FCC Test Report

FCC ID	:	**UIDSBG10**
Equipment	:	**SBG10**
Model No.	:	**SBG10**
Brand Name	:	**ARRIS**
Applicant	:	**ARRIS**
Address	:	**3871 Lakefield Drive Suite 300,SUWANEE, Georgia, 30024**
Standard	:	**47 CFR FCC Part 15.407**
Received Date	:	**Mar. 22, 2018**
Tested Date	:	**Mar. 22 ~ Mar. 30, 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:

Along Chen / Assistant Manager

Approved by:

Gary Chang / Manager

Testing Laboratory 2732

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Release Record

Report No.	Version	Description	Issued Date
FR832202AN	Rev. 01	Initial issue	Apr. 20, 2018

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.383MHz 38.95 (Margin -9.26dB) - AV	Pass
15.407(b) 15.209	Radiated Emissions	[dBuV/m at 3m]: 5150.00MHz 53.85 (Margin -0.15dB) - 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]: ***Non-beamforming mode*** 5150-5250MHz: 21.26 5725-5850MHz: 20.78 ***Beamforming mode*** 5150-5250MHz: 18.81 5725-5850MHz: 18.63	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]	3	6-54 Mbps
5150-5250	n (HT20)	5180-5240	36-48 [4]	1	MCS 0-7
5150-5250	n (HT20)	5180-5240	36-48 [4]	2	MCS 8-15
5150-5250	n (HT20)	5180-5240	36-48 [4]	3	MCS 16-23
5150-5250	n (HT40)	5190-5230	38-46 [2]	1	MCS 0-7
5150-5250	n (HT40)	5190-5230	38-46 [2]	2	MCS 8-15
5150-5250	n (HT40)	5190-5230	38-46 [2]	3	MCS 16-23
5150-5250	ac (VHT20)	5180-5240	36-48 [4]	1 / 2 / 3	MCS 0-9
5150-5250	ac (VHT40)	5190-5230	38-46 [2]	1 / 2 / 3	MCS 0-9
5150-5250	ac (VHT80)	5210	42 [1]	1 / 2 / 3	MCS 0-9
Note 1: RF output power specifies that Maximum Conducted Output Power. Note 2: 802.11a/n/ac uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation. Note 3: 802.11ac supports beamforming function.					

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]	3	6-54 Mbps
5725-5850	n (HT20)	5745-5825	149-165 [5]	1	MCS 0-7
5725-5850	n (HT20)	5745-5825	149-165 [5]	2	MCS 8-15
5725-5850	n (HT20)	5745-5825	149-165 [5]	3	MCS 16-23
5725-5850	n (HT40)	5755-5795	151-159 [2]	1	MCS 0-7
5725-5850	n (HT40)	5755-5795	151-159 [2]	2	MCS 8-15
5725-5850	n (HT40)	5755-5795	151-159 [2]	3	MCS 16-23
5725-5850	ac (VHT20)	5745-5825	149-165 [5]	1 / 2 / 3	MCS 0-9
5725-5850	ac (VHT40)	5755-5795	151-159 [2]	1 / 2 / 3	MCS 0-9
5725-5850	ac (VHT80)	5775	155 [1]	1 / 2 / 3	MCS 0-9
Note 1: RF output power specifies that Maximum Conducted Output Power. Note 2: 802.11a/n/ac uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation. Note 3: 802.11ac supports beamforming function.					

1.1.2 Antenna Details

Model	Type	Connector	Operating Frequencies (MHz) / Antenna Gain (dBi)		
			2400~2483.5	5150~5250	5725~5850
Metal	PIFA	NA	3.6	4.75	4.75
Metal	PIFA	NA	3.6	4.75	4.75

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	12Vdc from adapter

1.1.4 Accessories

Accessories		
No.	**Equipment**	**Description**
1	AC adapter	Brand: APD Model: WB-24K12FU Power Rating: I/P: 100-120Vac, 60Hz, 0.7A Max O/P: 12Vdc, 2A Power Line: 1.77m non-shielded without core
2	AC adapter	Brand: Netbit Model: NBS18D120200VU Power Rating: I/P: 100-120Vac, 50/60Hz, 0.6A O/P: 12Vdc, 2A Power Line: 1.8m non-shielded without core
3	AC adapter	Brand: APD Model: WB-18R12FU Power Rating: I/P: 100-120Vac, 60Hz, 0.6A Max O/P: 12Vdc, 1.5A Power Line: 1.77m non-shielded without core

1.1.5 Channel List

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

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

1.1.6 Test Tool and Duty Cycle

Test Tool	Putty, v0.60.0.0				
Duty Cycle and Duty Factor	Mode	Non-beamforming		Beamforming	
		Duty cycle (%)	Duty factor (dB)	Duty cycle (%)	Duty factor (dB)
	11a	95.06%	0.22	---	---
	VHT20	93.78%	0.28	100.00%	0.00
	VHT40	87.01%	0.60	100.00%	0.00
	VHT80	91.75%	0.37	100.00%	0.00

1.1.7 Power Setting

For Frequency band 5150-5250 MHz			
Modulation Mode	Test Frequency (MHz)	Power Set	
		Non-Beamforming	Beamforming
11a	5180	28	---
11a	5200	28	---
11a	5240	28	---
HT20	5180	24	---
HT20	5200	25	---
HT20	5240	25	---
HT40	5190	22	---
HT40	5230	23	---
VHT20	5180	24	25
VHT20	5200	25	26
VHT20	5240	25	26
VHT40	5190	22	22
VHT40	5230	23	23
VHT80	5210	22	19

For Frequency band 5725~5850 MHz			
Modulation Mode	Test Frequency (MHz)	Power Set	
		Non-Beamforming	Beamforming
11a	5745	27	---
11a	5785	27	---
11a	5825	27	---
HT20	5745	24	---
HT20	5785	24	---
HT20	5825	23	---
HT40	5755	22	---
HT40	5795	22	---
VHT20	5745	24	25
VHT20	5785	24	24
VHT20	5825	23	24
VHT40	5755	22	22
VHT40	5795	22	22
VHT80	5775	26	26

1.2 Local Support Equipment List

Non-beamforming mode

Support Equipment List					
No.	**Equipment**	**Brand**	**Model**	**S/N**	**Signal cable / Length (m)**
1	Notebook	DELL	Latitude E6430	C0GB4X1	RJ45, 10m non-shielded.

Beamforming mode

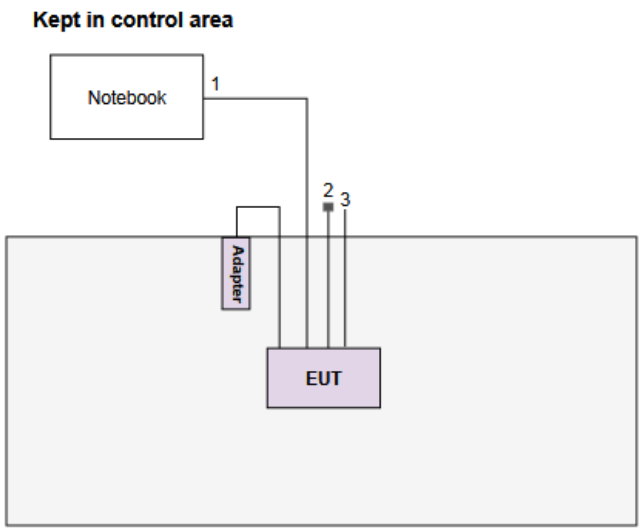
Support Equipment List					
No.	**Equipment**	**Brand**	**Model**	**S/N**	**Signal cable / Length (m)**
1	Notebook	DELL	Latitude E6430	C0GB4X1	RJ45, 10m non-shielded.
2	Notebook	DELL	Latitude E6430	G3GB4X1	RJ45, 1m non-shielded.
3	BF Client	ARRIS	SBG10	---	---

Note: No.3 is provided by applicant.

1.3 Test Setup Chart

Non-beamforming mode

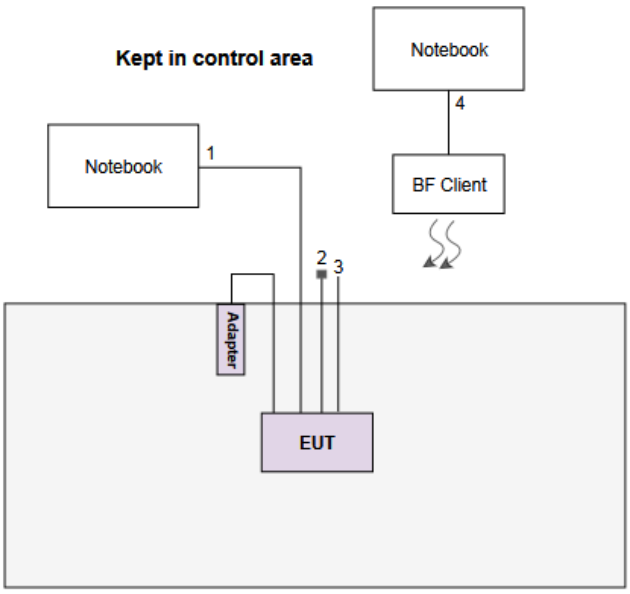
Test Setup Diagram



1. RJ45, 10m non-shielded
2. RJ45, 1.5m non-shielded with load
3. Coaxial, 1m shielded

Beamforming mode

Test Setup Diagram



1. RJ45, 10m non-shielded
2. RJ45, 1.5m non-shielded with load
3. Coaxial, 1m shielded
4. RJ45, 1m non-shielded

1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Receiver	R&S	ESR3	101657	Jan. 05, 2018	Jan. 04, 2019
LISN	SCHWARZBECK	Schwarzbeck 8127	8127-667	Nov. 13, 2017	Nov. 12, 2018
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. 28, 2017	Apr. 27, 2018
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	101486	Nov. 21, 2017	Nov. 20, 2018
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 ^{o}C

2 Test Configuration

2.1 Testing Condition

Test Item	Test Site	Ambient Condition	Tested By
AC Conduction	CO01-WS	21°C / 58%	Alex Tsai
Radiated Emissions	03CH03-WS	20-23°C / 63-68%	Vincent Yeh Akun Chung
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

Non-beamforming mode

For Frequency band 5150-5250 MHz				
Test item	**Modulation Mode**	**Test Frequency (MHz)**	**Data Rate (Mbps) / MCS**	**Test Configuration**
Conducted Emissions	11a	5180	6 Mbps	---
Radiated Emissions ≤1GHz	11a	5180	6 Mbps	---
RF Output Power	11a HT20 HT40 VHT20 VHT40 VHT80	5180 / 5200 / 5240 5180 / 5200 / 5240 5190 / 5230 5180 / 5200 / 5240 5190 / 5230 5210	6 Mbps MCS 0 MCS 0 MCS 0 MCS 0 MCS 0	---
Radiated Emissions >1GHz Emission Bandwidth Peak Power Spectral Density	11a VHT20 VHT40 VHT80	5180 / 5200 / 5240 5180 / 5200 / 5240 5190 / 5230 5210	6 Mbps MCS 0 MCS 0 MCS 0	---
Frequency Stability	Un-modulation	5200	---	---
Note: 1) Three adapters had been covered during the pretest and found that **Adapter: NBS18D120200VU** was the worst case for Conducted Emission Test and **Adapter: WB-24K12FU** was the worst case for Radiated Emission Test.				

For Frequency band 5725-5850 MHz				
Test item	**Modulation Mode**	**Test Frequency (MHz)**	**Data Rate (Mbps) / MCS**	**Test Configuration**
Conducted Emissions	11a	5825	6 Mbps	---
Radiated Emissions ≤1GHz	11a	5825	6 Mbps	---
RF Output Power	11a HT20 HT40 VHT20 VHT40 VHT80	5745 / 5785 / 5825 5745 / 5785 / 5825 5755 / 5795 5745 / 5785 / 5825 5755 / 5795 5775	6 Mbps MCS 0 MCS 0 MCS 0 MCS 0 MCS 0	---
Radiated Emissions >1GHz Emission Bandwidth 6dB bandwidth Peak Power Spectral Density	11a VHT20 VHT40 VHT80	5745 / 5785 / 5825 5745 / 5785 / 5825 5755 / 5795 5775	6 Mbps MCS 0 MCS 0 MCS 0	---
Frequency Stability	Un-modulation	5785	---	---
Note: 1) Three adapters had been covered during the pretest and found that **Adapter: NBS18D120200VU** was the worst case for Conducted Emission Test and **Adapter: WB-24K12FU** was the worst case for Radiated Emission Test.				

Beamforming mode

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	VHT20 VHT40 VHT80	5180 / 5200 / 5240 5190 / 5230 5210	MCS 0 MCS 0 MCS 0	---
Radiated Emissions >1GHz Emission Bandwidth Peak Power Spectral Density	VHT20 VHT40 VHT80	5180 / 5200 / 5240 5190 / 5230 5210	MCS 0 MCS 0 MCS 0	---
Note: 1) Two adapters (NetBit & APD) had been covered during the pretest and found that **NetBit adapter** was the worst case for Conducted Emission Test and **APD adapter** was the worst case for Radiated Emission Test.				

For Frequency band 5725-5850 MHz				
Test item	**Modulation Mode**	**Test Frequency (MHz)**	**Data Rate (Mbps) / MCS**	**Test Configuration**
Conducted Emissions	VHT20	5825	MCS 0	---
Radiated Emissions ≤1GHz	VHT20	5825	MCS 0	---
RF Output Power	VHT20 VHT40 VHT80	5745 / 5785 / 5825 5755 / 5795 5775	MCS 0 MCS 0 MCS 0	---
Radiated Emissions >1GHz Emission Bandwidth 6dB bandwidth Peak Power Spectral Density	VHT20 VHT40 VHT80	5745 / 5785 / 5825 5755 / 5795 5775	MCS 0 MCS 0 MCS 0	---
Note: 1) Two adapters (NetBit & APD) had been covered during the pretest and found that **NetBit adapter** was the worst case for Conducted Emission Test and **APD adapter** was the worst case for Radiated Emission Test.				

3 Transmitter Test Results

3.1 Conducted Emissions

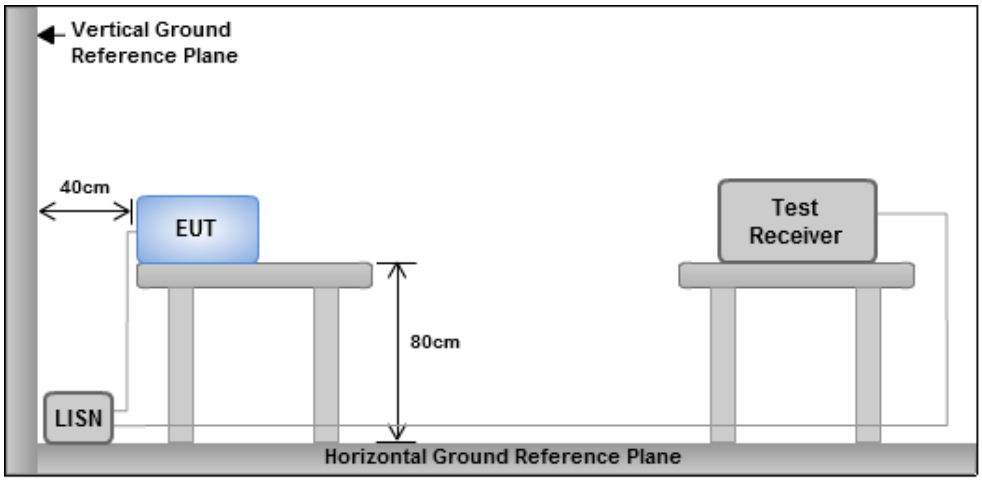
3.1.1 Limit of Conducted Emissions

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

3.1.2 Test Procedures

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

3.1.3 Test Setup

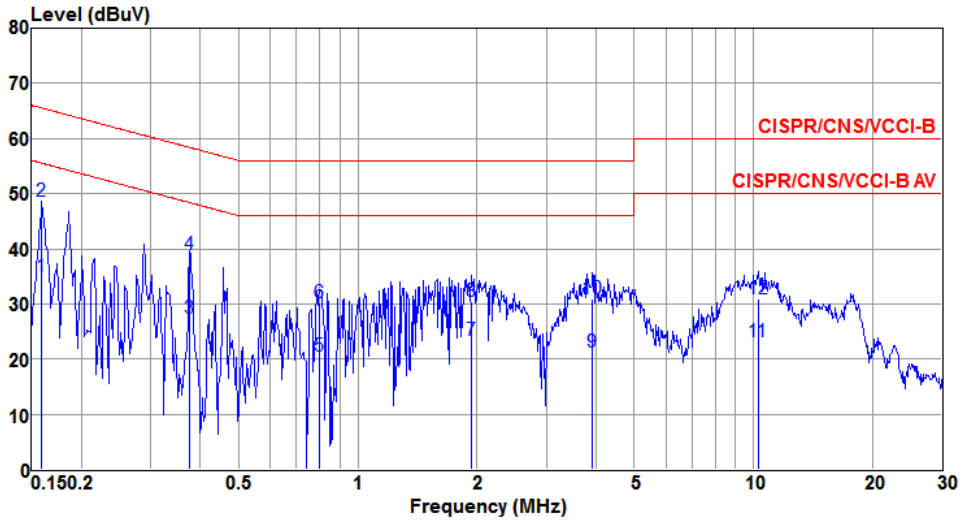


Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

3.1.4 Test Result of Conducted Emissions

Non-beamforming mode

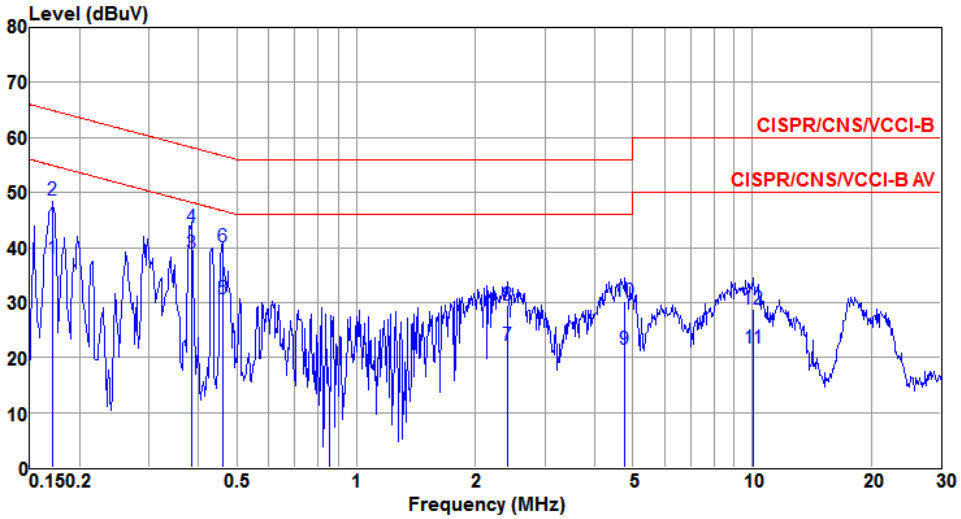
Modulation	11a	**Test Freq. (MHz)**	5180
Power Phase	Line		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.159	34.99	55.52	-20.53	34.71	0.27	0.01	Average
2@	0.159	48.58	65.52	-16.94	48.30	0.27	0.01	QP
3	0.375	27.28	48.39	-21.11	26.92	0.34	0.02	Average
4	0.375	38.86	58.39	-19.53	38.50	0.34	0.02	QP
5	0.800	20.45	46.00	-25.55	20.04	0.38	0.03	Average
6	0.800	30.31	56.00	-25.69	29.90	0.38	0.03	QP
7	1.939	23.46	46.00	-22.54	22.93	0.43	0.10	Average
8	1.939	30.48	56.00	-25.52	29.95	0.43	0.10	QP
9	3.922	21.28	46.00	-24.72	20.59	0.47	0.22	Average
10	3.922	30.81	56.00	-25.19	30.12	0.47	0.22	QP
11	10.288	23.17	50.00	-26.83	22.27	0.58	0.32	Average
12	10.288	31.02	60.00	-28.98	30.12	0.58	0.32	QP

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

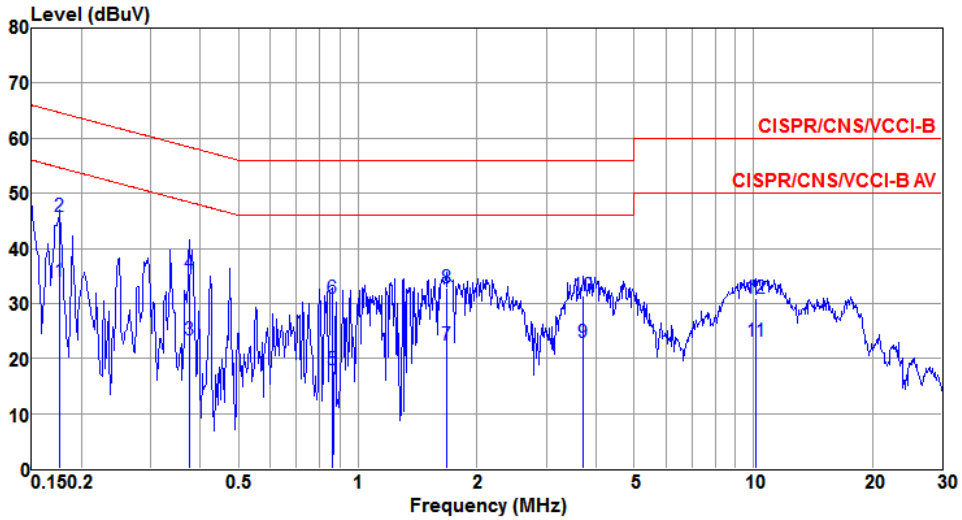
Modulation	11a	Test Freq. (MHz)	5180
Power Phase	Neutral		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.171	38.09	54.90	-16.81	37.93	0.14	0.02	Average
2	0.171	48.68	64.90	-16.22	48.52	0.14	0.02	QP
3@	0.383	38.95	48.21	-9.26	38.74	0.19	0.02	Average
4	0.383	43.62	58.21	-14.59	43.41	0.19	0.02	QP
5	0.459	30.60	46.71	-16.11	30.38	0.20	0.02	Average
6	0.459	40.07	56.71	-16.64	39.85	0.20	0.02	QP
7	2.409	22.17	46.00	-23.83	21.72	0.32	0.13	Average
8	2.409	29.57	56.00	-26.43	29.12	0.32	0.13	QP
9	4.772	21.51	46.00	-24.49	20.90	0.37	0.24	Average
10	4.772	30.28	56.00	-25.72	29.67	0.37	0.24	QP
11	10.072	21.83	50.00	-28.17	21.05	0.46	0.32	Average
12	10.072	28.76	60.00	-31.24	27.98	0.46	0.32	QP

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

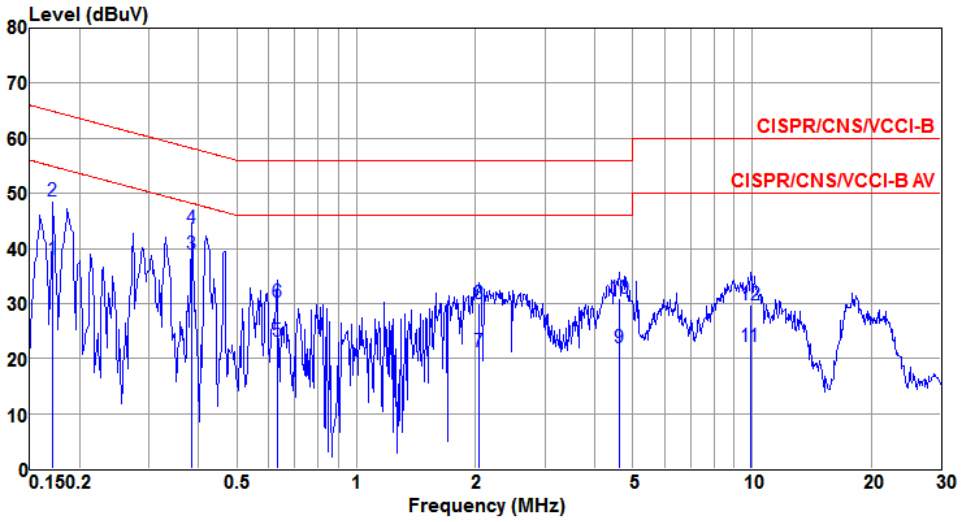
Modulation	11a	Test Freq. (MHz)	5825
Power Phase	Line		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.177	34.05	54.64	-20.59	33.75	0.28	0.02	Average
2@	0.177	45.72	64.64	-18.92	45.42	0.28	0.02	QP
3	0.375	23.36	48.39	-25.03	23.00	0.34	0.02	Average
4	0.375	35.35	58.39	-23.04	34.99	0.34	0.02	QP
5	0.862	17.84	46.00	-28.16	17.43	0.38	0.03	Average
6	0.862	30.83	56.00	-25.17	30.42	0.38	0.03	QP
7	1.671	22.41	46.00	-23.59	21.91	0.42	0.08	Average
8	1.671	32.77	56.00	-23.23	32.27	0.42	0.08	QP
9	3.720	22.96	46.00	-23.04	22.28	0.47	0.21	Average
10	3.720	31.43	56.00	-24.57	30.75	0.47	0.21	QP
11	10.179	23.15	50.00	-26.85	22.26	0.57	0.32	Average
12	10.179	30.90	60.00	-29.10	30.01	0.57	0.32	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)	5825
Power Phase	Neutral		

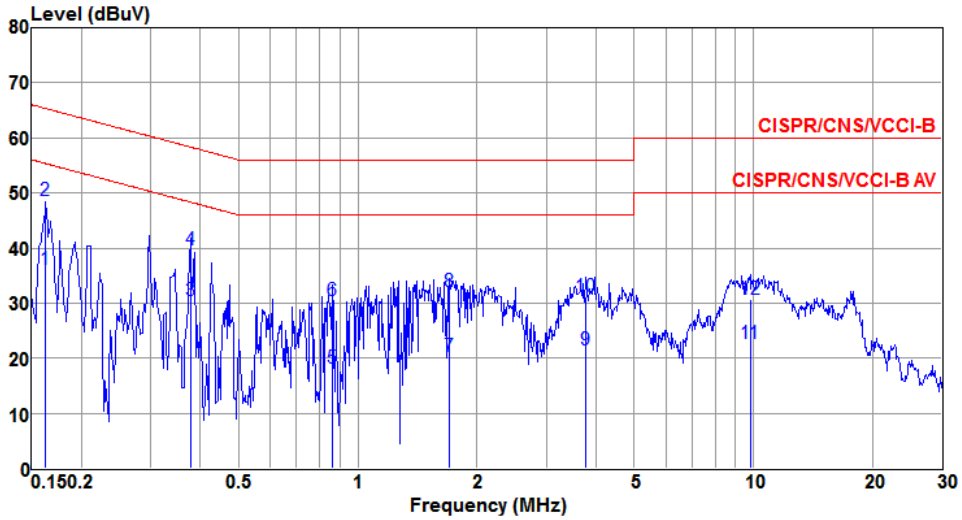


	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.171	38.05	54.90	-16.85	37.89	0.14	0.02	Average
2	0.171	48.68	64.90	-16.22	48.52	0.14	0.02	QP
3@	0.383	38.91	48.21	-9.30	38.70	0.19	0.02	Average
4	0.383	43.67	58.21	-14.54	43.46	0.19	0.02	QP
5	0.630	23.18	46.00	-22.82	22.94	0.22	0.02	Average
6	0.630	30.17	56.00	-25.83	29.93	0.22	0.02	QP
7	2.044	21.33	46.00	-24.67	20.92	0.31	0.10	Average
8	2.044	29.97	56.00	-26.03	29.56	0.31	0.10	QP
9	4.622	22.07	46.00	-23.93	21.46	0.37	0.24	Average
10	4.622	30.89	56.00	-25.11	30.28	0.37	0.24	QP
11	9.913	22.26	50.00	-27.74	21.48	0.46	0.32	Average
12	9.913	29.72	60.00	-30.28	28.94	0.46	0.32	QP

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

Beamforming mode

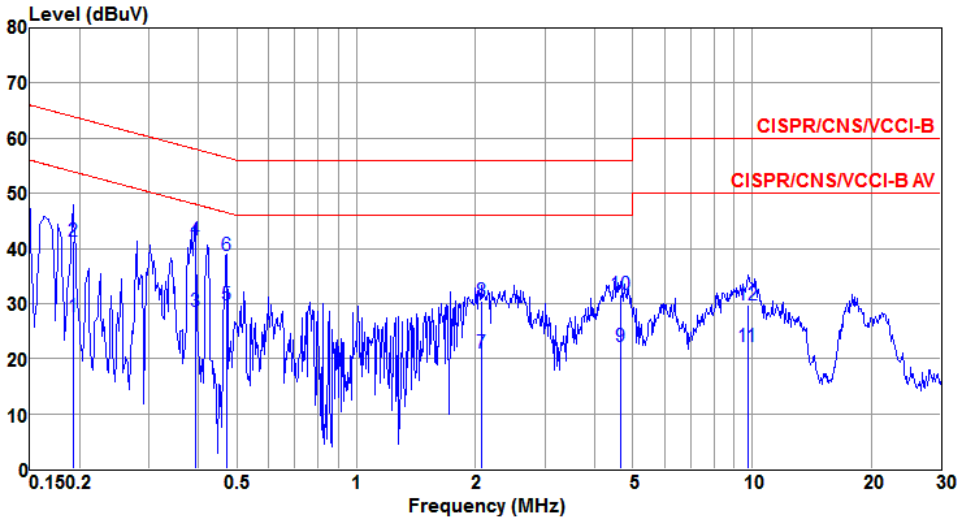
Modulation	VHT20	**Test Freq. (MHz)**	5200
Power Phase	Line		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.162	36.09	55.34	-19.25	35.79	0.28	0.02	Average
2@	0.162	48.52	65.34	-16.82	48.22	0.28	0.02	QP
3	0.377	30.46	48.34	-17.88	30.10	0.34	0.02	Average
4	0.377	39.67	58.34	-18.67	39.31	0.34	0.02	QP
5	0.862	18.14	46.00	-27.86	17.73	0.38	0.03	Average
6	0.862	30.56	56.00	-25.44	30.15	0.38	0.03	QP
7	1.707	20.33	46.00	-25.67	19.83	0.42	0.08	Average
8	1.707	32.16	56.00	-23.84	31.66	0.42	0.08	QP
9	3.779	21.49	46.00	-24.51	20.81	0.47	0.21	Average
10	3.779	31.23	56.00	-24.77	30.55	0.47	0.21	QP
11	9.809	22.60	50.00	-27.40	21.71	0.57	0.32	Average
12	9.809	30.71	60.00	-29.29	29.82	0.57	0.32	QP

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

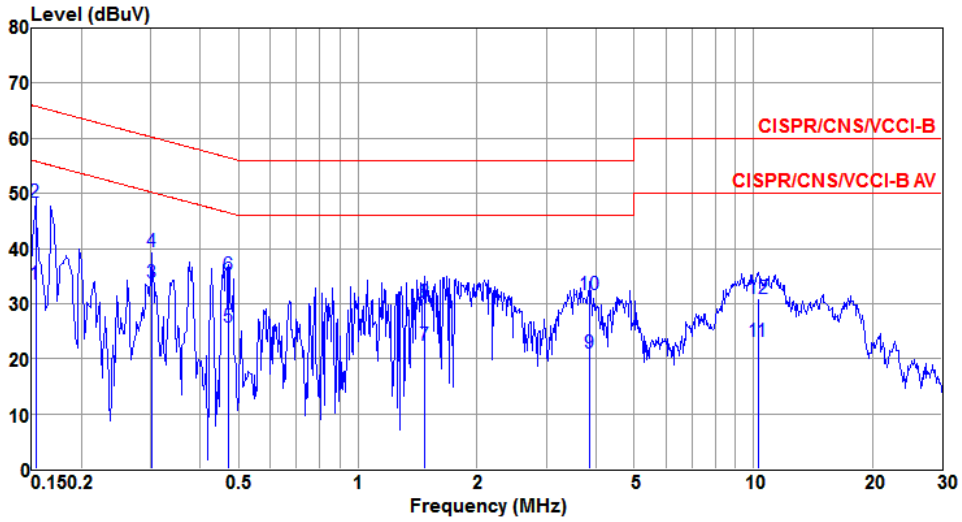
Modulation	VHT20	Test Freq. (MHz)	5200
Power Phase	Neutral		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.192	27.65	53.93	-26.28	27.47	0.15	0.03	Average
2	0.192	41.39	63.93	-22.54	41.21	0.15	0.03	QP
3	0.393	28.58	47.99	-19.41	28.37	0.19	0.02	Average
4@	0.393	41.53	57.99	-16.46	41.32	0.19	0.02	QP
5	0.471	29.67	46.49	-16.82	29.45	0.20	0.02	Average
6	0.471	38.75	56.49	-17.74	38.53	0.20	0.02	QP
7	2.066	21.02	46.00	-24.98	20.60	0.31	0.11	Average
8	2.066	30.40	56.00	-25.60	29.98	0.31	0.11	QP
9	4.647	22.28	46.00	-23.72	21.67	0.37	0.24	Average
10	4.647	31.61	56.00	-24.39	31.00	0.37	0.24	QP
11	9.757	22.12	50.00	-27.88	21.34	0.46	0.32	Average
12	9.757	29.84	60.00	-30.16	29.06	0.46	0.32	QP

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

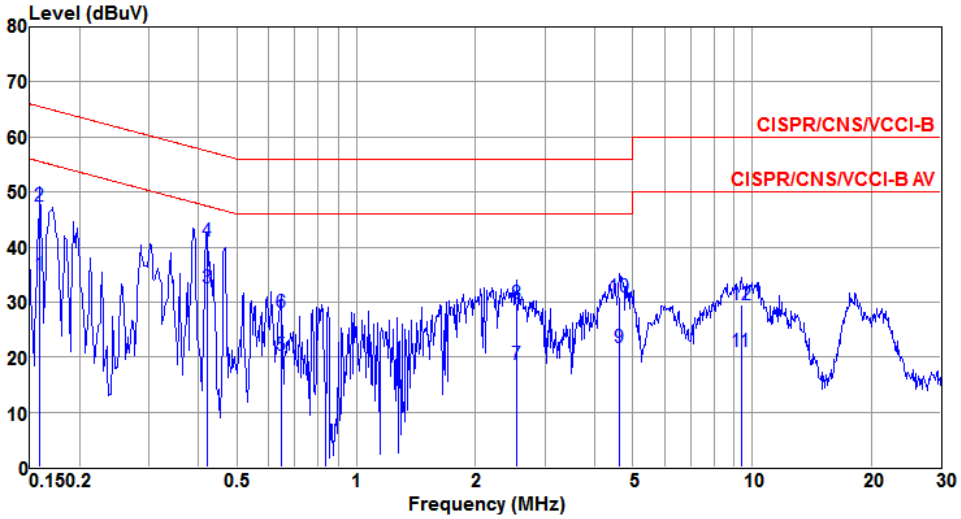
Modulation	VHT20	Test Freq. (MHz)	5825
Power Phase	Line		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.153	33.45	55.82	-22.37	33.17	0.27	0.01	Average
2	0.153	48.42	65.82	-17.40	48.14	0.27	0.01	QP
3@	0.300	33.78	50.24	-16.46	33.44	0.32	0.02	Average
4	0.300	39.39	60.24	-20.85	39.05	0.32	0.02	QP
5	0.471	25.78	46.49	-20.71	25.41	0.35	0.02	Average
6	0.471	35.08	56.49	-21.41	34.71	0.35	0.02	QP
7	1.472	22.40	46.00	-23.60	21.92	0.41	0.07	Average
8	1.472	30.22	56.00	-25.78	29.74	0.41	0.07	QP
9	3.860	21.01	46.00	-24.99	20.33	0.47	0.21	Average
10	3.860	31.61	56.00	-24.39	30.93	0.47	0.21	QP
11	10.288	23.19	50.00	-26.81	22.29	0.58	0.32	Average
12	10.288	30.99	60.00	-29.01	30.09	0.58	0.32	QP

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

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



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.159	34.82	55.52	-20.70	34.67	0.14	0.01	Average
2	0.159	47.44	65.52	-18.08	47.29	0.14	0.01	QP
3@	0.419	32.68	47.46	-14.78	32.47	0.19	0.02	Average
4	0.419	41.16	57.46	-16.30	40.95	0.19	0.02	QP
5	0.647	20.19	46.00	-25.81	19.93	0.23	0.03	Average
6	0.647	28.14	56.00	-27.86	27.88	0.23	0.03	QP
7	2.540	18.71	46.00	-27.29	18.25	0.32	0.14	Average
8	2.540	29.78	56.00	-26.22	29.32	0.32	0.14	QP
9	4.622	21.79	46.00	-24.21	21.18	0.37	0.24	Average
10	4.622	31.00	56.00	-25.00	30.39	0.37	0.24	QP
11	9.401	21.10	50.00	-28.90	20.34	0.45	0.31	Average
12	9.401	29.60	60.00	-30.40	28.84	0.45	0.31	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.

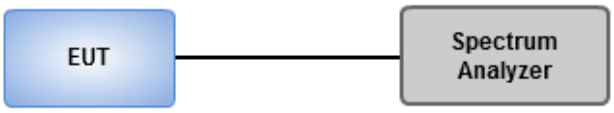
Occupied Bandwidth

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

Non-beamforming mode

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_3TX	29.348M	16.932M	16M9D1D	23.841M	16.57M
802.11ac VHT20_Nss3,(MCS0)_3TX	21.522M	17.583M	17M6D1D	19.855M	17.583M
802.11ac VHT40_Nss3,(MCS0)_3TX	40.725M	36.035M	36M0D1D	39.71M	35.89M
802.11ac VHT80_Nss3,(MCS0)_3TX	80.29M	75.253M	75M3D1D	80.29M	74.964M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_3TX	16.377M	16.86M	16M9D1D	12.246M	16.498M
802.11ac VHT20_Nss3,(MCS0)_3TX	17.536M	17.583M	17M6D1D	14.42M	17.511M
802.11ac VHT40_Nss3,(MCS0)_3TX	35.217M	36.035M	36M0D1D	30.29M	36.035M
802.11ac VHT80_Nss3,(MCS0)_3TX	72.754M	75.253M	75M3D1D	66.377M	75.253M

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

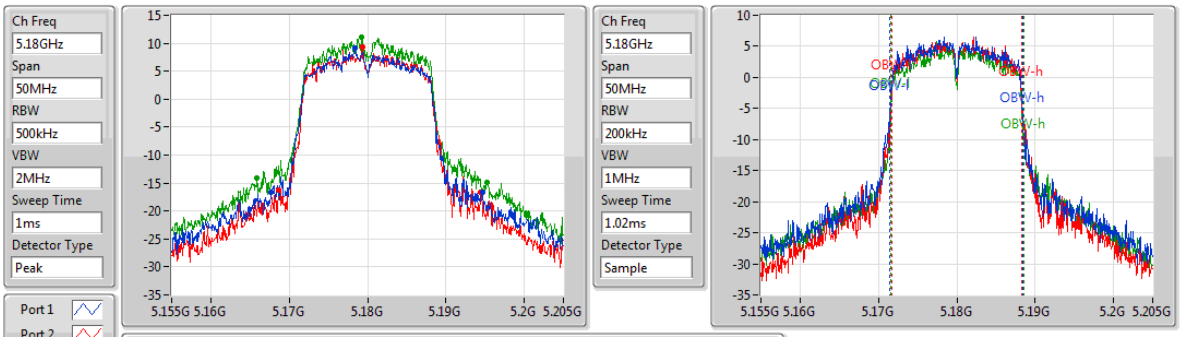
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)
802.11a_Nss1,(6Mbps)_3TX	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	27.029M	16.932M	25.725M	16.57M	29.348M	16.932M
5200MHz	Pass	Inf	23.841M	16.57M	26.812M	16.57M	27.101M	16.643M
5240MHz	Pass	Inf	24.42M	16.57M	25.725M	16.57M	26.812M	16.643M
5745MHz	Pass	500k	15.652M	16.715M	14.638M	16.643M	15.072M	16.498M
5785MHz	Pass	500k	15.435M	16.86M	16.377M	16.643M	16.377M	16.498M
5825MHz	Pass	500k	12.246M	16.787M	13.188M	16.715M	16.087M	16.643M
802.11ac VHT20_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	19.855M	17.583M	20.29M	17.583M	21.522M	17.583M
5200MHz	Pass	Inf	20.507M	17.583M	20.145M	17.583M	19.928M	17.583M
5240MHz	Pass	Inf	20.217M	17.583M	20.29M	17.583M	20M	17.583M
5745MHz	Pass	500k	15.942M	17.511M	17.536M	17.583M	15.072M	17.583M
5785MHz	Pass	500k	14.42M	17.583M	15.072M	17.583M	15.072M	17.583M
5825MHz	Pass	500k	14.42M	17.583M	17.536M	17.583M	15M	17.583M
802.11ac VHT40_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-
5190MHz	Pass	Inf	39.71M	35.89M	39.71M	35.89M	39.71M	35.89M
5230MHz	Pass	Inf	40.725M	36.035M	40M	36.035M	40.58M	36.035M
5755MHz	Pass	500k	35.217M	36.035M	35.072M	36.035M	33.913M	36.035M
5795MHz	Pass	500k	30.29M	36.035M	32.754M	36.035M	34.348M	36.035M
802.11ac VHT80_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-
5210MHz	Pass	Inf	80.29M	74.964M	80.29M	75.253M	80.29M	74.964M
5775MHz	Pass	500k	68.696M	75.253M	66.377M	75.253M	72.754M	75.253M

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

802.11a_Nss1,(6Mbps)_3TX EBW

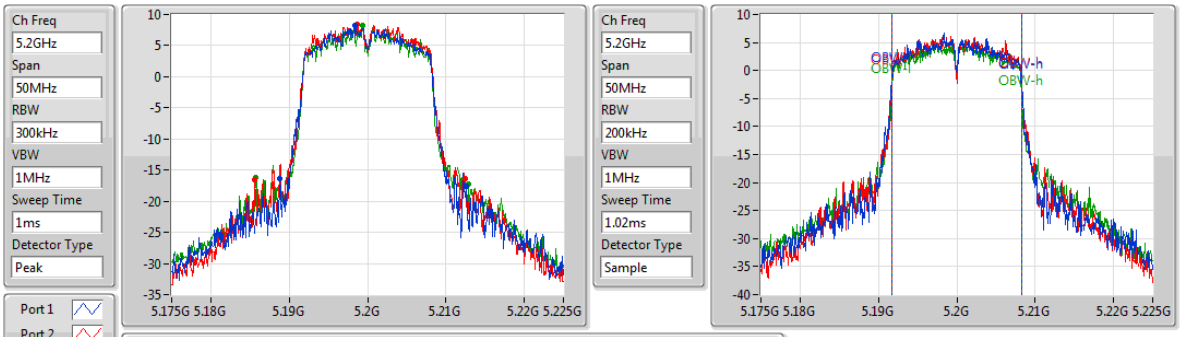
5180MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
27.029M	5.167681G	5.19471G	16.932M	5.171462G	5.188394G	Inf	1
25.725M	5.168696G	5.19442G	16.57M	5.171679G	5.188249G	Inf	2
29.348M	5.16587G	5.195217G	16.932M	5.171606G	5.188538G	Inf	3

802.11a_Nss1,(6Mbps)_3TX EBW

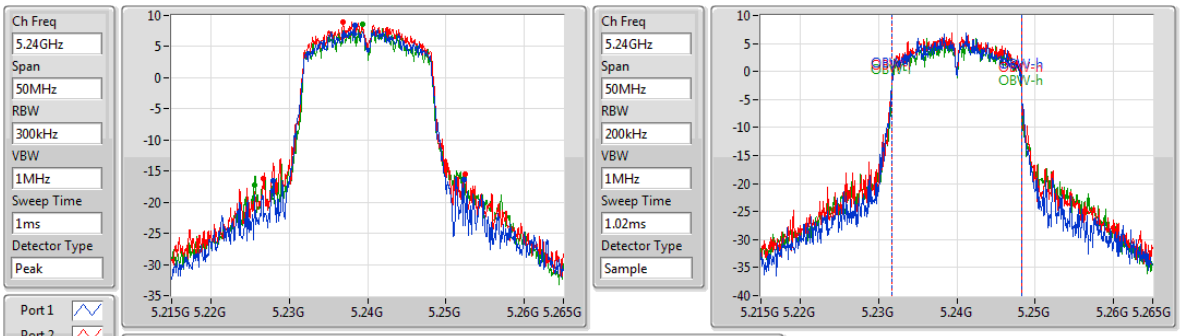
5200MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
23.841M	5.188768G	5.212609G	16.57M	5.191679G	5.208249G	Inf	1
26.812M	5.185652G	5.212464G	16.57M	5.191679G	5.208249G	Inf	2
27.101M	5.185725G	5.212826G	16.643M	5.191679G	5.208321G	Inf	3

802.11a_Nss1,(6Mbps)_3TX EBW

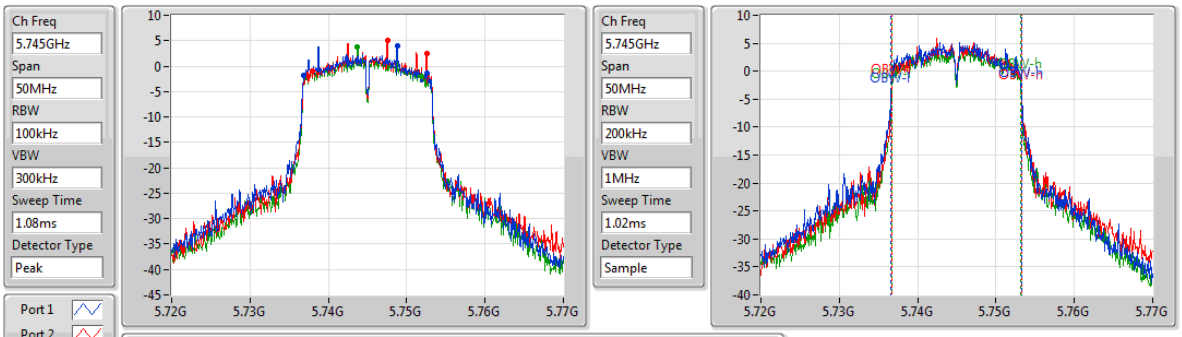
5240MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
24.42M	5.227971G	5.252391G	16.57M	5.231679G	5.248249G	Inf	1
25.725M	5.226739G	5.252464G	16.57M	5.231679G	5.248249G	Inf	2
26.812M	5.22558G	5.252391G	16.643M	5.231679G	5.248321G	Inf	3

802.11a_Nss1,(6Mbps)_3TX EBW

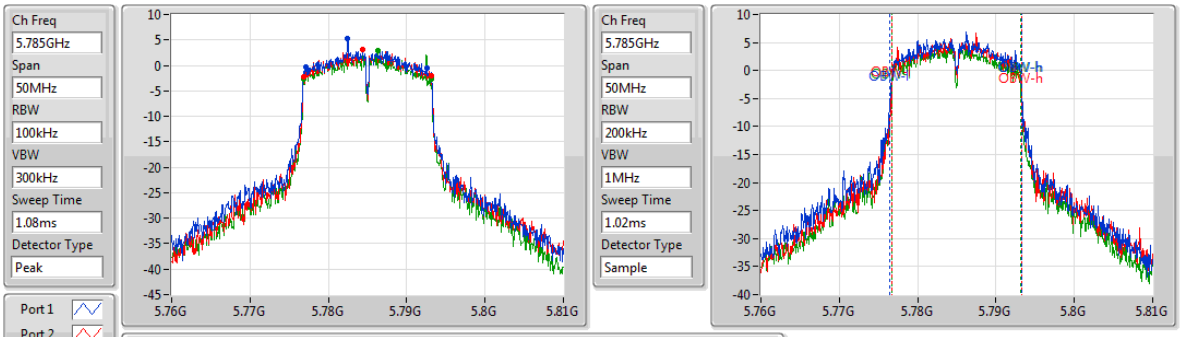
5745MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15.652M	5.736884G	5.752536G	16.715M	5.736534G	5.753249G	500k	1
14.638M	5.737899G	5.752536G	16.643M	5.736679G	5.753321G	500k	2
15.072M	5.736884G	5.751957G	16.498M	5.736679G	5.753177G	500k	3

802.11a_Nss1,(6Mbps)_3TX EBW

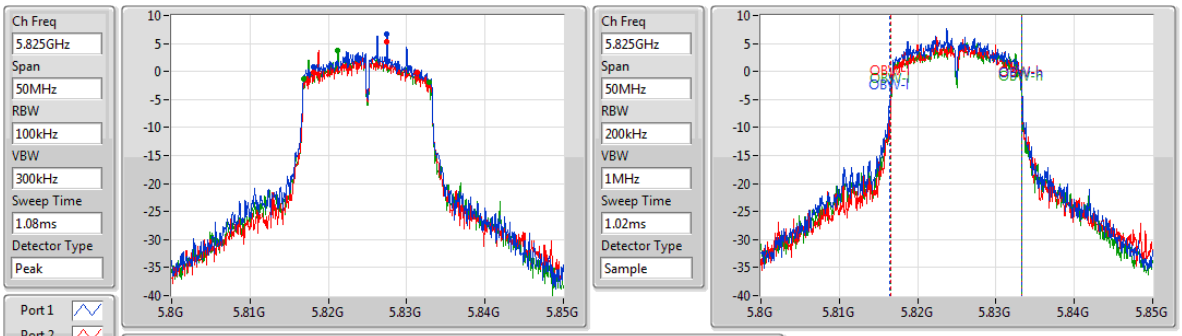
5785MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15.435M	5.777101G	5.792536G	16.86M	5.776462G	5.793321G	500k	1
16.377M	5.776812G	5.793188G	16.643M	5.776679G	5.793321G	500k	2
16.377M	5.776812G	5.793188G	16.498M	5.776679G	5.793177G	500k	3

802.11a_Nss1,(6Mbps)_3TX EBW

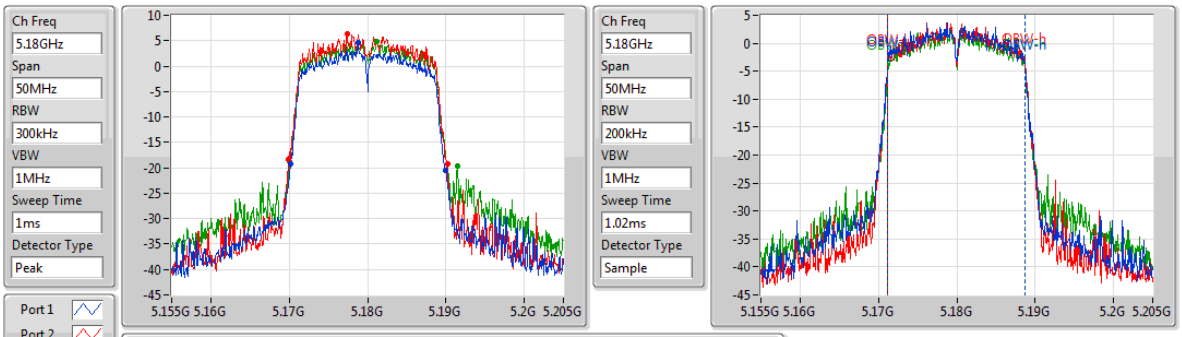
5825MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
12.246M	5.818116G	5.830362G	16.787M	5.816462G	5.833249G	500k	1
13.188M	5.818116G	5.831304G	16.715M	5.816606G	5.833321G	500k	2
16.087M	5.816812G	5.832899G	16.643M	5.816606G	5.833249G	500k	3

802.11ac VHT20_Nss3,(MCS0)_3TX EBW

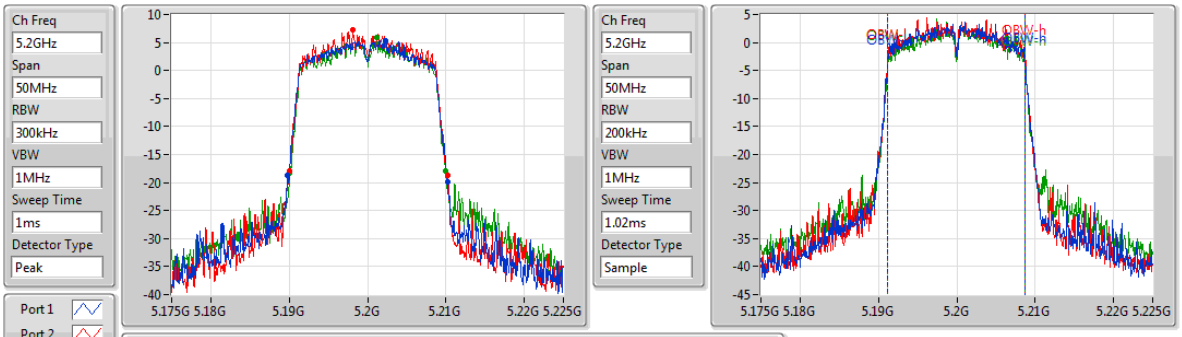
5180MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.855M	5.170145G	5.19G	17.583M	5.171172G	5.188755G	Inf	1
20.29M	5.169928G	5.190217G	17.583M	5.171172G	5.188755G	Inf	2
21.522M	5.17G	5.191522G	17.583M	5.171172G	5.188755G	Inf	3

802.11ac VHT20_Nss3,(MCS0)_3TX EBW

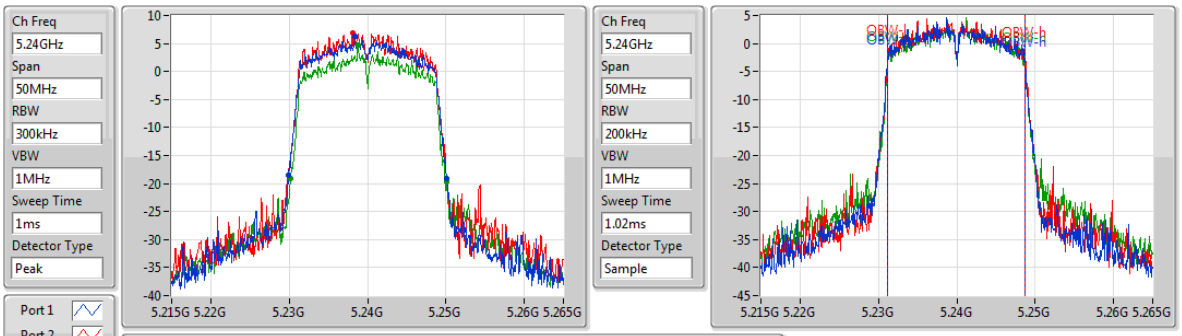
5200MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.507M	5.18971G	5.210217G	17.583M	5.191172G	5.208755G	Inf	1
20.145M	5.190072G	5.210217G	17.583M	5.191172G	5.208755G	Inf	2
19.928M	5.190072G	5.21G	17.583M	5.191172G	5.208755G	Inf	3

802.11ac VHT20_Nss3,(MCS0)_3TX EBW

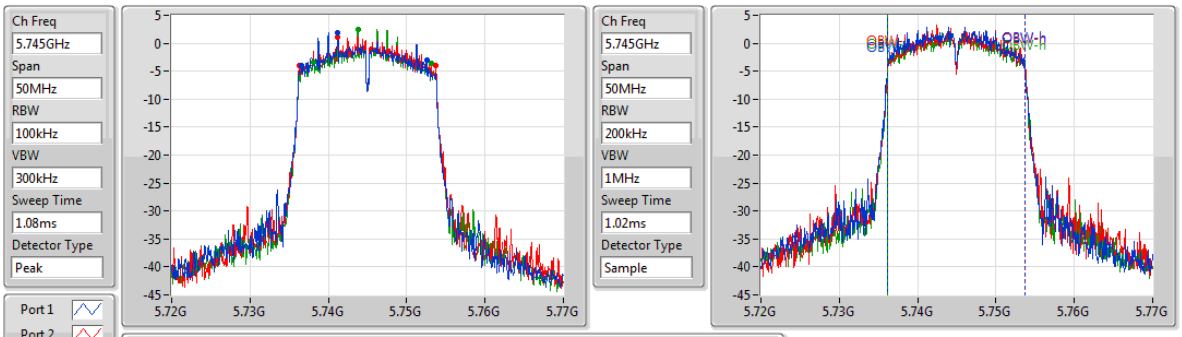
5240MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.217M	5.229928G	5.250145G	17.583M	5.231172G	5.248755G	Inf	1
20.29M	5.229855G	5.250145G	17.583M	5.231172G	5.248755G	Inf	2
20M	5.230145G	5.250145G	17.583M	5.231172G	5.248755G	Inf	3

802.11ac VHT20_Nss3,(MCS0)_3TX EBW

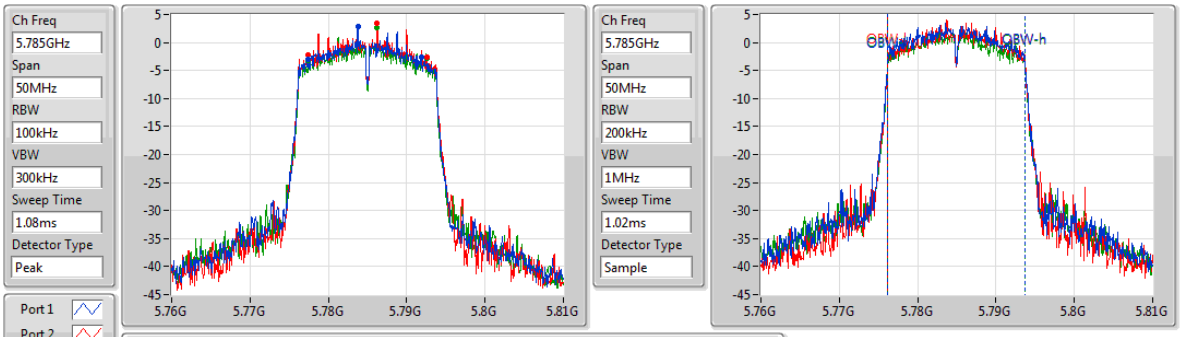
5745MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15.942M	5.736594G	5.752536G	17.511M	5.736172G	5.753683G	500k	1
17.536M	5.736232G	5.753768G	17.583M	5.736172G	5.753755G	500k	2
15.072M	5.738043G	5.753116G	17.583M	5.736172G	5.753755G	500k	3

802.11ac VHT20_Nss3,(MCS0)_3TX EBW

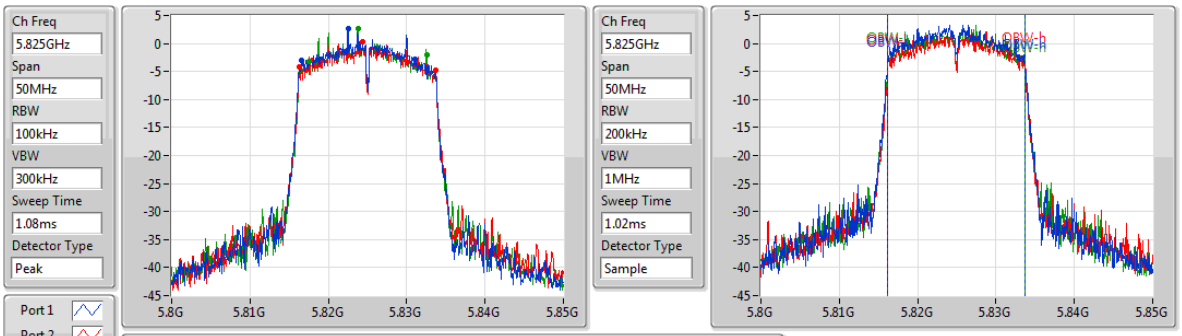
5785MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
14.42M	5.777464G	5.791884G	17.583M	5.776172G	5.793755G	500k	1
15.072M	5.777464G	5.792536G	17.583M	5.776172G	5.793755G	500k	2
15.072M	5.777464G	5.792536G	17.583M	5.776172G	5.793755G	500k	3

802.11ac VHT20_Nss3,(MCS0)_3TX EBW

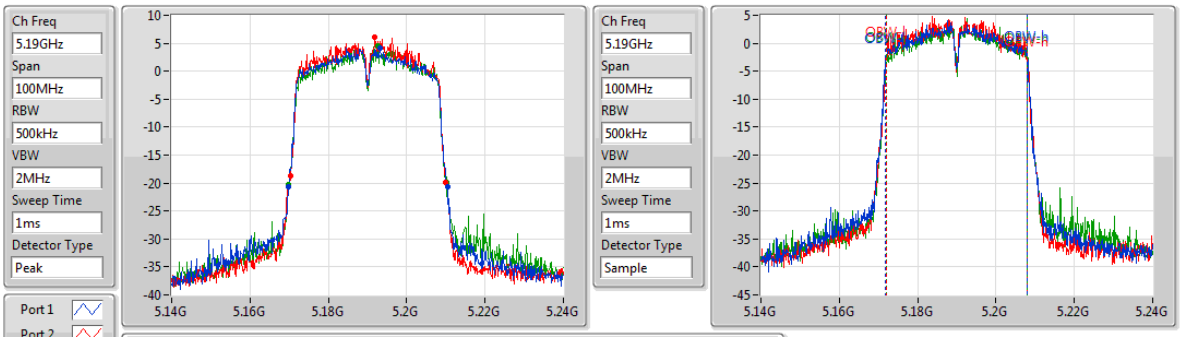
5825MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
14.42M	5.816594G	5.831014G	17.583M	5.816172G	5.833755G	500k	1
17.536M	5.816232G	5.833768G	17.583M	5.816172G	5.833755G	500k	2
15M	5.817536G	5.832536G	17.583M	5.816172G	5.833755G	500k	3

802.11ac VHT40_Nss3,(MCS0)_3TX EBW

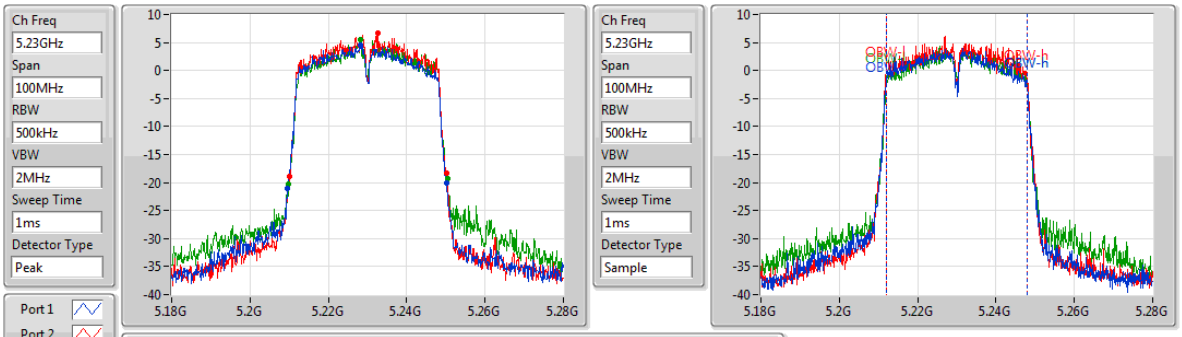
5190MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
40.58M	5.169855G	5.210435G	36.179M	5.171766G	5.207945G	Inf	1
39.71M	5.17029G	5.21G	35.89M	5.172055G	5.207945G	Inf	2
40.29M	5.169855G	5.210145G	36.179M	5.17191G	5.20809G	Inf	3

802.11ac VHT40_Nss3,(MCS0)_3TX EBW

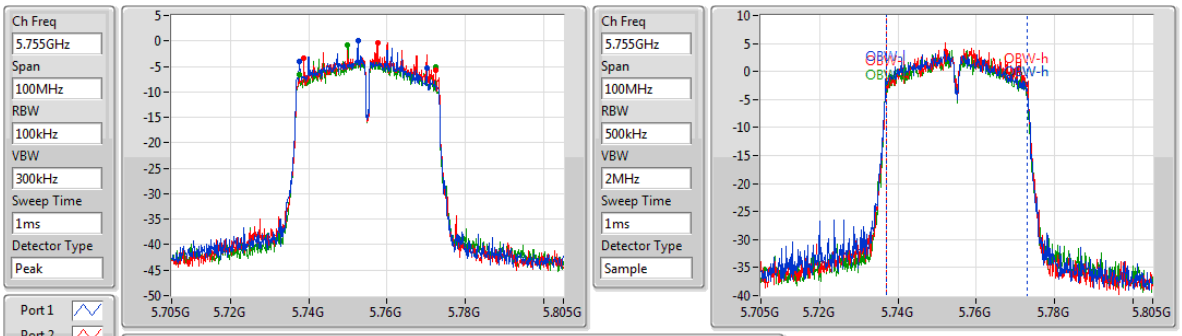
5230MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
40.725M	5.209565G	5.25029G	36.035M	5.21191G	5.247945G	Inf	1
40M	5.210145G	5.250145G	36.035M	5.21191G	5.247945G	Inf	2
40.58M	5.209855G	5.250435G	36.035M	5.21191G	5.247945G	Inf	3

802.11ac VHT40_Nss3,(MCS0)_3TX EBW

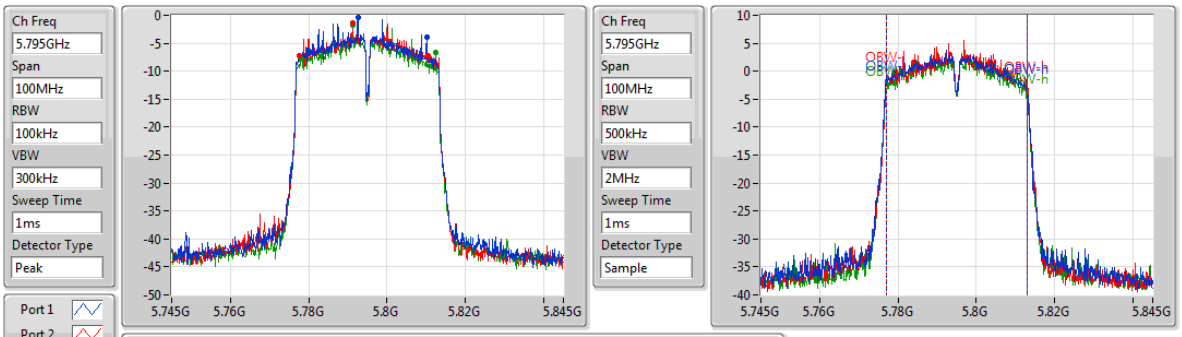
5755MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
32.609M	5.737464G	5.770072G	36.035M	5.73691G	5.772945G	500k	1
33.768M	5.738768G	5.772536G	36.179M	5.73691G	5.77309G	500k	2
34.928M	5.737609G	5.772536G	36.035M	5.73691G	5.772945G	500k	3

802.11ac VHT40_Nss3,(MCS0)_3TX EBW

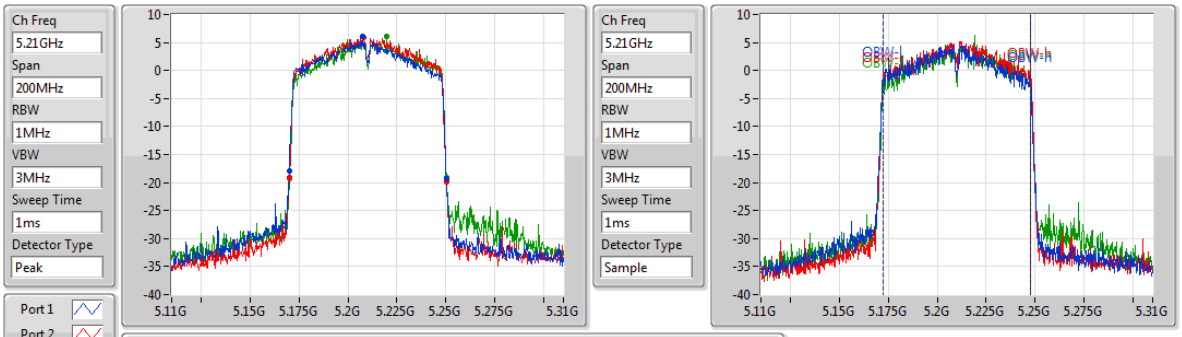
5795MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
30.29M	5.779783G	5.810072G	36.035M	5.77691G	5.812945G	500k	1
32.754M	5.777609G	5.810362G	36.035M	5.77691G	5.812945G	500k	2
34.348M	5.778188G	5.812536G	36.035M	5.77691G	5.812945G	500k	3

802.11ac VHT80_Nss3,(MCS0)_3TX EBW

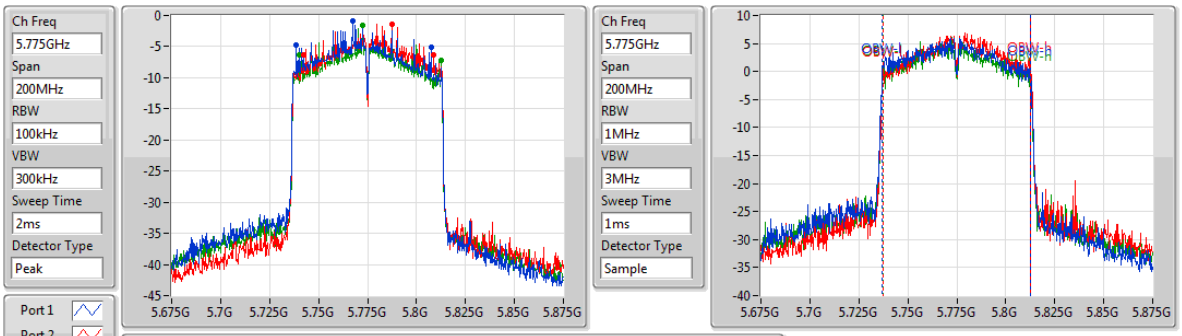
5210MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
80.29M	5.17G	5.25029G	74.964M	5.172373G	5.247337G	Inf	1
80.29M	5.17G	5.25029G	75.253M	5.172373G	5.247627G	Inf	2
80.29M	5.17G	5.25029G	74.964M	5.172663G	5.247627G	Inf	3

802.11ac VHT80_Nss3,(MCS0)_3TX EBW

5775MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
68.696M	5.738768G	5.807464G	75.253M	5.737084G	5.812337G	500k	1
66.377M	5.742536G	5.808913G	75.253M	5.737373G	5.812627G	500k	2
72.754M	5.739928G	5.812681G	75.253M	5.737373G	5.812627G	500k	3

Beamforming mode

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11ac VHT20-BF_Nss3,(MCS0)_3TX	26.884M	17.873M	17M9D1D	19.928M	17.656M
802.11ac VHT40-BF_Nss3,(MCS0)_3TX	41.884M	36.469M	36M5D1D	40.435M	36.179M
802.11ac VHT80-BF_Nss3,(MCS0)_3TX	81.739M	76.122M	76M1D1D	81.449M	75.832M
5.725-5.85GHz	-	-	-	-	-
802.11ac VHT20-BF_Nss3,(MCS0)_3TX	17.609M	17.873M	17M9D1D	14.203M	17.728M
802.11ac VHT40-BF_Nss3,(MCS0)_3TX	35.507M	36.469M	36M5D1D	31.304M	36.179M
802.11ac VHT80-BF_Nss3,(MCS0)_3TX	73.913M	76.122M	76M1D1D	66.667M	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;

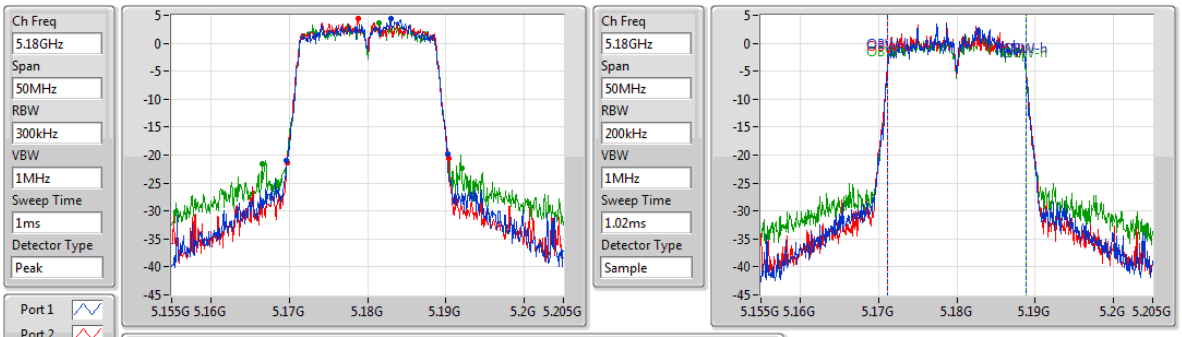
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)
802.11ac VHT20-BF_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	20.58M	17.656M	20.652M	17.8M	25.507M	17.8M
5200MHz	Pass	Inf	20.58M	17.728M	20.725M	17.8M	26.884M	17.8M
5240MHz	Pass	Inf	20.435M	17.728M	19.928M	17.728M	25.072M	17.873M
5745MHz	Pass	500k	14.203M	17.728M	15.58M	17.728M	15.435M	17.873M
5785MHz	Pass	500k	16.087M	17.728M	17.536M	17.728M	17.391M	17.8M
5825MHz	Pass	500k	17.319M	17.728M	15M	17.728M	17.609M	17.8M
802.11ac VHT40-BF_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-
5190MHz	Pass	Inf	40.435M	36.179M	40.87M	36.469M	41.884M	36.469M
5230MHz	Pass	Inf	41.304M	36.469M	40.58M	36.324M	41.304M	36.469M
5755MHz	Pass	500k	34.928M	36.469M	33.768M	36.324M	35.072M	36.469M
5795MHz	Pass	500k	35.507M	36.324M	32.174M	36.469M	31.304M	36.179M
802.11ac VHT80-BF_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-
5210MHz	Pass	Inf	81.739M	75.832M	81.449M	75.832M	81.449M	76.122M
5775MHz	Pass	500k	70.145M	76.122M	66.667M	76.122M	73.913M	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;

802.11ac VHT20-BF_Nss3,(MCS0)_3TX EBW

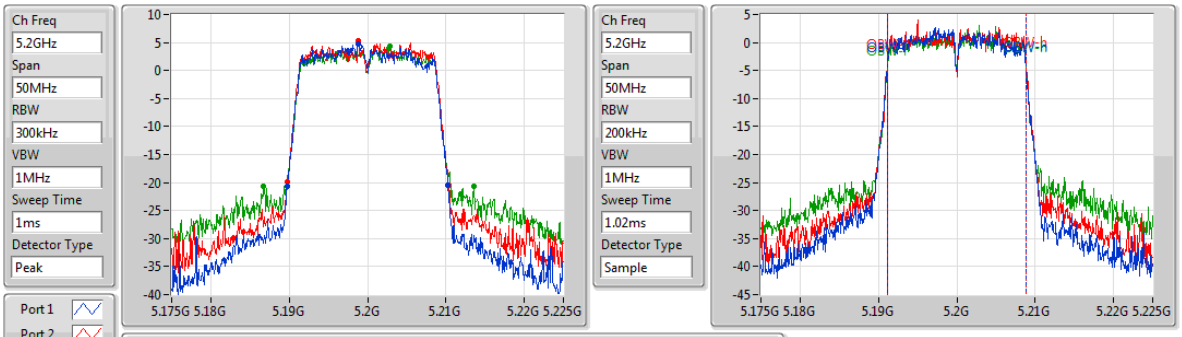
5180MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.58M	5.169638G	5.190217G	17.656M	5.171172G	5.188828G	Inf	1
20.652M	5.16971G	5.190362G	17.8M	5.1711G	5.1889G	Inf	2
25.507M	5.166522G	5.192029G	17.8M	5.1711G	5.1889G	Inf	3

802.11ac VHT20-BF_Nss3,(MCS0)_3TX EBW

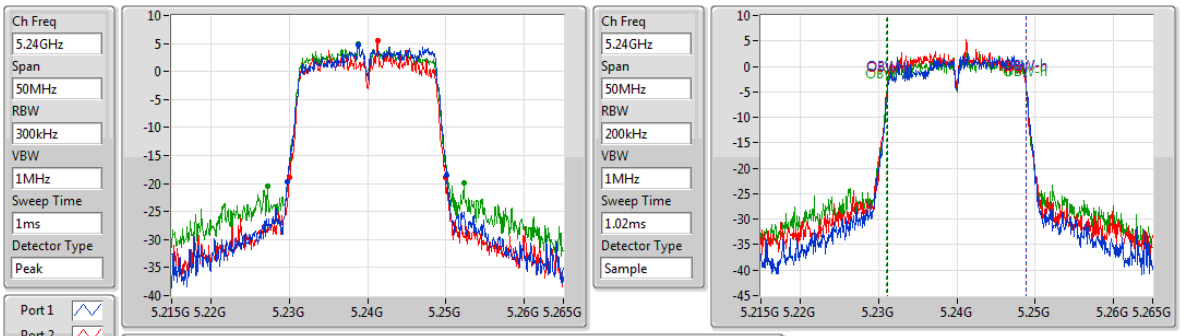
5200MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.58M	5.18971G	5.21029G	17.728M	5.1911G	5.208828G	Inf	1
20.725M	5.18971G	5.210435G	17.8M	5.1911G	5.2089G	Inf	2
26.884M	5.186739G	5.213623G	17.8M	5.1911G	5.2089G	Inf	3

802.11ac VHT20-BF_Nss3,(MCS0)_3TX EBW

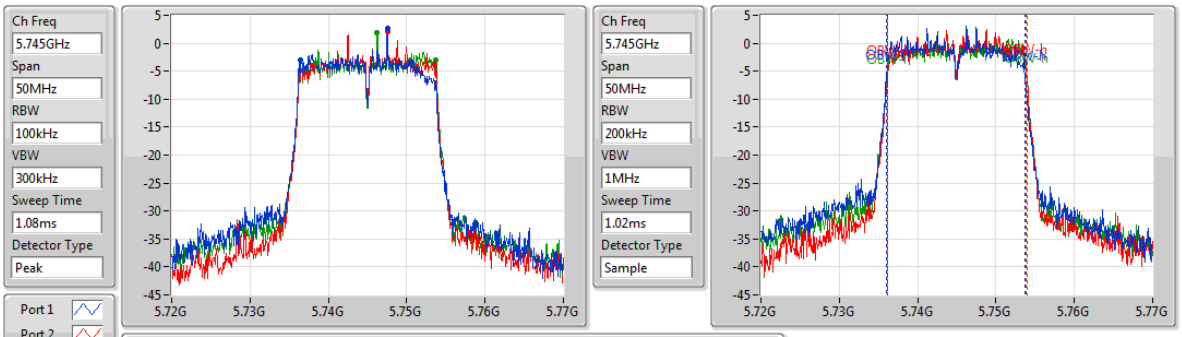
5240MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.435M	5.22971G	5.250145G	17.728M	5.231172G	5.2489G	Inf	1
19.928M	5.23G	5.249928G	17.728M	5.2311G	5.248828G	Inf	2
25.072M	5.227246G	5.252319G	17.873M	5.231027G	5.2489G	Inf	3

802.11ac VHT20-BF_Nss3,(MCS0)_3TX EBW

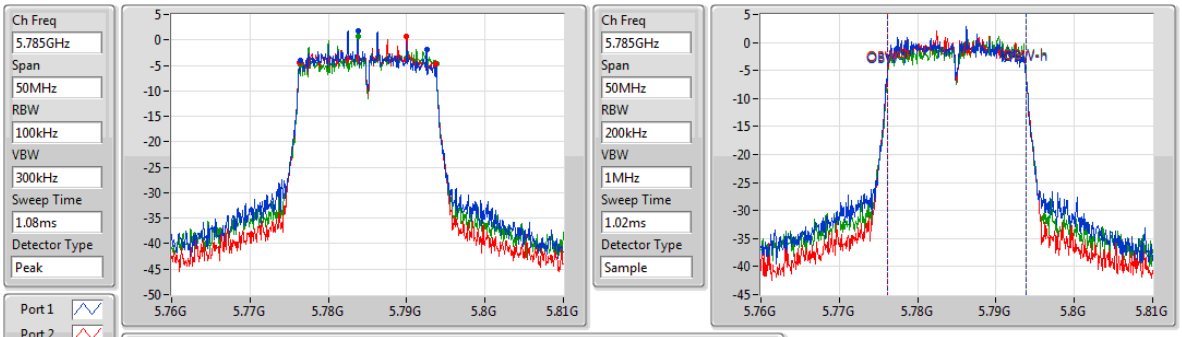
5745MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
14.203M	5.736449G	5.750652G	17.728M	5.736027G	5.753755G	500k	1
15.58M	5.737971G	5.753551G	17.728M	5.736172G	5.7539G	500k	2
15.435M	5.738333G	5.753768G	17.873M	5.7361G	5.753973G	500k	3

802.11ac VHT20-BF_Nss3,(MCS0)_3TX EBW

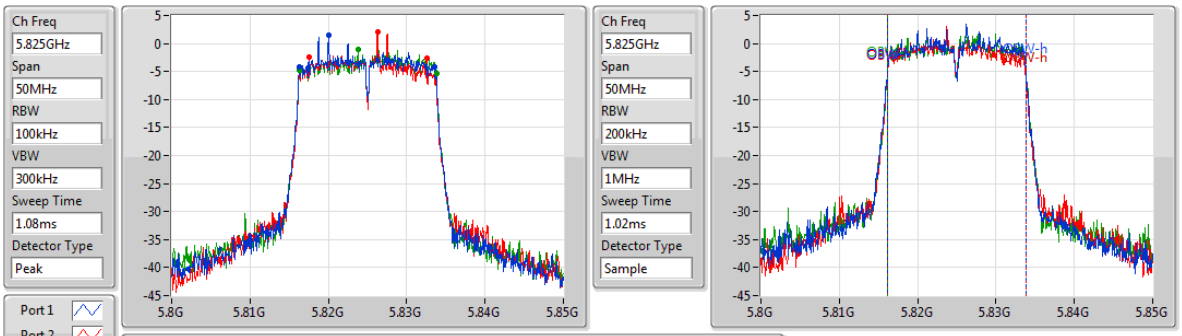
5785MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.087M	5.776449G	5.792536G	17.728M	5.7761G	5.793828G	500k	1
17.536M	5.776232G	5.793768G	17.728M	5.7761G	5.793828G	500k	2
17.391M	5.776449G	5.793841G	17.8M	5.7761G	5.7939G	500k	3

802.11ac VHT20-BF_Nss3,(MCS0)_3TX EBW

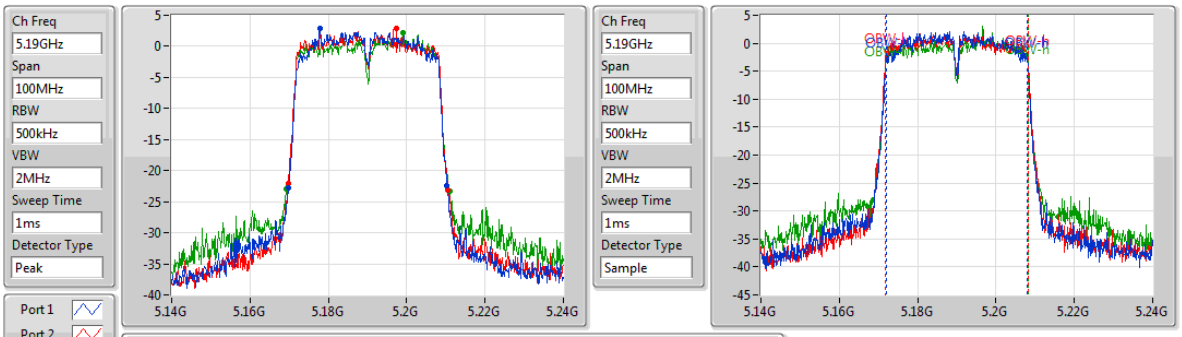
5825MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.319M	5.816232G	5.833551G	17.728M	5.8161G	5.833828G	500k	1
15M	5.817536G	5.832536G	17.728M	5.8161G	5.833828G	500k	2
17.609M	5.816232G	5.833841G	17.8M	5.8161G	5.8339G	500k	3

802.11ac VHT40-BF_Nss3,(MCS0)_3TX EBW

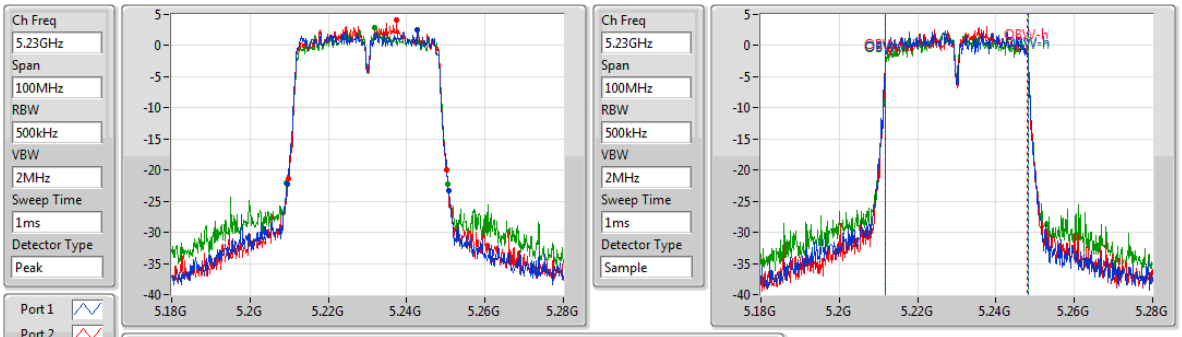
5190MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
40.435M	5.169855G	5.21029G	36.179M	5.17191G	5.20809G	Inf	1
40.87M	5.16971G	5.21058G	36.469M	5.171766G	5.208234G	Inf	2
41.884M	5.16913G	5.211014G	36.469M	5.171766G	5.208234G	Inf	3

802.11ac VHT40-BF_Nss3,(MCS0)_3TX EBW

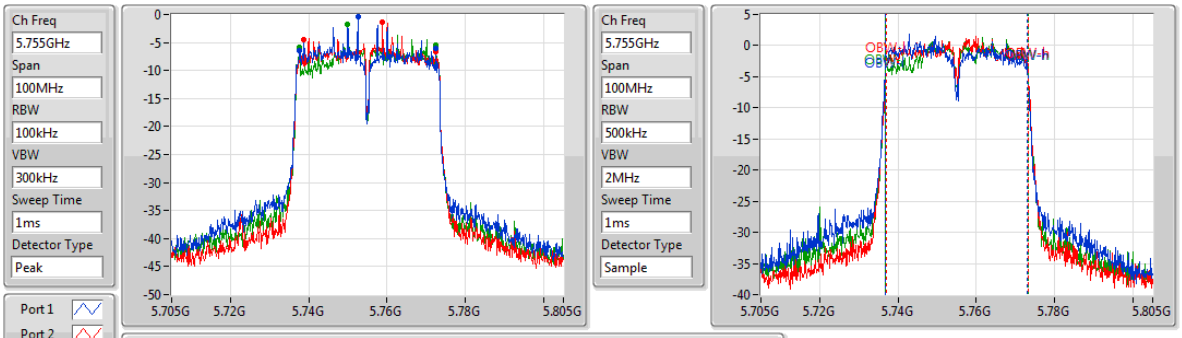
5230MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
41.304M	5.20942G	5.250725G	36.469M	5.211766G	5.248234G	Inf	1
40.58M	5.20971G	5.25029G	36.324M	5.211766G	5.24809G	Inf	2
41.304M	5.209275G	5.25058G	36.469M	5.211766G	5.248234G	Inf	3

802.11ac VHT40-BF_Nss3,(MCS0)_3TX EBW

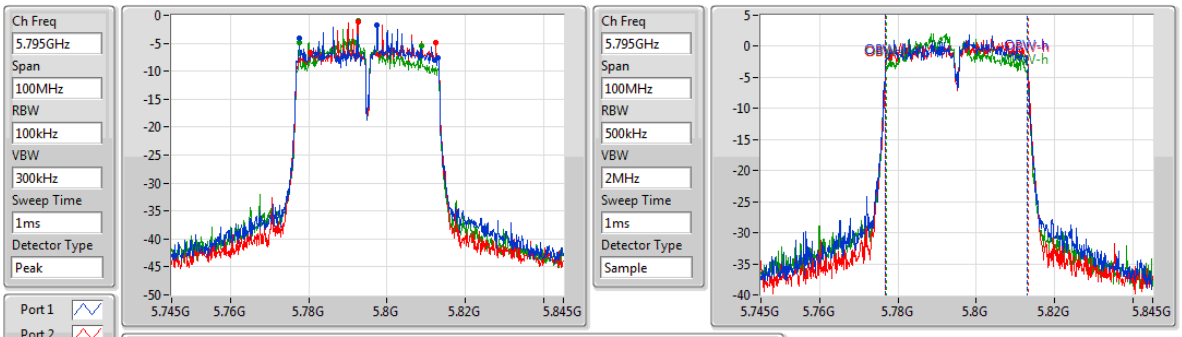
5755MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
34.928M	5.737609G	5.772536G	36.469M	5.736621G	5.77309G	500k	1
33.768M	5.738768G	5.772536G	36.324M	5.73691G	5.773234G	500k	2
35.072M	5.737464G	5.772536G	36.469M	5.736766G	5.773234G	500k	3

802.11ac VHT40-BF_Nss3,(MCS0)_3TX EBW

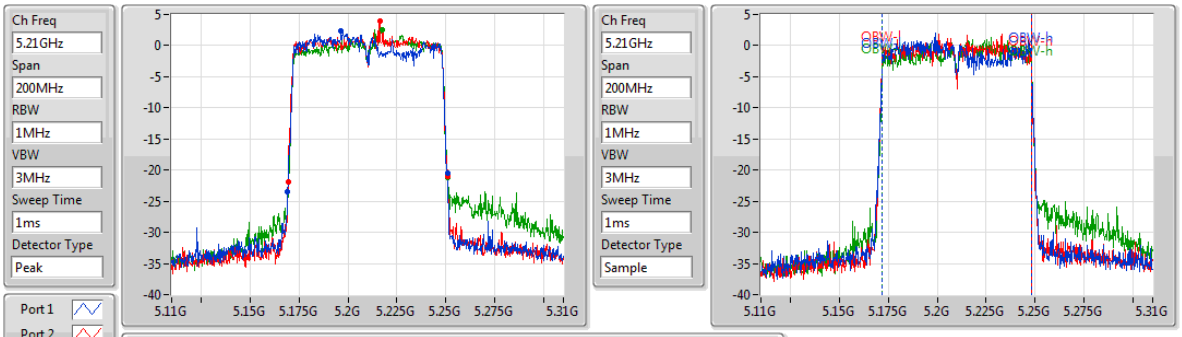
5795MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
35.507M	5.777464G	5.812971G	36.324M	5.776766G	5.81309G	500k	1
32.174M	5.780362G	5.812536G	36.469M	5.776766G	5.813234G	500k	2
31.304M	5.777464G	5.808768G	36.179M	5.77691G	5.81309G	500k	3

802.11ac VHT80-BF_Nss3,(MCS0)_3TX EBW

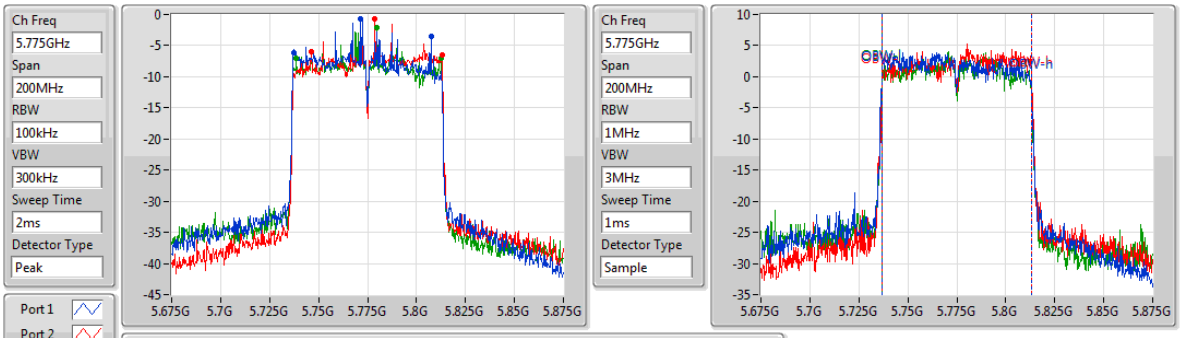
5210MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
81.739M	5.16913G	5.25087G	75.832M	5.172084G	5.247916G	Inf	1
81.449M	5.16942G	5.25087G	75.832M	5.172084G	5.247916G	Inf	2
81.449M	5.16971G	5.251159G	76.122M	5.172084G	5.248205G	Inf	3

802.11ac VHT80-BF_Nss3,(MCS0)_3TX EBW

5775MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
70.145M	5.737319G	5.807464G	76.122M	5.736795G	5.812916G	500k	1
66.667M	5.746304G	5.812971G	76.122M	5.737084G	5.813205G	500k	2
73.913M	5.738768G	5.812681G	75.832M	5.737084G	5.812916G	500k	3

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
☐	5250 ~ 5350	250mW or 11dBm+10 log B
☐	5470 ~ 5725	250mW or 11dBm+10 log B
☒	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

Non-beamforming mode

Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.15-5.25GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_3TX	21.26	0.13366	26.01	0.39902
802.11n HT20_Nss3,(MCS16)_3TX	18.71	0.07430	23.46	0.22182
802.11n HT40_Nss3,(MCS16)_3TX	17.88	0.06138	22.63	0.18323
802.11ac VHT20_Nss3,(MCS0)_3TX	18.82	0.07621	23.57	0.22751
802.11ac VHT40_Nss3,(MCS0)_3TX	18.00	0.06310	22.75	0.18836
802.11ac VHT80_Nss3,(MCS0)_3TX	17.72	0.05916	22.47	0.17660
5.725-5.85GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_3TX	20.78	0.11967	25.53	0.35727
802.11n HT20_Nss3,(MCS16)_3TX	17.64	0.05808	22.39	0.17338
802.11n HT40_Nss3,(MCS16)_3TX	16.77	0.04753	21.52	0.14191
802.11ac VHT20_Nss3,(MCS0)_3TX	17.76	0.05970	22.51	0.17824
802.11ac VHT40_Nss3,(MCS0)_3TX	16.91	0.04909	21.66	0.14655
802.11ac VHT80_Nss3,(MCS0)_3TX	19.97	0.09931	24.72	0.29648

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11a_Nss1,(6Mbps)_3TX	-	-	-	-	-	-	-	-	-
5180MHz	Pass	4.75	16.88	16.74	15.75	21.26	30.00	26.01	36.00
5200MHz	Pass	4.75	16.62	16.65	15.83	21.15	30.00	25.90	36.00
5240MHz	Pass	4.75	16.38	16.77	15.8	21.11	30.00	25.86	36.00
5745MHz	Pass	4.75	15.59	15.62	14.93	20.16	30.00	24.91	36.00
5785MHz	Pass	4.75	16.01	15.91	15.01	20.44	30.00	25.19	36.00
5825MHz	Pass	4.75	16.64	15.79	15.51	20.78	30.00	25.53	36.00
802.11n HT20_Nss3,(MCS16)_3TX	-	-	-	-	-	-	-	-	-
5180MHz	Pass	4.75	13.65	13.52	13.31	18.27	30.00	23.02	36.00
5200MHz	Pass	4.75	14.03	14.22	13.54	18.71	30.00	23.46	36.00
5240MHz	Pass	4.75	13.71	14.03	13.69	18.58	30.00	23.33	36.00
5745MHz	Pass	4.75	12.92	12.94	12.25	17.49	30.00	22.24	36.00
5785MHz	Pass	4.75	13.06	13.14	12.35	17.64	30.00	22.39	36.00
5825MHz	Pass	4.75	13.34	12.68	12.41	17.60	30.00	22.35	36.00
802.11n HT40_Nss3,(MCS16)_3TX	-	-	-	-	-	-	-	-	-
5190MHz	Pass	4.75	12.75	12.72	12.35	17.38	30.00	22.13	36.00
5230MHz	Pass	4.75	13.06	13.42	12.81	17.88	30.00	22.63	36.00
5755MHz	Pass	4.75	12.14	12.11	11.63	16.74	30.00	21.49	36.00
5795MHz	Pass	4.75	12.35	12.08	11.54	16.77	30.00	21.52	36.00
802.11ac VHT20_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5180MHz	Pass	4.75	13.79	13.66	13.45	18.41	30.00	23.16	36.00
5200MHz	Pass	4.75	14.16	14.31	13.66	18.82	30.00	23.57	36.00
5240MHz	Pass	4.75	13.83	14.19	13.82	18.72	30.00	23.47	36.00
5745MHz	Pass	4.75	13.01	13.06	12.42	17.61	30.00	22.36	36.00
5785MHz	Pass	4.75	13.18	13.26	12.49	17.76	30.00	22.51	36.00
5825MHz	Pass	4.75	13.49	12.81	12.55	17.74	30.00	22.49	36.00
802.11ac VHT40_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5190MHz	Pass	4.75	12.91	12.88	12.5	17.54	30.00	22.29	36.00
5230MHz	Pass	4.75	13.14	13.59	12.94	18.00	30.00	22.75	36.00
5755MHz	Pass	4.75	12.28	12.25	11.75	16.87	30.00	21.62	36.00
5795MHz	Pass	4.75	12.48	12.26	11.63	16.91	30.00	21.66	36.00
802.11ac VHT80_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5210MHz	Pass	4.75	12.88	13.02	12.96	17.72	30.00	22.47	36.00
5775MHz	Pass	4.75	15.55	15.36	14.65	19.97	30.00	24.72	36.00

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

Beamforming mode

Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.15-5.25GHz	-	-	-	-
802.11ac VHT20-BF_Nss3,(MCS0)_3TX	18.81	0.07603	28.33	0.68077
802.11ac VHT40-BF_Nss3,(MCS0)_3TX	17.80	0.06026	27.32	0.53951
802.11ac VHT80-BF_Nss3,(MCS0)_3TX	15.72	0.03733	25.24	0.33420
5.725-5.85GHz	-	-	-	-
802.11ac VHT20-BF_Nss3,(MCS0)_3TX	17.72	0.05916	27.24	0.52966
802.11ac VHT40-BF_Nss3,(MCS0)_3TX	16.86	0.04853	26.38	0.43451
802.11ac VHT80-BF_Nss3,(MCS0)_3TX	18.63	0.07295	28.15	0.65313

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11ac VHT20-BF_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5180MHz	Pass	9.52	13.77	13.52	13.41	18.34	26.48	27.86	36.00
5200MHz	Pass	9.52	14.16	14.09	13.87	18.81	26.48	28.33	36.00
5240MHz	Pass	9.52	13.55	14.15	14.01	18.68	26.48	28.20	36.00
5745MHz	Pass	9.52	12.66	12.91	12.83	17.57	26.48	27.09	36.00
5785MHz	Pass	9.52	13.17	12.65	12.65	17.60	26.48	27.12	36.00
5825MHz	Pass	9.52	13.51	12.49	12.77	17.72	26.48	27.24	36.00
802.11ac VHT40-BF_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5190MHz	Pass	9.52	12.71	12.65	12.25	17.31	26.48	26.83	36.00
5230MHz	Pass	9.52	12.93	13.27	12.87	17.80	26.48	27.32	36.00
5755MHz	Pass	9.52	12.21	12.06	11.55	16.72	26.48	26.24	36.00
5795MHz	Pass	9.52	12.41	12.17	11.66	16.86	26.48	26.38	36.00
802.11ac VHT80-BF_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5210MHz	Pass	9.52	10.95	11.05	10.85	15.72	26.48	25.24	36.00
5775MHz	Pass	9.52	14.12	13.92	13.51	18.63	26.48	28.15	36.00

DG = Directional Gain;**Port X** = Port X output power
Directional gain = 4.75+10* log(3/1) =9.52 dBi > 6 dBi, Power Limit shall be reduced to 30 dBm – (9.52 dBi – 6 dBi) = 26.48 dBm

3.4 Peak Power Spectral Density

3.4.1 Limit of Peak Power Spectral Density

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

Frequency Band (MHz)		**Limit**
☐	5250 ~ 5350	11 dBm / MHz
☐	5470 ~ 5725	11 dBm / MHz
☒	5725 ~ 5850	30 dBm /500 kHz

3.4.2 Test Procedures

For 5150 ~ 5250 MHz

☒ Method SA-1 (For Beamforming mode)

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.

☒ Method SA-2 Alternative (For Non- Beamforming mode)

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

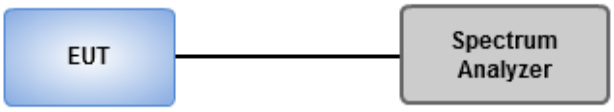
☒ Method SA-1 (For Beamforming mode)

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.

☒ Method SA-2 Alternative (For Non- Beamforming mode)

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

Non-beamforming mode

Summary

Mode	PD (dBm/RBW)	EIRP PD (dBm/RBW)
5.15-5.25GHz	-	-
802.11a_Nss1,(6Mbps)_3TX	9.61	19.13
802.11ac VHT20_Nss3,(MCS0)_3TX	7.00	11.75
802.11ac VHT40_Nss3,(MCS0)_3TX	3.28	8.03
802.11ac VHT80_Nss3,(MCS0)_3TX	-0.17	4.58
5.725-5.85GHz	-	-
802.11a_Nss1,(6Mbps)_3TX	7.64	17.16
802.11ac VHT20_Nss3,(MCS0)_3TX	4.72	9.47
802.11ac VHT40_Nss3,(MCS0)_3TX	0.56	5.31
802.11ac VHT80_Nss3,(MCS0)_3TX	-0.59	4.16

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

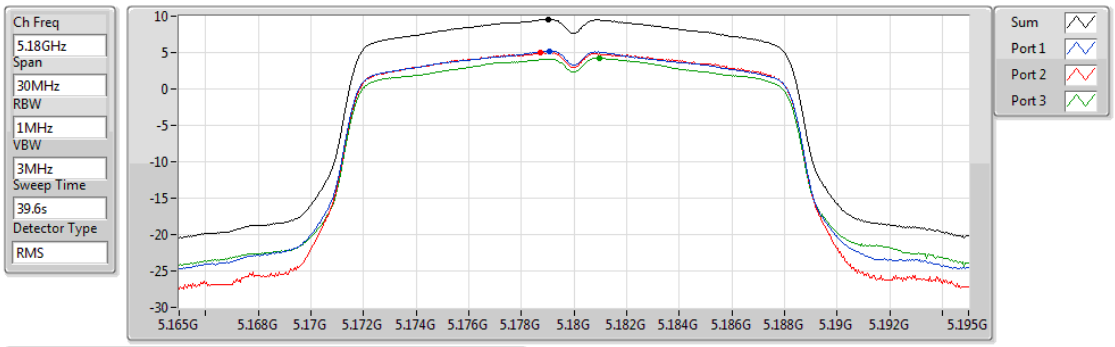
Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)	EIRP PD (dBm/RBW)	EIRP PD Limit (dBm/RBW)
802.11a_Nss1,(6Mbps)_3TX	-	-	-	-	-	-	-	-	-
5180MHz	Pass	9.52	5.23	5.04	4.23	9.57	13.48	19.09	23.00
5200MHz	Pass	9.52	5.18	5.10	4.37	9.61	13.48	19.13	23.00
5240MHz	Pass	9.52	4.86	5.28	4.35	9.56	13.48	19.08	23.00
5745MHz	Pass	9.52	2.39	2.40	1.78	6.97	26.48	16.49	36.00
5785MHz	Pass	9.52	3.01	2.89	1.93	7.40	26.48	16.92	36.00
5825MHz	Pass	9.52	3.48	2.64	2.52	7.64	26.48	17.16	36.00
802.11ac VHT20_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5180MHz	Pass	4.75	1.70	1.76	1.05	6.27	17.00	11.02	23.00
5200MHz	Pass	4.75	2.19	2.52	1.74	6.90	17.00	11.65	23.00
5240MHz	Pass	4.75	2.09	2.74	1.81	7.00	17.00	11.75	23.00
5745MHz	Pass	4.75	-0.24	-0.26	-0.73	4.32	30.00	9.07	36.00
5785MHz	Pass	4.75	0.28	0.11	-0.47	4.72	30.00	9.47	36.00
5825MHz	Pass	4.75	0.40	-0.73	-0.46	4.51	30.00	9.26	36.00
802.11ac VHT40_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5190MHz	Pass	4.75	-4.80	-4.80	-4.80	-0.04	17.00	4.71	23.00
5230MHz	Pass	4.75	-1.47	-1.09	-1.87	3.28	17.00	8.03	23.00
5755MHz	Pass	4.75	-5.56	-5.56	-5.58	-0.87	30.00	3.88	36.00
5795MHz	Pass	4.75	-3.74	-4.07	-4.76	0.56	30.00	5.31	36.00
802.11ac VHT80_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5210MHz	Pass	4.75	-4.84	-4.61	-5.34	-0.17	17.00	4.58	23.00
5775MHz	Pass	4.75	-5.15	-4.93	-5.93	-0.59	30.00	4.16	36.00

DG = Directional Gain; **RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;
For 11a, 5150 ~ 5250 MHz band
Directional gain = 4.75+10* log(3/1) =9.52 dBi > 6 dBi, PD Limit shall be reduced to 17 dBm – (9.52 dBi – 6 dBi) = 13.48 dBm.
For 11a, 5725 ~ 5850 MHz band
Directional gain = 4.75+10* log(3/1) =9.52 dBi > 6 dBi, PD Limit shall be reduced to 30 dBm – (9.52 dBi – 6 dBi) = 26.48 dBm

802.11a_Nss1,(6Mbps)_3TX PSD

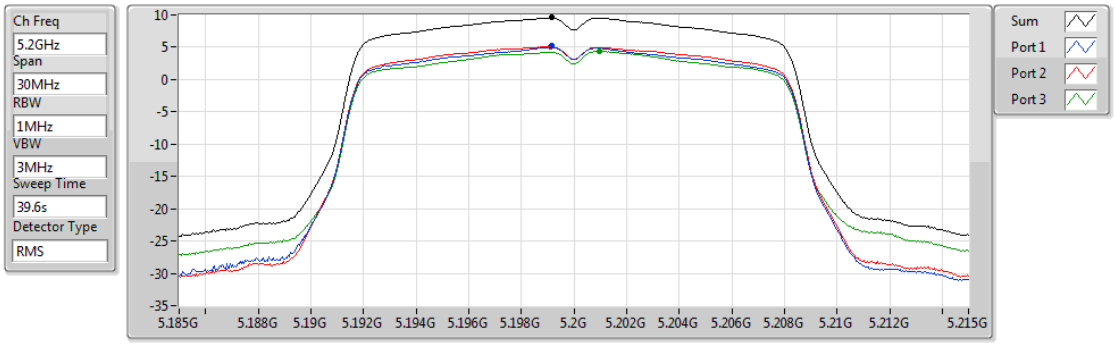
5180MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.57	9.57	5.23	5.04	4.23

802.11a_Nss1,(6Mbps)_3TX PSD

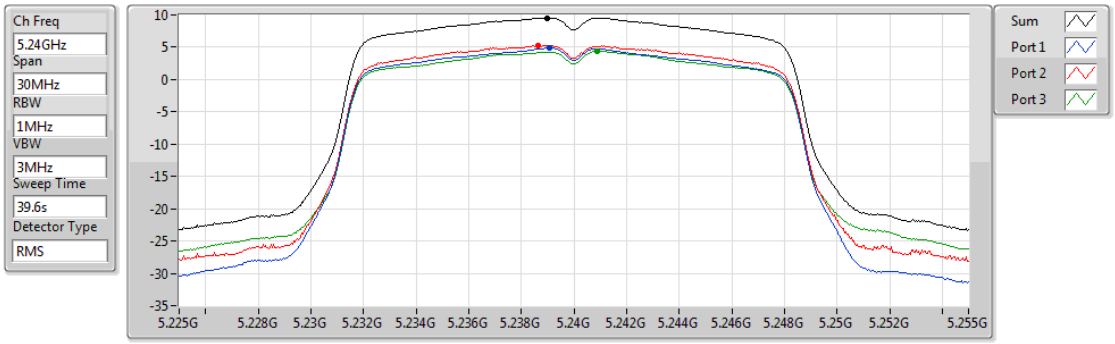
5200MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.61	9.61	5.18	5.10	4.37

802.11a_Nss1,(6Mbps)_3TX PSD

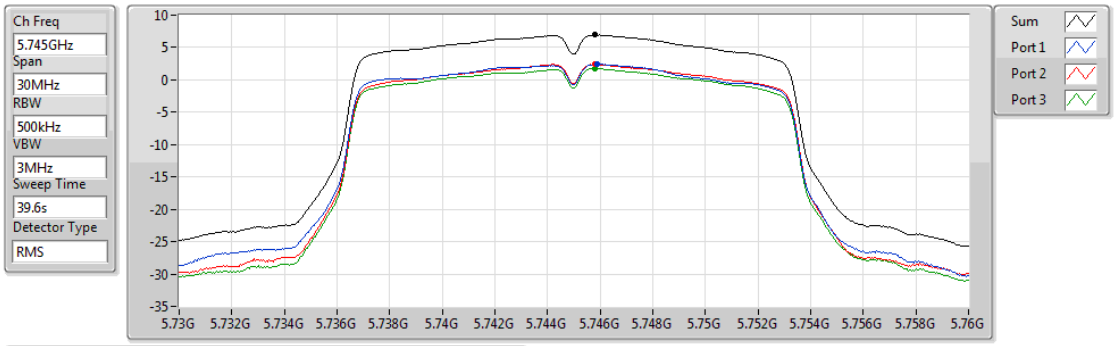
5240MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.56	9.56	4.86	5.28	4.35

802.11a_Nss1,(6Mbps)_3TX PSD

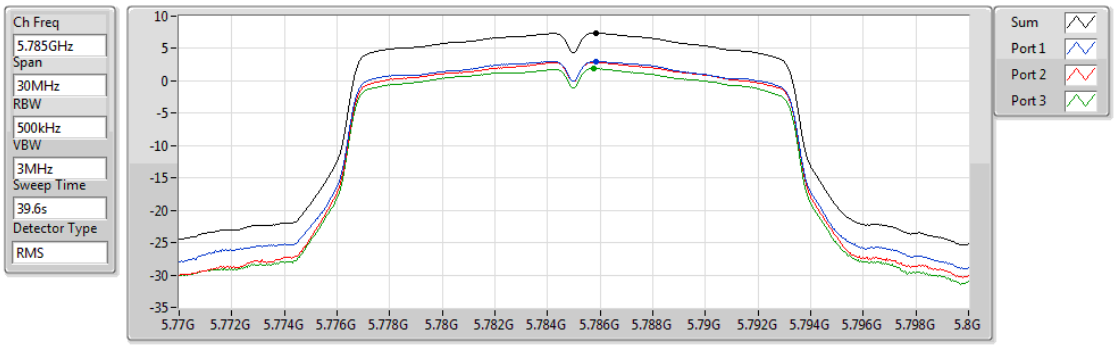
5745MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.97	6.97	2.39	2.40	1.78

802.11a_Nss1,(6Mbps)_3TX PSD

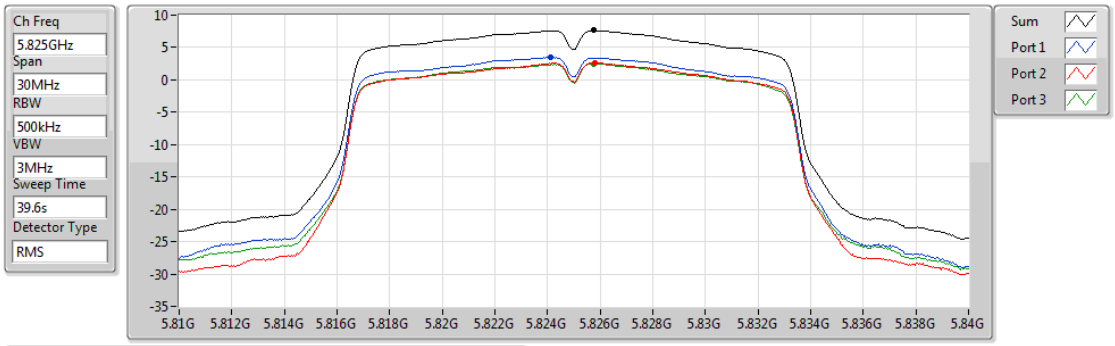
5785MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.40	7.40	3.01	2.89	1.93

802.11a_Nss1,(6Mbps)_3TX PSD

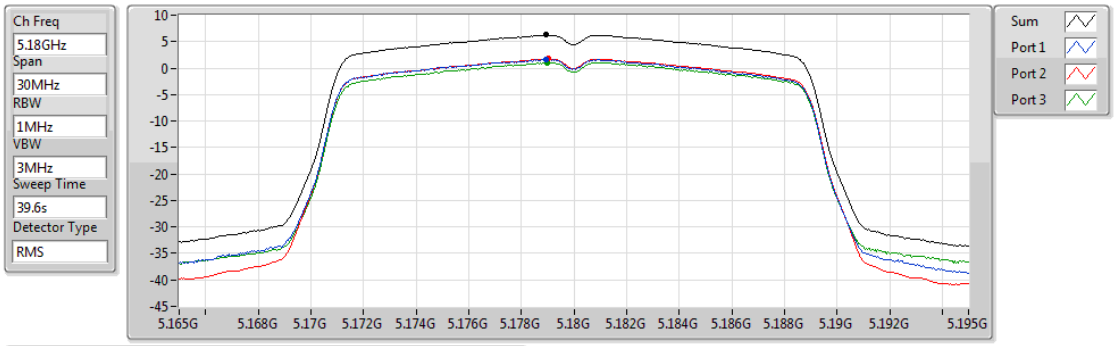
5825MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.64	7.64	3.48	2.64	2.52

802.11ac VHT20_Nss3,(MCS0)_3TX PSD

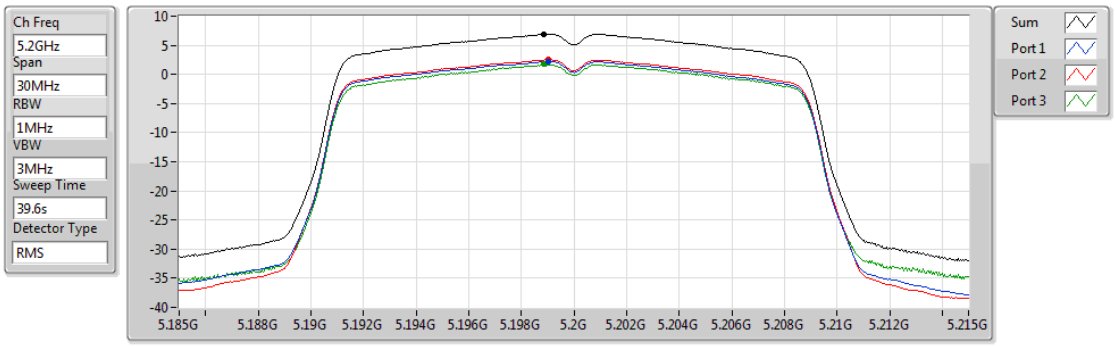
5180MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.27	6.27	1.70	1.76	1.05

802.11ac VHT20_Nss3,(MCS0)_3TX PSD

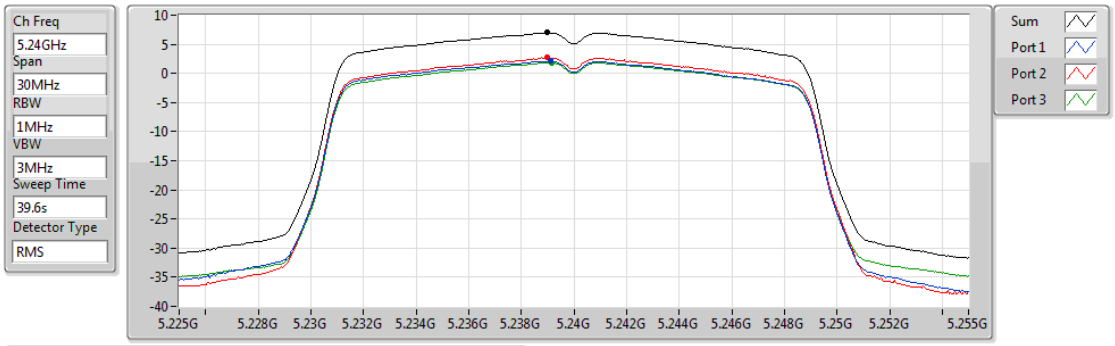
5200MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.90	6.90	2.19	2.52	1.74

802.11ac VHT20_Nss3,(MCS0)_3TX PSD

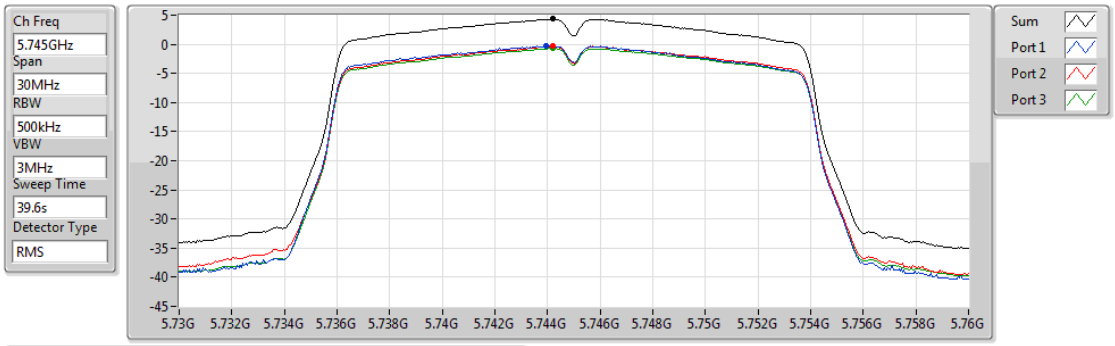
5240MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.00	7.00	2.09	2.74	1.81

802.11ac VHT20_Nss3,(MCS0)_3TX PSD

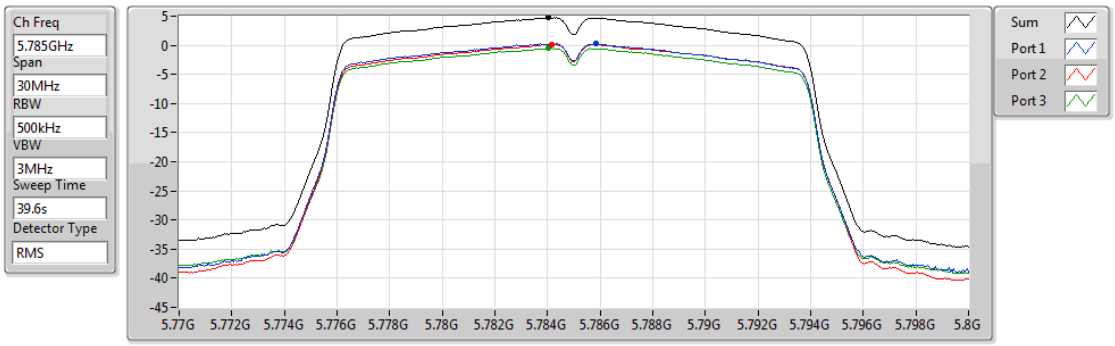
5745MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.32	4.32	-0.24	-0.26	-0.73

802.11ac VHT20_Nss3,(MCS0)_3TX PSD

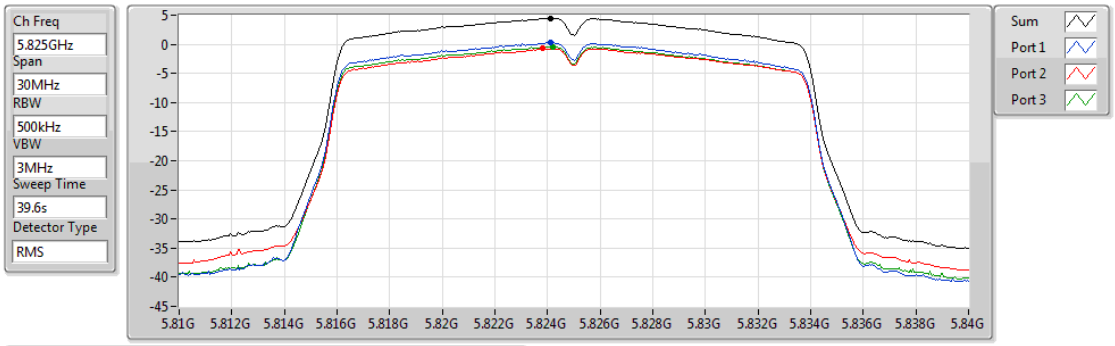
5785MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.72	4.72	0.28	0.11	-0.47

802.11ac VHT20_Nss3,(MCS0)_3TX PSD

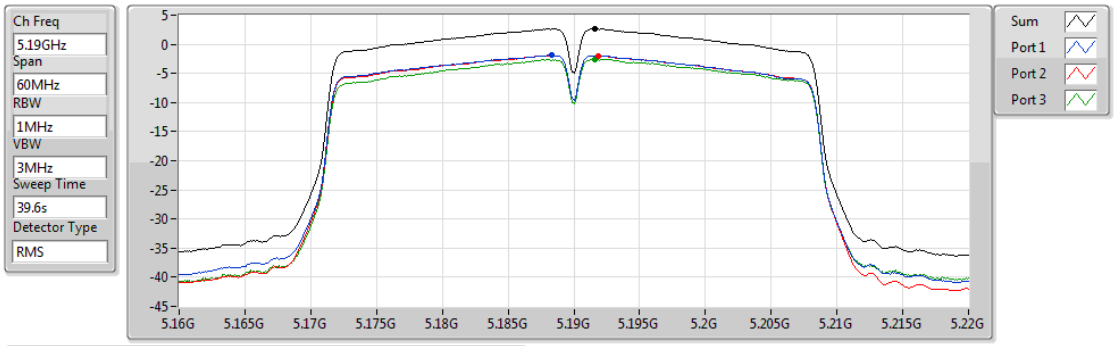
5825MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.51	4.51	0.40	-0.73	-0.46

802.11ac VHT40_Nss3,(MCS0)_3TX PSD

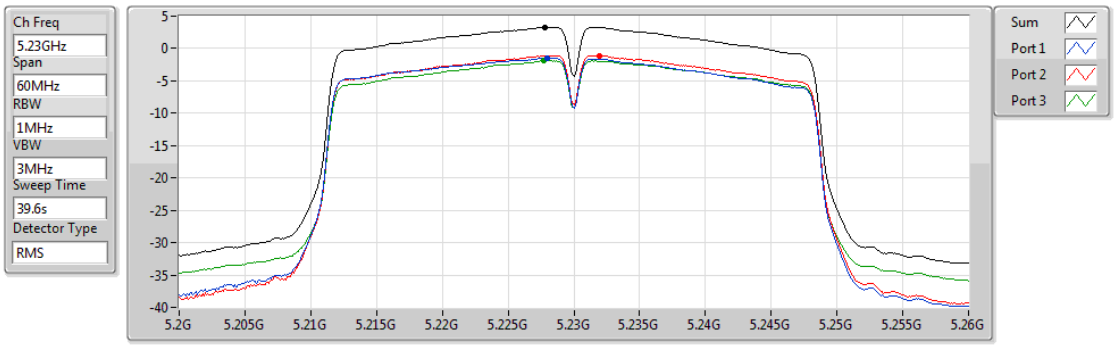
5190MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.61	2.61	-1.93	-1.97	-2.57

802.11ac VHT40_Nss3,(MCS0)_3TX PSD

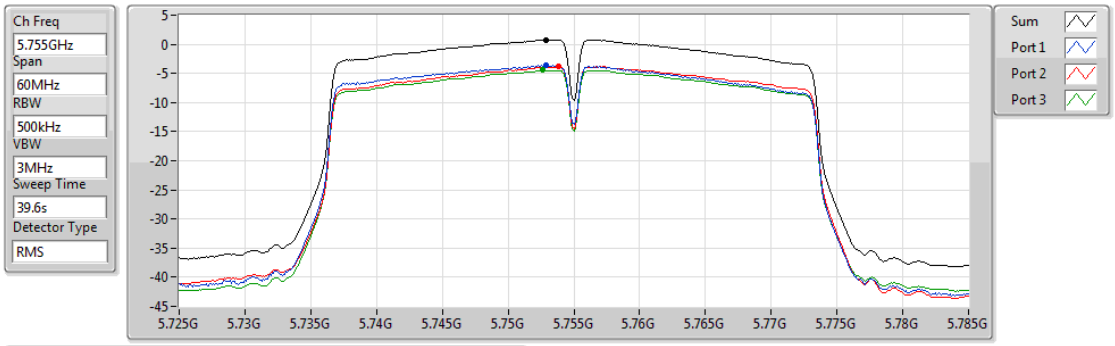
5230MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.28	3.28	-1.47	-1.09	-1.87

802.11ac VHT40_Nss3,(MCS0)_3TX PSD

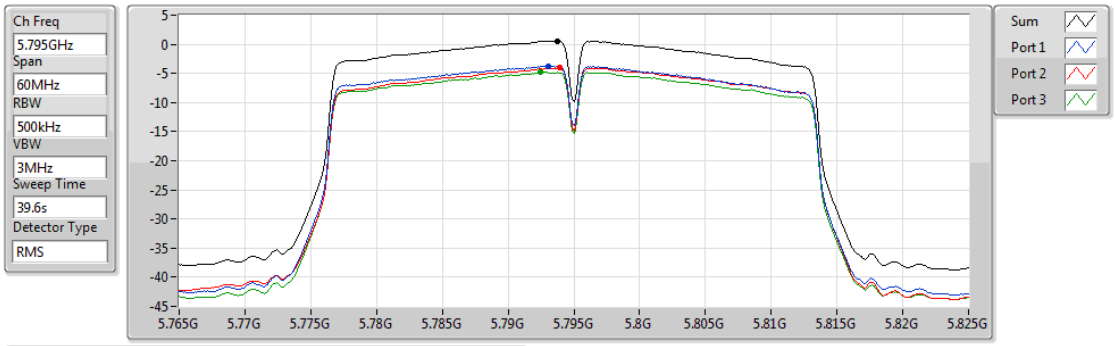
5755MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.77	0.77	-3.59	-3.87	-4.44

802.11ac VHT40_Nss3,(MCS0)_3TX PSD

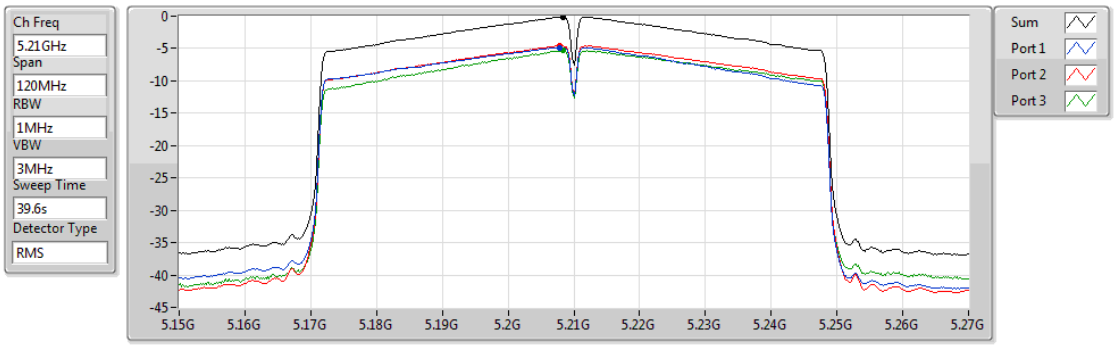
5795MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.56	0.56	-3.74	-4.07	-4.76

802.11ac VHT80_Nss3,(MCS0)_3TX PSD

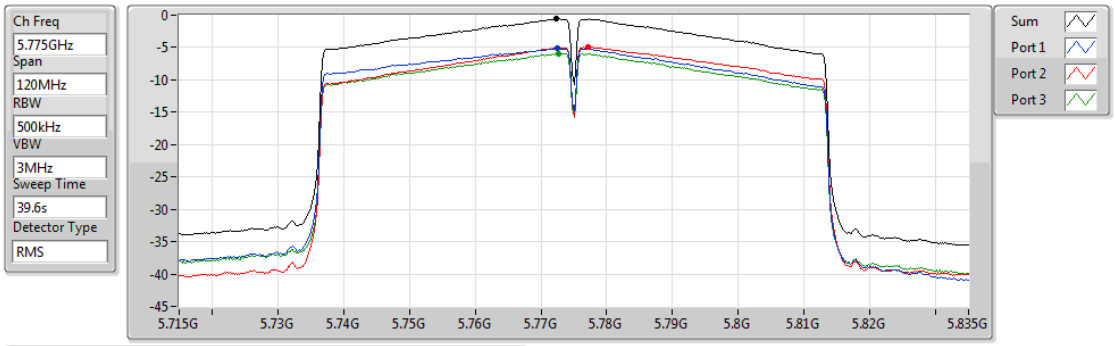
5210MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.17	-0.17	-4.84	-4.61	-5.34

802.11ac VHT80_Nss3,(MCS0)_3TX PSD

5775MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.59	-0.59	-5.15	-4.93	-5.93

Beamforming mode

Summary

Mode	PD (dBm/RBW)	EIRP PD (dBm/RBW)
5.15-5.25GHz	-	-
802.11ac VHT20-BF_Nss3,(MCS0)_3TX	5.85	15.37
802.11ac VHT40-BF_Nss3,(MCS0)_3TX	1.55	11.07
802.11ac VHT80-BF_Nss3,(MCS0)_3TX	-3.83	5.69
5.725-5.85GHz	-	-
802.11ac VHT20-BF_Nss3,(MCS0)_3TX	3.00	12.52
802.11ac VHT40-BF_Nss3,(MCS0)_3TX	-0.57	8.95
802.11ac VHT80-BF_Nss3,(MCS0)_3TX	-2.39	7.13

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

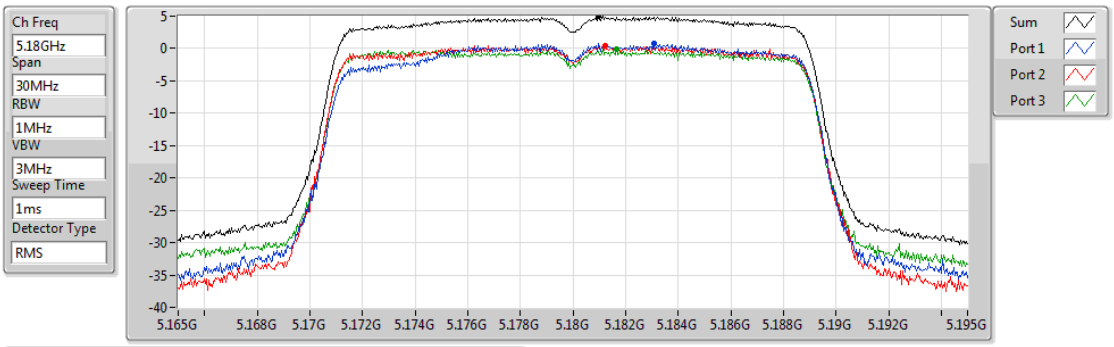
Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)	EIRP PD (dBm/RBW)	EIRP PD Limit (dBm/RBW)
802.11ac VHT20-BF_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5180MHz	Pass	9.52	0.77	0.47	-0.08	4.99	13.48	14.51	23.00
5200MHz	Pass	9.52	2.08	1.38	1.07	5.85	13.48	15.37	23.00
5240MHz	Pass	9.52	1.27	1.85	0.98	5.82	13.48	15.34	23.00
5745MHz	Pass	9.52	-1.28	-1.53	-1.13	3.00	26.48	12.52	36.00
5785MHz	Pass	9.52	-1.39	-1.62	-1.62	2.72	26.48	12.24	36.00
5825MHz	Pass	9.52	-1.28	-1.57	-1.26	2.90	26.48	12.42	36.00
802.11ac VHT40-BF_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5190MHz	Pass	9.52	-2.60	-3.59	-3.87	0.89	13.48	10.41	23.00
5230MHz	Pass	9.52	-3.14	-2.24	-2.72	1.55	13.48	11.07	23.00
5755MHz	Pass	9.52	-6.08	-5.06	-5.70	-1.57	26.48	7.95	36.00
5795MHz	Pass	9.52	-5.03	-5.52	-3.74	-0.57	26.48	8.95	36.00
802.11ac VHT80-BF_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5210MHz	Pass	9.52	-7.70	-8.04	-8.02	-3.83	13.48	5.69	23.00
5775MHz	Pass	9.52	-6.23	-6.17	-6.42	-2.39	26.48	7.13	36.00

DG = Directional Gain; **RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;
For 5150 ~ 5250 MHZ band
Directional gain = 4.75+10* log(3/1) =9.52 dBi > 6 dBi, Limit shall be reduced to 17 dBm – (9.52 dBi – 6 dBi) = 13.48 dBm.
For 5725 ~ 5850 MHZ band
Directional gain = 4.75+10* log(3/1) =9.52 dBi > 6 dBi, Limit shall be reduced to 30 dBm – (9.52 dBi – 6 dBi) = 26.48 dBm

802.11ac VHT20-BF_Nss3,(MCS0)_3TX PSD

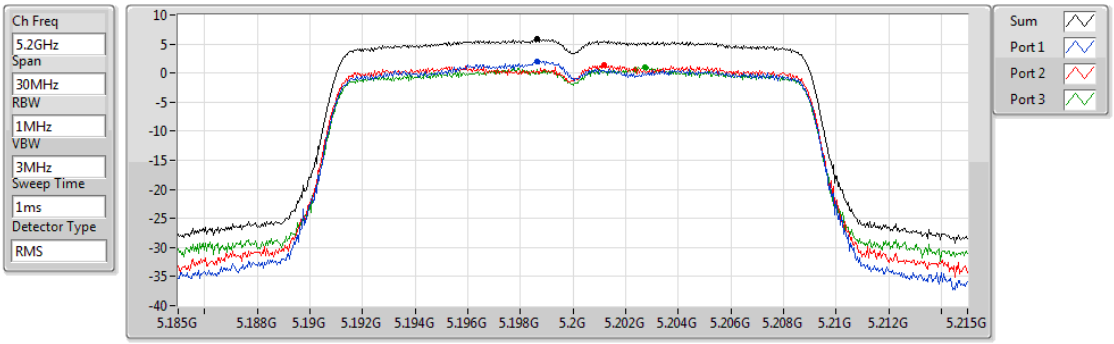
5180MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.99	4.99	0.77	0.47	-0.08

802.11ac VHT20-BF_Nss3,(MCS0)_3TX PSD

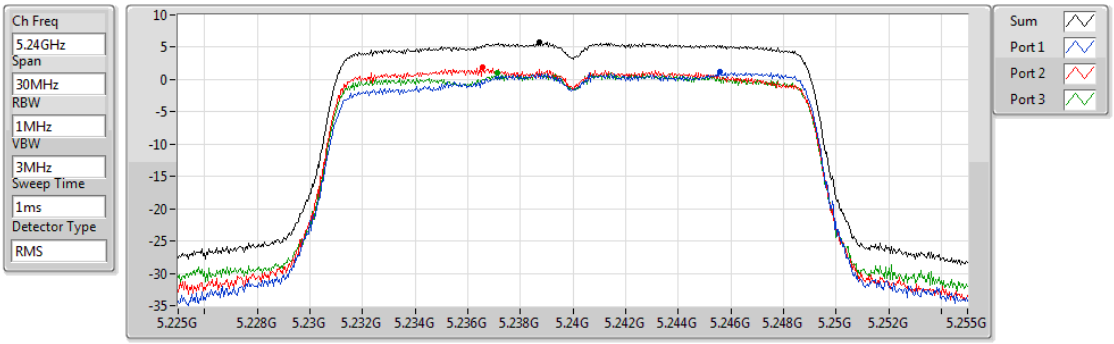
5200MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.85	5.85	2.08	1.38	1.07

802.11ac VHT20-BF_Nss3,(MCS0)_3TX PSD

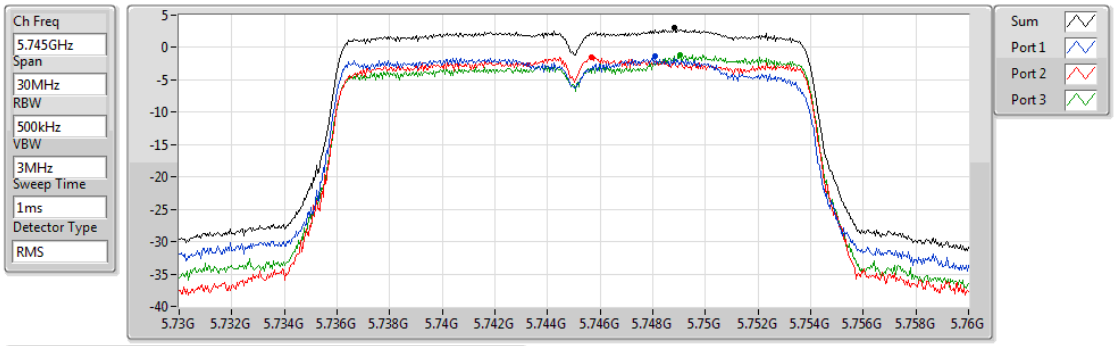
5240MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.82	5.82	1.27	1.85	0.98

802.11ac VHT20-BF_Nss3,(MCS0)_3TX PSD

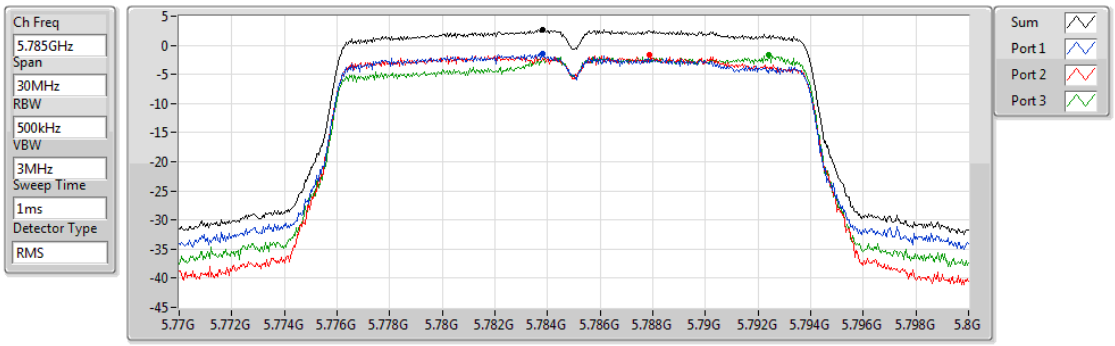
5745MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.00	3.00	-1.28	-1.53	-1.13

802.11ac VHT20-BF_Nss3,(MCS0)_3TX PSD

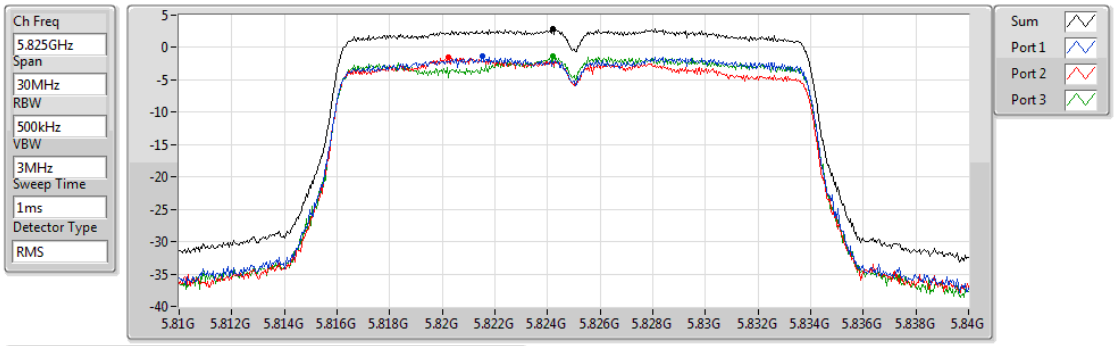
5785MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.72	2.72	-1.39	-1.62	-1.62

802.11ac VHT20-BF_Nss3,(MCS0)_3TX PSD

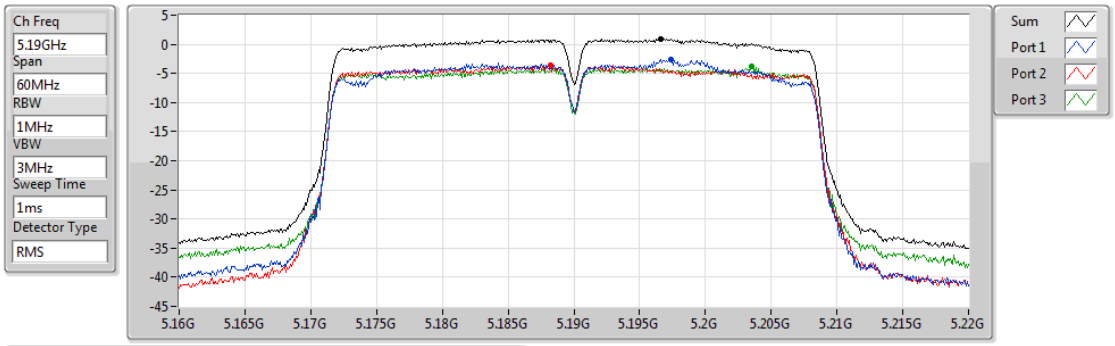
5825MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.90	2.90	-1.28	-1.57	-1.26

802.11ac VHT40-BF_Nss3,(MCS0)_3TX PSD

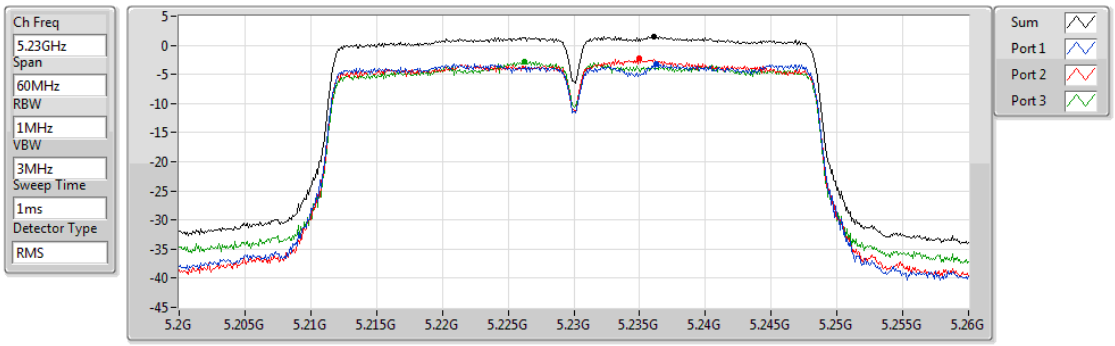
5190MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.89	0.89	-2.60	-3.59	-3.87

802.11ac VHT40-BF_Nss3,(MCS0)_3TX PSD

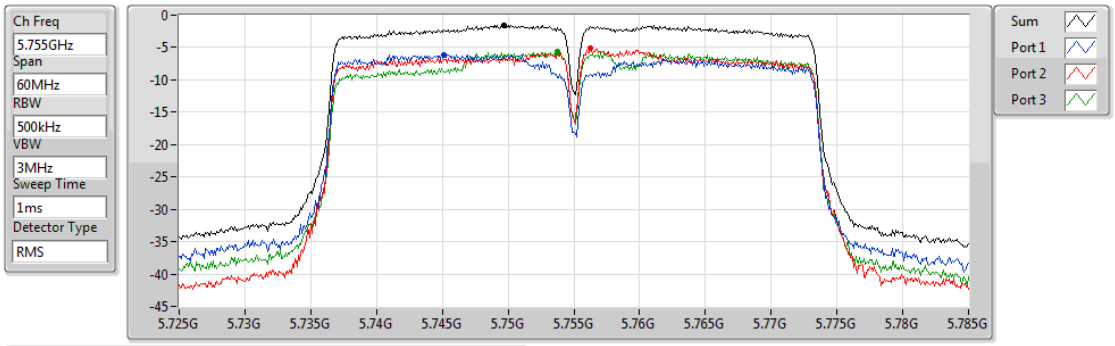
5230MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.55	1.55	-3.14	-2.24	-2.72

802.11ac VHT40-BF_Nss3,(MCS0)_3TX PSD

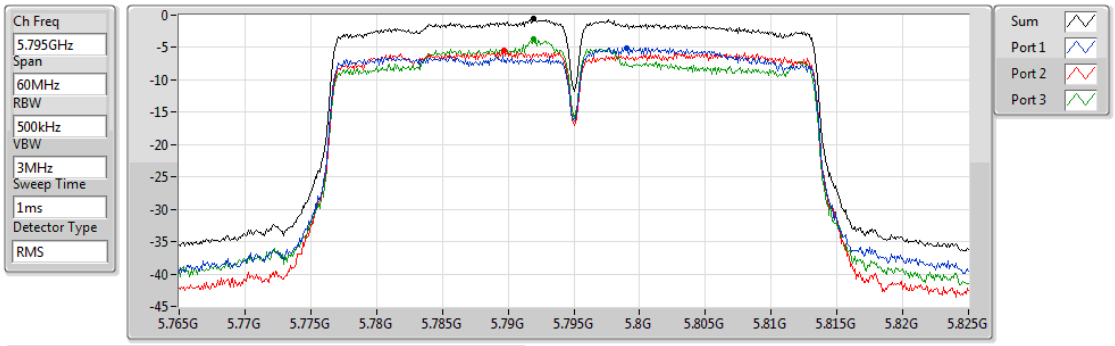
5755MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-1.57	-1.57	-6.08	-5.06	-5.70

802.11ac VHT40-BF_Nss3,(MCS0)_3TX PSD

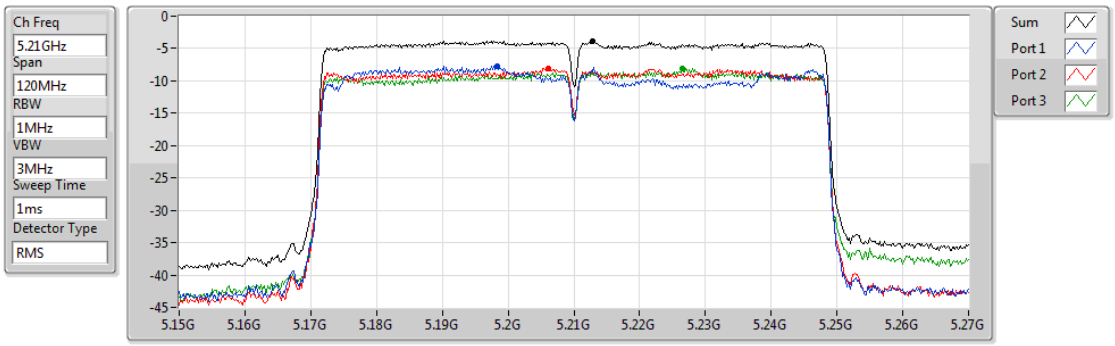
5795MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.57	-0.57	-5.03	-5.52	-3.74

802.11ac VHT80-BF_Nss3,(MCS0)_3TX PSD

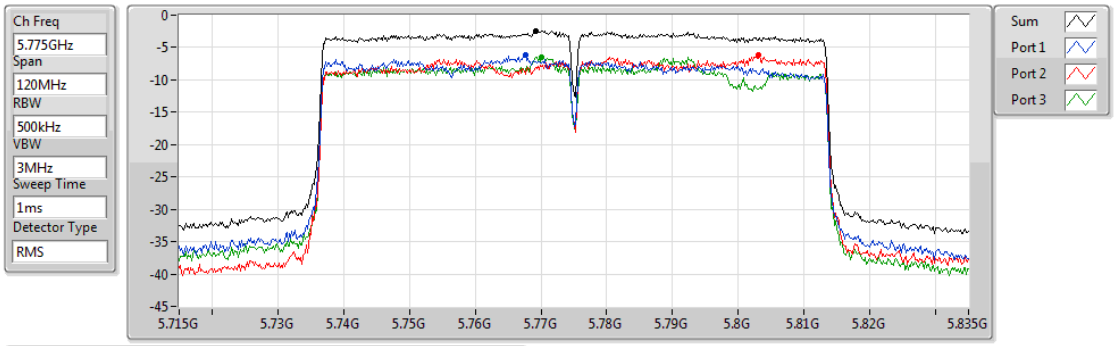
5210MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-3.83	-3.83	-7.70	-8.04	-8.02

802.11ac VHT80-BF_Nss3,(MCS0)_3TX PSD

5775MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-2.39	-2.39	-6.23	-6.17	-6.42

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	☒	15.407(b)(4)(i) 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.
	☐	15.407(b)(4)(ii) ,compliance with the emission limits in § 15.247(d) Shall be at least 30dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power,. Attenuation below the general limits specified in §15.209(a) is not required. In addition,radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see § 15.205(c))

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

3.5.2 Test Procedures

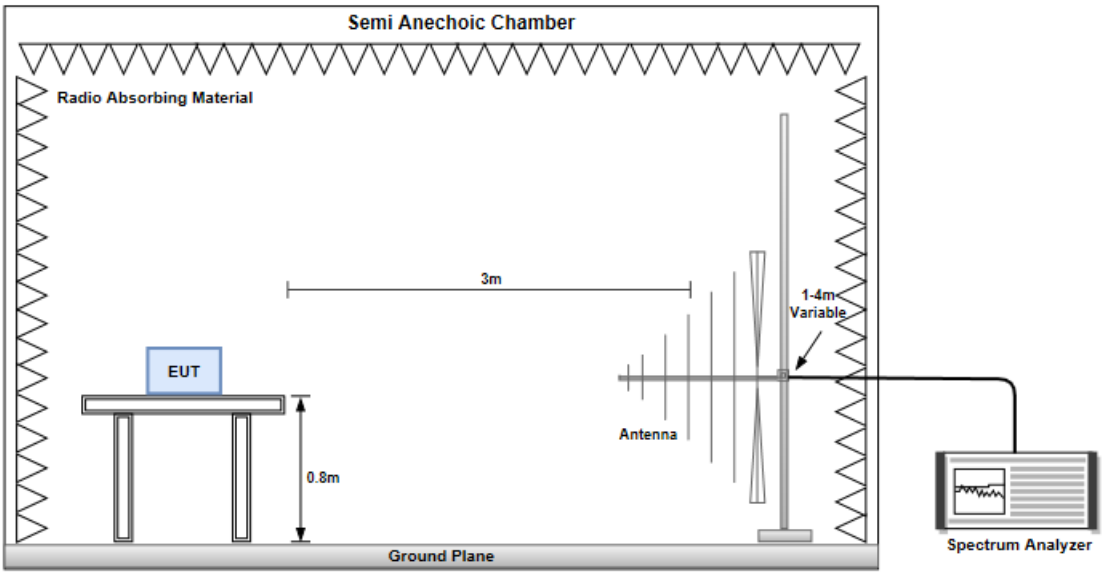
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission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

Note:

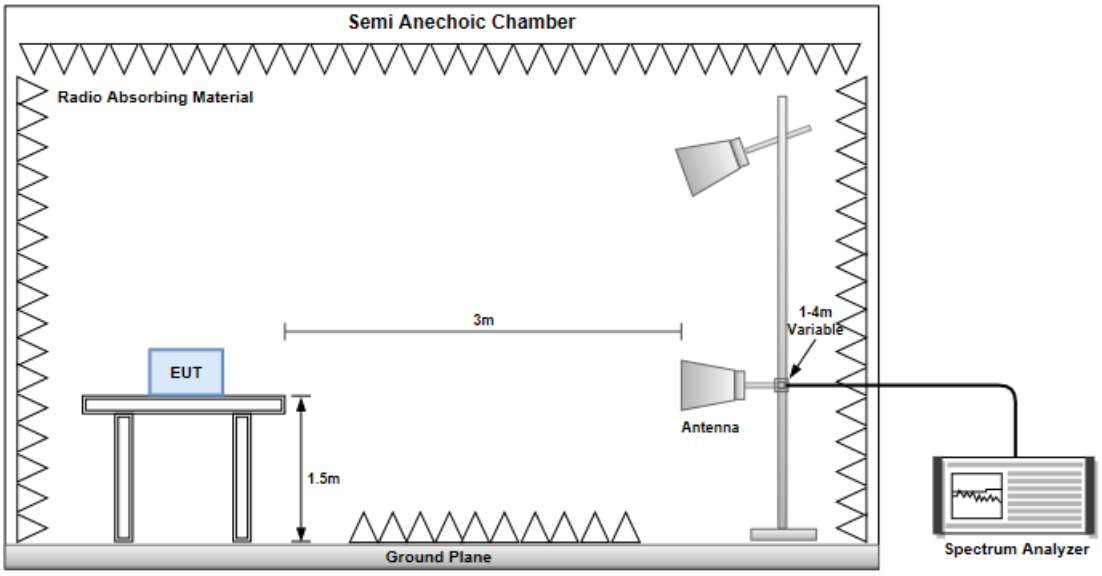
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

3.5.3 Test Setup

Radiated Emissions below 1 GHz



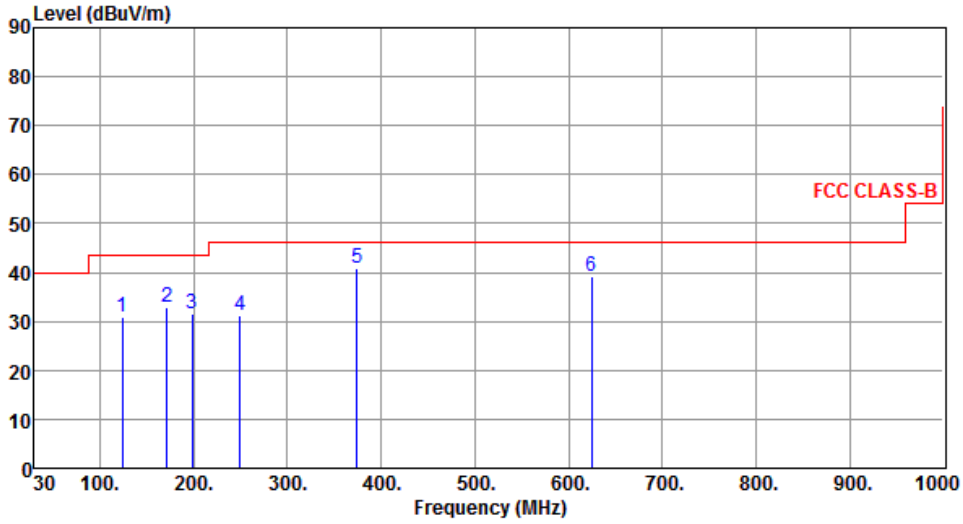
Radiated Emissions above 1 GHz



Non- beamforming mode

3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

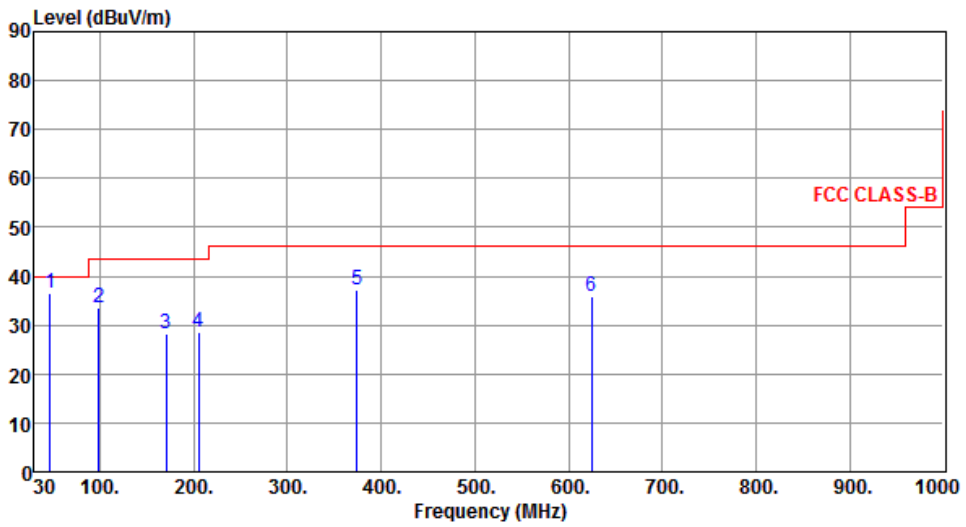
Modulation	11a	**Test Freq. (MHz)**	5180
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	124.09	30.80	43.50	-12.70	41.02	-10.22	Peak	---	---
2	171.62	32.80	43.50	-10.70	41.26	-8.46	Peak	---	---
3	198.78	31.49	43.50	-12.01	42.22	-10.73	Peak	---	---
4	249.22	31.25	46.00	-14.75	40.34	-9.09	Peak	---	---
5	374.35	40.92	46.00	-5.08	46.63	-5.71	Peak	---	---
6	624.61	39.08	46.00	-6.92	39.38	-0.30	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.

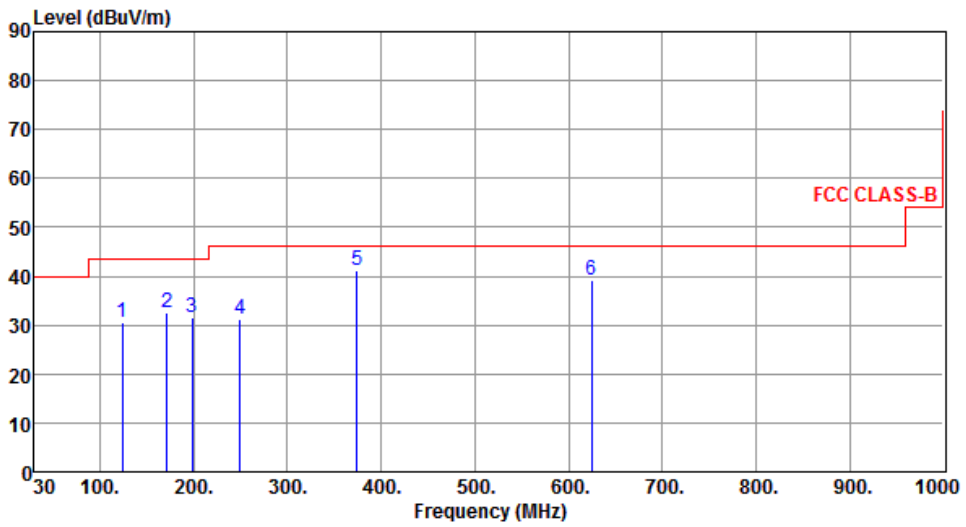
Modulation	11a	Test Freq. (MHz)	5180
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	46.51	36.54	40.00	-3.46	44.58	-8.04	QP	100	115
2	98.87	33.42	43.50	-10.08	46.70	-13.28	Peak	---	---
3	170.65	28.11	43.50	-15.39	36.44	-8.33	Peak	---	---
4	205.57	28.70	43.50	-14.80	39.41	-10.71	Peak	---	---
5	374.35	37.09	46.00	-8.91	42.80	-5.71	Peak	---	---
6	624.61	35.71	46.00	-10.29	36.01	-0.30	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.

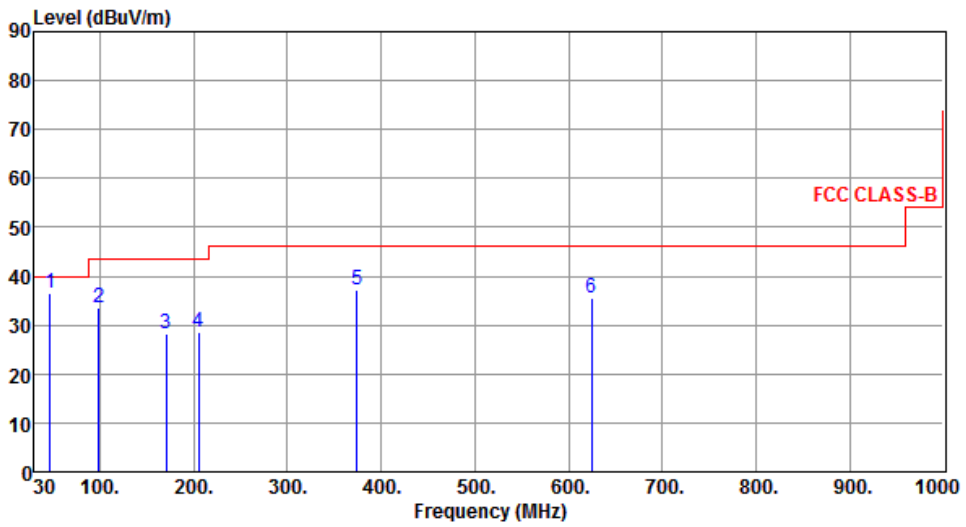
Modulation	11a	Test Freq. (MHz)	5825
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	124.12	30.69	43.50	-12.81	40.91	-10.22	Peak	---	---
2	171.54	32.71	43.50	-10.79	41.16	-8.45	Peak	---	---
3	198.69	31.56	43.50	-11.94	42.29	-10.73	Peak	---	---
4	249.31	31.29	46.00	-14.71	40.37	-9.08	Peak	---	---
5	374.41	41.23	46.00	-4.77	46.94	-5.71	Peak	---	---
6	624.57	39.26	46.00	-6.74	39.56	-0.30	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)	5825
Polarization	Vertical		

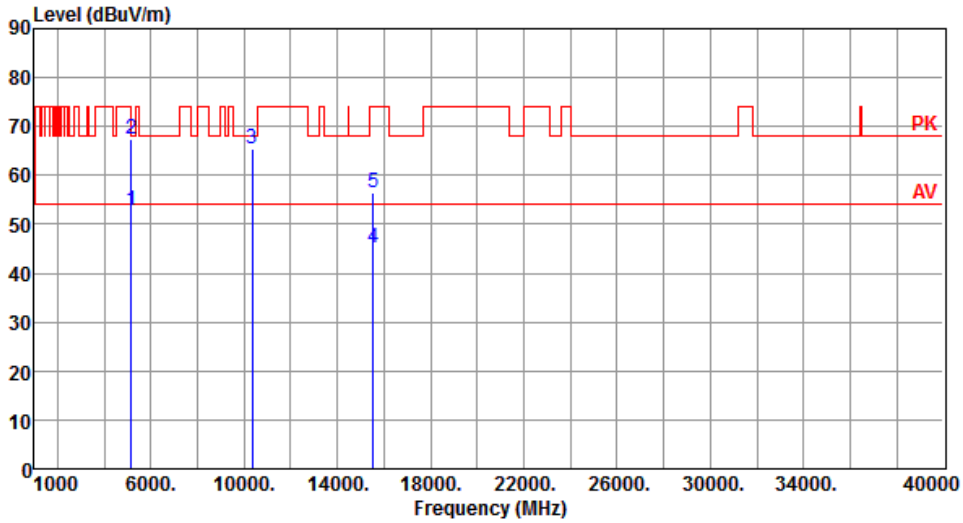


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	46.45	36.50	40.00	-3.50	44.54	-8.04	QP	100	118
2	98.79	33.39	43.50	-10.11	46.68	-13.29	Peak	---	---
3	170.57	28.26	43.50	-15.24	36.58	-8.32	Peak	---	---
4	205.49	28.65	43.50	-14.85	39.37	-10.72	Peak	---	---
5	374.47	37.16	46.00	-8.84	42.86	-5.70	Peak	---	---
6	624.58	35.68	46.00	-10.32	35.98	-0.30	Peak	---	---

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

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

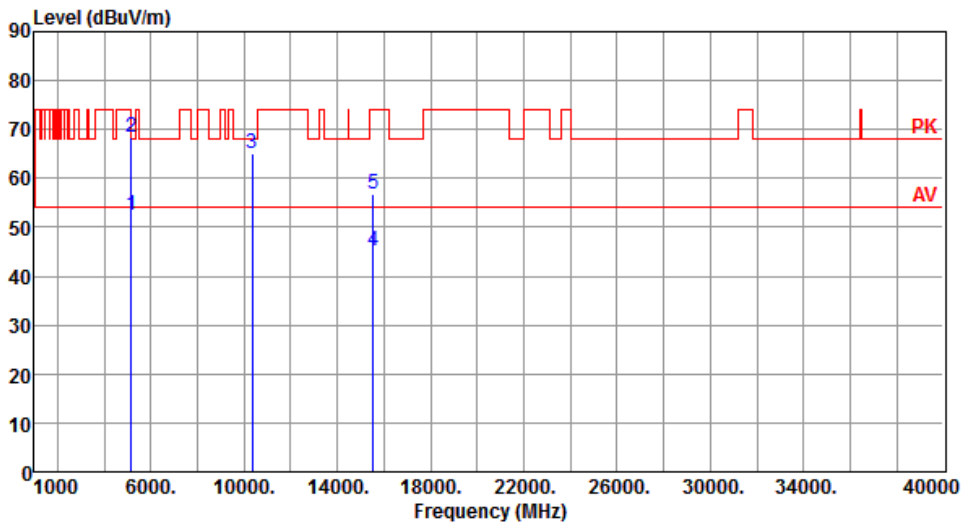
Modulation	11a	**Test Freq. (MHz)**	5180
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.93	54.00	-1.07	46.72	6.21	Average	161	34
2	5150.00	67.50	74.00	-6.50	61.29	6.21	Peak	161	34
3	10360.00	65.36	68.20	-2.84	49.61	15.75	Peak	180	17
4	15540.00	45.23	54.00	-8.77	28.84	16.39	Average	100	30
5	15540.00	56.37	74.00	-17.63	39.98	16.39	Peak	100	30

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

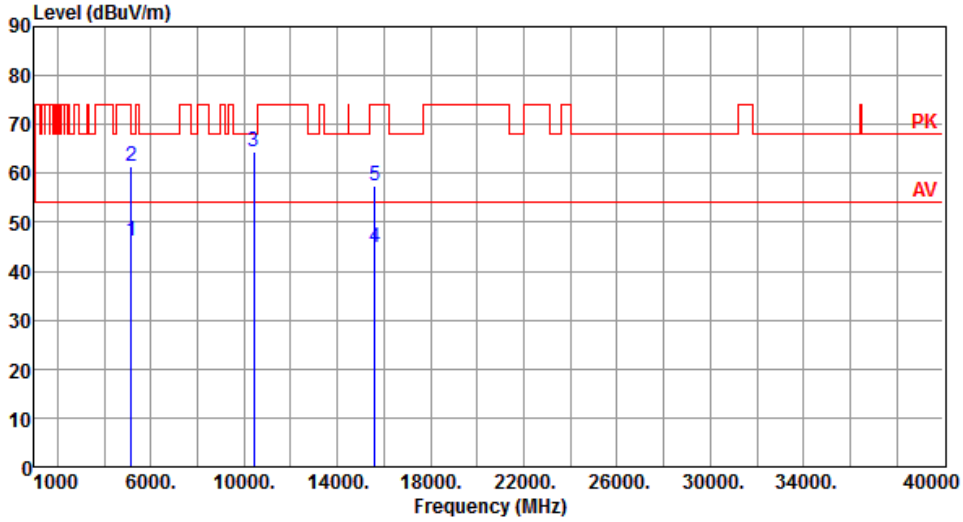
Modulation	11a	Test Freq. (MHz)	5180
Polarization	Vertical		



	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	52.59	54.00	-1.41	46.38	6.21	Average	232	168
2	5150.00	68.36	74.00	-5.64	62.15	6.21	Peak	232	168
3	10360.00	64.99	68.20	-3.21	49.24	15.75	Peak	115	356
4	15540.00	45.10	54.00	-8.90	28.71	16.39	Average	100	60
5	15540.00	56.90	74.00	-17.10	40.51	16.39	Peak	100	60

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

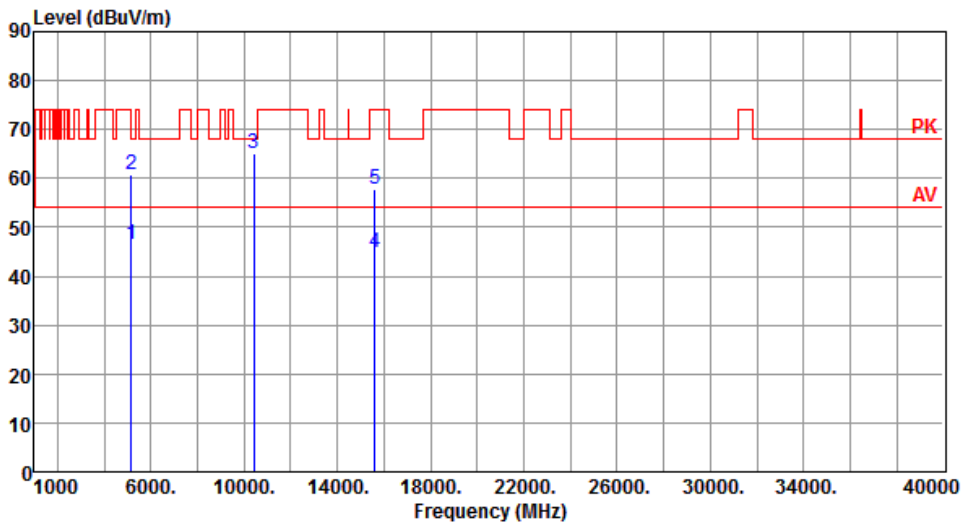
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Horizontal		



	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	46.27	54.00	-7.73	40.06	6.21	Average	163	38
2	5150.00	61.59	74.00	-12.41	55.38	6.21	Peak	163	38
3	10400.00	64.44	68.20	-3.76	48.66	15.78	Peak	169	339
4	15600.00	44.91	54.00	-9.09	28.64	16.27	Average	100	80
5	15600.00	57.48	74.00	-16.52	41.21	16.27	Peak	100	80

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

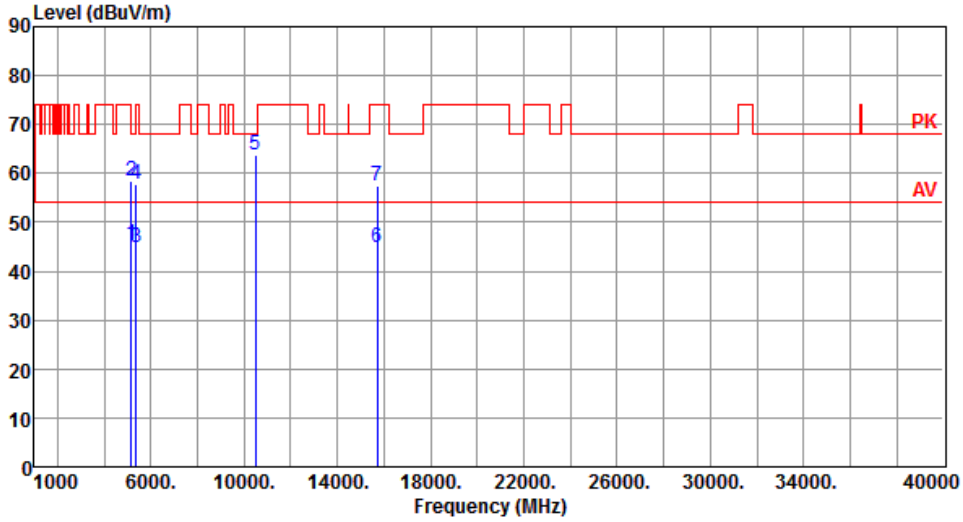
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.34	54.00	-7.66	40.13	6.21	Average	249	150
2	5150.00	60.65	74.00	-13.35	54.44	6.21	Peak	249	150
3	10400.00	64.93	68.20	-3.27	49.15	15.78	Peak	114	356
4	15600.00	44.98	54.00	-9.02	28.71	16.27	Average	100	60
5	15600.00	57.85	74.00	-16.15	41.58	16.27	Peak	100	60

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

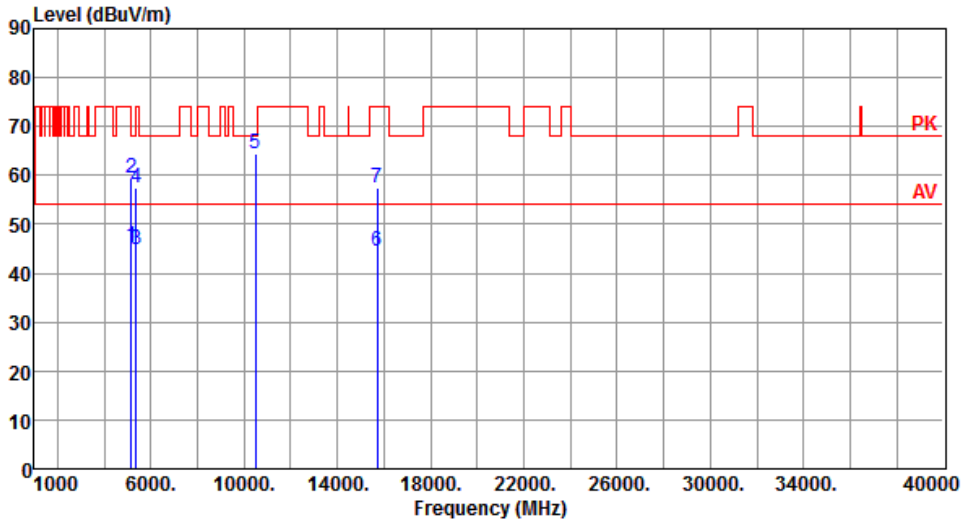
Modulation	11a	Test Freq. (MHz)	5240
Polarization	Horizontal		



	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	45.35	54.00	-8.65	39.14	6.21	Average	147	39
2	5150.00	58.55	74.00	-15.45	52.34	6.21	Peak	147	39
3	5350.00	44.73	54.00	-9.27	38.28	6.45	Average	147	39
4	5350.00	57.71	74.00	-16.29	51.26	6.45	Peak	147	39
5	10480.00	63.68	68.20	-4.52	47.85	15.83	Peak	173	341
6	15720.00	44.72	54.00	-9.28	28.69	16.03	Average	100	25
7	15720.00	57.42	74.00	-16.58	41.39	16.03	Peak	100	25

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

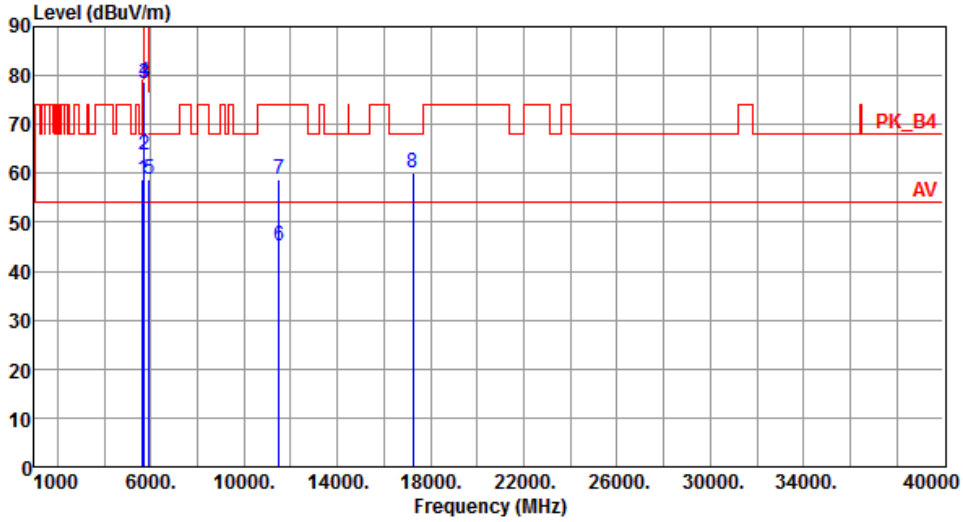
Modulation	11a	Test Freq. (MHz)	5240
Polarization	Vertical		



	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	45.52	54.00	-8.48	39.31	6.21	Average	240	171
2	5150.00	59.28	74.00	-14.72	53.07	6.21	Peak	240	171
3	5350.00	44.68	54.00	-9.32	38.23	6.45	Average	240	171
4	5350.00	57.48	74.00	-16.52	51.03	6.45	Peak	240	171
5	10480.00	64.36	68.20	-3.84	48.53	15.83	Peak	125	354
6	15720.00	44.48	54.00	-9.52	28.45	16.03	Average	100	60
7	15720.00	57.55	74.00	-16.45	41.52	16.03	Peak	100	60

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

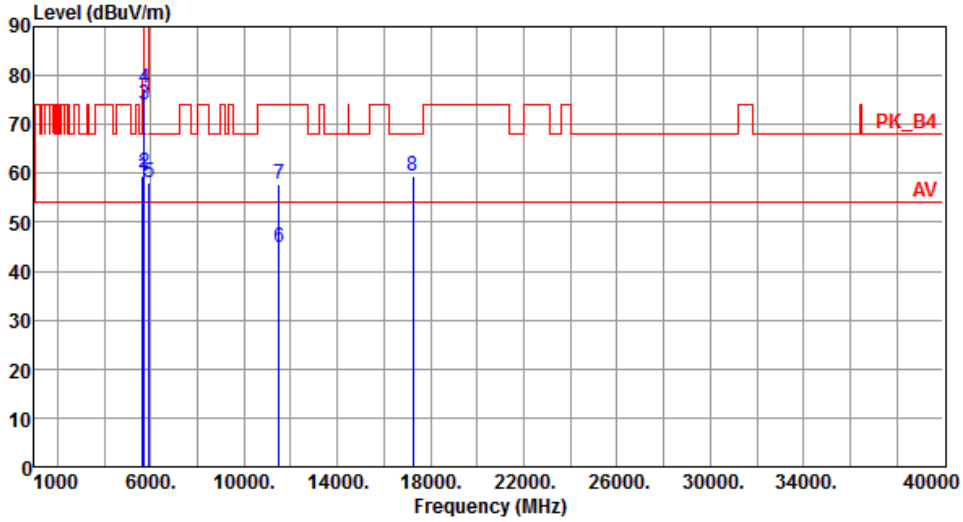
Modulation	11a	Test Freq. (MHz)	5745
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.71	68.20	-9.49	51.85	6.86	Peak	155	46
2	5700.00	63.93	105.20	-41.27	56.97	6.96	Peak	155	46
3	5720.00	78.36	110.80	-32.44	71.36	7.00	Peak	155	46
4	5725.00	78.72	122.20	-43.48	71.72	7.00	Peak	155	46
5	5925.00	58.73	68.20	-9.47	51.35	7.38	Peak	155	46
6	11490.00	45.14	54.00	-8.86	28.65	16.49	Average	100	330
7	11490.00	58.64	74.00	-15.36	42.15	16.49	Peak	100	330
8	17235.00	60.06	68.20	-8.14	41.69	18.37	Peak	100	40

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

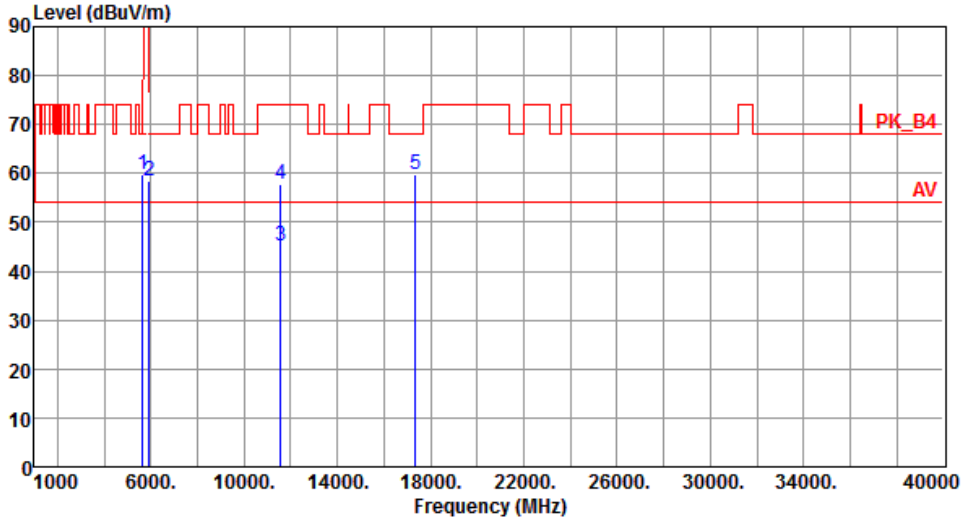
Modulation	11a	Test Freq. (MHz)	5745
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	59.31	68.20	-8.89	52.45	6.86	Peak	188	272
2	5700.00	60.01	105.20	-45.19	53.05	6.96	Peak	188	272
3	5720.00	74.03	110.80	-36.77	67.03	7.00	Peak	188	272
4	5725.00	77.36	122.20	-44.84	70.36	7.00	Peak	188	272
5	5925.00	58.02	68.20	-10.18	50.64	7.38	Peak	188	272
6	11490.00	44.74	54.00	-9.26	28.25	16.49	Average	100	60
7	11490.00	57.75	74.00	-16.25	41.26	16.49	Peak	100	60
8	17235.00	59.38	68.20	-8.82	41.01	18.37	Peak	100	90

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

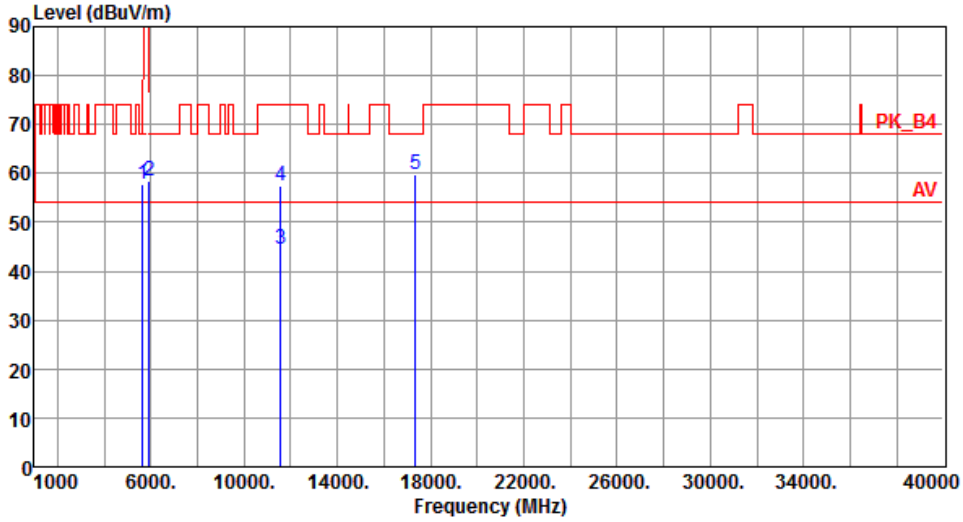
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	59.83	68.20	-8.37	52.97	6.86	Peak	157	47
2	5925.00	58.41	68.20	-9.79	51.03	7.38	Peak	157	47
3	11570.00	45.12	54.00	-8.88	28.73	16.39	Average	100	328
4	11570.00	57.90	74.00	-16.10	41.51	16.39	Peak	100	328
5	17355.00	59.86	68.20	-8.34	41.13	18.73	Peak	100	40

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

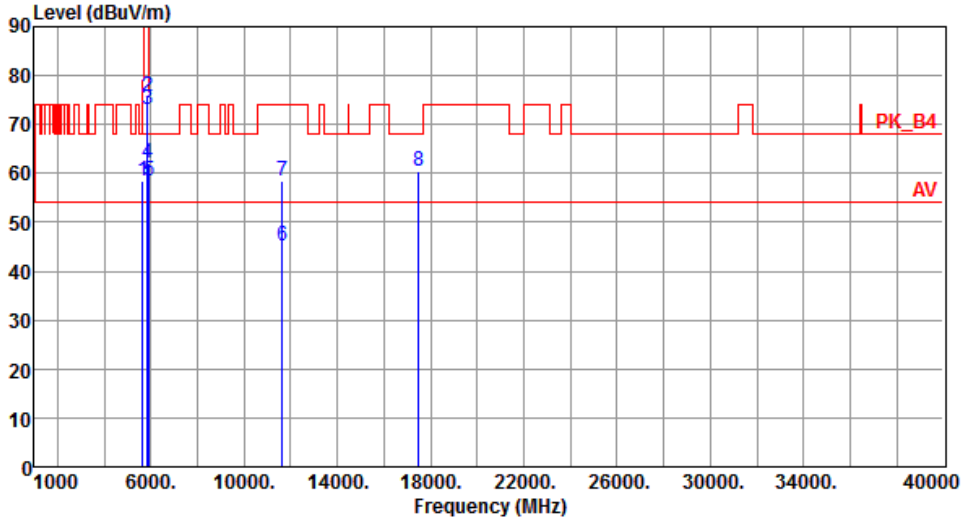
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	57.87	68.20	-10.33	51.01	6.86	Peak	171	271
2	5925.00	58.55	68.20	-9.65	51.17	7.38	Peak	171	271
3	11570.00	44.58	54.00	-9.42	28.19	16.39	Average	100	60
4	11570.00	57.32	74.00	-16.68	40.93	16.39	Peak	100	60
5	17355.00	59.69	68.20	-8.51	40.96	18.73	Peak	100	80

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

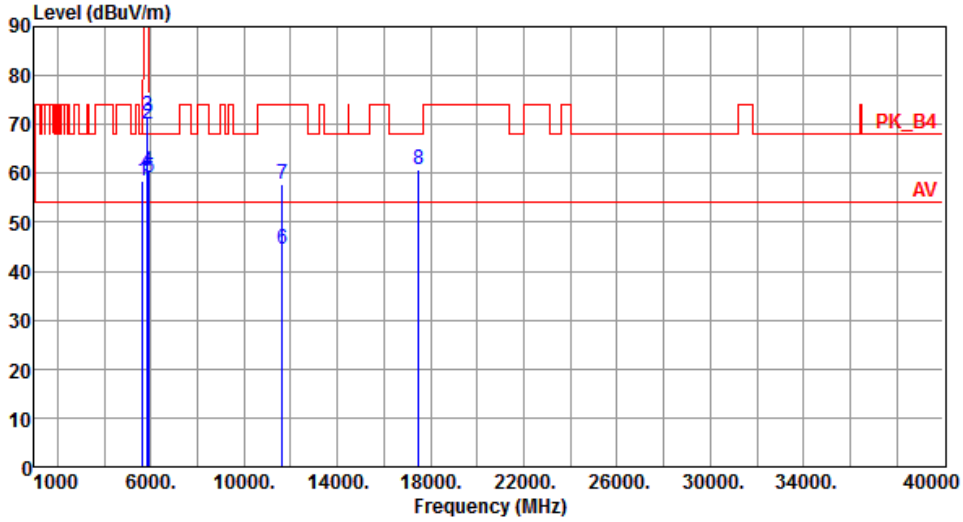
Modulation	11a	Test Freq. (MHz)	5825
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.36	68.20	-9.84	51.50	6.86	Peak	166	47
2	5850.00	75.67	122.20	-46.53	68.43	7.24	Peak	166	47
3	5855.00	72.99	110.80	-37.81	65.73	7.26	Peak	166	47
4	5875.00	62.15	105.20	-43.05	54.86	7.29	Peak	166	47
5	5925.00	58.56	68.20	-9.64	51.18	7.38	Peak	166	47
6	11650.00	45.22	54.00	-8.78	28.95	16.27	Average	100	332
7	11650.00	58.53	74.00	-15.47	42.26	16.27	Peak	100	332
8	17475.00	60.36	68.20	-7.84	41.25	19.11	Peak	100	80

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

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

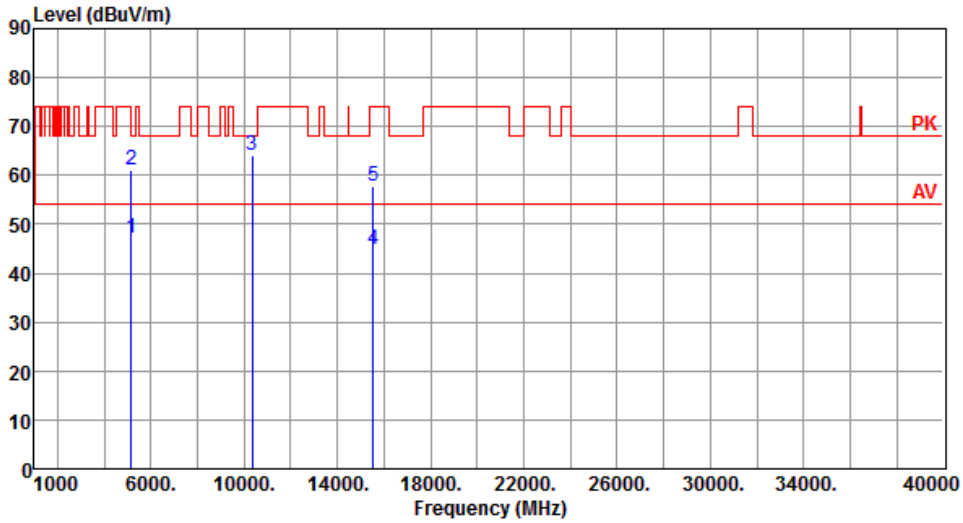


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.31	68.20	-9.89	51.45	6.86	Peak	163	272
2	5850.00	70.13	122.20	-52.07	62.89	7.24	Peak	163	272
3	5855.00	71.81	110.80	-38.99	64.55	7.26	Peak	163	272
4	5875.00	60.41	105.20	-44.79	53.12	7.29	Peak	163	272
5	5925.00	59.13	68.20	-9.07	51.75	7.38	Peak	163	272
6	11650.00	44.51	54.00	-9.49	28.24	16.27	Average	100	60
7	11650.00	57.64	74.00	-16.36	41.37	16.27	Peak	100	60
8	17475.00	60.78	68.20	-7.42	41.67	19.11	Peak	100	100

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

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

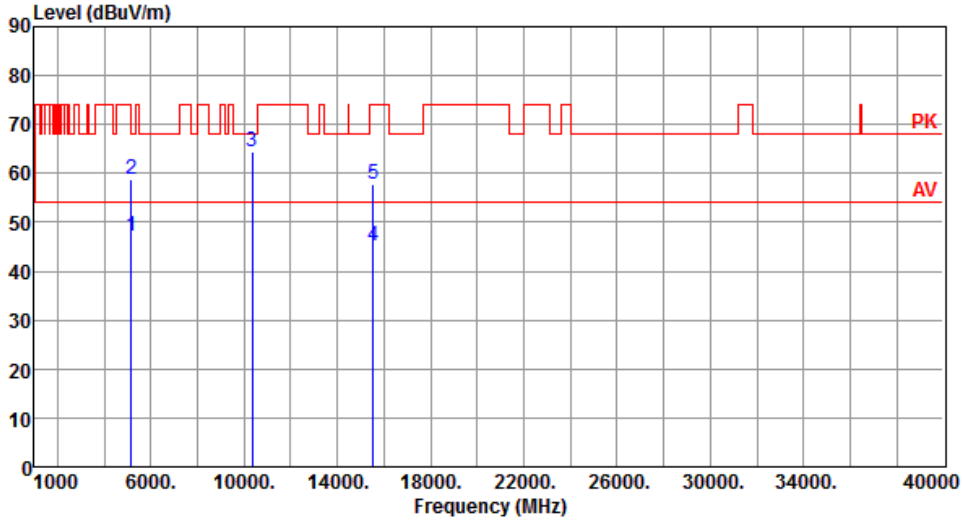
Modulation	VHT20	**Test Freq. (MHz)**	5180
Polarization	Horizontal		



	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	47.08	54.00	-6.92	40.87	6.21	Average	163	32
2	5150.00	61.00	74.00	-13.00	54.79	6.21	Peak	163	32
3	10360.00	64.09	68.20	-4.11	48.34	15.75	Peak	173	19
4	15540.00	44.93	54.00	-9.07	28.54	16.39	Average	100	60
5	15540.00	57.71	74.00	-16.29	41.32	16.39	Peak	100	60

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

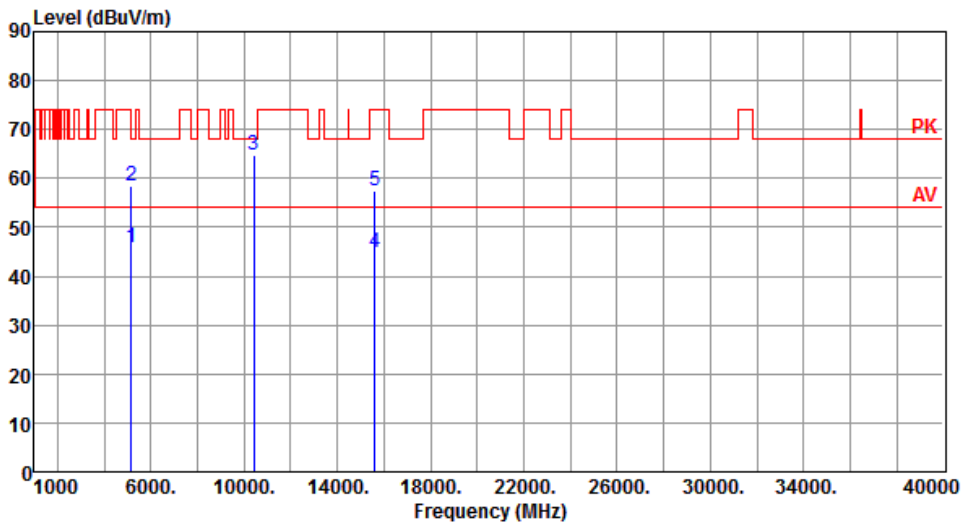
Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	47.00	54.00	-7.00	40.79	6.21	Average	234	175
2	5150.00	58.69	74.00	-15.31	52.48	6.21	Peak	234	175
3	10360.00	64.41	68.20	-3.79	48.66	15.75	Peak	117	355
4	15540.00	45.18	54.00	-8.82	28.79	16.39	Average	100	40
5	15540.00	57.74	74.00	-16.26	41.35	16.39	Peak	100	40

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

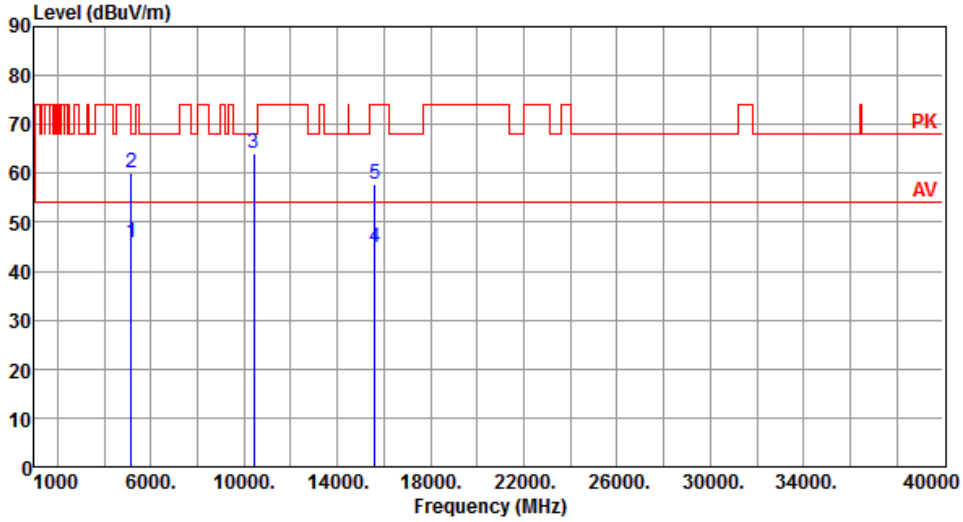
Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	45.88	54.00	-8.12	39.67	6.21	Average	134	32
2	5150.00	58.58	74.00	-15.42	52.37	6.21	Peak	134	32
3	10400.00	64.75	68.20	-3.45	48.97	15.78	Peak	176	20
4	15600.00	44.91	54.00	-9.09	28.64	16.27	Average	100	30
5	15600.00	57.42	74.00	-16.58	41.15	16.27	Peak	100	30

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

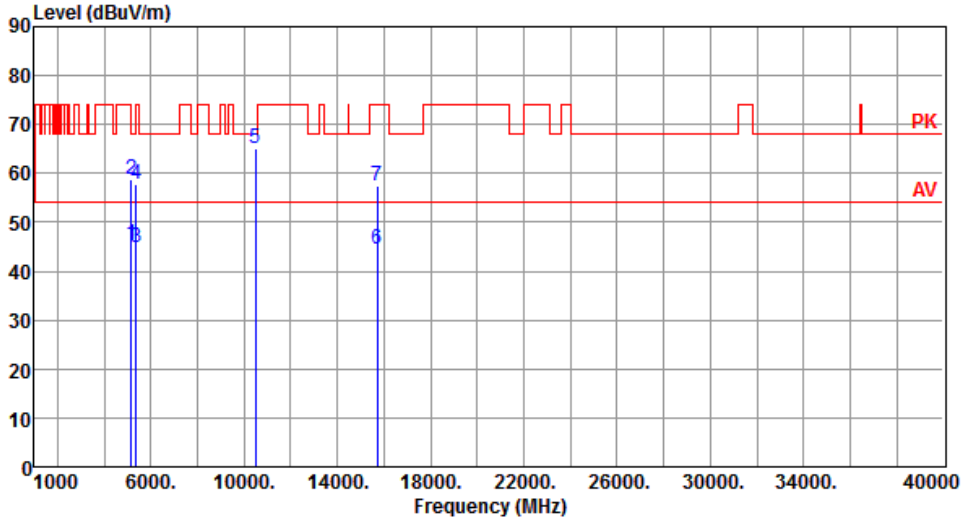
Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Vertical		



	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	45.87	54.00	-8.13	39.66	6.21	Average	233	186
2	5150.00	59.98	74.00	-14.02	53.77	6.21	Peak	233	186
3	10400.00	63.98	68.20	-4.22	48.20	15.78	Peak	115	352
4	15600.00	44.99	54.00	-9.01	28.72	16.27	Average	100	85
5	15600.00	57.81	74.00	-16.19	41.54	16.27	Peak	100	85

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

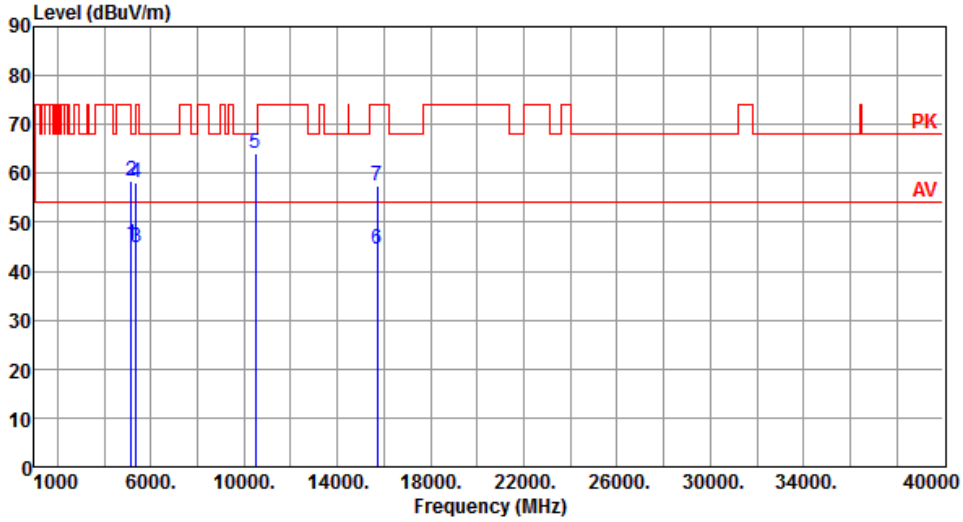
Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	45.56	54.00	-8.44	39.35	6.21	Average	164	46
2	5150.00	58.82	74.00	-15.18	52.61	6.21	Peak	164	46
3	5350.00	44.99	54.00	-9.01	38.54	6.45	Average	164	46
4	5350.00	57.71	74.00	-16.29	51.26	6.45	Peak	164	46
5	10480.00	64.98	68.20	-3.22	49.15	15.83	Peak	133	21
6	15720.00	44.61	54.00	-9.39	28.58	16.03	Average	100	120
7	15720.00	57.35	74.00	-16.65	41.32	16.03	Peak	100	120

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

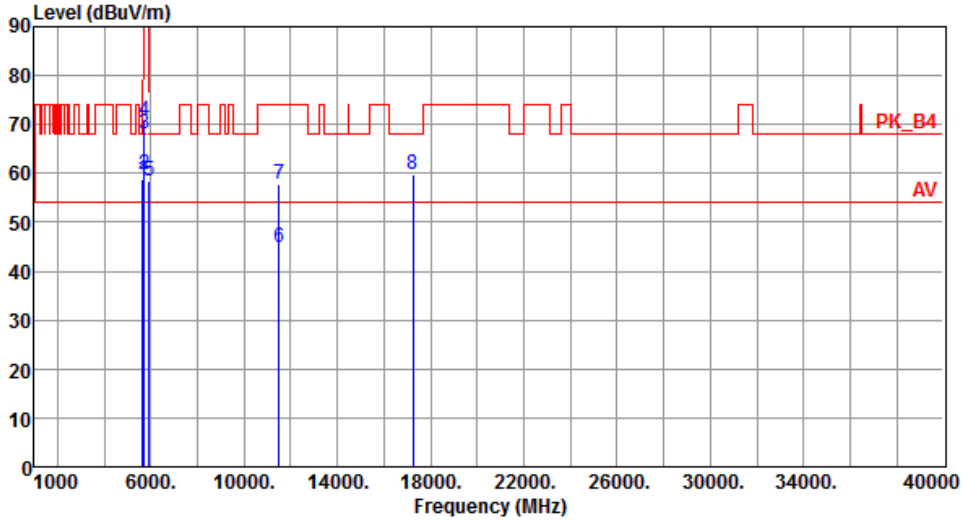
Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	45.47	54.00	-8.53	39.26	6.21	Average	254	171
2	5150.00	58.48	74.00	-15.52	52.27	6.21	Peak	254	171
3	5350.00	44.76	54.00	-9.24	38.31	6.45	Average	254	171
4	5350.00	57.97	74.00	-16.03	51.52	6.45	Peak	254	171
5	10480.00	64.20	68.20	-4.00	48.37	15.83	Peak	159	355
6	15720.00	44.62	54.00	-9.38	28.59	16.03	Average	100	75
7	15720.00	57.52	74.00	-16.48	41.49	16.03	Peak	100	75

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

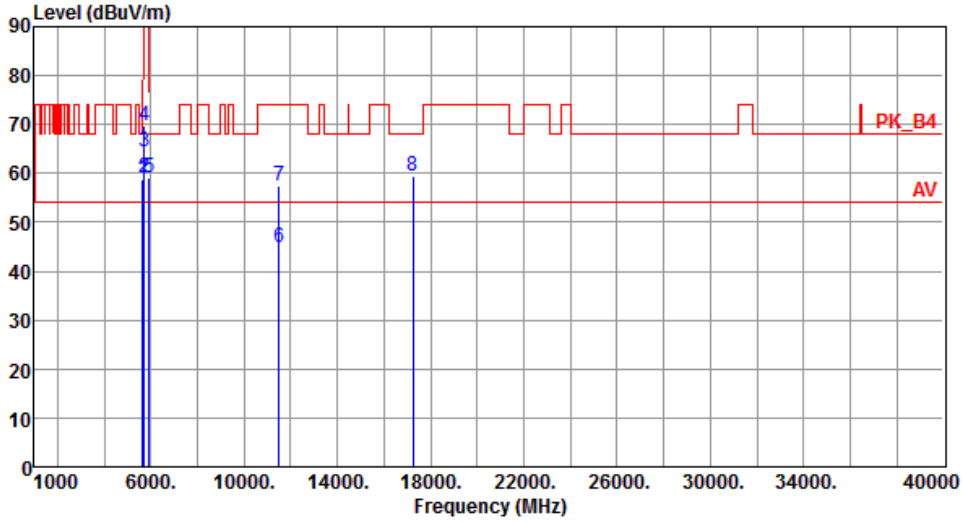
Modulation	VHT20	Test Freq. (MHz)	5745
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.79	68.20	-9.41	51.93	6.86	Peak	154	44
2	5700.00	59.78	105.20	-45.42	52.82	6.96	Peak	154	44
3	5720.00	68.08	110.80	-42.72	61.08	7.00	Peak	154	44
4	5725.00	70.72	122.20	-51.48	63.72	7.00	Peak	154	44
5	5925.00	58.55	68.20	-9.65	51.17	7.38	Peak	154	44
6	11490.00	44.75	54.00	-9.25	28.26	16.49	Average	100	30
7	11490.00	57.87	74.00	-16.13	41.38	16.49	Peak	100	30
8	17235.00	59.84	68.20	-8.36	41.47	18.37	Peak	100	50

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

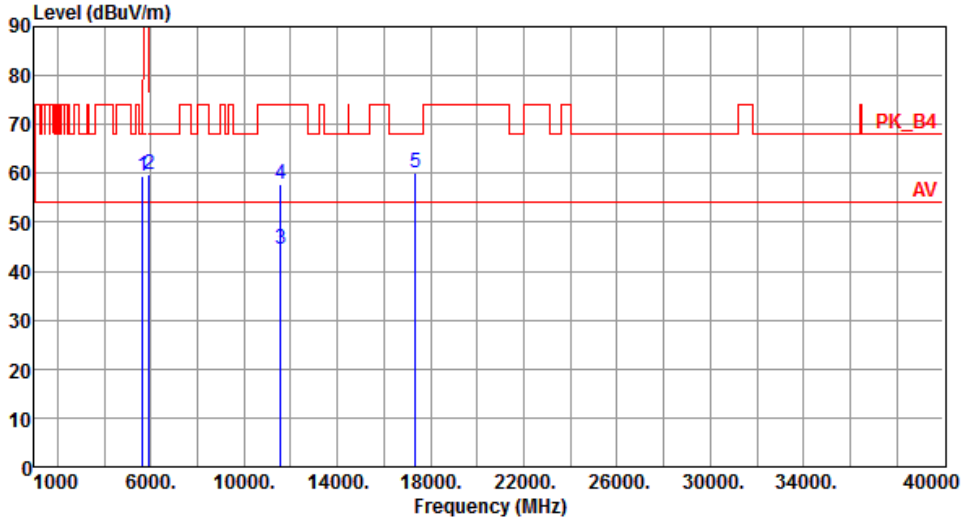
Modulation	VHT20	Test Freq. (MHz)	5745
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.73	68.20	-9.47	51.87	6.86	Peak	168	313
2	5700.00	59.20	105.20	-46.00	52.24	6.96	Peak	168	313
3	5720.00	64.36	110.80	-46.44	57.36	7.00	Peak	168	313
4	5725.00	69.76	122.20	-52.44	62.76	7.00	Peak	168	313
5	5925.00	59.11	68.20	-9.09	51.73	7.38	Peak	168	313
6	11490.00	44.80	54.00	-9.20	28.31	16.49	Average	100	70
7	11490.00	57.52	74.00	-16.48	41.03	16.49	Peak	100	70
8	17235.00	59.59	68.20	-8.61	41.22	18.37	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).

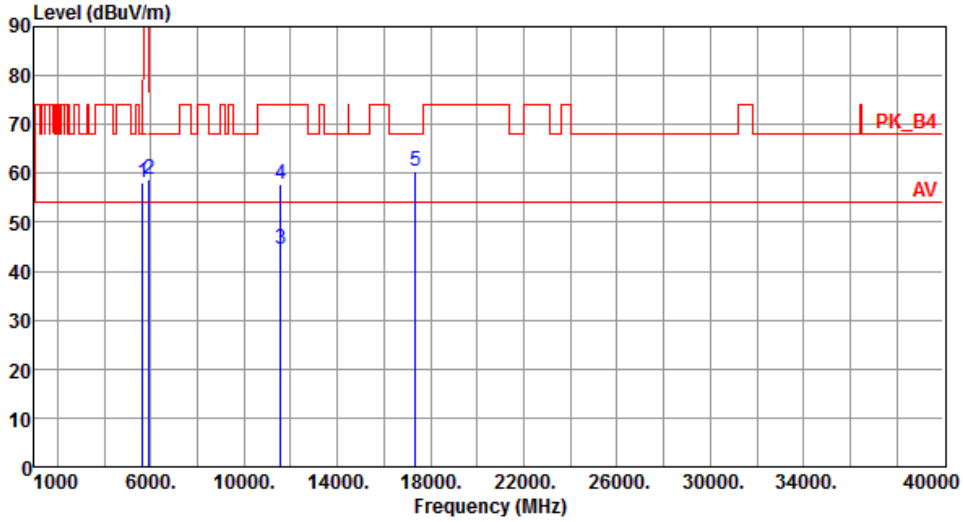
Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	59.33	68.20	-8.87	52.47	6.86	Peak	149	48
2	5925.00	59.62	68.20	-8.58	52.24	7.38	Peak	149	48
3	11570.00	44.58	54.00	-9.42	28.19	16.39	Average	100	60
4	11570.00	57.75	74.00	-16.25	41.36	16.39	Peak	100	60
5	17355.00	59.95	68.20	-8.25	41.22	18.73	Peak	100	90

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

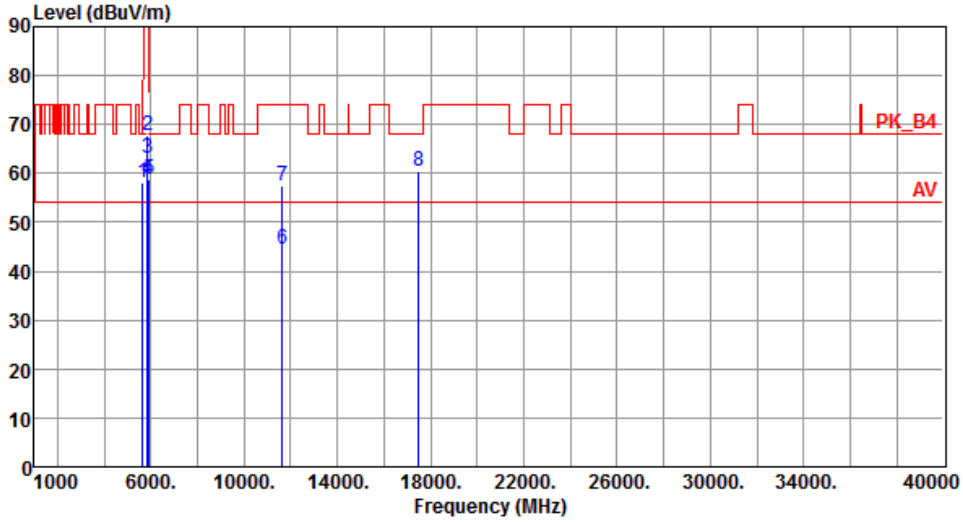
Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.27	68.20	-9.93	51.41	6.86	Peak	170	357
2	5925.00	58.83	68.20	-9.37	51.45	7.38	Peak	170	357
3	11570.00	44.48	54.00	-9.52	28.09	16.39	Average	100	50
4	11570.00	57.78	74.00	-16.22	41.39	16.39	Peak	100	50
5	17355.00	60.59	68.20	-7.61	41.86	18.73	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).

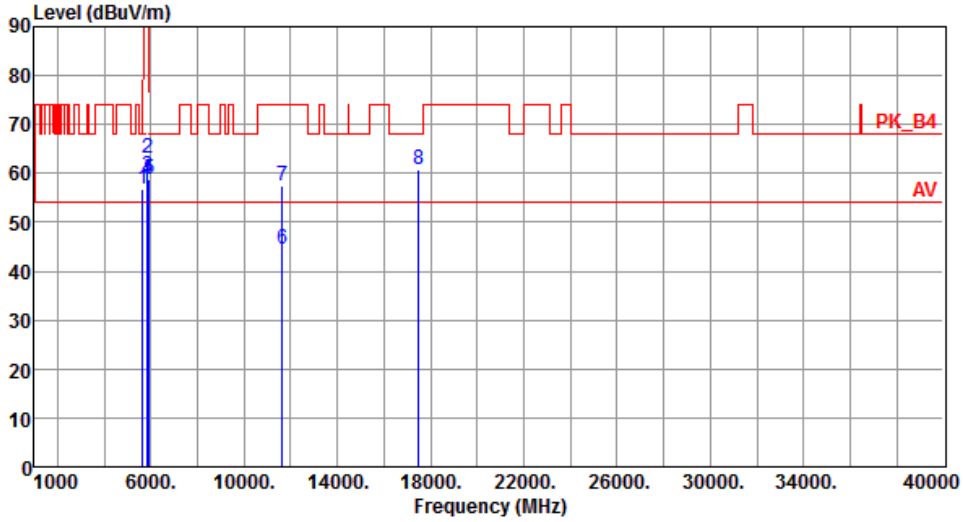
Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	57.96	68.20	-10.24	51.10	6.86	Peak	166	49
2	5850.00	67.86	122.20	-54.34	60.62	7.24	Peak	166	49
3	5855.00	63.02	110.80	-47.78	55.76	7.26	Peak	166	49
4	5875.00	58.95	105.20	-46.25	51.66	7.29	Peak	166	49
5	5925.00	58.83	68.20	-9.37	51.45	7.38	Peak	166	49
6	11650.00	44.51	54.00	-9.49	28.24	16.27	Average	100	10
7	11650.00	57.42	74.00	-16.58	41.15	16.27	Peak	100	10
8	17475.00	60.44	68.20	-7.76	41.33	19.11	Peak	100	30

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

Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Vertical		

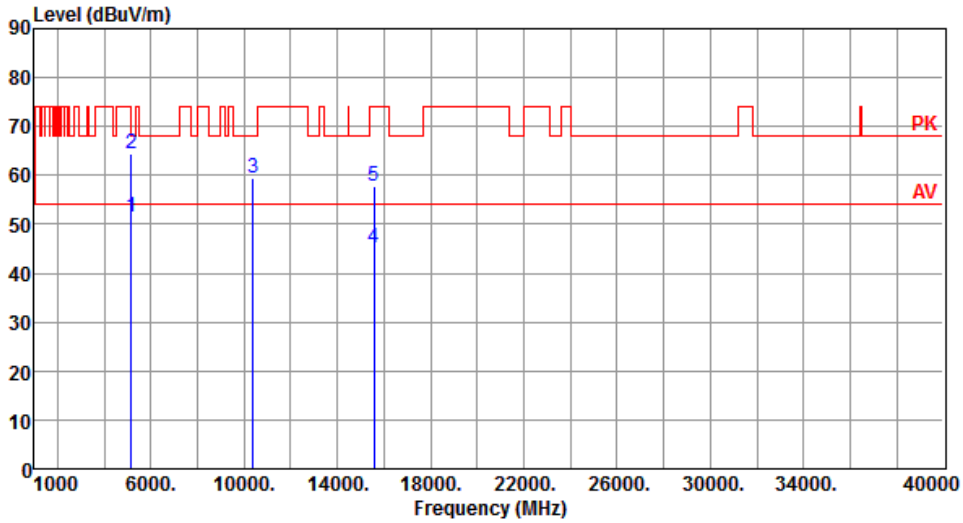


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	56.90	68.20	-11.30	50.04	6.86	Peak	161	312
2	5850.00	63.19	122.20	-59.01	55.95	7.24	Peak	161	312
3	5855.00	59.31	110.80	-51.49	52.05	7.26	Peak	161	312
4	5875.00	58.71	105.20	-46.49	51.42	7.29	Peak	161	312
5	5925.00	58.69	68.20	-9.51	51.31	7.38	Peak	161	312
6	11650.00	44.50	54.00	-9.50	28.23	16.27	Average	100	70
7	11650.00	57.58	74.00	-16.42	41.31	16.27	Peak	100	70
8	17475.00	60.63	68.20	-7.57	41.52	19.11	Peak	100	60

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

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

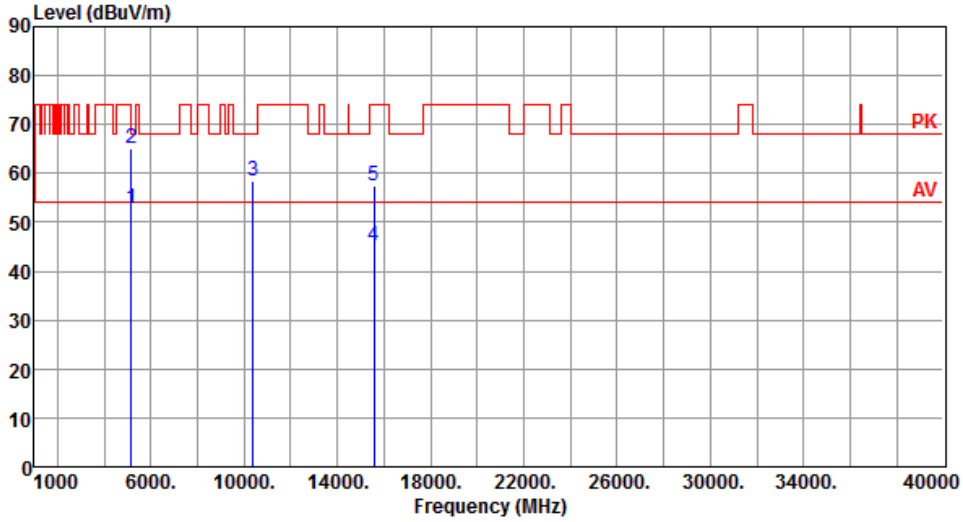
Modulation	VHT40	**Test Freq. (MHz)**	5190
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	51.45	54.00	-2.55	45.24	6.21	Average	149	27
2	5150.00	64.38	74.00	-9.62	58.17	6.21	Peak	149	27
3	10380.00	59.36	68.20	-8.84	43.60	15.76	Peak	100	333
4	15570.00	45.16	54.00	-8.84	28.83	16.33	Average	100	60
5	15570.00	57.75	74.00	-16.25	41.42	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).

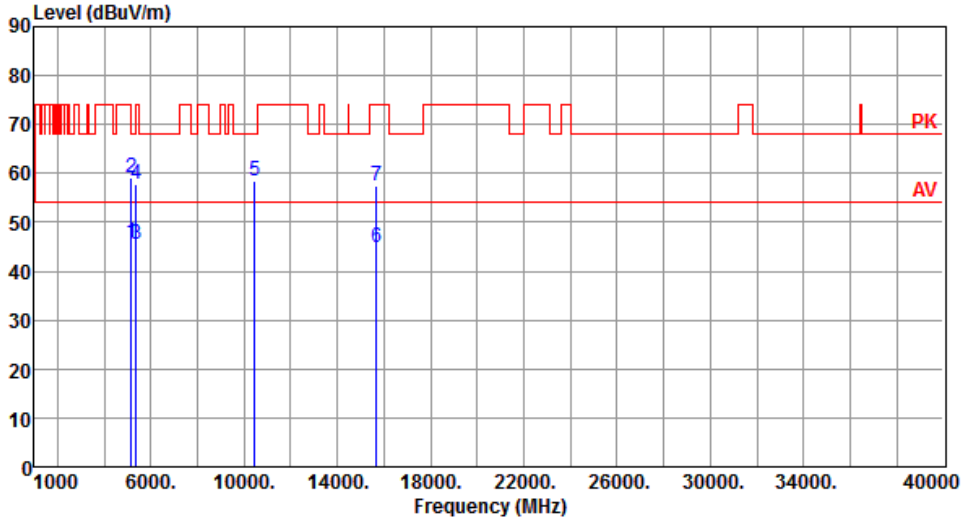
Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Vertical		



	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	52.72	54.00	-1.28	46.51	6.21	Average	234	169
2	5150.00	65.13	74.00	-8.87	58.92	6.21	Peak	234	169
3	10380.00	58.54	68.20	-9.66	42.78	15.76	Peak	100	356
4	15570.00	45.20	54.00	-8.80	28.87	16.33	Average	100	50
5	15570.00	57.47	74.00	-16.53	41.14	16.33	Peak	100	50

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

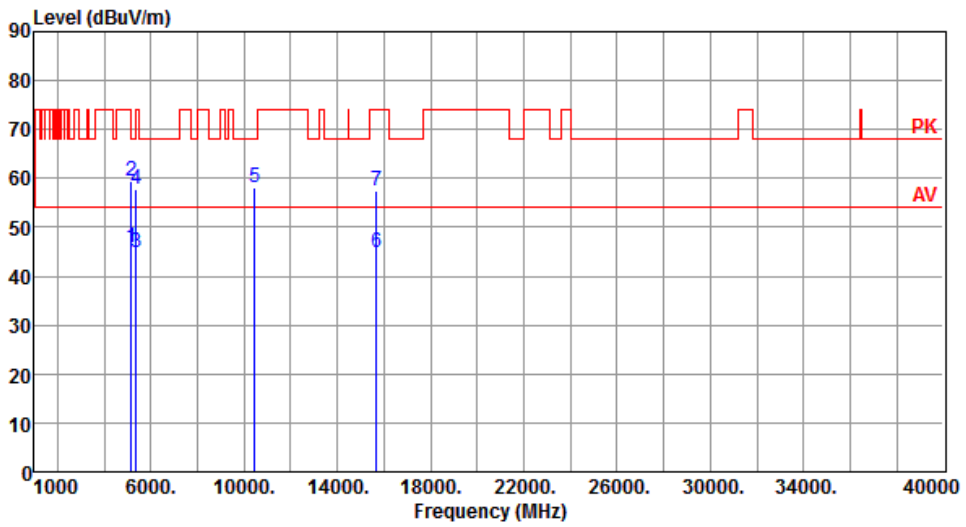
Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	45.97	54.00	-8.03	39.76	6.21	Average	163	36
2	5150.00	59.00	74.00	-15.00	52.79	6.21	Peak	163	36
3	5350.00	45.63	54.00	-8.37	39.18	6.45	Average	163	36
4	5350.00	57.83	74.00	-16.17	51.38	6.45	Peak	163	36
5	10460.00	58.55	68.20	-9.65	42.73	15.82	Peak	100	335
6	15690.00	44.80	54.00	-9.20	28.71	16.09	Average	100	80
7	15690.00	57.35	74.00	-16.65	41.26	16.09	Peak	100	80

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

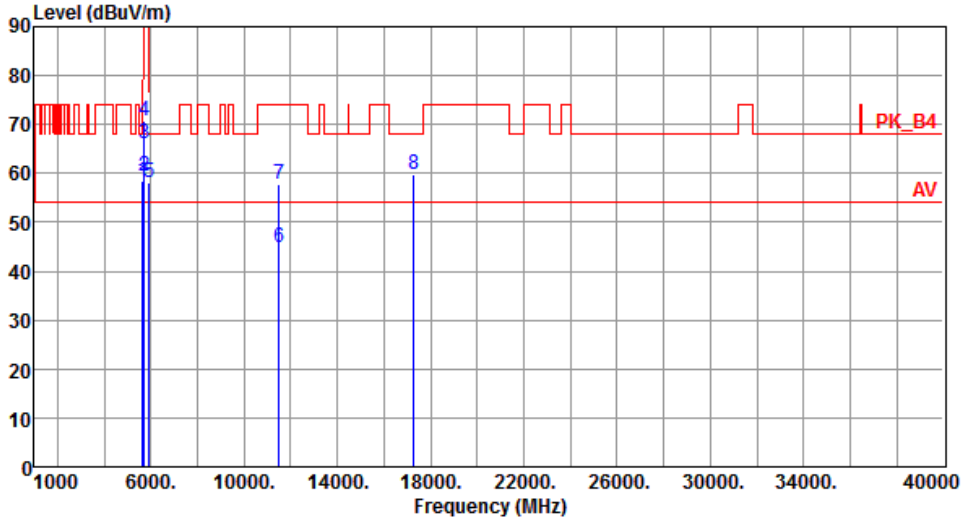
Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Vertical		



	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	45.68	54.00	-8.32	39.47	6.21	Average	232	168
2	5150.00	59.35	74.00	-14.65	53.14	6.21	Peak	232	168
3	5350.00	44.96	54.00	-9.04	38.51	6.45	Average	232	168
4	5350.00	57.88	74.00	-16.12	51.43	6.45	Peak	232	168
5	10460.00	58.18	68.20	-10.02	42.36	15.82	Peak	100	355
6	15690.00	44.86	54.00	-9.14	28.77	16.09	Average	100	30
7	15690.00	57.47	74.00	-16.53	41.38	16.09	Peak	100	30

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

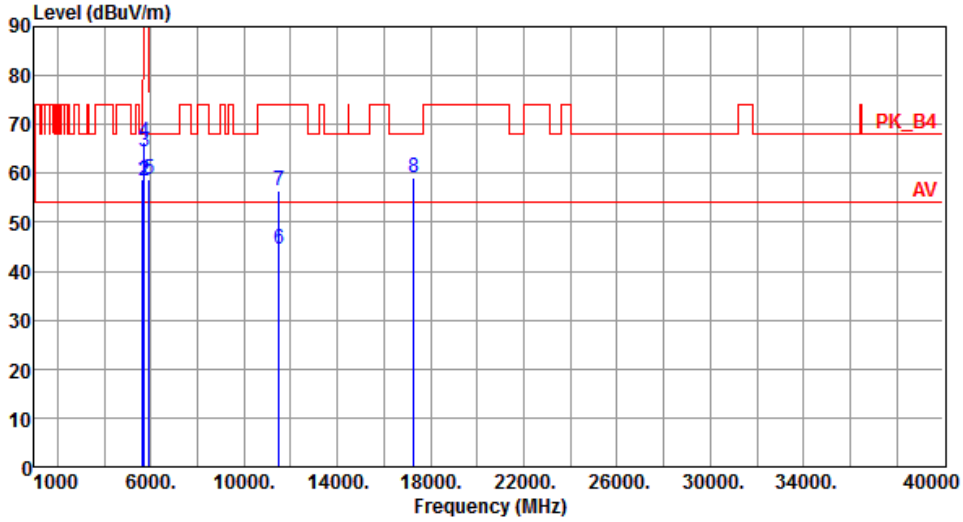
Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.38	68.20	-9.82	51.52	6.86	Peak	163	45
2	5700.00	59.40	105.20	-45.80	52.44	6.96	Peak	163	45
3	5720.00	66.19	110.80	-44.61	59.19	7.00	Peak	163	45
4	5725.00	70.74	122.20	-51.46	63.74	7.00	Peak	163	45
5	5925.00	57.99	68.20	-10.21	50.61	7.38	Peak	163	45
6	11510.00	44.83	54.00	-9.17	28.35	16.48	Average	100	40
7	11510.00	57.93	74.00	-16.07	41.45	16.48	Peak	100	40
8	17265.00	59.79	68.20	-8.41	41.33	18.46	Peak	100	90

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

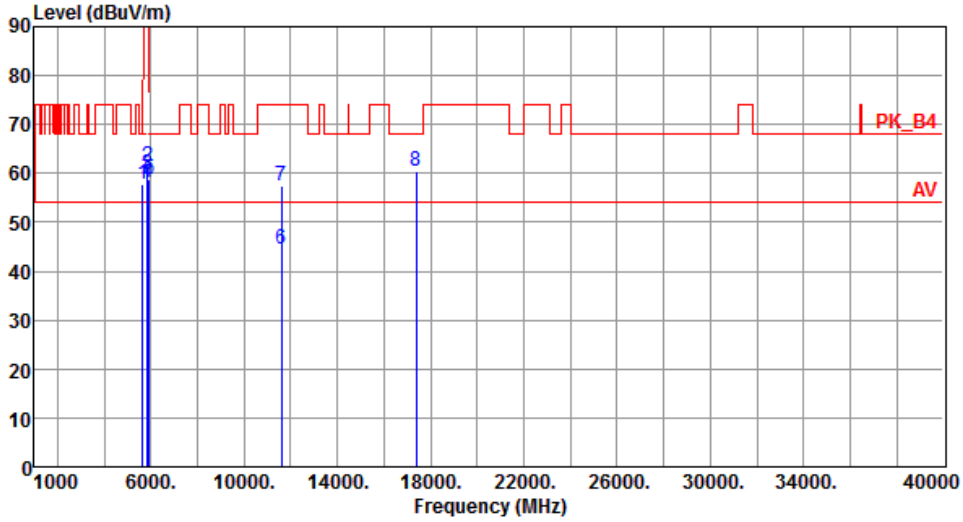
Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.80	68.20	-9.40	51.94	6.86	Peak	165	271
2	5700.00	58.45	105.20	-46.75	51.49	6.96	Peak	165	271
3	5720.00	64.27	110.80	-46.53	57.27	7.00	Peak	165	271
4	5725.00	66.57	122.20	-55.63	59.57	7.00	Peak	165	271
5	5925.00	58.69	68.20	-9.51	51.31	7.38	Peak	165	271
6	11510.00	44.65	54.00	-9.35	28.17	16.48	Average	100	50
7	11510.00	56.51	74.00	-17.49	40.03	16.48	Peak	100	50
8	17265.00	59.22	68.20	-8.98	40.76	18.46	Peak	100	60

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

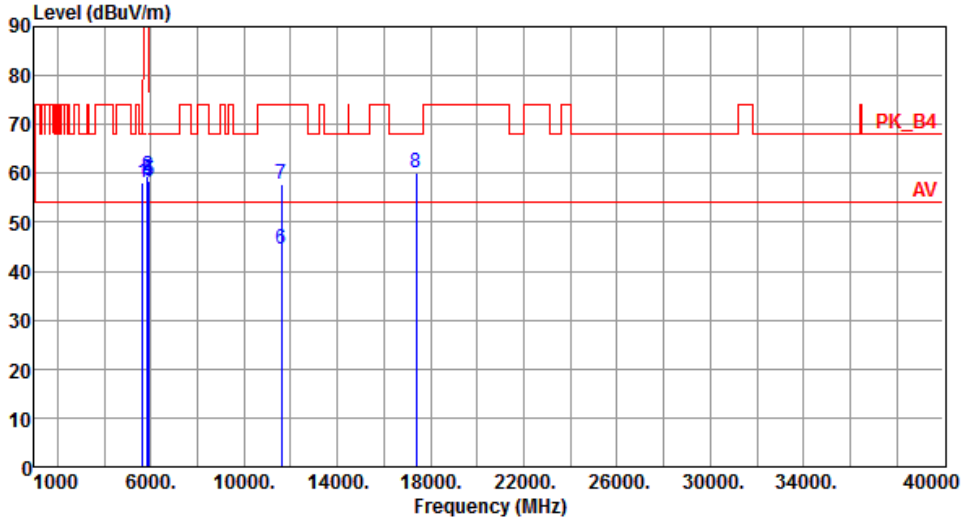
Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	57.82	68.20	-10.38	50.96	6.86	Peak	166	45
2	5850.00	61.28	122.20	-60.92	54.04	7.24	Peak	166	45
3	5855.00	59.92	110.80	-50.88	52.66	7.26	Peak	166	45
4	5875.00	58.15	105.20	-47.05	50.86	7.29	Peak	166	45
5	5925.00	58.90	68.20	-9.30	51.52	7.38	Peak	166	45
6	11590.00	44.62	54.00	-9.38	28.26	16.36	Average	100	30
7	11590.00	57.51	74.00	-16.49	41.15	16.36	Peak	100	30
8	17385.00	60.29	68.20	-7.91	41.46	18.83	Peak	100	90

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

Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Vertical		

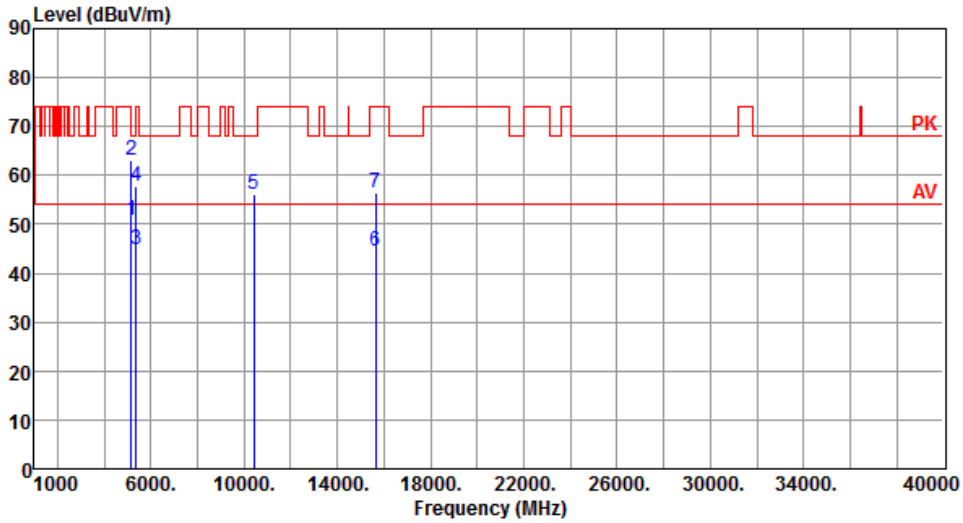


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.28	68.20	-9.92	51.42	6.86	Peak	173	281
2	5850.00	59.37	122.20	-62.83	52.13	7.24	Peak	173	281
3	5855.00	58.94	110.80	-51.86	51.68	7.26	Peak	173	281
4	5875.00	58.19	105.20	-47.01	50.90	7.29	Peak	173	281
5	5925.00	58.43	68.20	-9.77	51.05	7.38	Peak	173	281
6	11590.00	44.57	54.00	-9.43	28.21	16.36	Average	100	20
7	11590.00	57.92	74.00	-16.08	41.56	16.36	Peak	100	20
8	17385.00	60.15	68.20	-8.05	41.32	18.83	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).

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

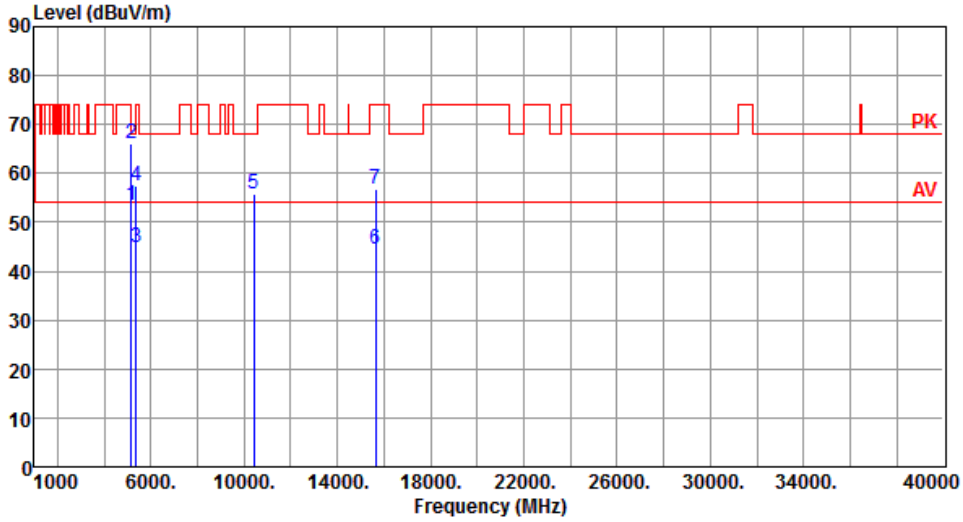
Modulation	VHT80	**Test Freq. (MHz)**	5210
Polarization	Horizontal		



	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	50.89	54.00	-3.11	44.68	6.21	Average	240	51
2	5150.00	63.01	74.00	-10.99	56.80	6.21	Peak	240	51
3	5350.00	44.96	54.00	-9.04	38.51	6.45	Average	234	48
4	5350.00	57.81	74.00	-16.19	51.36	6.45	Peak	234	48
5	10420.00	56.03	68.20	-12.17	40.24	15.79	Peak	100	165
6	15630.00	44.43	54.00	-9.57	28.22	16.21	Average	100	142
7	15630.00	56.36	74.00	-17.64	40.15	16.21	Peak	100	142

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

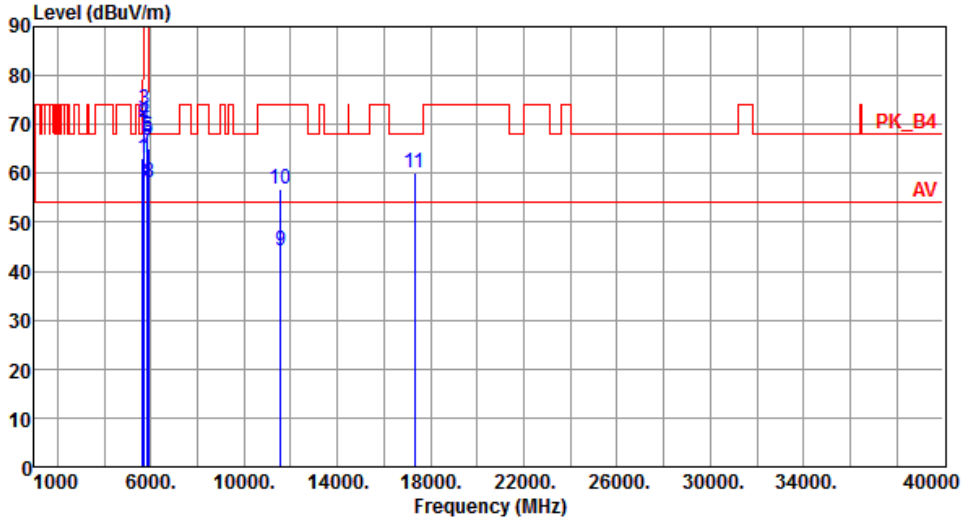
Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	53.36	54.00	-0.64	47.15	6.21	Average	234	171
2	5150.00	65.96	74.00	-8.04	59.75	6.21	Peak	234	171
3	5350.00	44.81	54.00	-9.19	38.36	6.45	Average	234	171
4	5350.00	57.50	74.00	-16.50	51.05	6.45	Peak	234	171
5	10420.00	55.81	68.20	-12.39	40.02	15.79	Peak	100	147
6	15630.00	44.48	54.00	-9.52	28.27	16.21	Average	100	212
7	15630.00	56.77	74.00	-17.23	40.56	16.21	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).

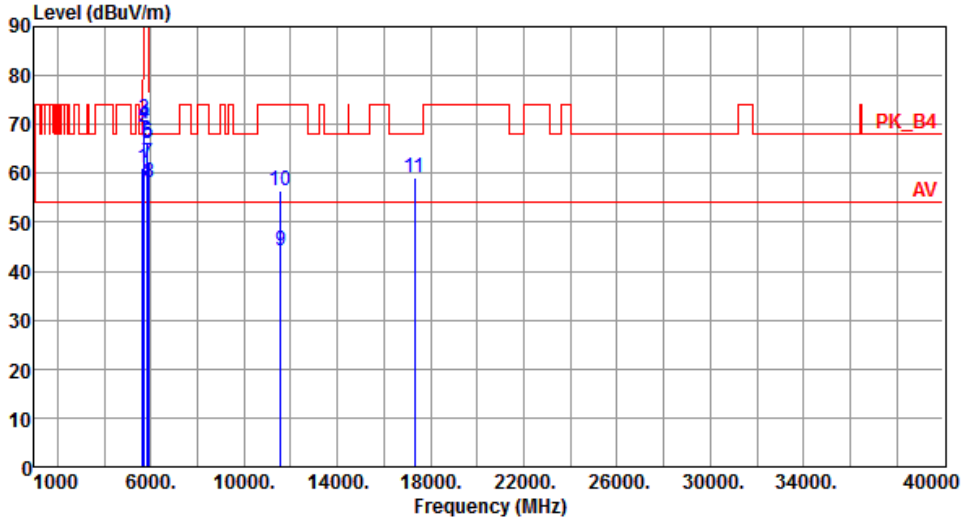
Modulation	VHT80	Test Freq. (MHz)	5775
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	63.10	68.20	-5.10	56.24	6.86	Peak	245	42
2	5700.00	70.47	105.20	-34.73	63.51	6.96	Peak	245	42
3	5720.00	73.01	110.80	-37.79	66.01	7.00	Peak	245	42
4	5725.00	70.81	122.20	-51.39	63.81	7.00	Peak	245	42
5	5850.00	67.34	122.20	-54.86	60.10	7.24	Peak	245	42
6	5855.00	66.63	110.80	-44.17	59.37	7.26	Peak	245	42
7	5875.00	65.11	105.20	-40.09	57.82	7.29	Peak	245	42
8	5925.00	58.26	68.20	-9.94	50.88	7.38	Peak	245	42
9	11550.00	44.04	54.00	-9.96	27.62	16.42	Average	100	156
10	11550.00	56.77	74.00	-17.23	40.35	16.42	Peak	100	156
11	17325.00	59.99	68.20	-8.21	41.35	18.64	Peak	100	265

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

Modulation	VHT80	Test Freq. (MHz)	5775
Polarization	Vertical		



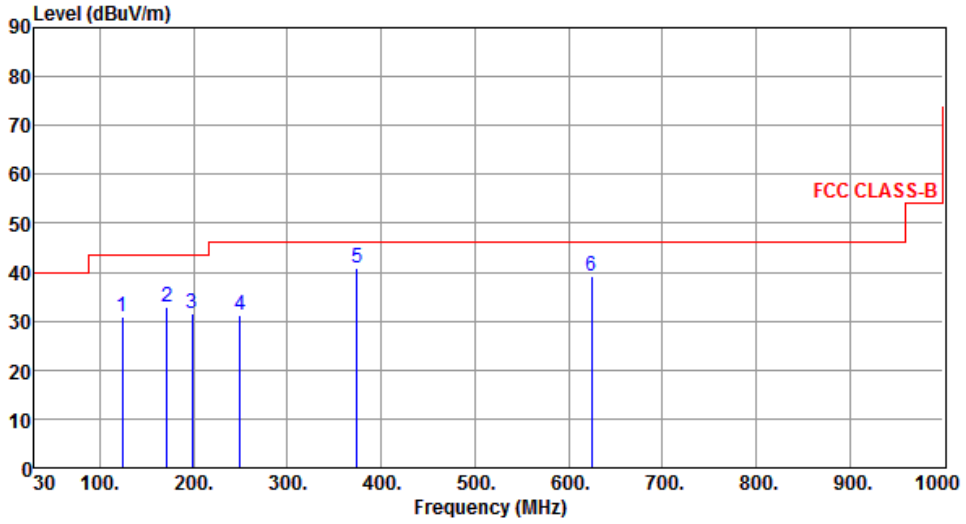
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	61.05	68.20	-7.15	54.19	6.86	Peak	255	322
2	5700.00	69.43	105.20	-35.77	62.47	6.96	Peak	255	322
3	5720.00	71.15	110.80	-39.65	64.15	7.00	Peak	255	322
4	5725.00	70.11	122.20	-52.09	63.11	7.00	Peak	255	322
5	5850.00	66.17	122.20	-56.03	58.93	7.24	Peak	255	322
6	5855.00	66.58	110.80	-44.22	59.32	7.26	Peak	255	322
7	5875.00	62.09	105.20	-43.11	54.80	7.29	Peak	255	322
8	5925.00	58.13	68.20	-10.07	50.75	7.38	Peak	255	322
9	11550.00	44.08	54.00	-9.92	27.66	16.42	Average	100	159
10	11550.00	56.48	74.00	-17.52	40.06	16.42	Peak	100	159
11	17325.00	59.27	68.20	-8.93	40.63	18.64	Peak	100	128

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

Beamforming mode

3.5.9 Transmitter Radiated Unwanted Emissions (Below 1GHz)

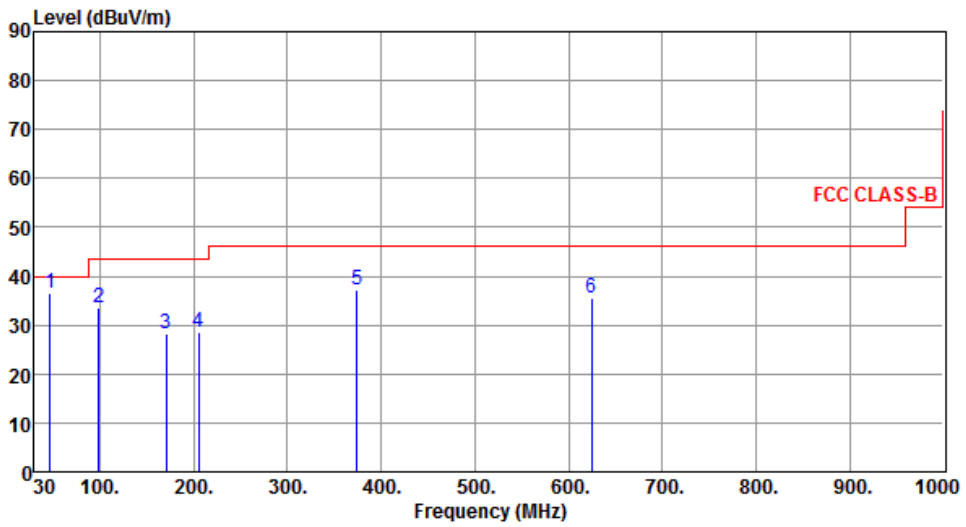
Modulation	VHT20	**Test Freq. (MHz)**	5200
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	124.13	30.77	43.50	-12.73	40.99	-10.22	Peak	---	---
2	171.57	32.81	43.50	-10.69	41.26	-8.45	Peak	---	---
3	198.64	31.56	43.50	-11.94	42.29	-10.73	Peak	---	---
4	249.38	31.37	46.00	-14.63	40.45	-9.08	Peak	---	---
5	374.47	40.86	46.00	-5.14	46.56	-5.70	Peak	---	---
6	624.51	39.28	46.00	-6.72	39.58	-0.30	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.

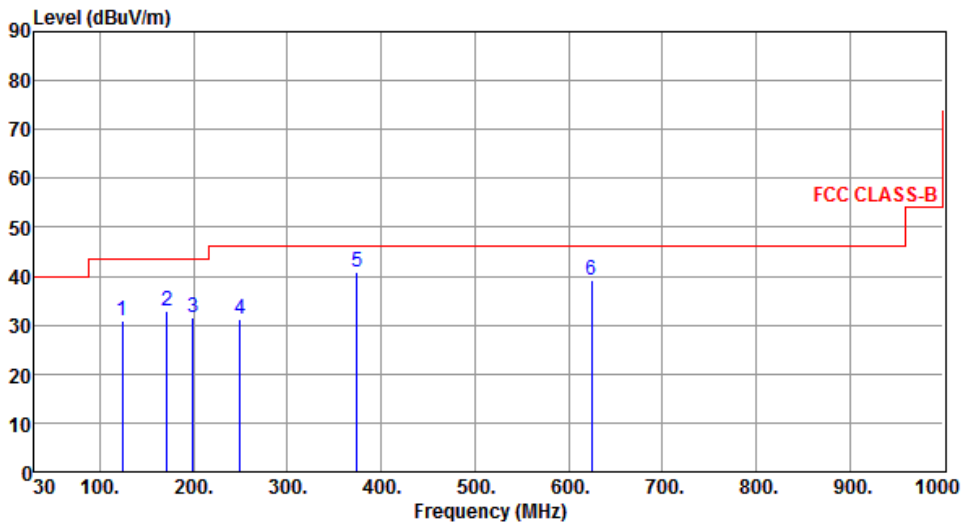
Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	46.49	36.65	40.00	-3.35	44.69	-8.04	QP	100	112
2	98.78	33.55	43.50	-9.95	46.84	-13.29	Peak	---	---
3	170.57	28.27	43.50	-15.23	36.59	-8.32	Peak	---	---
4	205.49	28.61	43.50	-14.89	39.33	-10.72	Peak	---	---
5	374.47	37.16	46.00	-8.84	42.86	-5.70	Peak	---	---
6	624.51	35.62	46.00	-10.38	35.92	-0.30	Peak	---	---

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

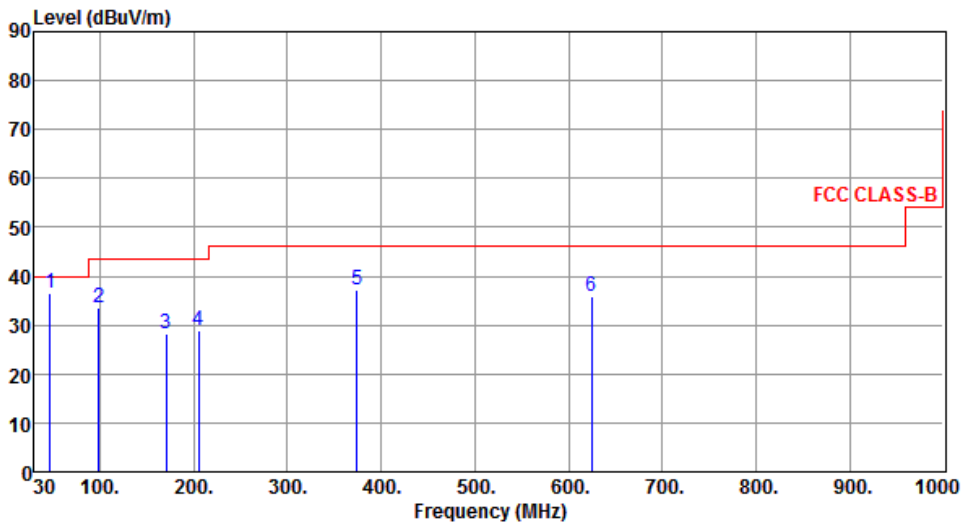
Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	124.11	30.85	43.50	-12.65	41.07	-10.22	Peak	---	---
2	171.57	32.79	43.50	-10.71	41.24	-8.45	Peak	---	---
3	198.87	31.57	43.50	-11.93	42.30	-10.73	Peak	---	---
4	249.31	31.36	46.00	-14.64	40.44	-9.08	Peak	---	---
5	374.47	40.86	46.00	-5.14	46.56	-5.70	Peak	---	---
6	624.59	39.21	46.00	-6.79	39.51	-0.30	Peak	---	---

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

Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Vertical		

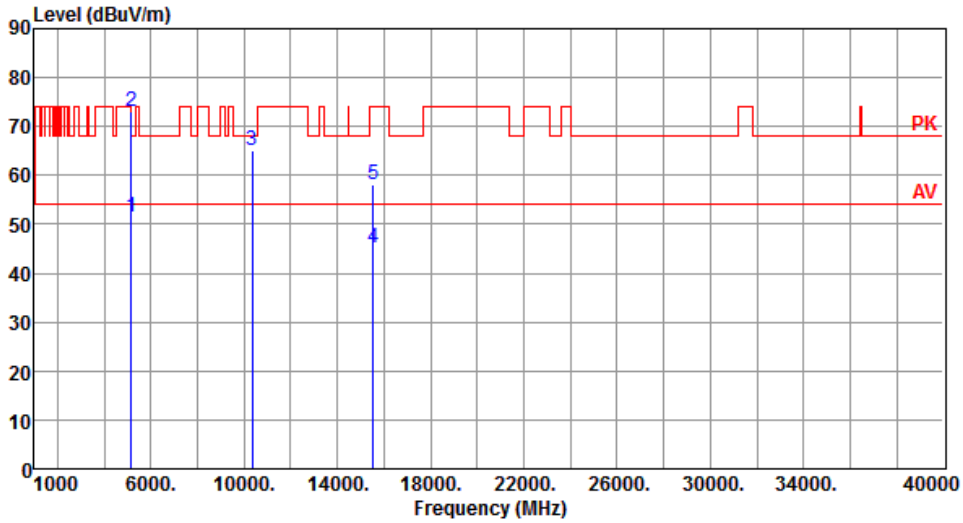


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	46.51	36.61	40.00	-3.39	44.65	-8.04	QP	100	117
2	98.66	33.57	43.50	-9.93	46.88	-13.31	Peak	---	---
3	170.59	28.26	43.50	-15.24	36.59	-8.33	Peak	---	---
4	205.54	28.81	43.50	-14.69	39.52	-10.71	Peak	---	---
5	374.47	37.26	46.00	-8.74	42.96	-5.70	Peak	---	---
6	624.55	35.84	46.00	-10.16	36.14	-0.30	Peak	---	---

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

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

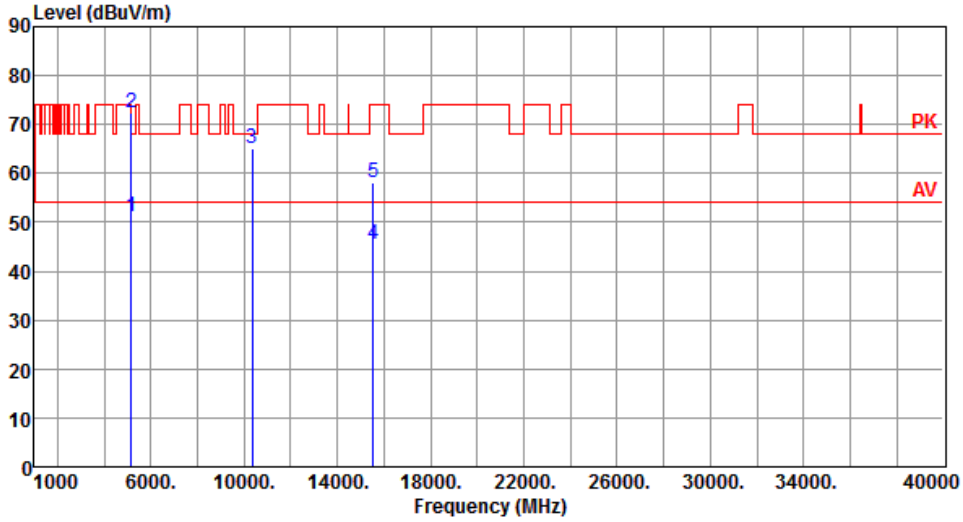
Modulation	VHT20	**Test Freq. (MHz)**	5180
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	51.35	54.00	-2.65	45.14	6.21	Average	148	234
2	5150.00	73.16	74.00	-0.84	66.95	6.21	Peak	148	234
3	10360.00	64.97	68.20	-3.23	49.22	15.75	Peak	162	75
4	15540.00	45.25	54.00	-8.75	28.86	16.39	Average	100	91
5	15540.00	58.11	74.00	-15.89	41.72	16.39	Peak	100	91

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

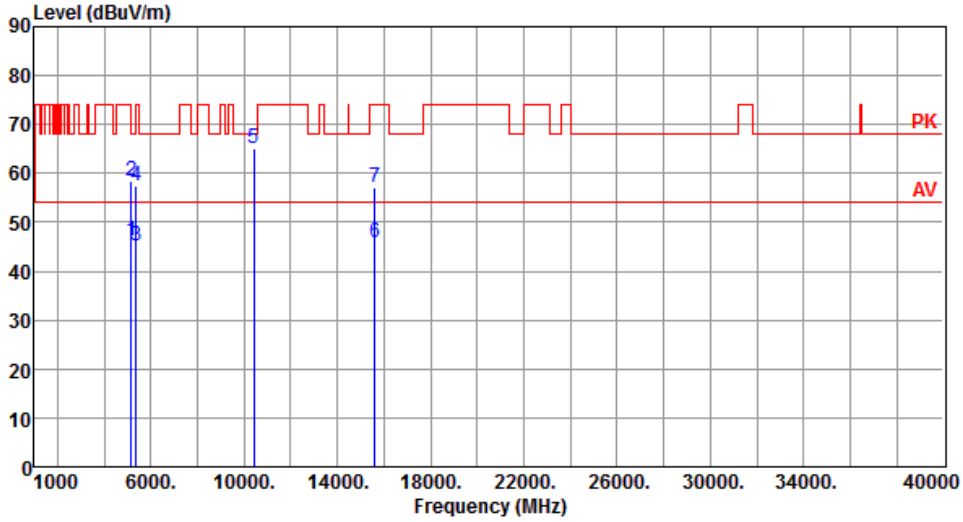
Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	51.27	54.00	-2.73	45.06	6.21	Average	256	166
2	5150.00	72.45	74.00	-1.55	66.24	6.21	Peak	256	166
3	10360.00	65.10	68.20	-3.10	49.35	15.75	Peak	126	332
4	15540.00	45.35	54.00	-8.65	28.96	16.39	Average	100	77
5	15540.00	58.04	74.00	-15.96	41.65	16.39	Peak	100	77

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

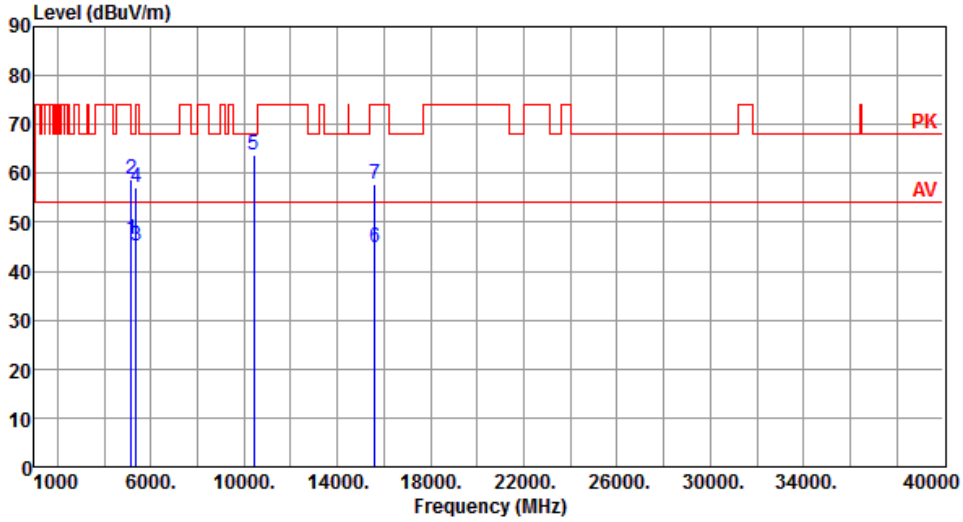
Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.15	54.00	-7.85	39.94	6.21	Average	142	235
2	5150.00	58.47	74.00	-15.53	52.26	6.21	Peak	142	235
3	5350.00	45.29	54.00	-8.71	38.84	6.45	Average	142	235
4	5350.00	57.38	74.00	-16.62	50.93	6.45	Peak	142	235
5	10400.00	65.07	68.20	-3.13	49.29	15.78	Peak	156	45
6	15600.00	45.80	54.00	-8.20	29.53	16.27	Average	100	81
7	15600.00	57.10	74.00	-16.90	40.83	16.27	Peak	100	81

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

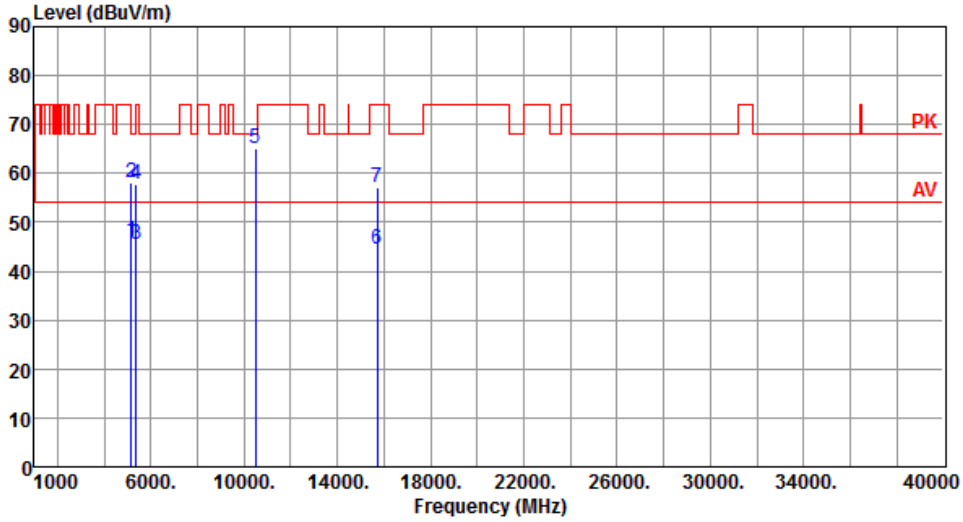
Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.59	54.00	-7.41	40.38	6.21	Average	219	177
2	5150.00	58.90	74.00	-15.10	52.69	6.21	Peak	219	177
3	5350.00	45.25	54.00	-8.75	38.80	6.45	Average	219	177
4	5350.00	57.22	74.00	-16.78	50.77	6.45	Peak	219	177
5	10400.00	63.66	68.20	-4.54	47.88	15.78	Peak	106	342
6	15600.00	44.78	54.00	-9.22	28.51	16.27	Average	100	104
7	15600.00	57.65	74.00	-16.35	41.38	16.27	Peak	100	104

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

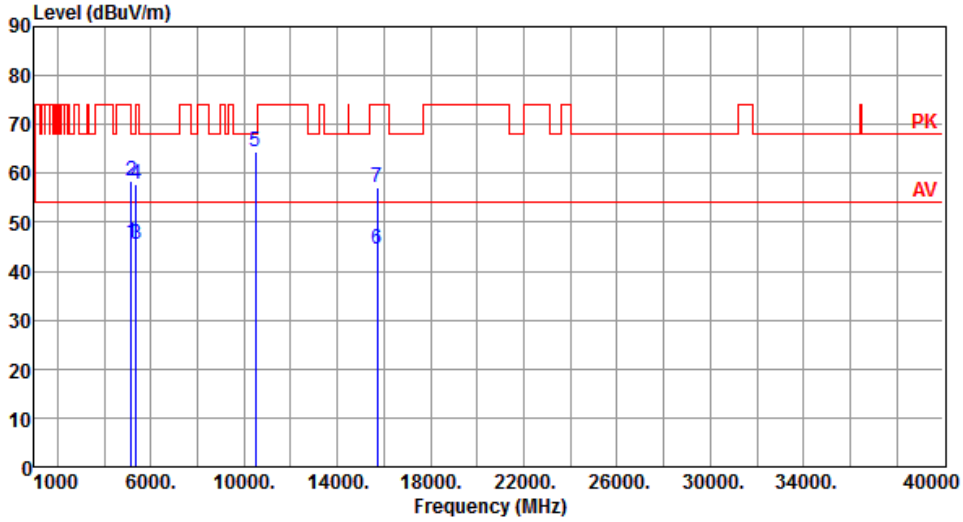
Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.00	54.00	-8.00	39.79	6.21	Average	177	225
2	5150.00	58.15	74.00	-15.85	51.94	6.21	Peak	177	225
3	5350.00	45.54	54.00	-8.46	39.09	6.45	Average	177	225
4	5350.00	57.85	74.00	-16.15	51.40	6.45	Peak	177	225
5	10480.00	65.02	68.20	-3.18	49.19	15.83	Peak	164	19
6	15720.00	44.42	54.00	-9.58	28.39	16.03	Average	100	138
7	15720.00	57.21	74.00	-16.79	41.18	16.03	Peak	100	138

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

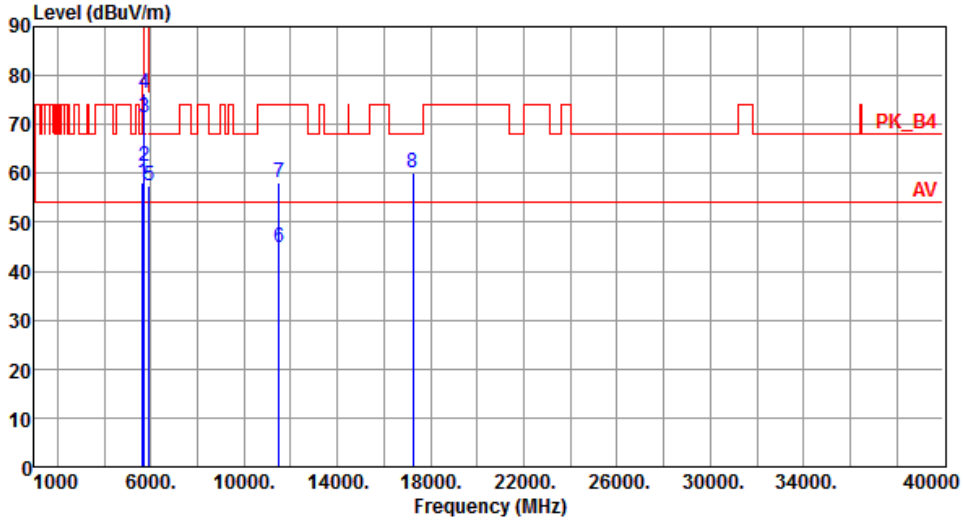
Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	45.83	54.00	-8.17	39.62	6.21	Average	259	141
2	5150.00	58.38	74.00	-15.62	52.17	6.21	Peak	259	141
3	5350.00	45.55	54.00	-8.45	39.10	6.45	Average	259	141
4	5350.00	57.87	74.00	-16.13	51.42	6.45	Peak	259	141
5	10480.00	64.30	68.20	-3.90	48.47	15.83	Peak	175	341
6	15720.00	44.47	54.00	-9.53	28.44	16.03	Average	100	64
7	15720.00	57.25	74.00	-16.75	41.22	16.03	Peak	100	64

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

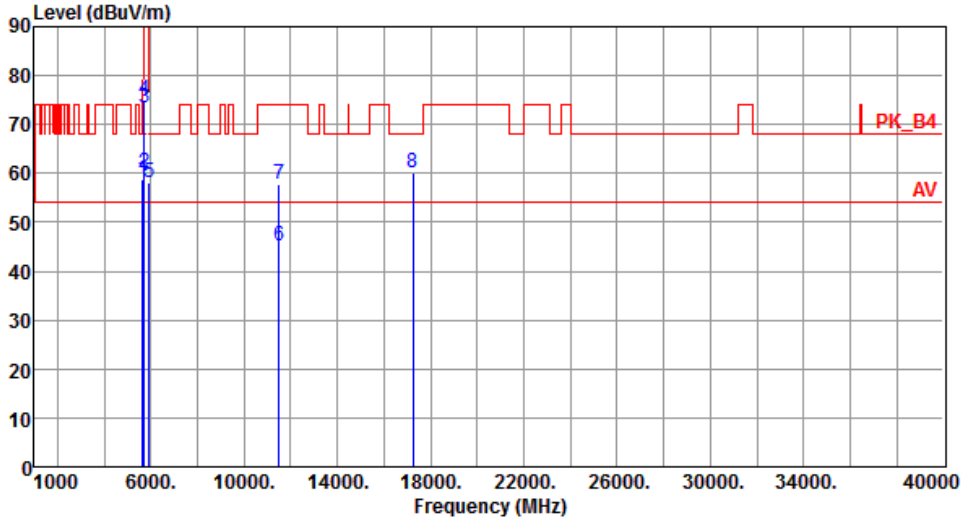
Modulation	VHT20	Test Freq. (MHz)	5745
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.00	68.20	-10.20	51.14	6.86	Peak	167	267
2	5700.00	61.28	105.20	-43.92	54.32	6.96	Peak	167	267
3	5720.00	71.46	110.80	-39.34	64.46	7.00	Peak	167	267
4	5725.00	76.39	122.20	-45.81	69.39	7.00	Peak	167	267
5	5925.00	57.56	68.20	-10.64	50.18	7.38	Peak	167	267
6	11490.00	44.92	54.00	-9.08	28.43	16.49	Average	100	62
7	11490.00	58.07	74.00	-15.93	41.58	16.49	Peak	100	62
8	17235.00	60.13	68.20	-8.07	41.76	18.37	Peak	100	132

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

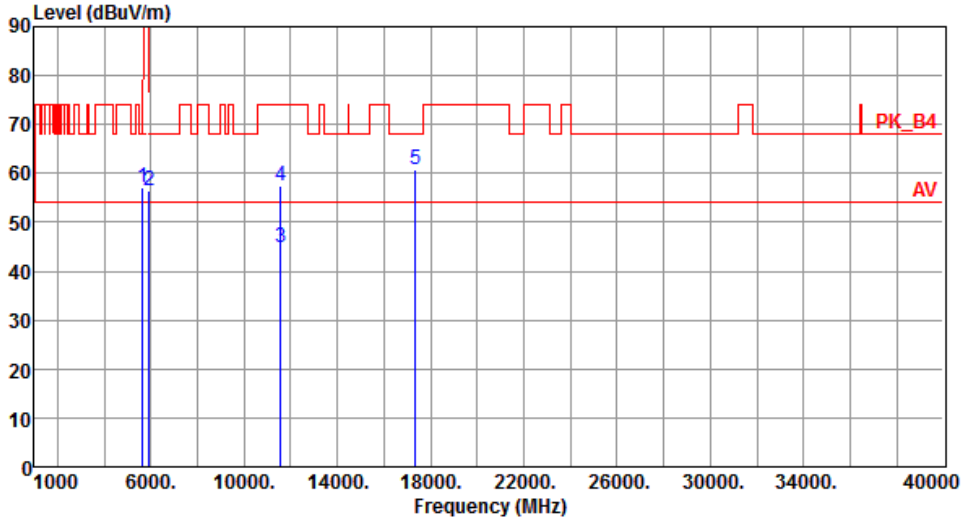
Modulation	VHT20	Test Freq. (MHz)	5745
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.63	68.20	-9.57	51.77	6.86	Peak	262	189
2	5700.00	60.25	105.20	-44.95	53.29	6.96	Peak	262	189
3	5720.00	73.43	110.80	-37.37	66.43	7.00	Peak	262	189
4	5725.00	74.91	122.20	-47.29	67.91	7.00	Peak	262	189
5	5925.00	57.98	68.20	-10.22	50.60	7.38	Peak	262	189
6	11490.00	45.11	54.00	-8.89	28.62	16.49	Average	100	107
7	11490.00	57.84	74.00	-16.16	41.35	16.49	Peak	100	107
8	17235.00	60.03	68.20	-8.17	41.66	18.37	Peak	100	205

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

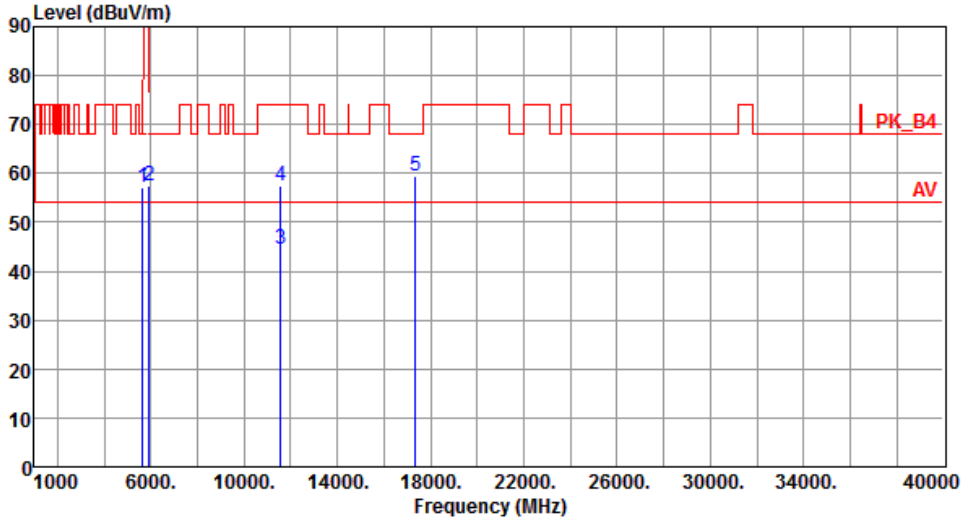
Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	57.20	68.20	-11.00	50.34	6.86	Peak	183	140
2	5925.00	56.37	68.20	-11.83	48.99	7.38	Peak	183	140
3	11570.00	44.67	54.00	-9.33	28.28	16.39	Average	100	134
4	11570.00	57.61	74.00	-16.39	41.22	16.39	Peak	100	134
5	17355.00	60.66	68.20	-7.54	41.93	18.73	Peak	100	105

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

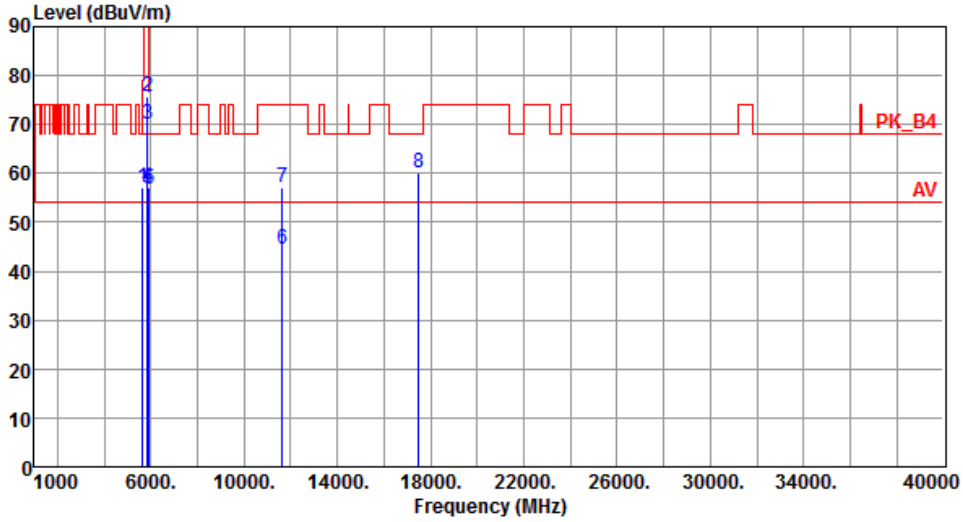
Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	57.01	68.20	-11.19	50.15	6.86	Peak	235	169
2	5925.00	57.43	68.20	-10.77	50.05	7.38	Peak	235	169
3	11570.00	44.45	54.00	-9.55	28.06	16.39	Average	100	76
4	11570.00	57.31	74.00	-16.69	40.92	16.39	Peak	100	76
5	17355.00	59.51	68.20	-8.69	40.78	18.73	Peak	100	116

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

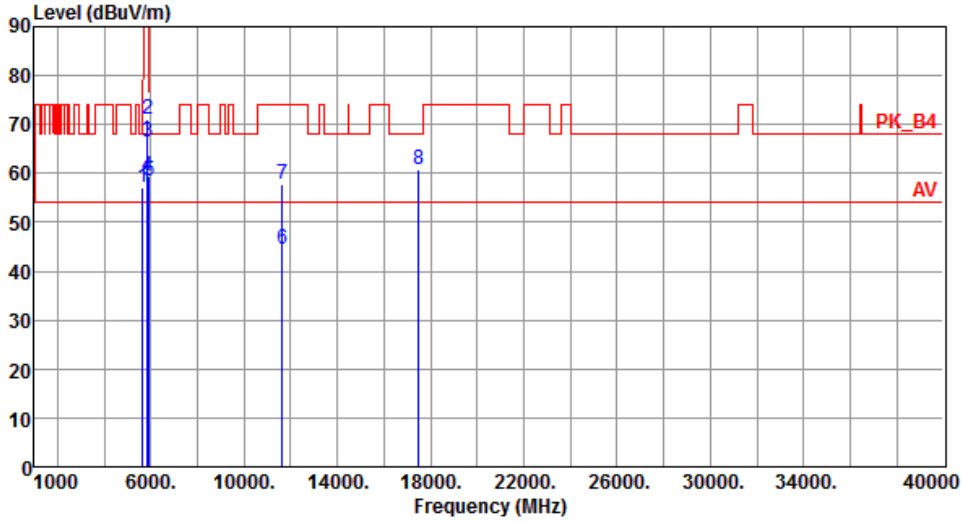
Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	57.10	68.20	-11.10	50.24	6.86	Peak	212	270
2	5850.00	75.59	122.20	-46.61	68.35	7.24	Peak	212	270
3	5855.00	70.17	110.80	-40.63	62.91	7.26	Peak	212	270
4	5875.00	57.14	105.20	-48.06	49.85	7.29	Peak	212	270
5	5925.00	56.94	68.20	-11.26	49.56	7.38	Peak	212	270
6	11650.00	44.46	54.00	-9.54	28.19	16.27	Average	100	54
7	11650.00	57.10	74.00	-16.90	40.83	16.27	Peak	100	54
8	17475.00	60.19	68.20	-8.01	41.08	19.11	Peak	100	102

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

Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Vertical		

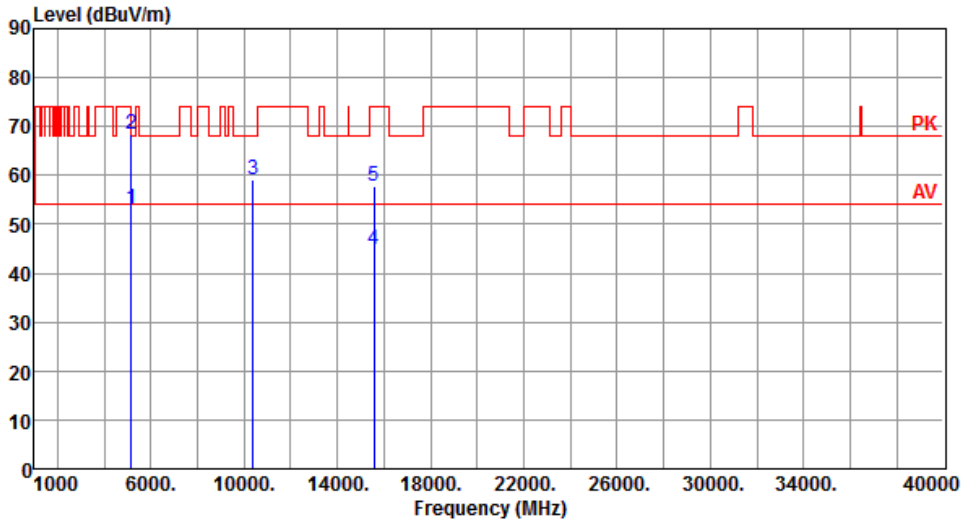


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	57.18	68.20	-11.02	50.32	6.86	Peak	298	168
2	5850.00	71.04	122.20	-51.16	63.80	7.24	Peak	298	168
3	5855.00	66.55	110.80	-44.25	59.29	7.26	Peak	298	168
4	5875.00	59.41	105.20	-45.79	52.12	7.29	Peak	298	168
5	5925.00	58.52	68.20	-9.68	51.14	7.38	Peak	298	168
6	11650.00	44.66	54.00	-9.34	28.39	16.27	Average	100	118
7	11650.00	57.86	74.00	-16.14	41.59	16.27	Peak	100	118
8	17475.00	60.83	68.20	-7.37	41.72	19.11	Peak	100	138

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

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

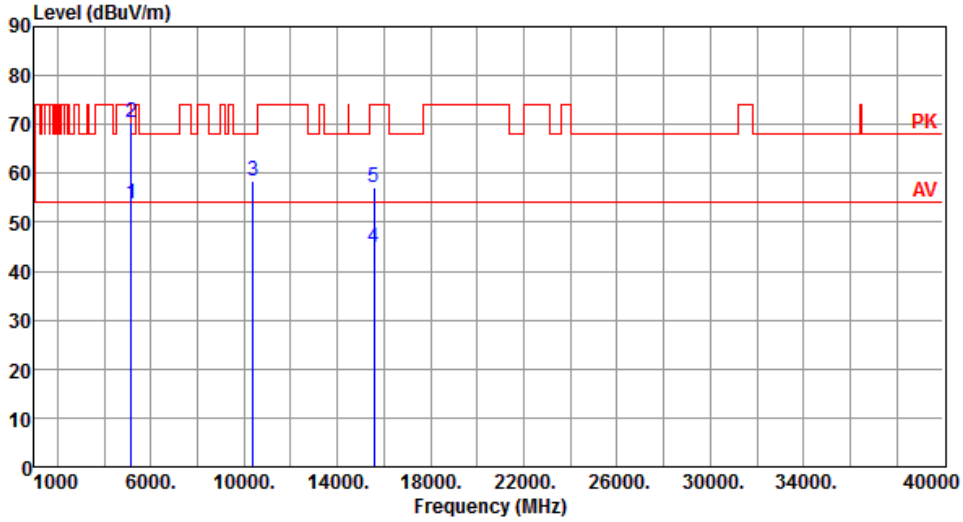
Modulation	VHT40	**Test Freq. (MHz)**	5190
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	53.10	54.00	-0.90	46.89	6.21	Average	197	131
2	5150.00	68.36	74.00	-5.64	62.15	6.21	Peak	197	131
3	10380.00	59.20	68.20	-9.00	43.44	15.76	Peak	100	296
4	15570.00	44.98	54.00	-9.02	28.65	16.33	Average	100	96
5	15570.00	57.63	74.00	-16.37	41.30	16.33	Peak	100	96

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

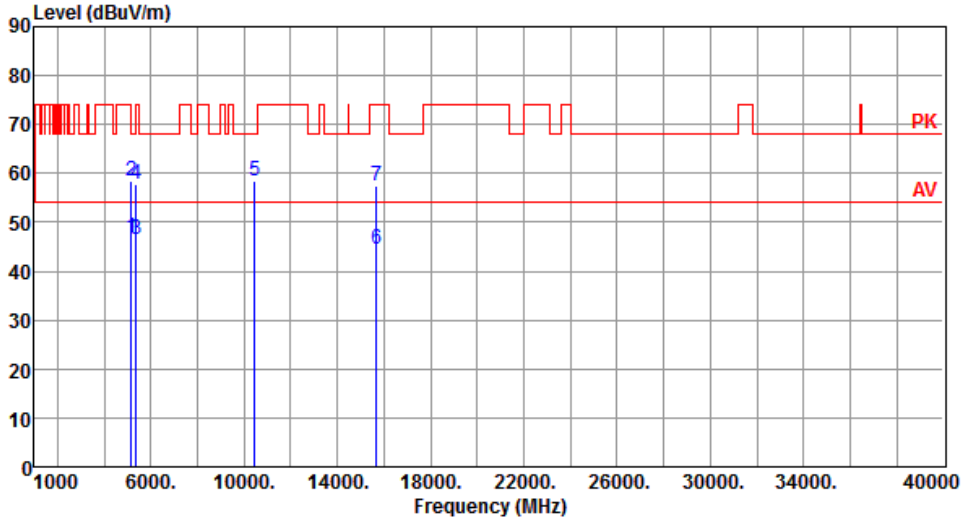
Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Vertical		



	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	53.85	54.00	-0.15	47.64	6.21	Average	233	184
2	5150.00	70.42	74.00	-3.58	64.21	6.21	Peak	233	184
3	10380.00	58.36	68.20	-9.84	42.60	15.76	Peak	100	342
4	15570.00	44.87	54.00	-9.13	28.54	16.33	Average	100	67
5	15570.00	57.25	74.00	-16.75	40.92	16.33	Peak	100	67

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

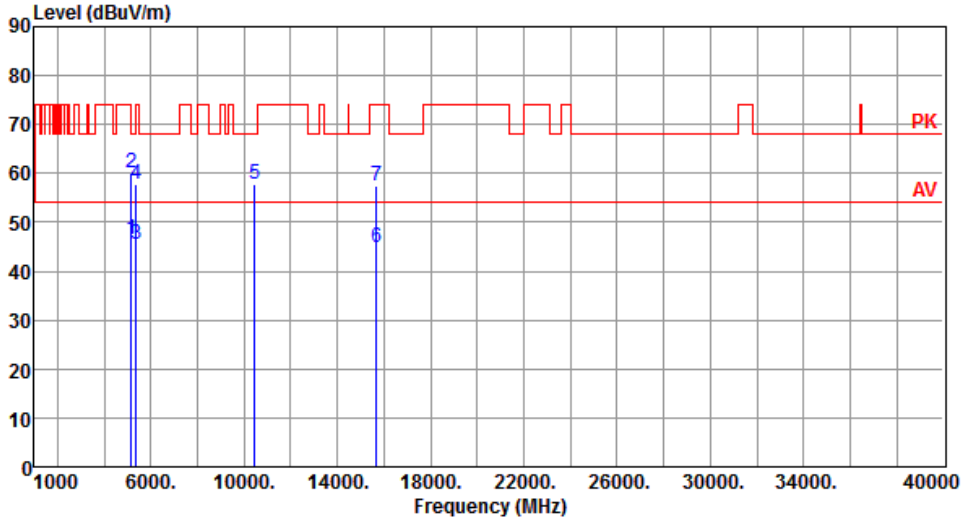
Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.67	54.00	-7.33	40.46	6.21	Average	165	36
2	5150.00	58.51	74.00	-15.49	52.30	6.21	Peak	165	36
3	5350.00	46.48	54.00	-7.52	40.03	6.45	Average	165	36
4	5350.00	57.63	74.00	-16.37	51.18	6.45	Peak	165	36
5	10460.00	58.50	68.20	-9.70	42.68	15.82	Peak	100	318
6	15690.00	44.63	54.00	-9.37	28.54	16.09	Average	100	106
7	15690.00	57.45	74.00	-16.55	41.36	16.09	Peak	100	106

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

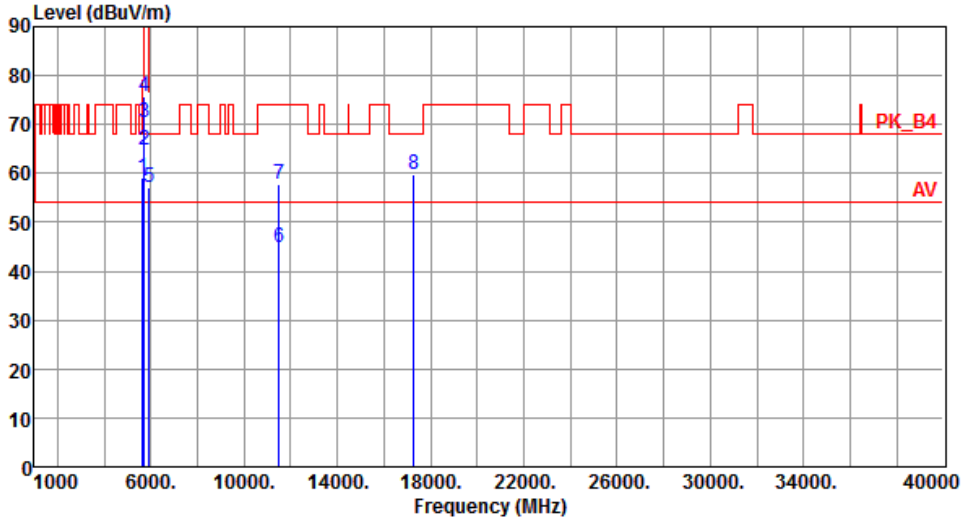
Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.49	54.00	-7.51	40.28	6.21	Average	260	140
2	5150.00	60.16	74.00	-13.84	53.95	6.21	Peak	260	140
3	5350.00	45.55	54.00	-8.45	39.10	6.45	Average	260	140
4	5350.00	57.68	74.00	-16.32	51.23	6.45	Peak	260	140
5	10460.00	57.90	68.20	-10.30	42.08	15.82	Peak	100	316
6	15690.00	44.72	54.00	-9.28	28.63	16.09	Average	100	82
7	15690.00	57.37	74.00	-16.63	41.28	16.09	Peak	100	82

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

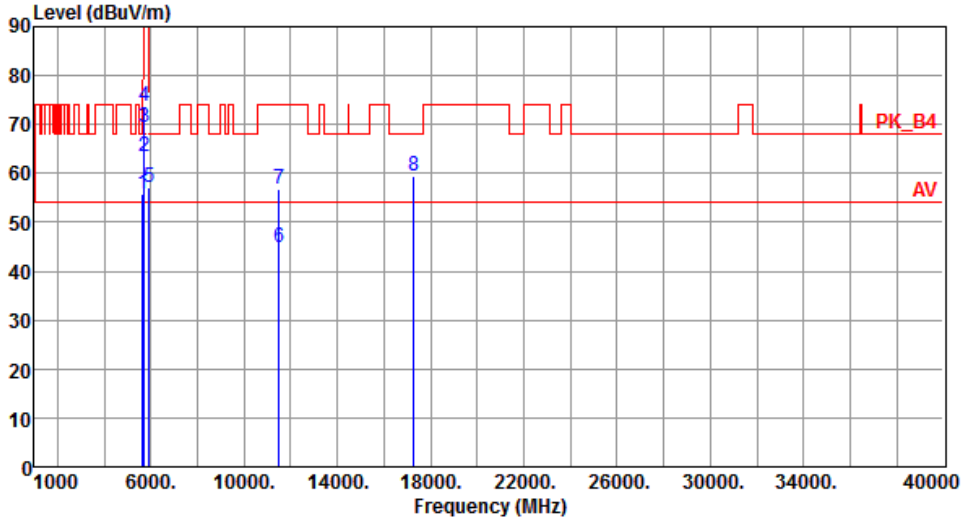
Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	59.03	68.20	-9.17	52.17	6.86	Peak	173	50
2	5700.00	64.61	105.20	-40.59	57.65	6.96	Peak	173	50
3	5720.00	70.42	110.80	-40.38	63.42	7.00	Peak	173	50
4	5725.00	75.84	122.20	-46.36	68.84	7.00	Peak	173	50
5	5925.00	57.13	68.20	-11.07	49.75	7.38	Peak	173	50
6	11510.00	44.72	54.00	-9.28	28.24	16.48	Average	100	46
7	11510.00	57.77	74.00	-16.23	41.29	16.48	Peak	100	46
8	17265.00	59.92	68.20	-8.28	41.46	18.46	Peak	100	118

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

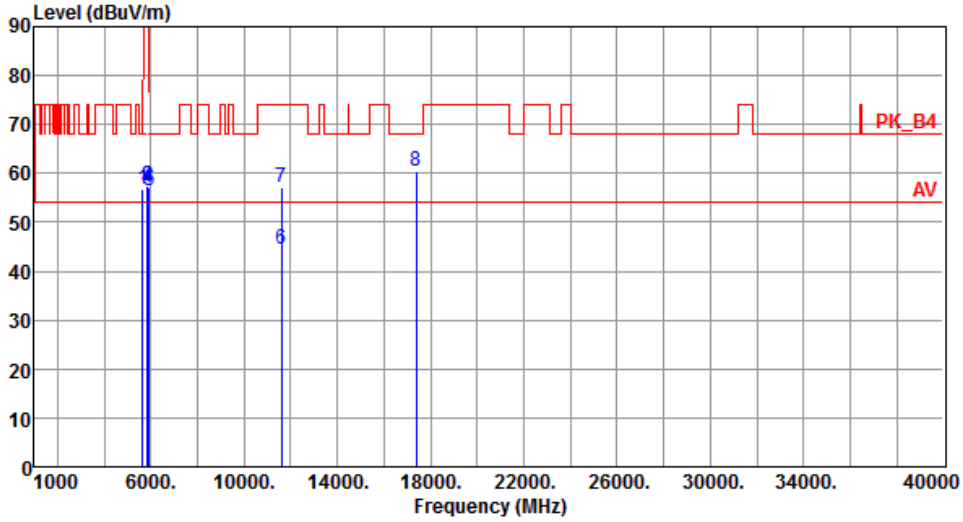
Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	55.92	68.20	-12.28	49.06	6.86	Peak	287	142
2	5700.00	63.51	105.20	-41.69	56.55	6.96	Peak	287	142
3	5720.00	69.34	110.80	-41.46	62.34	7.00	Peak	287	142
4	5725.00	73.83	122.20	-48.37	66.83	7.00	Peak	287	142
5	5925.00	57.04	68.20	-11.16	49.66	7.38	Peak	287	142
6	11510.00	44.86	54.00	-9.14	28.38	16.48	Average	100	74
7	11510.00	56.86	74.00	-17.14	40.38	16.48	Peak	100	74
8	17265.00	59.28	68.20	-8.92	40.82	18.46	Peak	100	52

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

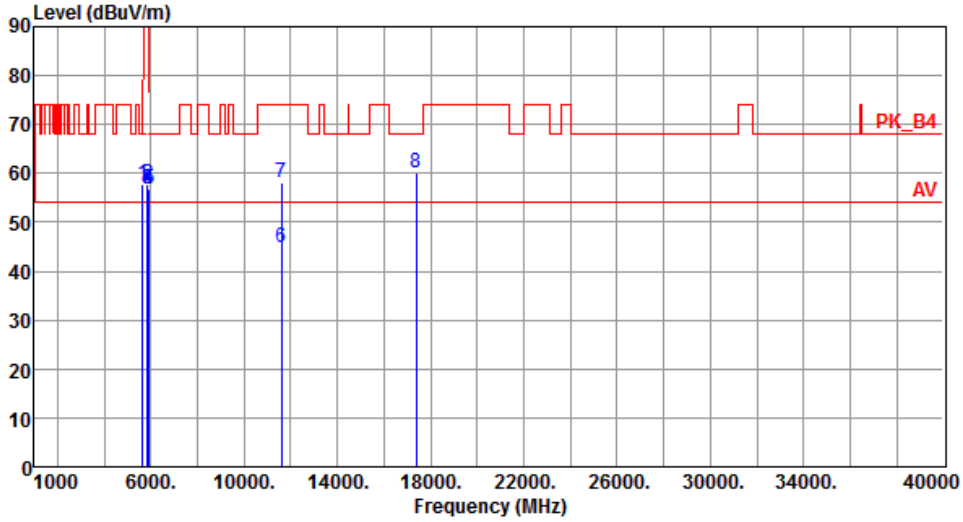
Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	56.91	68.20	-11.29	50.05	6.86	Peak	224	262
2	5850.00	57.54	122.20	-64.66	50.30	7.24	Peak	224	262
3	5855.00	57.39	110.80	-53.41	50.13	7.26	Peak	224	262
4	5875.00	57.14	105.20	-48.06	49.85	7.29	Peak	224	262
5	5925.00	56.59	68.20	-11.61	49.21	7.38	Peak	224	262
6	11590.00	44.52	54.00	-9.48	28.16	16.36	Average	100	45
7	11590.00	57.18	74.00	-16.82	40.82	16.36	Peak	100	45
8	17385.00	60.38	68.20	-7.82	41.55	18.83	Peak	100	128

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

Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Vertical		

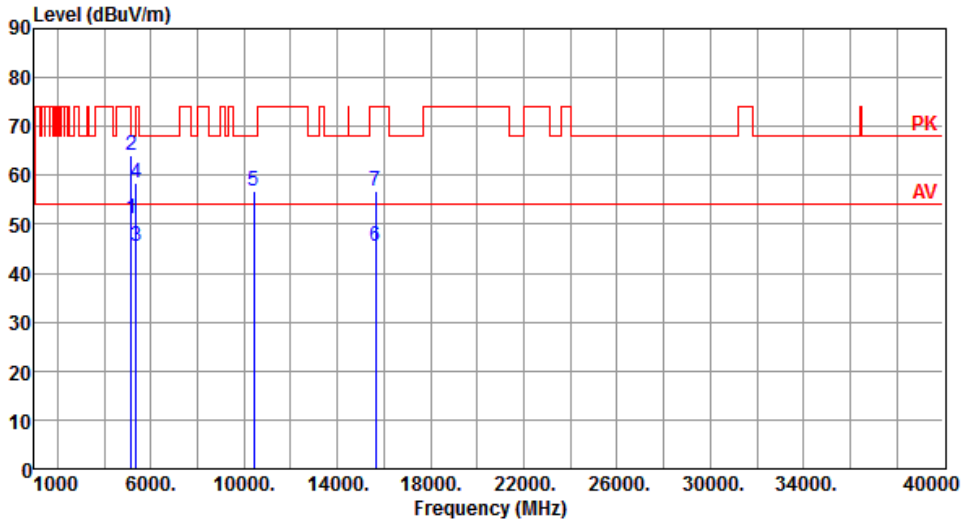


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	57.73	68.20	-10.47	50.87	6.86	Peak	298	154
2	5850.00	57.90	122.20	-64.30	50.66	7.24	Peak	298	154
3	5855.00	56.73	110.80	-54.07	49.47	7.26	Peak	298	154
4	5875.00	56.92	105.20	-48.28	49.63	7.29	Peak	298	154
5	5925.00	56.77	68.20	-11.43	49.39	7.38	Peak	298	154
6	11590.00	44.91	54.00	-9.09	28.55	16.36	Average	100	201
7	11590.00	58.04	74.00	-15.96	41.68	16.36	Peak	100	201
8	17385.00	60.01	68.20	-8.19	41.18	18.83	Peak	100	97

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

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

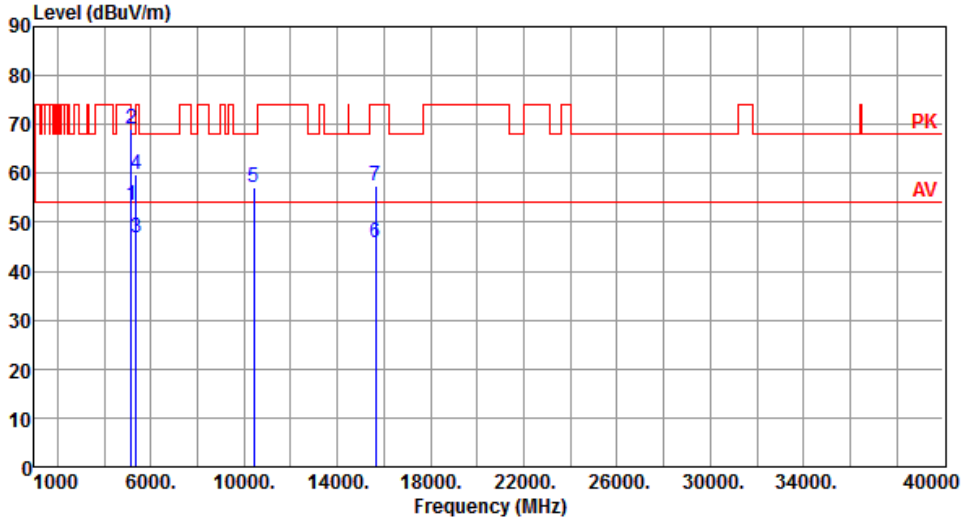
Modulation	VHT80	**Test Freq. (MHz)**	5210
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	51.11	54.00	-2.89	44.90	6.21	Average	188	233
2	5150.00	64.10	74.00	-9.90	57.89	6.21	Peak	188	233
3	5350.00	45.40	54.00	-8.60	38.95	6.45	Average	188	233
4	5350.00	58.40	74.00	-15.60	51.95	6.45	Peak	188	233
5	10420.00	56.63	68.20	-11.57	40.84	15.79	Peak	100	148
6	15630.00	45.39	54.00	-8.61	29.18	16.21	Average	100	126
7	15630.00	56.93	74.00	-17.07	40.72	16.21	Peak	100	126

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

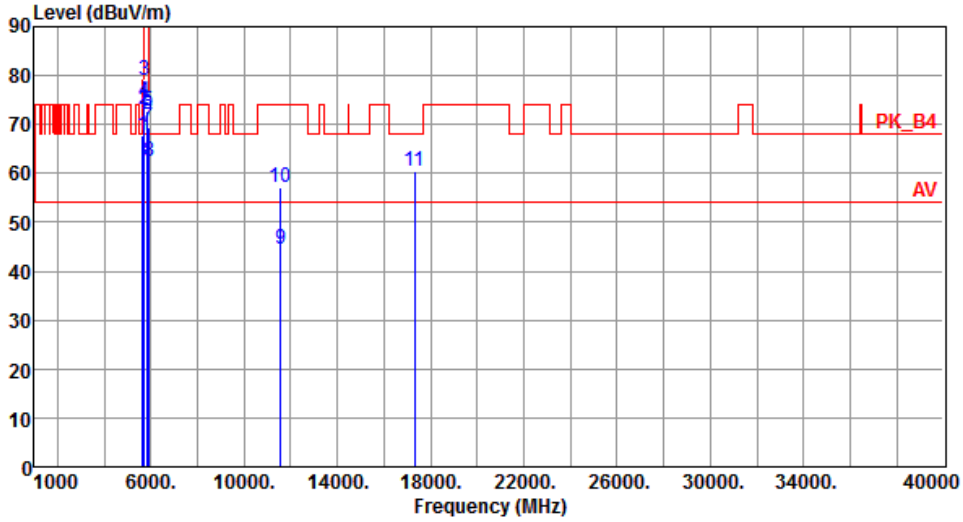
Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	53.50	54.00	-0.50	47.29	6.21	Average	241	182
2	5150.00	68.93	74.00	-5.07	62.72	6.21	Peak	241	182
3	5350.00	46.87	54.00	-7.13	40.42	6.45	Average	241	182
4	5350.00	59.73	74.00	-14.27	53.28	6.45	Peak	241	182
5	10420.00	57.15	68.20	-11.05	41.36	15.79	Peak	100	176
6	15630.00	45.67	54.00	-8.33	29.46	16.21	Average	100	241
7	15630.00	57.54	74.00	-16.46	41.33	16.21	Peak	100	241

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

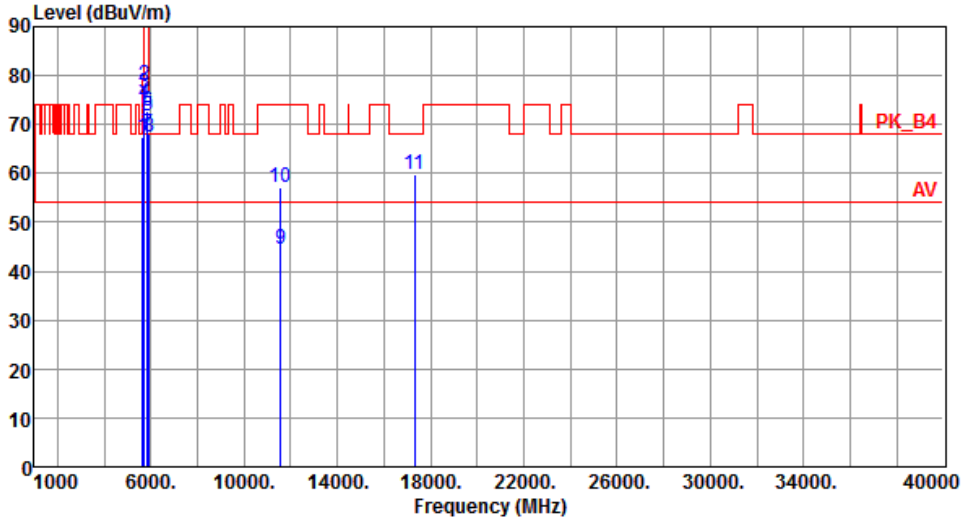
Modulation	VHT80	Test Freq. (MHz)	5775
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	67.74	68.20	-0.46	60.88	6.86	Peak	215	51
2	5700.00	73.06	105.20	-32.14	66.10	6.96	Peak	215	51
3	5720.00	79.06	110.80	-31.74	72.06	7.00	Peak	215	51
4	5725.00	74.76	122.20	-47.44	67.76	7.00	Peak	215	51
5	5850.00	72.70	122.20	-49.50	65.46	7.24	Peak	215	51
6	5855.00	71.96	110.80	-38.84	64.70	7.26	Peak	215	51
7	5875.00	69.28	105.20	-35.92	61.99	7.29	Peak	215	51
8	5925.00	62.47	68.20	-5.73	55.09	7.38	Peak	215	51
9	11550.00	44.55	54.00	-9.45	28.13	16.42	Average	100	138
10	11550.00	57.18	74.00	-16.82	40.76	16.42	Peak	100	138
11	17325.00	60.33	68.20	-7.87	41.69	18.64	Peak	100	303

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

Modulation	VHT80	Test Freq. (MHz)	5775
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	67.41	68.20	-0.79	60.55	6.86	Peak	286	153
2	5700.00	78.16	105.20	-27.04	71.20	6.96	Peak	286	153
3	5720.00	76.44	110.80	-34.36	69.44	7.00	Peak	286	153
4	5725.00	74.46	122.20	-47.74	67.46	7.00	Peak	286	153
5	5850.00	71.84	122.20	-50.36	64.60	7.24	Peak	286	153
6	5855.00	72.88	110.80	-37.92	65.62	7.26	Peak	286	153
7	5875.00	68.24	105.20	-36.96	60.95	7.29	Peak	286	153
8	5925.00	67.50	68.20	-0.70	60.12	7.38	Peak	286	153
9	11550.00	44.58	54.00	-9.42	28.16	16.42	Average	100	171
10	11550.00	57.09	74.00	-16.91	40.67	16.42	Peak	100	171
11	17325.00	59.83	68.20	-8.37	41.19	18.64	Peak	100	112

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

3.6 Frequency Stability

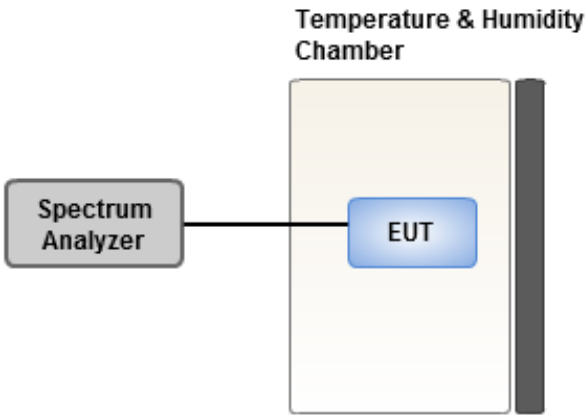
3.6.1 Limit of Frequency Stability

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

3.6.2 Test Procedures

1. The EUT is installed in an environment test chamber with external power source.
2. Set the chamber to operate at 50 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 -30 to 50 centigrade and 85 to 115 percent of the nominal voltage. Change setting of chamber and external power source to complete all conditions.

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	5.95	5.84	6.24	6.56
T20°CVmin	4.89	5.33	4.97	4.93
T50°CVnom	3.72	3.49	3.82	4.21
T40°CVnom	3.70	3.40	4.41	3.64
T30°CVnom	3.06	2.92	3.17	2.99
T20°CVnom	3.64	3.33	3.88	3.49
T10°CVnom	3.49	3.90	3.66	3.93
T0°CVnom	3.14	4.00	2.87	2.91
T-10°CVnom	3.35	3.45	3.80	3.18
T-20°CVnom	1.02	1.40	1.44	0.81
T-30°CVnom	0.58	0.64	0.95	0.41
Vnom [Vac]: 120		Vmax [Vac]: 138		Vmin [Vac]: 102
Tnom [°C]: 20		Tmax [°C]: 50		Tmin [°C]: -30

Frequency: 5785 MHz	Frequency Drift (ppm)			
Temperature (°C)	0 minute	2 minutes	5 minutes	10 minutes
T20°CVmax	5.39	5.24	5.86	5.10
T20°CVmin	3.78	3.87	4.10	3.89
T50°CVnom	3.88	3.62	4.08	3.83
T40°CVnom	3.30	3.84	3.38	3.38
T30°CVnom	2.22	2.73	2.57	1.98
T20°CVnom	2.92	3.04	2.90	3.13
T10°CVnom	3.22	3.29	3.69	2.87
T0°CVnom	3.02	2.56	2.97	2.65
T-10°CVnom	2.98	3.59	3.33	3.33
T-20°CVnom	0.98	1.35	0.72	1.00
T-30°CVnom	0.61	1.07	1.17	1.13
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

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