FCC C2PC 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. 27 ~ Jun. 19, 2018**

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

Reviewed by: **Approved by:**

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

Testing Laboratory 2732

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Release Record

Report No.	Version	Description	Issued Date
FR832202-01AN	Rev. 01	Initial issue	Jul. 06, 2018

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.381MHz 35.86 (Margin -12.39dB) - AV	Pass
15.407(b) 15.209	Radiated Emissions	[dBuV/m at 3m]: 5350.00MHz 53.86 (Margin -0.14dB) - 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*** 5250~5350MHz: 22.92 5470~5725MHz: 22.40 ***Beamforming mode*** 5250~5350MHz: 20.02 5470~5725MHz: 20.34	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

This report is issued as a FCC Class II Permissive Change. The modification is only concerned with adding 5250~5350MHz and 5470~5725 MHz band by software setting.

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**
5250-5350 5470-5725	a	5260-5320 5500-5700	52-64 [4] 100-140 [8]	3	6-54 Mbps
5250-5350 5470-5725	n (HT20)	5260-5320 5500-5700	52-64 [4] 100-140 [8]	1	MCS 0-7
5250-5350 5470-5725	n (HT20)	5260-5320 5500-5700	52-64 [4] 100-140 [8]	2	MCS 8-15
5250-5350 5470-5725	n (HT20)	5260-5320 5500-5700	52-64 [4] 100-140 [8]	3	MCS 16-23
5250-5350 5470-5725	n (HT40)	5270-5310 5510-5670	54-62 [2] 102-134 [3]	1	MCS 0-7
5250-5350 5470-5725	n (HT40)	5270-5310 5510-5670	54-62 [2] 102-134 [3]	2	MCS 8-15
5250-5350 5470-5725	n (HT40)	5270-5310 5510-5670	54-62 [2] 102-134 [3]	3	MCS 16-23
5250-5350 5470-5725	ac (VHT20)	5260-5320 5500-5700	52-64 [4] 100-140 [8]	1 / 2 / 3	MCS 0-9
5250-5350 5470-5725	ac (VHT40)	5270-5310 5510-5670	54-62 [2] 102-134 [3]	1 / 2 / 3	MCS 0-9
5250-5350 5470-5725	ac (VHT80)	5290 5530	58 [1] 106 [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. Note 4: The device has disabled the 5600-5650MHz band by S/W setting.					

1.1.2 Antenna Details

Ant. No.	Model	Type	Connector	Operating Frequencies (MHz) / Antenna Gain (dBi)	
				5250~5350	**5470~5725**
1	Metal	PIFA	NA	4.54	4.70
2	Metal	PIFA	NA	4.54	4.70

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

802.11 a / HT20 / VHT20		HT40 / VHT40	
Channel	**Frequency(MHz)**	**Channel**	**Frequency(MHz)**
52	5260	54	5270
56	5280	62	5310
60	5300	102	5510
64	5320	110	5550
100	5500	134	5670
104	5520	**VHT80**	
108	5540	58	5290
112	5560	106	5530
116	5580	---	---
132	5660	---	---
136	5680	---	---
140	5700	---	---

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

Modulation Mode	Test Frequency (MHz)	Power Set	
		Non-Beamforming	Beamforming
11a	5260	23	---
11a	5300	23	---
11a	5320	23	---
11a	5500	23	---
11a	5580	24	---
11a	5700	24	---
VHT20	5260	33	28
VHT20	5300	33	28
VHT20	5320	30	25
VHT20	5500	26	22
VHT20	5580	35	28
VHT20	5700	26	22
VHT40	5270	35	28
VHT40	5310	26	23
VHT40	5510	21	20
VHT40	5550	34	28
VHT40	5670	27	25
VHT80	5290	22	19
VHT80	5530	19	19

1.2 Local Support Equipment List

Non-beamforming mode

Support Equipment List					
No.	**Equipment**	**Brand**	**Model**	**FCC ID**	**Remarks**
1	Notebook	DELL	Latitude E6430	C0GB4X1	---

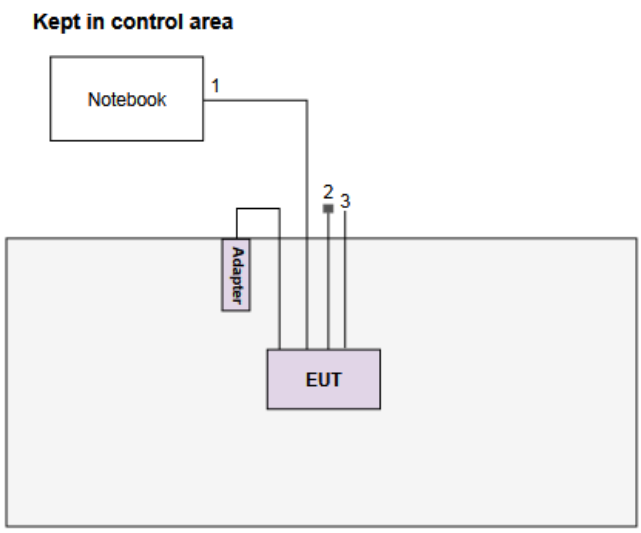
Beamforming mode

Support Equipment List					
No.	**Equipment**	**Brand**	**Model**	**FCC ID**	**Remarks**
1	Notebook	DELL	Latitude E6430	C0GB4X1	---
2	Notebook	DELL	Latitude E6430	G3GB4X1	---
3	BF Client	ARRIS	SBG10	---	Provided by applicant.

1.3 Test Setup Chart

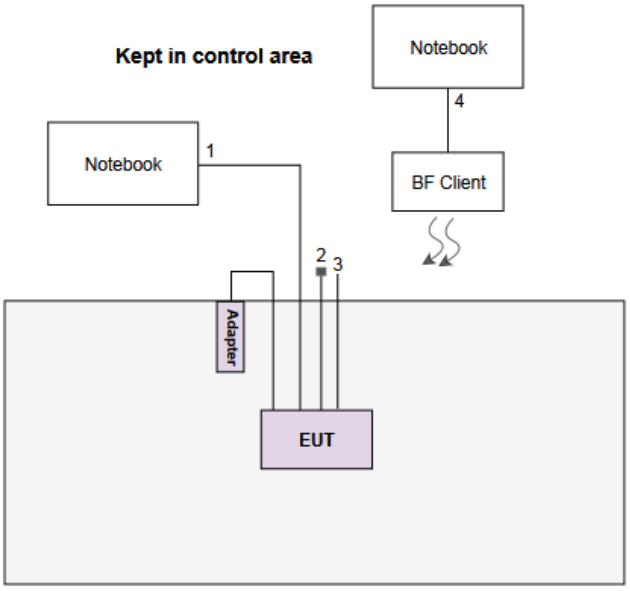
Non-beamforming mode

Test Setup Diagram



No.	Signal cable / Length (m)
1	RJ45, 10m non-shielded.
2	RJ45, 1.5m non-shielded with load.
3	Coaxial, 1m shielded.

Beamforming mode

Test Setup Diagram


No.	Signal cable / Length (m)
1	RJ45, 10m non-shielded.
2	RJ45, 1.5m non-shielded with load.
3	Coaxial, 1m shielded.

1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Tested Date	Mar. 27, 2018				
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)				
Tested Date	Mar. 28, 2018				
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	Radiated Emission				
Test Site	966 chamber 3 / (03CH03-WS)				
Tested Date	Jun. 11, 2018				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&**S**	FSV40	101499	Jan. 03, 2018	Jan. 02, 2019
Receiver	R&**S**	ESR3	101658	Nov. 20, 2017	Nov. 19, 2018
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-685	Apr. 19, 2018	Apr. 18, 2019
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1206	Jan. 18, 2018	Jan. 17, 2019
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 23, 2017	Nov. 22, 2018
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 13, 2017	Nov. 12, 2018
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Dec. 07, 2017	Dec. 06, 2018
Preamplifier	EMC	EMC02325	980187	Sep. 04, 2017	Sep. 03, 2018
Preamplifier	Agilent	83017A	MY53270014	Aug. 21, 2017	Aug. 20, 2018
Preamplifier	EMC	EMC184045B	980192	Aug. 22, 2017	Aug. 21, 2018
RF cable-3M	HUBER+SUHNER	SUCOFLEX104	MY22620/4	Nov. 27, 2017	Nov. 26, 2018
RF cable-8M	HUBER+SUHNER	SUCOFLEX104	MY32487/4	Nov. 27, 2017	Nov. 26, 2018
RF cable-1M	HUBER+SUHNER	SUCOFLEX104	MY22624/4	Nov. 27, 2017	Nov. 26, 2018
LF cable-0.8M	EMC	EMC8D-NM-NM-800	EMC8D-NM-NM-800-001	Nov. 27, 2017	Nov. 26, 2018
LF cable-3M	EMC	EMC8D-NM-NM-3000	131103	Nov. 27, 2017	Nov. 26, 2018
LF cable-13M	EMC	EMC8D-NM-NM-13000	131104	Nov. 27, 2017	Nov. 26, 2018
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Tested Date	Jun. 05 ~ Jun. 19, 2018				
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	±5.63 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	23-24°C / 63-66%	Vincent Yeh Akun Chung
RF Conducted	TH01-WS	23°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

Test item	Modulation Mode	Test Frequency (MHz)	Data Rate	Test Configuration
Conducted Emissions	VHT40	5270	MCS 0	---
Radiated Emissions ≤1GHz	VHT40	5270	MCS 0	---
RF Output Power Radiated Emissions >1GHz Emission Bandwidth Peak Power Spectral Density	11a	5260 / 5300 / 5320 5500 / 5580 / 5700	6 Mbps	---
	VHT20	5260 / 5300 / 5320 5500 / 5580 / 5700	MCS 0	
	VHT40	5270 / 5310 5510 / 5550 / 5670	MCS 0	
	VHT80	5290 / 5530	MCS 0	
Frequency Stability	Un-modulation	5320	---	---
Note: 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

Test item	Modulation Mode	Test Frequency (MHz)	Data Rate	Test Configuration
Conducted Emissions	VHT40	5550	MCS 0	---
Radiated Emissions ≤1GHz	VHT40	5550	MCS 0	---
RF Output Power Radiated Emissions >1GHz Emission Bandwidth Peak Power Spectral Density	VHT20	5260 / 5300 / 5320 5500 / 5580 / 5700	MCS 0	---
	VHT40	5270 / 5310 5510 / 5550 / 5670	MCS 0	
	VHT80	5290 / 5530	MCS 0	
Note: 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.				

3 Transmitter Test Results

3.1 Conducted Emissions

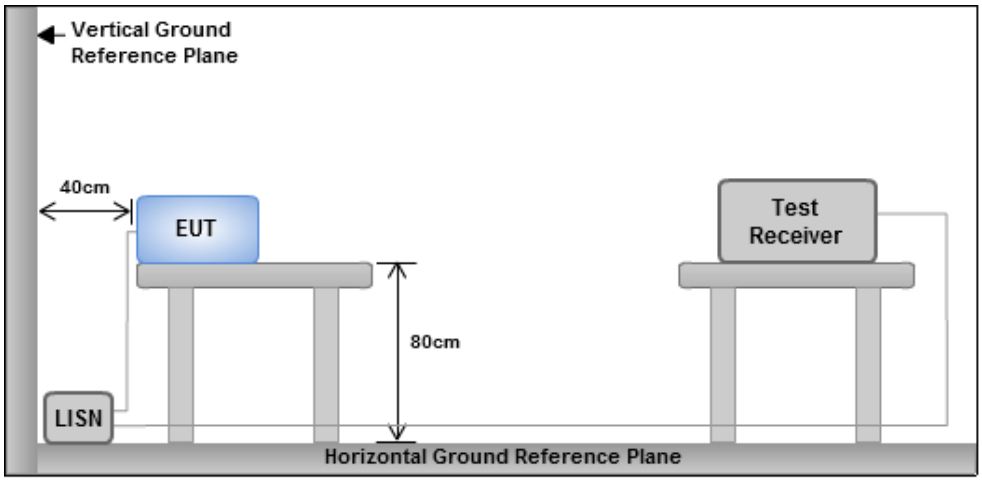
3.1.1 Limit of Conducted Emissions

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

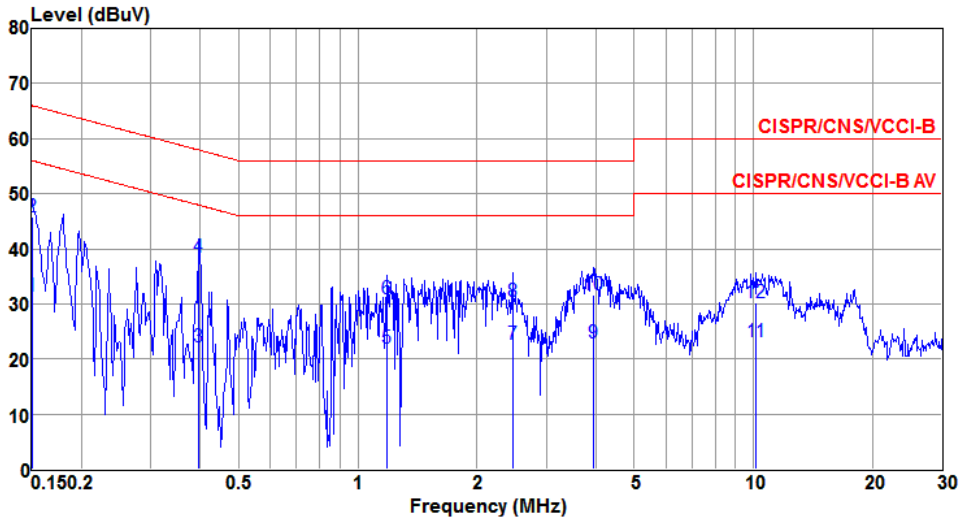


Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

3.1.4 Test Result of Conducted Emissions

Non- beamforming mode

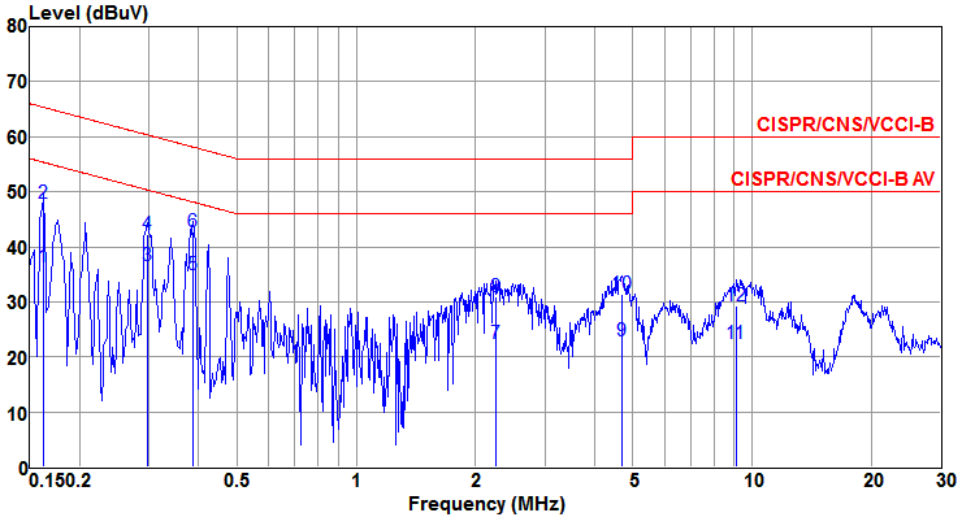
Modulation	VHT40	**Test Freq. (MHz)**	5270
Power Phase	Line		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.150	31.41	56.00	-24.59	31.13	0.27	0.01	Average
2	0.150	45.88	66.00	-20.12	45.60	0.27	0.01	QP
3	0.396	22.26	47.95	-25.69	21.90	0.34	0.02	Average
4@	0.396	38.47	57.95	-19.48	38.11	0.34	0.02	QP
5	1.184	21.91	46.00	-24.09	21.46	0.40	0.05	Average
6	1.184	30.90	56.00	-25.10	30.45	0.40	0.05	QP
7	2.461	22.65	46.00	-23.35	22.07	0.44	0.14	Average
8	2.461	30.54	56.00	-25.46	29.96	0.44	0.14	QP
9	3.943	22.83	46.00	-23.17	22.14	0.47	0.22	Average
10	3.943	31.73	56.00	-24.27	31.04	0.47	0.22	QP
11	10.179	23.15	50.00	-26.85	22.26	0.57	0.32	Average
12	10.179	30.22	60.00	-29.78	29.33	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	VHT40	Test Freq. (MHz)	5270
Power Phase	Neutral		

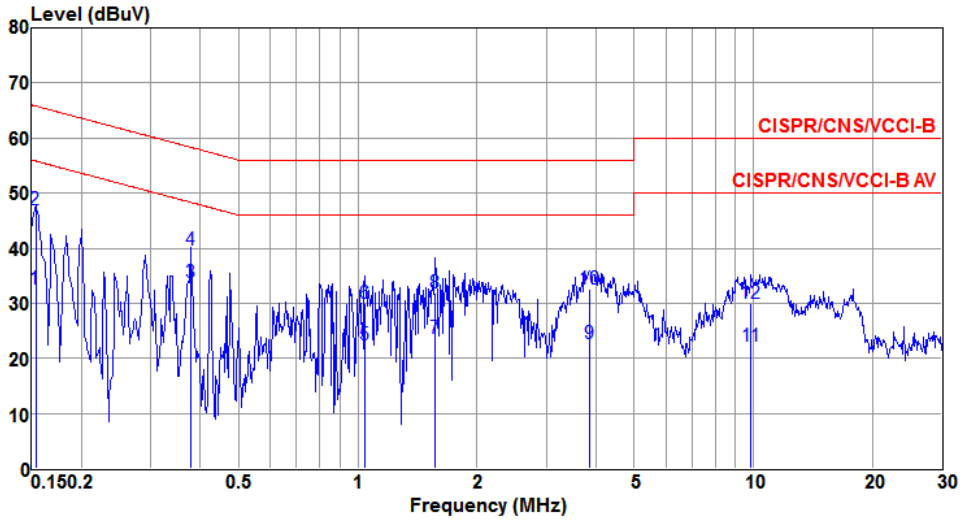


	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.162	36.45	55.34	-18.89	36.29	0.14	0.02	Average
2	0.162	47.94	65.34	-17.40	47.78	0.14	0.02	QP
3	0.297	36.66	50.32	-13.66	36.47	0.17	0.02	Average
4	0.297	42.30	60.32	-18.02	42.11	0.17	0.02	QP
5@	0.387	34.93	48.12	-13.19	34.72	0.19	0.02	Average
6	0.387	42.65	58.12	-15.47	42.44	0.19	0.02	QP
7	2.249	22.51	46.00	-23.49	22.07	0.32	0.12	Average
8	2.249	30.88	56.00	-25.12	30.44	0.32	0.12	QP
9	4.696	22.89	46.00	-23.11	22.28	0.37	0.24	Average
10	4.696	31.48	56.00	-24.52	30.87	0.37	0.24	QP
11	9.107	22.51	50.00	-27.49	21.75	0.45	0.31	Average
12	9.107	29.36	60.00	-30.64	28.60	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).

Beamforming mode

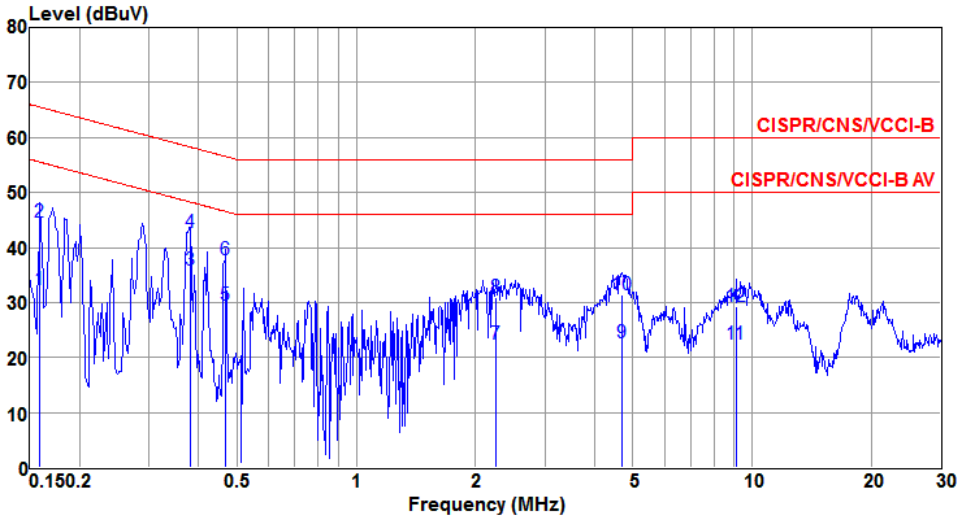
Modulation	VHT40	**Test Freq. (MHz)**	5550
Power Phase	Line		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.153	32.54	55.82	-23.28	32.26	0.27	0.01	Average
2	0.153	47.01	65.82	-18.81	46.73	0.27	0.01	QP
3@	0.377	33.77	48.34	-14.57	33.41	0.34	0.02	Average
4	0.377	39.55	58.34	-18.79	39.19	0.34	0.02	QP
5	1.043	22.36	46.00	-23.64	21.94	0.39	0.03	Average
6	1.043	29.95	56.00	-26.05	29.53	0.39	0.03	QP
7	1.568	23.54	46.00	-22.46	23.04	0.42	0.08	Average
8	1.568	31.81	56.00	-24.19	31.31	0.42	0.08	QP
9	3.840	22.69	46.00	-23.31	22.01	0.47	0.21	Average
10	3.840	32.63	56.00	-23.37	31.95	0.47	0.21	QP
11	9.861	22.21	50.00	-27.79	21.32	0.57	0.32	Average
12	9.861	29.90	60.00	-30.10	29.01	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	VHT40	Test Freq. (MHz)	5550
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	32.30	55.52	-23.22	32.15	0.14	0.01	Average
2	0.159	44.66	65.52	-20.86	44.51	0.14	0.01	QP
3@	0.381	35.86	48.25	-12.39	35.65	0.19	0.02	Average
4	0.381	42.70	58.25	-15.55	42.49	0.19	0.02	QP
5	0.469	29.61	46.54	-16.93	29.39	0.20	0.02	Average
6	0.469	37.84	56.54	-18.70	37.62	0.20	0.02	QP
7	2.261	22.43	46.00	-23.57	21.99	0.32	0.12	Average
8	2.261	30.90	56.00	-25.10	30.46	0.32	0.12	QP
9	4.696	22.61	46.00	-23.39	22.00	0.37	0.24	Average
10	4.696	31.36	56.00	-24.64	30.75	0.37	0.24	QP
11	9.107	22.44	50.00	-27.56	21.68	0.45	0.31	Average
12	9.107	29.28	60.00	-30.72	28.52	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 Test Procedures

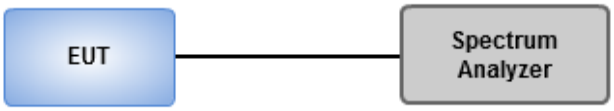
26dB Bandwidth

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

3.2.2 Test Setup



3.2.3 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)
5.25-5.35GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_3TX	20M	16.57M	16M6D1D	19.275M	16.425M
802.11ac VHT20_Nss3,(MCS0)_3TX	31.232M	17.8M	17M8D1D	21.957M	17.583M
802.11ac VHT40_Nss3,(MCS0)_3TX	77.681M	36.903M	36M9D1D	39.565M	35.89M
802.11ac VHT80_Nss3,(MCS0)_3TX	80.58M	74.964M	75M0D1D	79.71M	74.964M
5.47-5.725GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_3TX	24.855M	16.715M	16M7D1D	19.638M	16.425M
802.11ac VHT20_Nss3,(MCS0)_3TX	41.812M	20.839M	20M8D1D	19.783M	17.583M
802.11ac VHT40_Nss3,(MCS0)_3TX	82.754M	40.955M	41M0D1D	39.855M	36.035M
802.11ac VHT80_Nss3,(MCS0)_3TX	84.928M	75.253M	75M3D1D	80.29M	74.964M

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

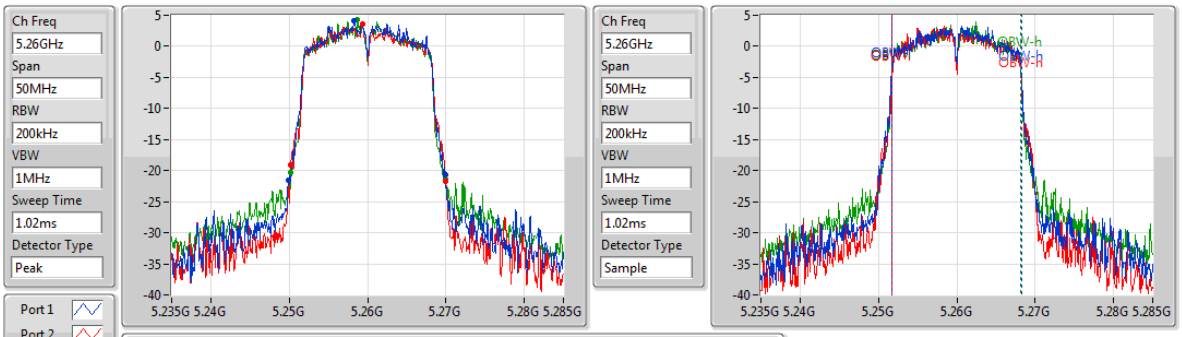
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)
802.11a_Nss1,(6Mbps)_3TX	-	-	-	-	-	-	-	-
5260MHz	Pass	Inf	20M	16.57M	19.855M	16.498M	19.71M	16.425M
5300MHz	Pass	Inf	19.783M	16.57M	19.928M	16.425M	19.275M	16.425M
5320MHz	Pass	Inf	19.71M	16.498M	19.928M	16.498M	19.275M	16.425M
5500MHz	Pass	Inf	24.348M	16.643M	20.29M	16.425M	19.638M	16.425M
5580MHz	Pass	Inf	24.855M	16.715M	19.783M	16.498M	19.638M	16.425M
5700MHz	Pass	Inf	22.536M	16.57M	24.493M	16.57M	24.493M	16.425M
802.11ac VHT20_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-
5260MHz	Pass	Inf	29.855M	17.728M	27.609M	17.728M	29.638M	17.8M
5300MHz	Pass	Inf	29.565M	17.728M	27.681M	17.728M	31.232M	17.728M
5320MHz	Pass	Inf	21.957M	17.656M	22.754M	17.656M	21.957M	17.583M
5500MHz	Pass	Inf	21.232M	17.656M	19.783M	17.583M	19.855M	17.583M
5580MHz	Pass	Inf	41.812M	20.839M	33.333M	17.8M	33.841M	18.017M
5700MHz	Pass	Inf	22.319M	17.583M	22.391M	17.583M	20.217M	17.583M
802.11ac VHT40_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-
5270MHz	Pass	Inf	72.319M	36.469M	69.275M	36.324M	77.681M	36.903M
5310MHz	Pass	Inf	40.725M	36.035M	39.565M	36.035M	40.29M	35.89M
5510MHz	Pass	Inf	43.623M	36.179M	39.855M	36.035M	40.29M	36.035M
5550MHz	Pass	Inf	82.754M	40.955M	70.725M	36.469M	65.072M	36.324M
5670MHz	Pass	Inf	65.652M	36.324M	40.435M	36.035M	40.725M	36.179M
802.11ac VHT80_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-
5290MHz	Pass	Inf	80.58M	74.964M	80M	74.964M	79.71M	74.964M
5530MHz	Pass	Inf	84.928M	75.253M	80.29M	74.964M	80.29M	74.964M

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

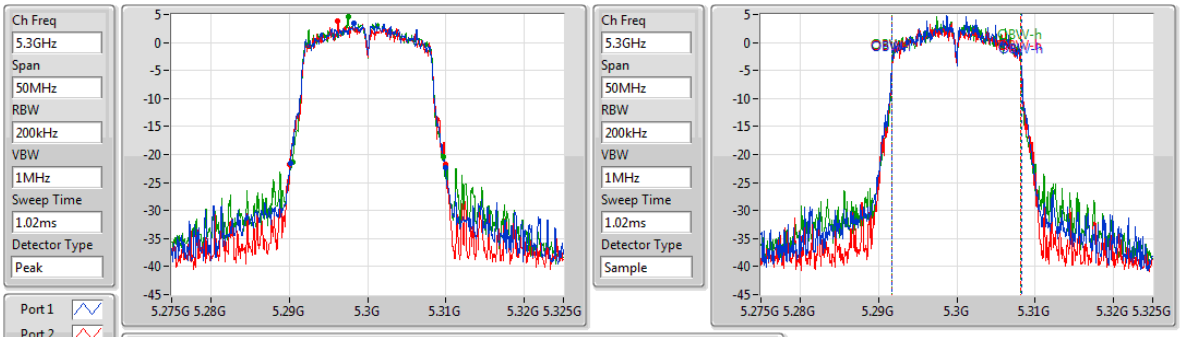
5260MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20M	5.249928G	5.269928G	16.57M	5.251679G	5.268249G	Inf	1
19.855M	5.250145G	5.27G	16.498M	5.251751G	5.268249G	Inf	2
19.71M	5.250217G	5.269928G	16.425M	5.251751G	5.268177G	Inf	3

802.11a_Nss1,(6Mbps)_3TX EBW

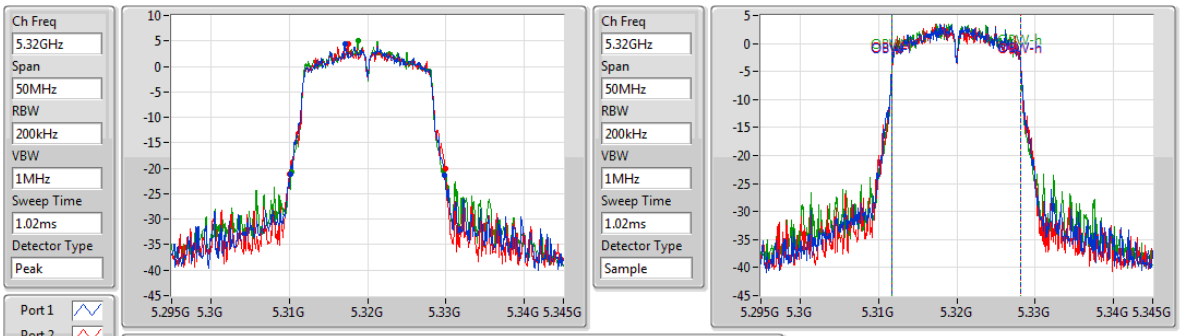
5300MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.783M	5.290145G	5.309928G	16.57M	5.291679G	5.308249G	Inf	1
19.928M	5.290072G	5.31G	16.425M	5.291751G	5.308177G	Inf	2
19.275M	5.290435G	5.30971G	16.425M	5.291751G	5.308177G	Inf	3

802.11a_Nss1,(6Mbps)_3TX EBW

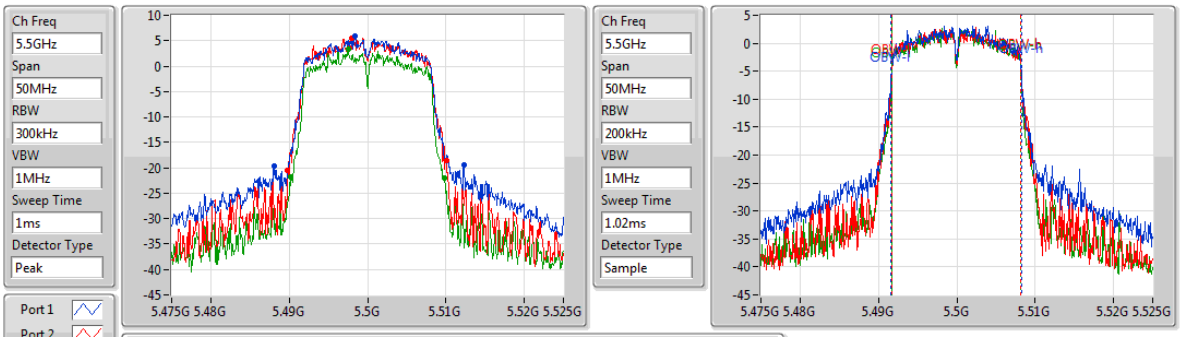
5320MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.71M	5.310145G	5.329855G	16.498M	5.311679G	5.328177G	Inf	1
19.928M	5.31G	5.329928G	16.498M	5.311679G	5.328177G	Inf	2
19.275M	5.310362G	5.329638G	16.425M	5.311751G	5.328177G	Inf	3

802.11a_Nss1,(6Mbps)_3TX EBW

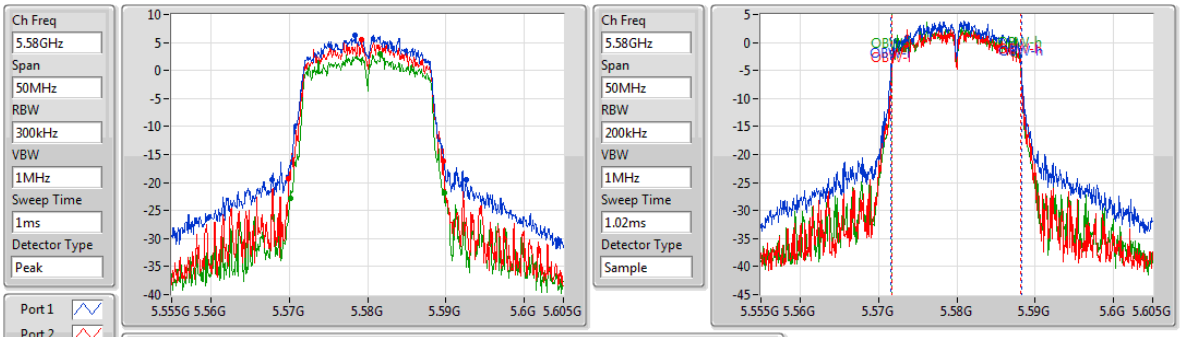
5500MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
24.348M	5.488043G	5.512391G	16.643M	5.491606G	5.508249G	Inf	1
20.29M	5.489783G	5.510072G	16.425M	5.491751G	5.508177G	Inf	2
19.638M	5.490217G	5.509855G	16.425M	5.491751G	5.508177G	Inf	3

802.11a_Nss1,(6Mbps)_3TX EBW

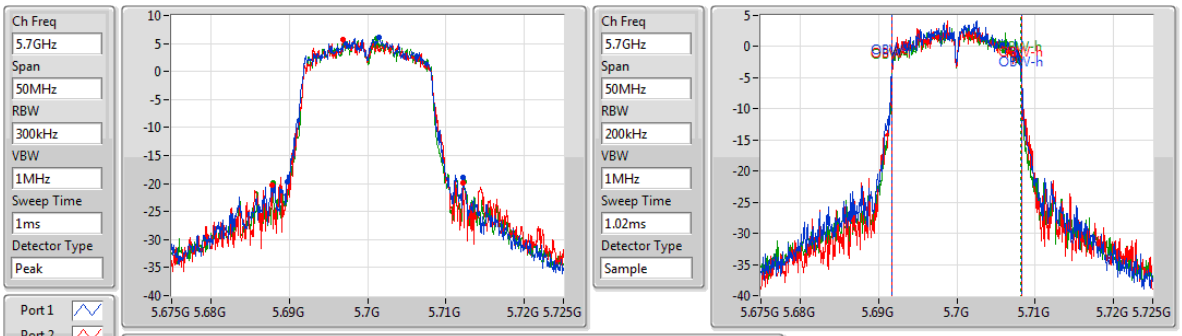
5580MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
24.855M	5.567754G	5.592609G	16.715M	5.571534G	5.588249G	Inf	1
19.783M	5.569928G	5.58971G	16.498M	5.571679G	5.588177G	Inf	2
19.638M	5.570145G	5.589783G	16.425M	5.571751G	5.588177G	Inf	3

802.11a_Nss1,(6Mbps)_3TX EBW

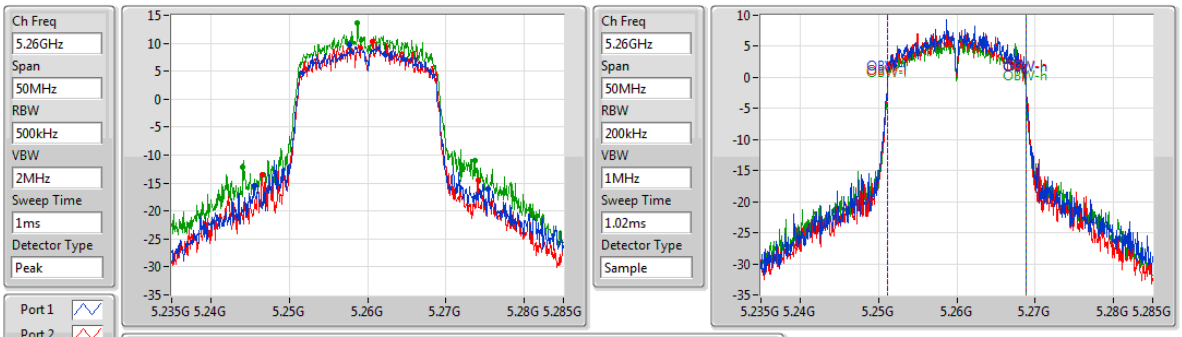
5700MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
22.536M	5.68971G	5.712246G	16.57M	5.691679G	5.708249G	Inf	1
24.493M	5.687754G	5.712246G	16.57M	5.691679G	5.708249G	Inf	2
24.493M	5.687899G	5.712391G	16.425M	5.691751G	5.708177G	Inf	3

802.11ac VHT20_Nss3,(MCS0)_3TX EBW

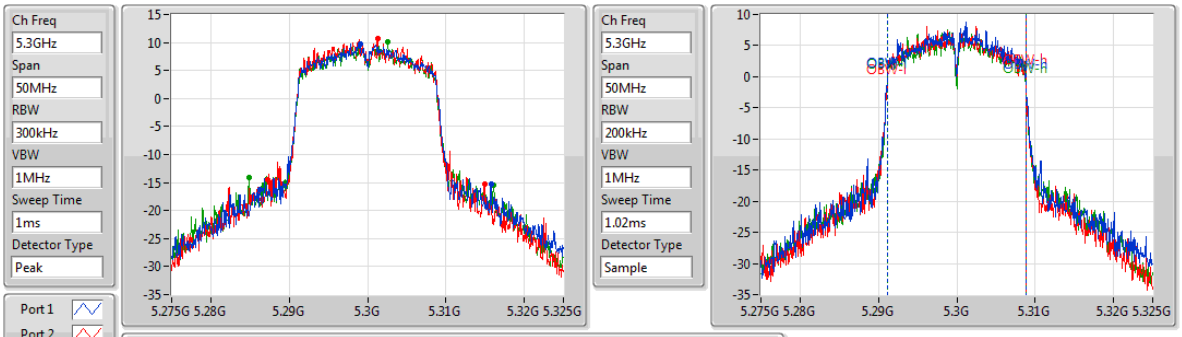
5260MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
29.855M	5.24558G	5.275435G	17.728M	5.2511G	5.268828G	Inf	1
27.609M	5.246522G	5.27413G	17.728M	5.2511G	5.268828G	Inf	2
29.638M	5.244058G	5.273696G	17.8M	5.2511G	5.2689G	Inf	3

802.11ac VHT20_Nss3,(MCS0)_3TX EBW

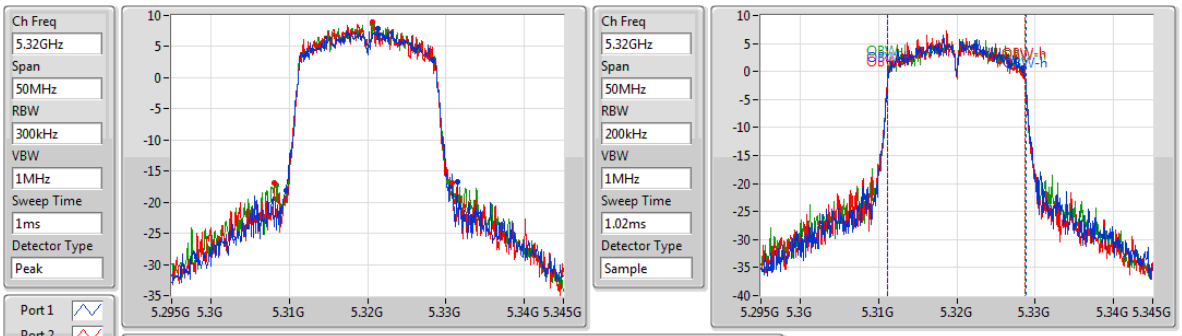
5300MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
29.565M	5.286232G	5.315797G	17.728M	5.2911G	5.308828G	Inf	1
27.681M	5.287246G	5.314928G	17.728M	5.2911G	5.308828G	Inf	2
31.232M	5.284855G	5.316087G	17.728M	5.2911G	5.308828G	Inf	3

802.11ac VHT20_Nss3,(MCS0)_3TX EBW

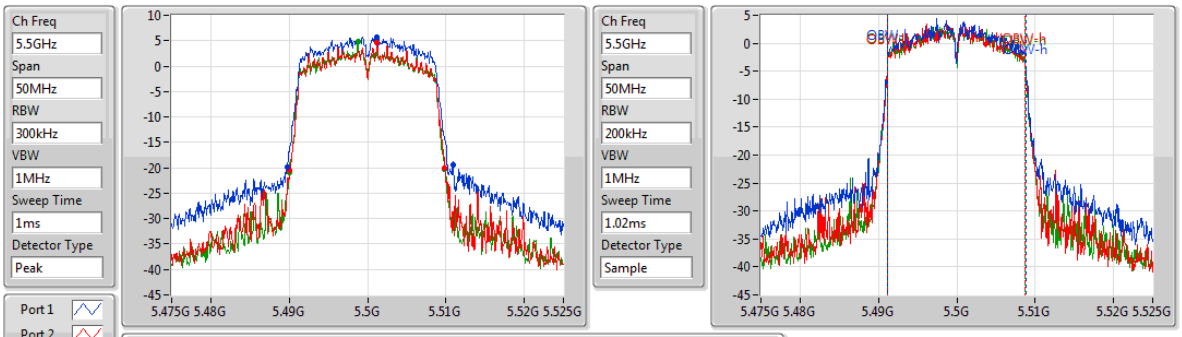
5320MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
21.957M	5.309565G	5.331522G	17.656M	5.311172G	5.328828G	Inf	1
22.754M	5.308043G	5.330797G	17.656M	5.3111G	5.328755G	Inf	2
21.957M	5.308406G	5.330362G	17.583M	5.311172G	5.328755G	Inf	3

802.11ac VHT20_Nss3,(MCS0)_3TX EBW

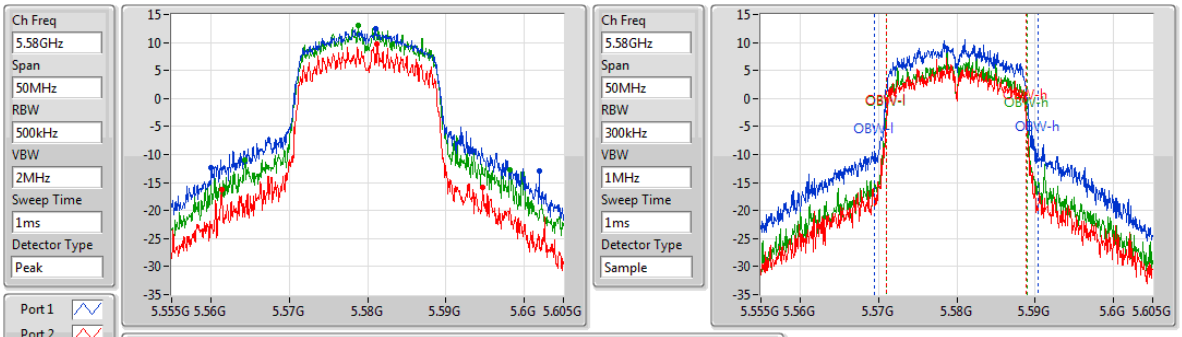
5500MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
21.232M	5.48971G	5.510942G	17.656M	5.491172G	5.508828G	Inf	1
19.783M	5.490072G	5.509855G	17.583M	5.491172G	5.508755G	Inf	2
19.855M	5.49G	5.509855G	17.583M	5.491172G	5.508755G	Inf	3

802.11ac VHT20_Nss3,(MCS0)_3TX EBW

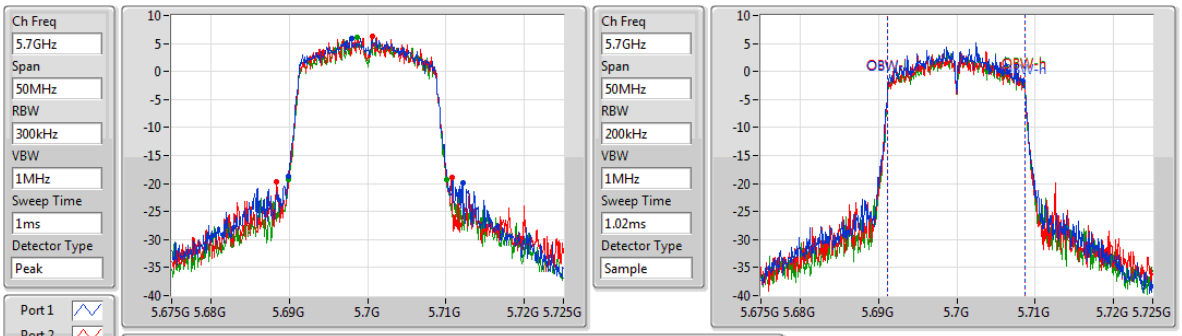
5580MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
41.812M	5.560072G	5.601884G	20.839M	5.569508G	5.590347G	Inf	1
33.333M	5.561377G	5.59471G	17.8M	5.571027G	5.588828G	Inf	2
33.841M	5.564275G	5.598116G	18.017M	5.570955G	5.588973G	Inf	3

802.11ac VHT20_Nss3,(MCS0)_3TX EBW

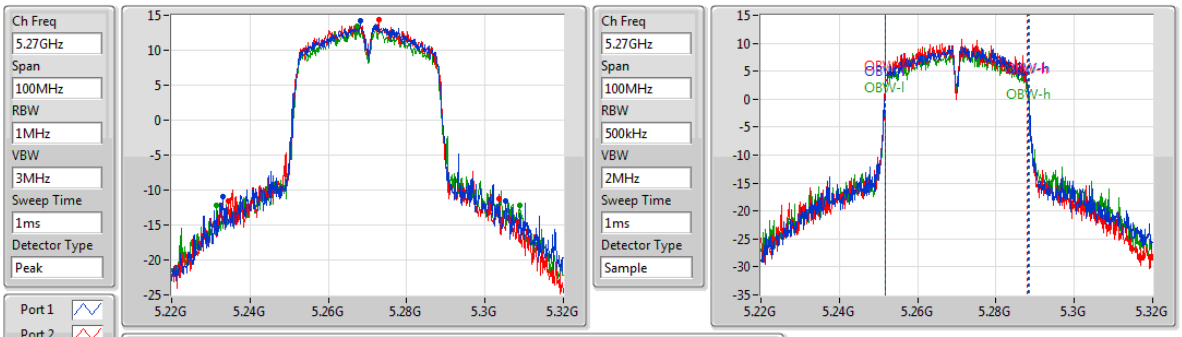
5700MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
22.319M	5.689855G	5.712174G	17.583M	5.691172G	5.708755G	Inf	1
22.391M	5.688333G	5.710725G	17.583M	5.691172G	5.708755G	Inf	2
20.217M	5.689855G	5.710072G	17.583M	5.691172G	5.708755G	Inf	3

802.11ac VHT40_Nss3,(MCS0)_3TX EBW

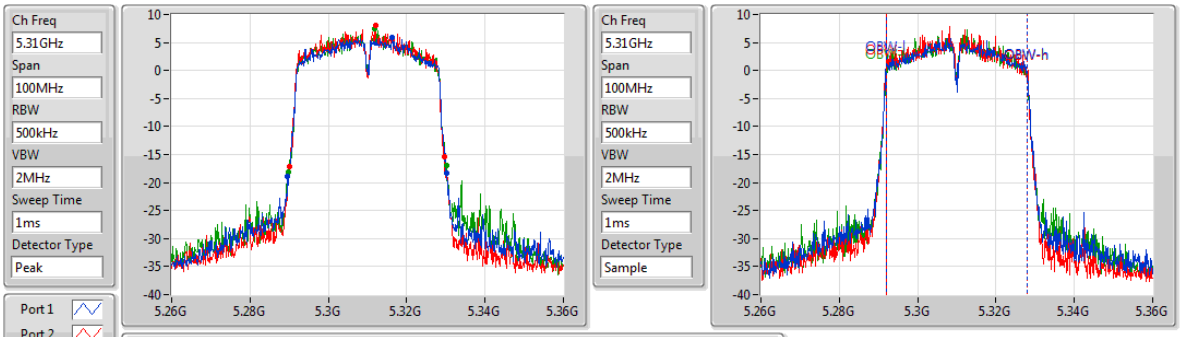
5270MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
72.319M	5.233043G	5.305362G	36.469M	5.251766G	5.288234G	Inf	1
69.275M	5.234348G	5.303623G	36.324M	5.251766G	5.28809G	Inf	2
77.681M	5.231304G	5.308986G	36.903M	5.251621G	5.288524G	Inf	3

802.11ac VHT40_Nss3,(MCS0)_3TX EBW

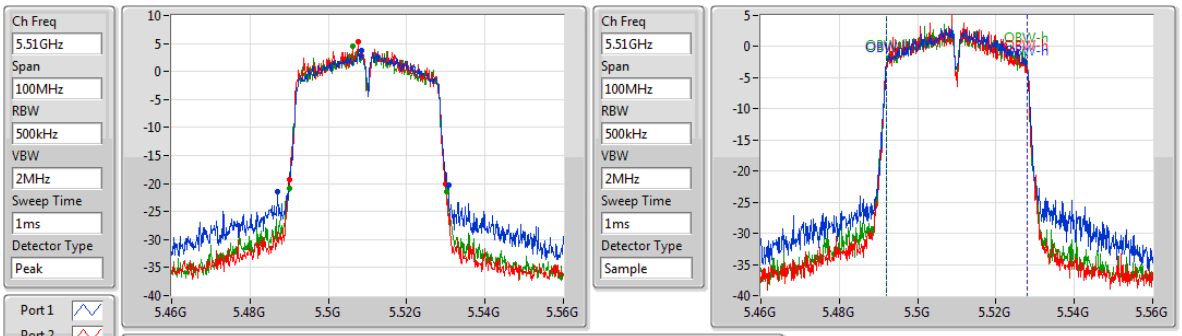
5310MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
40.725M	5.289565G	5.33029G	36.035M	5.29191G	5.327945G	Inf	1
39.565M	5.29G	5.329565G	36.035M	5.29191G	5.327945G	Inf	2
40.29M	5.289855G	5.330145G	35.89M	5.292055G	5.327945G	Inf	3

802.11ac VHT40_Nss3,(MCS0)_3TX EBW

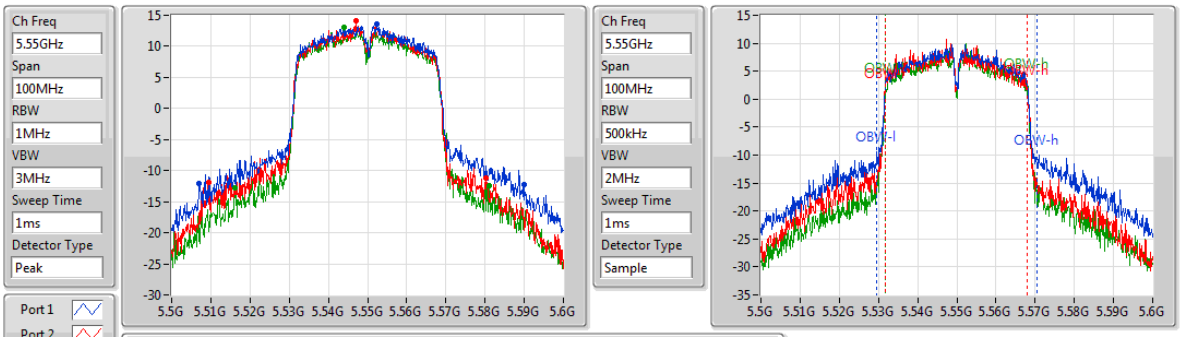
5510MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
43.623M	5.487101G	5.530725G	36.179M	5.49191G	5.52809G	Inf	1
39.855M	5.490145G	5.53G	36.035M	5.49191G	5.527945G	Inf	2
40.29M	5.49G	5.53029G	36.035M	5.49191G	5.527945G	Inf	3

802.11ac VHT40_Nss3,(MCS0)_3TX EBW

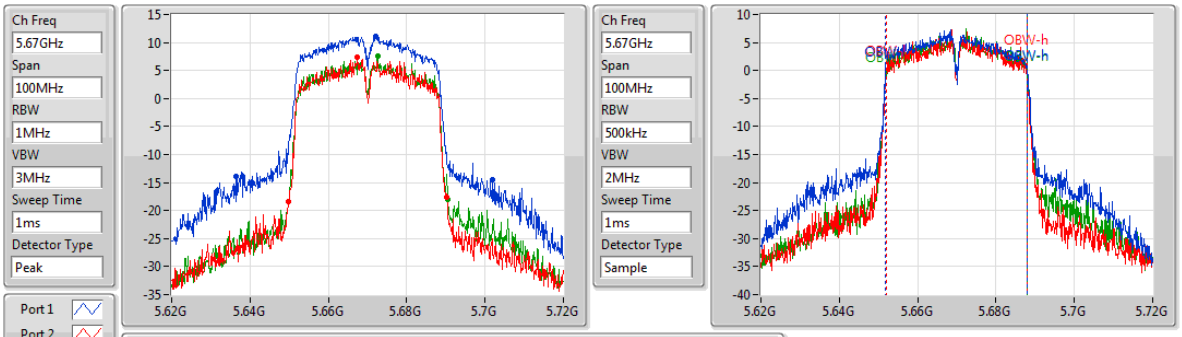
5550MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
82.754M	5.507101G	5.589855G	40.955M	5.52945G	5.570405G	Inf	1
70.725M	5.509565G	5.58029G	36.469M	5.531621G	5.56809G	Inf	2
65.072M	5.516087G	5.581159G	36.324M	5.531766G	5.56809G	Inf	3

802.11ac VHT40_Nss3,(MCS0)_3TX EBW

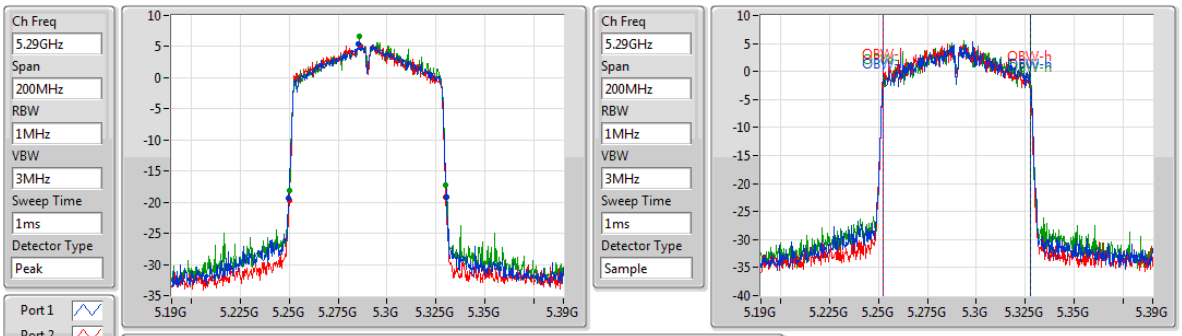
5670MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
65.652M	5.636377G	5.702029G	36.324M	5.651766G	5.68809G	Inf	1
40.435M	5.649855G	5.69029G	36.035M	5.65191G	5.687945G	Inf	2
40.725M	5.649855G	5.69058G	36.179M	5.65191G	5.68809G	Inf	3

802.11ac VHT80_Nss3,(MCS0)_3TX EBW

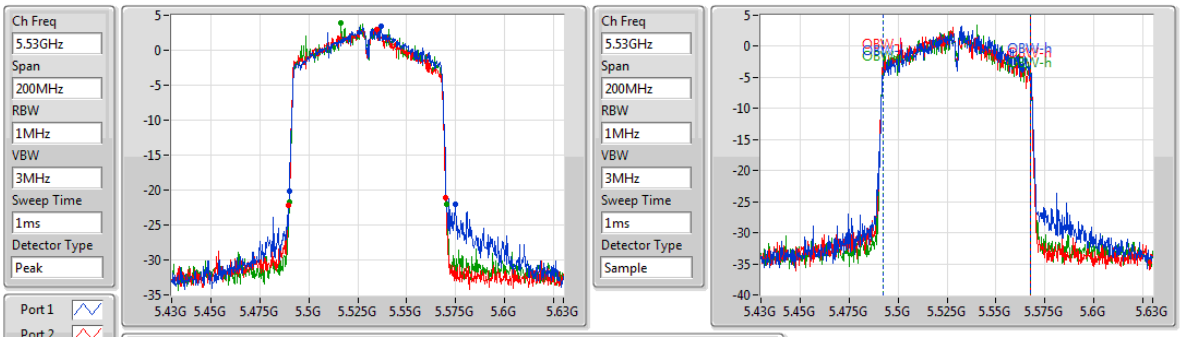
5290MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
80.58M	5.24971G	5.33029G	74.964M	5.252373G	5.327337G	Inf	1
80M	5.25G	5.33G	74.964M	5.252373G	5.327337G	Inf	2
79.71M	5.25029G	5.33G	74.964M	5.252373G	5.327337G	Inf	3

802.11ac VHT80_Nss3,(MCS0)_3TX **EBW**

5530MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
84.928M	5.49G	5.574928G	75.253M	5.492373G	5.567627G	Inf	1
80.29M	5.48971G	5.57G	74.964M	5.492373G	5.567337G	Inf	2
80.29M	5.49G	5.57029G	74.964M	5.492373G	5.567337G	Inf	3

Beamforming mode

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.25-5.35GHz	-	-	-	-	-
802.11ac VHT20-BF_Nss3,(MCS0)_3TX	27.319M	17.873M	17M9D1D	20.507M	17.656M
802.11ac VHT40-BF_Nss3,(MCS0)_3TX	48.406M	36.469M	36M5D1D	40.87M	36.179M
802.11ac VHT80-BF_Nss3,(MCS0)_3TX	81.739M	75.832M	75M8D1D	81.449M	75.832M
5.47-5.725GHz	-	-	-	-	-
802.11ac VHT20-BF_Nss3,(MCS0)_3TX	37.029M	18.234M	18M2D1D	20.507M	17.656M
802.11ac VHT40-BF_Nss3,(MCS0)_3TX	76.957M	37.482M	37M5D1D	40.725M	36.324M
802.11ac VHT80-BF_Nss3,(MCS0)_3TX	82.029M	76.122M	76M1D1D	81.449M	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;

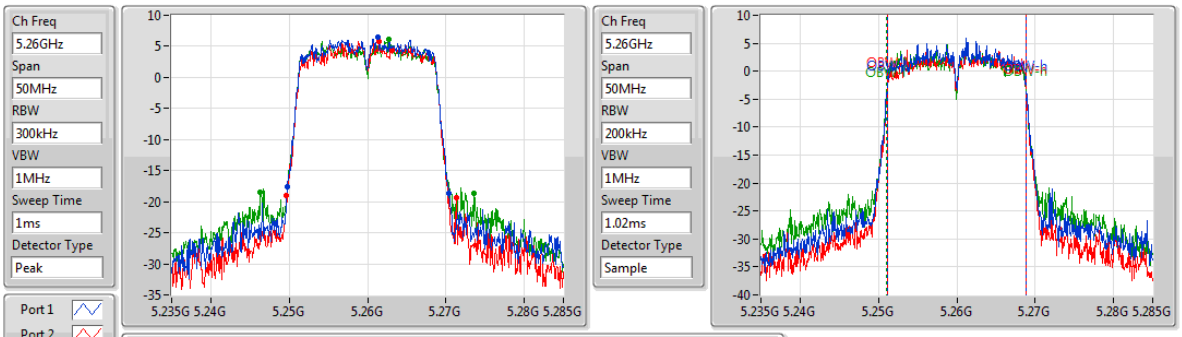
Result

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	-	-	-	-	-	-	-	-
5260MHz	Pass	Inf	20.725M	17.8M	21.667M	17.656M	27.319M	17.873M
5300MHz	Pass	Inf	20.652M	17.8M	20.507M	17.728M	26.449M	17.873M
5320MHz	Pass	Inf	20.725M	17.8M	20.58M	17.728M	20.652M	17.728M
5500MHz	Pass	Inf	22.464M	17.8M	20.58M	17.656M	20.58M	17.656M
5580MHz	Pass	Inf	37.029M	18.234M	25.435M	17.8M	24.348M	17.873M
5700MHz	Pass	Inf	20.652M	17.728M	20.507M	17.728M	20.652M	17.873M
802.11ac VHT40-BF_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-
5270MHz	Pass	Inf	48.406M	36.324M	45.652M	36.179M	47.246M	36.469M
5310MHz	Pass	Inf	41.304M	36.324M	40.87M	36.324M	46.522M	36.469M
5510MHz	Pass	Inf	50.435M	36.469M	41.014M	36.324M	40.725M	36.324M
5550MHz	Pass	Inf	76.957M	37.482M	62.609M	36.469M	63.623M	36.324M
5670MHz	Pass	Inf	76.522M	37.048M	53.333M	36.469M	57.681M	36.469M
802.11ac VHT80-BF_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-
5290MHz	Pass	Inf	81.449M	75.832M	81.739M	75.832M	81.739M	75.832M
5530MHz	Pass	Inf	81.739M	75.832M	81.449M	76.122M	82.029M	76.122M

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

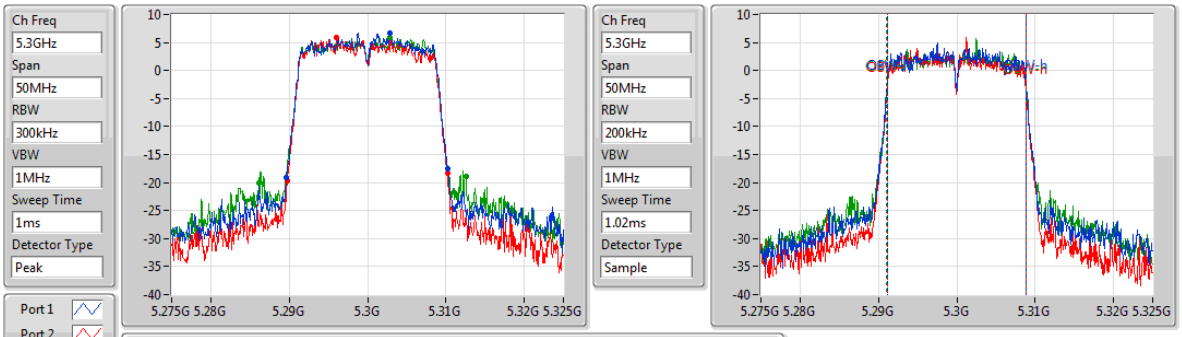
5260MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.725M	5.24971G	5.270435G	17.8M	5.2511G	5.2689G	Inf	1
21.667M	5.249638G	5.271304G	17.656M	5.251172G	5.268828G	Inf	2
27.319M	5.246304G	5.273623G	17.873M	5.251027G	5.2689G	Inf	3

802.11ac VHT20-BF_Nss3,(MCS0)_3TX EBW

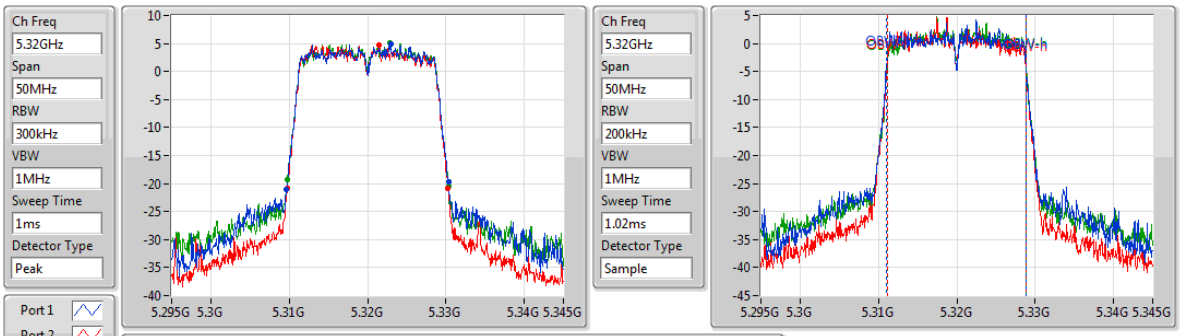
5300MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.652M	5.289638G	5.31029G	17.8M	5.2911G	5.3089G	Inf	1
20.507M	5.28971G	5.310217G	17.728M	5.2911G	5.308828G	Inf	2
26.449M	5.286087G	5.312536G	17.873M	5.291027G	5.3089G	Inf	3

802.11ac VHT20-BF_Nss3,(MCS0)_3TX EBW

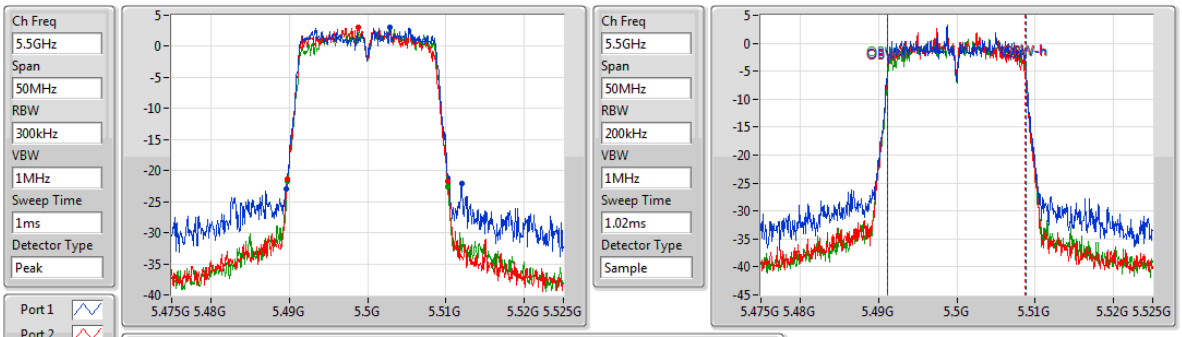
5320MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.725M	5.309638G	5.330362G	17.8M	5.311027G	5.328828G	Inf	1
20.58M	5.30971G	5.33029G	17.728M	5.3111G	5.328828G	Inf	2
20.652M	5.30971G	5.330362G	17.728M	5.3111G	5.328828G	Inf	3

802.11ac VHT20-BF_Nss3,(MCS0)_3TX EBW

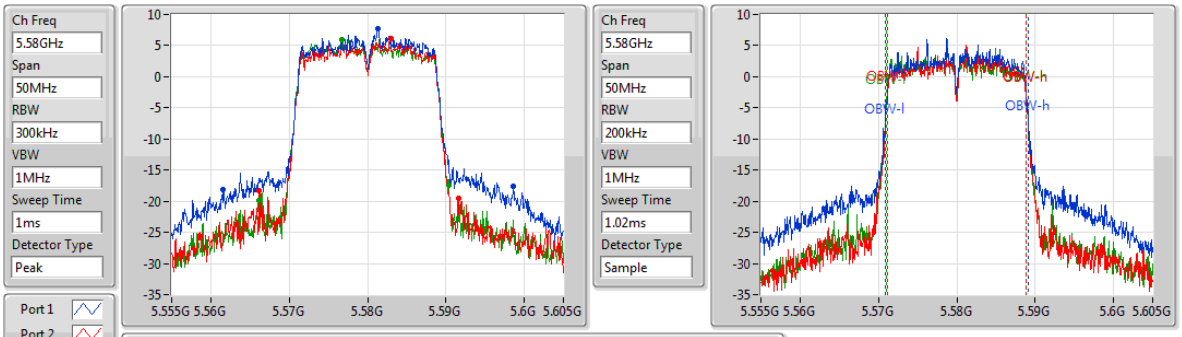
5500MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
22.464M	5.489565G	5.512029G	17.8M	5.4911G	5.5089G	Inf	1
20.58M	5.48971G	5.51029G	17.656M	5.4911G	5.508755G	Inf	2
20.58M	5.48971G	5.51029G	17.656M	5.491172G	5.508828G	Inf	3

802.11ac VHT20-BF_Nss3,(MCS0)_3TX EBW

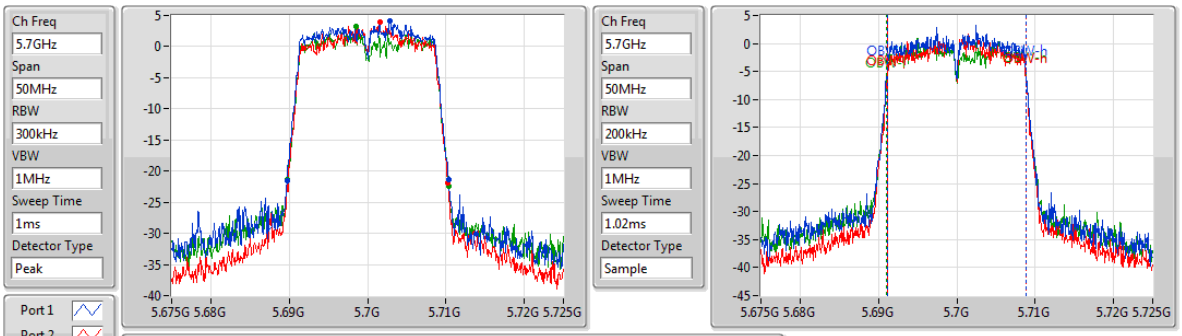
5580MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
37.029M	5.561594G	5.598623G	18.234M	5.570883G	5.589117G	Inf	1
25.435M	5.566159G	5.591594G	17.8M	5.5711G	5.5889G	Inf	2
24.348M	5.566087G	5.590435G	17.873M	5.571027G	5.5889G	Inf	3

802.11ac VHT20-BF_Nss3,(MCS0)_3TX EBW

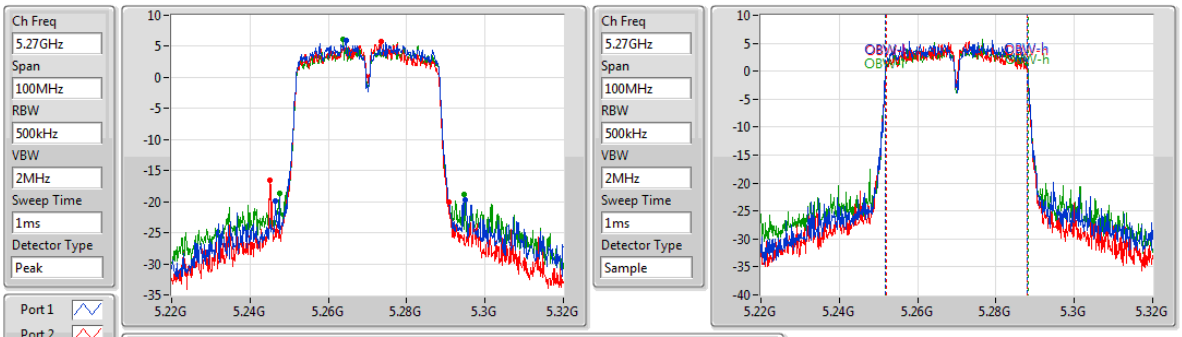
5700MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.652M	5.68971G	5.710362G	17.728M	5.6911G	5.708828G	Inf	1
20.507M	5.689783G	5.71029G	17.728M	5.6911G	5.708828G	Inf	2
20.652M	5.68971G	5.710362G	17.873M	5.691027G	5.7089G	Inf	3

802.11ac VHT40-BF_Nss3,(MCS0)_3TX EBW

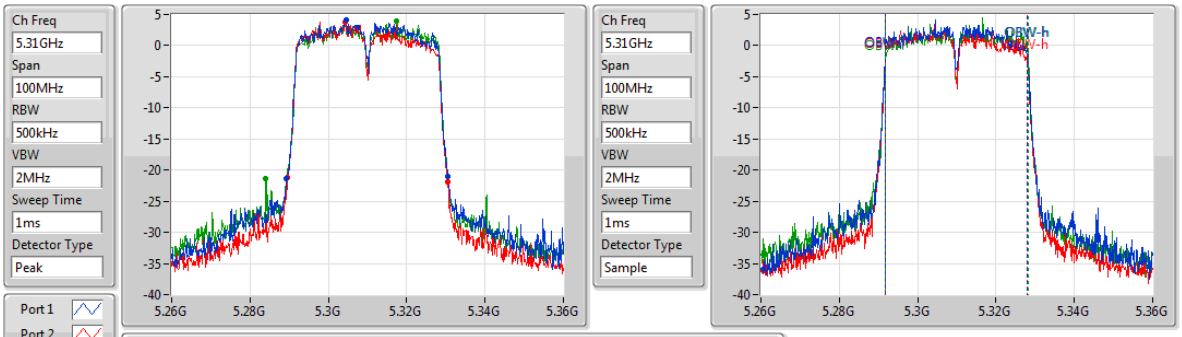
5270MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
48.406M	5.246522G	5.294928G	36.324M	5.251766G	5.28809G	Inf	1
45.652M	5.245072G	5.290725G	36.179M	5.25191G	5.28809G	Inf	2
47.246M	5.247536G	5.294783G	36.469M	5.251766G	5.288234G	Inf	3

802.11ac VHT40-BF_Nss3,(MCS0)_3TX EBW

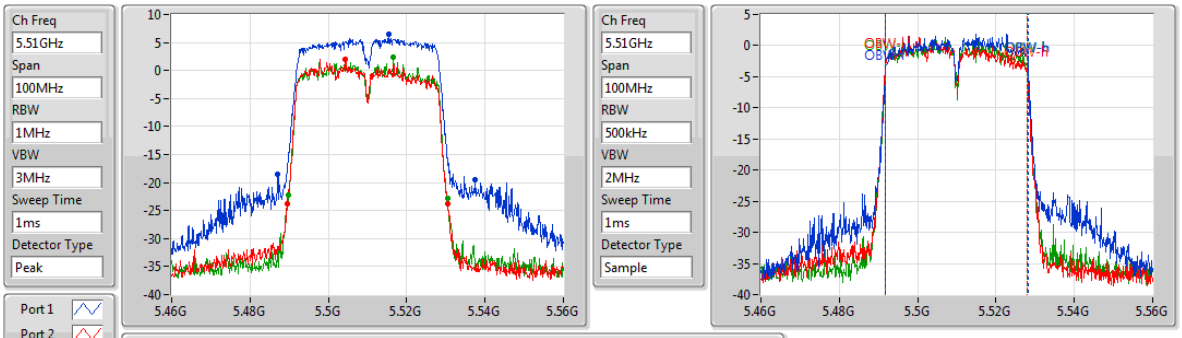
5310MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
41.304M	5.289275G	5.33058G	36.324M	5.291766G	5.32809G	Inf	1
40.87M	5.289565G	5.330435G	36.324M	5.291766G	5.32809G	Inf	2
46.522M	5.284058G	5.33058G	36.469M	5.291766G	5.328234G	Inf	3

802.11ac VHT40-BF_Nss3,(MCS0)_3TX EBW

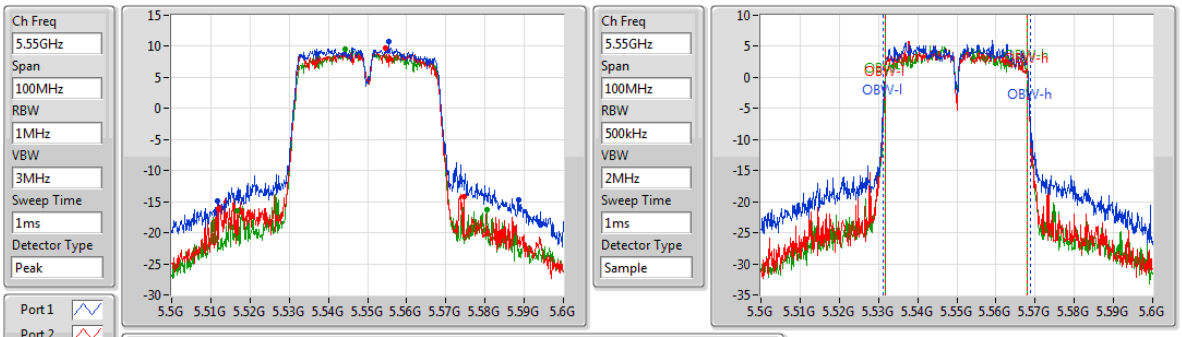
5510MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
50.435M	5.487101G	5.537536G	36.469M	5.491766G	5.528234G	Inf	1
41.014M	5.48942G	5.530435G	36.324M	5.491766G	5.52809G	Inf	2
40.725M	5.48971G	5.530435G	36.324M	5.491766G	5.52809G	Inf	3

802.11ac VHT40-BF_Nss3,(MCS0)_3TX EBW

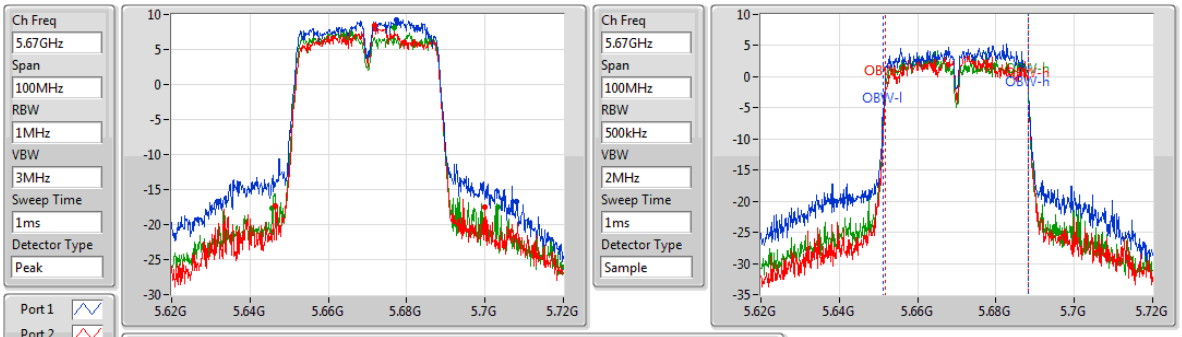
5550MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
76.957M	5.511594G	5.588551G	37.482M	5.531187G	5.568669G	Inf	1
62.609M	5.512029G	5.574638G	36.469M	5.531621G	5.56809G	Inf	2
63.623M	5.516812G	5.580435G	36.324M	5.531766G	5.56809G	Inf	3

802.11ac VHT40-BF_Nss3,(MCS0)_3TX EBW

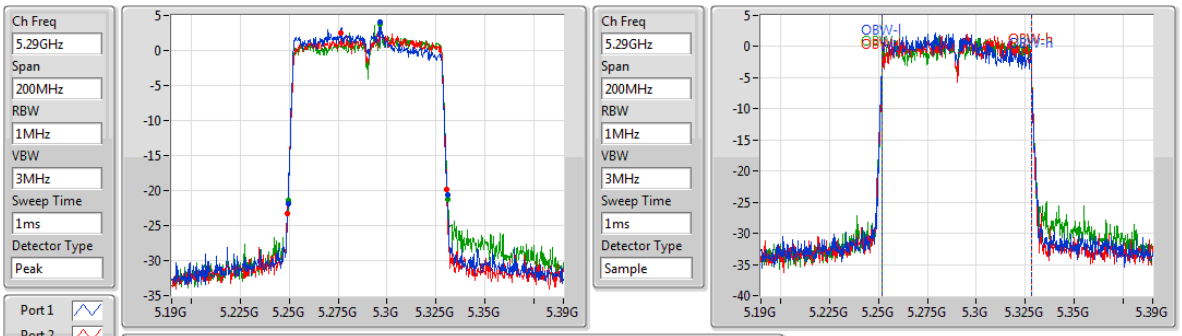
5670MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
76.522M	5.631594G	5.708116G	37.048M	5.651331G	5.688379G	Inf	1
53.333M	5.646522G	5.699855G	36.469M	5.651766G	5.688234G	Inf	2
57.681M	5.645507G	5.703188G	36.469M	5.651766G	5.688234G	Inf	3

802.11ac VHT80-BF_Nss3,(MCS0)_3TX EBW

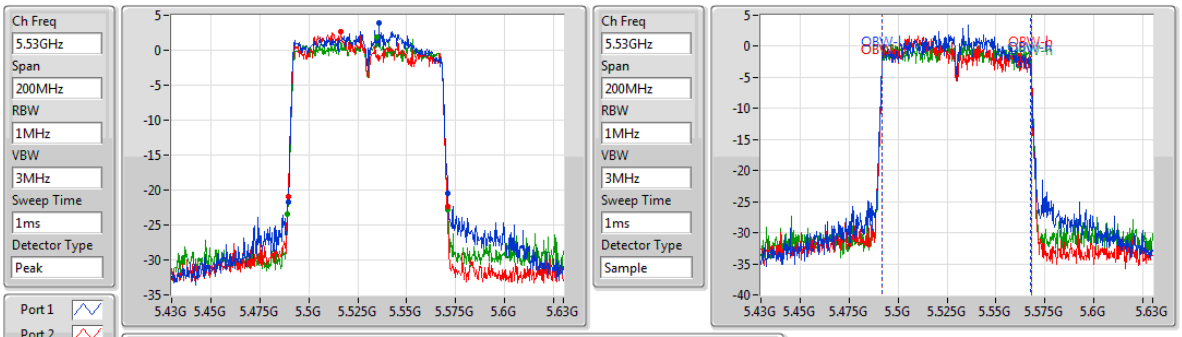
5290MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
81.449M	5.24942G	5.33087G	75.832M	5.252084G	5.327916G	Inf	1
81.739M	5.248841G	5.33058G	75.832M	5.252084G	5.327916G	Inf	2
81.739M	5.24942G	5.331159G	75.832M	5.252084G	5.327916G	Inf	3

802.11ac VHT80-BF_Nss3,(MCS0)_3TX **EBW**

5530MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
81.739M	5.48942G	5.571159G	75.832M	5.491795G	5.567627G	Inf	1
81.449M	5.48942G	5.57087G	76.122M	5.491795G	5.567916G	Inf	2
82.029M	5.48913G	5.571159G	76.122M	5.491795G	5.567916G	Inf	3

3.3 RF Output Power

3.3.1 Limit of RF Output Power

Frequency Band (MHz)		Limit
☒	5250 ~ 5350	250mW or 11dBm+10 log B
☒	5470 ~ 5725	250mW or 11dBm+10 log B
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)
5.25-5.35GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_3TX	18.57	0.07194	23.11	0.20464
802.11ac VHT20_Nss3,(MCS0)_3TX	22.21	0.16634	26.75	0.47315
802.11ac VHT40_Nss3,(MCS0)_3TX	22.92	0.19588	27.46	0.55719
802.11ac VHT80_Nss3,(MCS0)_3TX	17.19	0.05236	21.73	0.14894
5.47-5.725GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_3TX	18.72	0.07447	23.42	0.21979
802.11ac VHT20_Nss3,(MCS0)_3TX	22.40	0.17378	27.10	0.51286
802.11ac VHT40_Nss3,(MCS0)_3TX	22.35	0.17179	27.05	0.50699
802.11ac VHT80_Nss3,(MCS0)_3TX	15.79	0.03793	20.49	0.11194

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	-	-	-	-	-	-	-	-	-
5260MHz	Pass	4.54	14.1	13.46	13.7	18.53	23.95	23.07	29.95
5300MHz	Pass	4.54	14.01	13.56	13.8	18.57	23.85	23.11	29.85
5320MHz	Pass	4.54	13.95	13.52	13.84	18.55	23.85	23.09	29.85
5500MHz	Pass	4.70	13.97	13.53	13.84	18.56	23.93	23.26	29.93
5580MHz	Pass	4.70	14.53	13.41	13.75	18.69	23.93	23.39	29.93
5700MHz	Pass	4.70	14.3	13.78	13.74	18.72	24.00	23.42	30.00
802.11ac VHT20_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5260MHz	Pass	4.54	17.82	17.32	16.87	22.13	24.00	26.67	30.00
5300MHz	Pass	4.54	17.89	17.3	17.1	22.21	24.00	26.75	30.00
5320MHz	Pass	4.54	16.35	15.9	16.03	20.87	24.00	25.41	30.00
5500MHz	Pass	4.70	14.39	13.82	13.74	18.76	23.96	23.46	29.96
5580MHz	Pass	4.70	18.26	17.02	17.51	22.40	24.00	27.10	30.00
5700MHz	Pass	4.70	14.47	13.56	13.64	18.68	24.00	23.38	30.00
802.11ac VHT40_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5270MHz	Pass	4.54	18.66	18.06	17.68	22.92	24.00	27.46	30.00
5310MHz	Pass	4.54	14.75	14.17	14.28	19.18	24.00	23.72	30.00
5510MHz	Pass	4.70	12.26	11.56	11.57	16.58	24.00	21.28	30.00
5550MHz	Pass	4.70	18.09	17.46	17.14	22.35	24.00	27.05	30.00
5670MHz	Pass	4.70	16.3	14.59	15.02	20.14	24.00	24.84	30.00
802.11ac VHT80_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5290MHz	Pass	4.54	12.74	12.15	12.35	17.19	24.00	21.73	30.00
5530MHz	Pass	4.70	11.21	10.81	11.02	15.79	24.00	20.49	30.00

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

Beamforming mode

Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.25-5.35GHz	-	-	-	-
802.11ac VHT20-BF_Nss3,(MCS0)_3TX	19.69	0.09311	29.00	0.79433
802.11ac VHT40-BF_Nss3,(MCS0)_3TX	20.02	0.10046	29.33	0.85704
802.11ac VHT80-BF_Nss3,(MCS0)_3TX	15.41	0.03475	24.72	0.29648
5.47-5.725GHz	-	-	-	-
802.11ac VHT20-BF_Nss3,(MCS0)_3TX	19.02	0.07980	28.49	0.70632
802.11ac VHT40-BF_Nss3,(MCS0)_3TX	20.34	0.10814	29.81	0.95719
802.11ac VHT80-BF_Nss3,(MCS0)_3TX	15.09	0.03228	24.56	0.28576

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	-	-	-	-	-	-	-	-	-
5260MHz	Pass	9.31	15.36	14.38	14.75	19.62	20.69	28.93	30.00
5300MHz	Pass	9.31	15.19	14.81	14.75	19.69	20.69	29.00	30.00
5320MHz	Pass	9.31	13.47	13.16	13.27	18.07	20.69	27.38	30.00
5500MHz	Pass	9.47	11.46	11.28	11.42	16.16	20.53	25.63	30.00
5580MHz	Pass	9.47	14.92	13.15	14.48	19.02	20.53	28.49	30.00
5700MHz	Pass	9.47	11.55	11.54	11.59	16.33	20.53	25.80	30.00
802.11ac VHT40-BF_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5270MHz	Pass	9.31	15.55	14.83	15.34	20.02	20.69	29.33	30.00
5310MHz	Pass	9.31	12.26	12.13	12.31	17.01	20.69	26.32	30.00
5510MHz	Pass	9.47	11.35	10.51	11.46	15.90	20.53	25.37	30.00
5550MHz	Pass	9.47	15.61	15.58	15.51	20.34	20.53	29.81	30.00
5670MHz	Pass	9.47	14.91	13.35	14.38	19.03	20.53	28.50	30.00
802.11ac VHT80-BF_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5290MHz	Pass	9.31	10.85	10.15	10.89	15.41	20.69	24.72	30.00
5530MHz	Pass	9.47	10.56	9.83	10.52	15.09	20.53	24.56	30.00

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

Note:

5252-5350MHz: Directional gain=4.54dBi+10*log(3/1)=9.31dBi > 6dBi, limit shall be reduced to 24dBm-(9.31dBi-6dBi) =20.69dBm.

5470-5725MHz: Directional gain=4.70dBi+10*log(3/1)=9.47dBi > 6dBi, limit shall be reduced to 24dBm-(9.47dBi-6dBi) =20.53dBm.

3.4 Peak Power Spectral Density

3.4.1 Limit of Peak Power Spectral Density

Frequency Band (MHz)		Limit
☒	5250 ~ 5350	11 dBm / MHz
☒	5470 ~ 5725	11 dBm / MHz

3.4.2 Test Procedures

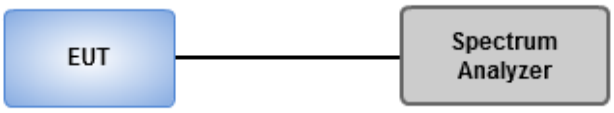
Duty cycle ≥ 98 %

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

Duty cycle < 98 %

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

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)
5.25-5.35GHz	-	-
802.11a_Nss1,(6Mbps)_3TX	7.18	16.49
802.11ac VHT20_Nss3,(MCS0)_3TX	10.63	15.17
802.11ac VHT40_Nss3,(MCS0)_3TX	8.42	12.96
802.11ac VHT80_Nss3,(MCS0)_3TX	-0.19	4.35
5.47-5.725GHz	-	-
802.11a_Nss1,(6Mbps)_3TX	7.22	16.69
802.11ac VHT20_Nss3,(MCS0)_3TX	10.60	15.30
802.11ac VHT40_Nss3,(MCS0)_3TX	7.71	12.41
802.11ac VHT80_Nss3,(MCS0)_3TX	-2.39	2.31

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	-	-	-	-	-	-	-	-	-
5260MHz	Pass	9.31	2.76	2.11	2.19	7.11	7.69	16.42	17.00
5300MHz	Pass	9.31	2.74	2.03	2.44	7.17	7.69	16.48	17.00
5320MHz	Pass	9.31	2.56	2.21	2.52	7.18	7.69	16.49	17.00
5500MHz	Pass	9.47	2.49	1.78	1.61	6.71	7.53	16.18	17.00
5580MHz	Pass	9.47	3.33	1.46	1.89	7.07	7.53	16.54	17.00
5700MHz	Pass	9.47	2.99	2.17	2.19	7.22	7.53	16.69	17.00
802.11ac VHT20_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5260MHz	Pass	4.54	6.13	5.88	5.30	10.55	11.00	15.09	17.00
5300MHz	Pass	4.54	6.09	5.90	5.62	10.63	11.00	15.17	17.00
5320MHz	Pass	4.54	4.57	4.51	4.38	9.25	11.00	13.79	17.00
5500MHz	Pass	4.70	2.45	1.97	2.00	6.89	11.00	11.59	17.00
5580MHz	Pass	4.70	6.75	4.70	5.81	10.60	11.00	15.30	17.00
5700MHz	Pass	4.70	2.45	1.81	1.78	6.79	11.00	11.49	17.00
802.11ac VHT40_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5270MHz	Pass	4.54	4.06	3.79	3.13	8.42	11.00	12.96	17.00
5310MHz	Pass	4.54	0.12	-0.34	-0.07	4.66	11.00	9.20	17.00
5510MHz	Pass	4.70	-2.52	-3.25	-3.08	1.81	11.00	6.51	17.00
5550MHz	Pass	4.70	3.61	2.70	2.47	7.71	11.00	12.41	17.00
5670MHz	Pass	4.70	1.51	-0.19	0.18	5.32	11.00	10.02	17.00
802.11ac VHT80_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5290MHz	Pass	4.54	-4.76	-5.09	-4.93	-0.19	11.00	4.35	17.00
5530MHz	Pass	4.70	-6.79	-7.27	-7.38	-2.39	11.00	2.31	17.00

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

Note:

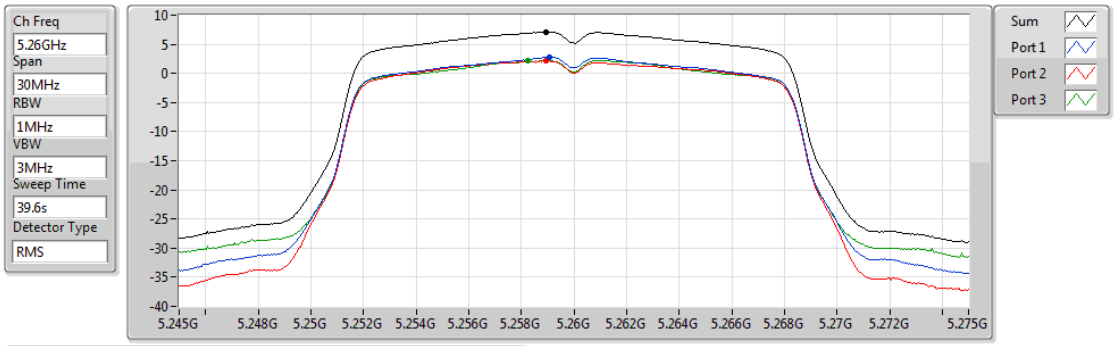
For 11a

5252-5350MHz: Directional gain=4.54dBi+10*log(3/1)=9.31dBi > 6dBi, limit shall be reduced to 11dBm-(9.31dBi - 6dBi) =7.69dBm.

5470-5725MHz: Directional gain=4.70dBi+10*log(3/1)=9.47dBi > 6dBi, limit shall be reduced to 11dBm-(9.47dBi - 6dBi) =7.53dBm.

802.11a_Nss1,(6Mbps)_3TX PSD

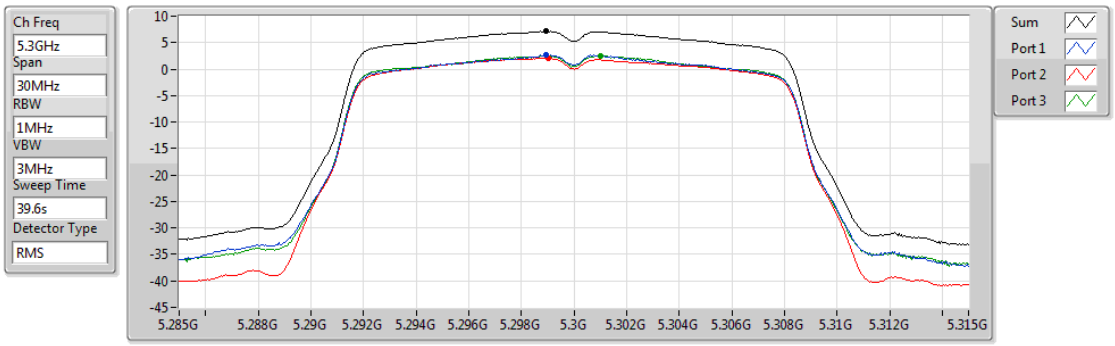
5260MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.11	7.11	2.76	2.11	2.19

802.11a_Nss1,(6Mbps)_3TX PSD

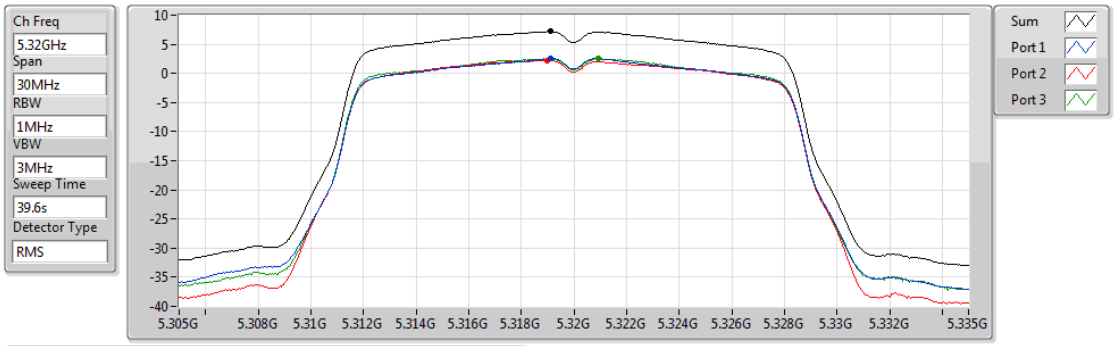
5300MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.17	7.17	2.74	2.03	2.44

802.11a_Nss1,(6Mbps)_3TX PSD

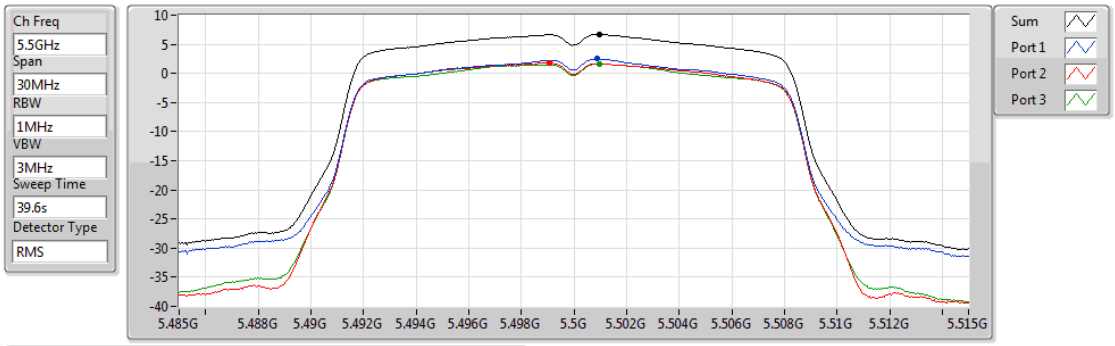
5320MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.18	7.18	2.56	2.21	2.52

802.11a_Nss1,(6Mbps)_3TX PSD

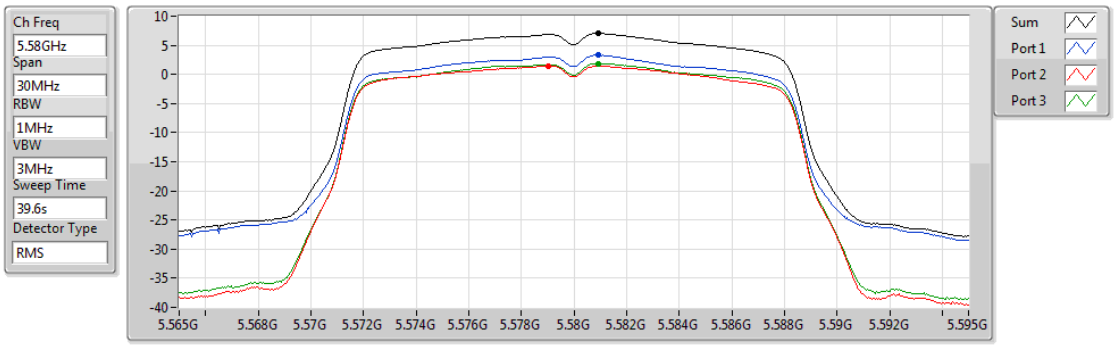
5500MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.71	6.71	2.49	1.78	1.61

802.11a_Nss1,(6Mbps)_3TX PSD

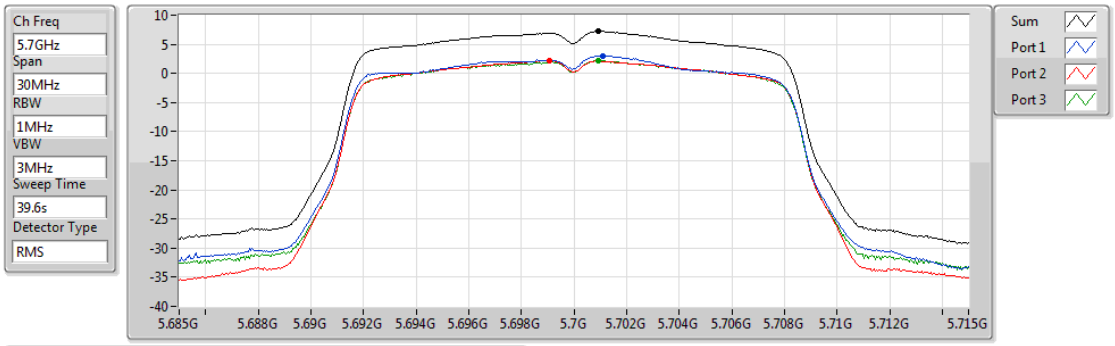
5580MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.07	7.07	3.33	1.46	1.89

802.11a_Nss1,(6Mbps)_3TX PSD

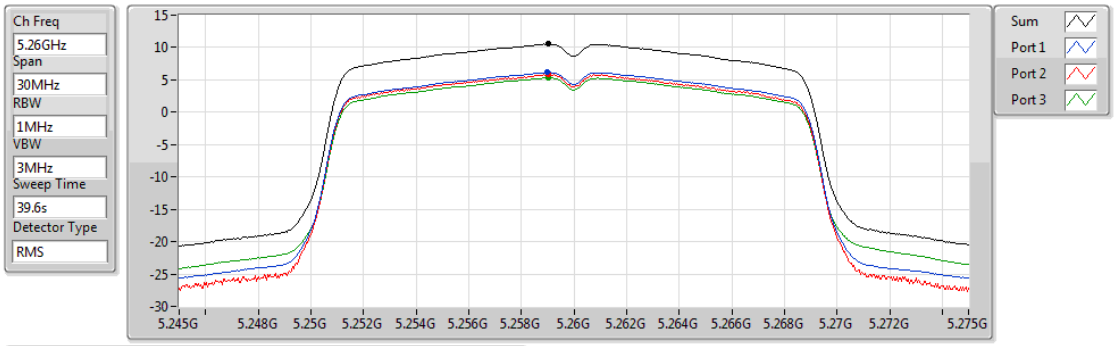
5700MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.22	7.22	2.99	2.17	2.19

802.11ac VHT20_Nss3,(MCS0)_3TX PSD

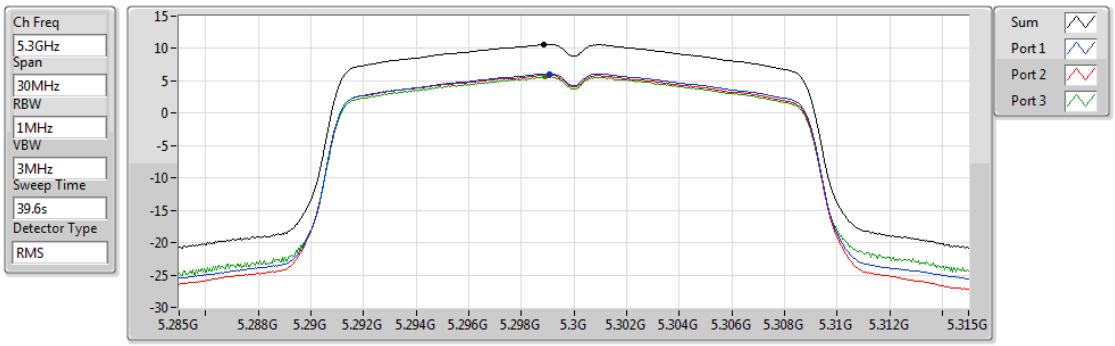
5260MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
10.55	10.55	6.13	5.88	5.30

802.11ac VHT20_Nss3,(MCS0)_3TX PSD

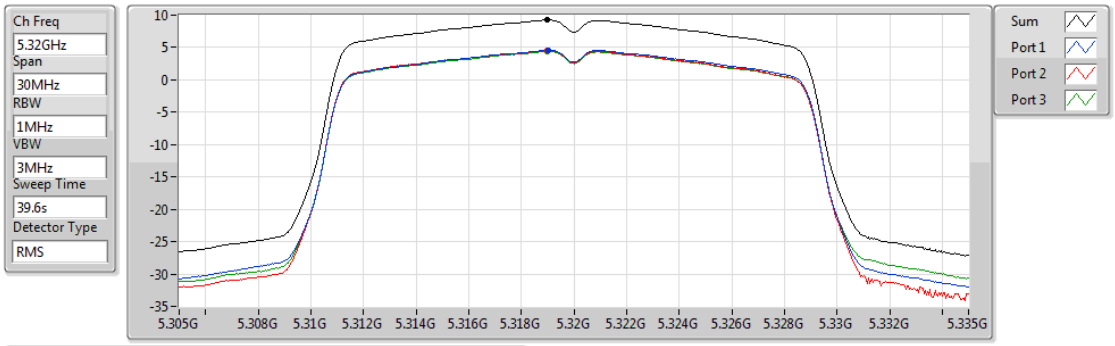
5300MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
10.63	10.63	6.09	5.90	5.62

802.11ac VHT20_Nss3,(MCS0)_3TX PSD

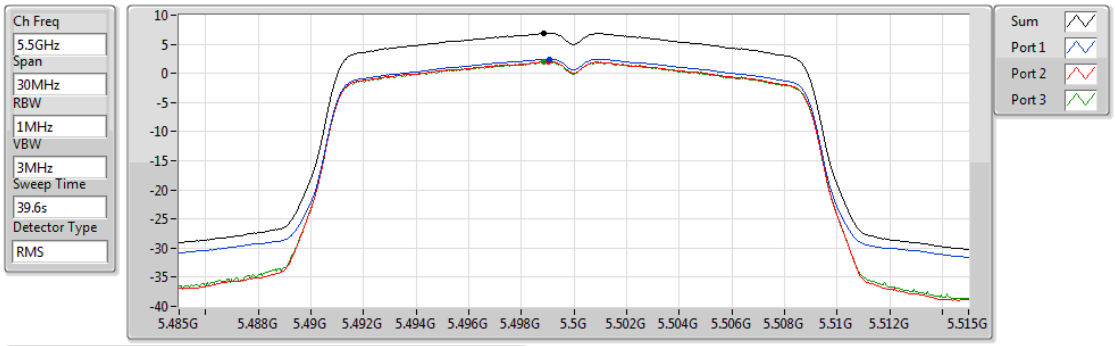
5320MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
9.25	9.25	4.57	4.51	4.38

802.11ac VHT20_Nss3,(MCS0)_3TX PSD

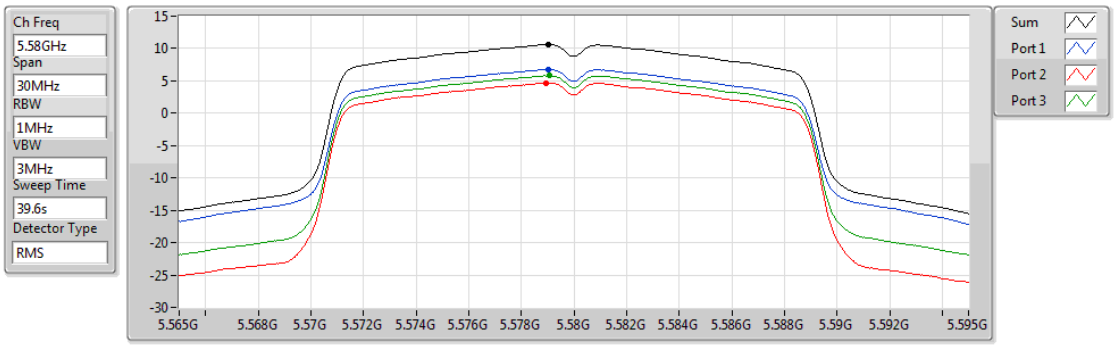
5500MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.89	6.89	2.45	1.97	2.00

802.11ac VHT20_Nss3,(MCS0)_3TX PSD

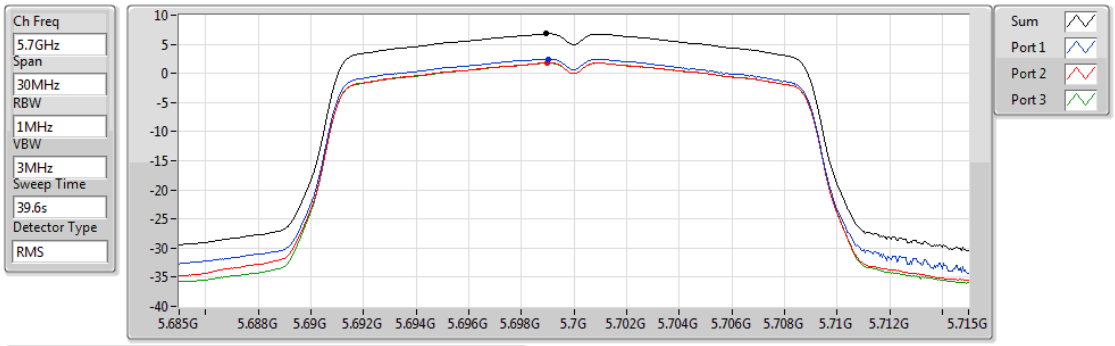
5580MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
10.60	10.60	6.75	4.70	5.81

802.11ac VHT20_Nss3,(MCS0)_3TX PSD

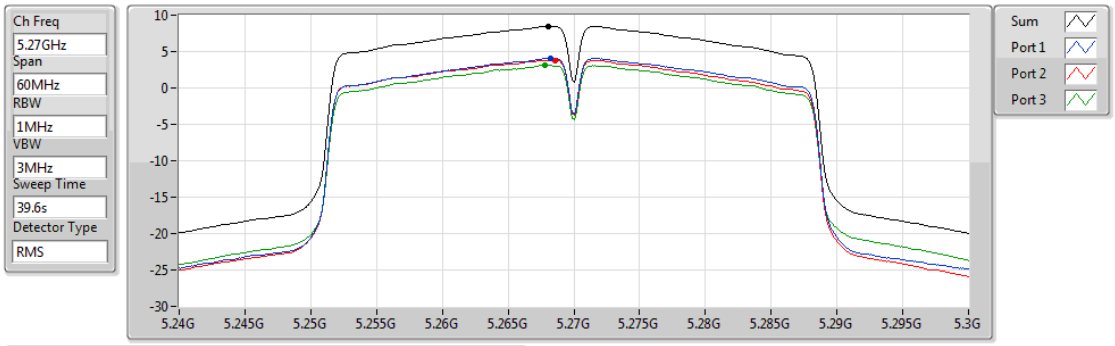
5700MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.79	6.79	2.45	1.81	1.78

802.11ac VHT40_Nss3,(MCS0)_3TX PSD

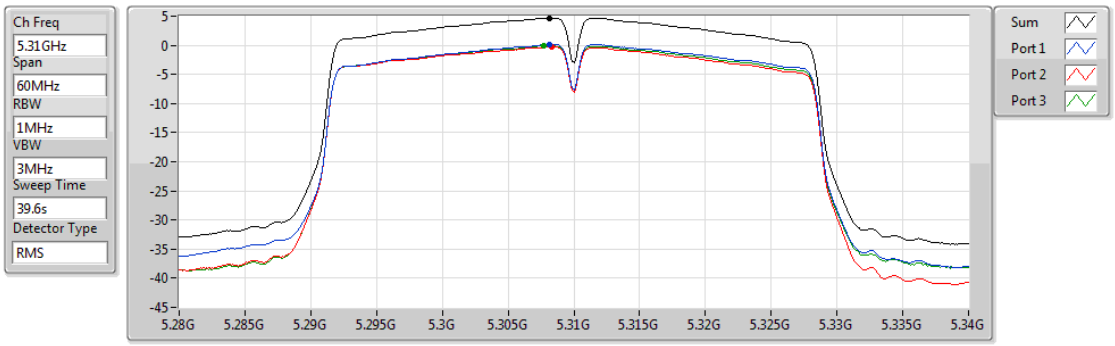
5270MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.42	8.42	4.06	3.79	3.13

802.11ac VHT40_Nss3,(MCS0)_3TX PSD

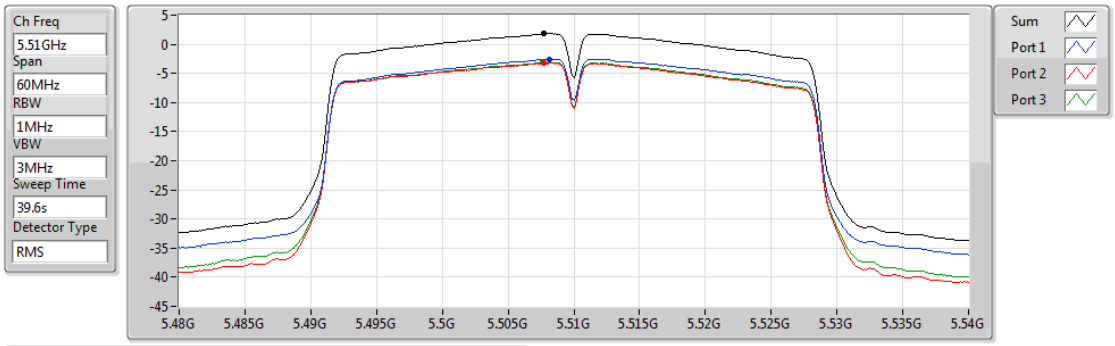
5310MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.66	4.66	0.12	-0.34	-0.07

802.11ac VHT40_Nss3,(MCS0)_3TX PSD

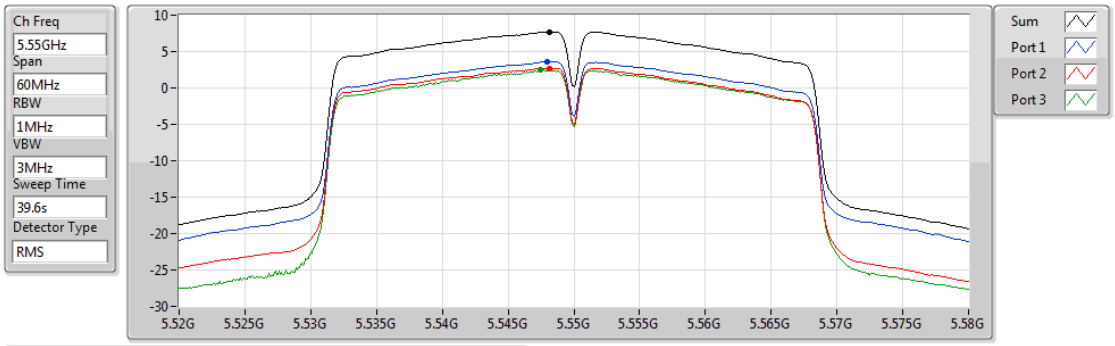
5510MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.81	1.81	-2.52	-3.25	-3.08

802.11ac VHT40_Nss3,(MCS0)_3TX PSD

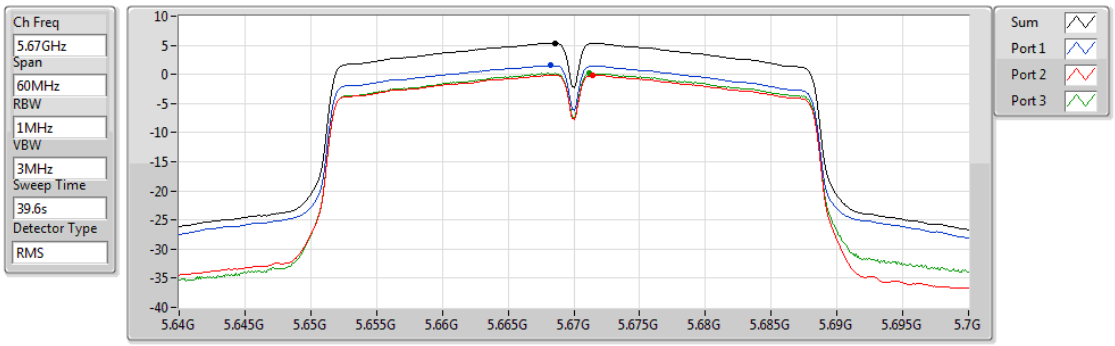
5550MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.71	7.71	3.61	2.70	2.47

802.11ac VHT40_Nss3,(MCS0)_3TX PSD

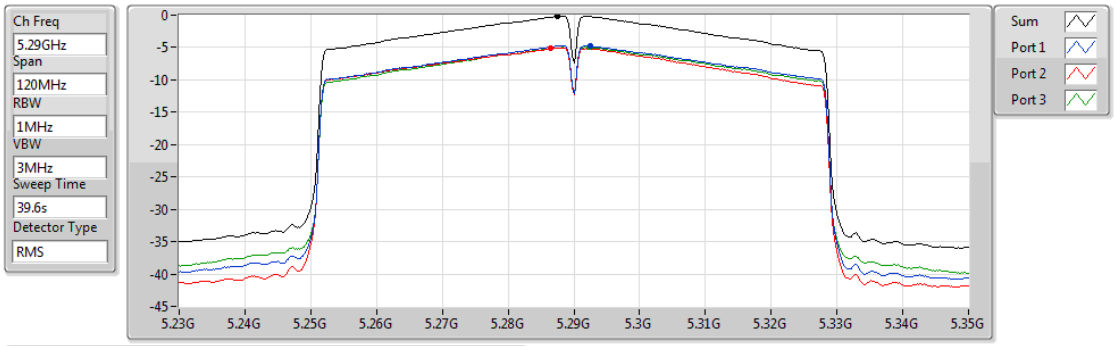
5670MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.32	5.32	1.51	-0.19	0.18

802.11ac VHT80_Nss3,(MCS0)_3TX PSD

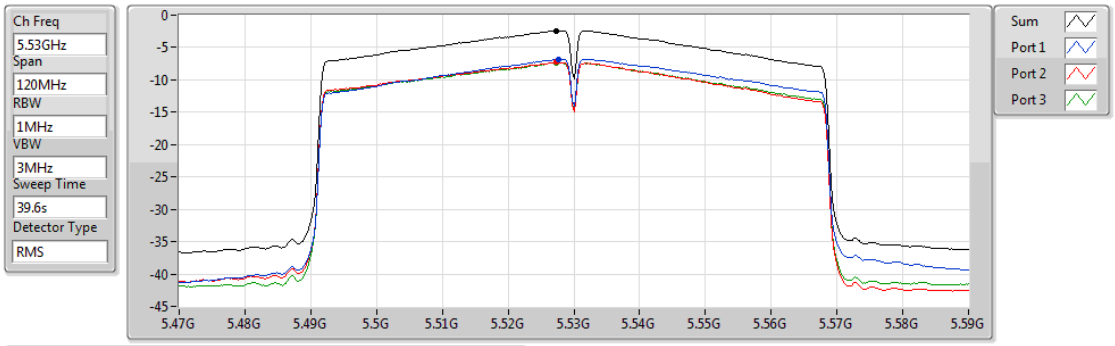
5290MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.19	-0.19	-4.76	-5.09	-4.93

802.11ac VHT80_Nss3,(MCS0)_3TX **PSD**

5530MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-2.39	-2.39	-6.79	-7.27	-7.38

Beamforming mode

Summary

Mode	PD (dBm/RBW)	EIRP PD (dBm/RBW)
5.25-5.35GHz	-	-
802.11ac VHT20-BF_Nss3,(MCS0)_3TX	7.20	16.51
802.11ac VHT40-BF_Nss3,(MCS0)_3TX	4.33	13.64
802.11ac VHT80-BF_Nss3,(MCS0)_3TX	-2.99	6.32
5.47-5.725GHz	-	-
802.11ac VHT20-BF_Nss3,(MCS0)_3TX	7.06	16.53
802.11ac VHT40-BF_Nss3,(MCS0)_3TX	4.35	13.82
802.11ac VHT80-BF_Nss3,(MCS0)_3TX	-3.11	6.36

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	-	-	-	-	-	-	-	-	-
5260MHz	Pass	9.31	3.11	2.54	2.41	7.14	7.69	16.45	17.00
5300MHz	Pass	9.31	3.38	2.85	2.68	7.20	7.69	16.51	17.00
5320MHz	Pass	9.31	1.92	1.62	1.91	5.87	7.69	15.18	17.00
5500MHz	Pass	9.47	0.02	-0.06	-0.56	4.14	7.53	13.61	17.00
5580MHz	Pass	9.47	3.35	2.39	2.72	7.06	7.53	16.53	17.00
5700MHz	Pass	9.47	0.48	-0.44	-0.57	4.04	7.53	13.51	17.00
802.11ac VHT40-BF_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5270MHz	Pass	9.31	0.02	0.09	-0.62	4.33	7.69	13.64	17.00
5310MHz	Pass	9.31	-1.89	-2.51	-2.50	2.22	7.69	11.53	17.00
5510MHz	Pass	9.47	-3.51	-4.35	-3.95	0.51	7.53	9.98	17.00
5550MHz	Pass	9.47	0.71	-0.07	0.16	4.35	7.53	13.82	17.00
5670MHz	Pass	9.47	0.08	-0.73	-1.56	3.54	7.53	13.01	17.00
802.11ac VHT80-BF_Nss3,(MCS0)_3TX	-	-	-	-	-	-	-	-	-
5290MHz	Pass	9.31	-7.04	-7.59	-7.42	-2.99	7.69	6.32	17.00
5530MHz	Pass	9.47	-6.81	-6.50	-8.19	-3.11	7.53	6.36	17.00

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

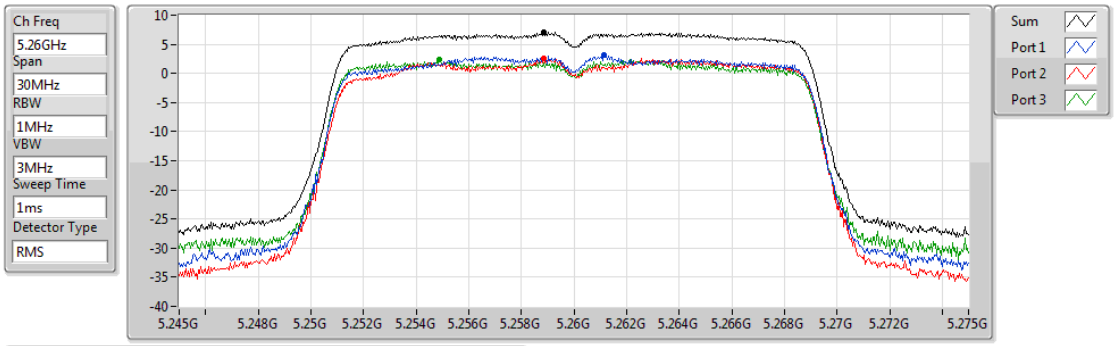
Note:

5252-5350MHz: Directional gain=4.54dBi+10*log(3/1)=9.31dBi > 6dBi, limit shall be reduced to 11dBm-(9.31dBi - 6dBi) =7.69dBm.

5470-5725MHz: Directional gain=4.70dBi+10*log(3/1)=9.47dBi > 6dBi, limit shall be reduced to 11dBm-(9.47dBi - 6dBi) =7.53dBm.

802.11ac VHT20-BF_Nss3,(MCS0)_3TX PSD

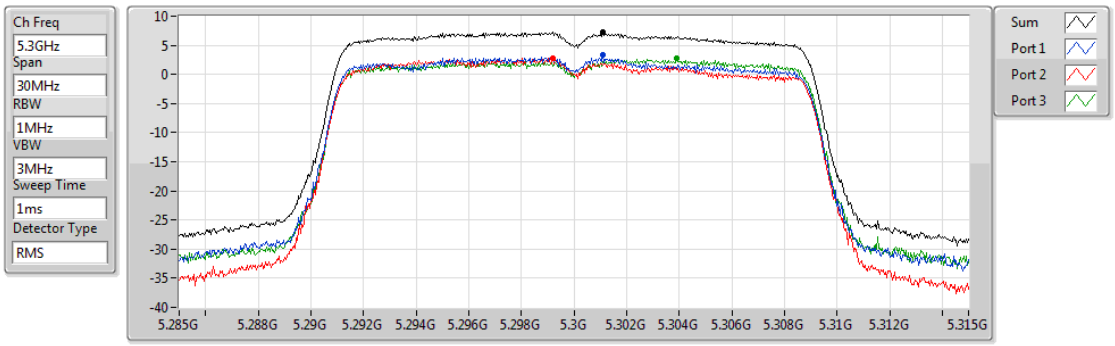
5260MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.14	7.14	3.11	2.54	2.41

802.11ac VHT20-BF_Nss3,(MCS0)_3TX PSD

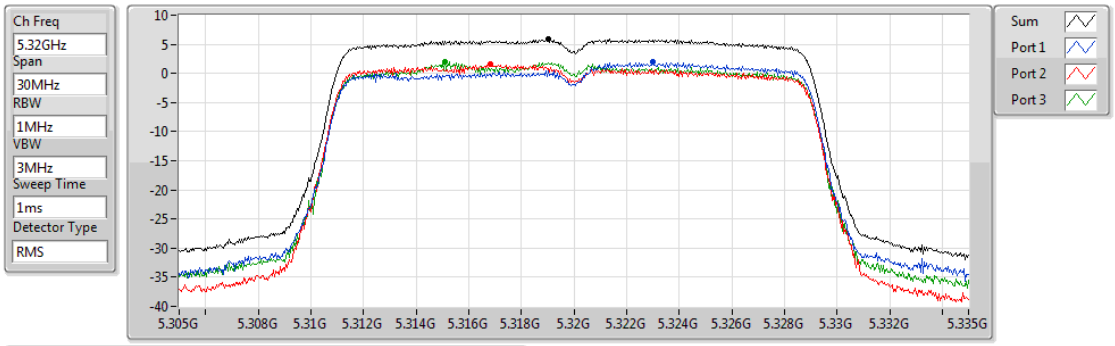
5300MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.20	7.20	3.38	2.85	2.68

802.11ac VHT20-BF_Nss3,(MCS0)_3TX PSD

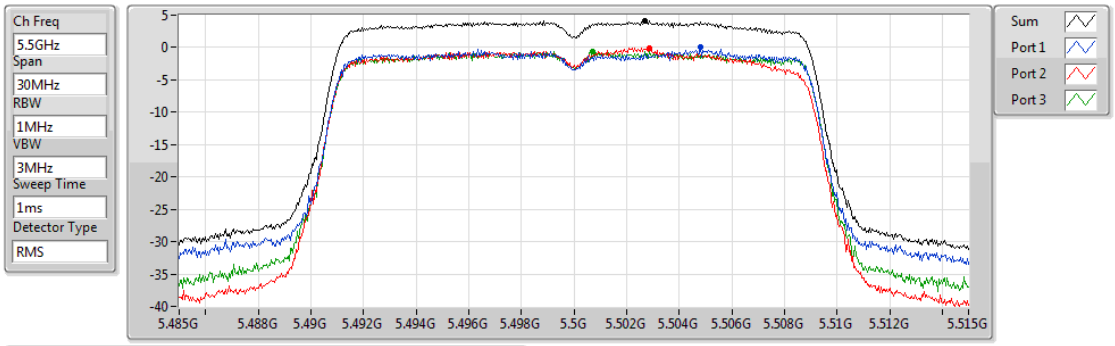
5320MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.87	5.87	1.92	1.62	1.91

802.11ac VHT20-BF_Nss3,(MCS0)_3TX PSD

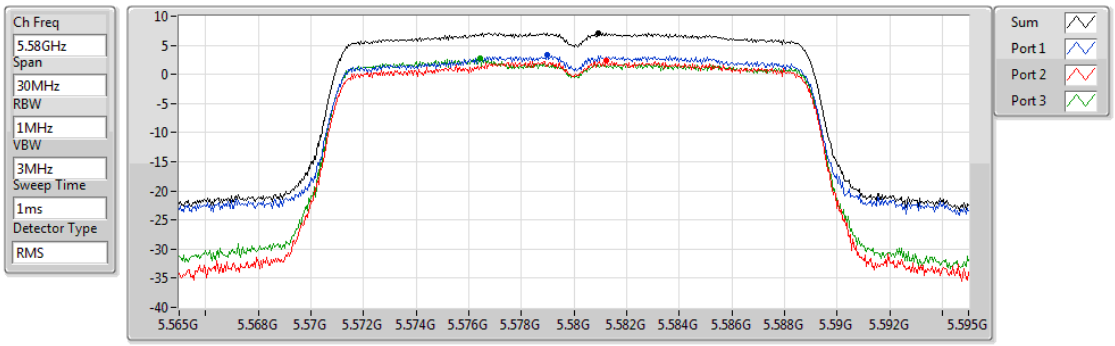
5500MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.14	4.14	0.02	-0.06	-0.56

802.11ac VHT20-BF_Nss3,(MCS0)_3TX PSD

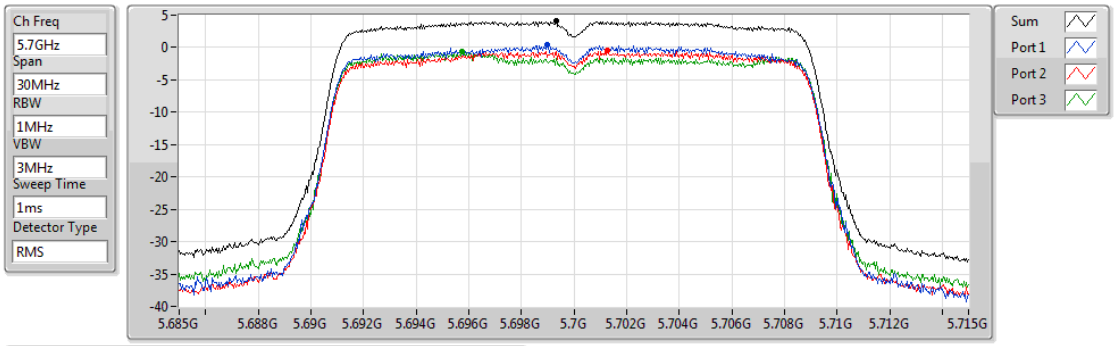
5580MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.06	7.06	3.35	2.39	2.72

802.11ac VHT20-BF_Nss3,(MCS0)_3TX PSD

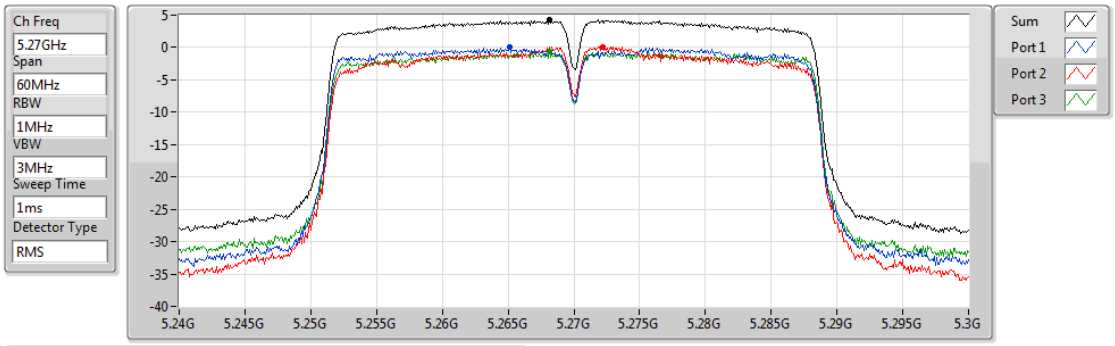
5700MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.04	4.04	0.48	-0.44	-0.57

802.11ac VHT40-BF_Nss3,(MCS0)_3TX PSD

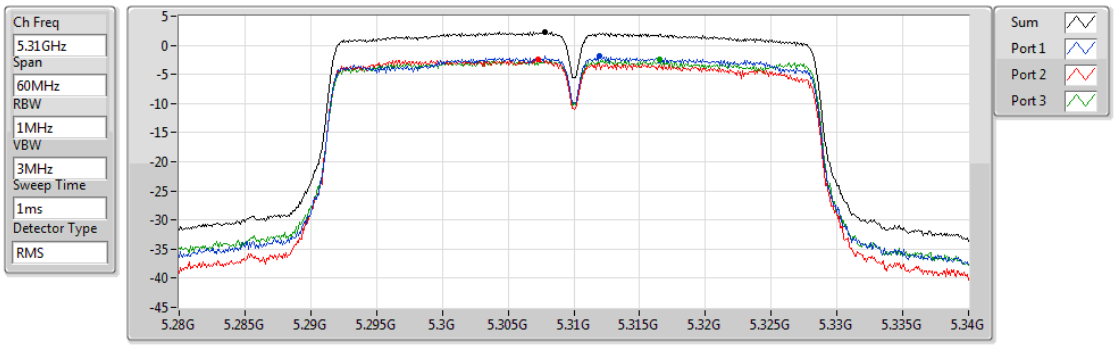
5270MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.33	4.33	0.02	0.09	-0.62

802.11ac VHT40-BF_Nss3,(MCS0)_3TX PSD

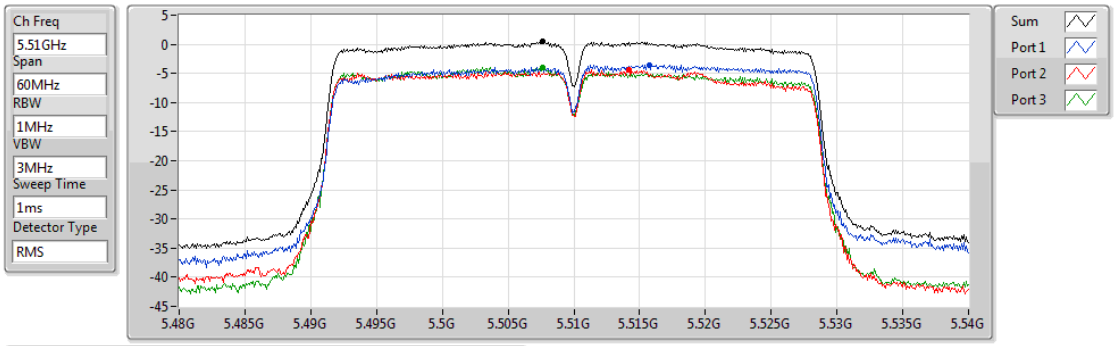
5310MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.22	2.22	-1.89	-2.51	-2.50

802.11ac VHT40-BF_Nss3,(MCS0)_3TX PSD

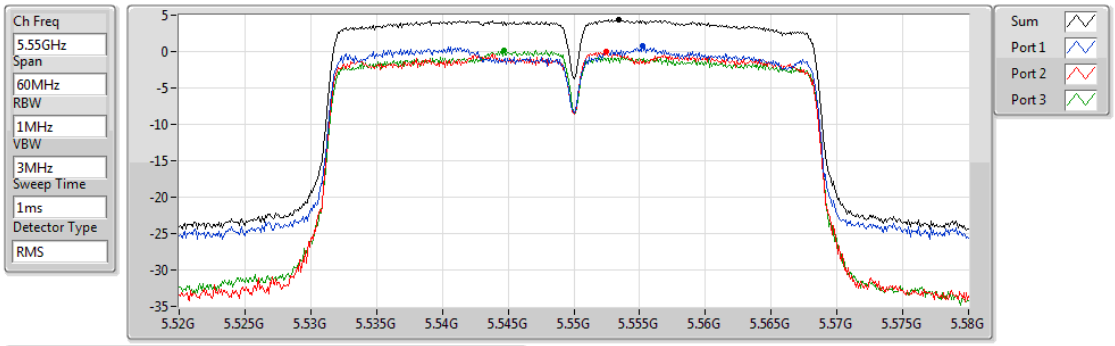
5510MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.51	0.51	-3.51	-4.35	-3.95

802.11ac VHT40-BF_Nss3,(MCS0)_3TX PSD

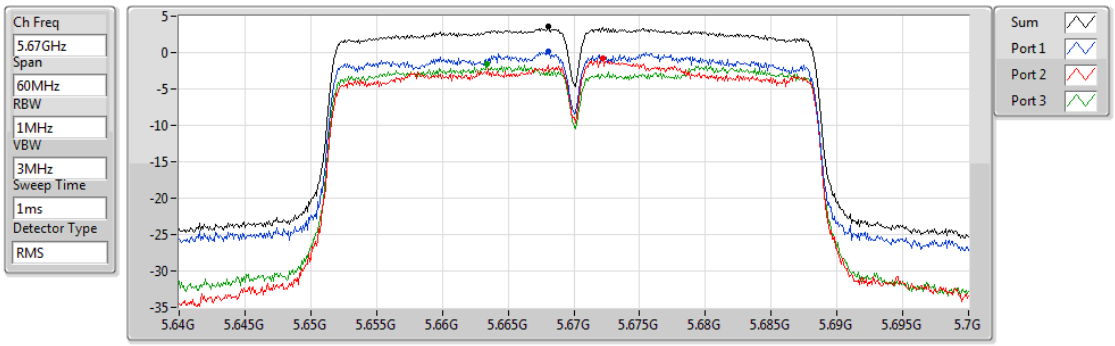
5550MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.35	4.35	0.71	-0.07	0.16

802.11ac VHT40-BF_Nss3,(MCS0)_3TX PSD

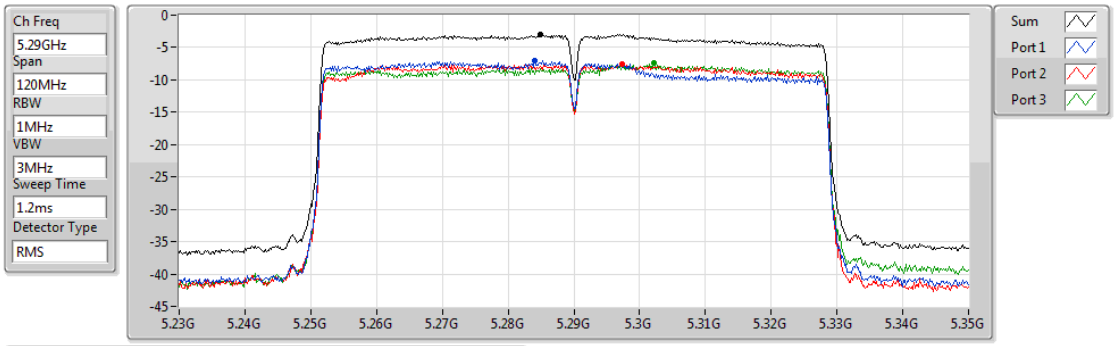
5670MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.54	3.54	0.08	-0.73	-1.56

802.11ac VHT80-BF_Nss3,(MCS0)_3TX PSD

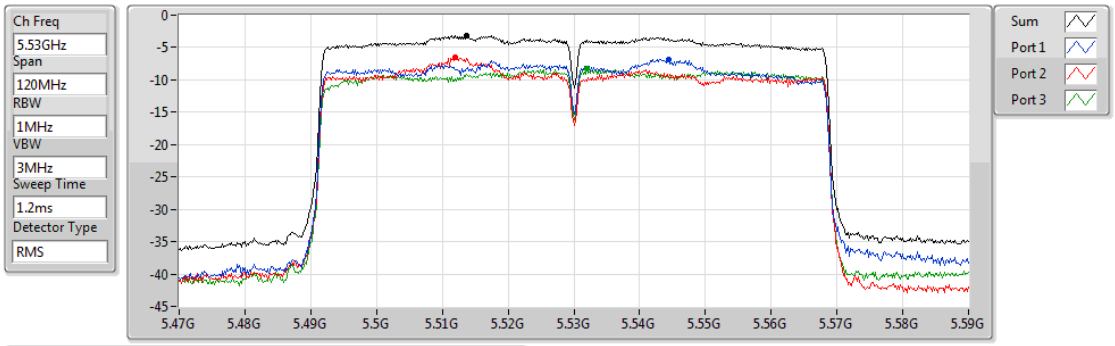
5290MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-2.99	-2.99	-7.04	-7.59	-7.42

802.11ac VHT80-BF_Nss3,(MCS0)_3TX **PSD**

5530MHz



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-3.11	-3.11	-6.81	-6.50	-8.19

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**
5.25 - 5.35 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.47 - 5.725 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]

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

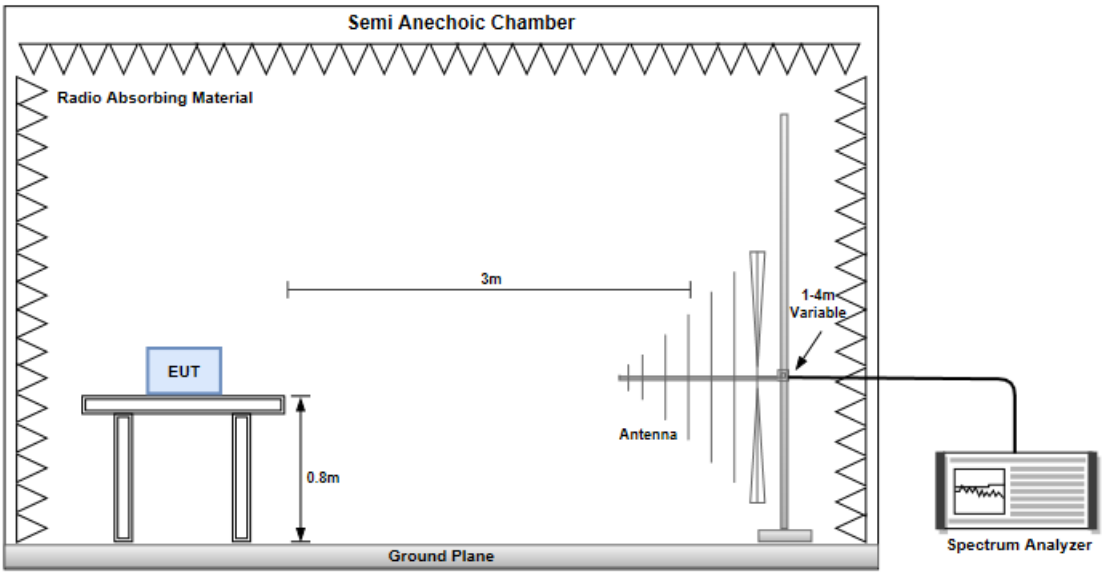
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission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

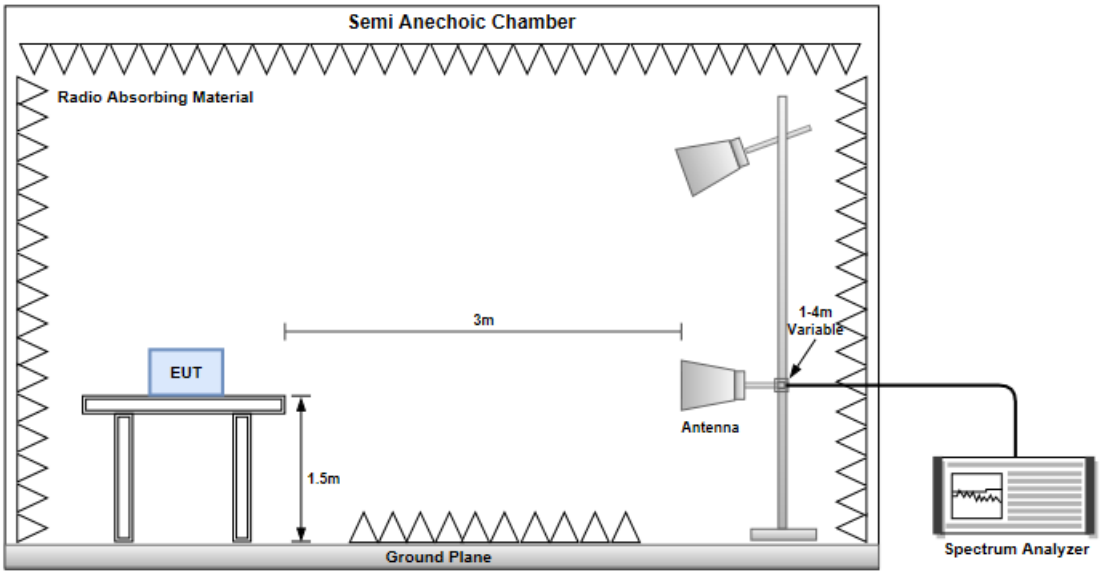
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

3.5.3 Test Setup

Radiated Emissions below 1 GHz



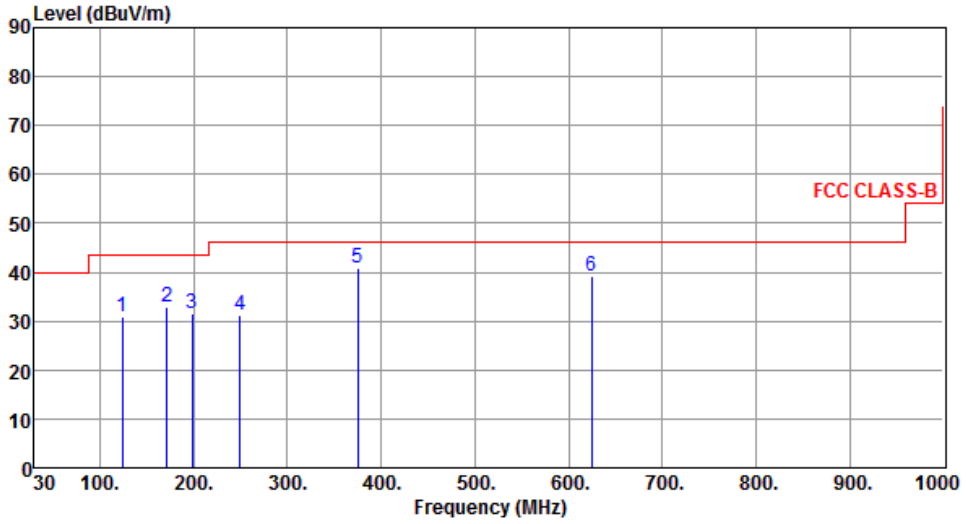
Radiated Emissions above 1 GHz



Non- beamforming mode

3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

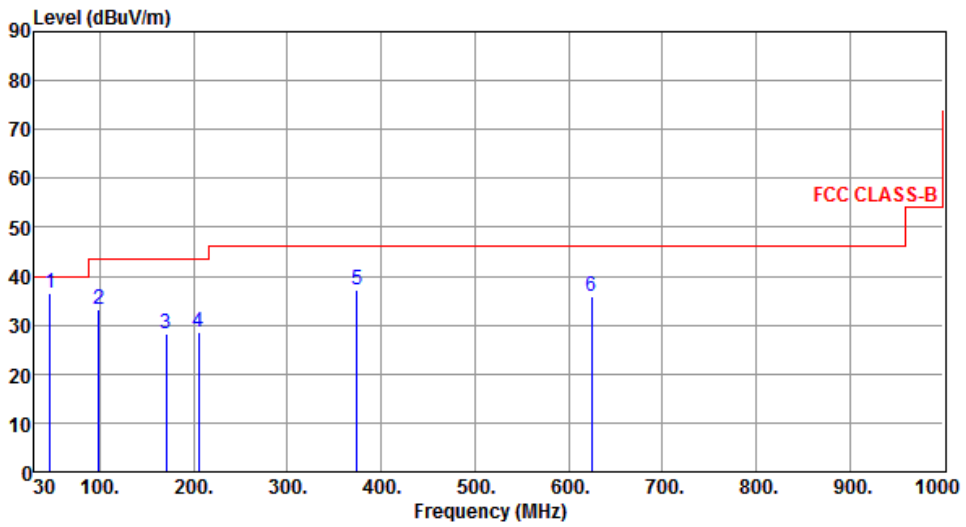
Modulation	VHT40	**Test Freq. (MHz)**	5270
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	124.17	30.82	43.50	-12.68	41.03	-10.21	Peak	---	---
2	171.58	32.84	43.50	-10.66	41.30	-8.46	Peak	---	---
3	198.66	31.59	43.50	-11.91	42.32	-10.73	Peak	---	---
4	249.33	31.26	46.00	-14.74	40.34	-9.08	Peak	---	---
5	374.74	40.88	46.00	-5.12	46.58	-5.70	Peak	---	---
6	624.55	39.24	46.00	-6.76	39.54	-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	VHT40	Test Freq. (MHz)	5270
Polarization	Vertical		

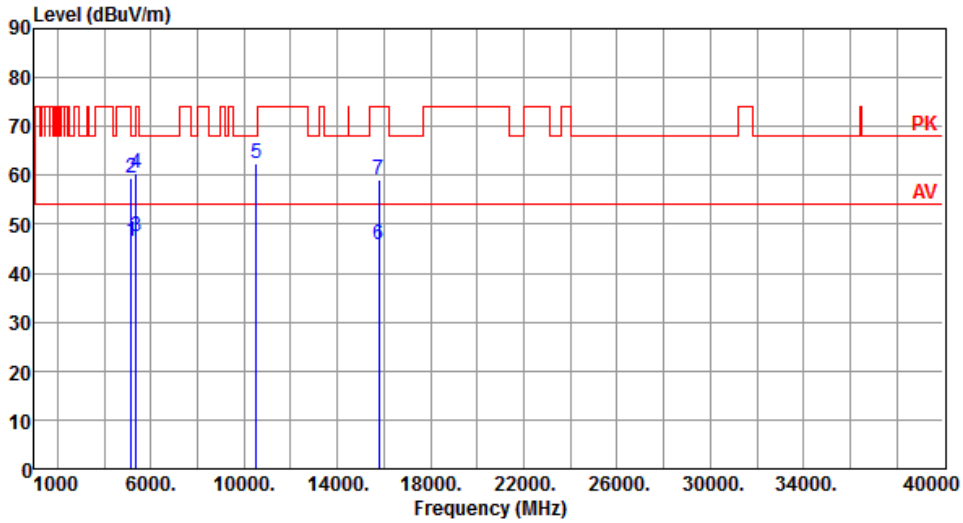


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	46.46	36.58	40.00	-3.42	44.62	-8.04	QP	100	118
2	98.82	33.36	43.50	-10.14	46.65	-13.29	Peak	---	---
3	170.55	28.27	43.50	-15.23	36.59	-8.32	Peak	---	---
4	205.49	28.64	43.50	-14.86	39.36	-10.72	Peak	---	---
5	374.47	37.26	46.00	-8.74	42.96	-5.70	Peak	---	---
6	624.57	35.89	46.00	-10.11	36.19	-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

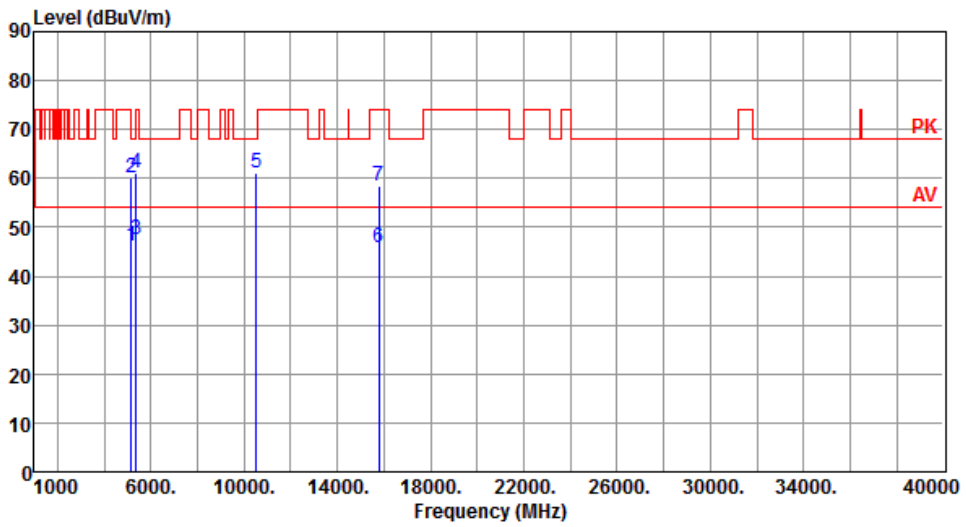
Modulation	11a	Test Freq. (MHz)	5260
Polarization	Horizontal		



	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	46.44	54.00	-7.56	40.23	6.21	Average	154	39
2	5150.00	59.46	74.00	-14.54	53.25	6.21	Peak	154	39
3	5350.00	47.34	54.00	-6.66	40.89	6.45	Average	154	39
4	5350.00	60.39	74.00	-13.61	53.94	6.45	Peak	154	39
5	10520.00	62.35	68.20	-5.85	46.47	15.88	Peak	107	339
6	15780.00	45.74	54.00	-8.26	29.83	15.91	Average	100	42
7	15780.00	59.06	74.00	-14.94	43.15	15.91	Peak	100	42

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).

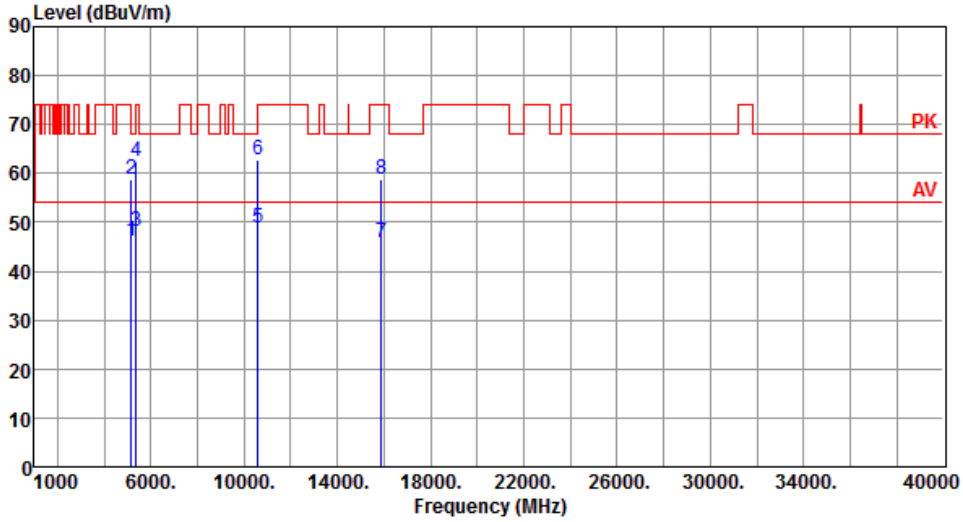
Modulation	11a	Test Freq. (MHz)	5260
Polarization	Vertical		



	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	46.23	54.00	-7.77	40.02	6.21	Average	100	345
2	5150.00	60.15	74.00	-13.85	53.94	6.21	Peak	100	345
3	5350.00	47.51	54.00	-6.49	41.06	6.45	Average	100	345
4	5350.00	61.17	74.00	-12.83	54.72	6.45	Peak	100	345
5	10520.00	61.17	68.20	-7.03	45.29	15.88	Peak	100	357
6	15780.00	45.70	54.00	-8.30	29.79	15.91	Average	100	355
7	15780.00	58.37	74.00	-15.63	42.46	15.91	Peak	100	355

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).

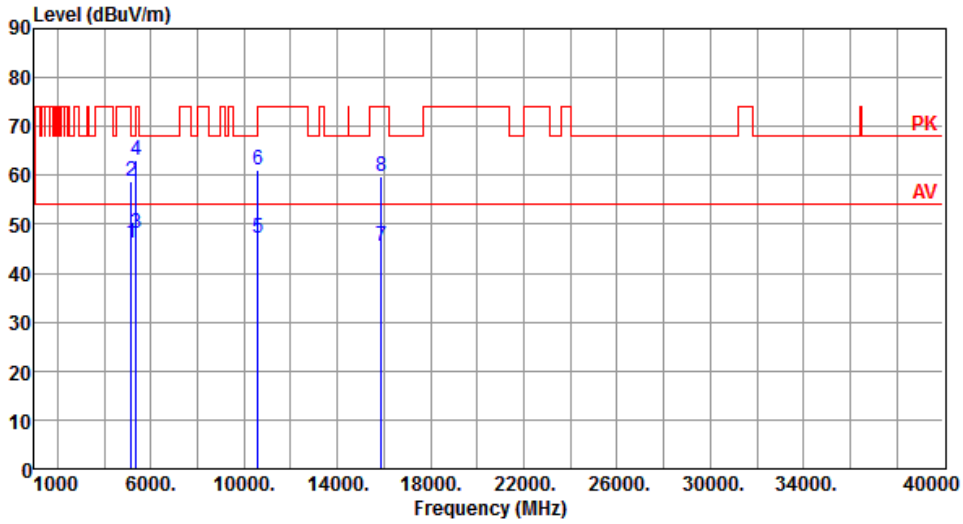
Modulation	11a	Test Freq. (MHz)	5300
Polarization	Horizontal		



	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	155	41
2	5150.00	58.81	74.00	-15.19	52.60	6.21	Peak	155	41
3	5350.00	48.29	54.00	-5.71	41.84	6.45	Average	155	41
4	5350.00	62.32	74.00	-11.68	55.87	6.45	Peak	155	41
5	10600.00	48.71	54.00	-5.29	32.72	15.99	Average	175	338
6	10600.00	62.72	74.00	-11.28	46.73	15.99	Peak	175	338
7	15900.00	45.76	54.00	-8.24	30.09	15.67	Average	100	35
8	15900.00	58.67	74.00	-15.33	43.00	15.67	Peak	100	35

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).

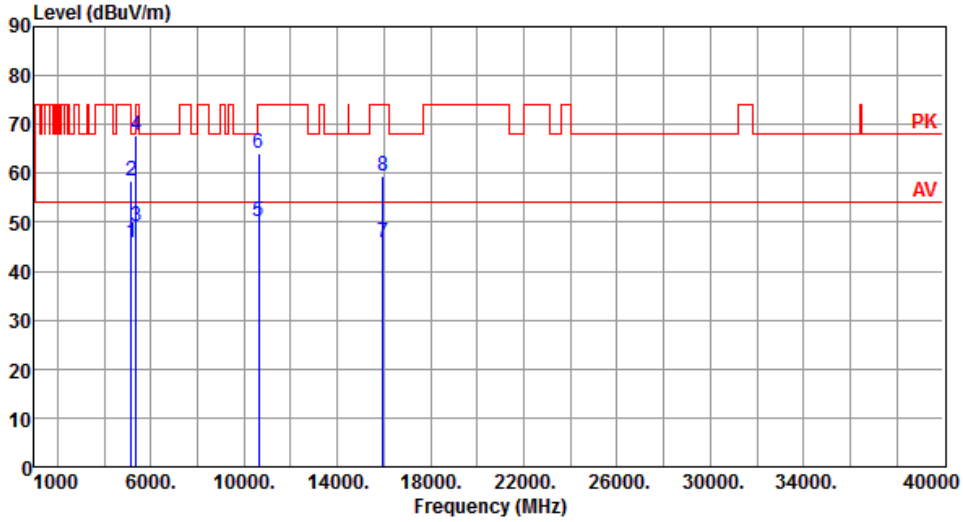
Modulation	11a	Test Freq. (MHz)	5300
Polarization	Vertical		



	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	46.29	54.00	-7.71	40.08	6.21	Average	100	351
2	5150.00	58.68	74.00	-15.32	52.47	6.21	Peak	100	351
3	5350.00	48.14	54.00	-5.86	41.69	6.45	Average	100	351
4	5350.00	62.99	74.00	-11.01	56.54	6.45	Peak	100	351
5	10600.00	47.17	54.00	-6.83	31.18	15.99	Average	100	359
6	10600.00	61.01	74.00	-12.99	45.02	15.99	Peak	100	359
7	15900.00	45.66	54.00	-8.34	29.99	15.67	Average	100	348
8	15900.00	59.91	74.00	-14.09	44.24	15.67	Peak	100	348

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).

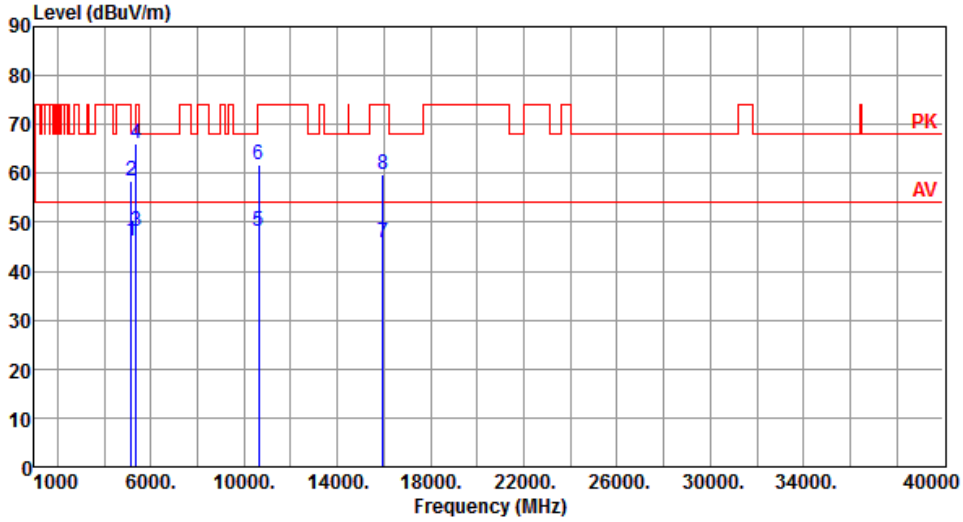
Modulation	11a	Test Freq. (MHz)	5320
Polarization	Horizontal		



	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	45.92	54.00	-8.08	39.71	6.21	Average	155	38
2	5150.00	58.38	74.00	-15.62	52.17	6.21	Peak	155	38
3	5350.00	49.03	54.00	-4.97	42.58	6.45	Average	155	38
4	5350.00	67.59	74.00	-6.41	61.14	6.45	Peak	155	38
5	10640.00	50.29	54.00	-3.71	34.23	16.06	Average	173	336
6	10640.00	63.96	74.00	-10.04	47.90	16.06	Peak	173	336
7	15960.00	45.80	54.00	-8.20	30.25	15.55	Average	100	45
8	15960.00	59.41	74.00	-14.59	43.86	15.55	Peak	100	45

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).

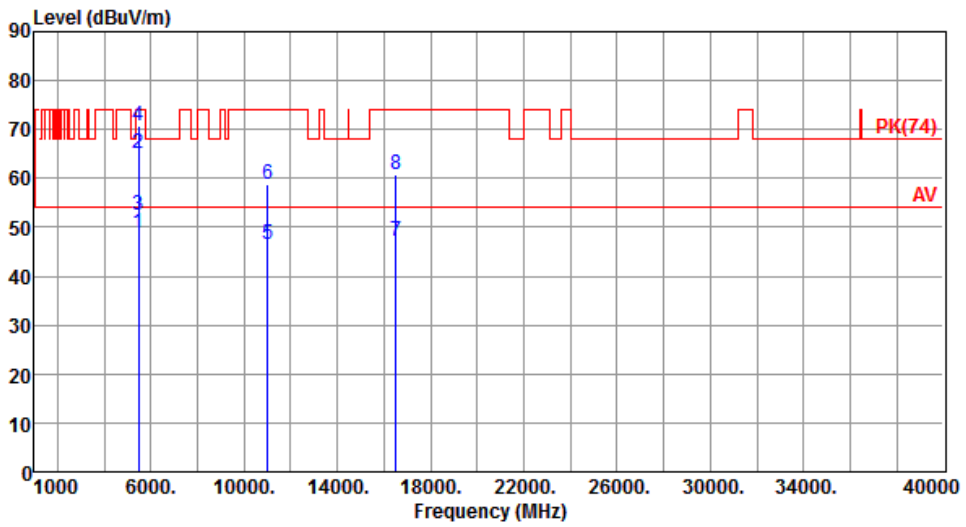
Modulation	11a	Test Freq. (MHz)	5320
Polarization	Vertical		



	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	46.05	54.00	-7.95	39.84	6.21	Average	216	351
2	5150.00	58.55	74.00	-15.45	52.34	6.21	Peak	216	351
3	5350.00	48.29	54.00	-5.71	41.84	6.45	Average	216	351
4	5350.00	66.05	74.00	-7.95	59.60	6.45	Peak	216	351
5	10640.00	48.21	54.00	-5.79	32.15	16.06	Average	103	355
6	10640.00	61.69	74.00	-12.31	45.63	16.06	Peak	103	355
7	15960.00	45.76	54.00	-8.24	30.21	15.55	Average	100	349
8	15960.00	59.82	74.00	-14.18	44.27	15.55	Peak	100	349

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).

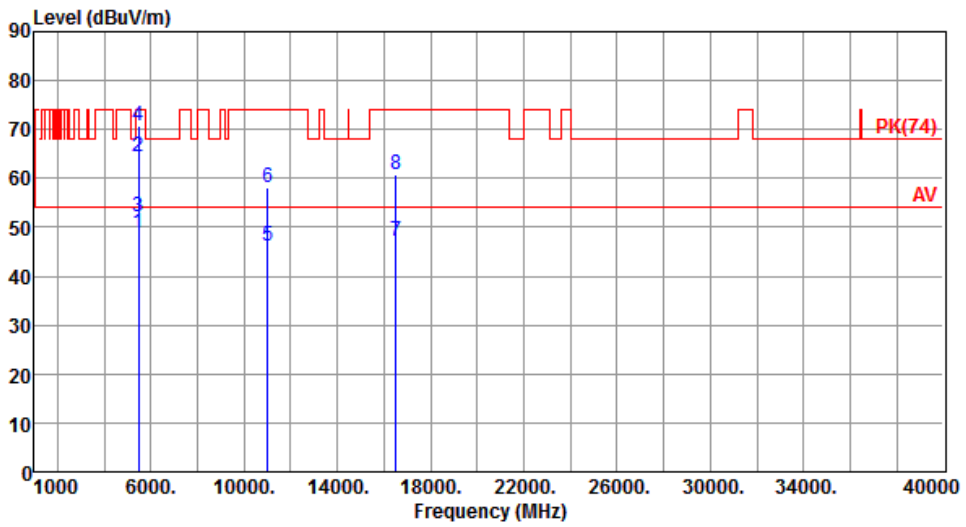
Modulation	11a	Test Freq. (MHz)	5500
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	48.88	54.00	-5.12	42.31	6.57	Average	164	38
2	5460.00	65.19	74.00	-8.81	58.62	6.57	Peak	164	38
3	5470.00	52.60	54.00	-1.40	46.02	6.58	Average	164	38
4	5470.00	70.73	74.00	-3.27	64.15	6.58	Peak	164	38
5	11000.00	46.42	54.00	-7.58	29.84	16.58	Average	100	354
6	11000.00	58.75	74.00	-15.25	42.17	16.58	Peak	100	354
7	16500.00	47.08	54.00	-6.92	29.84	17.24	Average	100	51
8	16500.00	60.81	74.00	-13.19	43.57	17.24	Peak	100	51

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

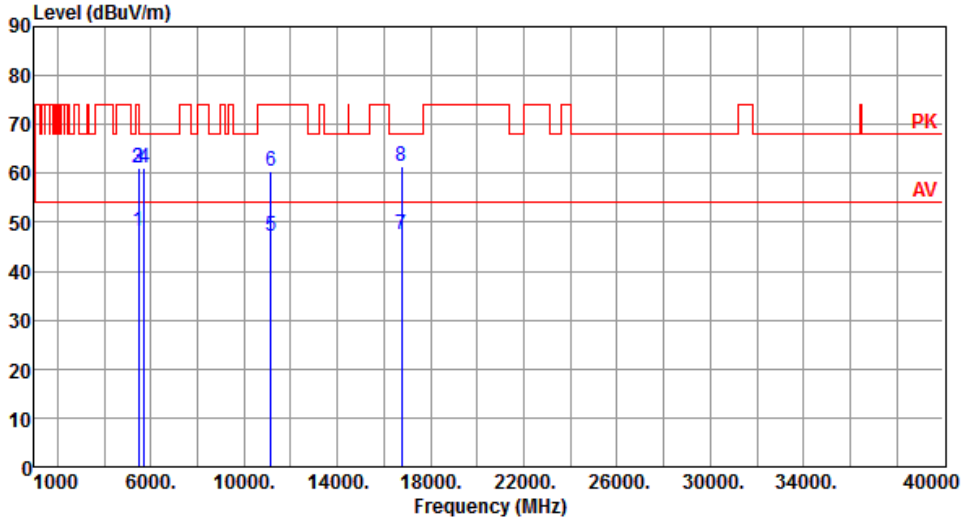
Modulation	11a	Test Freq. (MHz)	5500
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	48.82	54.00	-5.18	42.25	6.57	Average	210	180
2	5460.00	64.38	74.00	-9.62	57.81	6.57	Peak	210	180
3	5470.00	52.01	54.00	-1.99	45.43	6.58	Average	210	180
4	5470.00	70.59	74.00	-3.41	64.01	6.58	Peak	210	180
5	11000.00	46.14	54.00	-7.86	29.56	16.58	Average	100	8
6	11000.00	58.16	74.00	-15.84	41.58	16.58	Peak	100	8
7	16500.00	47.08	54.00	-6.92	29.84	17.24	Average	100	342
8	16500.00	60.87	74.00	-13.13	43.63	17.24	Peak	100	342

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).

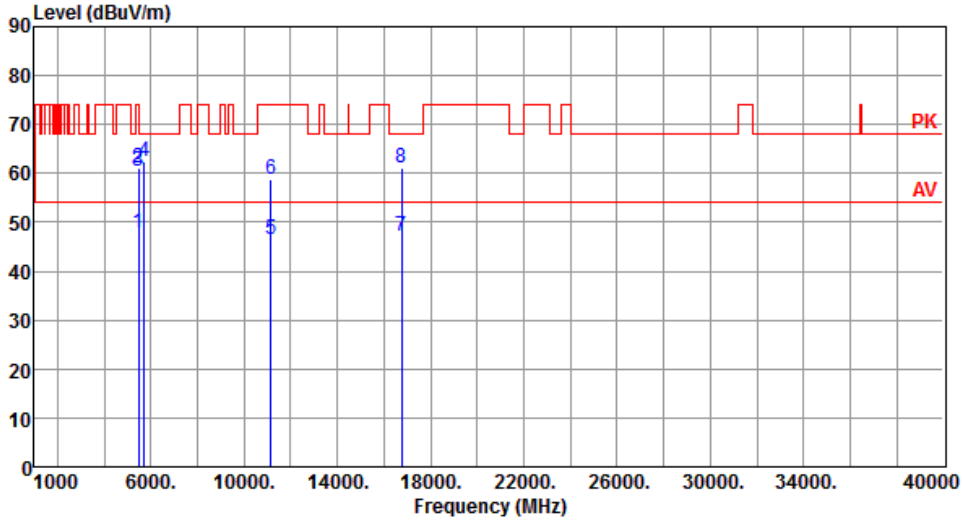
Modulation	11a	Test Freq. (MHz)	5580
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	48.28	54.00	-5.72	41.71	6.57	Average	148	45
2	5460.00	61.17	74.00	-12.83	54.60	6.57	Peak	148	45
3	5470.00	61.00	68.20	-7.20	54.42	6.58	Peak	148	45
4	5725.00	61.03	68.20	-7.17	54.03	7.00	Peak	148	45
5	11160.00	47.18	54.00	-6.82	30.64	16.54	Average	151	353
6	11160.00	60.33	74.00	-13.67	43.79	16.54	Peak	151	353
7	16740.00	47.36	54.00	-6.64	29.92	17.44	Average	100	48
8	16740.00	61.44	68.20	-6.76	44.00	17.44	Peak	100	48

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).

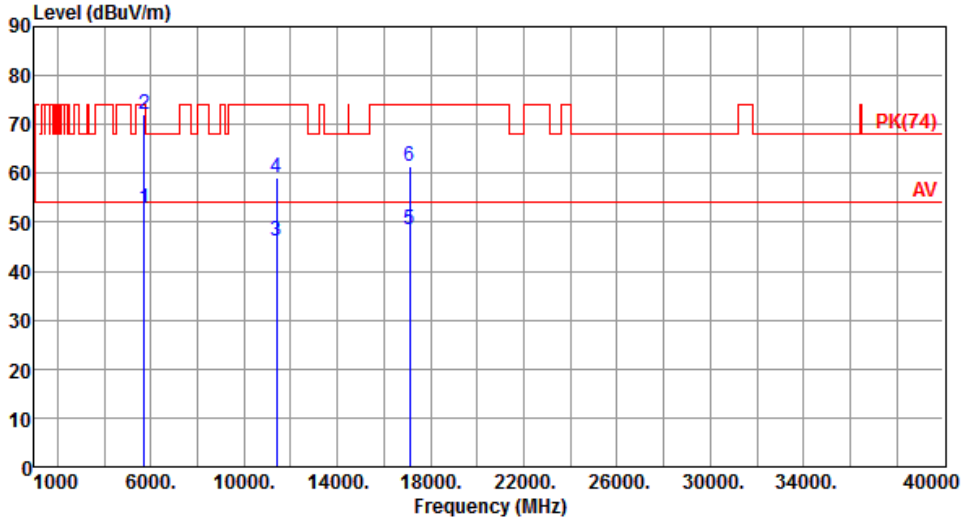
Modulation	11a	Test Freq. (MHz)	5580
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	47.76	54.00	-6.24	41.19	6.57	Average	100	275
2	5460.00	60.98	74.00	-13.02	54.41	6.57	Peak	100	275
3	5470.00	60.56	68.20	-7.64	53.98	6.58	Peak	100	275
4	5725.00	62.47	68.20	-5.73	55.47	7.00	Peak	100	275
5	11160.00	46.33	54.00	-7.67	29.79	16.54	Average	132	6
6	11160.00	58.71	74.00	-15.29	42.17	16.54	Peak	132	6
7	16740.00	47.32	54.00	-6.68	29.88	17.44	Average	100	349
8	16740.00	61.01	68.20	-7.19	43.57	17.44	Peak	100	349

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).

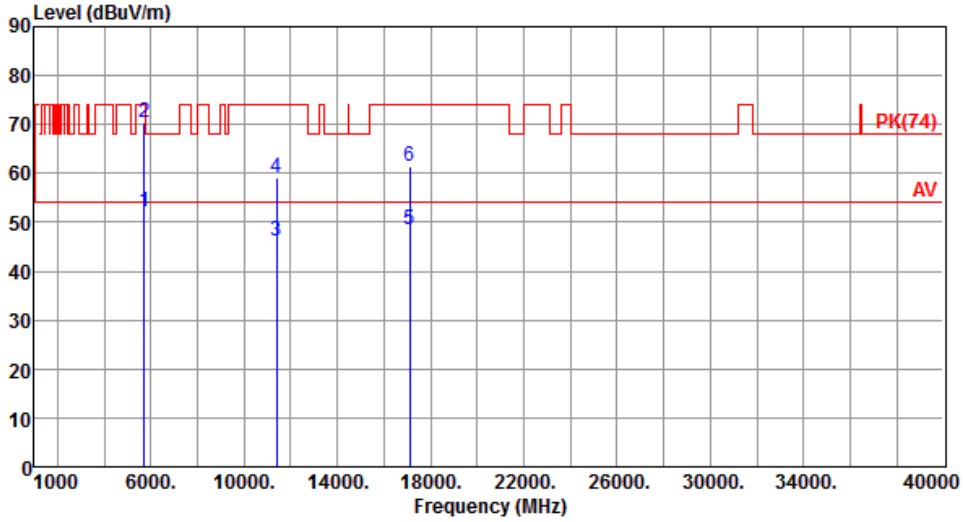
Modulation	11a	Test Freq. (MHz)	5700
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	52.71	54.00	-1.29	45.71	7.00	Average	152	44
2	5725.00	71.91	74.00	-2.09	64.91	7.00	Peak	152	44
3	11400.00	46.10	54.00	-7.90	29.59	16.51	Average	100	339
4	11400.00	59.08	74.00	-14.92	42.57	16.51	Peak	100	339
5	17100.00	48.64	54.00	-5.36	30.69	17.95	Average	100	42
6	17100.00	61.56	74.00	-12.44	43.61	17.95	Peak	100	42

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)	5700
Polarization	Vertical		

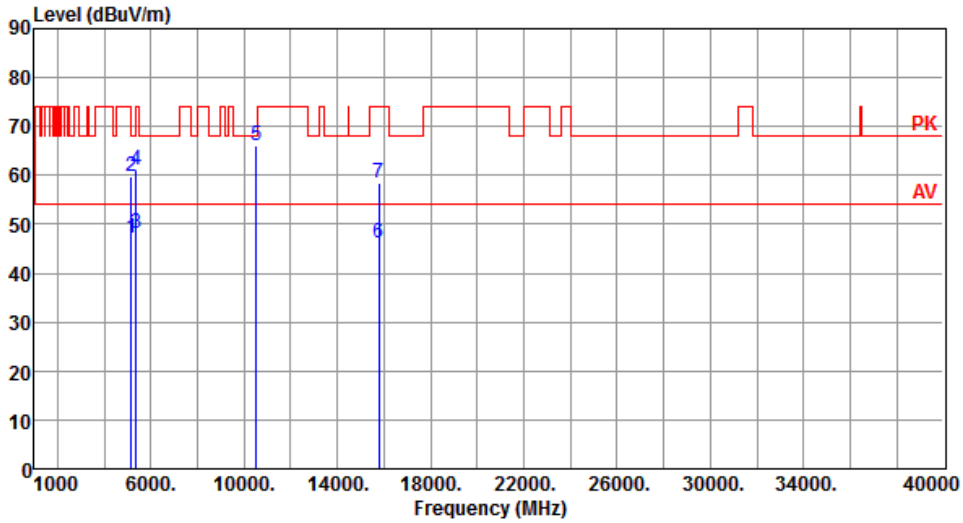


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	52.29	54.00	-1.71	45.29	7.00	Average	187	176
2	5725.00	70.31	74.00	-3.69	63.31	7.00	Peak	187	176
3	11400.00	46.32	54.00	-7.68	29.81	16.51	Average	100	356
4	11400.00	59.14	74.00	-14.86	42.63	16.51	Peak	100	356
5	17100.00	48.57	54.00	-5.43	30.62	17.95	Average	100	352
6	17100.00	61.54	74.00	-12.46	43.59	17.95	Peak	100	352

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

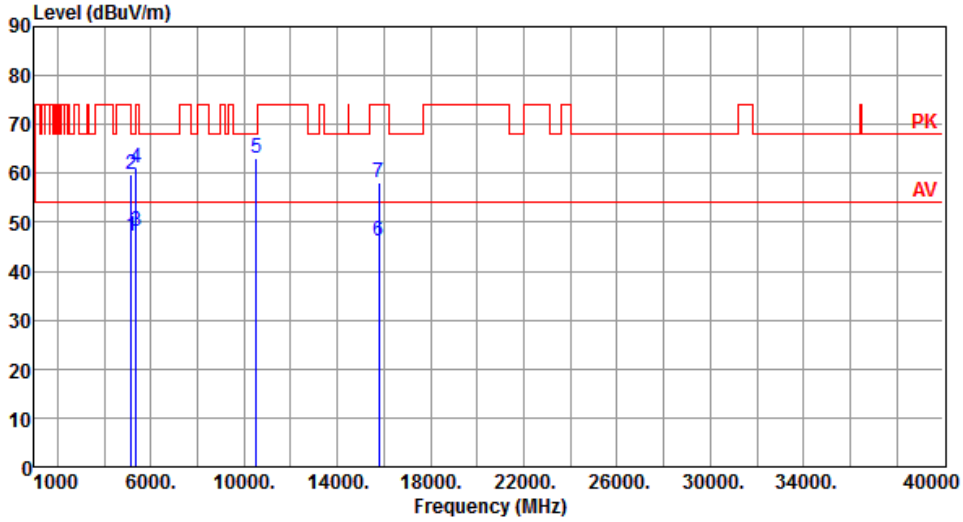
Modulation	VHT20	**Test Freq. (MHz)**	5260
Polarization	Horizontal		



	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	159	32
2	5150.00	59.92	74.00	-14.08	53.71	6.21	Peak	159	32
3	5350.00	48.14	54.00	-5.86	41.69	6.45	Average	159	32
4	5350.00	61.08	74.00	-12.92	54.63	6.45	Peak	159	32
5	10520.00	65.98	68.20	-2.22	50.10	15.88	Peak	100	336
6	15780.00	46.22	54.00	-7.78	30.31	15.91	Average	100	44
7	15780.00	58.48	74.00	-15.52	42.57	15.91	Peak	100	44

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).

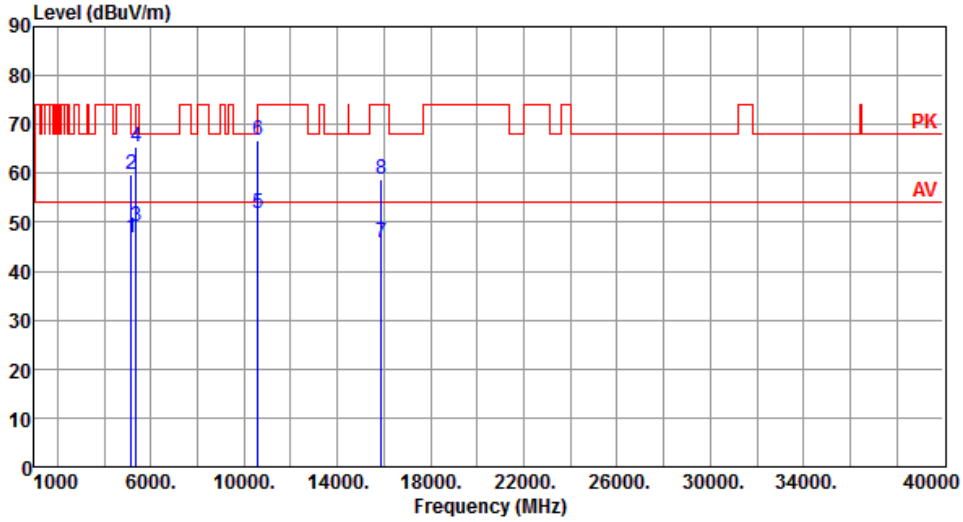
Modulation	VHT20	Test Freq. (MHz)	5260
Polarization	Vertical		



	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	47.02	54.00	-6.98	40.81	6.21	Average	100	359
2	5150.00	59.68	74.00	-14.32	53.47	6.21	Peak	100	359
3	5350.00	48.20	54.00	-5.80	41.75	6.45	Average	100	359
4	5350.00	61.12	74.00	-12.88	54.67	6.45	Peak	100	359
5	10520.00	63.22	68.20	-4.98	47.34	15.88	Peak	100	356
6	15780.00	46.08	54.00	-7.92	30.17	15.91	Average	100	3
7	15780.00	58.09	74.00	-15.91	42.18	15.91	Peak	100	3

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).

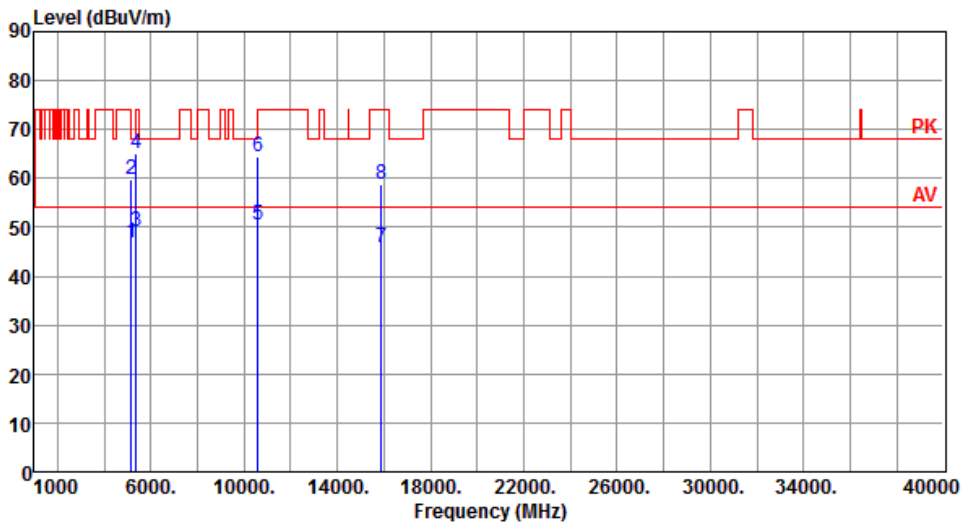
Modulation	VHT20	Test Freq. (MHz)	5300
Polarization	Horizontal		



	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	46.74	54.00	-7.26	40.53	6.21	Average	158	33
2	5150.00	59.70	74.00	-14.30	53.49	6.21	Peak	158	33
3	5350.00	49.05	54.00	-4.95	42.60	6.45	Average	158	33
4	5350.00	65.47	74.00	-8.53	59.02	6.45	Peak	158	33
5	10600.00	51.81	54.00	-2.19	35.82	15.99	Average	100	330
6	10600.00	66.84	74.00	-7.16	50.85	15.99	Peak	100	330
7	15900.00	45.99	54.00	-8.01	30.32	15.67	Average	100	50
8	15900.00	58.70	74.00	-15.30	43.03	15.67	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).

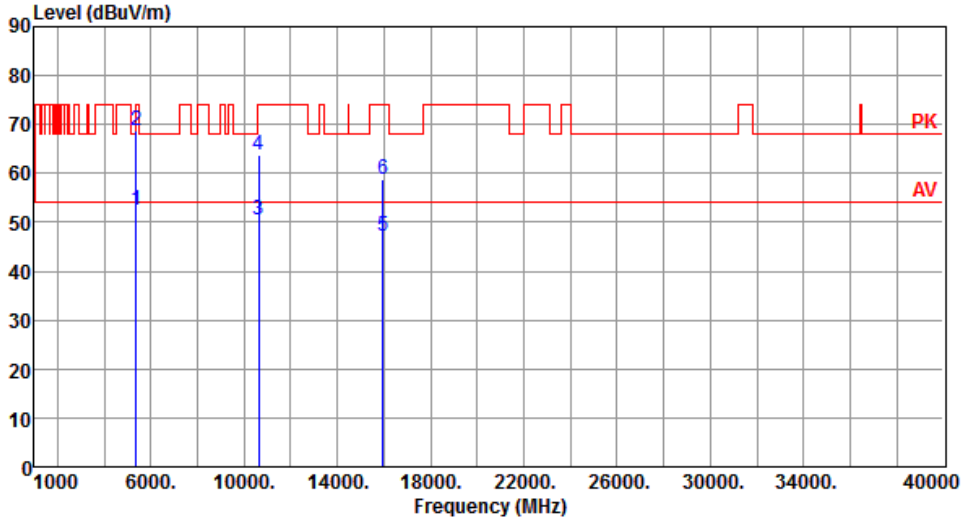
Modulation	VHT20	Test Freq. (MHz)	5300
Polarization	Vertical		



	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	46.79	54.00	-7.21	40.58	6.21	Average	100	349
2	5150.00	59.80	74.00	-14.20	53.59	6.21	Peak	100	349
3	5350.00	48.99	54.00	-5.01	42.54	6.45	Average	100	349
4	5350.00	65.19	74.00	-8.81	58.74	6.45	Peak	100	349
5	10600.00	50.50	54.00	-3.50	34.51	15.99	Average	100	354
6	10600.00	64.45	74.00	-9.55	48.46	15.99	Peak	100	354
7	15900.00	45.88	54.00	-8.12	30.21	15.67	Average	100	0
8	15900.00	58.84	74.00	-15.16	43.17	15.67	Peak	100	0

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).

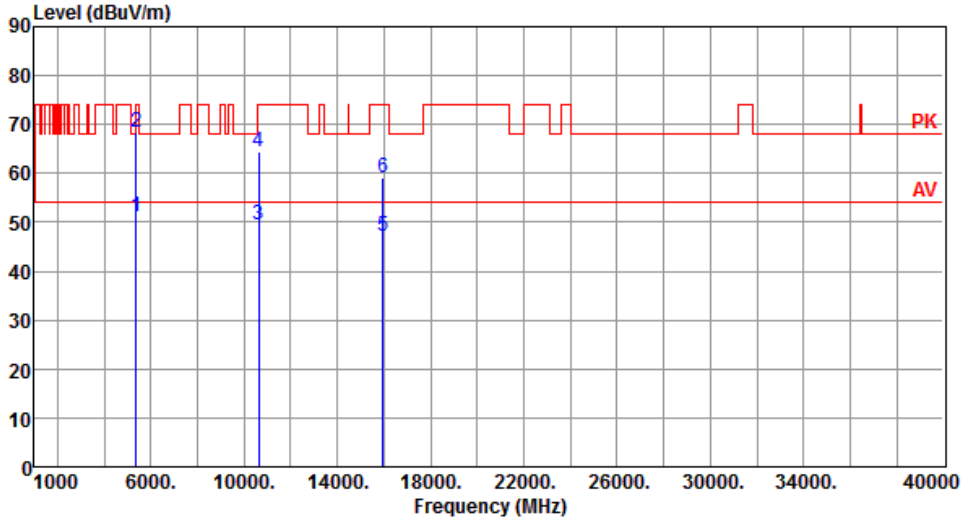
Modulation	VHT20	Test Freq. (MHz)	5320
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	52.53	54.00	-1.47	46.08	6.45	Average	156	31
2	5350.00	68.63	74.00	-5.37	62.18	6.45	Peak	156	31
3	10640.00	50.34	54.00	-3.66	34.28	16.06	Average	136	332
4	10640.00	63.71	74.00	-10.29	47.65	16.06	Peak	136	332
5	15960.00	47.13	54.00	-6.87	31.58	15.55	Average	100	42
6	15960.00	58.79	74.00	-15.21	43.24	15.55	Peak	100	42

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).

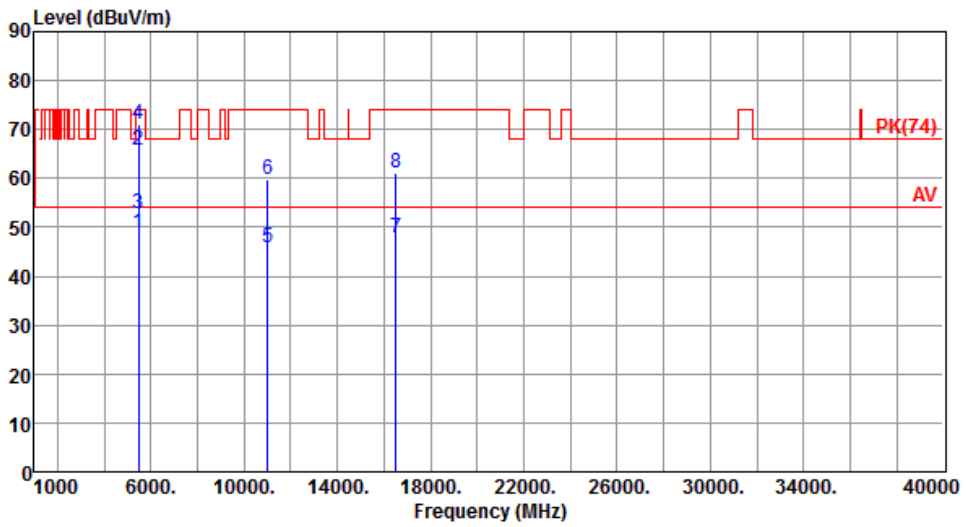
Modulation	VHT20	Test Freq. (MHz)	5320
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	51.06	54.00	-2.94	44.61	6.45	Average	100	348
2	5350.00	68.27	74.00	-5.73	61.82	6.45	Peak	100	348
3	10640.00	49.51	54.00	-4.49	33.45	16.06	Average	100	352
4	10640.00	64.27	74.00	-9.73	48.21	16.06	Peak	100	352
5	15960.00	47.21	54.00	-6.79	31.66	15.55	Average	100	345
6	15960.00	59.09	74.00	-14.91	43.54	15.55	Peak	100	345

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).

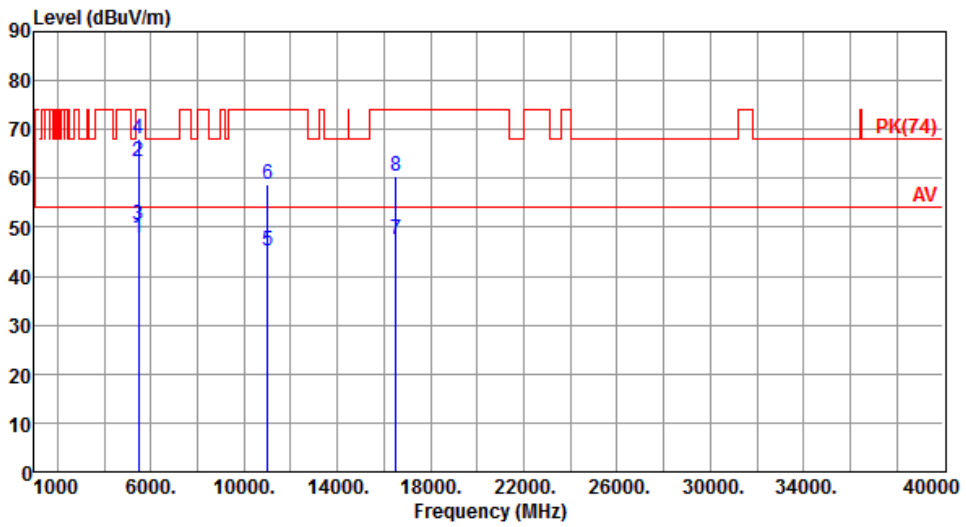
Modulation	VHT20	Test Freq. (MHz)	5500
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	48.77	54.00	-5.23	42.20	6.57	Average	161	29
2	5460.00	65.75	74.00	-8.25	59.18	6.57	Peak	161	29
3	5470.00	52.72	54.00	-1.28	46.14	6.58	Average	161	29
4	5470.00	70.92	74.00	-3.08	64.34	6.58	Peak	161	29
5	11000.00	45.96	54.00	-8.04	29.38	16.58	Average	100	318
6	11000.00	59.72	74.00	-14.28	43.14	16.58	Peak	100	318
7	16500.00	47.82	54.00	-6.18	30.58	17.24	Average	100	36
8	16500.00	60.95	74.00	-13.05	43.71	17.24	Peak	100	36

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).

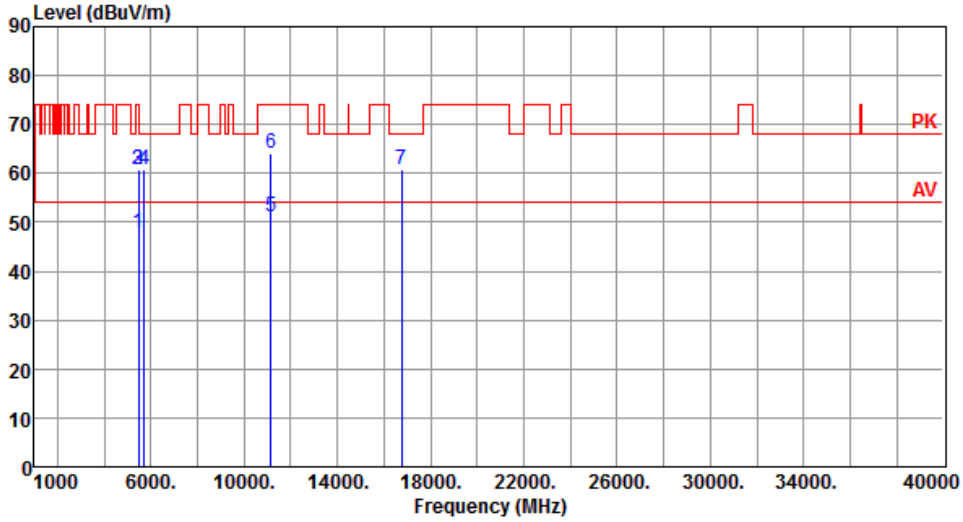
Modulation	VHT20	Test Freq. (MHz)	5500
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	47.83	54.00	-6.17	41.26	6.57	Average	219	168
2	5460.00	63.36	74.00	-10.64	56.79	6.57	Peak	219	168
3	5470.00	50.40	54.00	-3.60	43.82	6.58	Average	219	168
4	5470.00	68.24	74.00	-5.76	61.66	6.58	Peak	219	168
5	11000.00	45.19	54.00	-8.81	28.61	16.58	Average	100	1
6	11000.00	58.92	74.00	-15.08	42.34	16.58	Peak	100	1
7	16500.00	47.45	54.00	-6.55	30.21	17.24	Average	100	175
8	16500.00	60.36	74.00	-13.64	43.12	17.24	Peak	100	175

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

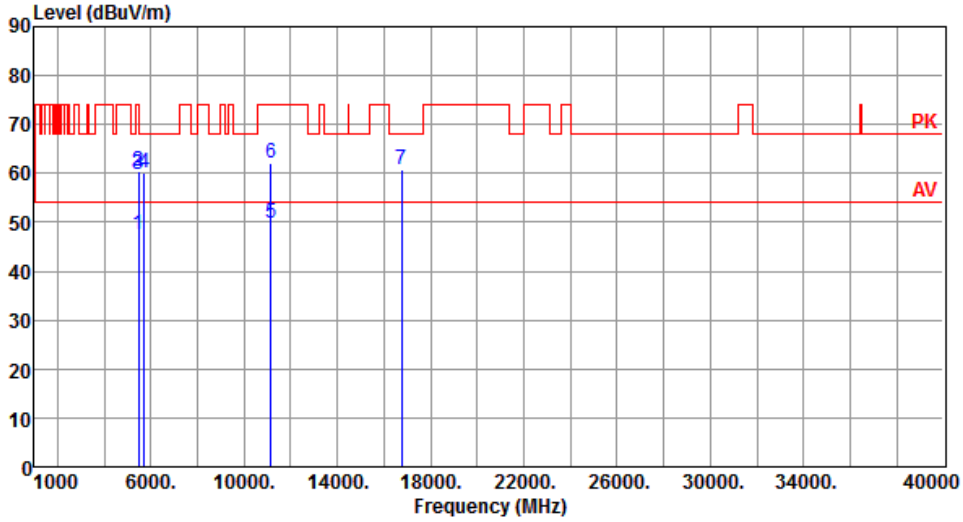
Modulation	VHT20	Test Freq. (MHz)	5580
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	47.84	54.00	-6.16	41.27	6.57	Average	157	42
2	5460.00	60.88	74.00	-13.12	54.31	6.57	Peak	157	42
3	5470.00	60.66	68.20	-7.54	54.08	6.58	Peak	157	42
4	5725.00	60.73	68.20	-7.47	53.73	7.00	Peak	157	42
5	11160.00	51.14	54.00	-2.86	34.60	16.54	Average	168	313
6	11160.00	64.26	74.00	-9.74	47.72	16.54	Peak	168	313
7	16740.00	60.71	68.20	-7.49	43.27	17.44	Peak	100	58

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).

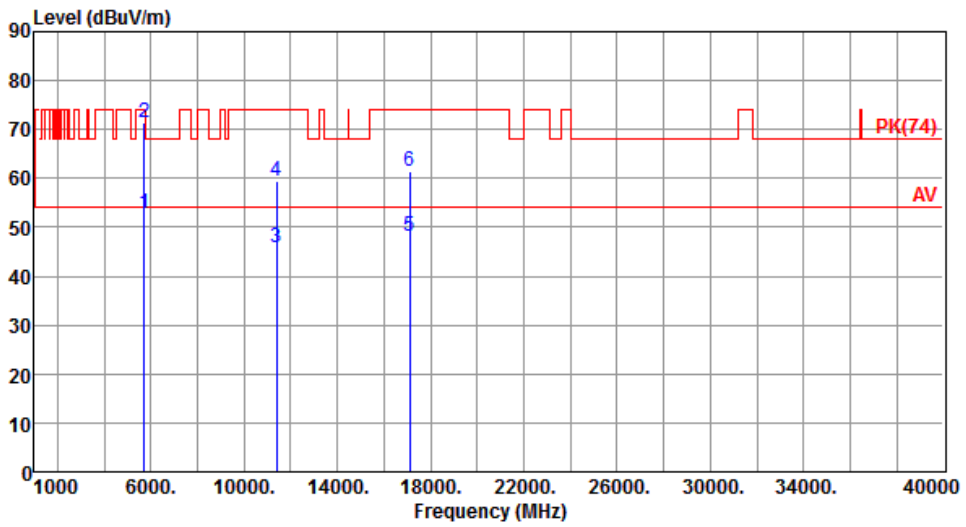
Modulation	VHT20	Test Freq. (MHz)	5580
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	47.60	54.00	-6.40	41.03	6.57	Average	222	173
2	5460.00	60.49	74.00	-13.51	53.92	6.57	Peak	222	173
3	5470.00	59.91	68.20	-8.29	53.33	6.58	Peak	222	173
4	5725.00	60.26	68.20	-7.94	53.26	7.00	Peak	222	173
5	11160.00	49.86	54.00	-4.14	33.32	16.54	Average	101	2
6	11160.00	62.19	74.00	-11.81	45.65	16.54	Peak	101	2
7	16740.00	60.67	68.20	-7.53	43.23	17.44	Peak	100	178

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).

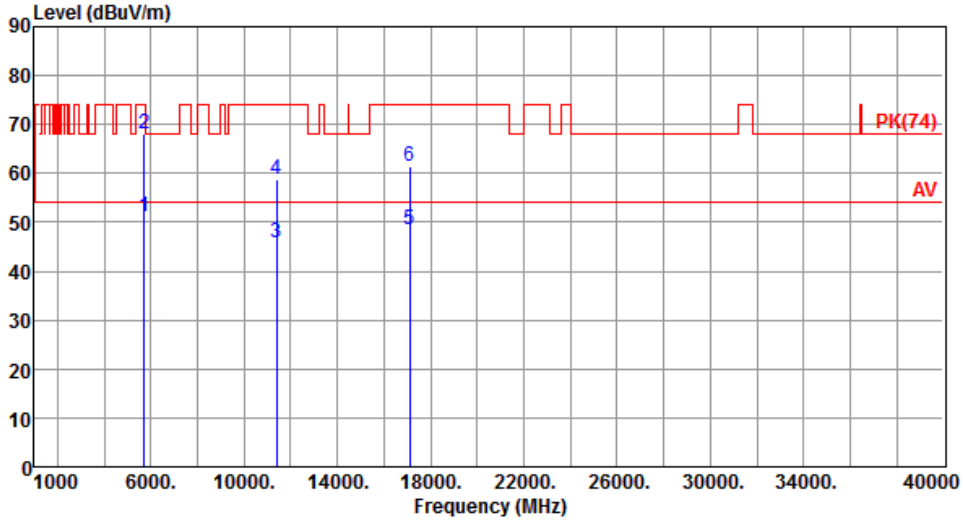
Modulation	VHT20	Test Freq. (MHz)	5700
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	52.88	54.00	-1.12	45.88	7.00	Average	152	45
2	5725.00	71.51	74.00	-2.49	64.51	7.00	Peak	152	45
3	11400.00	45.68	54.00	-8.32	29.17	16.51	Average	100	324
4	11400.00	59.40	74.00	-14.60	42.89	16.51	Peak	100	324
5	17100.00	48.22	54.00	-5.78	30.27	17.95	Average	100	51
6	17100.00	61.30	74.00	-12.70	43.35	17.95	Peak	100	51

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

Modulation	VHT20	Test Freq. (MHz)	5700
Polarization	Vertical		

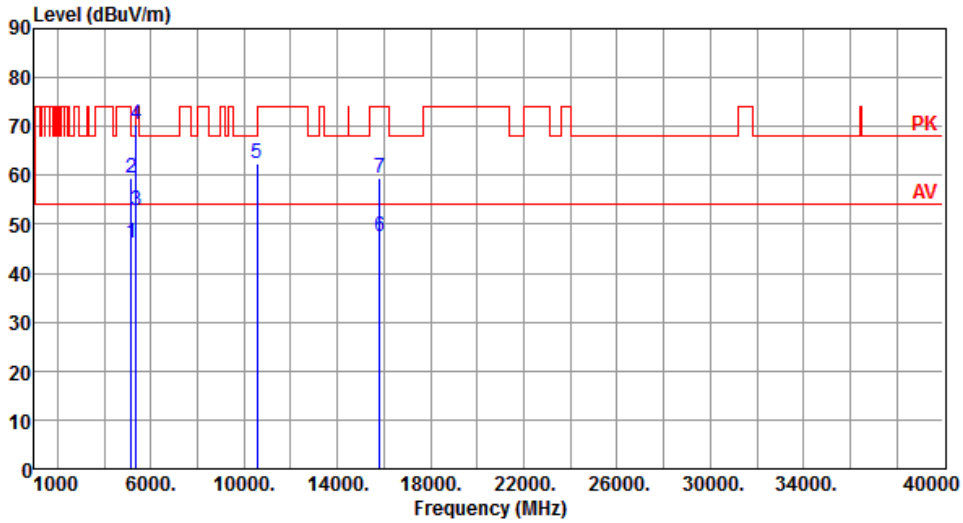


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	51.27	54.00	-2.73	44.27	7.00	Average	228	185
2	5725.00	68.18	74.00	-5.82	61.18	7.00	Peak	228	185
3	11400.00	45.75	54.00	-8.25	29.24	16.51	Average	100	3
4	11400.00	58.85	74.00	-15.15	42.34	16.51	Peak	100	3
5	17100.00	48.54	54.00	-5.46	30.59	17.95	Average	100	179
6	17100.00	61.29	74.00	-12.71	43.34	17.95	Peak	100	179

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

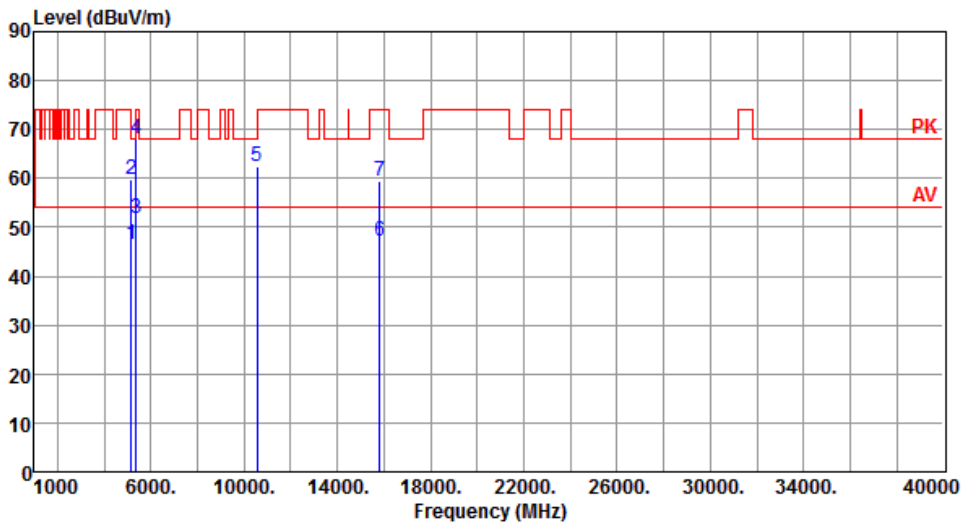
Modulation	VHT40	**Test Freq. (MHz)**	5270
Polarization	Horizontal		



	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	46.32	54.00	-7.68	40.11	6.21	Average	173	37
2	5150.00	59.61	74.00	-14.39	53.40	6.21	Peak	173	37
3	5350.00	52.95	54.00	-1.05	46.50	6.45	Average	173	37
4	5350.00	70.44	74.00	-3.56	63.99	6.45	Peak	173	37
5	10540.00	62.41	68.20	-5.79	46.51	15.90	Peak	100	336
6	15810.00	47.39	54.00	-6.61	31.54	15.85	Average	100	29
7	15810.00	59.56	74.00	-14.44	43.71	15.85	Peak	100	29

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).

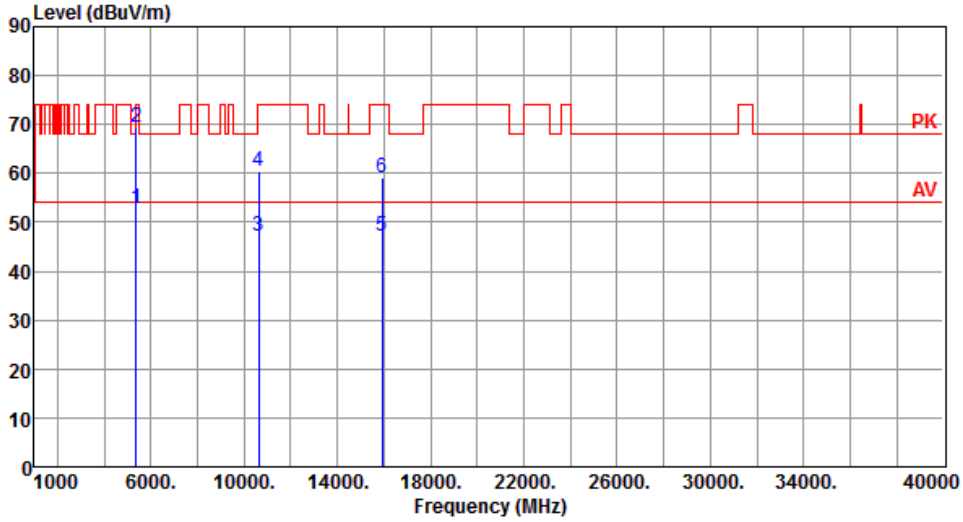
Modulation	VHT40	Test Freq. (MHz)	5270
Polarization	Vertical		



	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	46.50	54.00	-7.50	40.29	6.21	Average	105	344
2	5150.00	59.79	74.00	-14.21	53.58	6.21	Peak	105	344
3	5350.00	51.93	54.00	-2.07	45.48	6.45	Average	105	344
4	5350.00	68.12	74.00	-5.88	61.67	6.45	Peak	105	344
5	10540.00	62.55	68.20	-5.65	46.65	15.90	Peak	118	356
6	15810.00	47.27	54.00	-6.73	31.42	15.85	Average	100	339
7	15810.00	59.42	74.00	-14.58	43.57	15.85	Peak	100	339

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).

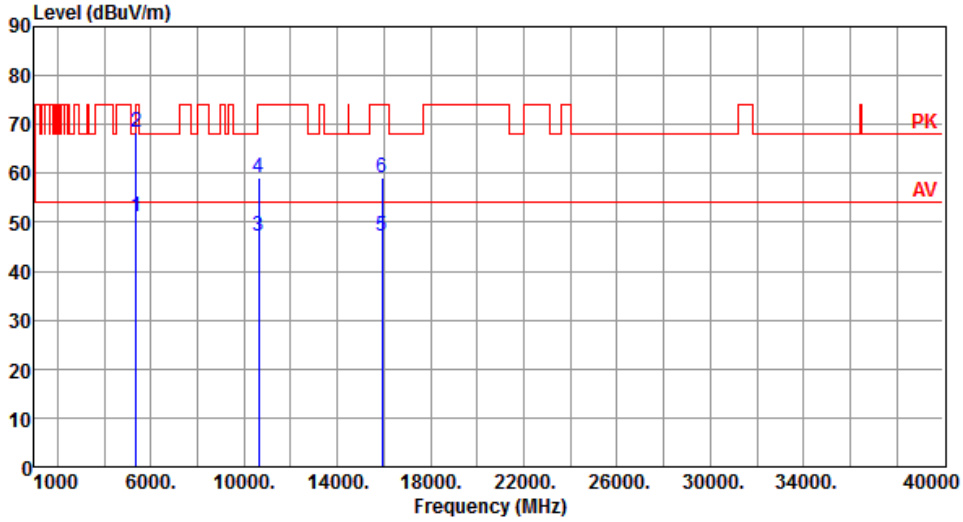
Modulation	VHT40	Test Freq. (MHz)	5310
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	52.80	54.00	-1.20	46.35	6.45	Average	161	31
2	5350.00	69.44	74.00	-4.56	62.99	6.45	Peak	161	31
3	10620.00	47.30	54.00	-6.70	31.28	16.02	Average	100	331
4	10620.00	60.45	74.00	-13.55	44.43	16.02	Peak	100	331
5	15930.00	47.05	54.00	-6.95	31.44	15.61	Average	100	43
6	15930.00	59.28	74.00	-14.72	43.67	15.61	Peak	100	43

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).

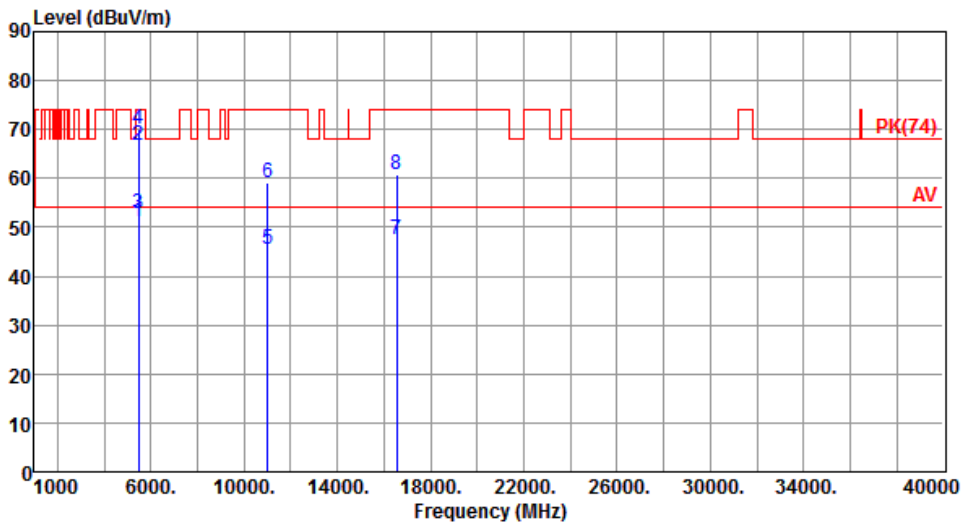
Modulation	VHT40	Test Freq. (MHz)	5310
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	51.24	54.00	-2.76	44.79	6.45	Average	103	339
2	5350.00	68.41	74.00	-5.59	61.96	6.45	Peak	103	339
3	10620.00	47.01	54.00	-6.99	30.99	16.02	Average	103	351
4	10620.00	59.08	74.00	-14.92	43.06	16.02	Peak	103	351
5	15930.00	47.08	54.00	-6.92	31.47	15.61	Average	103	348
6	15930.00	59.08	74.00	-14.92	43.47	15.61	Peak	103	348

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).

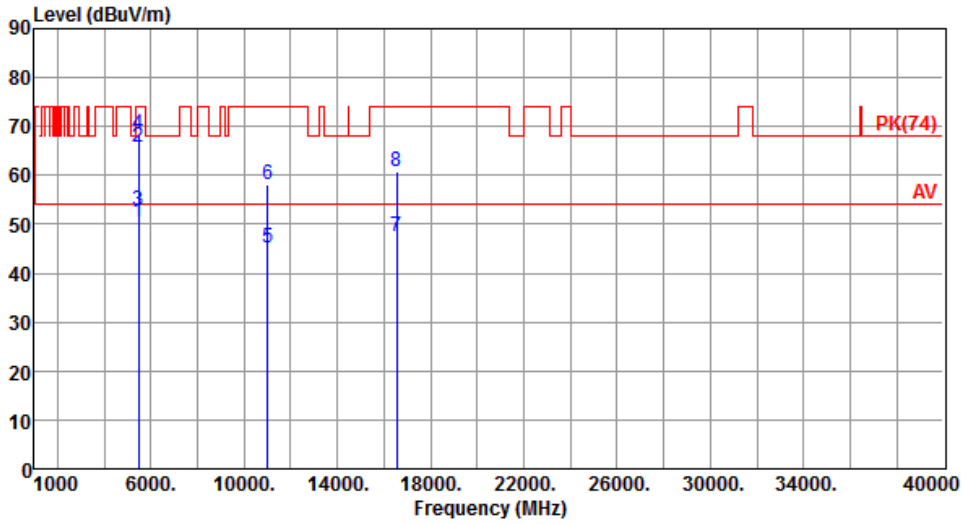
Modulation	VHT40	Test Freq. (MHz)	5510
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	51.28	54.00	-2.72	44.71	6.57	Average	160	37
2	5460.00	66.61	74.00	-7.39	60.04	6.57	Peak	160	37
3	5470.00	52.93	54.00	-1.07	46.35	6.58	Average	160	37
4	5470.00	70.06	74.00	-3.94	63.48	6.58	Peak	160	37
5	11020.00	45.52	54.00	-8.48	28.94	16.58	Average	100	339
6	11020.00	58.98	74.00	-15.02	42.40	16.58	Peak	100	339
7	16530.00	47.48	54.00	-6.52	30.22	17.26	Average	100	42
8	16530.00	60.85	74.00	-13.15	43.59	17.26	Peak	100	42

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).

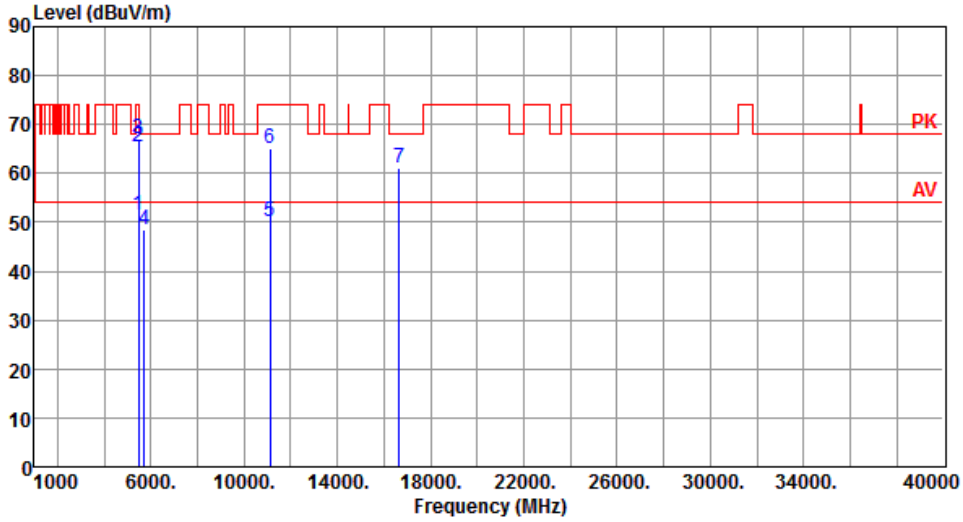
Modulation	VHT40	Test Freq. (MHz)	5510
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	50.42	54.00	-3.58	43.85	6.57	Average	181	175
2	5460.00	65.77	74.00	-8.23	59.20	6.57	Peak	181	175
3	5470.00	52.77	54.00	-1.23	46.19	6.58	Average	181	175
4	5470.00	68.36	74.00	-5.64	61.78	6.58	Peak	181	175
5	11020.00	45.20	54.00	-8.80	28.62	16.58	Average	181	175
6	11020.00	57.99	74.00	-16.01	41.41	16.58	Peak	181	175
7	16530.00	47.40	54.00	-6.60	30.14	17.26	Average	100	180
8	16530.00	60.62	74.00	-13.38	43.36	17.26	Peak	100	180

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).

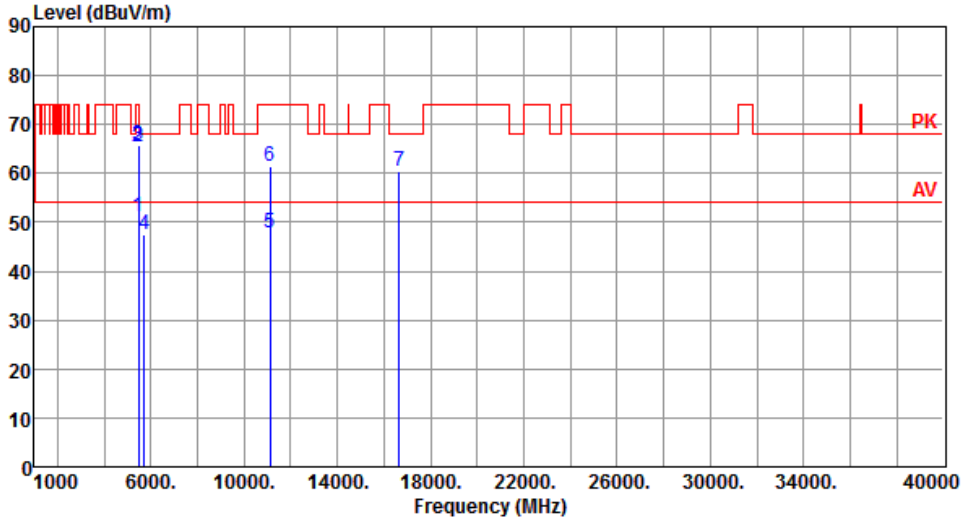
Modulation	VHT40	Test Freq. (MHz)	5550
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	51.34	54.00	-2.66	44.77	6.57	Average	189	42
2	5460.00	65.54	74.00	-8.46	58.97	6.57	Peak	189	42
3	5470.00	67.19	68.20	-1.01	60.61	6.58	Peak	189	42
4	5725.00	48.35	54.00	-5.65	41.35	7.00	Average	189	42
5	11100.00	50.15	54.00	-3.85	33.59	16.56	Average	257	311
6	11100.00	65.25	74.00	-8.75	48.69	16.56	Peak	257	311
7	16650.00	61.21	68.20	-6.99	43.85	17.36	Peak	100	45

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).

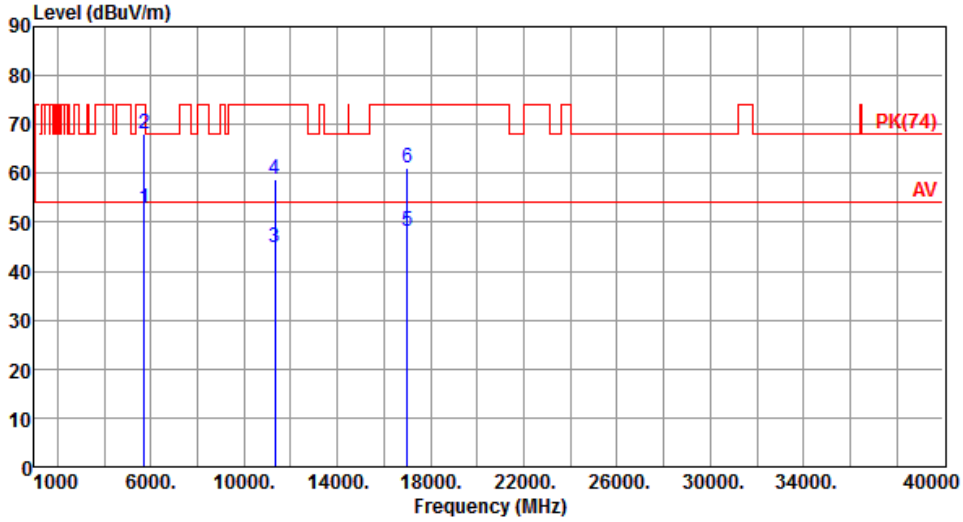
Modulation	VHT40	Test Freq. (MHz)	5550
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	51.16	54.00	-2.84	44.59	6.57	Average	197	182
2	5460.00	65.55	74.00	-8.45	58.98	6.57	Peak	197	182
3	5470.00	65.88	68.20	-2.32	59.30	6.58	Peak	197	182
4	5725.00	47.50	54.00	-6.50	40.50	7.00	Average	197	182
5	11100.00	47.67	54.00	-6.33	31.11	16.56	Average	100	0
6	11100.00	61.35	74.00	-12.65	44.79	16.56	Peak	100	0
7	16650.00	60.31	68.20	-7.89	42.95	17.36	Peak	100	178

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).

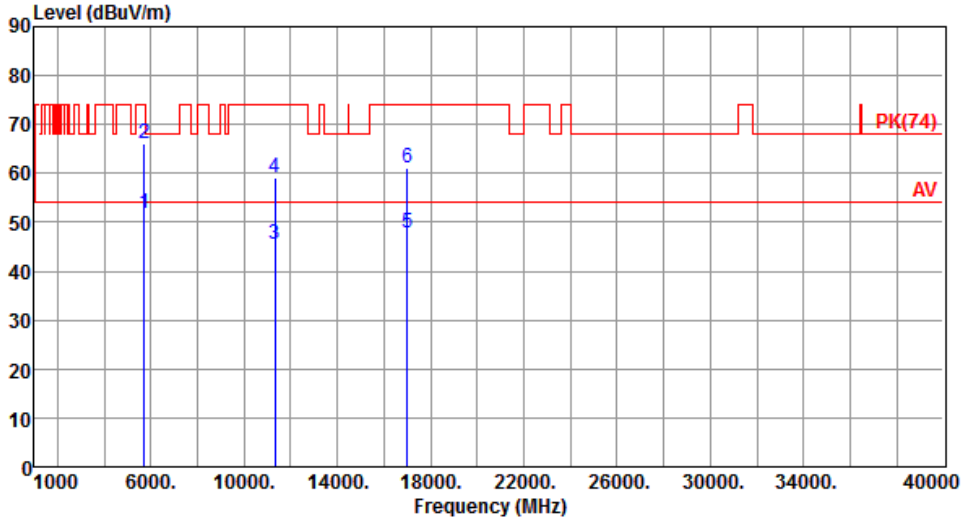
Modulation	VHT40	Test Freq. (MHz)	5670
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	52.95	54.00	-1.05	45.95	7.00	Average	156	42
2	5725.00	68.15	74.00	-5.85	61.15	7.00	Peak	156	42
3	11340.00	44.91	54.00	-9.09	28.38	16.53	Average	100	318
4	11340.00	58.66	74.00	-15.34	42.13	16.53	Peak	100	318
5	17010.00	48.25	54.00	-5.75	30.58	17.67	Average	100	45
6	17010.00	61.14	74.00	-12.86	43.47	17.67	Peak	100	45

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)	5670
Polarization	Vertical		

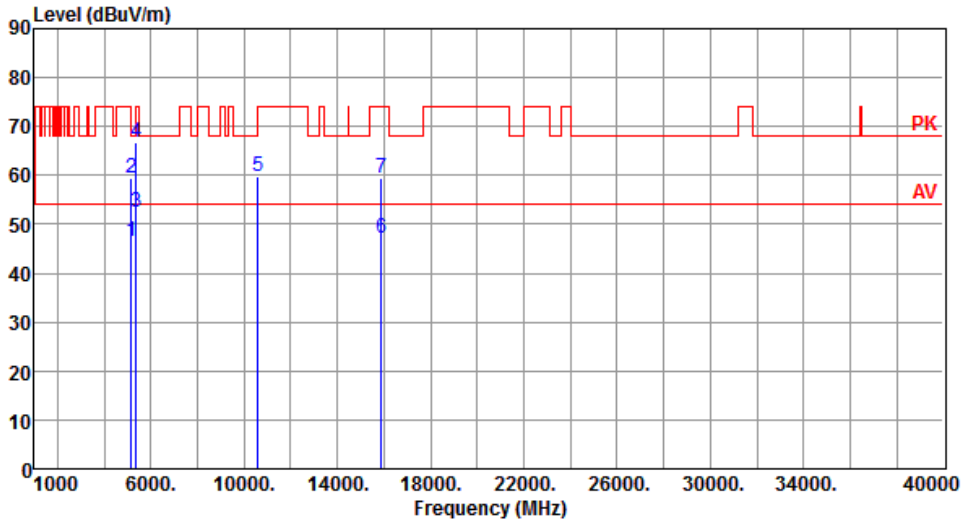


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	51.85	54.00	-2.15	44.85	7.00	Average	251	185
2	5725.00	66.21	74.00	-7.79	59.21	7.00	Peak	251	185
3	11340.00	45.46	54.00	-8.54	28.93	16.53	Average	100	359
4	11340.00	58.96	74.00	-15.04	42.43	16.53	Peak	100	359
5	17010.00	47.96	54.00	-6.04	30.29	17.67	Average	100	179
6	17010.00	60.96	74.00	-13.04	43.29	17.67	Peak	100	179

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

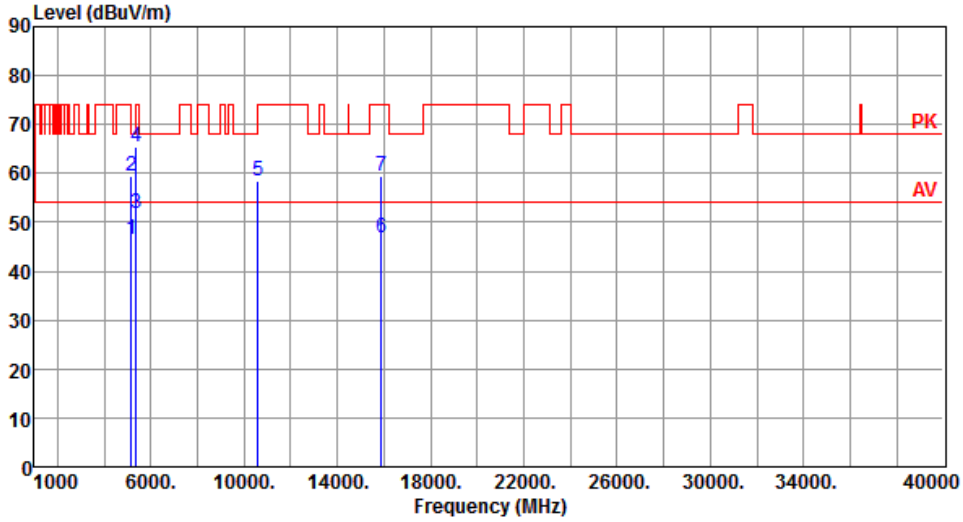
Modulation	VHT80	**Test Freq. (MHz)**	5290
Polarization	Horizontal		



	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	46.44	54.00	-7.56	40.23	6.21	Average	160	30
2	5150.00	59.56	74.00	-14.44	53.35	6.21	Peak	160	30
3	5350.00	52.56	54.00	-1.44	46.11	6.45	Average	160	30
4	5350.00	66.60	74.00	-7.40	60.15	6.45	Peak	160	30
5	10580.00	59.71	68.20	-8.49	43.75	15.96	Peak	100	328
6	15870.00	47.30	54.00	-6.70	31.57	15.73	Average	100	28
7	15870.00	59.35	74.00	-14.65	43.62	15.73	Peak	100	28

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).

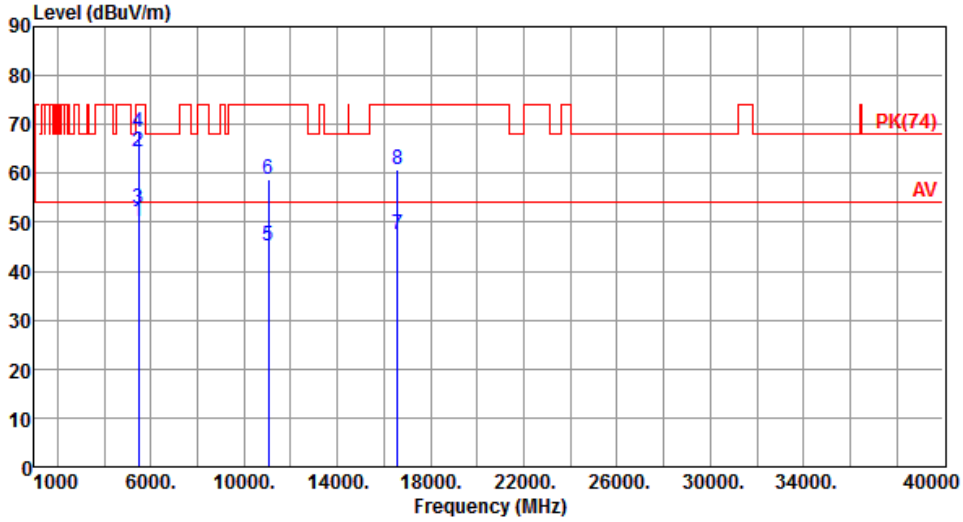
Modulation	VHT80	Test Freq. (MHz)	5290
Polarization	Vertical		



	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	46.39	54.00	-7.61	40.18	6.21	Average	100	346
2	5150.00	59.46	74.00	-14.54	53.25	6.21	Peak	100	346
3	5350.00	51.79	54.00	-2.21	45.34	6.45	Average	100	346
4	5350.00	65.58	74.00	-8.42	59.13	6.45	Peak	100	346
5	10580.00	58.44	68.20	-9.76	42.48	15.96	Peak	100	351
6	15870.00	46.87	54.00	-7.13	31.14	15.73	Average	100	357
7	15870.00	59.55	74.00	-14.45	43.82	15.73	Peak	100	357

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).

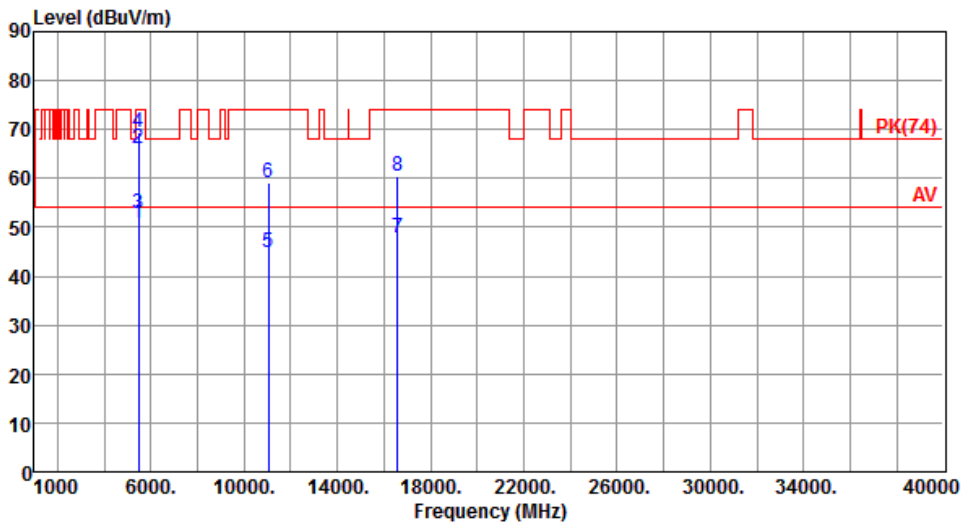
Modulation	VHT80	Test Freq. (MHz)	5530
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	50.13	54.00	-3.87	43.56	6.57	Average	158	35
2	5460.00	64.46	74.00	-9.54	57.89	6.57	Peak	158	35
3	5470.00	52.81	54.00	-1.19	46.23	6.58	Average	158	35
4	5470.00	68.30	74.00	-5.70	61.72	6.58	Peak	158	35
5	11060.00	45.14	54.00	-8.86	28.58	16.56	Average	100	341
6	11060.00	58.74	74.00	-15.26	42.18	16.56	Peak	100	341
7	16590.00	47.50	54.00	-6.50	30.18	17.32	Average	100	29
8	16590.00	60.67	74.00	-13.33	43.35	17.32	Peak	100	29

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)	5530
Polarization	Vertical		



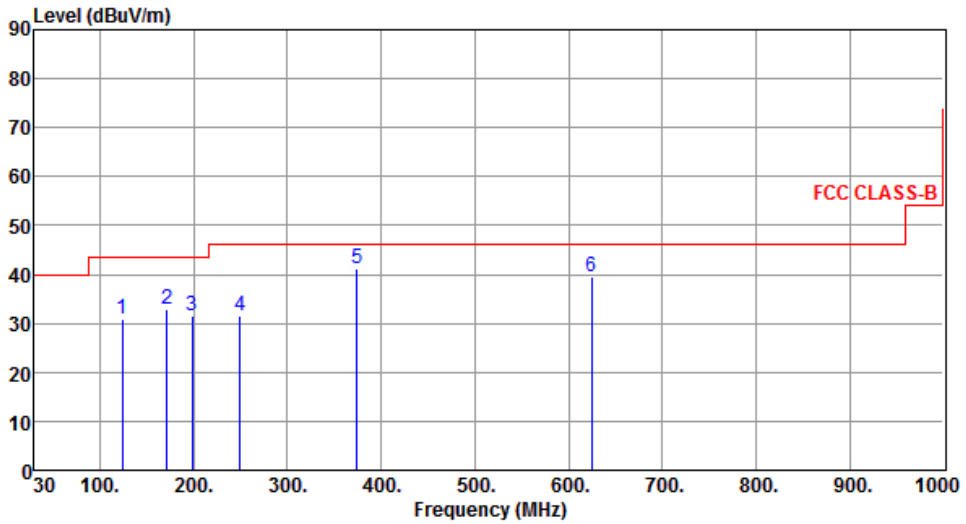
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	50.94	54.00	-3.06	44.37	6.57	Average	291	175
2	5460.00	66.15	74.00	-7.85	59.58	6.57	Peak	291	175
3	5470.00	52.96	54.00	-1.04	46.38	6.58	Average	291	175
4	5470.00	69.54	74.00	-4.46	62.96	6.58	Peak	291	175
5	11060.00	44.78	54.00	-9.22	28.22	16.56	Average	100	7
6	11060.00	59.18	74.00	-14.82	42.62	16.56	Peak	100	7
7	16590.00	47.71	54.00	-6.29	30.39	17.32	Average	100	187
8	16590.00	60.59	74.00	-13.41	43.27	17.32	Peak	100	187

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)

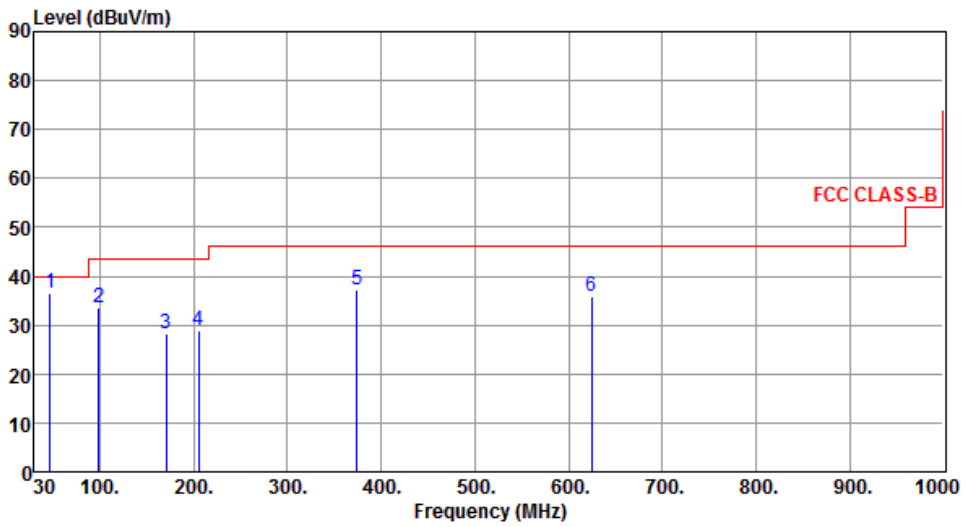
Modulation	VHT40	**Test Freq. (MHz)**	5550
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	124.18	30.84	43.50	-12.66	41.05	-10.21	Peak	---	---
2	171.58	32.74	43.50	-10.76	41.20	-8.46	Peak	---	---
3	198.69	31.56	43.50	-11.94	42.29	-10.73	Peak	---	---
4	249.31	31.48	46.00	-14.52	40.56	-9.08	Peak	---	---
5	374.47	41.23	46.00	-4.77	46.93	-5.70	Peak	---	---
6	624.55	39.38	46.00	-6.62	39.68	-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	VHT40	Test Freq. (MHz)	5550
Polarization	Vertical		

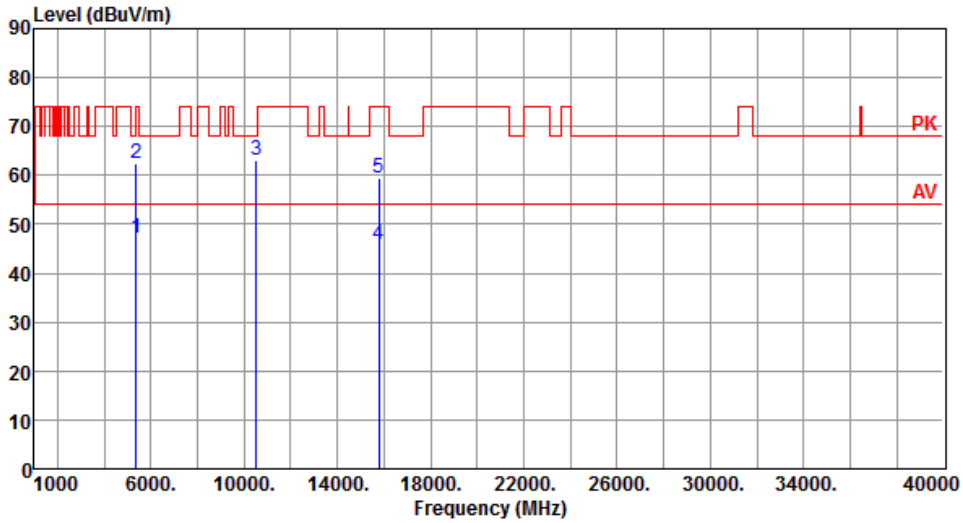


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	46.44	36.66	40.00	-3.34	44.70	-8.04	QP	100	118
2	98.81	33.69	43.50	-9.81	46.98	-13.29	Peak	---	---
3	170.57	28.27	43.50	-15.23	36.59	-8.32	Peak	---	---
4	205.66	28.84	43.50	-14.66	39.55	-10.71	Peak	---	---
5	374.47	37.16	46.00	-8.84	42.86	-5.70	Peak	---	---
6	624.57	35.75	46.00	-10.25	36.05	-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

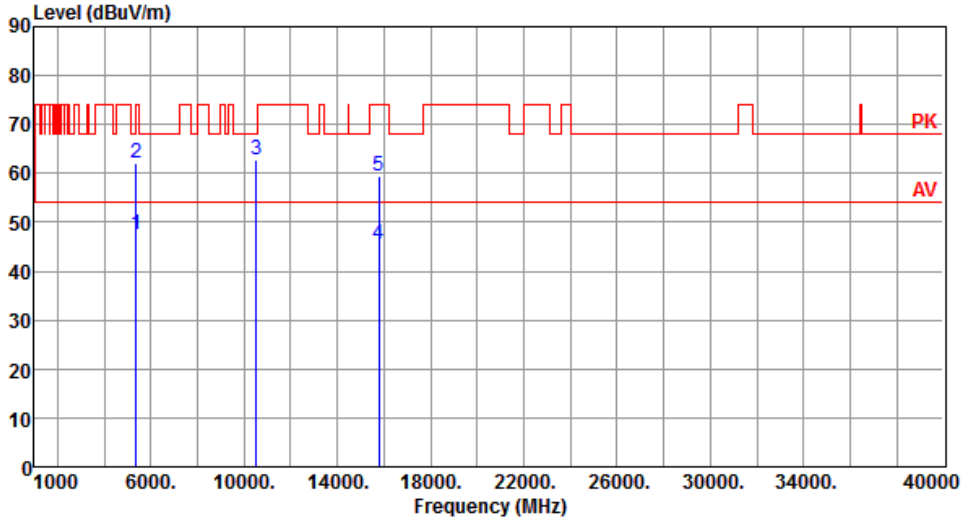
Modulation	VHT20	**Test Freq. (MHz)**	5260
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	47.02	54.00	-6.98	40.57	6.45	Average	230	19
2	5350.00	62.34	74.00	-11.66	55.89	6.45	Peak	230	19
3	10520.00	62.94	68.20	-5.26	47.06	15.88	Peak	110	338
4	15780.00	45.75	54.00	-8.25	29.84	15.91	Average	100	29
5	15780.00	59.58	74.00	-14.42	43.67	15.91	Peak	100	29

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).

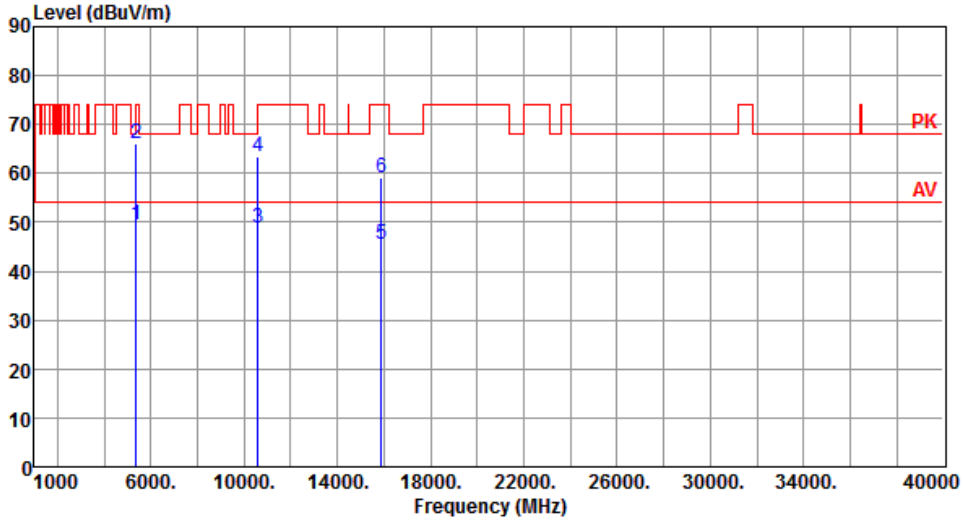
Modulation	VHT20	Test Freq. (MHz)	5260
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	47.43	54.00	-6.57	40.98	6.45	Average	254	184
2	5350.00	62.15	74.00	-11.85	55.70	6.45	Peak	254	184
3	10520.00	62.77	68.20	-5.43	46.89	15.88	Peak	186	351
4	15780.00	45.59	54.00	-8.41	29.68	15.91	Average	100	12
5	15780.00	59.45	74.00	-14.55	43.54	15.91	Peak	100	12

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).

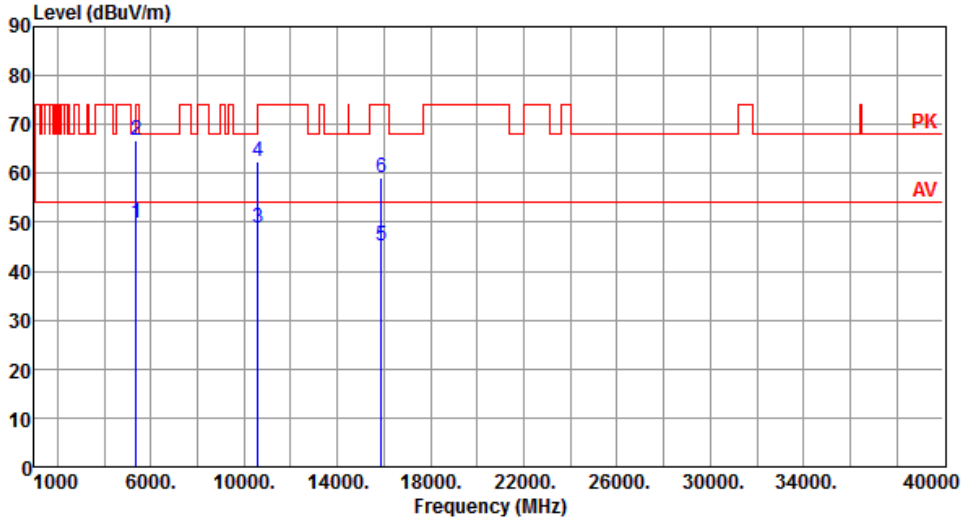
Modulation	VHT20	Test Freq. (MHz)	5300
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	49.34	54.00	-4.66	42.89	6.45	Average	225	21
2	5350.00	66.14	74.00	-7.86	59.69	6.45	Peak	225	21
3	10600.00	48.90	54.00	-5.10	32.91	15.99	Average	102	330
4	10600.00	63.43	74.00	-10.57	47.44	15.99	Peak	102	330
5	15900.00	45.41	54.00	-8.59	29.74	15.67	Average	100	23
6	15900.00	59.24	74.00	-14.76	43.57	15.67	Peak	100	23

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).

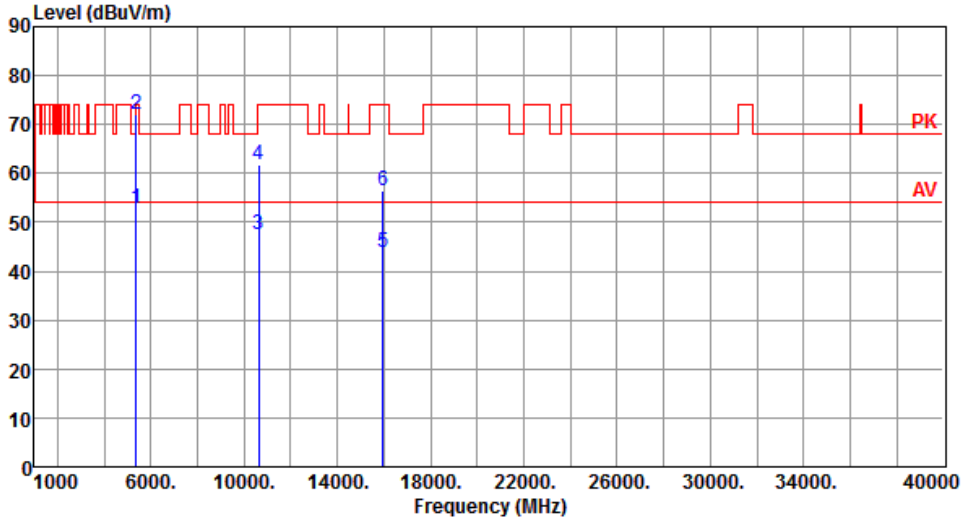
Modulation	VHT20	Test Freq. (MHz)	5300
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	49.74	54.00	-4.26	43.29	6.45	Average	240	192
2	5350.00	66.86	74.00	-7.14	60.41	6.45	Peak	240	192
3	10600.00	48.74	54.00	-5.26	32.75	15.99	Average	174	1
4	10600.00	62.50	74.00	-11.50	46.51	15.99	Peak	174	1
5	15900.00	45.22	54.00	-8.78	29.55	15.67	Average	100	5
6	15900.00	58.97	74.00	-15.03	43.30	15.67	Peak	100	5

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

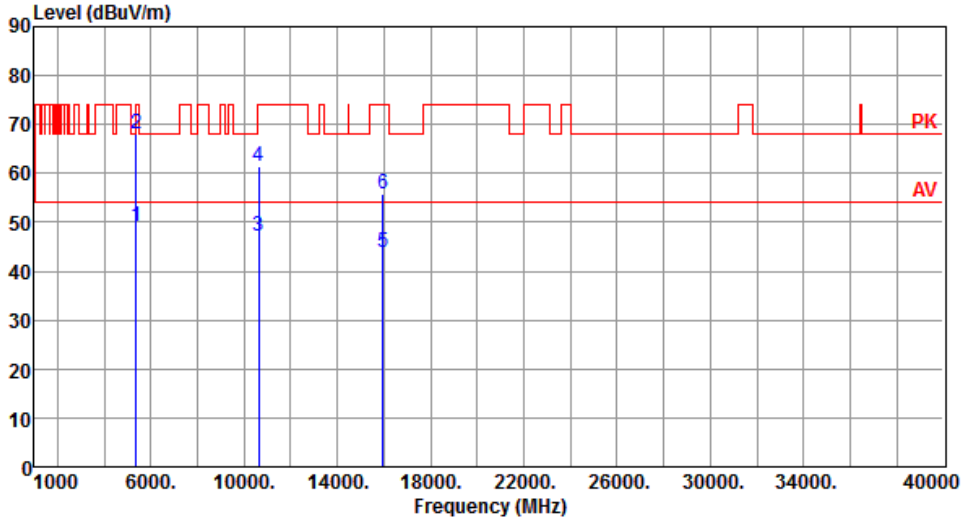
Modulation	VHT20	Test Freq. (MHz)	5320
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	52.85	54.00	-1.15	46.40	6.45	Average	289	240
2	5350.00	72.01	74.00	-1.99	65.56	6.45	Peak	289	240
3	10640.00	47.36	54.00	-6.64	31.30	16.06	Average	310	316
4	10640.00	61.84	74.00	-12.16	45.78	16.06	Peak	310	316
5	15960.00	43.91	54.00	-10.09	28.36	15.55	Average	100	40
6	15960.00	56.42	74.00	-17.58	40.87	15.55	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).

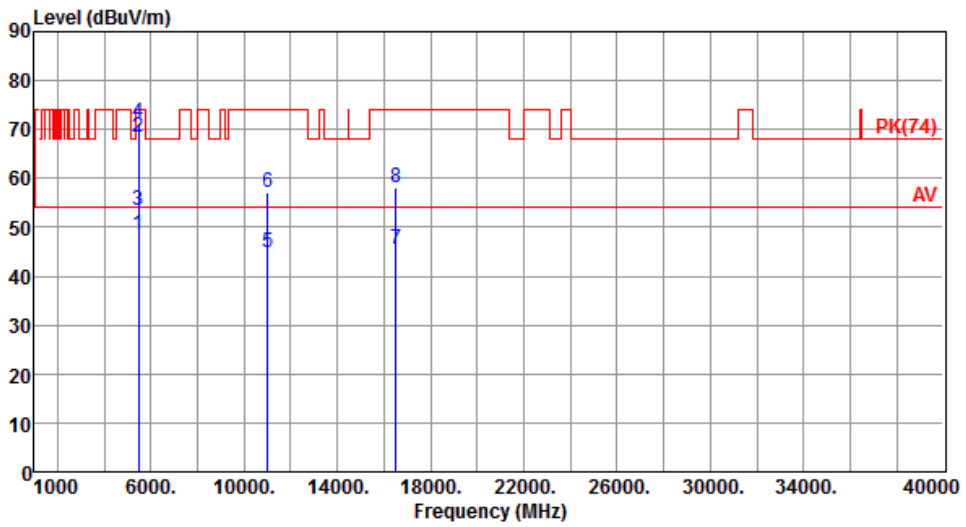
Modulation	VHT20	Test Freq. (MHz)	5320
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	49.16	54.00	-4.84	42.71	6.45	Average	314	339
2	5350.00	68.05	74.00	-5.95	61.60	6.45	Peak	314	339
3	10640.00	47.26	54.00	-6.74	31.20	16.06	Average	218	330
4	10640.00	61.30	74.00	-12.70	45.24	16.06	Peak	218	330
5	15960.00	44.00	54.00	-10.00	28.45	15.55	Average	100	60
6	15960.00	55.93	74.00	-18.07	40.38	15.55	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).

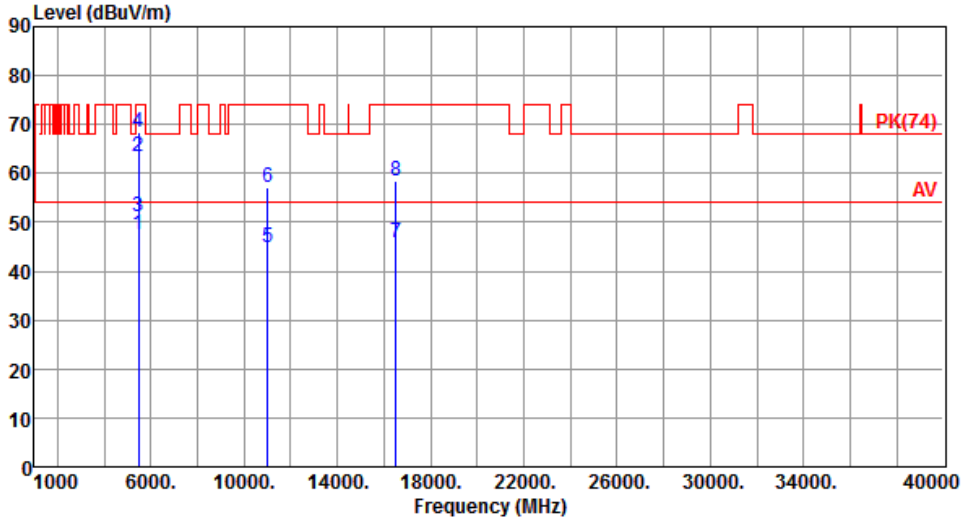
Modulation	VHT20	Test Freq. (MHz)	5500
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	48.64	54.00	-5.36	42.07	6.57	Average	286	226
2	5460.00	68.45	74.00	-5.55	61.88	6.57	Peak	286	226
3	5470.00	53.51	54.00	-0.49	46.93	6.58	Average	286	226
4	5470.00	71.28	74.00	-2.72	64.70	6.58	Peak	286	226
5	11000.00	44.94	54.00	-9.06	28.36	16.58	Average	100	60
6	11000.00	57.09	74.00	-16.91	40.51	16.58	Peak	100	60
7	16500.00	45.65	54.00	-8.35	28.41	17.24	Average	100	70
8	16500.00	58.13	74.00	-15.87	40.89	17.24	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).

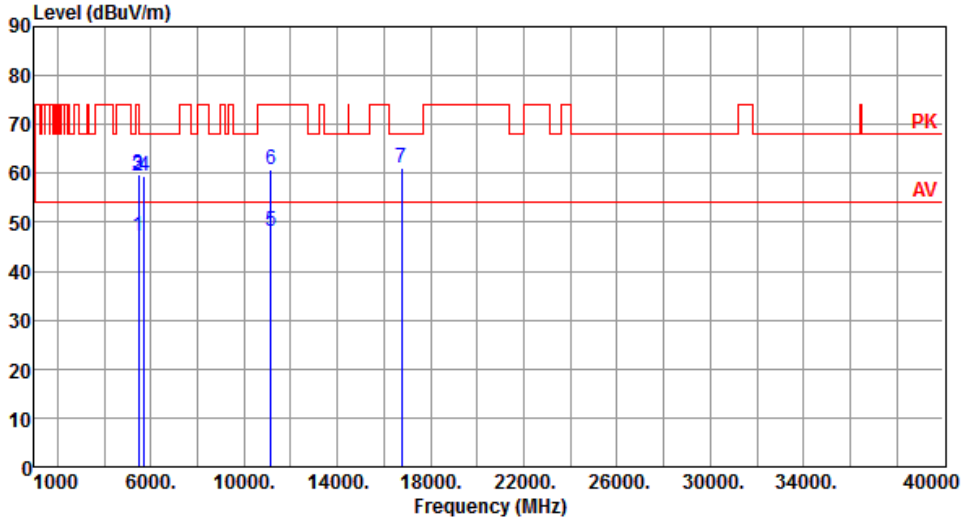
Modulation	VHT20	Test Freq. (MHz)	5500
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	47.42	54.00	-6.58	40.85	6.57	Average	312	318
2	5460.00	63.37	74.00	-10.63	56.80	6.57	Peak	312	318
3	5470.00	51.12	54.00	-2.88	44.54	6.58	Average	312	318
4	5470.00	68.44	74.00	-5.56	61.86	6.58	Peak	312	318
5	11000.00	44.84	54.00	-9.16	28.26	16.58	Average	100	300
6	11000.00	57.16	74.00	-16.84	40.58	16.58	Peak	100	300
7	16500.00	45.81	54.00	-8.19	28.57	17.24	Average	100	205
8	16500.00	58.50	74.00	-15.50	41.26	17.24	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).

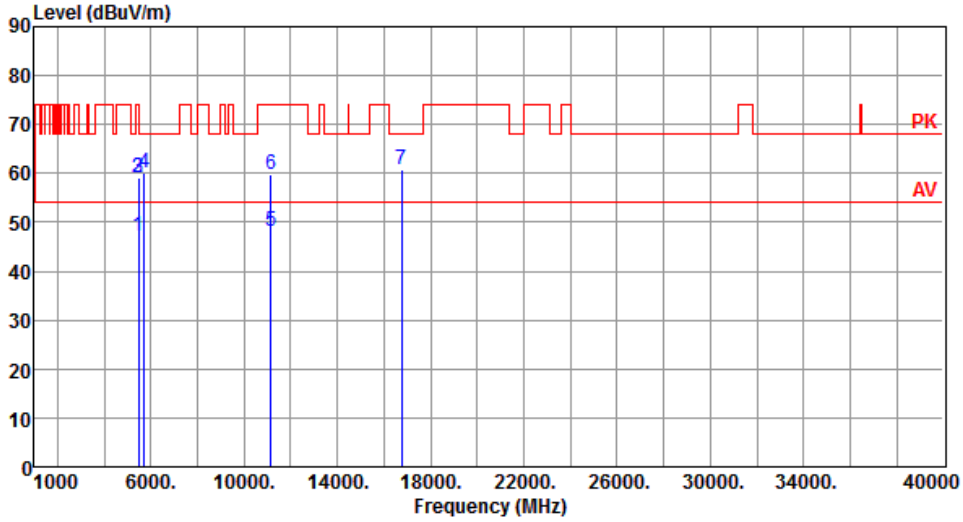
Modulation	VHT20	Test Freq. (MHz)	5580
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	47.14	54.00	-6.86	40.57	6.57	Average	237	29
2	5460.00	59.55	74.00	-14.45	52.98	6.57	Peak	237	29
3	5470.00	59.88	68.20	-8.32	53.30	6.58	Peak	237	29
4	5725.00	59.37	68.20	-8.83	52.37	7.00	Peak	237	29
5	11160.00	48.14	54.00	-5.86	31.60	16.54	Average	153	329
6	11160.00	60.79	74.00	-13.21	44.25	16.54	Peak	153	329
7	16740.00	61.27	68.20	-6.93	43.83	17.44	Peak	100	32

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).

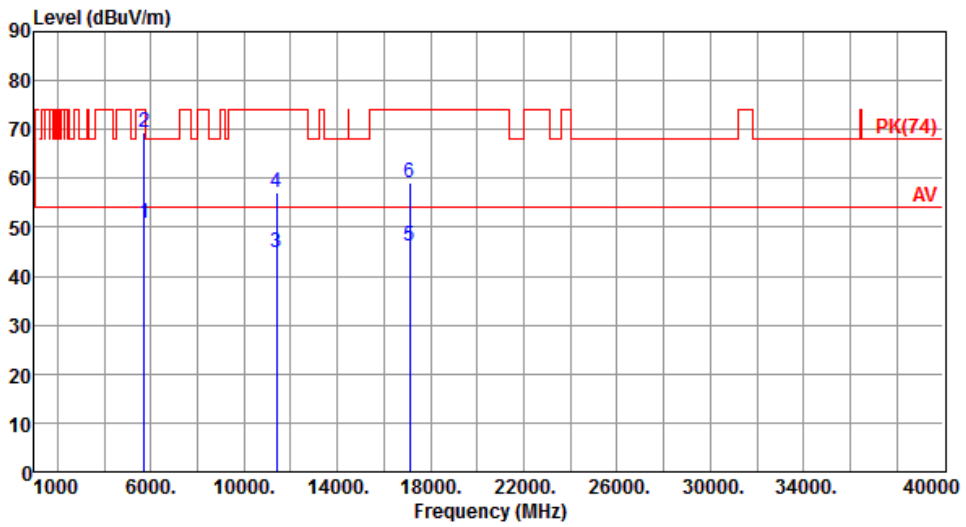
Modulation	VHT20	Test Freq. (MHz)	5580
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	47.13	54.00	-6.87	40.56	6.57	Average	259	178
2	5460.00	59.02	74.00	-14.98	52.45	6.57	Peak	259	178
3	5470.00	59.15	68.20	-9.05	52.57	6.58	Peak	259	178
4	5725.00	60.13	68.20	-8.07	53.13	7.00	Peak	259	178
5	11160.00	48.12	54.00	-5.88	31.58	16.54	Average	120	5
6	11160.00	59.79	74.00	-14.21	43.25	16.54	Peak	120	5
7	16740.00	60.67	68.20	-7.53	43.23	17.44	Peak	100	15

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).

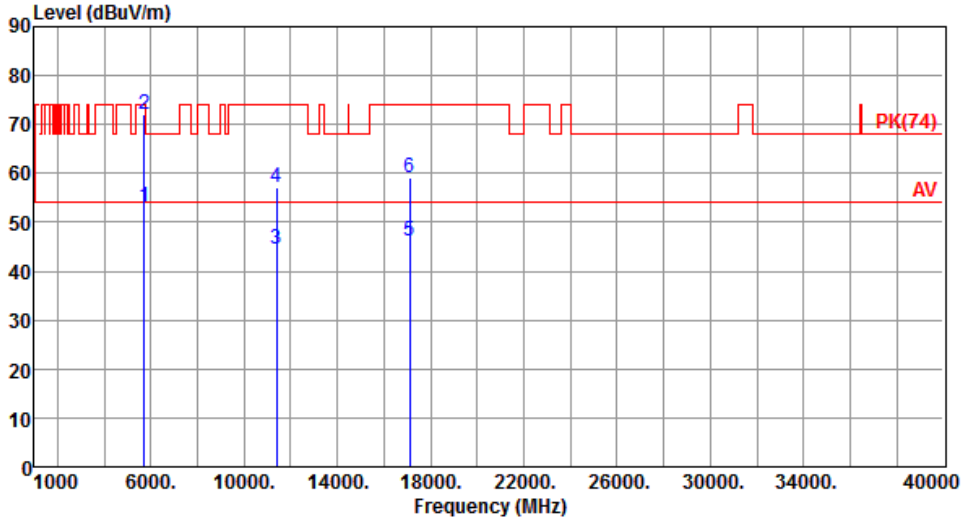
Modulation	VHT20	Test Freq. (MHz)	5700
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	50.93	54.00	-3.07	43.93	7.00	Average	238	259
2	5725.00	69.33	74.00	-4.67	62.33	7.00	Peak	238	259
3	11400.00	44.77	54.00	-9.23	28.26	16.51	Average	100	60
4	11400.00	57.19	74.00	-16.81	40.68	16.51	Peak	100	60
5	17100.00	46.21	54.00	-7.79	28.26	17.95	Average	100	90
6	17100.00	59.27	74.00	-14.73	41.32	17.95	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)	5700
Polarization	Vertical		

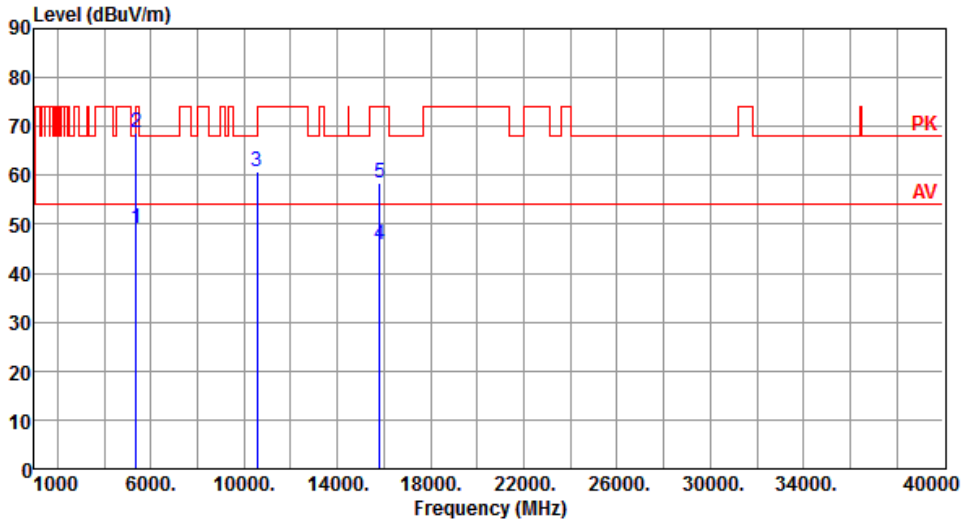


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	53.30	54.00	-0.70	46.30	7.00	Average	268	274
2	5725.00	72.01	74.00	-1.99	65.01	7.00	Peak	268	274
3	11400.00	44.64	54.00	-9.36	28.13	16.51	Average	100	200
4	11400.00	57.05	74.00	-16.95	40.54	16.51	Peak	100	200
5	17100.00	46.31	54.00	-7.69	28.36	17.95	Average	100	150
6	17100.00	59.07	74.00	-14.93	41.12	17.95	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).

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

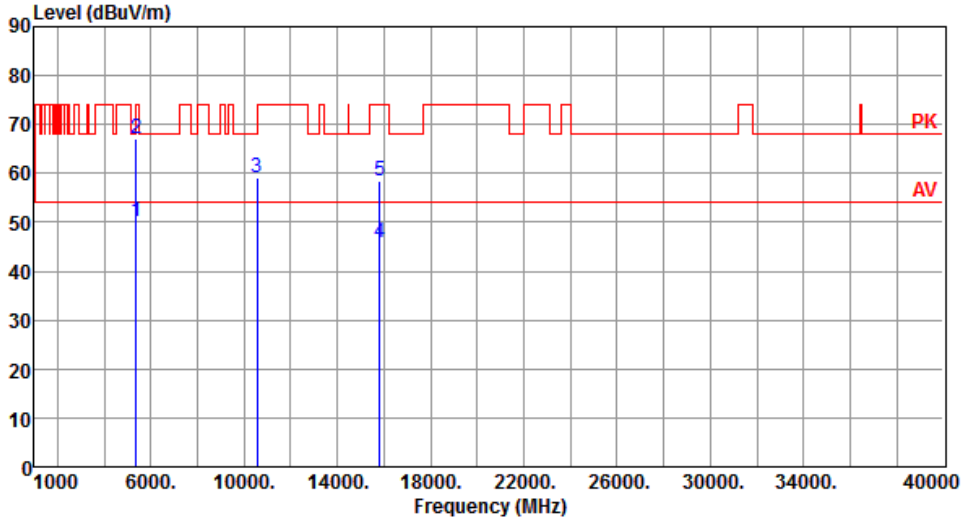
Modulation	VHT40	**Test Freq. (MHz)**	5270
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	49.14	54.00	-4.86	42.69	6.45	Average	175	36
2	5350.00	68.82	74.00	-5.18	62.37	6.45	Peak	175	36
3	10540.00	60.81	68.20	-7.39	44.91	15.90	Peak	100	338
4	15810.00	45.74	54.00	-8.26	29.89	15.85	Average	100	20
5	15810.00	58.59	74.00	-15.41	42.74	15.85	Peak	100	20

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

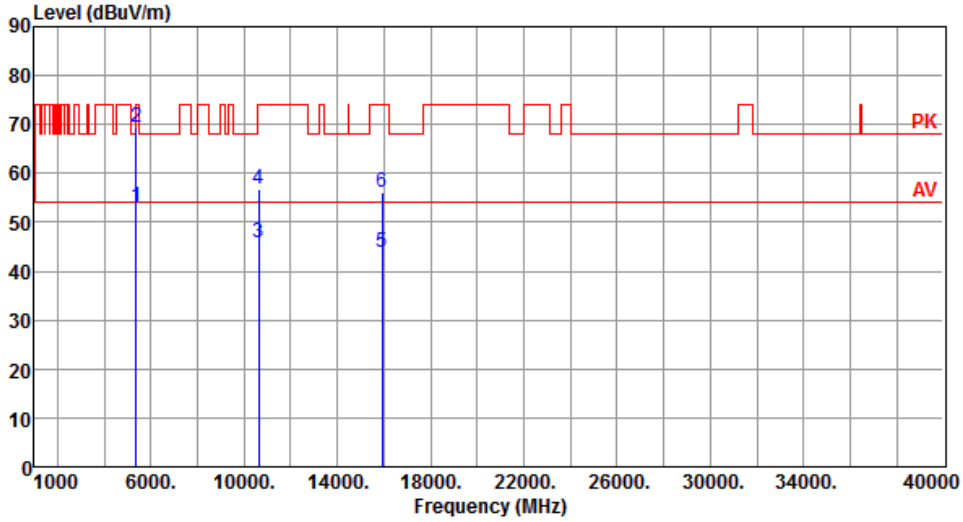
Modulation	VHT40	Test Freq. (MHz)	5270
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	50.07	54.00	-3.93	43.62	6.45	Average	249	180
2	5350.00	67.22	74.00	-6.78	60.77	6.45	Peak	249	180
3	10540.00	58.99	68.20	-9.21	43.09	15.90	Peak	174	357
4	15810.00	45.68	54.00	-8.32	29.83	15.85	Average	100	50
5	15810.00	58.51	74.00	-15.49	42.66	15.85	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).

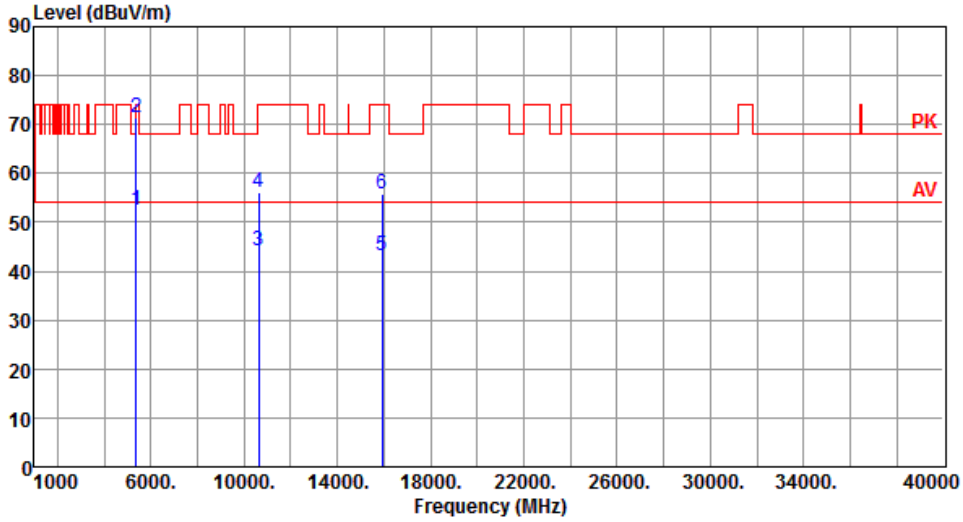
Modulation	VHT40	Test Freq. (MHz)	5310
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	52.97	54.00	-1.03	46.52	6.45	Average	305	215
2	5350.00	69.57	74.00	-4.43	63.12	6.45	Peak	305	215
3	10620.00	45.68	54.00	-8.32	29.66	16.02	Average	100	325
4	10620.00	56.74	74.00	-17.26	40.72	16.02	Peak	100	325
5	15930.00	43.93	54.00	-10.07	28.32	15.61	Average	100	302
6	15930.00	56.03	74.00	-17.97	40.42	15.61	Peak	100	302

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).

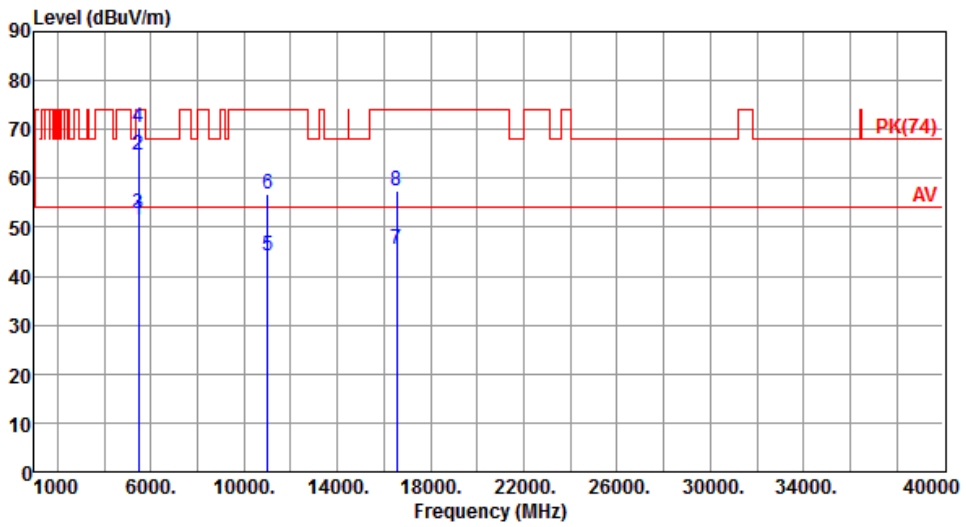
Modulation	VHT40	Test Freq. (MHz)	5310
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	52.60	54.00	-1.40	46.15	6.45	Average	328	353
2	5350.00	71.25	74.00	-2.75	64.80	6.45	Peak	328	353
3	10620.00	44.16	54.00	-9.84	28.14	16.02	Average	100	297
4	10620.00	56.21	74.00	-17.79	40.19	16.02	Peak	100	297
5	15930.00	43.16	54.00	-10.84	27.55	15.61	Average	100	196
6	15930.00	55.70	74.00	-18.30	40.09	15.61	Peak	100	196

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).

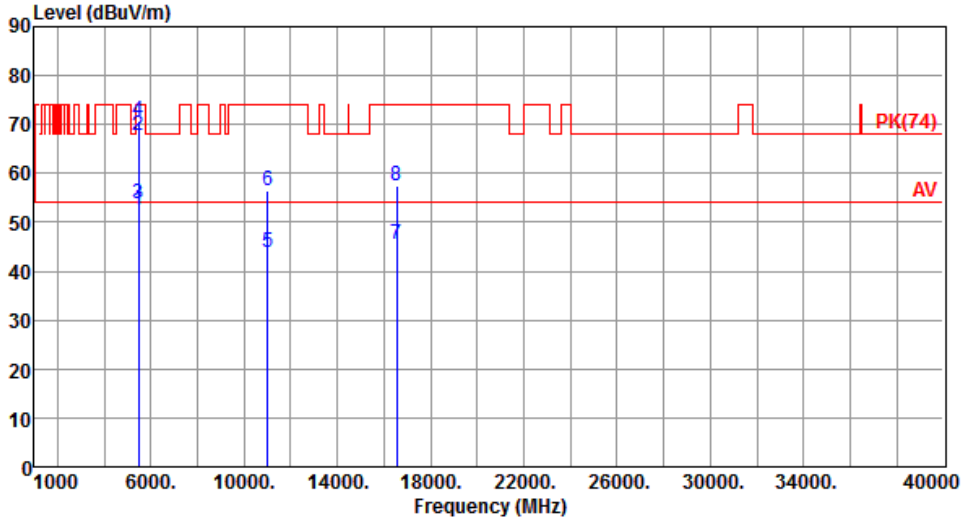
Modulation	VHT40	Test Freq. (MHz)	5510
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	51.44	54.00	-2.56	44.87	6.57	Average	228	249
2	5460.00	64.85	74.00	-9.15	58.28	6.57	Peak	228	249
3	5470.00	52.93	54.00	-1.07	46.35	6.58	Average	228	249
4	5470.00	70.24	74.00	-3.76	63.66	6.58	Peak	228	249
5	11020.00	44.17	54.00	-9.83	27.59	16.58	Average	100	331
6	11020.00	56.94	74.00	-17.06	40.36	16.58	Peak	100	331
7	16530.00	45.47	54.00	-8.53	28.21	17.26	Average	100	322
8	16530.00	57.54	74.00	-16.46	40.28	17.26	Peak	100	322

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).

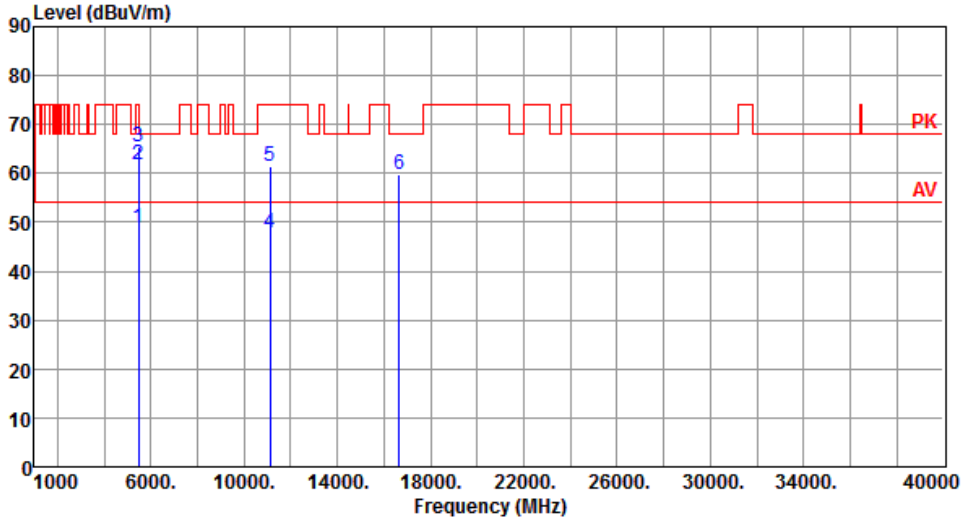
Modulation	VHT40	Test Freq. (MHz)	5510
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	52.39	54.00	-1.61	45.82	6.57	Average	314	333
2	5460.00	67.59	74.00	-6.41	61.02	6.57	Peak	314	333
3	5470.00	53.82	54.00	-0.18	47.24	6.58	Average	314	333
4	5470.00	70.88	74.00	-3.12	64.30	6.58	Peak	314	333
5	11020.00	43.86	54.00	-10.14	27.28	16.58	Average	100	317
6	11020.00	56.53	74.00	-17.47	39.95	16.58	Peak	100	317
7	16530.00	45.38	54.00	-8.62	28.12	17.26	Average	100	186
8	16530.00	57.31	74.00	-16.69	40.05	17.26	Peak	100	186

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).

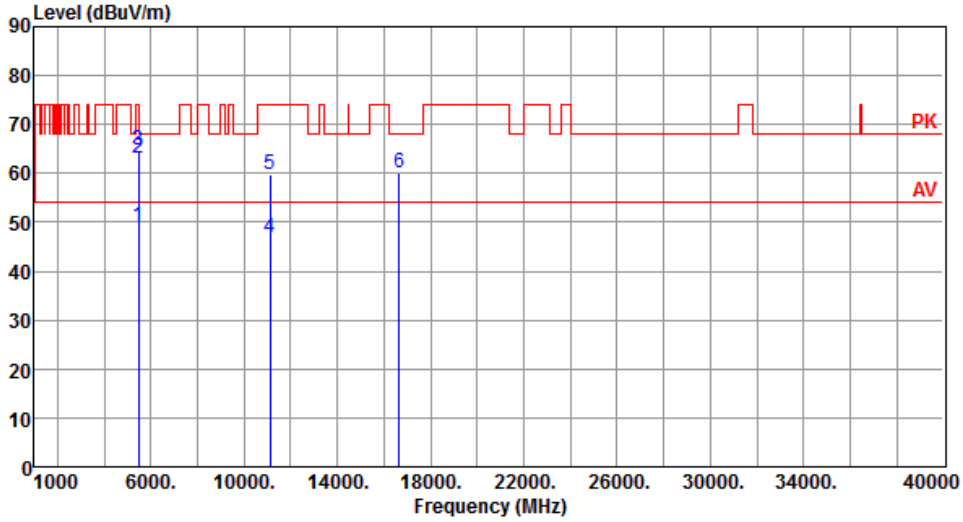
Modulation	VHT40	Test Freq. (MHz)	5550
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	48.65	54.00	-5.35	42.08	6.57	Average	183	37
2	5460.00	61.93	74.00	-12.07	55.36	6.57	Peak	183	37
3	5470.00	65.44	68.20	-2.76	58.86	6.58	Peak	183	37
4	11100.00	47.82	54.00	-6.18	31.26	16.56	Average	100	336
5	11100.00	61.43	74.00	-12.57	44.87	16.56	Peak	100	336
6	16650.00	59.92	68.20	-8.28	42.56	17.36	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).

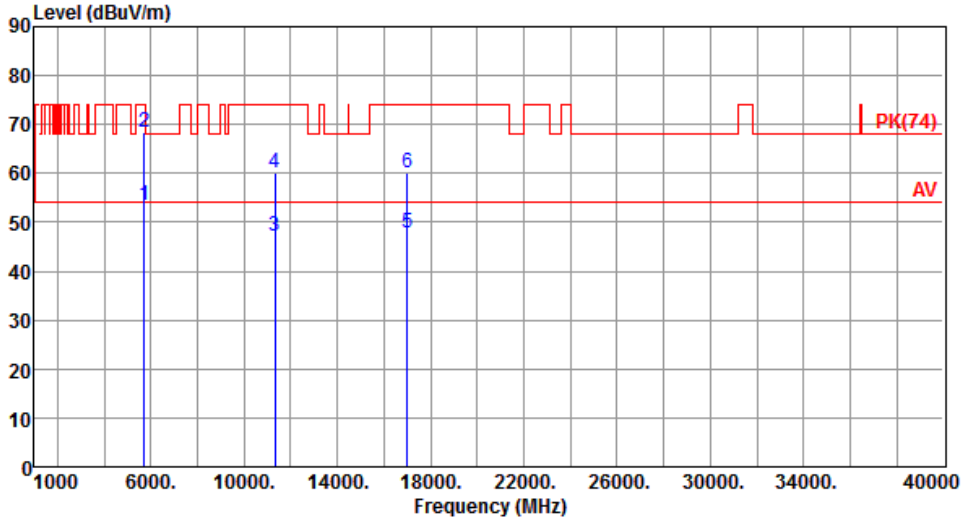
Modulation	VHT40	Test Freq. (MHz)	5550
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	49.01	54.00	-4.99	42.44	6.57	Average	228	144
2	5460.00	63.04	74.00	-10.96	56.47	6.57	Peak	228	144
3	5470.00	64.78	68.20	-3.42	58.20	6.58	Peak	228	144
4	11100.00	46.82	54.00	-7.18	30.26	16.56	Average	169	1
5	11100.00	59.68	74.00	-14.32	43.12	16.56	Peak	169	1
6	16650.00	59.95	68.20	-8.25	42.59	17.36	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).

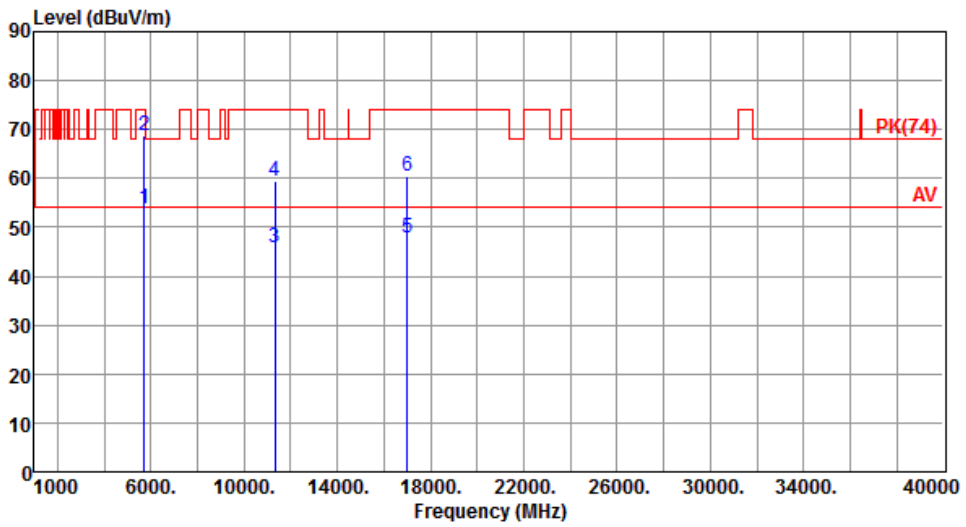
Modulation	VHT40	Test Freq. (MHz)	5670
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	53.51	54.00	-0.49	46.51	7.00	Average	147	162
2	5725.00	68.34	74.00	-5.66	61.34	7.00	Peak	147	162
3	11340.00	47.07	54.00	-6.93	30.54	16.53	Average	100	335
4	11340.00	59.97	74.00	-14.03	43.44	16.53	Peak	100	335
5	17010.00	47.80	54.00	-6.20	30.13	17.67	Average	100	60
6	17010.00	60.25	74.00	-13.75	42.58	17.67	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)	5670
Polarization	Vertical		

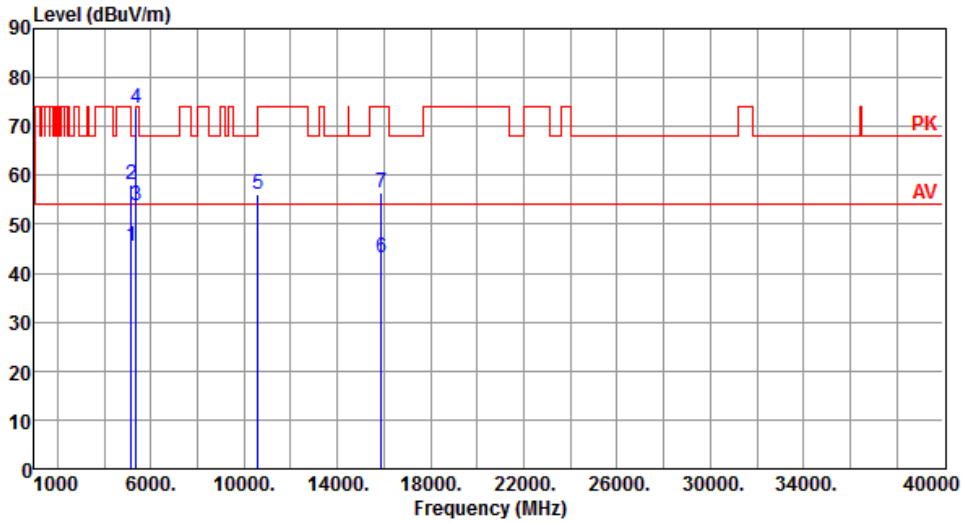


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	53.71	54.00	-0.29	46.71	7.00	Average	253	179
2	5725.00	68.70	74.00	-5.30	61.70	7.00	Peak	253	179
3	11340.00	45.88	54.00	-8.12	29.35	16.53	Average	100	359
4	11340.00	59.40	74.00	-14.60	42.87	16.53	Peak	100	359
5	17010.00	47.83	54.00	-6.17	30.16	17.67	Average	100	20
6	17010.00	60.44	74.00	-13.56	42.77	17.67	Peak	100	20

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

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

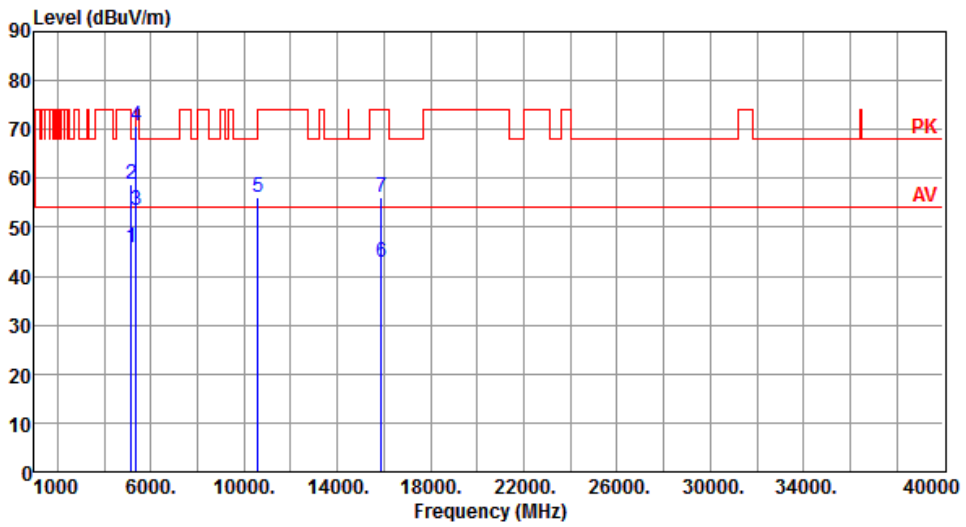
Modulation	VHT80	**Test Freq. (MHz)**	5290
Polarization	Horizontal		



	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	45.66	54.00	-8.34	39.45	6.21	Average	236	270
2	5150.00	58.27	74.00	-15.73	52.06	6.21	Peak	236	270
3	5350.00	53.86	54.00	-0.14	47.41	6.45	Average	236	270
4	5350.00	73.62	74.00	-0.38	67.17	6.45	Peak	236	270
5	10580.00	56.26	68.20	-11.94	40.30	15.96	Peak	100	334
6	15870.00	43.26	54.00	-10.74	27.53	15.73	Average	100	355
7	15870.00	56.35	74.00	-17.65	40.62	15.73	Peak	100	355

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).

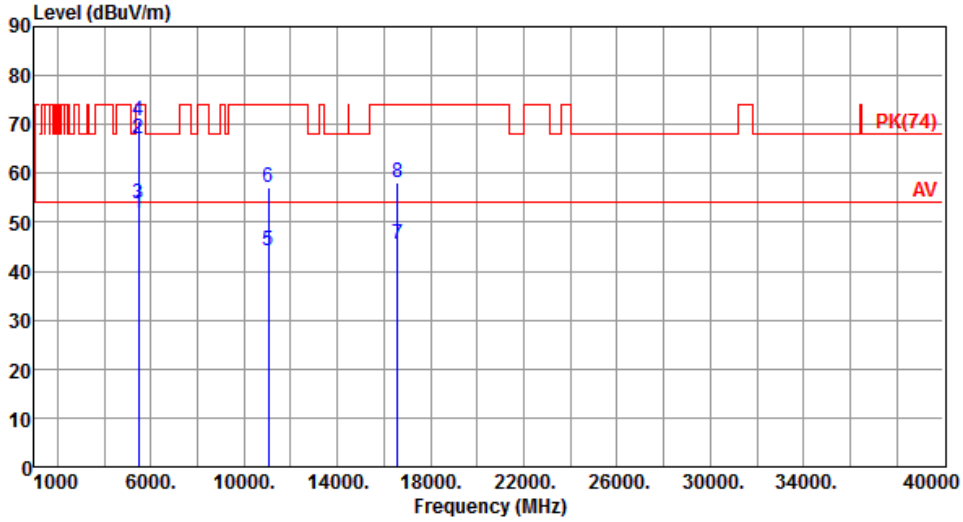
Modulation	VHT80	Test Freq. (MHz)	5290
Polarization	Vertical		



	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	45.71	54.00	-8.29	39.50	6.21	Average	331	342
2	5150.00	58.79	74.00	-15.21	52.58	6.21	Peak	331	342
3	5350.00	53.50	54.00	-0.50	47.05	6.45	Average	331	342
4	5350.00	70.73	74.00	-3.27	64.28	6.45	Peak	331	342
5	10580.00	56.20	68.20	-12.00	40.24	15.96	Peak	100	286
6	15870.00	42.99	54.00	-11.01	27.26	15.73	Average	100	193
7	15870.00	56.04	74.00	-17.96	40.31	15.73	Peak	100	193

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

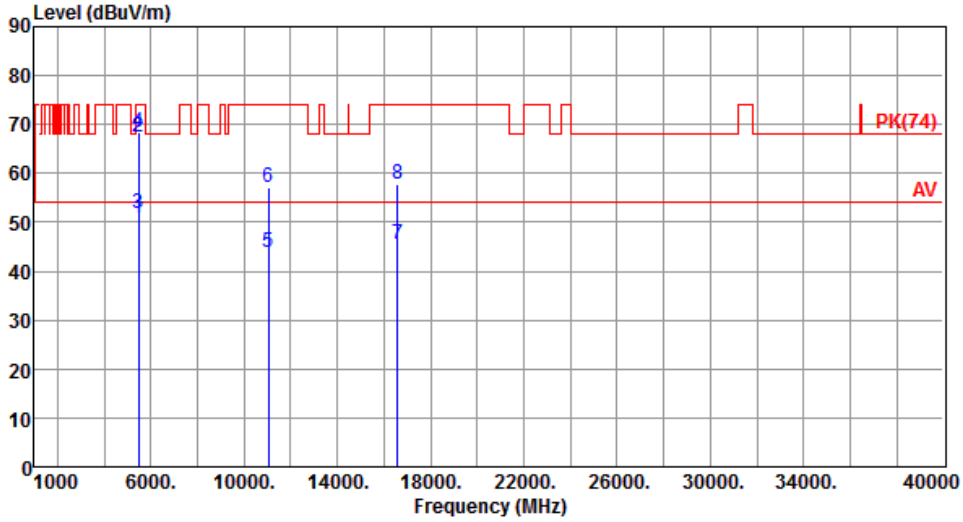
Modulation	VHT80	Test Freq. (MHz)	5530
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	51.69	54.00	-2.31	45.12	6.57	Average	170	223
2	5460.00	66.97	74.00	-7.03	60.40	6.57	Peak	170	223
3	5470.00	53.80	54.00	-0.20	47.22	6.58	Average	170	223
4	5470.00	70.86	74.00	-3.14	64.28	6.58	Peak	170	223
5	11060.00	44.30	54.00	-9.70	27.74	16.56	Average	100	326
6	11060.00	56.99	74.00	-17.01	40.43	16.56	Peak	100	326
7	16590.00	45.66	54.00	-8.34	28.34	17.32	Average	100	293
8	16590.00	58.23	74.00	-15.77	40.91	17.32	Peak	100	293

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)	5530
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	5460.00	50.85	54.00	-3.15	44.28	6.57	Average	347	333
2	5460.00	67.37	74.00	-6.63	60.80	6.57	Peak	347	333
3	5470.00	51.73	54.00	-2.27	45.15	6.58	Average	347	333
4	5470.00	68.53	74.00	-5.47	61.95	6.58	Peak	347	333
5	11060.00	43.86	54.00	-10.14	27.30	16.56	Average	100	321
6	11060.00	57.06	74.00	-16.94	40.50	16.56	Peak	100	321
7	16590.00	45.47	54.00	-8.53	28.15	17.32	Average	100	202
8	16590.00	57.64	74.00	-16.36	40.32	17.32	Peak	100	202

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

3.6 Frequency Stability

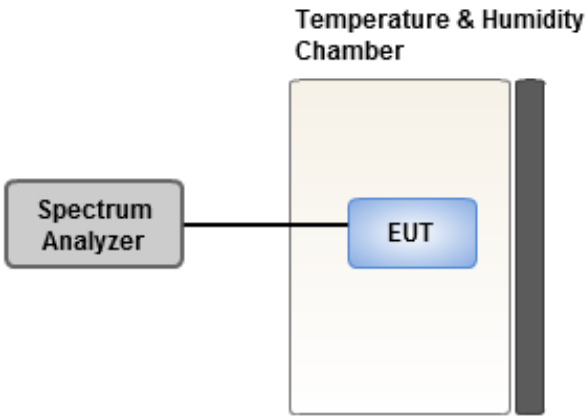
3.6.1 Limit of Frequency Stability

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

3.6.2 Test Procedures

1. The EUT is installed in an environment test chamber with external power source.
2. Set the chamber to operate at 20 centigrade and external power source to output at nominal voltage of EUT.
3. A sufficient stabilization period at each temperature is used prior to each frequency measurement.
4. When temperature is stabled, measure the frequency stability.
5. The test shall be performed under normal and extreme condition for temperature and voltage.

3.6.3 Test Setup



3.6.4 Test Result of Frequency Stability

Frequency: 5320 MHz	Frequency Drift (ppm)			
Temperature (°C)	**0 minute**	**2 minutes**	**5 minutes**	**10 minutes**
T20°CVmax	6.08	6.14	6.46	6.34
T20°CVmin	4.75	4.71	5.30	5.11
T50°CVnom	3.64	3.94	3.80	3.73
T40°CVnom	3.92	4.30	4.40	4.12
T30°CVnom	2.60	2.23	2.90	2.98
T20°CVnom	2.94	3.13	3.08	3.62
T10°CVnom	2.73	3.42	2.72	3.21
T0°CVnom	3.96	3.50	4.78	3.62
T-10°CVnom	2.07	2.18	2.58	1.72
T-20°CVnom	0.93	0.80	0.98	1.26
T-30°CVnom	1.27	1.31	1.30	1.26
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.

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Email: ICC_Service@icertifi.com.tw

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