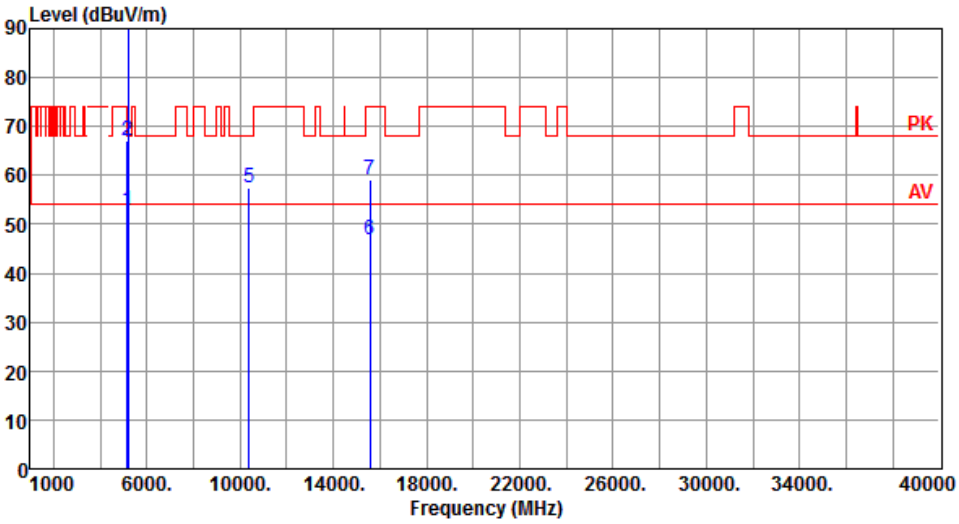
Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5150.00	53.76	54.00	-0.24	47.55	6.21	Average	157	22
2		5150.00	68.62	74.00	-5.38	62.41	6.21	Peak	157	22
3	*	5190.00	97.41			91.19	6.22	Average	157	22
4	*	5190.00	107.32			101.10	6.22	Peak	157	22
5		10380.00	57.35	68.20	-10.85	41.59	15.76	Peak	100	30
6		15570.00	46.58	54.00	-7.42	30.25	16.33	Average	100	60
7		15570.00	59.12	74.00	-14.88	42.79	16.33	Peak	100	60

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

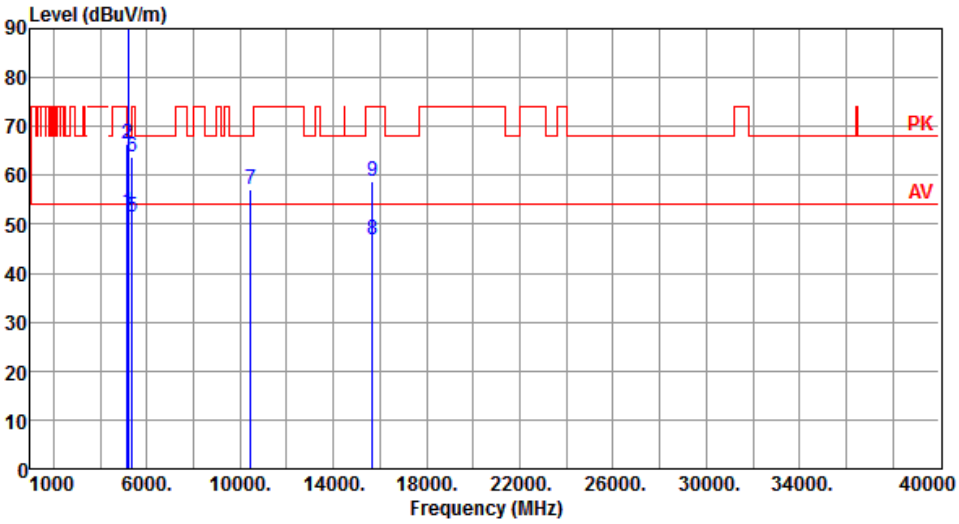
Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5150.00	52.87	54.00	-1.13	46.66	6.21	Average	217	1
2		5150.00	67.02	74.00	-6.98	60.81	6.21	Peak	217	1
3	*	5190.00	96.01			89.79	6.22	Average	217	1
4	*	5190.00	105.98			99.76	6.22	Peak	217	1
5		10380.00	57.35	68.20	-10.85	41.59	15.76	Peak	100	60
6		15570.00	46.78	54.00	-7.22	30.45	16.33	Average	100	90
7		15570.00	59.07	74.00	-14.93	42.74	16.33	Peak	100	90

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

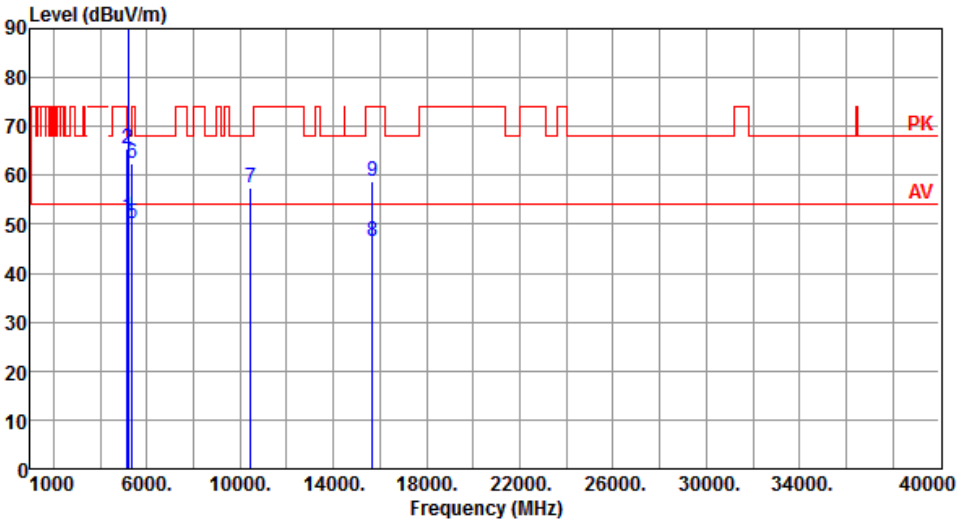
Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5150.00	52.50	54.00	-1.50	46.29	6.21	Average	153	22
2		5150.00	66.33	74.00	-7.67	60.12	6.21	Peak	153	22
3	*	5230.00	106.82			100.55	6.27	Average	153	22
4	*	5230.00	115.91			109.64	6.27	Peak	153	22
5		5350.00	51.32	54.00	-2.68	44.87	6.45	Average	153	22
6		5350.00	63.68	74.00	-10.32	57.23	6.45	Peak	153	22
7		10460.00	57.21	68.20	-10.99	41.39	15.82	Peak	100	80
8		15690.00	46.73	54.00	-7.27	30.64	16.09	Average	100	90
9		15690.00	58.68	74.00	-15.32	42.59	16.09	Peak	100	90

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

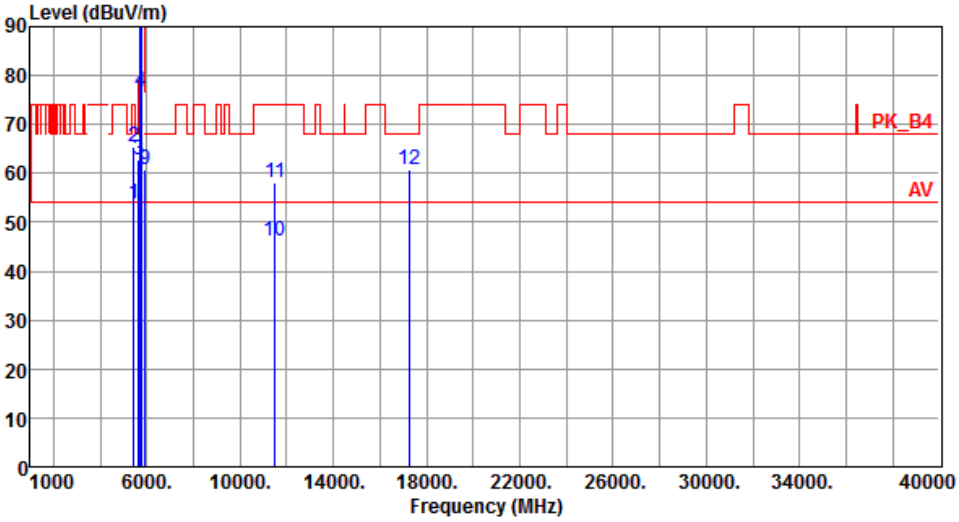
Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5150.00	51.58	54.00	-2.42	45.37	6.21	Average	214	1
2		5150.00	65.47	74.00	-8.53	59.26	6.21	Peak	214	1
3	*	5230.00	104.47			98.20	6.27	Average	214	1
4	*	5230.00	113.73			107.46	6.27	Peak	214	1
5		5350.00	50.01	54.00	-3.99	43.56	6.45	Average	214	1
6		5350.00	62.40	74.00	-11.60	55.95	6.45	Peak	214	1
7		10460.00	57.57	68.20	-10.63	41.75	15.82	Peak	100	20
8		15690.00	46.54	54.00	-7.46	30.45	16.09	Average	100	60
9		15690.00	58.78	74.00	-15.22	42.69	16.09	Peak	100	60

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

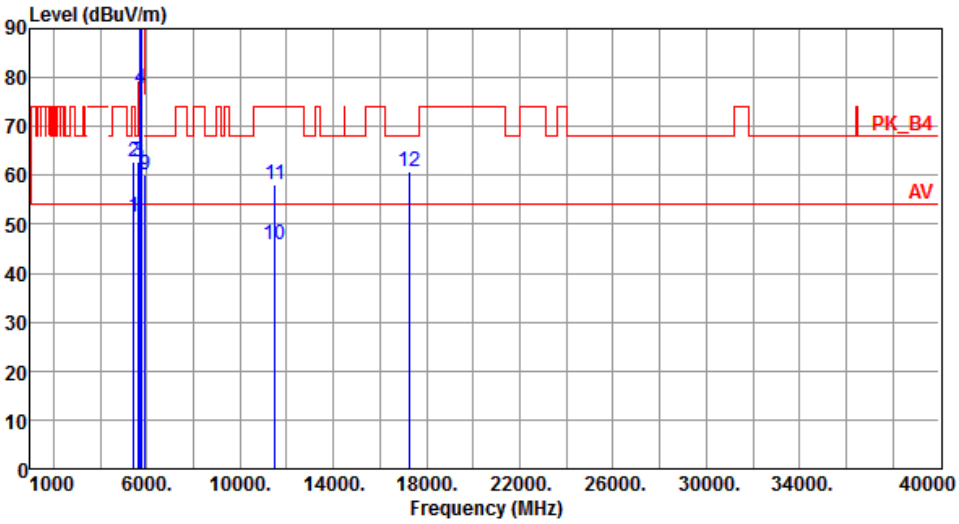
Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5435.00	53.88	54.00	-0.12	47.32	6.56	Average	172	338
2		5435.00	65.45	74.00	-8.55	58.89	6.56	Peak	172	338
3		5650.00	62.68	68.20	-5.52	55.82	6.86	Peak	172	338
4		5700.00	76.56	105.20	-28.64	69.60	6.96	Peak	172	338
5		5720.00	89.08	110.80	-21.72	82.08	7.00	Peak	172	338
6		5725.00	94.09	122.20	-28.11	87.09	7.00	Peak	172	338
7	*	5755.00	107.16			100.09	7.07	Average	172	338
8	*	5755.00	117.70			110.63	7.07	Peak	172	338
9		5925.00	60.74	68.20	-7.46	53.36	7.38	Peak	172	338
10		11510.00	46.15	54.00	-7.85	29.67	16.48	Average	100	304
11		11510.00	58.11	74.00	-15.89	41.63	16.48	Peak	100	304
12		17265.00	60.82	68.20	-7.38	42.36	18.46	Peak	100	30

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

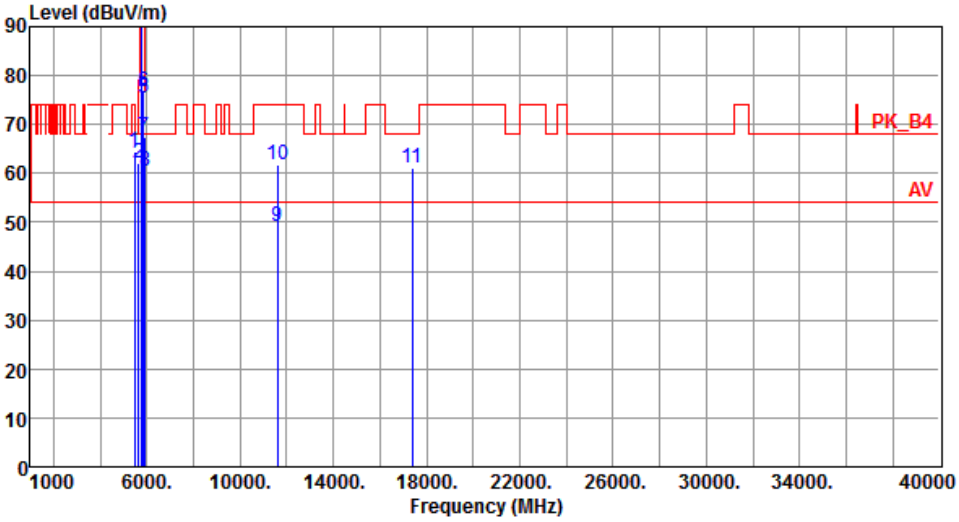
Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5435.00	51.33	54.00	-2.67	44.77	6.56	Average	199	22
2		5435.00	62.88	74.00	-11.12	56.32	6.56	Peak	199	22
3		5650.00	62.89	68.20	-5.31	56.03	6.86	Peak	150	22
4		5700.00	77.74	105.20	-27.46	70.78	6.96	Peak	150	22
5		5720.00	92.59	110.80	-18.21	85.59	7.00	Peak	150	22
6		5725.00	94.57	122.20	-27.63	87.57	7.00	Peak	150	22
7	*	5755.00	109.25			102.18	7.07	Average	150	22
8	*	5755.00	118.97			111.90	7.07	Peak	150	22
9		5925.00	60.22	68.20	-7.98	52.84	7.38	Peak	150	22
10		11510.00	45.91	54.00	-8.09	29.43	16.48	Average	100	42
11		11510.00	58.18	74.00	-15.82	41.70	16.48	Peak	100	42
12		17265.00	60.71	68.20	-7.49	42.25	18.46	Peak	100	50

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

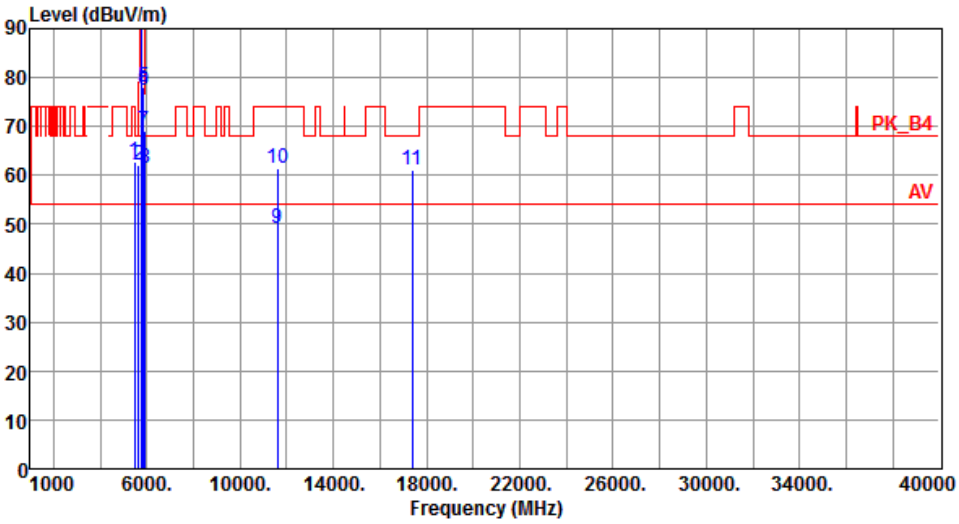
Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5475.00	64.53	68.20	-3.67	57.95	6.58	Peak	179	342
2		5650.00	62.17	68.20	-6.03	55.31	6.86	Peak	179	342
3	*	5795.00	107.22			100.07	7.15	Average	179	342
4	*	5795.00	117.25			110.10	7.15	Peak	179	342
5		5850.00	75.29	122.20	-46.91	68.05	7.24	Peak	179	342
6		5855.00	76.86	110.80	-33.94	69.60	7.26	Peak	179	342
7		5875.00	67.35	105.20	-37.85	60.06	7.29	Peak	179	342
8		5925.00	60.45	68.20	-7.75	53.07	7.38	Peak	179	342
9		11590.00	49.23	54.00	-4.77	32.87	16.36	Average	116	308
10		11590.00	61.66	74.00	-12.34	45.30	16.36	Peak	116	308
11		17385.00	61.09	68.20	-7.11	42.26	18.83	Peak	100	30

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Vertical		

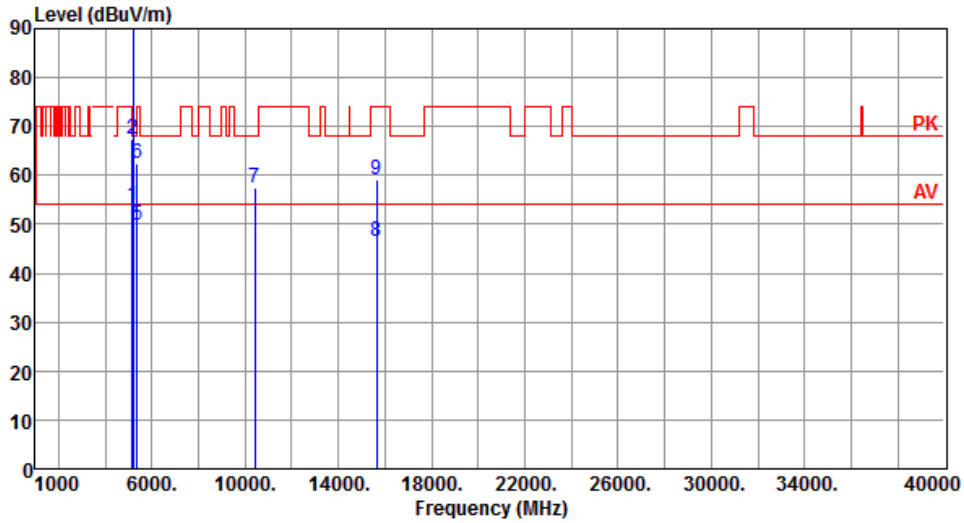


		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5475.00	62.68	68.20	-5.52	56.10	6.58	Peak	175	19
2		5650.00	62.00	68.20	-6.20	55.14	6.86	Peak	164	19
3	*	5795.00	109.21			102.06	7.15	Average	164	19
4	*	5795.00	118.54			111.39	7.15	Peak	164	19
5		5850.00	77.96	122.20	-44.24	70.72	7.24	Peak	164	19
6		5855.00	77.25	110.80	-33.55	69.99	7.26	Peak	164	19
7		5875.00	68.95	105.20	-36.25	61.66	7.29	Peak	164	19
8		5925.00	61.29	68.20	-6.91	53.91	7.38	Peak	164	19
9		11590.00	49.18	54.00	-4.82	32.82	16.36	Average	100	33
10		11590.00	61.44	74.00	-12.56	45.08	16.36	Peak	100	33
11		17385.00	61.22	68.20	-6.98	42.39	18.83	Peak	100	60

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

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

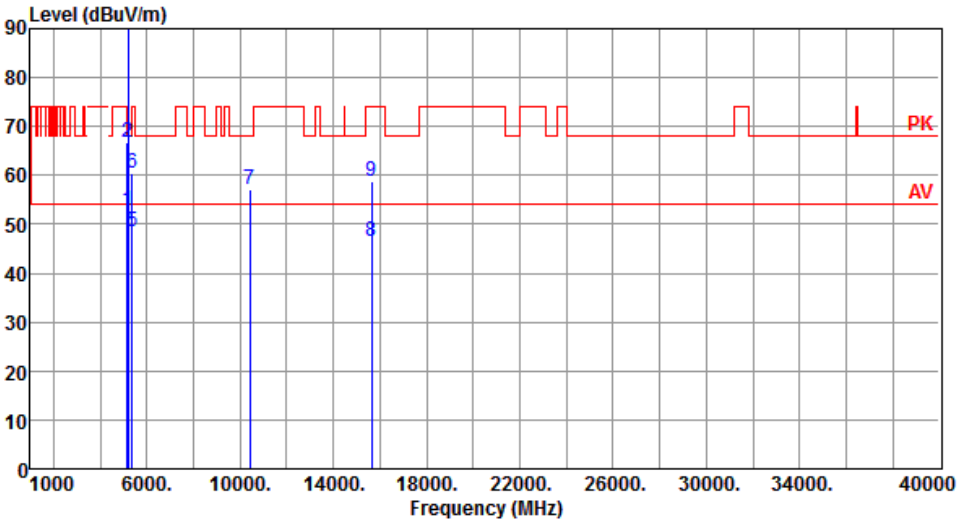
Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5150.00	53.76	54.00	-0.24	47.55	6.21	Average	100	341
2		5150.00	67.51	74.00	-6.49	61.30	6.21	Peak	100	341
3	*	5210.00	94.31			88.08	6.23	Average	146	341
4	*	5210.00	104.95			98.72	6.23	Peak	146	341
5		5350.00	49.74	54.00	-4.26	43.29	6.45	Average	146	341
6		5350.00	62.48	74.00	-11.52	56.03	6.45	Peak	146	341
7		10420.00	57.35	68.20	-10.85	41.56	15.79	Peak	100	30
8		15630.00	46.47	54.00	-7.53	30.26	16.21	Average	100	60
9		15630.00	58.99	74.00	-15.01	42.78	16.21	Peak	100	60

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

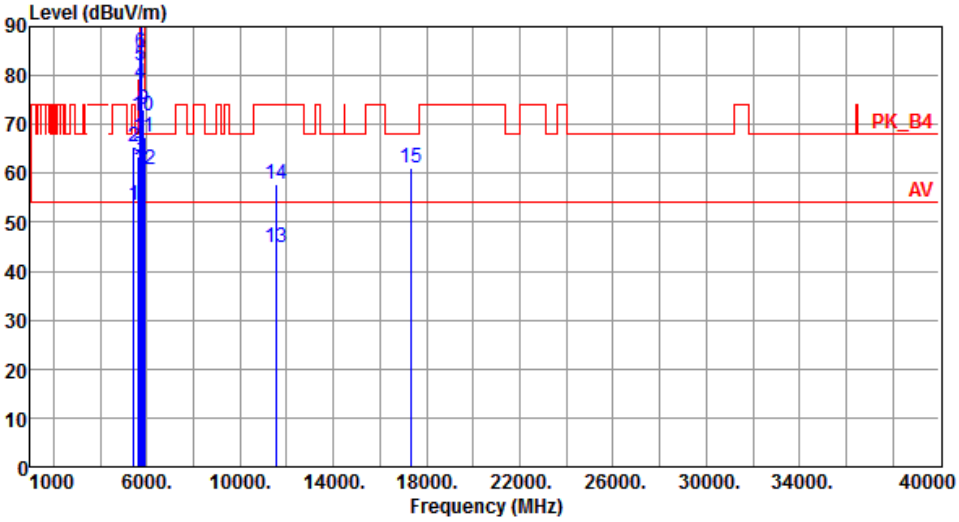
Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5150.00	52.91	54.00	-1.09	46.70	6.21	Average	237	4
2		5150.00	66.91	74.00	-7.09	60.70	6.21	Peak	237	4
3	*	5210.00	92.37			86.14	6.23	Average	237	4
4	*	5210.00	103.18			96.95	6.23	Peak	237	4
5		5350.00	48.56	54.00	-5.44	42.11	6.45	Average	237	4
6		5350.00	60.55	74.00	-13.45	54.10	6.45	Peak	237	4
7		10420.00	57.15	68.20	-11.05	41.36	15.79	Peak	100	10
8		15630.00	46.63	54.00	-7.37	30.42	16.21	Average	100	20
9		15630.00	58.77	74.00	-15.23	42.56	16.21	Peak	100	20

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

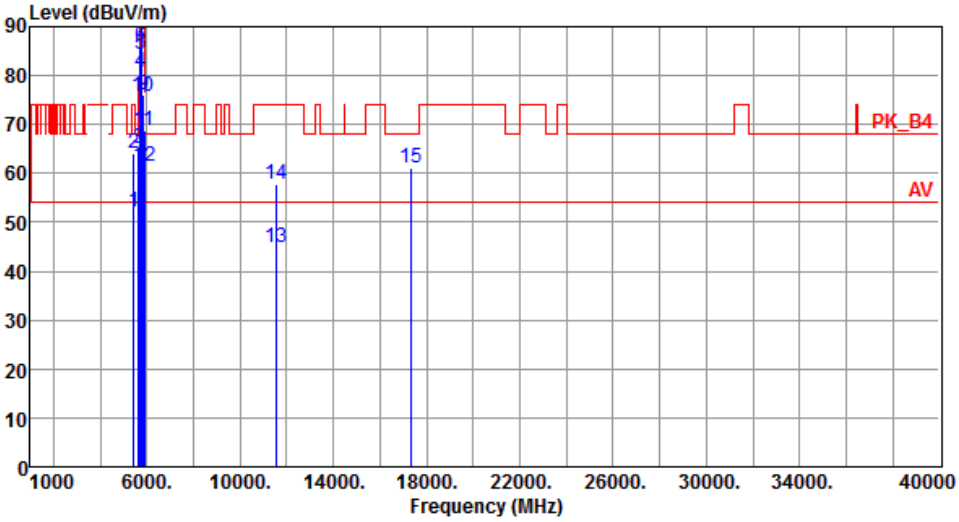
Modulation	VHT80	Test Freq. (MHz)	5775
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5440.00	53.58	54.00	-0.42	47.02	6.56	Average	163	342
2		5440.00	65.32	74.00	-8.68	58.76	6.56	Peak	163	342
3		5650.00	63.29	68.20	-4.91	56.43	6.86	Peak	163	342
4		5700.00	78.54	105.20	-26.66	71.58	6.96	Peak	163	342
5		5720.00	82.17	110.80	-28.63	75.17	7.00	Peak	163	342
6		5725.00	84.75	122.20	-37.45	77.75	7.00	Peak	163	342
7	*	5775.00	101.75			94.64	7.11	Average	163	342
8	*	5775.00	112.74			105.63	7.11	Peak	163	342
9		5850.00	73.12	122.20	-49.08	65.88	7.24	Peak	163	342
10		5855.00	71.86	110.80	-38.94	64.60	7.26	Peak	163	342
11		5875.00	67.38	105.20	-37.82	60.09	7.29	Peak	163	342
12		5925.00	60.83	68.20	-7.37	53.45	7.38	Peak	163	342
13		11550.00	44.78	54.00	-9.22	28.36	16.42	Average	100	30
14		11550.00	57.71	74.00	-16.29	41.29	16.42	Peak	100	30
15		17325.00	61.24	68.20	-6.96	42.60	18.64	Peak	100	60

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

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		5440.00	52.19	54.00	-1.81	45.63	6.56	Average	174	20
2		5440.00	64.24	74.00	-9.76	57.68	6.56	Peak	174	20
3		5650.00	65.01	68.20	-3.19	58.15	6.86	Peak	161	20
4		5700.00	80.81	105.20	-24.39	73.85	6.96	Peak	161	20
5		5720.00	84.52	110.80	-26.28	77.52	7.00	Peak	161	20
6		5725.00	86.00	122.20	-36.20	79.00	7.00	Peak	161	20
7	*	5775.00	104.81			97.70	7.11	Average	161	20
8	*	5775.00	115.66			108.55	7.11	Peak	161	20
9		5850.00	76.12	122.20	-46.08	68.88	7.24	Peak	161	20
10		5855.00	75.84	110.80	-34.96	68.58	7.26	Peak	161	20
11		5875.00	68.80	105.20	-36.40	61.51	7.29	Peak	161	20
12		5925.00	61.56	68.20	-6.64	54.18	7.38	Peak	161	20
13		11550.00	44.78	54.00	-9.22	28.36	16.42	Average	100	30
14		11550.00	57.80	74.00	-16.20	41.38	16.42	Peak	100	30
15		17325.00	61.22	68.20	-6.98	42.58	18.64	Peak	100	50

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

3.6 Frequency Stability

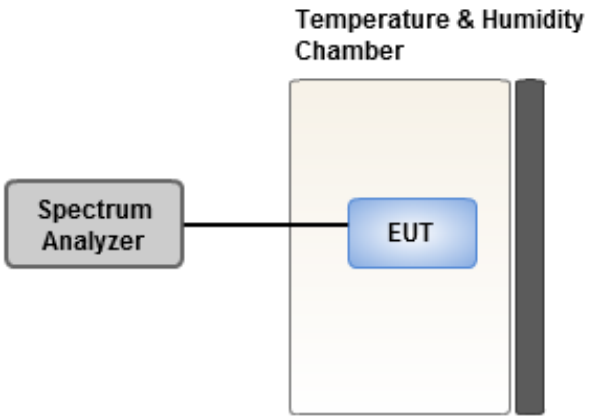
3.6.1 Limit of Frequency Stability

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	12.36	12.64	12.14	13.06
T20°CVmin	12.62	12.50	12.85	12.51
T50°CVnom	10.64	11.13	10.84	11.25
T40°CVnom	9.82	9.77	10.06	9.82
T30°CVnom	9.30	9.37	9.04	8.84
T20°CVnom	9.56	10.28	9.79	9.34
T10°CVnom	7.53	7.61	8.28	7.56
T0°CVnom	7.10	7.53	7.61	7.67
T-10°CVnom	6.64	7.08	6.44	6.49
T-20°CVnom	7.03	5.18	5.81	5.73
T-30°CVnom	4.58	4.17	4.68	4.45
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	11.48	11.91	11.66	11.89
T20°CVmin	11.58	11.54	11.75	11.52
T50°CVnom	9.93	10.28	10.16	9.98
T40°CVnom	9.22	9.22	9.57	9.92
T30°CVnom	8.44	8.55	8.98	8.81
T20°CVnom	9.19	9.71	9.79	8.96
T10°CVnom	6.65	6.68	6.48	6.96
T0°CVnom	6.57	7.24	7.34	6.26
T-10°CVnom	6.50	6.68	6.71	6.40
T-20°CVnom	5.15	5.39	5.48	5.39
T-30°CVnom	5.70	4.17	4.49	3.81
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==