FCC C2PC Test Report

FCC ID	:	**P27IP3442M**
Equipment	:	**AC2600 Wi-Fi Mesh Router**
Model No.	:	**IP3442MXXXXXXXXXX** **(refer to item 1.1.1 for more details)**
Brand Name	:	**Sercomm**
Applicant	:	**Sercomm Corporation**
Address	:	**8F, No. 3-1, YuanQu St., NanKang, Taipei 115, Taiwan, R.O.C.**
Standard	:	**47 CFR FCC Part 15.407**
Received Date	:	**May 14, 2020**
Tested Date	:	**Jun. 02 ~ Jun. 17, 2020**

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.
The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

Reviewed by: **Approved by:**

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

Testing Laboratory 2732

Table of Contents

1 GENERAL DESCRIPTION 5

1.1 Information 5
1.2 Local Support Equipment List 9
1.3 Test Setup Chart 10
1.4 The Equipment List 12
1.5 Test Standards 13
1.6 Reference Guidance 13
1.7 Deviation from Test Standard and Measurement Procedure 13
1.8 Measurement Uncertainty 13

2 TEST CONFIGURATION 14

2.1 Testing Condition 14
2.2 Testing Facility 14
2.3 The Worst Test Modes and Channel Details 15

3 TRANSMITTER TEST RESULTS 16

3.1 Conducted Emissions 16
3.2 Emission Bandwidth 21
3.3 RF Output Power 38
3.4 Peak Power Spectral Density 43
3.5 Transmitter Radiated and Band Edge Emissions 60
3.6 Frequency Stability 135

4 TEST LABORATORY INFORMATION 137

Release Record

Report No.	Version	Description	Issued Date
FR051403-01AN	Rev. 01	Initial issue	Jul. 06, 2020

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.168MHz 49.65 (Margin -15.43dB) - QP	Pass
15.407(b) 15.209	Radiated Emissions	[dBuV/m at 3m]: 5470.00MHz 67.96 (Margin -0.24dB) - PK	Pass
15.407(a)	Emission Bandwidth	Meet the requirement of limit	Pass
15.407(e)	6dB bandwidth	Meet the requirement of limit	Pass
15.407(a)	RF Output Power	Max Power [dBm]: ***Non-beamforming mode*** 5250~5350MHz: 23.51 5470~5725MHz: 23.52 ***Beamforming mode*** 5250~5350MHz: 20.93 5470~5725MHz: 21.02	Pass
15.407(a)	Peak Power Spectral Density	Meet the requirement of limit	Pass
15.407(g)	Frequency Stability	Meet the requirement of limit	Pass
15.203	Antenna Requirement	Meet the requirement of limit	Pass

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

1 General Description

1.1 Information

This is a Class II Permissive Change report (C2PC).

This report is issued as a supplementary report to original ICC report no. FR051403AN. The modification is only concerned with adding 5250~5350MHz and 5470~5725 MHz band by software setting.

1.1.1 Product Details

The following models are provided to this EUT.

Model Name	Description
IP3442MXXXXXXXXXX	the 1st x should be "blank" or "-"; the rest x could be 0 to 9, A to Z, "blank", “-“ or "/" , for marketing purpose
✦ The above models, model **IP3442M** was selected as a representative one for the final test and only its data was recorded in this report.	

1.1.2 Specification of the Equipment under Test (EUT)

RF General Information					
Frequency Range (MHz)	**IEEE Std. 802.11**	**Ch. Freq. (MHz)**	**Channel Number**	**Transmit Chains (N_{TX})**	**Data Rate / MCS**
5250-5350 5470-5725	a	5260-5320 5500-5700	52-64 [4] 100-140 [11]	4	6-54 Mbps
5250-5350 5470-5725	n (HT20)	5260-5320 5500-5700	52-64 [4] 100-140 [11]	4	MCS 0-31
5250-5350 5470-5725	n (HT40)	5270-5310 5510-5670	54-62 [2] 102-134 [5]	4	MCS 0-31
5250-5350 5470-5725	ac (VHT20)	5260-5320 5500-5700	52-64 [4] 100-140 [11]	4	MCS 0-9
5250-5350 5470-5725	ac (VHT40)	5270-5310 5510-5670	54-62 [2] 102-134 [5]	4	MCS 0-9
5250-5350 5470-5725	ac (VHT80)	5290 5530-5610	58 [1] 106-122 [2]	4	MCS 0-9
Note 1: RF output power specifies that Maximum Conducted Output Power. Note 2: 802.11a/n/ac uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation. Note 3: 802.11n/ac supports beamforming mode.					

1.1.3 Antenna Details

Ant. No.	Model	Type	Connector	Operating Frequencies (MHz) / Antenna Gain (dBi)	
				5250~5350	5470~5725
1	Ant 1	PIFA	NA	2.8	2.2
2	Ant 2	PIFA	NA	2.4	2.5
3	Ant 3	Dipole	UFL	2.3	2.7
4	Ant 4	Dipole	UFL	2.9	2.9

1.1.4 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	12Vdc from AC adapter

1.1.5 Accessories

Accessories		
No.	**Equipment**	**Description**
1	AC adapter	Brand: LEI Model: MU24B1120200-A1 I/P: 100-240Vac, 50/60Hz, 0.7A O/P: 12Vdc, 2A Power Line: 1.5m non-shielded without core
2	AC adapter	Brand: MOSO Model: MSS-V2000WR120-024E0-US I/P: 100-240Vac, 50/60Hz, 0.7A max O/P: 12Vdc, 2A Power Line: 1.5m non-shielded without core

1.1.6 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	118	5590
104	5520	126	5630
108	5540	134	5670
112	5560	**VHT80**	
116	5580	58	5290
120	5600	106	5530
124	5620	122	5610
128	5640	---	---
132	5660	---	---
136	5680	---	---
140	5700	---	---

1.1.7 Test Tool and Duty Cycle

Test Tool	Non-beamforming: MT7615 QA, Version: 0.0.1.88 Beamforming: PuTTY, Version: 0.60				
Duty Cycle and Duty Factor	**Mode**	**Non-beamforming**		**Beamforming**	
		Duty cycle (%)	**Duty factor (dB)**	**Duty cycle (%)**	**Duty factor (dB)**
	11a	98.98%	0.04	---	---
	VHT20	98.90%	0.05	98.72%	0.06
	VHT40	96.70%	0.15	95.29%	0.21
	VHT80	93.45%	0.29	98.77%	0.05

1.1.8 Power Index of Test Tool

Modulation Mode	Test Frequency (MHz)	Power Index	
		Non-Beamforming	Beamforming
11a	5260	16	---
11a	5300	16	---
11a	5320	16	---
11a	5500	15	---
11a	5580	17	---
11a	5700	12	---
VHT20	5260	16	24
VHT20	5300	16	24
VHT20	5320	16	22
VHT20	5500	15	21
VHT20	5580	17	25
VHT20	5700	12	18
VHT40	5270	1E	27
VHT40	5310	18	23
VHT40	5510	14	20
VHT40	5550	1F	28
VHT40	5670	14	22
VHT80	5290	10	16
VHT80	5530	12	17
VHT80	5610	19	25

1.2 Local Support Equipment List

Non-beamforming mode

Support Equipment List					
No.	**Equipment**	**Brand**	**Model**	**FCC ID**	**Remarks**
1	RJ45	ICC	RJ45-1.3m	**---**	---
2	RJ45	ICC	RJ45-1.3m	**---**	---
3	RJ45	ICC	RJ45-10m	**---**	---
4	Notebook	DELL	Latitude E5470	DoC	---
5	Notebook	DELL	Latitude E5470	DoC	---
6	USB 3.0 Flash	Transcend	JetFlash 700	---	---

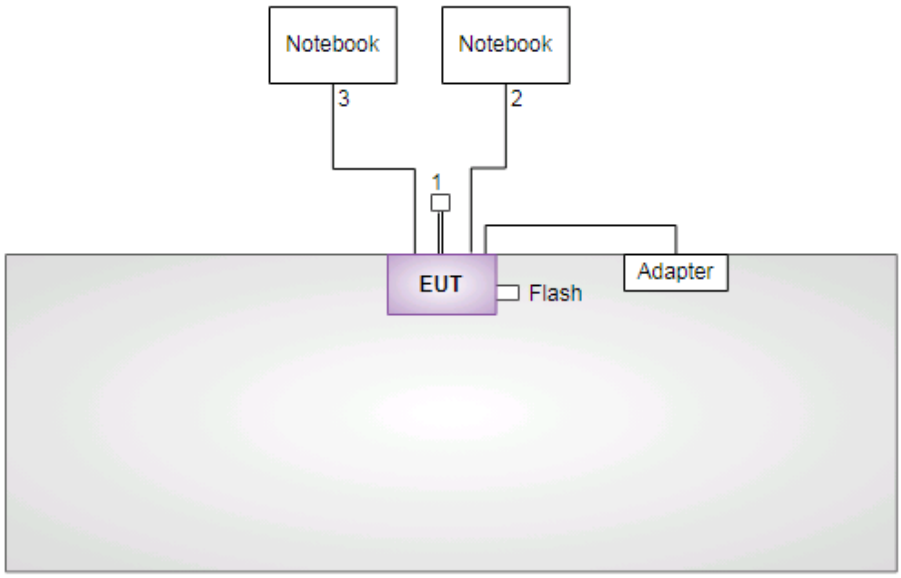
Beamforming mode

Support Equipment List					
No.	**Equipment**	**Brand**	**Model**	**FCC ID**	**Remarks**
1	RJ45	ICC	RJ45-1.3m	---	
2	RJ45	ICC	RJ45-1.3m	---	
3	RJ45	ICC	RJ45-1.3m	---	
4	RJ45	ICC	RJ45-10m	---	
5	Notebook	DELL	Latitude E5470	DoC	
6	Notebook	DELL	Latitude E5470	DoC	
7	Notebook	DELL	Latitude E6430	DoC	
8	USB 3.0 Flash	Transcend	JetFlash 700	---	
9	BF client	Sercomm	IP3442MXXXX XXXXXX	---	Provided by applicant.

1.3 Test Setup Chart

Non-beamforming mode

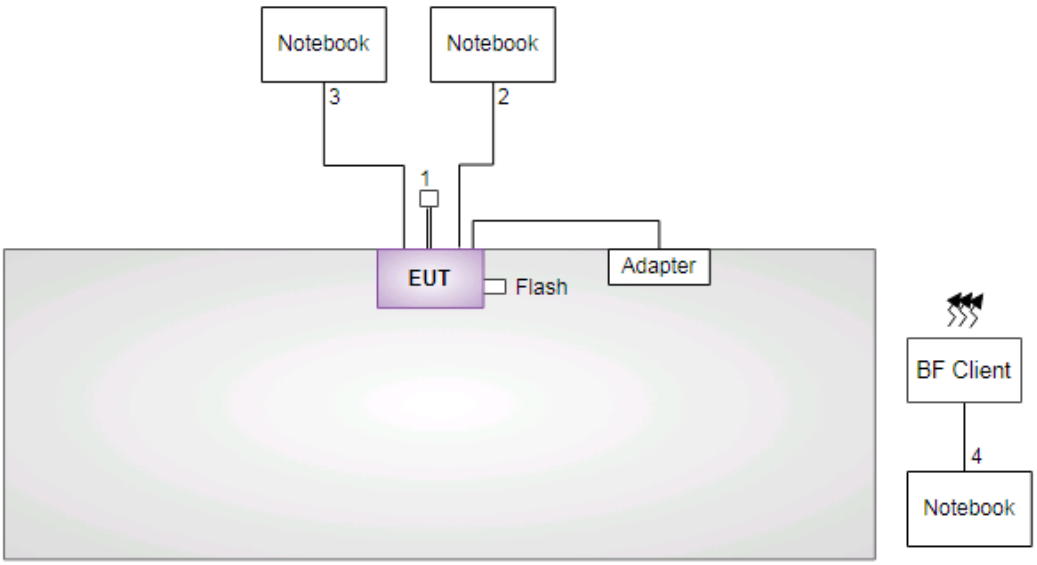
Test Setup Diagram



No.	Signal cable / Length (m)
1	RJ45, 1.3m(x2) non-shielded with load.
2	RJ45, 10m non-shielded.
3	RJ45, 10m non-shielded.

Beamforming mode

Test Setup Diagram



No.	Signal cable / Length (m)
1	RJ45, 1.3m(x2) non-shielded with load.
2	RJ45, 10m non-shielded.
3	RJ45, 10m non-shielded.
4	RJ45, 1.3m non-shielded.

1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Receiver	R&S	ESR3	101658	Dec. 12, 2019	Dec. 11, 2020
LISN	R&S	ENV216	101579	Mar. 12, 2020	Mar. 11, 2021
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Oct. 22, 2019	Oct. 21, 2020
Measurement Software	AUDIX	e3	6.120210k	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission				
Test Site	966 chamber 3 / (03CH03-WS)				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101499	Jan. 09, 2020	Jan. 08, 2021
Receiver	R&S	ESR3	101657	Feb. 14, 2020	Feb. 13, 2021
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-685	Apr. 29, 2020	Apr. 28, 2021
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1206	Dec. 27, 2019	Dec. 26, 2020
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 15, 2019	Nov. 14, 2020
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 13, 2019	Nov. 12, 2020
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 07, 2019	Oct. 06, 2020
Preamplifier	EMC	EMC02325	980187	Aug. 14, 2019	Aug. 13, 2020
Preamplifier	Agilent	83017A	MY53270014	Aug. 07, 2019	Aug. 06, 2020
Preamplifier	EMC	EMC184045B	980192	Aug. 01, 2019	Jul. 31, 2020
RF cable-3M	HUBER+SUHNER	SUCOFLEX104	MY22620/**4**	Sep. 27, 2019	Sep. 26, 2020
RF cable-8M	EMC	EMC104-SM-SM-8000	181107	Sep. 27, 2019	Sep. 26, 2020
RF cable-1M	HUBER+SUHNER	SUCOFLEX104	MY22624/4	Sep. 27, 2019	Sep. 26, 2020
LF cable-0.8M	EMC	EMC8D-NM-NM-800	EMC8D-NM-NM-800-001	Sep. 27, 2019	Sep. 26, 2020
LF cable-3M	EMC	EMC8D-NM-NM-3000	131103	Sep. 27, 2019	Sep. 26, 2020
LF cable-13M	EMC	EMC8D-NM-NM-13000	131104	Sep. 27, 2019	Sep. 26, 2020
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101063	Apr. 30, 2020	Apr. 29, 2021
Power Meter	Anritsu	ML2495A	1241002	Oct. 23, 2019	Oct. 22, 2020
Power Sensor	Anritsu	MA2411B	1207366	Oct. 23, 2019	Oct. 22, 2020
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Dec. 12, 2019	Dec. 11, 2020
Measurement Software	Sporton	Sporton_1	1.3.30	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

1.5 Test Standards

47 CFR FCC Part 15.407
ANSI C63.10-2013
FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01

1.6 Reference Guidance

FCC KDB 662911 D01 Multiple Transmitter Output v02r01
FCC KDB 412172 D01 Determining ERP and EIRP v01r01

1.7 Deviation from Test Standard and Measurement Procedure

None

1.8 Measurement Uncertainty

The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)).

Measurement Uncertainty	
Parameters	**Uncertainty**
Bandwidth	±34.130 Hz
Conducted power	±0.808 dB
Frequency error	$\pm 1 \times 10^{-9}$
Power density	±0.583 dB
Conducted emission	±2.715 dB
AC conducted emission	±2.92 dB
Radiated emission ≤ 1GHz	±3.96 dB
Radiated emission > 1GHz	±4.51 dB
Time	±0.1%
Temperature	±0.4 ^{o}C

2 Test Configuration

2.1 Testing Condition

Test Item	Test Site	Ambient Condition	Tested By
AC Conduction	CO01-WS	18°C / 61%	Alex Tsai
Radiated Emissions	03CH03-WS	25-26°C / 64-66%	Brad Wu Roger Lu
RF Conducted	TH01-WS	23°C / 63%	Brad Wu

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

2.2 Testing Facility

Test Laboratory	International Certification Corp.
Test Site	CO01-WS, TH01-WS
Address of Test Site	No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan District, Tao Yuan City 333, Taiwan, R.O.C.

Test Site	03CH03-WS
Address of Test Site	No. 14-1, Lane 19, Wen San 3rd St., Kwei Shan District, Tao Yuan City 333, Taiwan, R.O.C.

2.3 The Worst Test Modes and Channel Details

Non-beamforming mode

For Frequency band 5250-5350 MHz, 5470-5725 MHz				
Test item	**Modulation Mode**	**Test Frequency (MHz)**	**Data Rate**	**Test Configuration**
Conducted Emissions	VHT40	5590	MCS 0	---
Radiated Emissions ≤1GHz	VHT40	5590	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 / 5590 / 5670	MCS 0	
	VHT80	5290 / 5530 / 5610	MCS 0	
Frequency Stability	Un-modulation	5500	---	---
NOTE: Adapter 1 (Brand: LEI) and Adapter 2 (Brand: MOSO) had been covered during the pretest. The worst adapter is **Adapter 2 (Brand: MOSO)**, and only its data was record in this test report.				

Beamforming mode

For Frequency band 5250-5350 MHz, 5470-5725 MHz				
Test item	**Modulation Mode**	**Test Frequency (MHz)**	**Data Rate**	**Test Configuration**
Conducted Emissions	VHT40	5590	MCS 0	---
Radiated Emissions ≤1GHz	VHT40	5590	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 / 5590 / 5670	MCS 0	
	VHT80	5290 / 5530 / 5610	MCS 0	
NOTE: Adapter 1 (Brand: LEI) and Adapter 2 (Brand: MOSO) had been covered during the pretest. The worst adapter is **Adapter 2 (Brand: MOSO)**, and only its data was record in this test report.				

3 Transmitter Test Results

3.1 Conducted Emissions

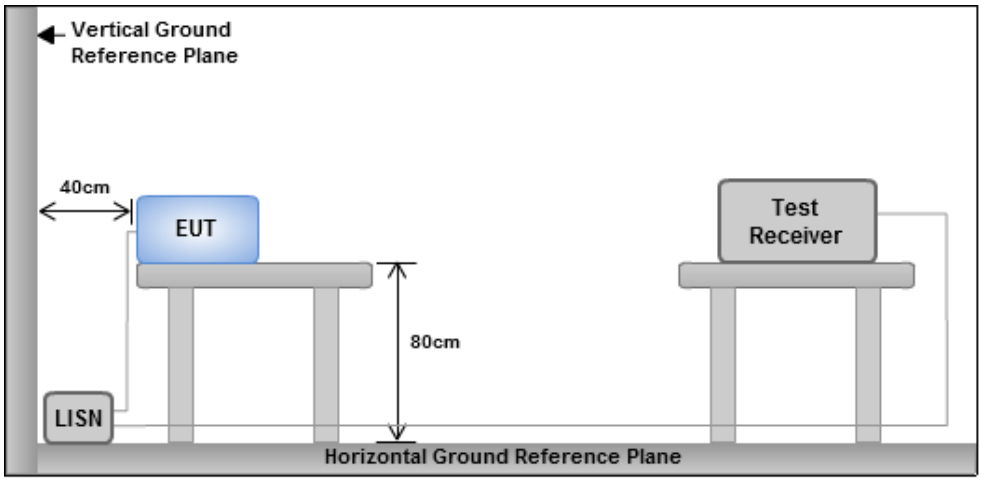
3.1.1 Limit of Conducted Emissions

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

3.1.2 Test Procedures

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

3.1.3 Test Setup

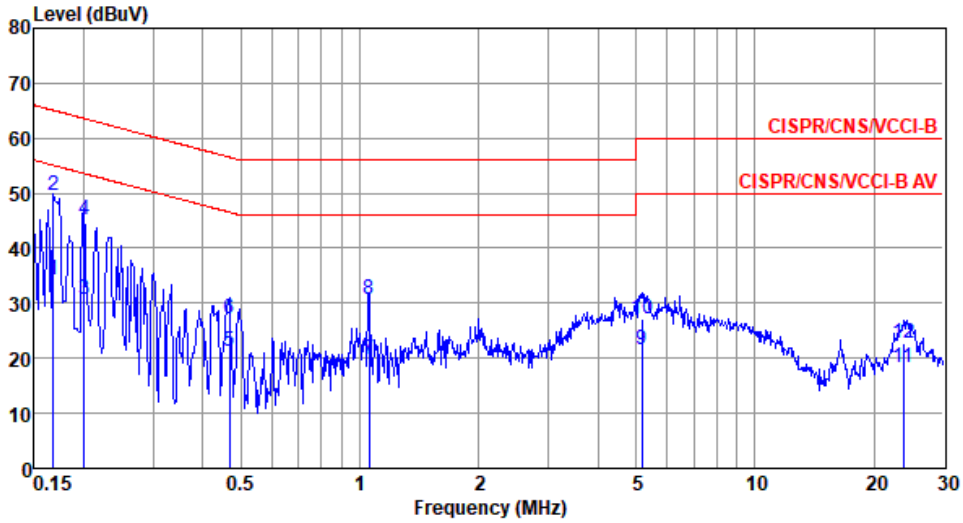


Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

3.1.4 Test Result of Conducted Emissions

Non- beamforming mode

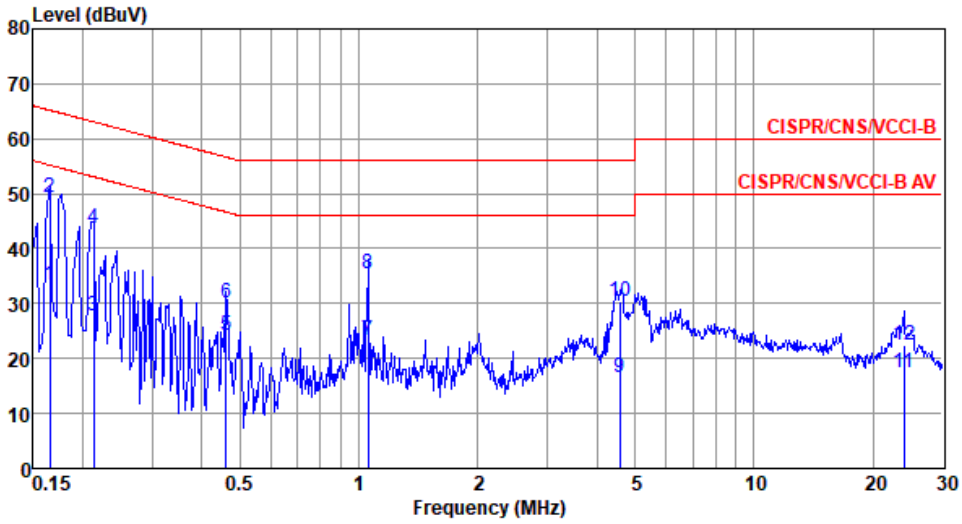
Modulation	VHT40	**Test Freq. (MHz)**	5590
Power Phase	Line		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.168	34.38	55.08	-20.70	24.52	9.64	0.05	Average
2*	0.168	49.65	65.08	-15.43	39.79	9.64	0.05	QP
3	0.201	30.65	53.58	-22.93	20.77	9.63	0.06	Average
4	0.201	45.30	63.58	-18.28	35.42	9.63	0.06	QP
5	0.469	21.32	46.54	-25.22	11.34	9.63	0.09	Average
6	0.469	27.21	56.54	-29.33	17.23	9.63	0.09	QP
7	1.054	19.75	46.00	-26.25	9.68	9.63	0.12	Average
8	1.054	30.79	56.00	-25.21	20.72	9.63	0.12	QP
9	5.166	21.57	50.00	-28.43	11.21	9.66	0.32	Average
10	5.166	27.19	60.00	-32.81	16.83	9.66	0.32	QP
11	23.762	18.29	50.00	-31.71	7.23	9.68	0.70	Average
12	23.762	22.70	60.00	-37.30	11.64	9.68	0.70	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)	5590
Power Phase	Neutral		

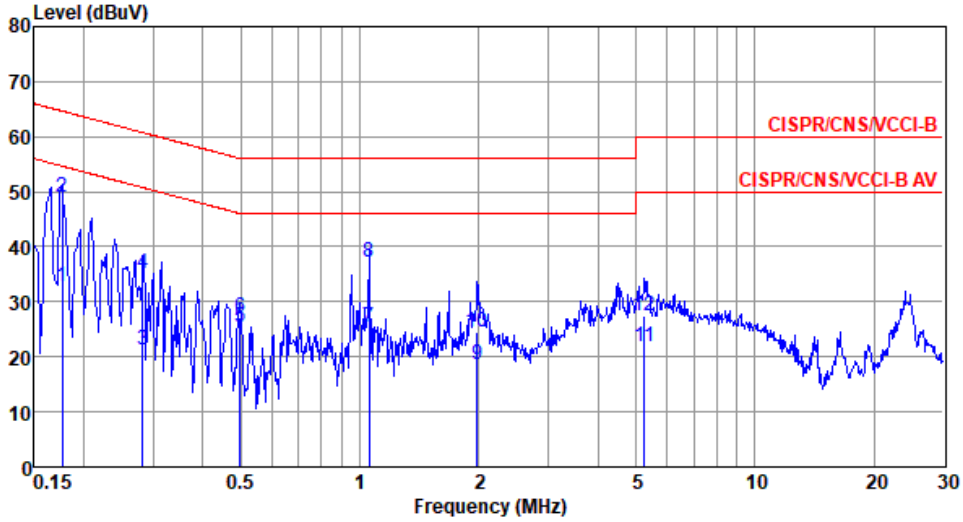


	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.165	33.27	55.21	-21.94	23.43	9.66	0.05	Average
2*	0.165	49.19	65.21	-16.02	39.35	9.66	0.05	QP
3	0.213	27.82	53.10	-25.28	17.96	9.65	0.06	Average
4	0.213	43.77	63.10	-19.33	33.91	9.65	0.06	QP
5	0.461	24.30	46.67	-22.37	14.39	9.65	0.09	Average
6	0.461	30.11	56.67	-26.56	20.20	9.65	0.09	QP
7	1.054	23.35	46.00	-22.65	13.38	9.65	0.12	Average
8	1.054	35.37	56.00	-20.63	25.40	9.65	0.12	QP
9	4.584	16.50	46.00	-29.50	6.25	9.68	0.30	Average
10	4.584	30.35	56.00	-25.65	20.10	9.68	0.30	QP
11	24.015	17.41	50.00	-32.59	6.25	9.81	0.70	Average
12	24.015	22.52	60.00	-37.48	11.36	9.81	0.70	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

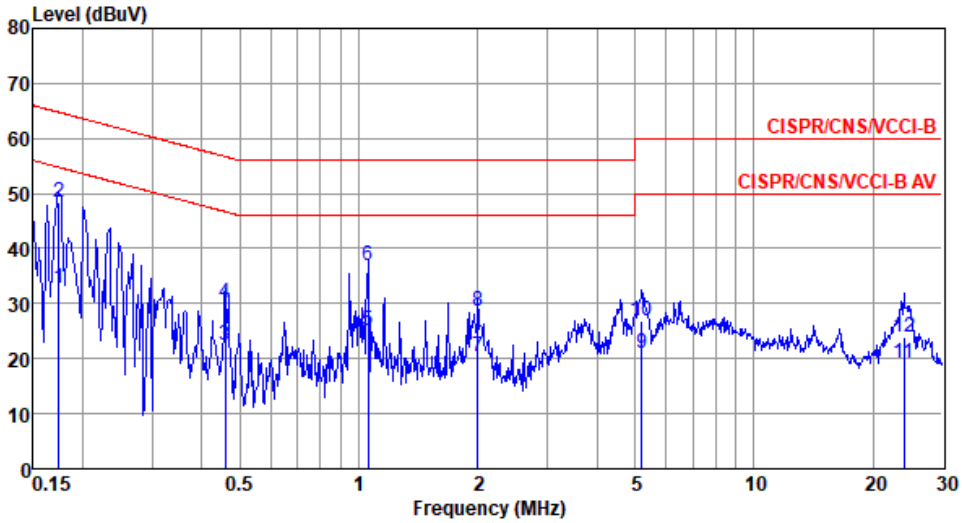
Modulation	VHT40	**Test Freq. (MHz)**	5590
Power Phase	Line		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.177	32.86	54.64	-21.78	22.99	9.63	0.06	Average
2*	0.177	49.04	64.64	-15.60	39.17	9.63	0.06	QP
3	0.282	21.40	50.76	-29.36	11.48	9.63	0.07	Average
4	0.282	35.28	60.76	-25.48	25.36	9.63	0.07	QP
5	0.497	25.28	46.05	-20.77	15.29	9.63	0.09	Average
6	0.497	27.24	56.05	-28.81	17.25	9.63	0.09	QP
7	1.054	25.31	46.00	-20.69	15.24	9.63	0.12	Average
8	1.054	37.09	56.00	-18.91	27.02	9.63	0.12	QP
9	1.980	18.71	46.00	-27.29	8.55	9.64	0.18	Average
10	1.980	24.44	56.00	-31.56	14.28	9.64	0.18	QP
11	5.249	21.89	50.00	-28.11	11.53	9.66	0.32	Average
12	5.249	27.46	60.00	-32.54	17.10	9.66	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)	5590
Power Phase	Neutral		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.174	32.84	54.77	-21.93	22.99	9.65	0.06	Average
2*	0.174	48.27	64.77	-16.50	38.42	9.65	0.06	QP
3	0.459	22.52	46.71	-24.19	12.61	9.65	0.09	Average
4	0.459	30.00	56.71	-26.71	20.09	9.65	0.09	QP
5	1.054	24.96	46.00	-21.04	14.99	9.65	0.12	Average
6	1.054	37.03	56.00	-18.97	27.06	9.65	0.12	QP
7	2.001	20.30	46.00	-25.70	10.20	9.66	0.18	Average
8	2.001	28.69	56.00	-27.31	18.59	9.66	0.18	QP
9	5.194	21.01	50.00	-28.99	10.72	9.69	0.32	Average
10	5.194	26.77	60.00	-33.23	16.48	9.69	0.32	QP
11	24.015	19.17	50.00	-30.83	8.01	9.81	0.70	Average
12	24.015	23.88	60.00	-36.12	12.72	9.81	0.70	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

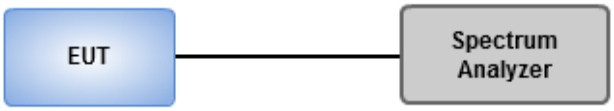
26dB Bandwidth

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)_4TX	24.348M	16.715M	16M7D1D	19.42M	16.353M
802.11ac VHT20_Nss1,(MCS0)_4TX	20.435M	17.583M	17M6D1D	19.783M	17.438M
802.11ac VHT40_Nss1,(MCS0)_4TX	49.42M	36.324M	36M3D1D	39.71M	36.035M
802.11ac VHT80_Nss1,(MCS0)_4TX	81.449M	75.253M	75M3D1D	79.42M	74.964M
5.47-5.725GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	20.072M	16.498M	16M5D1D	19.638M	16.353M
802.11ac VHT20_Nss1,(MCS0)_4TX	20.507M	17.583M	17M6D1D	19.783M	17.511M
802.11ac VHT40_Nss1,(MCS0)_4TX	72.319M	36.324M	36M3D1D	39.855M	36.035M
802.11ac VHT80_Nss1,(MCS0)_4TX	81.159M	75.543M	75M5D1D	79.13M	74.964M

Max-N dB = Maximum 26dB down bandwidth
Max-OBW = Maximum 99% occupied bandwidth;
Min-N dB = Maximum 26dB down bandwidth
Min-OBW = Minimum 99% occupied bandwidth;

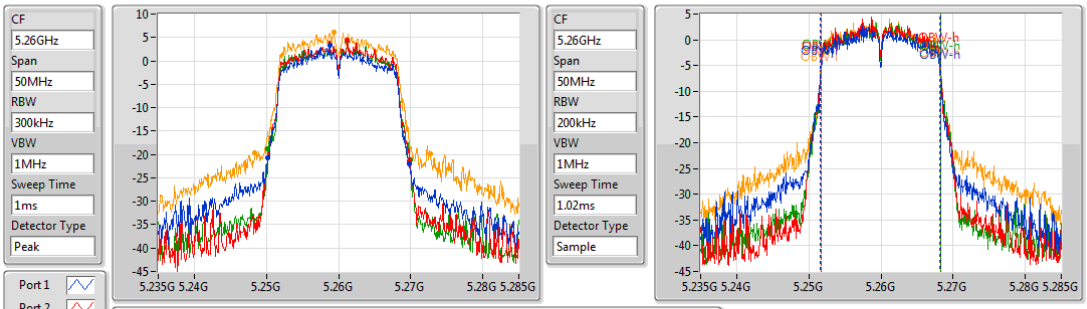
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11a_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	Inf	19.71M	16.643M	19.71M	16.498M	19.783M	16.57M	24.348M	16.715M
5300MHz	Pass	Inf	19.71M	16.498M	19.71M	16.425M	19.928M	16.425M	19.565M	16.425M
5320MHz	Pass	Inf	19.42M	16.353M	19.638M	16.425M	19.783M	16.425M	19.493M	16.425M
5500MHz	Pass	Inf	19.783M	16.353M	19.855M	16.425M	20.072M	16.425M	19.928M	16.425M
5580MHz	Pass	Inf	19.638M	16.498M	19.638M	16.425M	20M	16.498M	19.783M	16.425M
5700MHz	Pass	Inf	19.783M	16.425M	19.855M	16.498M	19.71M	16.498M	19.928M	16.498M
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	Inf	20.435M	17.511M	19.783M	17.511M	19.783M	17.438M	20M	17.583M
5300MHz	Pass	Inf	20.435M	17.511M	19.855M	17.583M	19.855M	17.583M	19.928M	17.583M
5320MHz	Pass	Inf	20.29M	17.583M	19.855M	17.511M	19.855M	17.583M	19.928M	17.583M
5500MHz	Pass	Inf	20M	17.583M	19.855M	17.583M	20M	17.511M	19.928M	17.511M
5580MHz	Pass	Inf	20.507M	17.583M	19.855M	17.583M	20M	17.511M	20M	17.583M
5700MHz	Pass	Inf	20M	17.583M	19.783M	17.583M	19.855M	17.583M	20M	17.583M
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	Inf	40.725M	36.035M	39.855M	36.179M	40.29M	36.035M	49.42M	36.324M
5310MHz	Pass	Inf	40M	36.035M	39.71M	36.179M	40.145M	36.035M	40.145M	36.035M
5510MHz	Pass	Inf	40.435M	36.035M	39.855M	36.035M	40.435M	36.035M	40.145M	36.179M
5590MHz	Pass	Inf	40.725M	36.179M	47.681M	36.324M	45.507M	36.035M	72.319M	36.324M
5670MHz	Pass	Inf	40M	36.035M	40.145M	36.179M	40.435M	36.035M	40M	36.179M
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	Inf	81.449M	75.253M	79.42M	74.964M	79.71M	75.253M	79.42M	74.964M
5530MHz	Pass	Inf	81.159M	75.543M	79.71M	74.964M	79.71M	75.253M	80M	74.964M
5610MHz	Pass	Inf	80.87M	75.253M	79.13M	74.964M	80.29M	74.964M	80.29M	75.253M

Port X-N dB = Port **X** 26dB down bandwidth
Port X-OBW = Port **X** 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_4TX EBW

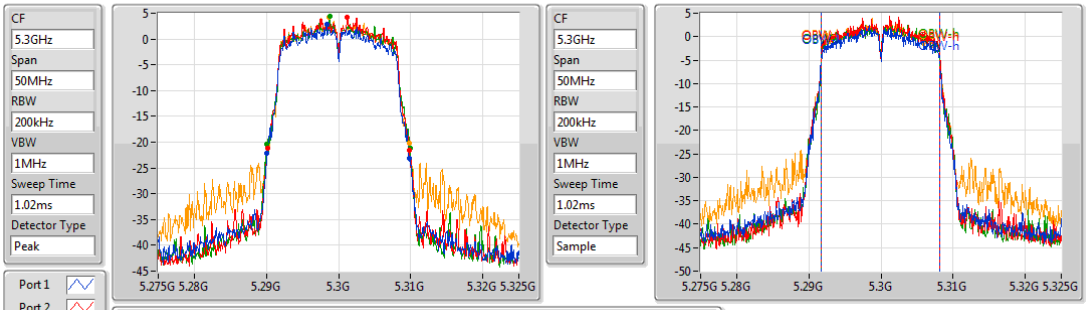
5260MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.71M	5.250145G	5.269855G	16.643M	5.251606G	5.268249G	Inf	1
19.71M	5.250145G	5.269855G	16.498M	5.251679G	5.268177G	Inf	2
19.783M	5.250217G	5.27G	16.57M	5.251679G	5.268249G	Inf	3
24.348M	5.248406G	5.272754G	16.715M	5.251606G	5.268321G	Inf	4

802.11a_Nss1,(6Mbps)_4TX EBW

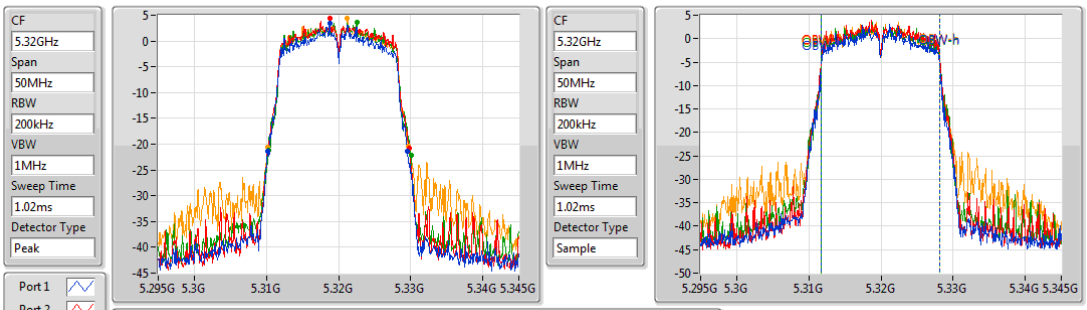
5300MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.71M	5.290072G	5.309783G	16.498M	5.291679G	5.308177G	Inf	1
19.71M	5.290145G	5.309855G	16.425M	5.291751G	5.308177G	Inf	2
19.928M	5.290072G	5.31G	16.425M	5.291751G	5.308177G	Inf	3
19.565M	5.290217G	5.309783G	16.425M	5.291751G	5.308177G	Inf	4

802.11a_Nss1,(6Mbps)_4TX EBW

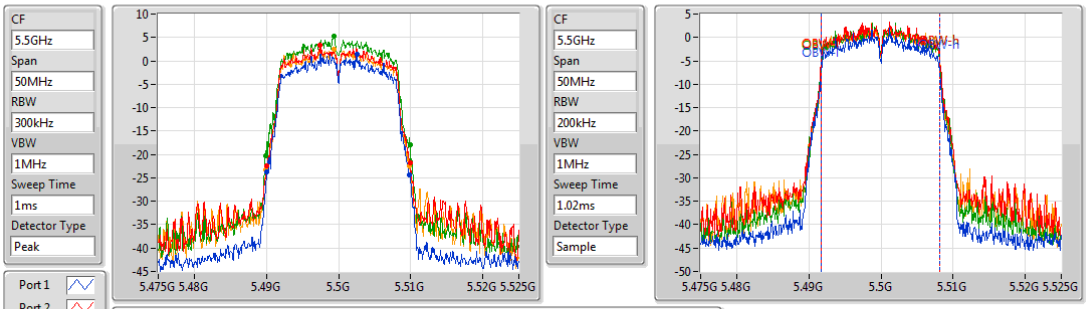
5320MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.42M	5.310145G	5.329565G	16.353M	5.311751G	5.328104G	Inf	1
19.638M	5.310145G	5.329783G	16.425M	5.311751G	5.328177G	Inf	2
19.783M	5.31029G	5.330072G	16.425M	5.311751G	5.328177G	Inf	3
19.493M	5.310217G	5.32971G	16.425M	5.311751G	5.328177G	Inf	4

802.11a_Nss1,(6Mbps)_4TX **EBW**

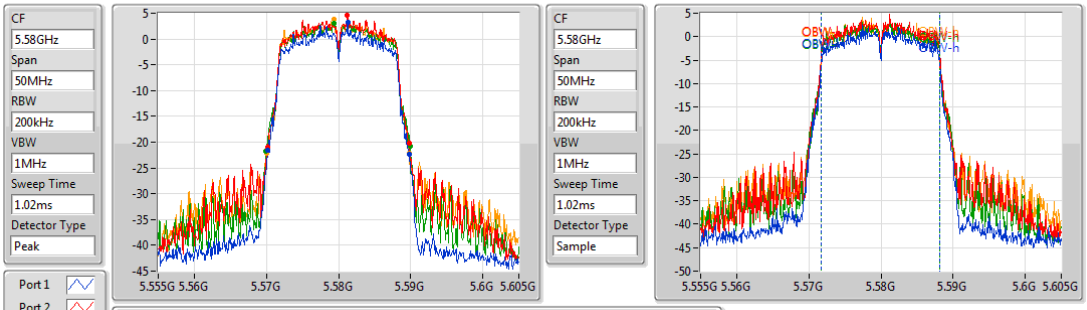
5500MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.783M	5.490072G	5.509855G	16.353M	5.491751G	5.508104G	Inf	1
19.855M	5.490072G	5.509928G	16.425M	5.491751G	5.508177G	Inf	2
20.072M	5.489855G	5.509928G	16.425M	5.491751G	5.508177G	Inf	3
19.928M	5.489928G	5.509855G	16.425M	5.491751G	5.508177G	Inf	4

802.11a_Nss1,(6Mbps)_4TX **EBW**

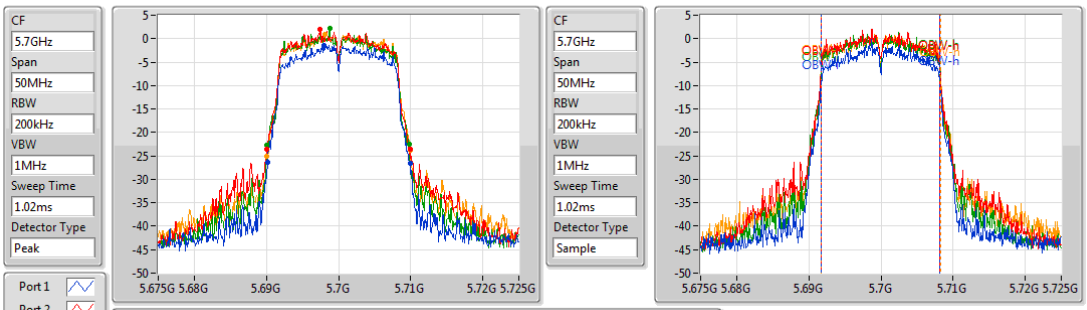
5580MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.638M	5.570145G	5.589783G	16.498M	5.571679G	5.588177G	Inf	1
19.638M	5.570145G	5.589783G	16.425M	5.571751G	5.588177G	Inf	2
20M	5.569928G	5.589928G	16.498M	5.571679G	5.588177G	Inf	3
19.783M	5.57G	5.589783G	16.425M	5.571751G	5.588177G	Inf	4

802.11a_Nss1,(6Mbps)_4TX **EBW**

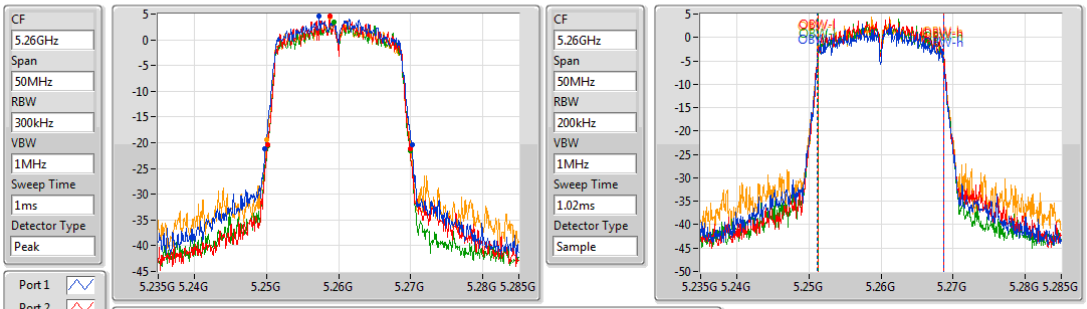
5700MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19.783M	5.690145G	5.709928G	16.425M	5.691751G	5.708177G	Inf	1
19.855M	5.690072G	5.709928G	16.498M	5.691679G	5.708177G	Inf	2
19.71M	5.690072G	5.709783G	16.498M	5.691679G	5.708177G	Inf	3
19.928M	5.69G	5.709928G	16.498M	5.691751G	5.708249G	Inf	4

802.11ac VHT20_Nss1,(MCS0)_4TX EBW

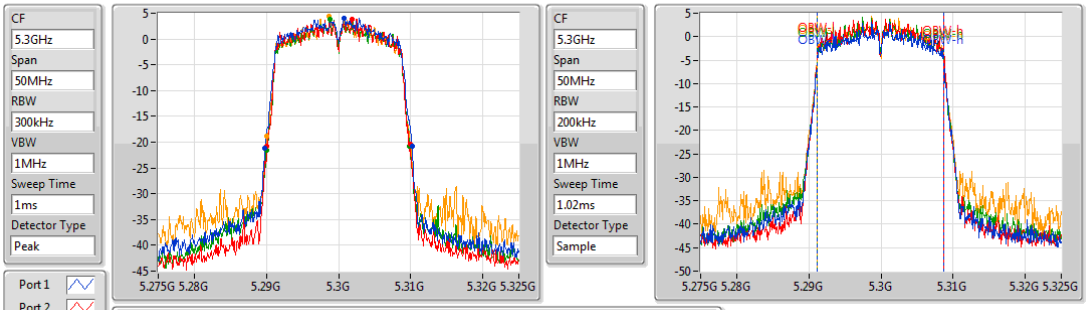
5260MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.435M	5.249783G	5.270217G	17.511M	5.251172G	5.268683G	Inf	1
19.783M	5.250145G	5.269928G	17.511M	5.251245G	5.268755G	Inf	2
19.783M	5.250145G	5.269928G	17.438M	5.251245G	5.268683G	Inf	3
20M	5.25G	5.27G	17.583M	5.251172G	5.268755G	Inf	4

802.11ac VHT20_Nss1,(MCS0)_4TX EBW

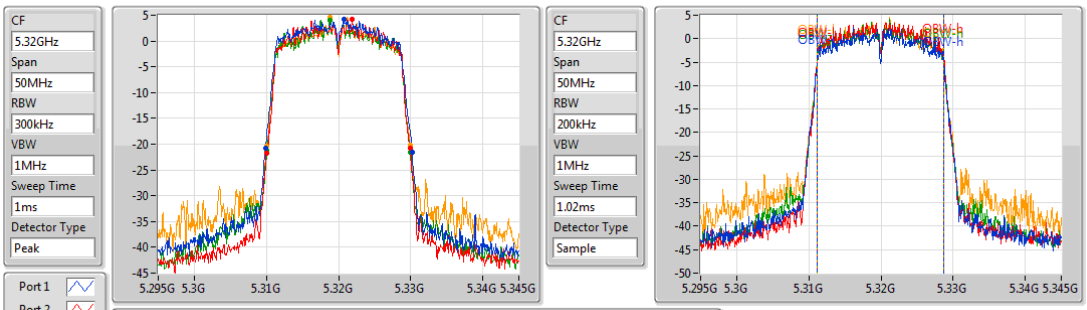
5300MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.435M	5.289783G	5.310217G	17.511M	5.291172G	5.308683G	Inf	1
19.855M	5.290072G	5.309928G	17.583M	5.291172G	5.308755G	Inf	2
19.855M	5.29G	5.309855G	17.583M	5.291172G	5.308755G	Inf	3
19.928M	5.290072G	5.31G	17.583M	5.291172G	5.308755G	Inf	4

802.11ac VHT20_Nss1,(MCS0)_4TX EBW

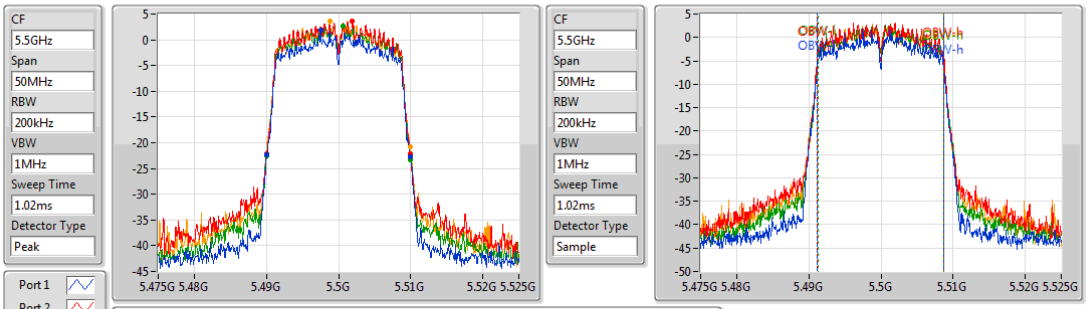
5320MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.29M	5.309928G	5.330217G	17.583M	5.311172G	5.328755G	Inf	1
19.855M	5.310072G	5.329928G	17.511M	5.311172G	5.328683G	Inf	2
19.855M	5.310072G	5.329928G	17.583M	5.311172G	5.328755G	Inf	3
19.928M	5.31G	5.329928G	17.583M	5.311172G	5.328755G	Inf	4

802.11ac VHT20_Nss1,(MCS0)_4TX EBW

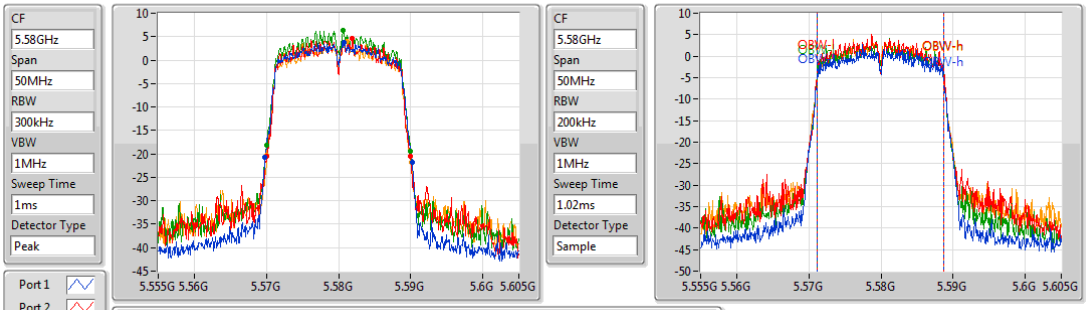
5500MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20M	5.49G	5.51G	17.583M	5.491172G	5.508755G	Inf	1
19.855M	5.490072G	5.509928G	17.583M	5.491172G	5.508755G	Inf	2
20M	5.49G	5.51G	17.511M	5.491245G	5.508755G	Inf	3
19.928M	5.49G	5.509928G	17.511M	5.491172G	5.508683G	Inf	4

802.11ac VHT20_Nss1,(MCS0)_4TX EBW

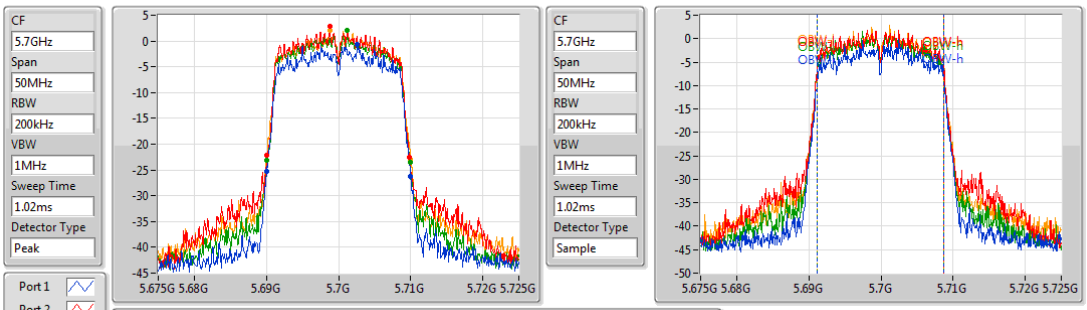
5580MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.507M	5.569783G	5.59029G	17.583M	5.571172G	5.588755G	Inf	1
19.855M	5.570072G	5.589928G	17.583M	5.571172G	5.588755G	Inf	2
20M	5.57G	5.59G	17.511M	5.571172G	5.588683G	Inf	3
20M	5.570072G	5.590072G	17.583M	5.571172G	5.588755G	Inf	4

802.11ac VHT20_Nss1,(MCS0)_4TX EBW

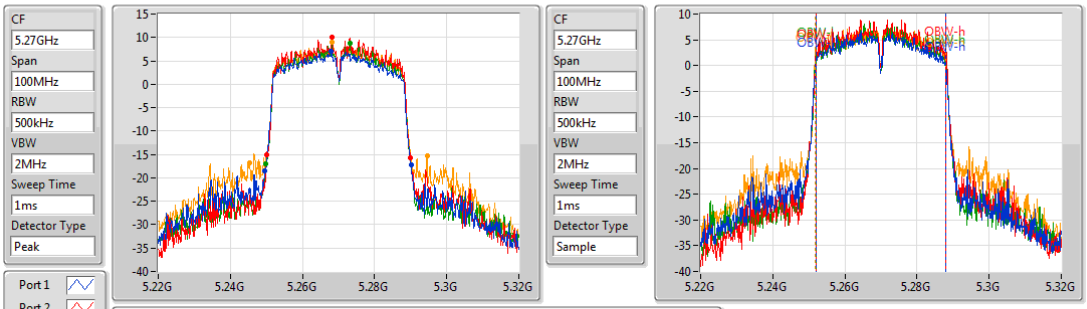
5700MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20M	5.69G	5.71G	17.583M	5.691172G	5.708755G	Inf	1
19.783M	5.690072G	5.709855G	17.583M	5.691172G	5.708755G	Inf	2
19.855M	5.690072G	5.709928G	17.583M	5.691172G	5.708755G	Inf	3
20M	5.69G	5.71G	17.583M	5.691172G	5.708755G	Inf	4

802.11ac VHT40_Nss1,(MCS0)_4TX EBW

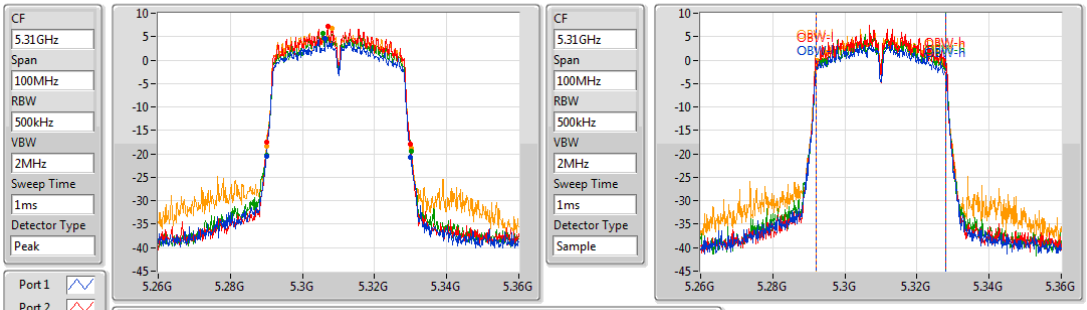
5270MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
40.725M	5.24942G	5.290145G	36.035M	5.25191G	5.287945G	Inf	1
39.855M	5.250145G	5.29G	36.179M	5.25191G	5.28809G	Inf	2
40.29M	5.249855G	5.290145G	36.035M	5.25191G	5.287945G	Inf	3
49.42M	5.245217G	5.294638G	36.324M	5.251766G	5.28809G	Inf	4

802.11ac VHT40_Nss1,(MCS0)_4TX EBW

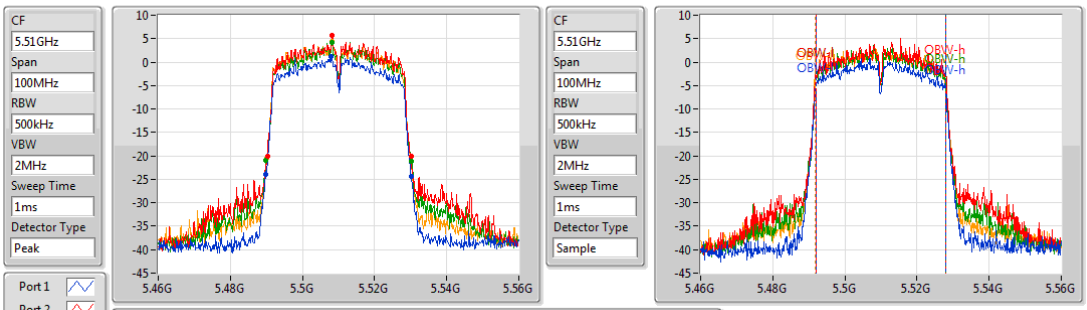
5310MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
40M	5.29G	5.33G	36.035M	5.29191G	5.327945G	Inf	1
39.71M	5.290145G	5.329855G	36.179M	5.29191G	5.32809G	Inf	2
40.145M	5.29G	5.330145G	36.035M	5.29191G	5.327945G	Inf	3
40.145M	5.29G	5.330145G	36.035M	5.29191G	5.327945G	Inf	4

802.11ac VHT40_Nss1,(MCS0)_4TX EBW

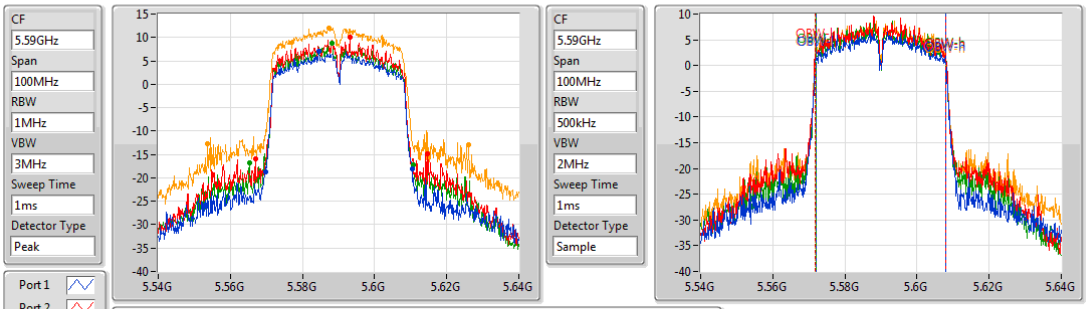
5510MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
40.435M	5.48971G	5.530145G	36.035M	5.49191G	5.527945G	Inf	1
39.855M	5.49029G	5.530145G	36.035M	5.49191G	5.527945G	Inf	2
40.435M	5.489855G	5.53029G	36.035M	5.49191G	5.527945G	Inf	3
40.145M	5.49G	5.530145G	36.179M	5.491766G	5.527945G	Inf	4

802.11ac VHT40_Nss1,(MCS0)_4TX EBW

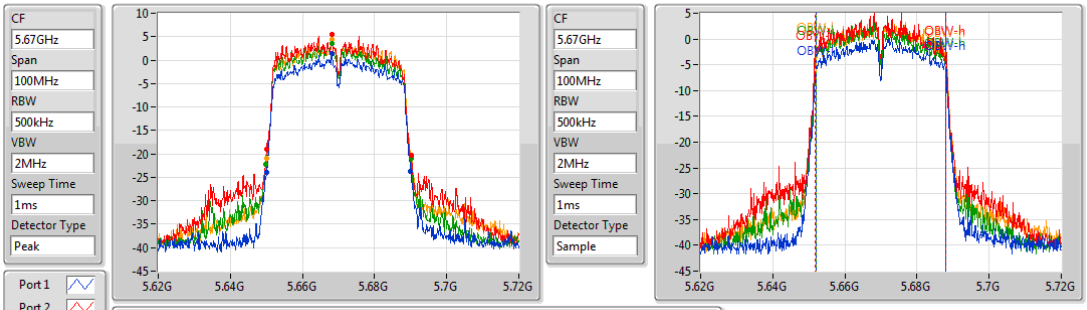
5590MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
40.725M	5.56971G	5.610435G	36.179M	5.57191G	5.60809G	Inf	1
47.681M	5.566957G	5.614638G	36.324M	5.571766G	5.60809G	Inf	2
45.507M	5.565217G	5.610725G	36.035M	5.57191G	5.607945G	Inf	3
72.319M	5.553768G	5.626087G	36.324M	5.571766G	5.60809G	Inf	4

802.11ac VHT40_Nss1,(MCS0)_4TX EBW

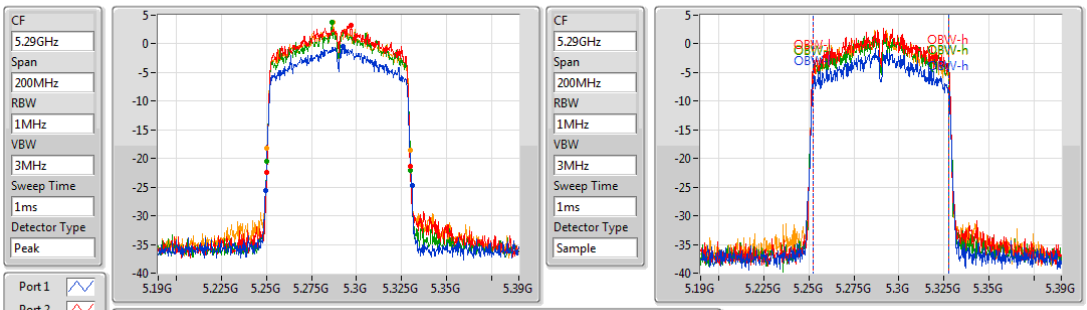
5670MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
40M	5.65G	5.69G	36.035M	5.65191G	5.687945G	Inf	1
40.145M	5.65G	5.690145G	36.179M	5.651766G	5.687945G	Inf	2
40.435M	5.64971G	5.690145G	36.035M	5.65191G	5.687945G	Inf	3
40M	5.650145G	5.690145G	36.179M	5.65191G	5.68809G	Inf	4

802.11ac VHT80_Nss1,(MCS0)_4TX EBW

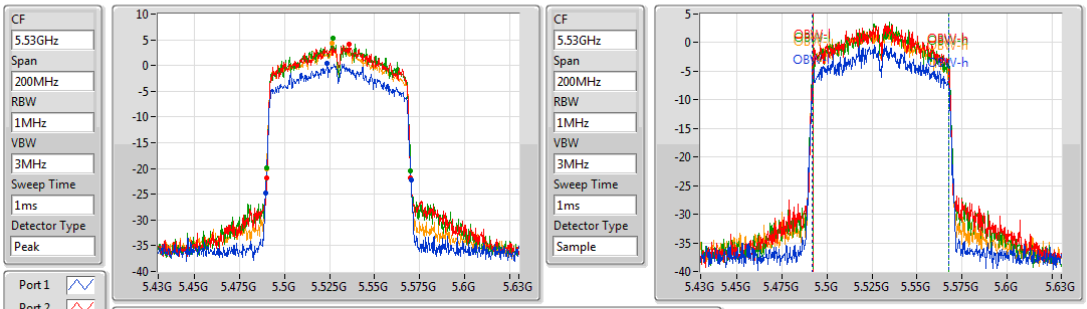
5290MHz



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	75.253M	5.252373G	5.327627G	Inf	1
79.42M	5.25029G	5.32971G	74.964M	5.252373G	5.327337G	Inf	2
79.71M	5.25029G	5.33G	75.253M	5.252373G	5.327627G	Inf	3
79.42M	5.25029G	5.32971G	74.964M	5.252373G	5.327337G	Inf	4

802.11ac VHT80_Nss1,(MCS0)_4TX **EBW**

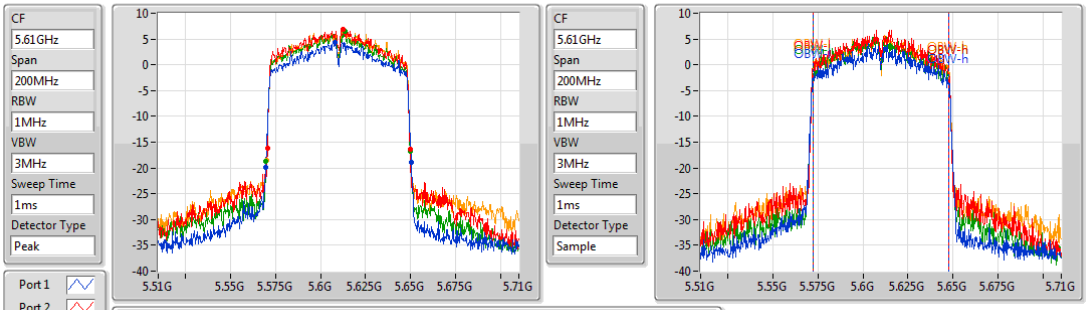
5530MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
81.159M	5.48942G	5.57058G	75.543M	5.492084G	5.567627G	Inf	1
79.71M	5.49029G	5.57G	74.964M	5.492373G	5.567337G	Inf	2
79.71M	5.49029G	5.57G	75.253M	5.492373G	5.567627G	Inf	3
80M	5.49G	5.57G	74.964M	5.492373G	5.567337G	Inf	4

802.11ac VHT80_Nss1,(MCS0)_4TX **EBW**

5610MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
80.87M	5.56971G	5.65058G	75.253M	5.572373G	5.647627G	Inf	1
79.13M	5.57058G	5.64971G	74.964M	5.572373G	5.647337G	Inf	2
80.29M	5.56971G	5.65G	74.964M	5.572373G	5.647337G	Inf	3
80.29M	5.57G	5.65029G	75.253M	5.572373G	5.647627G	Inf	4

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_Nss1,(MCS0)_4TX	23.623M	17.8M	17M8D1D	20M	17.656M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	68.116M	36.614M	36M6D1D	40.58M	36.179M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	81.739M	75.832M	75M8D1D	81.159M	75.543M
5.47-5.725GHz	-	-	-	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	20.87M	17.8M	17M8D1D	20.362M	17.728M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	67.101M	36.469M	36M5D1D	40.58M	36.179M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	87.536M	75.832M	75M8D1D	80.87M	75.543M

Max-N dB = Maximum 26dB down bandwidth
Max-OBW = Maximum 99% occupied bandwidth
Min-N dB = Maximum 26dB down bandwidth
Min-OBW = Minimum 99% occupied bandwidth

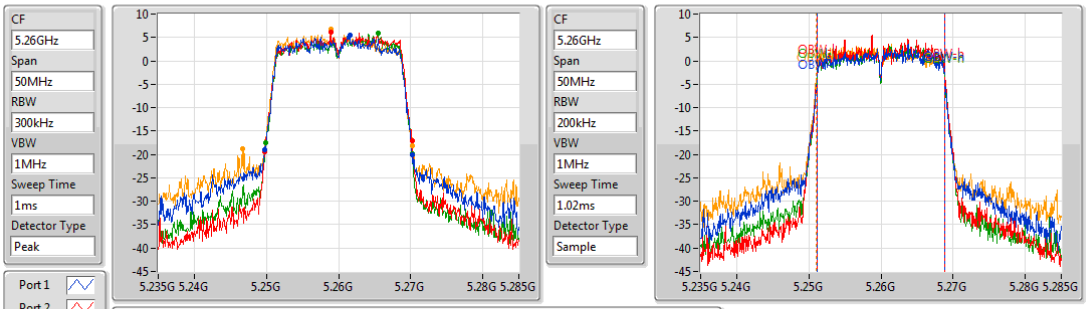
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	Inf	20.507M	17.728M	20.507M	17.728M	20.362M	17.656M	23.623M	17.8M
5300MHz	Pass	Inf	20.362M	17.728M	20.58M	17.656M	20M	17.728M	20.507M	17.656M
5320MHz	Pass	Inf	20.58M	17.728M	20.507M	17.728M	20.435M	17.728M	20.435M	17.728M
5500MHz	Pass	Inf	20.507M	17.8M	20.58M	17.728M	20.58M	17.728M	20.362M	17.728M
5580MHz	Pass	Inf	20.58M	17.8M	20.507M	17.728M	20.507M	17.728M	20.725M	17.728M
5700MHz	Pass	Inf	20.435M	17.728M	20.87M	17.728M	20.652M	17.728M	20.652M	17.728M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	Inf	41.304M	36.324M	40.87M	36.179M	41.159M	36.324M	68.116M	36.324M
5310MHz	Pass	Inf	40.58M	36.614M	40.87M	36.179M	40.87M	36.324M	41.014M	36.324M
5510MHz	Pass	Inf	40.725M	36.179M	41.159M	36.469M	41.014M	36.324M	40.87M	36.324M
5590MHz	Pass	Inf	41.159M	36.469M	40.58M	36.469M	45.362M	36.324M	67.101M	36.469M
5670MHz	Pass	Inf	40.87M	36.179M	40.87M	36.179M	41.014M	36.324M	41.159M	36.179M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	Inf	81.739M	75.832M	81.449M	75.543M	81.449M	75.543M	81.159M	75.832M
5530MHz	Pass	Inf	82.029M	75.543M	81.739M	75.543M	80.87M	75.832M	82.029M	75.832M
5610MHz	Pass	Inf	81.739M	75.832M	81.159M	75.543M	81.739M	75.543M	87.536M	75.832M

Port X-N dB = Port **X** 26dB down bandwidth
Port X-OBW = Port **X** 99% occupied bandwidth

802.11ac VHT20-BF_Nss1,(MCS0)_4TX EBW

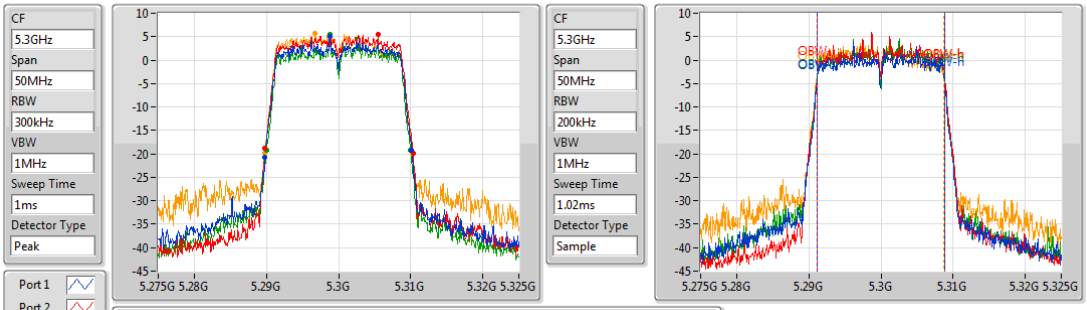
5260MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.507M	5.24971G	5.270217G	17.728M	5.2511G	5.268828G	Inf	1
20.507M	5.24971G	5.270217G	17.728M	5.251172G	5.2689G	Inf	2
20.362M	5.249855G	5.270217G	17.656M	5.251172G	5.268828G	Inf	3
23.623M	5.246667G	5.27029G	17.8M	5.251027G	5.268828G	Inf	4

802.11ac VHT20-BF_Nss1,(MCS0)_4TX EBW

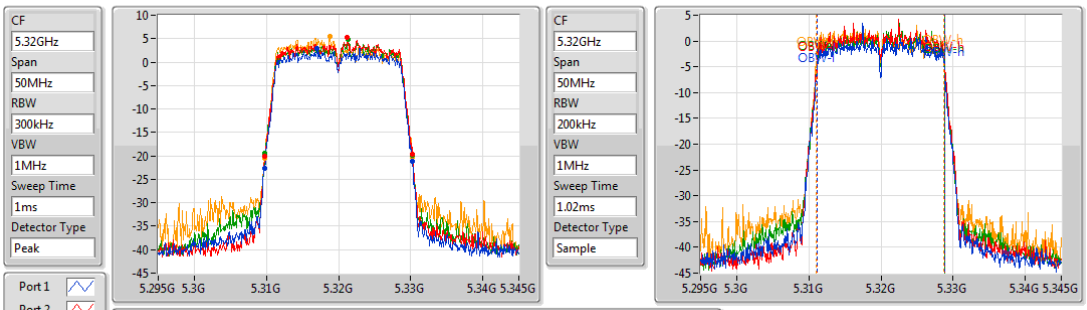
5300MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.362M	5.289783G	5.310145G	17.728M	5.2911G	5.308828G	Inf	1
20.58M	5.289783G	5.310362G	17.656M	5.291172G	5.308828G	Inf	2
20M	5.29G	5.31G	17.728M	5.2911G	5.308828G	Inf	3
20.507M	5.28971G	5.310217G	17.656M	5.2911G	5.308755G	Inf	4

802.11ac VHT20-BF_Nss1,(MCS0)_4TX EBW

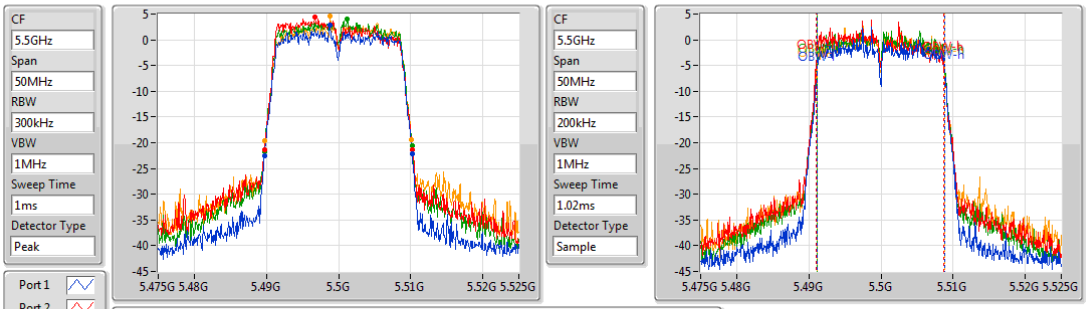
5320MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.58M	5.30971G	5.33029G	17.728M	5.3111G	5.328828G	Inf	1
20.507M	5.309783G	5.33029G	17.728M	5.3111G	5.328828G	Inf	2
20.435M	5.309783G	5.330217G	17.728M	5.3111G	5.328828G	Inf	3
20.435M	5.309783G	5.330217G	17.728M	5.311027G	5.328755G	Inf	4

802.11ac VHT20-BF_Nss1,(MCS0)_4TX EBW

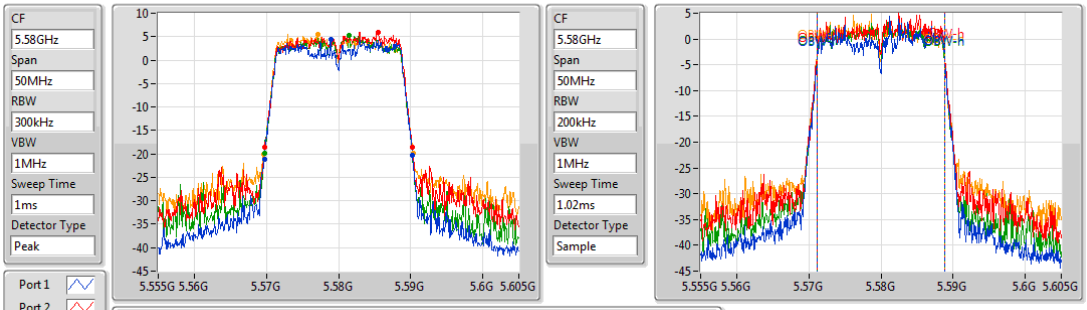
5500MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.507M	5.48971G	5.510217G	17.8M	5.4911G	5.5089G	Inf	1
20.58M	5.48971G	5.51029G	17.728M	5.491027G	5.508755G	Inf	2
20.58M	5.48971G	5.51029G	17.728M	5.4911G	5.508828G	Inf	3
20.362M	5.489783G	5.510145G	17.728M	5.4911G	5.508828G	Inf	4

802.11ac VHT20-BF_Nss1,(MCS0)_4TX EBW

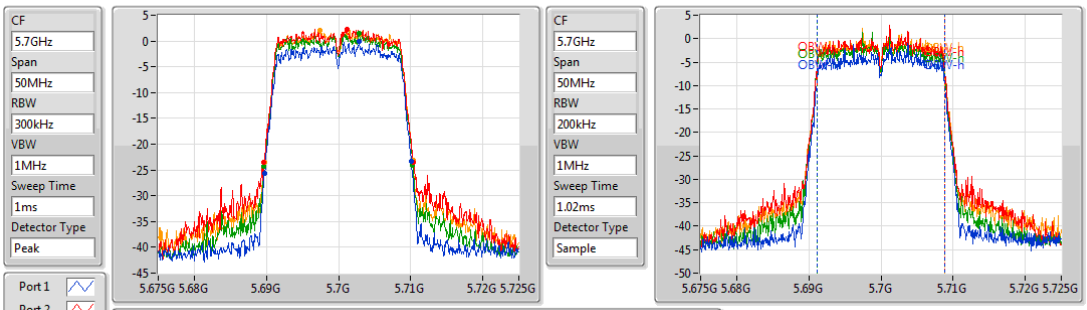
5580MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.58M	5.56971G	5.59029G	17.8M	5.5711G	5.5889G	Inf	1
20.507M	5.56971G	5.590217G	17.728M	5.5711G	5.588828G	Inf	2
20.507M	5.56971G	5.590217G	17.728M	5.5711G	5.588828G	Inf	3
20.725M	5.569638G	5.590362G	17.728M	5.5711G	5.588828G	Inf	4

802.11ac VHT20-BF_Nss1,(MCS0)_4TX EBW

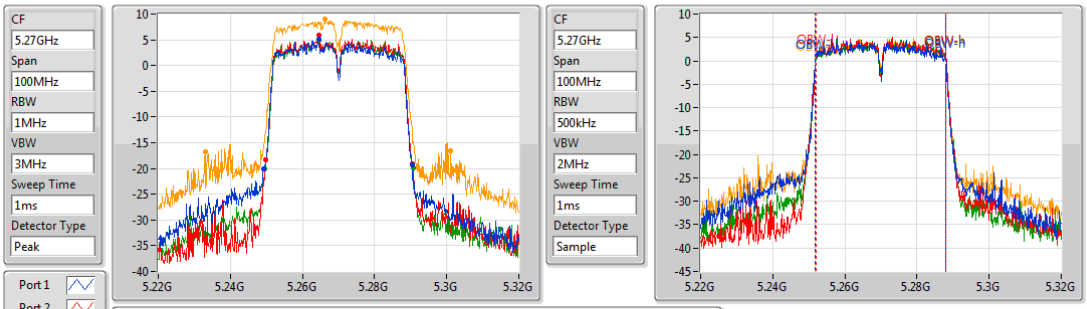
5700MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
20.435M	5.68971G	5.710145G	17.728M	5.6911G	5.708828G	Inf	1
20.87M	5.689565G	5.710435G	17.728M	5.6911G	5.708828G	Inf	2
20.652M	5.689638G	5.71029G	17.728M	5.6911G	5.708828G	Inf	3
20.652M	5.68971G	5.710362G	17.728M	5.6911G	5.708828G	Inf	4

802.11ac VHT40-BF_Nss1,(MCS0)_4TX EBW

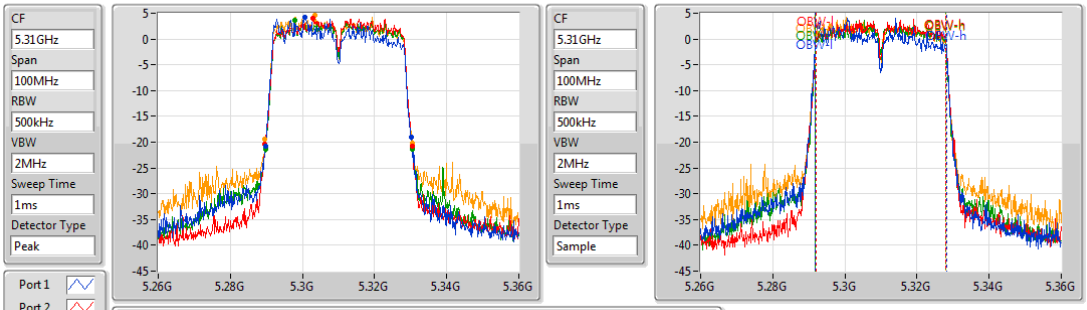
5270MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
41.304M	5.24913G	5.290435G	36.324M	5.251766G	5.28809G	Inf	1
40.87M	5.24971G	5.29058G	36.179M	5.25191G	5.28809G	Inf	2
41.159M	5.249565G	5.290725G	36.324M	5.251766G	5.28809G	Inf	3
68.116M	5.233043G	5.301159G	36.324M	5.251766G	5.28809G	Inf	4

802.11ac VHT40-BF_Nss1,(MCS0)_4TX EBW

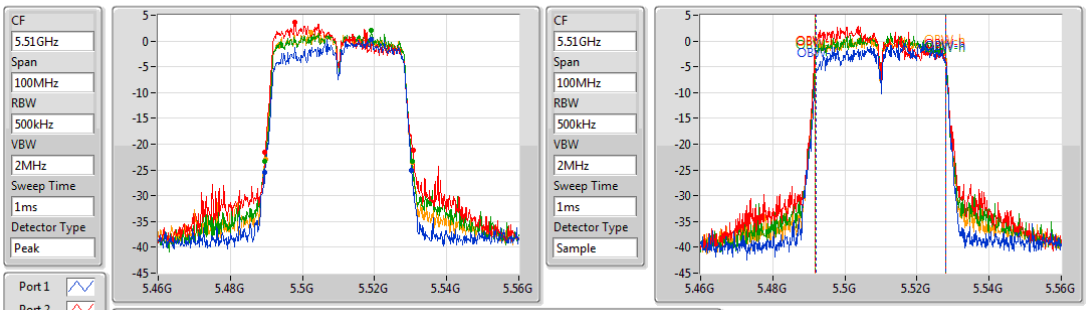
5310MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
40.58M	5.28971G	5.33029G	36.614M	5.291621G	5.328234G	Inf	1
40.87M	5.289565G	5.330435G	36.179M	5.29191G	5.32809G	Inf	2
40.87M	5.28971G	5.33058G	36.324M	5.291766G	5.32809G	Inf	3
41.014M	5.289565G	5.33058G	36.324M	5.291766G	5.32809G	Inf	4

802.11ac VHT40-BF_Nss1,(MCS0)_4TX EBW

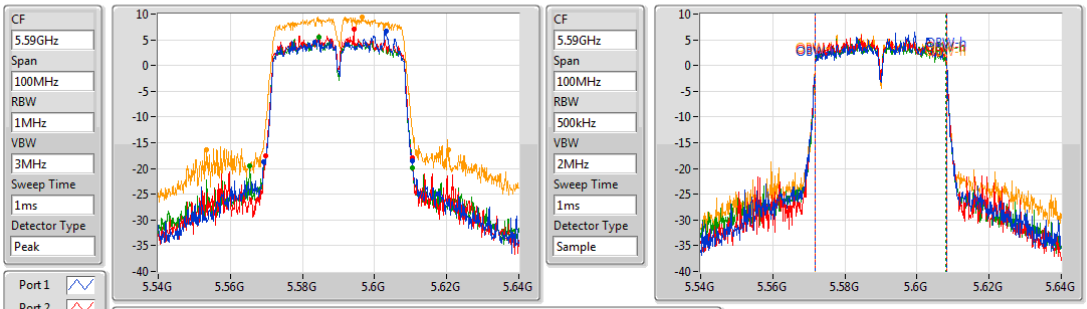
5510MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
40.725M	5.489565G	5.53029G	36.179M	5.49191G	5.52809G	Inf	1
41.159M	5.489565G	5.530725G	36.469M	5.491621G	5.52809G	Inf	2
41.014M	5.489565G	5.53058G	36.324M	5.491766G	5.52809G	Inf	3
40.87M	5.48971G	5.53058G	36.324M	5.491766G	5.52809G	Inf	4

802.11ac VHT40-BF_Nss1,(MCS0)_4TX EBW

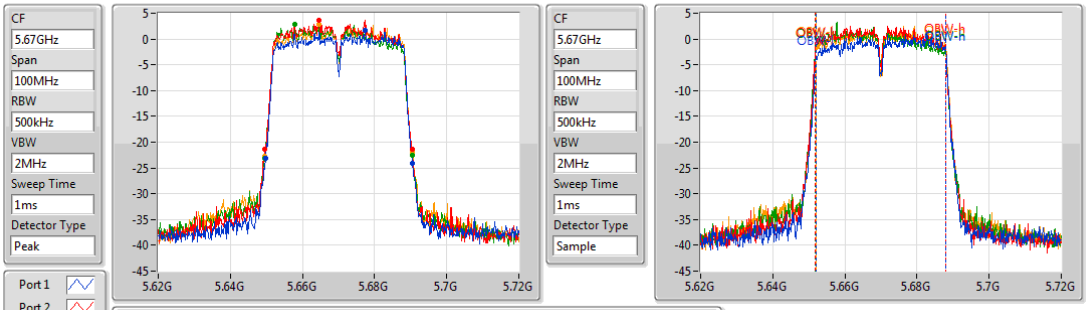
5590MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
41.159M	5.569275G	5.610435G	36.469M	5.571766G	5.608234G	Inf	1
40.58M	5.569855G	5.610435G	36.469M	5.571766G	5.608234G	Inf	2
45.362M	5.565217G	5.61058G	36.324M	5.571766G	5.60809G	Inf	3
67.101M	5.553478G	5.62058G	36.469M	5.571766G	5.608234G	Inf	4

802.11ac VHT40-BF_Nss1,(MCS0)_4TX EBW

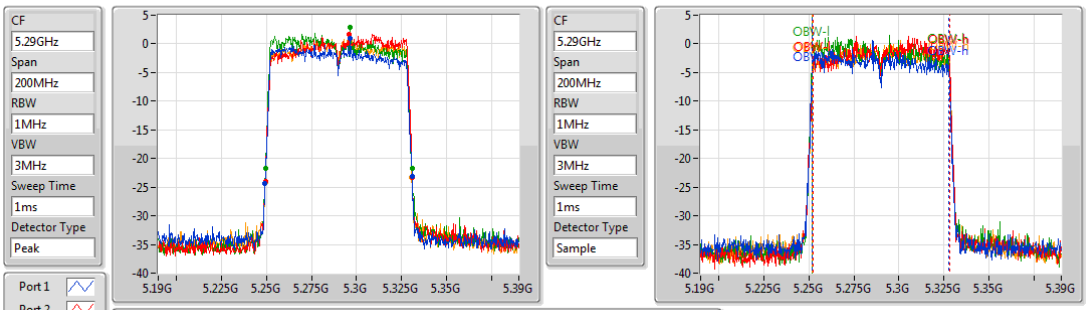
5670MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
40.87M	5.64971G	5.69058G	36.179M	5.65191G	5.68809G	Inf	1
40.87M	5.649565G	5.690435G	36.179M	5.651766G	5.687945G	Inf	2
41.014M	5.64942G	5.690435G	36.324M	5.651766G	5.68809G	Inf	3
41.159M	5.64942G	5.69058G	36.179M	5.65191G	5.68809G	Inf	4

802.11ac VHT80-BF_Nss1,(MCS0)_4TX EBW

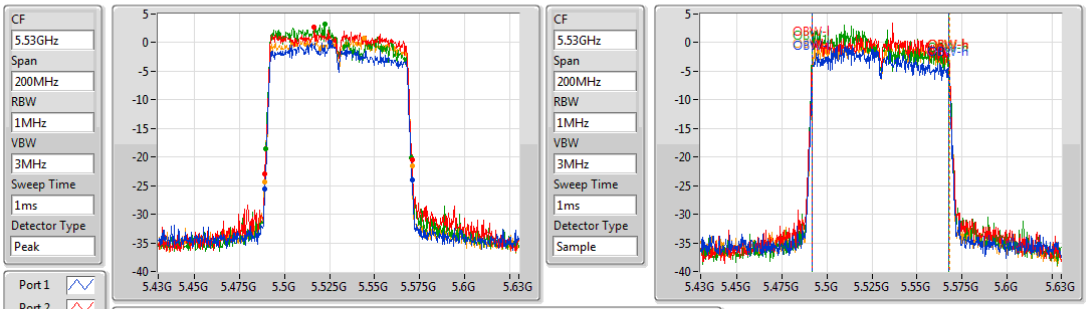
5290MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
81.739M	5.24913G	5.33087G	75.832M	5.251795G	5.327627G	Inf	1
81.449M	5.24942G	5.33087G	75.543M	5.252373G	5.327916G	Inf	2
81.449M	5.24942G	5.33087G	75.543M	5.252084G	5.327627G	Inf	3
81.159M	5.24942G	5.33058G	75.832M	5.252084G	5.327916G	Inf	4

802.11ac VHT80-BF_Nss1,(MCS0)_4TX **EBW**

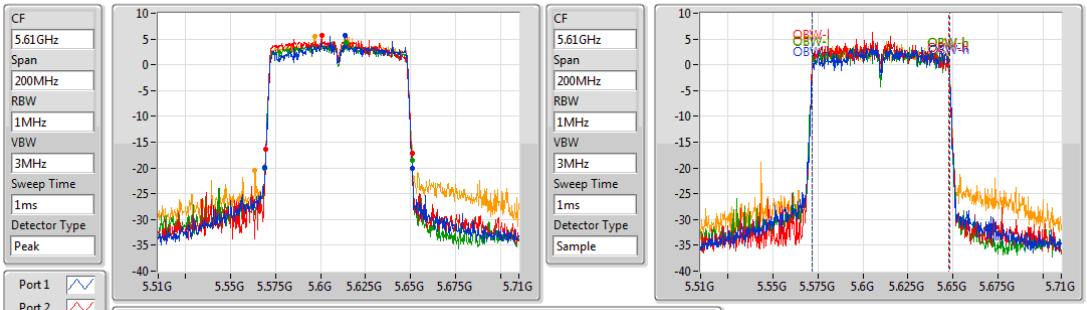
5530MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
82.029M	5.48913G	5.571159G	75.543M	5.492084G	5.567627G	Inf	1
81.739M	5.48913G	5.57087G	75.543M	5.492084G	5.567627G	Inf	2
80.87M	5.48971G	5.57058G	75.832M	5.491795G	5.567627G	Inf	3
82.029M	5.488841G	5.57087G	75.832M	5.492084G	5.567916G	Inf	4

802.11ac VHT80-BF_Nss1,(MCS0)_4TX **EBW**

5610MHz



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
81.739M	5.56913G	5.65087G	75.832M	5.572084G	5.647916G	Inf	1
81.159M	5.56971G	5.65087G	75.543M	5.572084G	5.647627G	Inf	2
81.739M	5.56913G	5.65087G	75.543M	5.572084G	5.647627G	Inf	3
87.536M	5.563623G	5.651159G	75.832M	5.572084G	5.647916G	Inf	4

3.3 RF Output Power

3.3.1 Limit of RF Output Power

Frequency Band (MHz)		Limit
☒	5250 ~ 5350	Conducted Power: 250mW or 11dBm+10 log B
☒	5470 ~ 5725	Conducted Power: 250mW or 11dBm+10 log B
Note: “B” is the 26dB emission bandwidth in MHz.		

3.3.2 Test Procedures

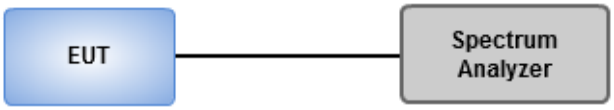
Method PM-G (Measurement using a gated RF average power meter)

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.

Spectrum analyzer (For channel that extends across the 5.725 GHz boundary)

1. Set RBW = 1MHz, VBW = 3MHz, Sweep time = Auto, Detector = RMS.
2. Trace average at least 100 traces in power averaging mode.
3. Compute power by integrating the spectrum across the 26 dB EBW.
4. Add 10 log(1/X, X:duty cycle) if duty cycle is <98%).

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)_4TX	20.56	0.11376	23.46	0.22182
802.11ac VHT20_Nss1,(MCS0)_4TX	20.43	0.11041	23.33	0.21528
802.11ac VHT40_Nss1,(MCS0)_4TX	23.51	0.22439	26.41	0.43752
802.11ac VHT80_Nss1,(MCS0)_4TX	16.53	0.04498	19.43	0.08770
5.47-5.725GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	20.67	0.11668	23.57	0.22751
802.11ac VHT20_Nss1,(MCS0)_4TX	20.58	0.11429	23.48	0.22284
802.11ac VHT40_Nss1,(MCS0)_4TX	23.52	0.22491	26.42	0.43853
802.11ac VHT80_Nss1,(MCS0)_4TX	20.31	0.10740	23.21	0.20941

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11a_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	2.90	13.79	14.83	14.65	14.76	20.55	23.95	23.45	29.95
5300MHz	Pass	2.90	13.69	14.89	14.52	14.76	20.51	23.91	23.41	29.91
5320MHz	Pass	2.90	13.74	14.95	14.53	14.85	20.56	23.88	23.46	29.88
5500MHz	Pass	2.90	12.37	14.19	13.84	13.81	19.63	23.96	22.53	29.96
5580MHz	Pass	2.90	13.48	15.23	14.77	14.92	20.67	23.93	23.57	29.93
5700MHz	Pass	2.90	10.31	12.77	12.01	12.73	18.08	23.95	20.98	29.95
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	2.90	13.34	14.77	14.45	14.67	20.36	23.96	23.26	29.96
5300MHz	Pass	2.90	13.45	14.86	14.41	14.61	20.38	23.98	23.28	29.98
5320MHz	Pass	2.90	13.57	14.82	14.52	14.64	20.43	23.98	23.33	29.98
5500MHz	Pass	2.90	12.18	14.16	13.76	13.85	19.57	23.98	22.47	29.98
5580MHz	Pass	2.90	13.31	15.18	14.73	14.81	20.58	23.98	23.48	29.98
5700MHz	Pass	2.90	10.22	12.66	12.06	12.56	18.00	23.96	20.90	29.96
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	2.90	17.26	17.89	17.22	17.56	23.51	24.00	26.41	30.00
5310MHz	Pass	2.90	14.07	15.12	14.57	15.17	20.78	24.00	23.68	30.00
5510MHz	Pass	2.90	10.92	13.05	12.65	12.67	18.42	24.00	21.32	30.00
5590MHz	Pass	2.90	16.72	17.99	17.3	17.88	23.52	24.00	26.42	30.00
5670MHz	Pass	2.90	10.64	13.12	12.16	12.67	18.26	24.00	21.16	30.00
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	2.90	8.63	11.07	10.84	11.05	16.53	24.00	19.43	30.00
5530MHz	Pass	2.90	8.97	11.46	11.29	11.44	16.93	24.00	19.83	30.00
5610MHz	Pass	2.90	13.12	14.97	14.22	14.64	20.31	24.00	23.21	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_Nss1,(MCS0)_4TX	20.13	0.10304	28.75	0.74989
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	20.93	0.12388	29.55	0.90157
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	15.39	0.03459	24.01	0.25177
5.47-5.725GHz	-	-	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	20.23	0.10544	28.83	0.76384
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	21.02	0.12647	29.62	0.91622
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	19.30	0.08511	27.90	0.61660

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11ac VHT20-BF_Nss1,(MCS0) _4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	8.62	13.37	14.56	14.02	14.39	20.13	21.38	28.75	30.00
5300MHz	Pass	8.62	13.43	14.46	14.03	14.36	20.11	21.38	28.73	30.00
5320MHz	Pass	8.62	12.79	13.46	13.21	13.68	19.32	21.38	27.94	30.00
5500MHz	Pass	8.60	11.26	12.43	12.53	12.75	18.30	21.40	26.90	30.00
5580MHz	Pass	8.60	13.24	14.47	14.32	14.67	20.23	21.40	28.83	30.00
5700MHz	Pass	8.60	9.05	11.48	10.82	11.35	16.80	21.40	25.40	30.00
802.11ac VHT40-BF_Nss1,(MCS0) _4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	8.62	14.73	15.03	14.73	15.14	20.93	21.38	29.55	30.00
5310MHz	Pass	8.62	13.13	13.18	12.79	13.67	19.22	21.38	27.84	30.00
5510MHz	Pass	8.60	10.46	11.26	11.42	12.01	17.34	21.40	25.94	30.00
5590MHz	Pass	8.60	14.37	14.96	14.81	15.73	21.02	21.40	29.62	30.00
5670MHz	Pass	8.60	10.61	12.46	12.15	12.82	18.11	21.40	26.71	30.00
802.11ac VHT80-BF_Nss1,(MCS0) _4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	8.62	8.19	9.77	9.74	9.58	15.39	21.38	24.01	30.00
5530MHz	Pass	8.60	8.02	10.03	10.05	10.12	15.66	21.40	24.26	30.00
5610MHz	Pass	8.60	12.31	13.53	13.24	13.89	19.30	21.40	27.90	30.00

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

Note:

Port X = Port X output power

For 5250 ~ 5350 MHz

DG = Directional Gain=10 x log((10$^{2.8/20}$+10$^{2.4/20}$+10$^{2.3/20}$+10$^{2.9/20}$)^4/4) = 8.62 dBi > 6 dBi

Limit shall be reduced to 24 dBm – (8.62 dBi – 6 dBi) = 21.38 dBm

For 5470 ~ 5725MHz

DG = Directional Gain=10 x log((10$^{2.2/20}$+10$^{2.5/20}$+10$^{2.7/20}$+10$^{2.9/20}$)^4/4) = 8.60 dBi > 6 dBi

Limit shall be reduced to 24 dBm – (8.60dBi – 6 dBi) = 21.40 dBm

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

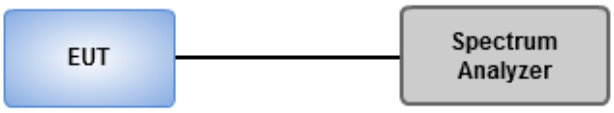
Duty cycle ≥ 98 %

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)_4TX	8.22	16.84
802.11ac VHT20_Nss1,(MCS0)_4TX	8.20	16.82
802.11ac VHT40_Nss1,(MCS0)_4TX	8.00	16.62
802.11ac VHT80_Nss1,(MCS0)_4TX	-1.87	6.75
5.47-5.725GHz	-	-
802.11a_Nss1,(6Mbps)_4TX	8.27	16.87
802.11ac VHT20_Nss1,(MCS0)_4TX	8.23	16.83
802.11ac VHT40_Nss1,(MCS0)_4TX	8.10	16.70
802.11ac VHT80_Nss1,(MCS0)_4TX	2.06	10.66

RBW = 1MHz

Result

Mode	Result	DG (dBi)	Port 1 (dBm/ RBW)	Port 2 (dBm/ RBW)	Port 3 (dBm/ RBW)	Port 4 (dBm/ RBW)	PD (dBm/ RBW)	PD Limit (dBm/ RBW)	EIRP PD (dBm/ RBW)	EIRP PD Limit (dBm/ RBW)
802.11a_Nss1,(6Mbps) _4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	8.62	1.64	2.55	2.43	2.39	8.05	8.38	16.67	17.00
5300MHz	Pass	8.62	1.55	2.56	2.30	2.89	8.10	8.38	16.72	17.00
5320MHz	Pass	8.62	1.72	2.77	2.38	2.65	8.22	8.38	16.84	17.00
5500MHz	Pass	8.60	0.13	1.54	1.65	1.49	7.09	8.40	15.69	17.00
5580MHz	Pass	8.60	1.52	3.00	2.45	2.85	8.27	8.40	16.87	17.00
5700MHz	Pass	8.60	-2.03	0.47	-0.20	0.13	5.61	8.40	14.21	17.00
802.11ac VHT20_Nss1,(MCS0)_ 4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	8.62	1.16	2.80	2.26	2.47	7.98	8.38	16.60	17.00
5300MHz	Pass	8.62	1.29	3.11	2.33	2.63	8.11	8.38	16.73	17.00
5320MHz	Pass	8.62	1.32	2.97	2.55	3.00	8.20	8.38	16.82	17.00
5500MHz	Pass	8.60	-0.31	1.86	1.52	1.83	7.10	8.40	15.70	17.00
5580MHz	Pass	8.60	0.83	3.49	2.55	2.56	8.23	8.40	16.83	17.00
5700MHz	Pass	8.60	-2.74	0.61	-0.24	0.64	5.51	8.40	14.11	17.00
802.11ac VHT40_Nss1,(MCS0)_ 4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	8.62	1.80	2.54	1.84	2.01	8.00	8.38	16.62	17.00
5310MHz	Pass	8.62	-1.70	-0.62	-1.00	-0.61	4.96	8.38	13.58	17.00
5510MHz	Pass	8.60	-4.61	-2.66	-2.82	-2.92	2.75	8.40	11.35	17.00
5590MHz	Pass	8.60	1.67	2.51	2.08	2.34	8.10	8.40	16.70	17.00
5670MHz	Pass	8.60	-4.84	-2.40	-3.11	-2.85	2.66	8.40	11.26	17.00
802.11ac VHT80_Nss1,(MCS0)_ 4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	8.62	-9.90	-7.05	-7.45	-7.31	-1.87	8.38	6.75	17.00
5530MHz	Pass	8.60	-9.26	-6.32	-6.10	-6.65	-0.96	8.40	7.64	17.00
5610MHz	Pass	8.60	-5.05	-3.39	-3.60	-3.42	2.06	8.40	10.66	17.00

DG = Directional Gain; **RBW** = 1MHz
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

Note:

DG = Directional Gain=10 x log(($10^{2.8/20}+10^{2.4/20}+10^{2.3/20}+10^{2.9/20}$)^4/4) = 8.62 dBi > 6 dBi

Limit shall be reduced to11 dBm – (8.62 dBi – 6 dBi) = 8.38 dBm

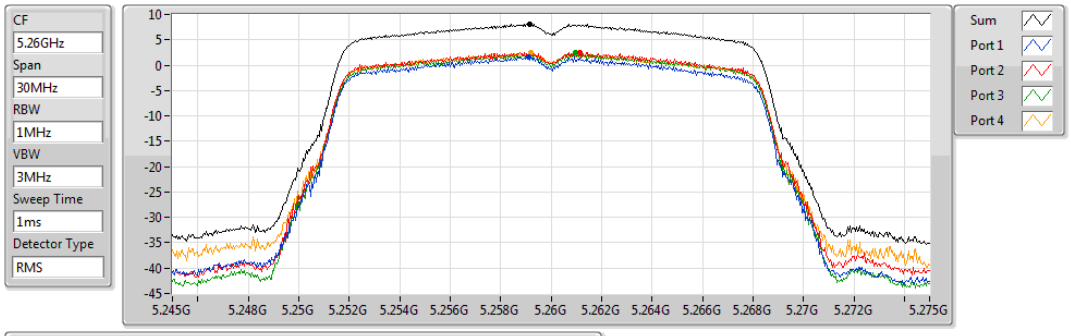
For 5470 ~ 5725MHz

DG = Directional Gain=10 x log(($10^{2.2/20}+10^{2.5/20}+10^{2.7/20}+10^{2.9/20}$)^4/4) = 8.60 dBi > 6 dBi

Limit shall be reduced to 11 dBm – (8.60 dBi – 6 dBi) = 8.40 dBm

802.11a_Nss1,(6Mbps)_4TX PSD

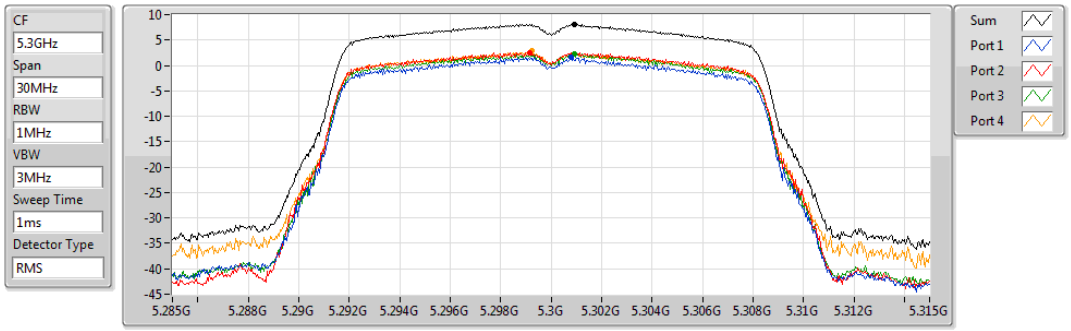
5260MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.05	8.05	1.64	2.55	2.43	2.39

802.11a_Nss1,(6Mbps)_4TX PSD

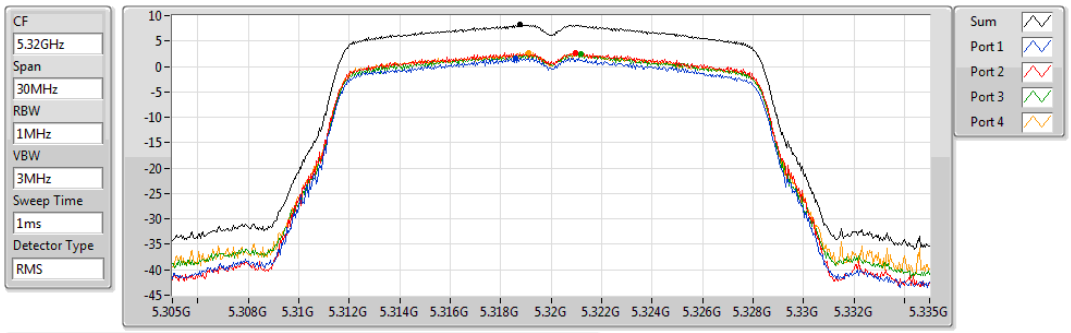
5300MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.10	8.10	1.55	2.56	2.30	2.89

802.11a_Nss1,(6Mbps)_4TX PSD

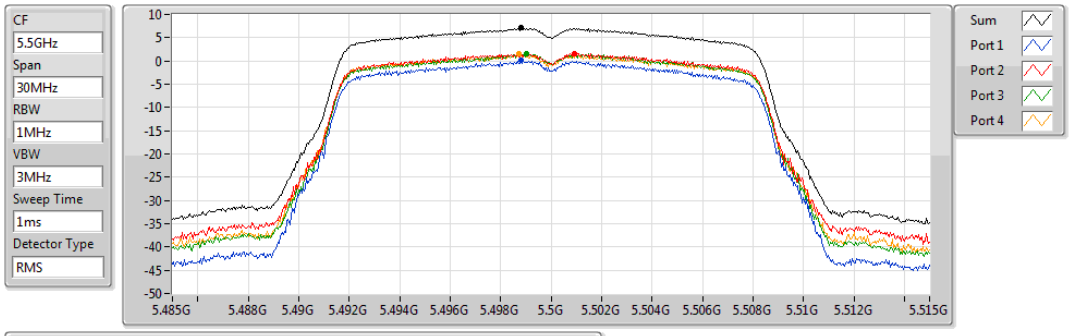
5320MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.22	8.22	1.72	2.77	2.38	2.65

802.11a_Nss1,(6Mbps)_4TX PSD

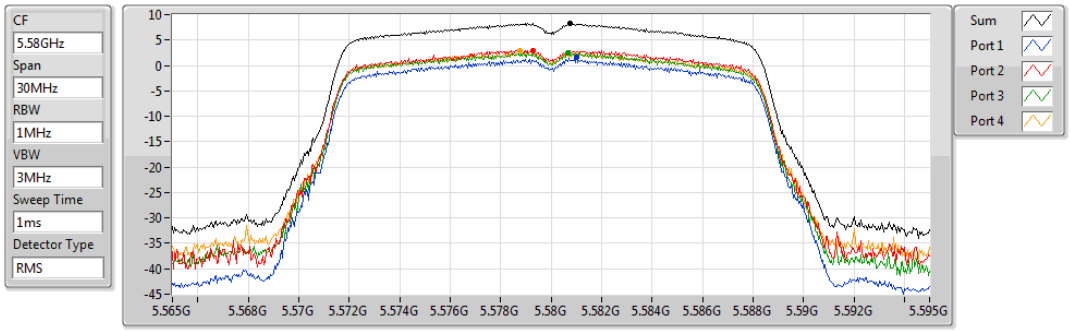
5500MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.09	7.09	0.13	1.54	1.65	1.49

802.11a_Nss1,(6Mbps)_4TX PSD

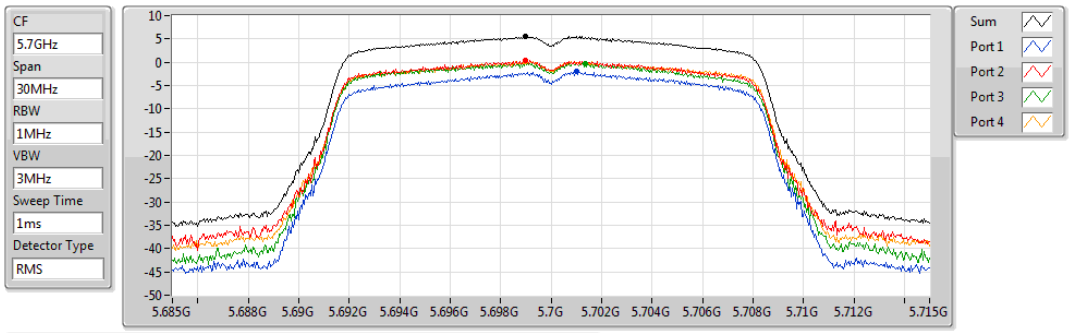
5580MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.27	8.27	1.52	3.00	2.45	2.85

802.11a_Nss1,(6Mbps)_4TX PSD

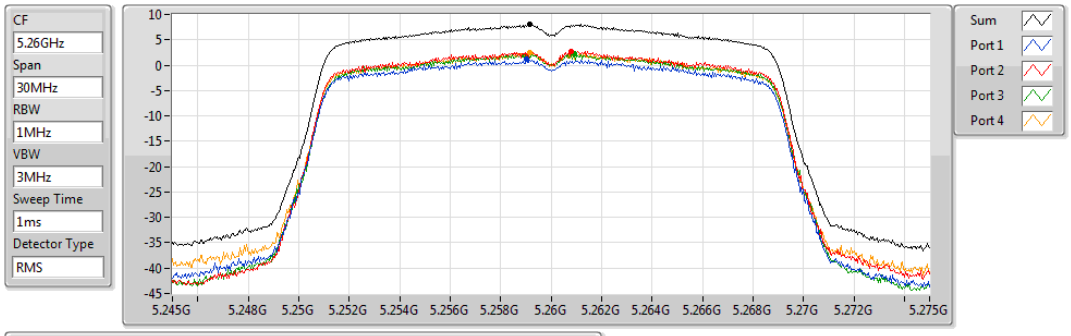
5700MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.61	5.61	-2.03	0.47	-0.20	0.13

802.11ac VHT20_Nss1,(MCS0)_4TX PSD

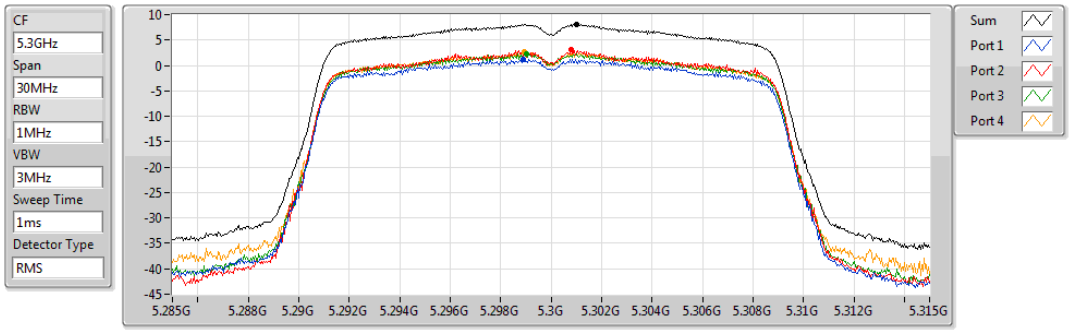
5260MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.98	7.98	1.16	2.80	2.26	2.47

802.11ac VHT20_Nss1,(MCS0)_4TX PSD

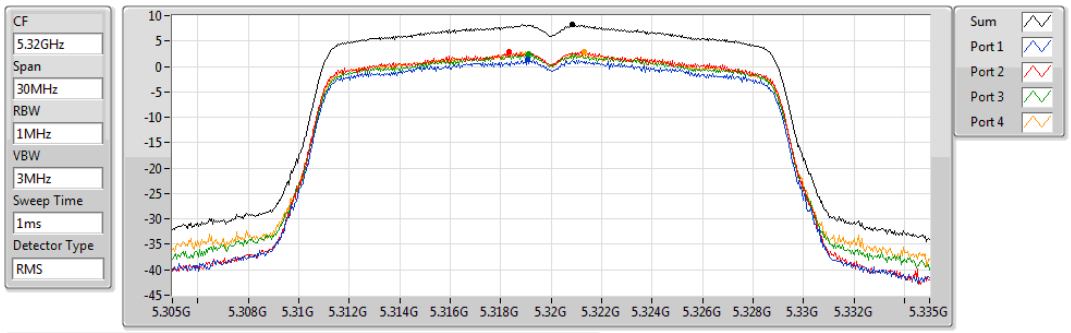
5300MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.11	8.11	1.29	3.11	2.33	2.63

802.11ac VHT20_Nss1,(MCS0)_4TX PSD

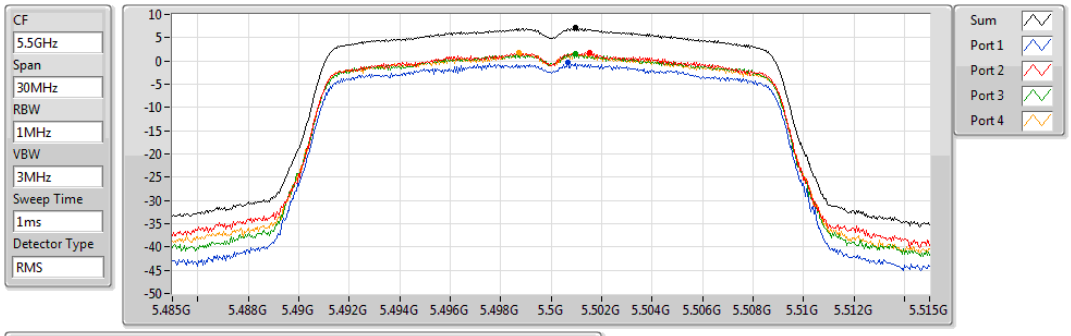
5320MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.20	8.20	1.32	2.97	2.55	3.00

802.11ac VHT20_Nss1,(MCS0)_4TX PSD

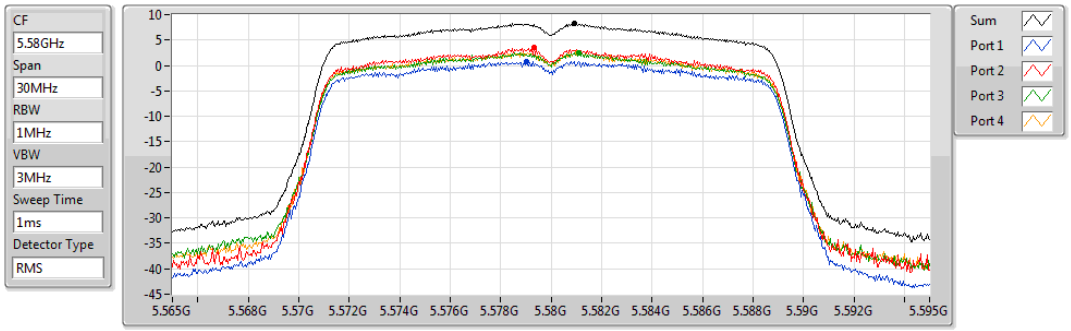
5500MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.10	7.10	-0.31	1.86	1.52	1.83

802.11ac VHT20_Nss1,(MCS0)_4TX PSD

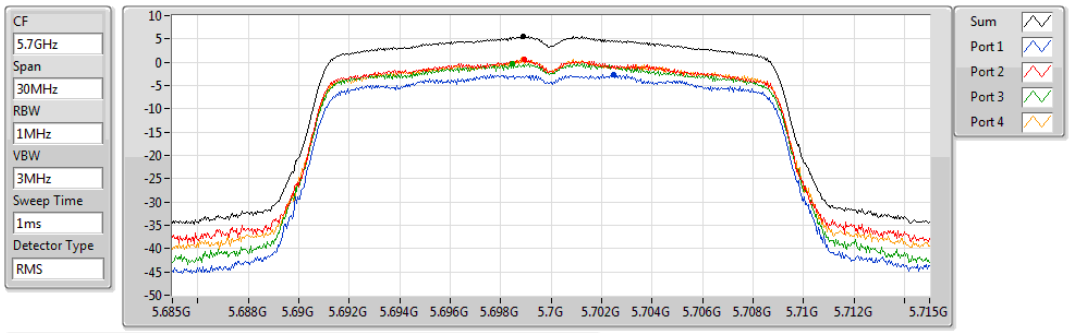
5580MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.23	8.23	0.83	3.49	2.55	2.56

802.11ac VHT20_Nss1,(MCS0)_4TX PSD

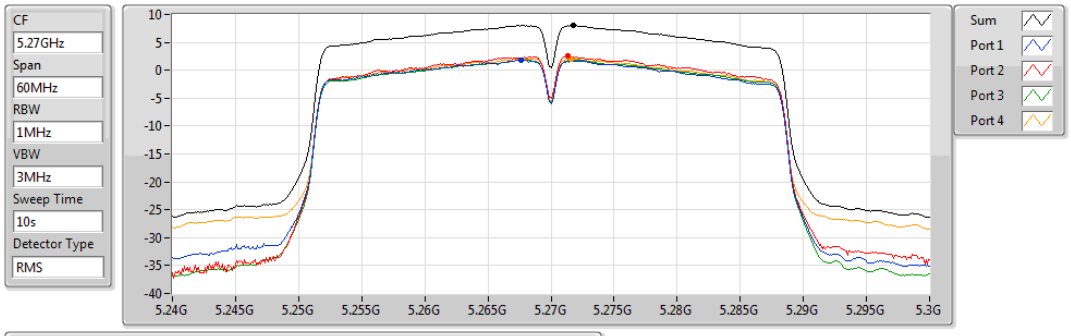
5700MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.51	5.51	-2.74	0.61	-0.24	0.64

802.11ac VHT40_Nss1,(MCS0)_4TX PSD

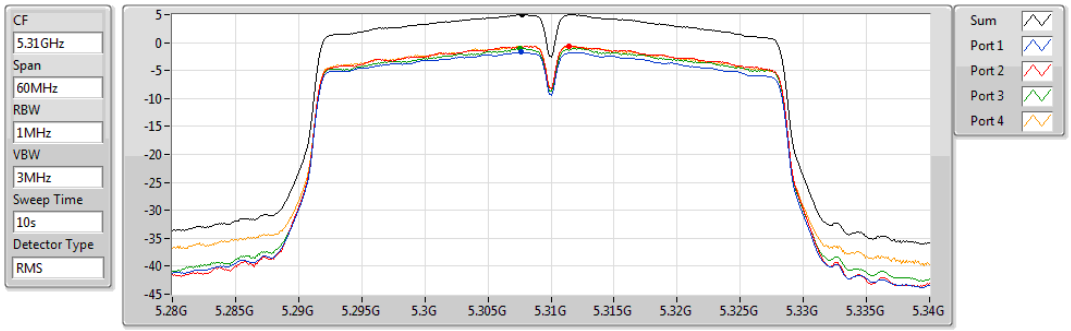
5270MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.00	8.00	1.80	2.54	1.84	2.01

802.11ac VHT40_Nss1,(MCS0)_4TX PSD

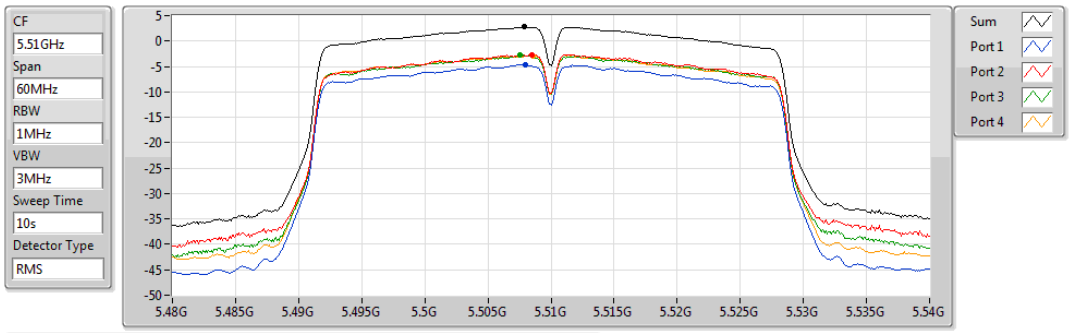
5310MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.96	4.96	-1.70	-0.62	-1.00	-0.61

802.11ac VHT40_Nss1,(MCS0)_4TX PSD

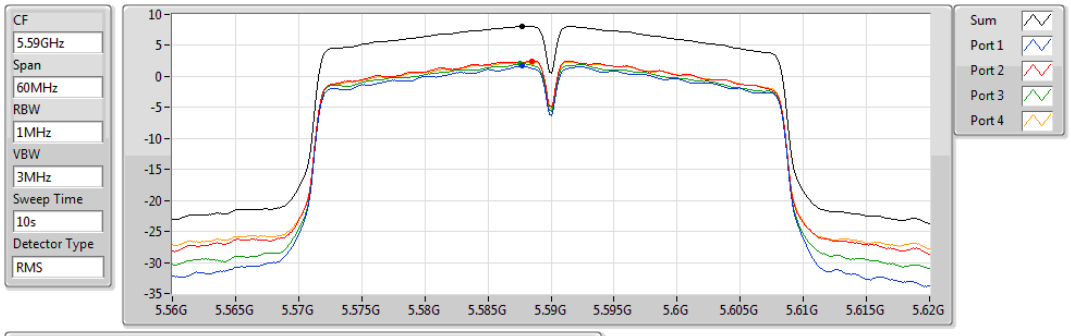
5510MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.75	2.75	-4.61	-2.66	-2.82	-2.92

802.11ac VHT40_Nss1,(MCS0)_4TX PSD

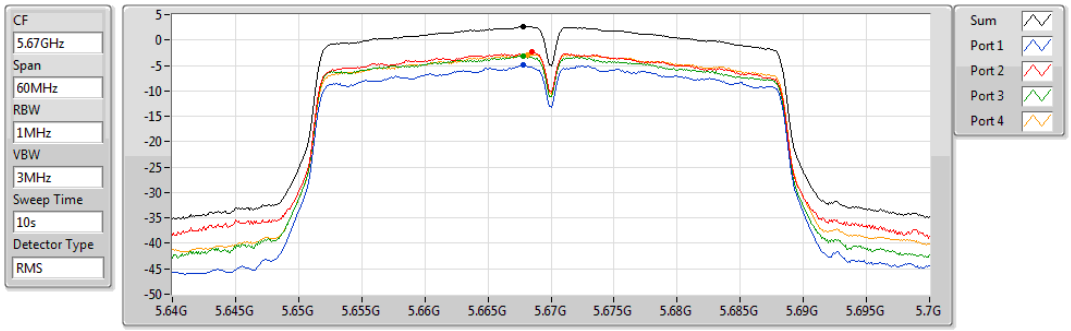
5590MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
8.10	8.10	1.67	2.51	2.08	2.34

802.11ac VHT40_Nss1,(MCS0)_4TX PSD

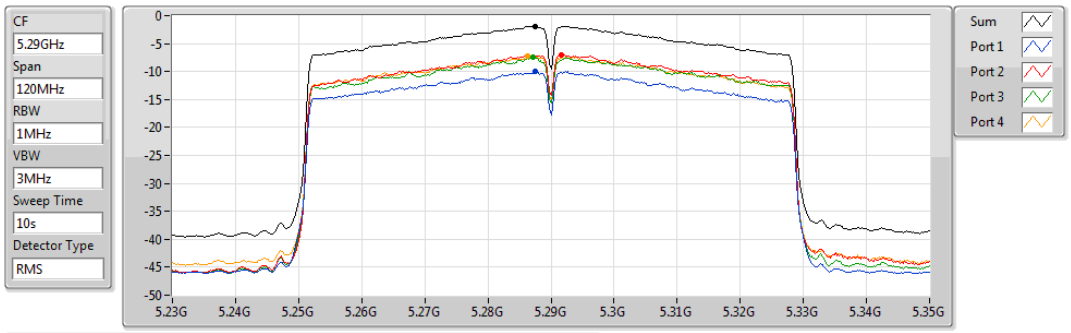
5670MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.66	2.66	-4.84	-2.40	-3.11	-2.85

802.11ac VHT80_Nss1,(MCS0)_4TX PSD

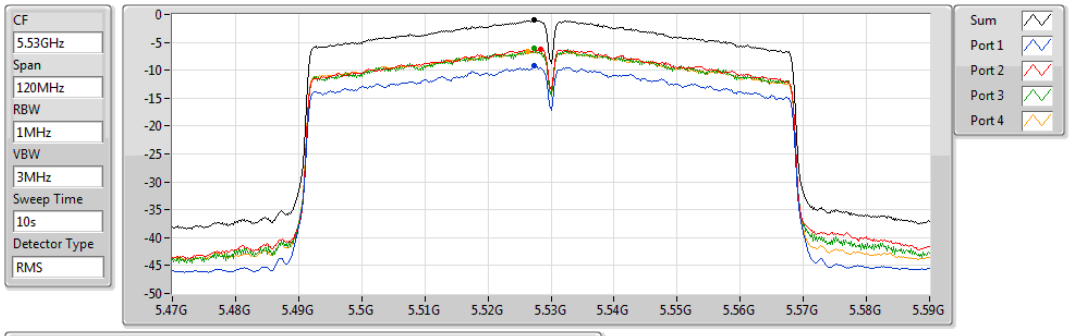
5290MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-1.87	-1.87	-9.90	-7.05	-7.45	-7.31

802.11ac VHT80_Nss1,(MCS0)_4TX **PSD**

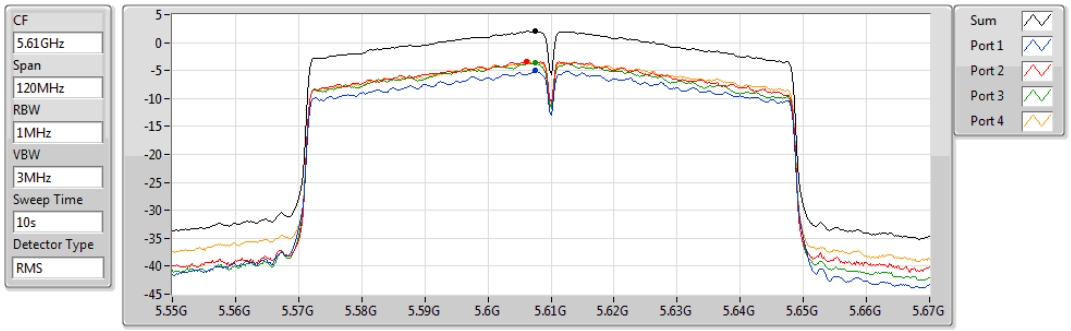
5530MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.96	-0.96	-9.26	-6.32	-6.10	-6.65

802.11ac VHT80_Nss1,(MCS0)_4TX **PSD**

5610MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.06	2.06	-5.05	-3.39	-3.60	-3.42

Beamforming mode

Summary

Mode	PD (dBm/RBW)	EIRP PD (dBm/RBW)
5.25-5.35GHz	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	7.77	16.39
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	5.09	13.71
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-3.47	5.15
5.47-5.725GHz	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	7.99	16.59
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	5.49	14.09
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	0.46	9.06

RBW =1MHz

Result

Mode	Result	DG (dBi)	Port 1 (dBm/ RBW)	Port 2 (dBm/ RBW)	Port 3 (dBm/ RBW)	Port 4 (dBm/ RBW)	PD (dBm/ RBW)	PD Limit (dBm/ RBW)	EIRP PD (dBm/ RBW)	EIRP PD Limit (dBm/ RBW)
802.11ac VHT20-BF_Nss1,(MCS0) _4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	8.62	1.53	2.24	2.18	2.24	7.77	8.38	16.39	17.00
5300MHz	Pass	8.62	1.42	2.77	1.52	2.04	7.69	8.38	16.31	17.00
5320MHz	Pass	8.62	-0.71	1.30	0.72	1.88	6.74	8.38	15.36	17.00
5500MHz	Pass	8.60	-1.29	0.73	0.12	0.07	5.77	8.40	14.37	17.00
5580MHz	Pass	8.60	2.07	2.57	2.44	2.54	7.99	8.40	16.59	17.00
5700MHz	Pass	8.60	-3.07	-0.25	-1.01	-0.25	4.41	8.40	13.01	17.00
802.11ac VHT40-BF_Nss1,(MCS0) _4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	8.62	-1.33	-0.59	-1.03	-0.23	5.09	8.38	13.71	17.00
5310MHz	Pass	8.62	-3.39	-2.34	-2.76	-1.54	3.13	8.38	11.75	17.00
5510MHz	Pass	8.60	-5.71	-3.94	-3.78	-4.23	1.58	8.40	10.18	17.00
5590MHz	Pass	8.60	0.48	-0.29	-0.83	-0.65	5.49	8.40	14.09	17.00
5670MHz	Pass	8.60	-3.91	-2.83	-3.42	-3.10	2.40	8.40	11.00	17.00
802.11ac VHT80-BF_Nss1,(MCS0) _4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	8.62	-9.54	-8.16	-8.90	-8.94	-3.47	8.38	5.15	17.00
5530MHz	Pass	8.60	-10.35	-8.37	-8.80	-8.31	-3.40	8.40	5.20	17.00
5610MHz	Pass	8.60	-5.84	-4.84	-5.12	-4.90	0.46	8.40	9.06	17.00

DG = Directional Gain; **RBW** = 1MHz
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;

Note:

DG = Directional Gain=$10 \times \log((10^{2.8/20}+10^{2.4/20}+10^{2.3/20}+10^{2.9/20})^4/4)$ = 8.62 dBi > 6 dBi

Limit shall be reduced to11 dBm – (8.62 dBi – 6 dBi) = 8.38 dBm

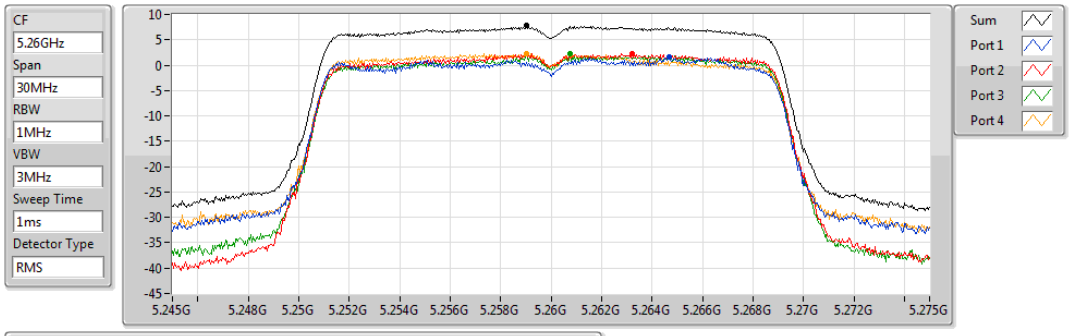
For 5470 ~ 5725MHz

DG = Directional Gain=$10 \times \log((10^{2.2/20}+10^{2.5/20}+10^{2.7/20}+10^{2.9/20})^4/4)$ = 8.60 dBi > 6 dBi

Limit shall be reduced to 11 dBm – (8.60 dBi – 6 dBi) = 8.40 dBm

802.11ac VHT20-BF_Nss1,(MCS0)_4TX PSD

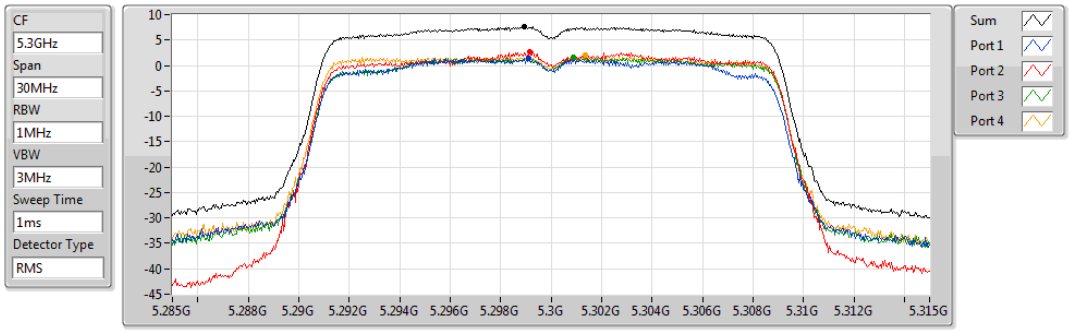
5260MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.77	7.77	1.53	2.24	2.18	2.24

802.11ac VHT20-BF_Nss1,(MCS0)_4TX PSD

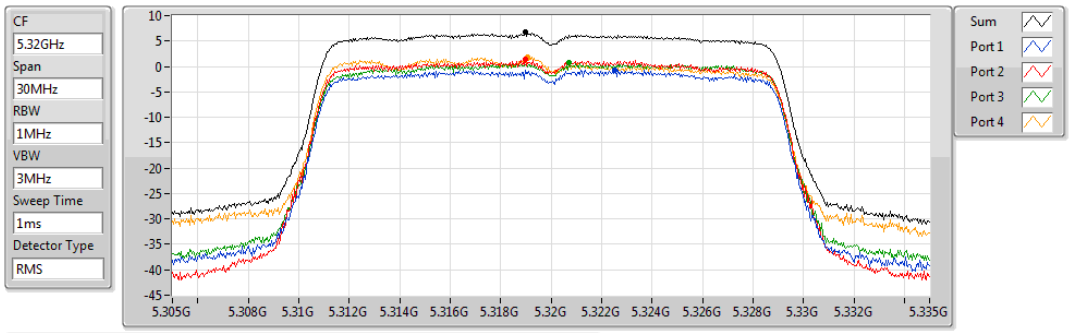
5300MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.69	7.69	1.42	2.77	1.52	2.04

802.11ac VHT20-BF_Nss1,(MCS0)_4TX PSD

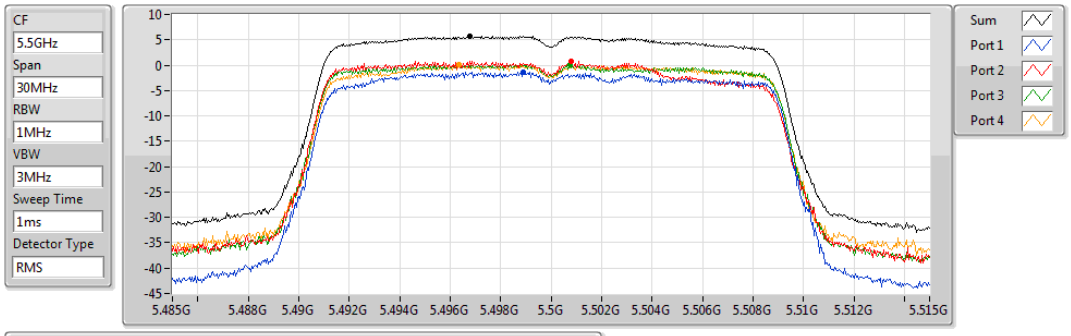
5320MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.74	6.74	-0.71	1.30	0.72	1.88

802.11ac VHT20-BF_Nss1,(MCS0)_4TX PSD

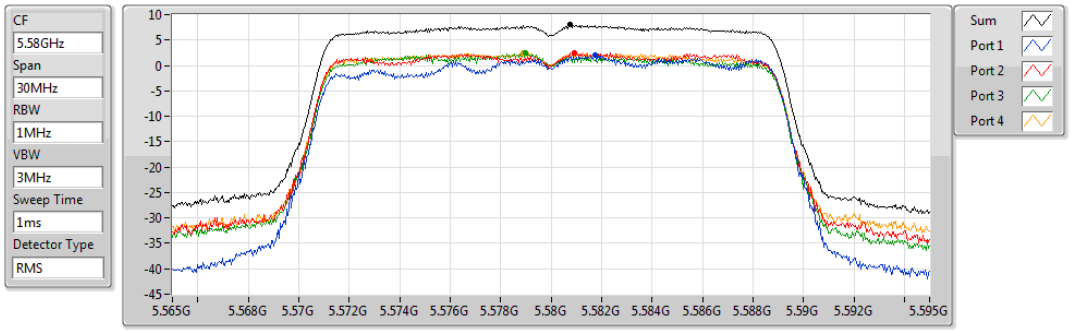
5500MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.77	5.77	-1.29	0.73	0.12	0.07

802.11ac VHT20-BF_Nss1,(MCS0)_4TX PSD

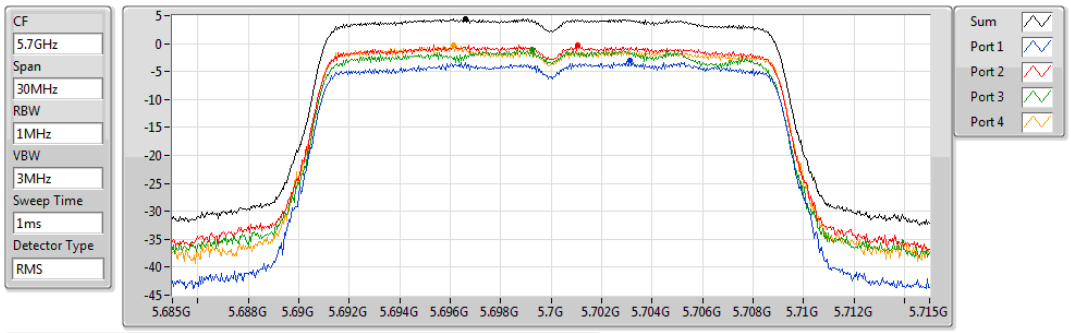
5580MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.99	7.99	2.07	2.57	2.44	2.54

802.11ac VHT20-BF_Nss1,(MCS0)_4TX PSD

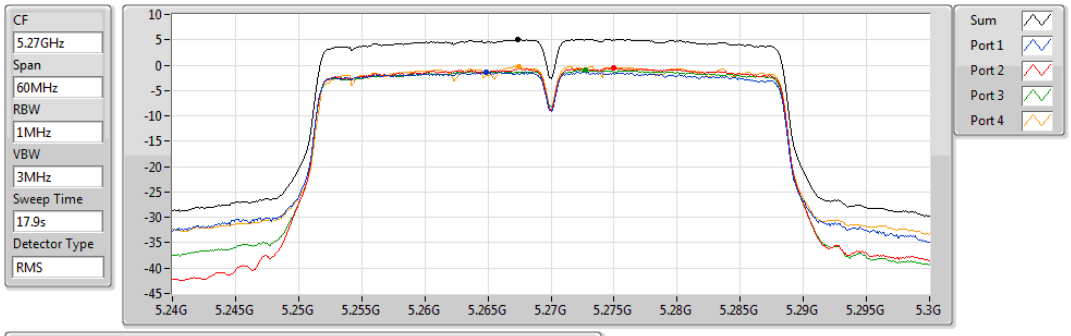
5700MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.41	4.41	-3.07	-0.25	-1.01	-0.25

802.11ac VHT40-BF_Nss1,(MCS0)_4TX PSD

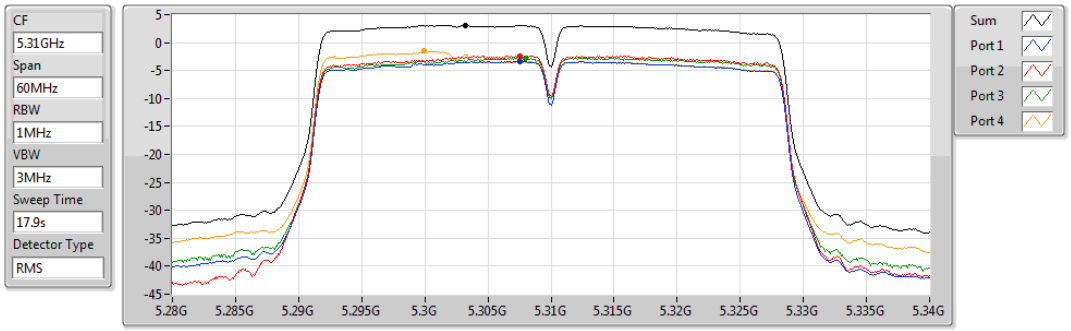
5270MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.09	5.09	-1.33	-0.59	-1.03	-0.23

802.11ac VHT40-BF_Nss1,(MCS0)_4TX PSD

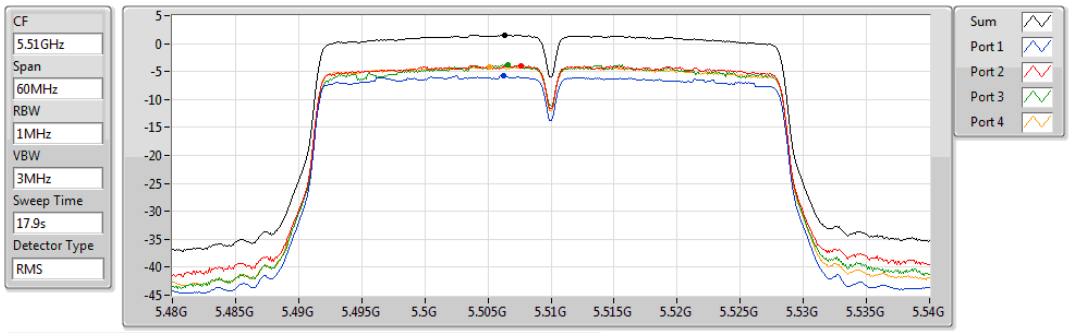
5310MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.13	3.13	-3.39	-2.34	-2.76	-1.54

802.11ac VHT40-BF_Nss1,(MCS0)_4TX PSD

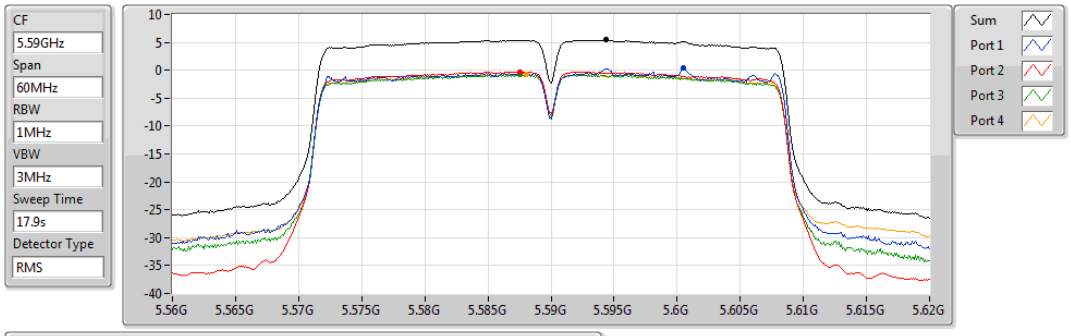
5510MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.58	1.58	-5.71	-3.94	-3.78	-4.23

802.11ac VHT40-BF_Nss1,(MCS0)_4TX PSD

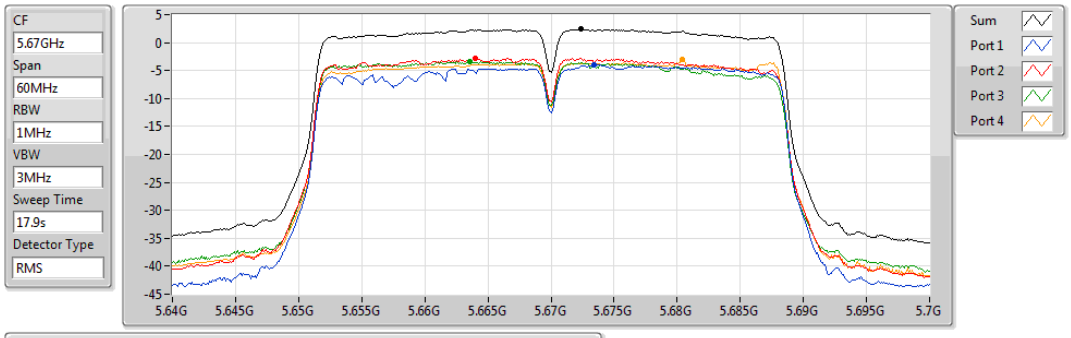
5590MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.49	5.49	0.48	-0.29	-0.83	-0.65

802.11ac VHT40-BF_Nss1,(MCS0)_4TX PSD

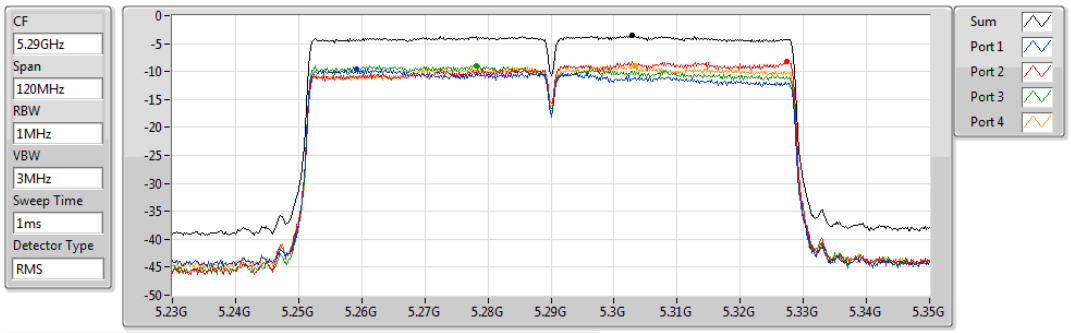
5670MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.40	2.40	-3.91	-2.83	-3.42	-3.10

802.11ac VHT80-BF_Nss1,(MCS0)_4TX PSD

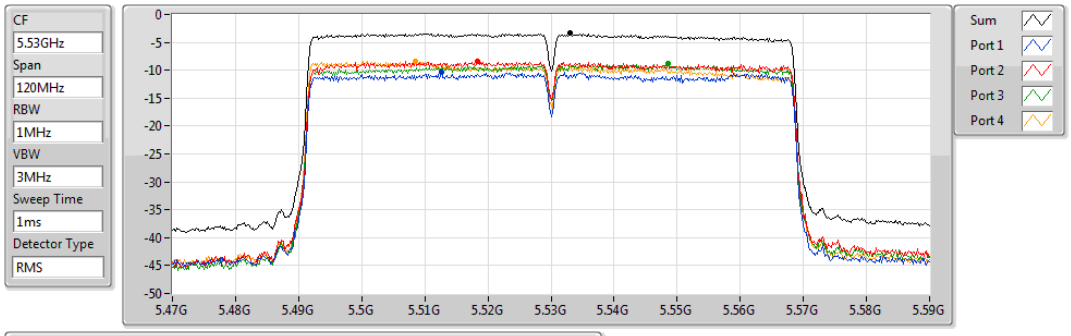
5290MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-3.47	-3.47	-9.54	-8.16	-8.90	-8.94

802.11ac VHT80-BF_Nss1,(MCS0)_4TX **PSD**

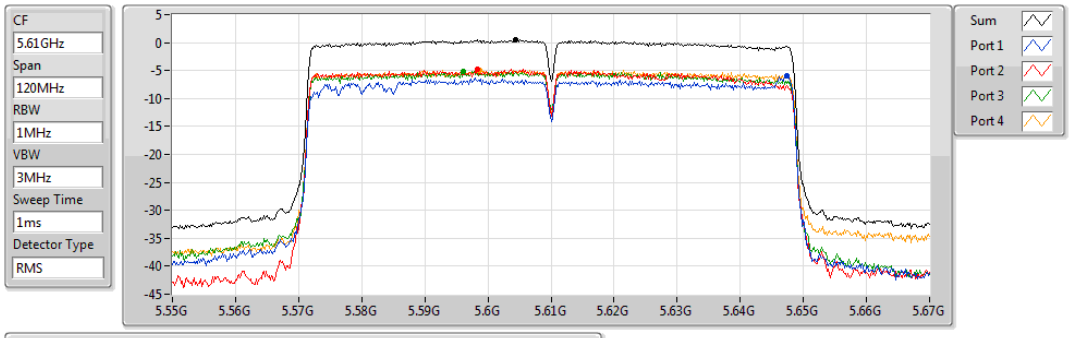
5530MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-3.40	-3.40	-10.35	-8.37	-8.80	-8.31

802.11ac VHT80-BF_Nss1,(MCS0)_4TX **PSD**

5610MHz



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.46	0.46	-5.84	-4.84	-5.12	-4.90

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

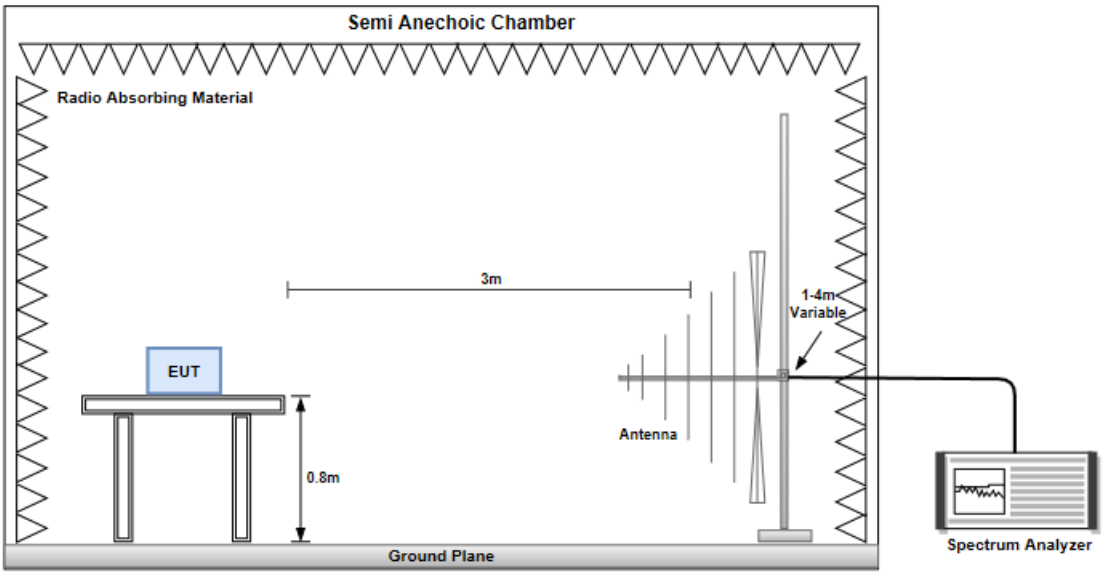
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission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

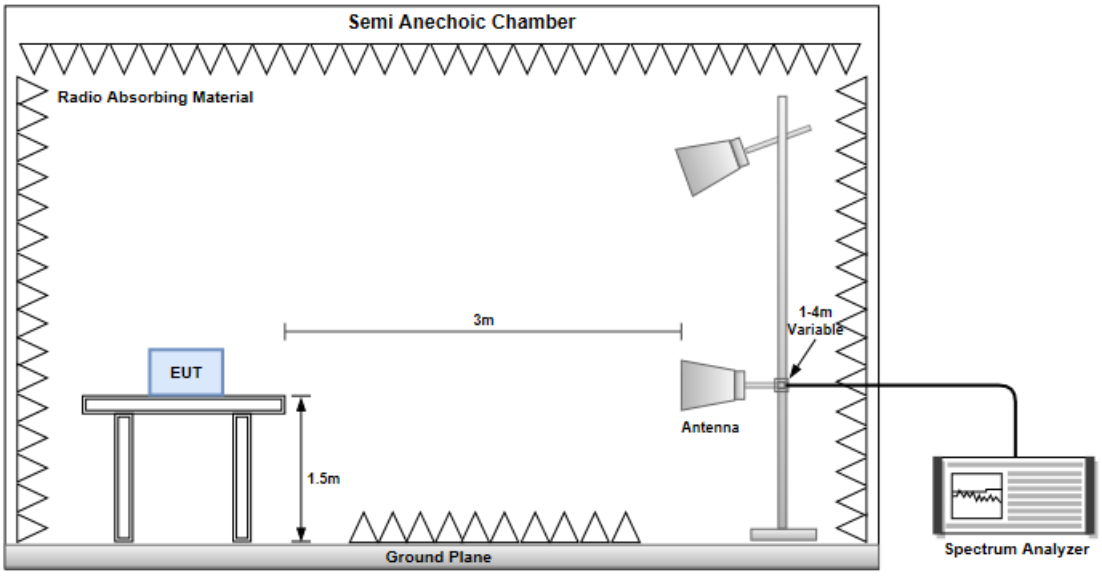
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

3.5.3 Test Setup

Radiated Emissions below 1 GHz



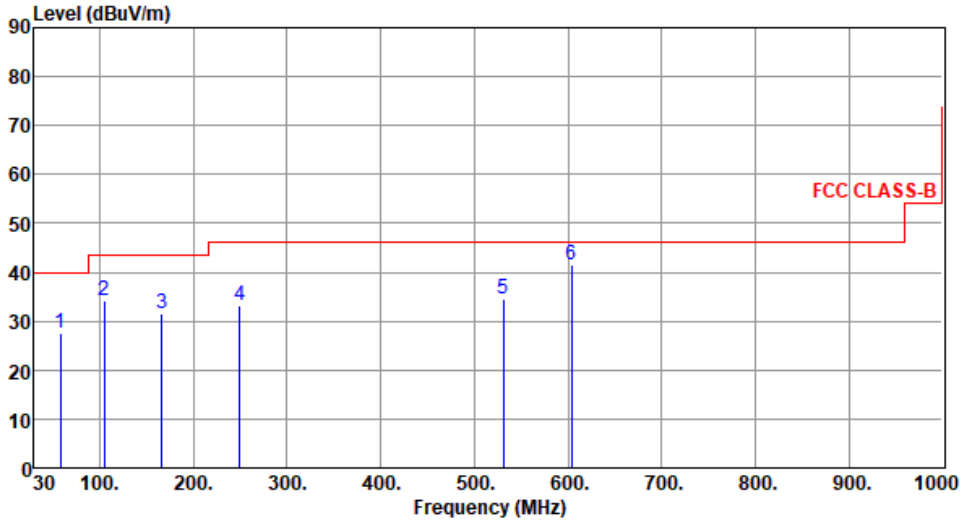
Radiated Emissions above 1 GHz



Non- beamforming mode

3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

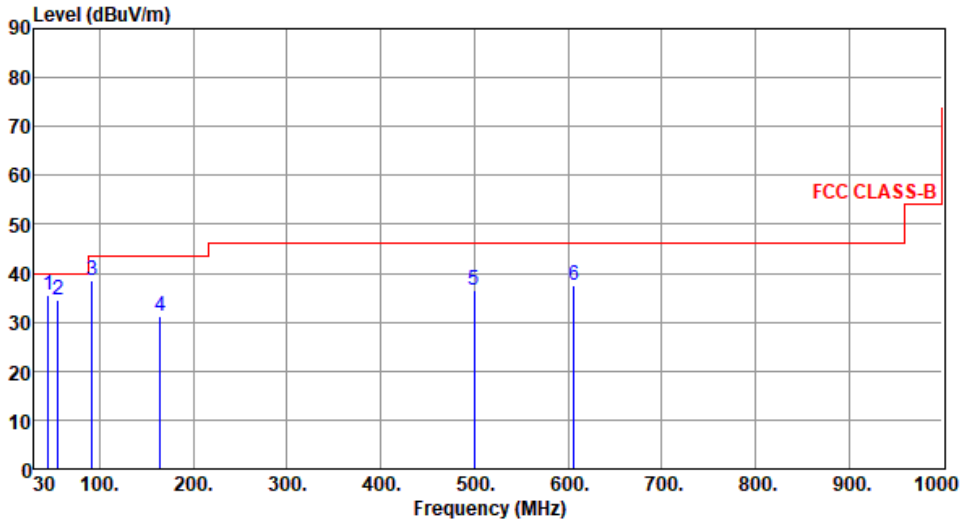
Modulation	VHT40	**Test Freq. (MHz)**	5590
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	58.25	27.43	40.00	-12.57	36.65	-9.22	Peak	---	---
2	104.52	34.31	43.50	-9.19	47.25	-12.94	Peak	---	---
3	166.72	31.51	43.50	-11.99	40.69	-9.18	Peak	---	---
4	249.36	33.36	46.00	-12.64	43.54	-10.18	Peak	---	---
5	531.27	34.58	46.00	-11.42	37.09	-2.51	Peak	---	---
6	603.38	41.36	46.00	-4.64	41.84	-0.48	Peak	---	---

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

Modulation	VHT40	Test Freq. (MHz)	5590
Polarization	Vertical		

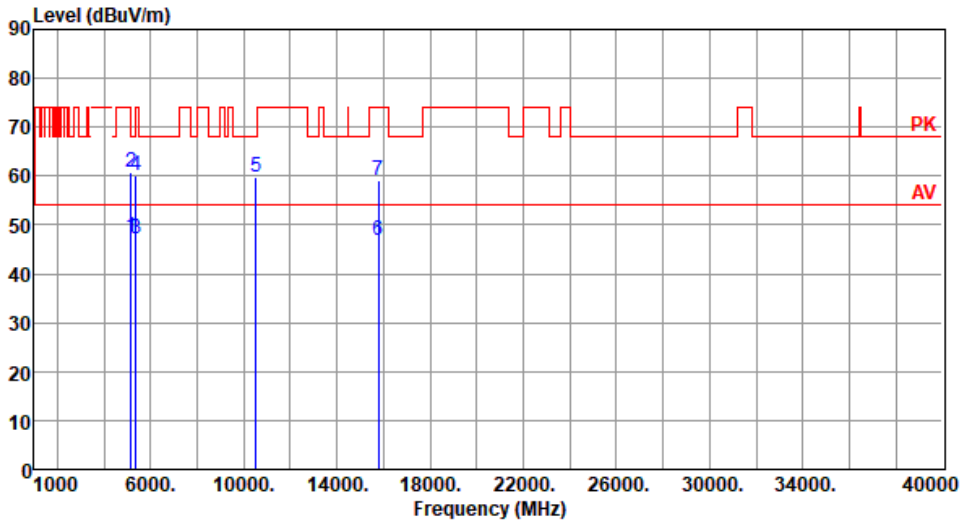


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	45.36	35.45	40.00	-4.55	44.24	-8.79	Peak	---	---
2	55.26	34.53	40.00	-5.47	43.63	-9.10	Peak	---	---
3	92.12	38.42	43.50	-5.08	53.35	-14.93	Peak	---	---
4	164.76	31.35	43.50	-12.15	40.44	-9.09	Peak	---	---
5	499.53	36.68	46.00	-9.32	39.83	-3.15	Peak	---	---
6	606.27	37.58	46.00	-8.42	37.85	-0.27	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

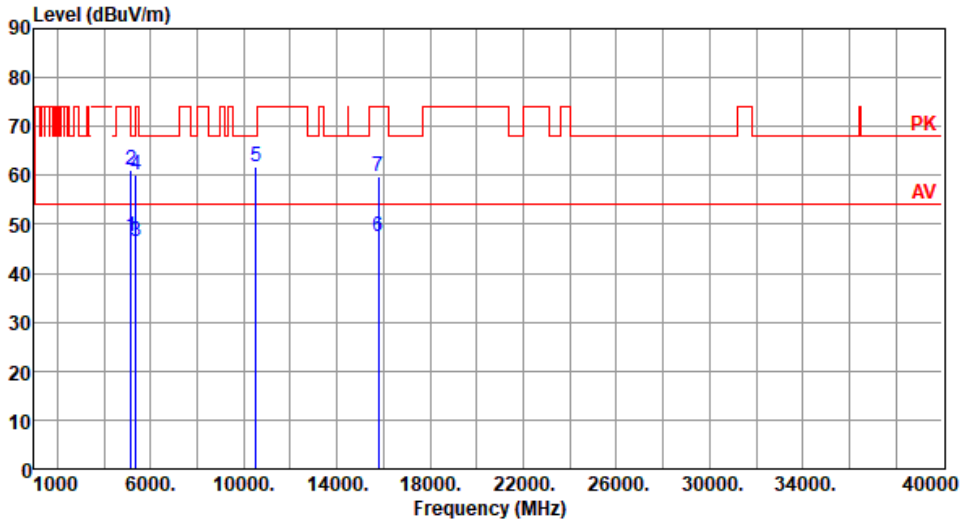
Modulation	11a	Test Freq. (MHz)	5260
Polarization	Horizontal		



	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	47.51	54.00	-6.49	40.19	7.32	Average	100	242
2	5150.00	60.72	74.00	-13.28	53.40	7.32	Peak	100	242
3	5350.00	47.16	54.00	-6.84	40.31	6.85	Average	100	242
4	5350.00	60.10	74.00	-13.90	53.25	6.85	Peak	100	242
5	10520.00	59.67	68.20	-8.53	43.25	16.42	Peak	100	145
6	15780.00	46.71	54.00	-7.29	30.15	16.56	Average	100	56
7	15780.00	58.98	74.00	-15.02	42.42	16.56	Peak	100	56

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

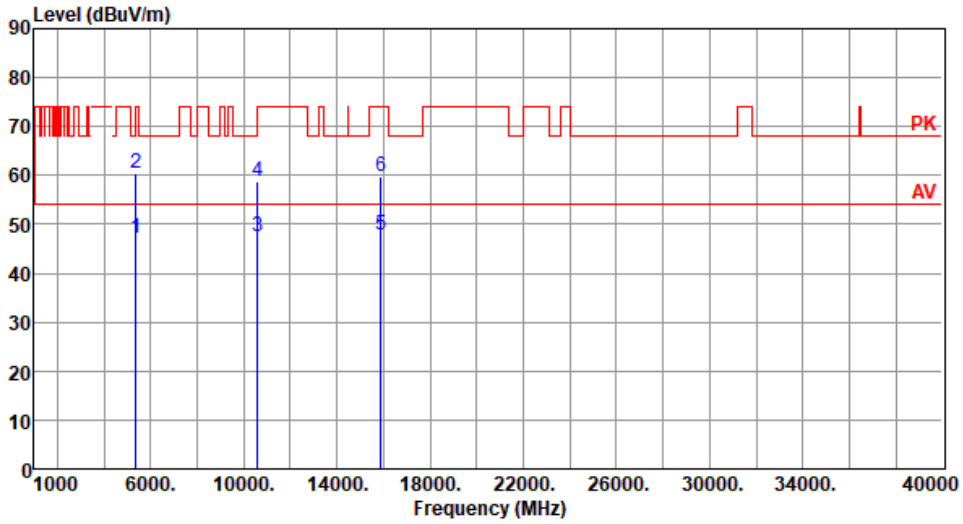
Modulation	11a	Test Freq. (MHz)	5260
Polarization	Vertical		



	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	47.34	54.00	-6.66	40.02	7.32	Average	130	5
2	5150.00	60.97	74.00	-13.03	53.65	7.32	Peak	130	5
3	5350.00	46.50	54.00	-7.50	39.65	6.85	Average	130	5
4	5350.00	60.02	74.00	-13.98	53.17	6.85	Peak	130	5
5	10520.00	61.78	68.20	-6.42	45.36	16.42	Peak	133	185
6	15780.00	47.61	54.00	-6.39	31.05	16.56	Average	100	20
7	15780.00	59.89	74.00	-14.11	43.33	16.56	Peak	100	20

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

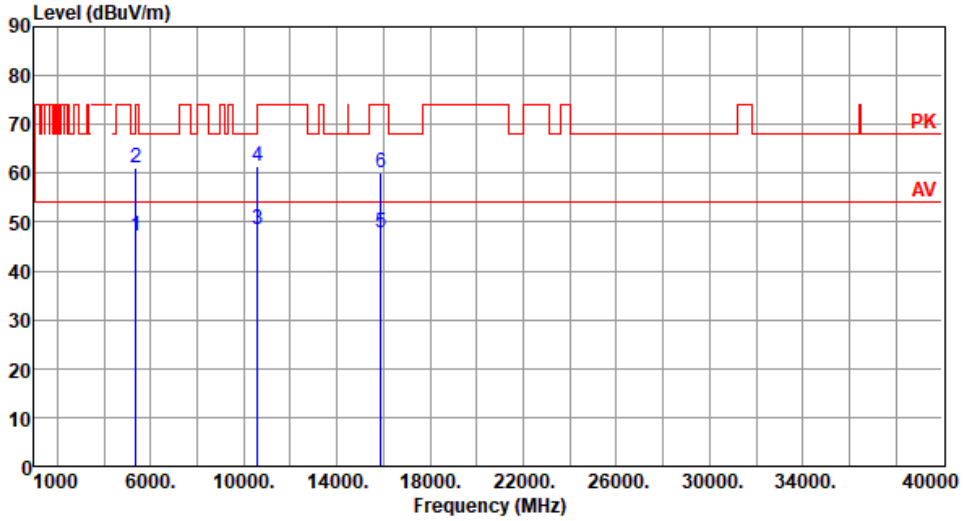
Modulation	11a	Test Freq. (MHz)	5300
Polarization	Horizontal		



	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	47.01	54.00	-6.99	40.16	6.85	Average	100	241
2	5350.00	60.33	74.00	-13.67	53.48	6.85	Peak	100	241
3	10600.00	47.61	54.00	-6.39	31.25	16.36	Average	100	20
4	10600.00	58.81	74.00	-15.19	42.45	16.36	Peak	100	20
5	15900.00	47.90	54.00	-6.10	31.21	16.69	Average	100	40
6	15900.00	59.90	74.00	-14.10	43.21	16.69	Peak	100	40

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

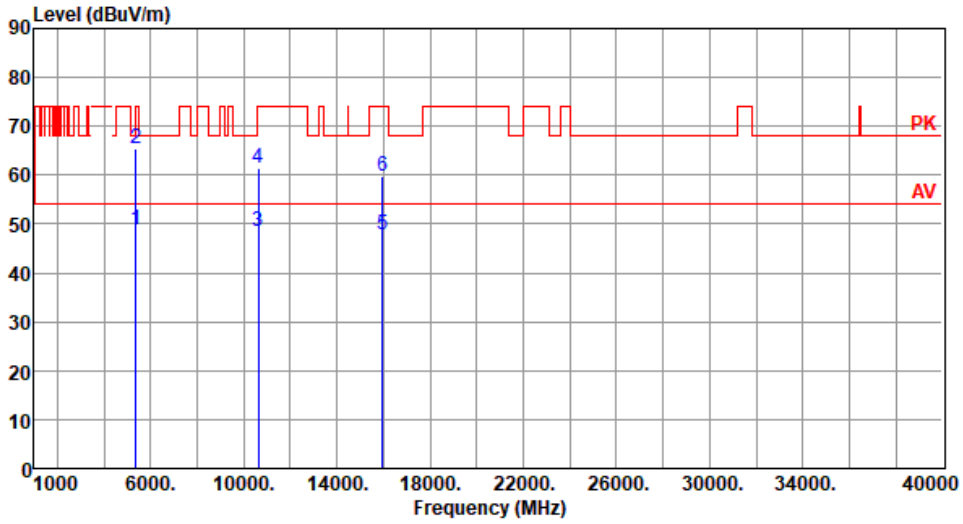
Modulation	11a	Test Freq. (MHz)	5300
Polarization	Vertical		



	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	47.00	54.00	-7.00	40.15	6.85	Average	132	9
2	5350.00	61.11	74.00	-12.89	54.26	6.85	Peak	132	9
3	10600.00	48.57	54.00	-5.43	32.21	16.36	Average	135	184
4	10600.00	61.60	74.00	-12.40	45.24	16.36	Peak	135	184
5	15900.00	47.92	54.00	-6.08	31.23	16.69	Average	100	50
6	15900.00	60.14	74.00	-13.86	43.45	16.69	Peak	100	50

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

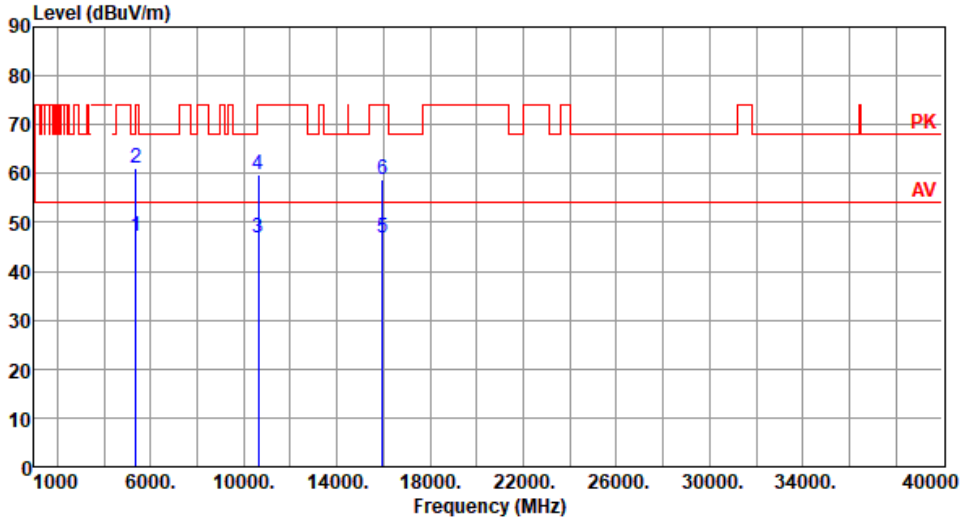
Modulation	11a	Test Freq. (MHz)	5320
Polarization	Horizontal		



	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	48.97	54.00	-5.03	42.12	6.85	Average	134	10
2	5350.00	65.30	74.00	-8.70	58.45	6.85	Peak	134	10
3	10640.00	48.52	54.00	-5.48	32.15	16.37	Average	136	187
4	10640.00	61.56	74.00	-12.44	45.19	16.37	Peak	136	187
5	15960.00	47.70	54.00	-6.30	31.17	16.53	Average	100	40
6	15960.00	59.89	74.00	-14.11	43.36	16.53	Peak	100	40

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

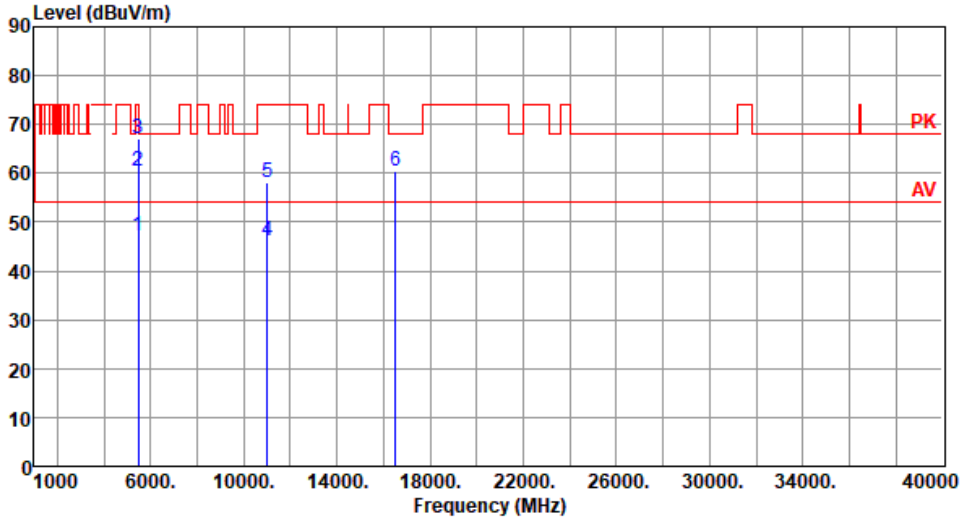
Modulation	11a	Test Freq. (MHz)	5320
Polarization	Vertical		



	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	47.16	54.00	-6.84	40.31	6.85	Average	100	242
2	5350.00	61.03	74.00	-12.97	54.18	6.85	Peak	100	242
3	10640.00	46.68	54.00	-7.32	30.31	16.37	Average	100	175
4	10640.00	59.65	74.00	-14.35	43.28	16.37	Peak	100	175
5	15960.00	46.81	54.00	-7.19	30.28	16.53	Average	100	78
6	15960.00	58.68	74.00	-15.32	42.15	16.53	Peak	100	78

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

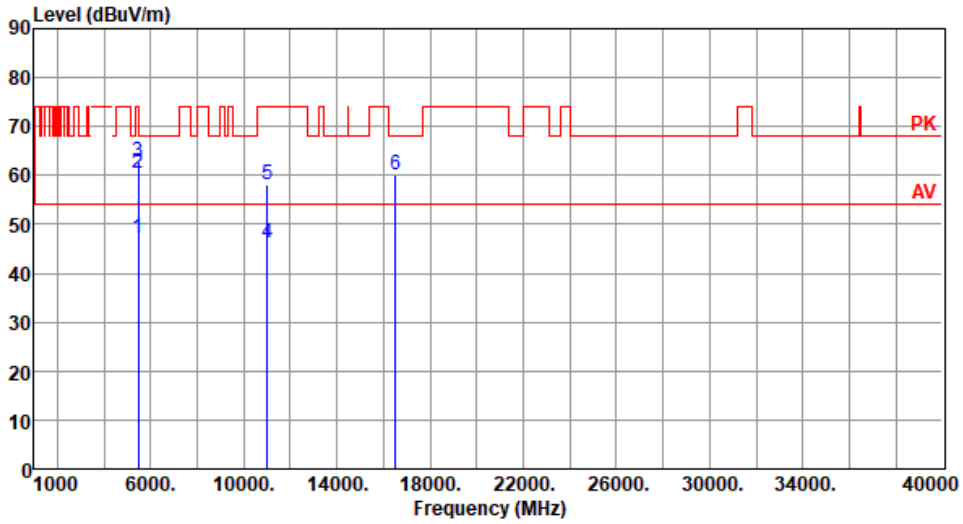
Modulation	11a	Test Freq. (MHz)	5500
Polarization	Horizontal		



	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	47.11	54.00	-6.89	39.86	7.25	Average	179	317
2	5460.00	60.35	74.00	-13.65	53.10	7.25	Peak	179	317
3	5470.00	67.05	68.20	-1.15	59.77	7.28	Peak	179	317
4	11000.00	46.09	54.00	-7.91	29.25	16.84	Average	100	58
5	11000.00	58.27	74.00	-15.73	41.43	16.84	Peak	100	58
6	16500.00	60.60	68.20	-7.60	42.96	17.64	Peak	100	37

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

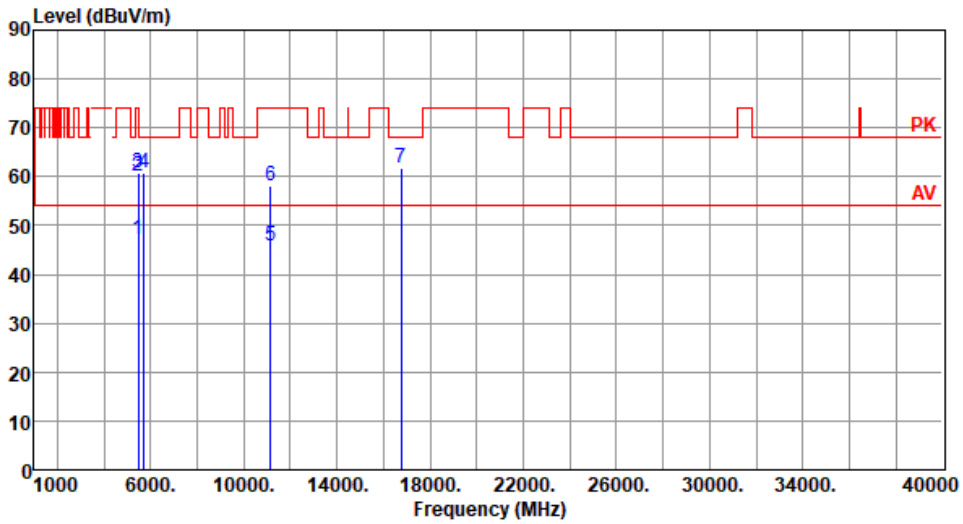
Modulation	11a	Test Freq. (MHz)	5500
Polarization	Vertical		



	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	47.10	54.00	-6.90	39.85	7.25	Average	222	190
2	5460.00	60.40	74.00	-13.60	53.15	7.25	Peak	222	190
3	5470.00	62.65	68.20	-5.55	55.37	7.28	Peak	222	190
4	11000.00	46.25	54.00	-7.75	29.41	16.84	Average	100	43
5	11000.00	58.12	74.00	-15.88	41.28	16.84	Peak	100	43
6	16500.00	60.18	68.20	-8.02	42.54	17.64	Peak	100	25

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

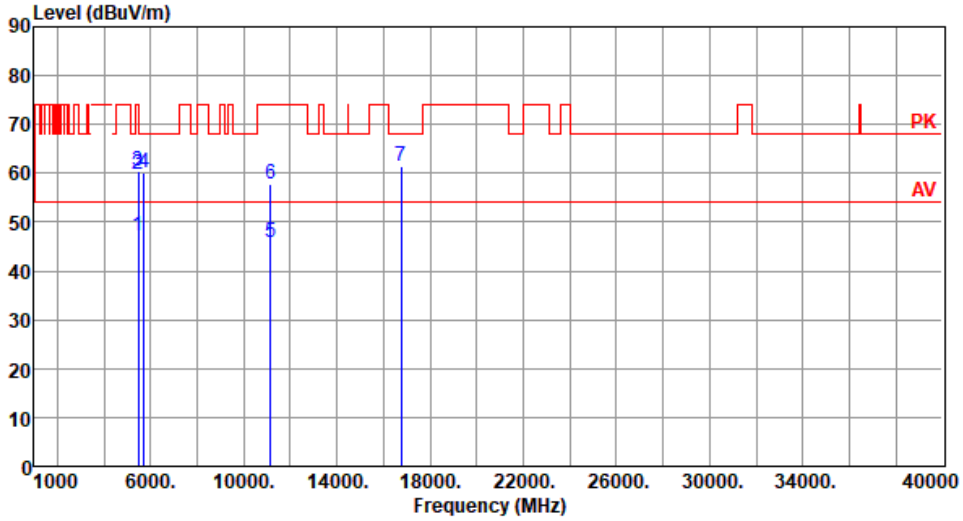
Modulation	11a	Test Freq. (MHz)	5580
Polarization	Horizontal		



	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	47.08	54.00	-6.92	39.83	7.25	Average	218	193
2	5460.00	60.03	74.00	-13.97	52.78	7.25	Peak	218	193
3	5470.00	60.82	68.20	-7.38	53.54	7.28	Peak	218	193
4	5725.00	60.86	68.20	-7.34	53.20	7.66	Peak	218	193
5	11160.00	45.84	54.00	-8.16	29.25	16.59	Average	100	50
6	11160.00	58.15	74.00	-15.85	41.56	16.59	Peak	100	50
7	16740.00	61.74	68.20	-6.46	43.51	18.23	Peak	100	60

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

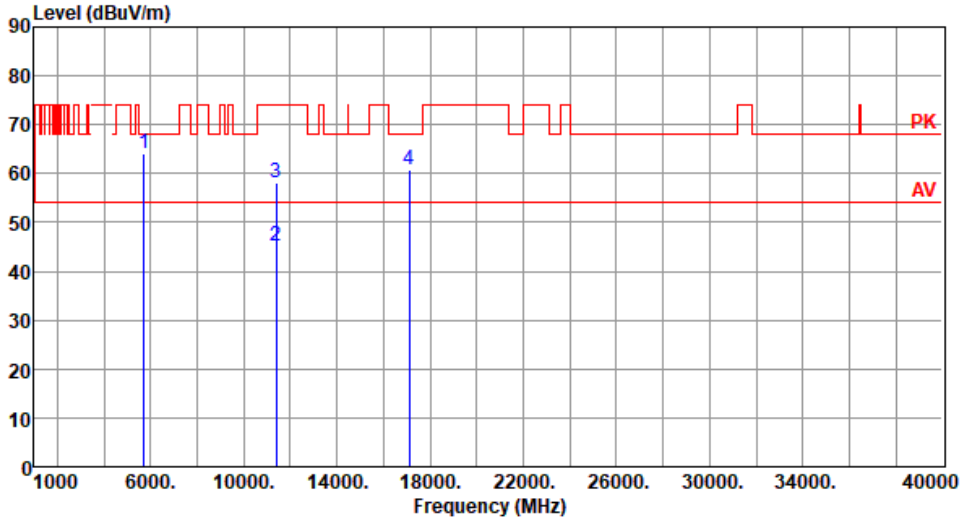
Modulation	11a	Test Freq. (MHz)	5580
Polarization	Vertical		



	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	47.30	54.00	-6.70	40.05	7.25	Average	253	345
2	5460.00	59.70	74.00	-14.30	52.45	7.25	Peak	253	345
3	5470.00	60.40	68.20	-7.80	53.12	7.28	Peak	253	345
4	5725.00	60.24	68.20	-7.96	52.58	7.66	Peak	253	345
5	11160.00	45.93	54.00	-8.07	29.34	16.59	Average	100	60
6	11160.00	57.94	74.00	-16.06	41.35	16.59	Peak	100	60
7	16740.00	61.48	68.20	-6.72	43.25	18.23	Peak	100	40

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

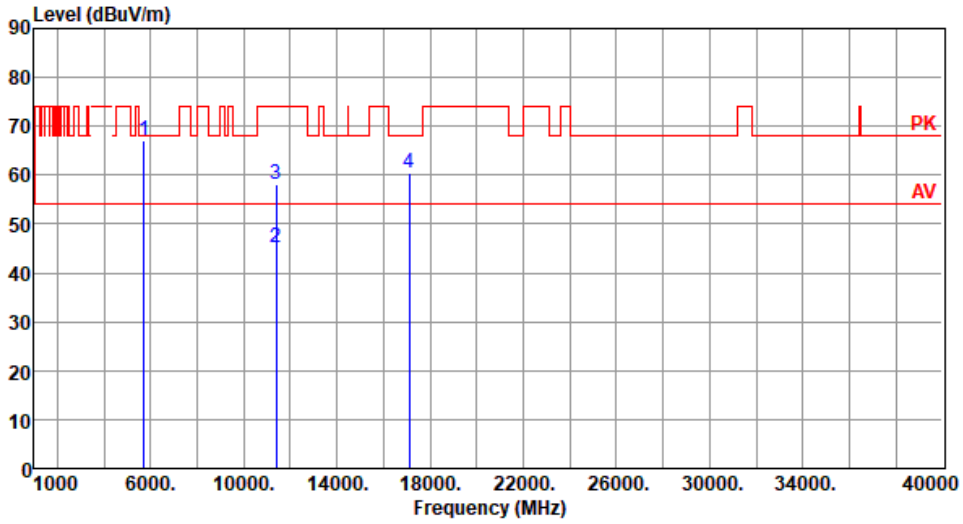
Modulation	11a	Test Freq. (MHz)	5700
Polarization	Horizontal		



	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	64.02	68.20	-4.18	56.36	7.66	Peak	235	196
2	11400.00	45.00	54.00	-9.00	28.27	16.73	Average	100	58
3	11400.00	58.00	74.00	-16.00	41.27	16.73	Peak	100	58
4	17100.00	60.67	68.20	-7.53	42.43	18.24	Peak	100	132

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

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

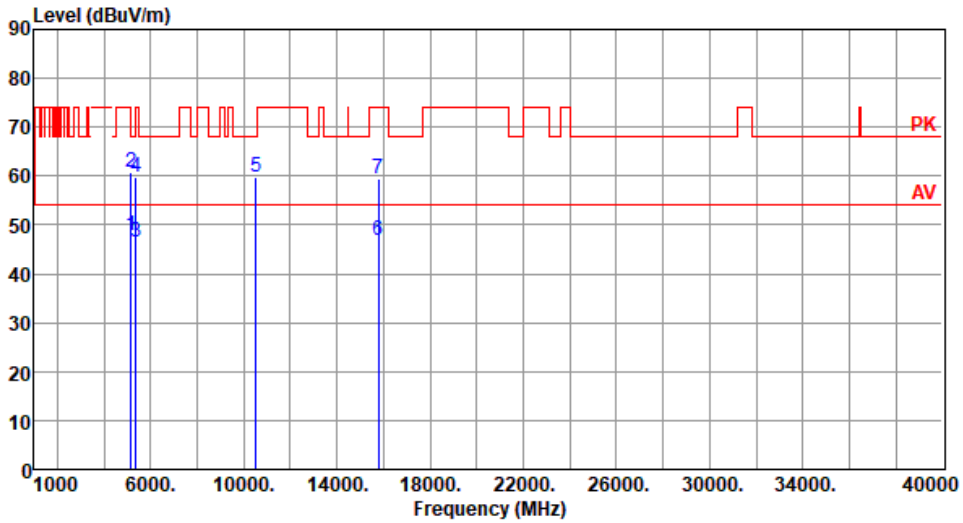


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	67.16	68.20	-1.04	59.50	7.66	Peak	257	253
2	11400.00	45.10	54.00	-8.90	28.37	16.73	Average	100	165
3	11400.00	58.15	74.00	-15.85	41.42	16.73	Peak	100	165
4	17100.00	60.55	68.20	-7.65	42.31	18.24	Peak	100	56

Note 1: Emission Level (dBuV/m) = SA Reading (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

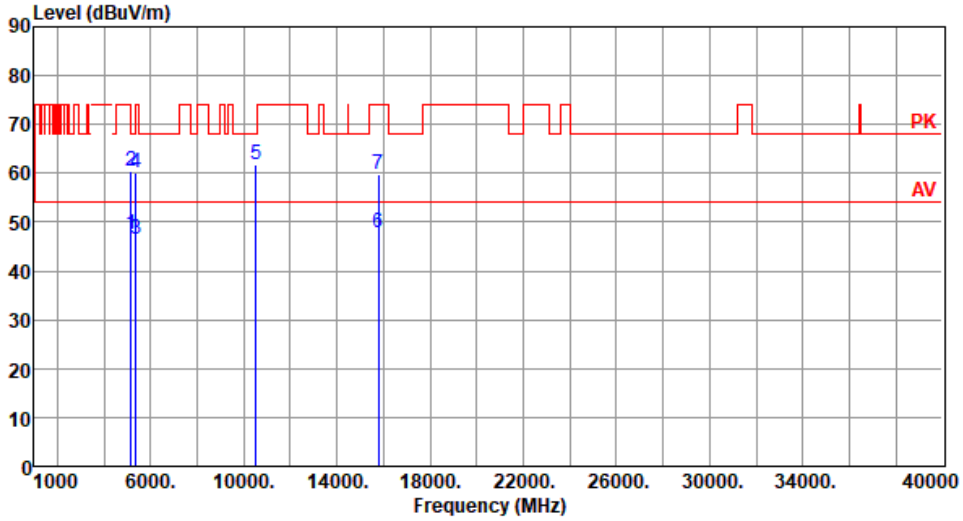
Modulation	VHT20	**Test Freq. (MHz)**	5260
Polarization	Horizontal		



	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	47.83	54.00	-6.17	40.51	7.32	Average	100	245
2	5150.00	60.83	74.00	-13.17	53.51	7.32	Peak	100	245
3	5350.00	46.38	54.00	-7.62	39.53	6.85	Average	100	245
4	5350.00	59.73	74.00	-14.27	52.88	6.85	Peak	100	245
5	10520.00	59.73	68.20	-8.47	43.31	16.42	Peak	100	143
6	15780.00	46.87	54.00	-7.13	30.31	16.56	Average	100	46
7	15780.00	59.32	74.00	-14.68	42.76	16.56	Peak	100	46

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

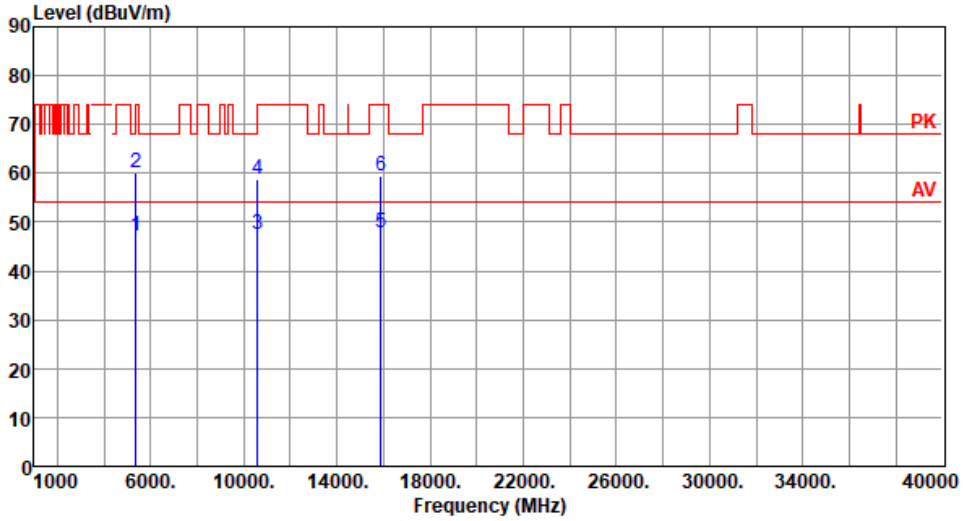
Modulation	VHT20	Test Freq. (MHz)	5260
Polarization	Vertical		



	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	47.56	54.00	-6.44	40.24	7.32	Average	100	341
2	5150.00	60.52	74.00	-13.48	53.20	7.32	Peak	100	341
3	5350.00	46.56	54.00	-7.44	39.71	6.85	Average	100	341
4	5350.00	59.99	74.00	-14.01	53.14	6.85	Peak	100	341
5	10520.00	61.88	68.20	-6.32	45.46	16.42	Peak	136	187
6	15780.00	47.72	54.00	-6.28	31.16	16.56	Average	100	40
7	15780.00	59.93	74.00	-14.07	43.37	16.56	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).

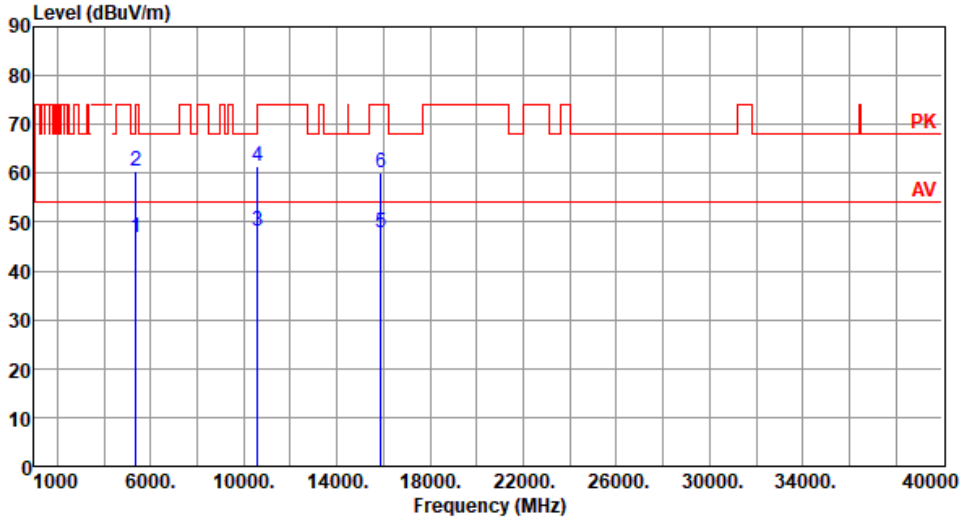
Modulation	VHT20	Test Freq. (MHz)	5300
Polarization	Horizontal		



	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	47.09	54.00	-6.91	40.24	6.85	Average	100	239
2	5350.00	60.06	74.00	-13.94	53.21	6.85	Peak	100	239
3	10600.00	47.38	54.00	-6.62	31.02	16.36	Average	100	25
4	10600.00	58.79	74.00	-15.21	42.43	16.36	Peak	100	25
5	15900.00	47.71	54.00	-6.29	31.02	16.69	Average	100	37
6	15900.00	59.55	74.00	-14.45	42.86	16.69	Peak	100	37

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

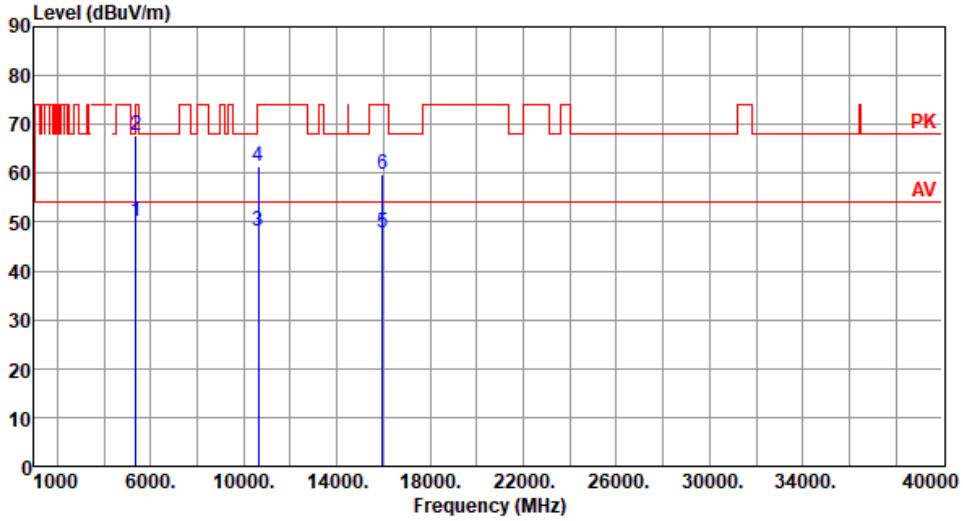
Modulation	VHT20	Test Freq. (MHz)	5300
Polarization	Vertical		



	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	46.97	54.00	-7.03	40.12	6.85	Average	100	340
2	5350.00	60.30	74.00	-13.70	53.45	6.85	Peak	100	340
3	10600.00	48.22	54.00	-5.78	31.86	16.36	Average	133	188
4	10600.00	61.38	74.00	-12.62	45.02	16.36	Peak	133	188
5	15900.00	47.84	54.00	-6.16	31.15	16.69	Average	100	20
6	15900.00	60.03	74.00	-13.97	43.34	16.69	Peak	100	20

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

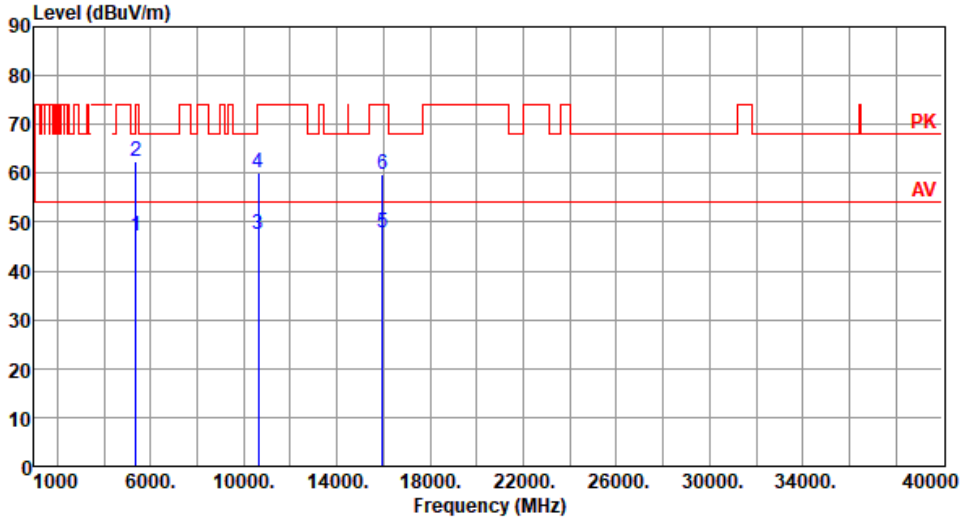
Modulation	VHT20	Test Freq. (MHz)	5320
Polarization	Horizontal		



	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	50.04	54.00	-3.96	43.19	6.85	Average	100	337
2	5350.00	67.66	74.00	-6.34	60.81	6.85	Peak	100	337
3	10640.00	48.16	54.00	-5.84	31.79	16.37	Average	132	185
4	10640.00	61.49	74.00	-12.51	45.12	16.37	Peak	132	185
5	15960.00	47.71	54.00	-6.29	31.18	16.53	Average	100	30
6	15960.00	59.82	74.00	-14.18	43.29	16.53	Peak	100	30

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

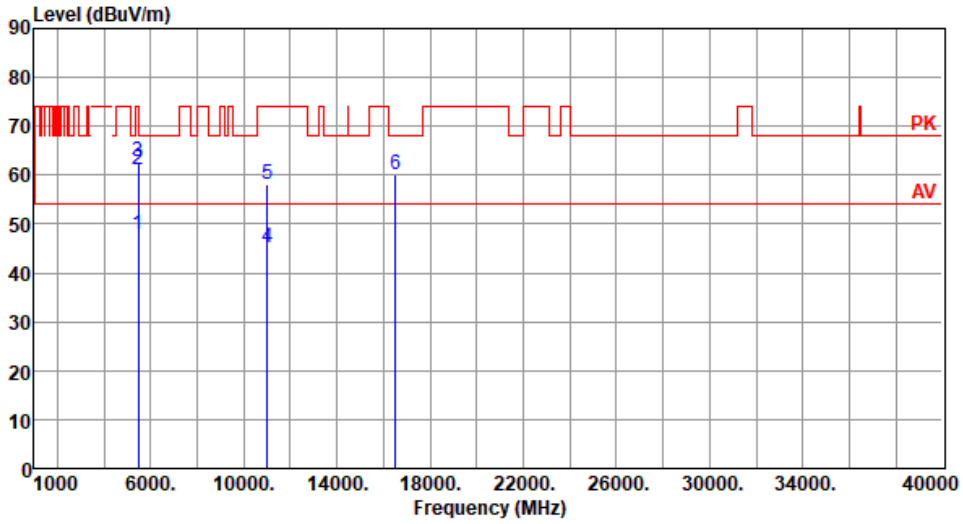
Modulation	VHT20	Test Freq. (MHz)	5320
Polarization	Vertical		



	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	47.12	54.00	-6.88	40.27	6.85	Average	100	243
2	5350.00	62.39	74.00	-11.61	55.54	6.85	Peak	100	243
3	10640.00	47.38	54.00	-6.62	31.01	16.37	Average	100	29
4	10640.00	60.09	74.00	-13.91	43.72	16.37	Peak	100	29
5	15960.00	47.76	54.00	-6.24	31.23	16.53	Average	100	36
6	15960.00	59.94	74.00	-14.06	43.41	16.53	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).

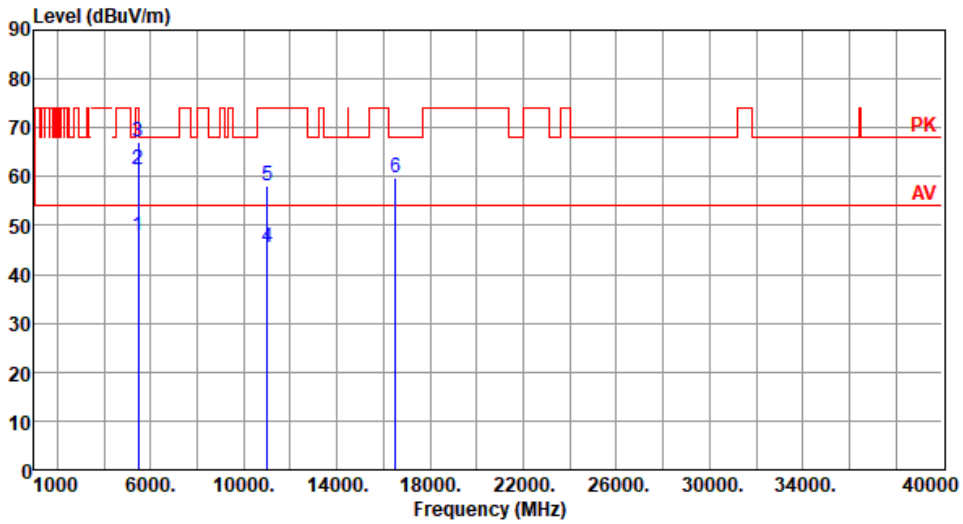
Modulation	VHT20	Test Freq. (MHz)	5500
Polarization	Horizontal		



	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	47.76	54.00	-6.24	40.51	7.25	Average	222	195
2	5460.00	61.10	74.00	-12.90	53.85	7.25	Peak	222	195
3	5470.00	62.71	68.20	-5.49	55.43	7.28	Peak	222	195
4	11000.00	45.25	54.00	-8.75	28.41	16.84	Average	100	36
5	11000.00	58.27	74.00	-15.73	41.43	16.84	Peak	100	36
6	16500.00	60.12	68.20	-8.08	42.48	17.64	Peak	100	216

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

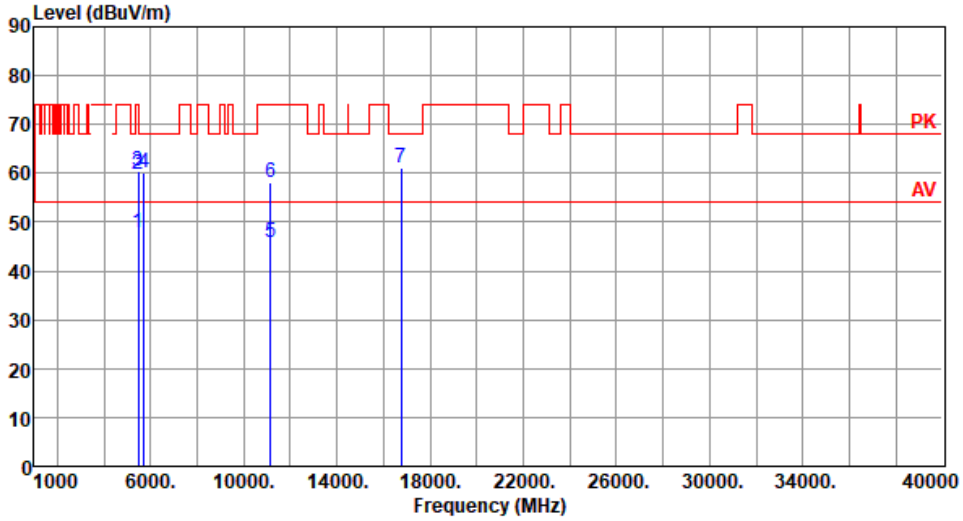
Modulation	VHT20	Test Freq. (MHz)	5500
Polarization	Vertical		



	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	47.91	54.00	-6.09	40.66	7.25	Average	151	334
2	5460.00	61.37	74.00	-12.63	54.12	7.25	Peak	151	334
3	5470.00	67.14	68.20	-1.06	59.86	7.28	Peak	151	334
4	11000.00	45.38	54.00	-8.62	28.54	16.84	Average	100	145
5	11000.00	58.09	74.00	-15.91	41.25	16.84	Peak	100	145
6	16500.00	59.89	68.20	-8.31	42.25	17.64	Peak	100	138

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

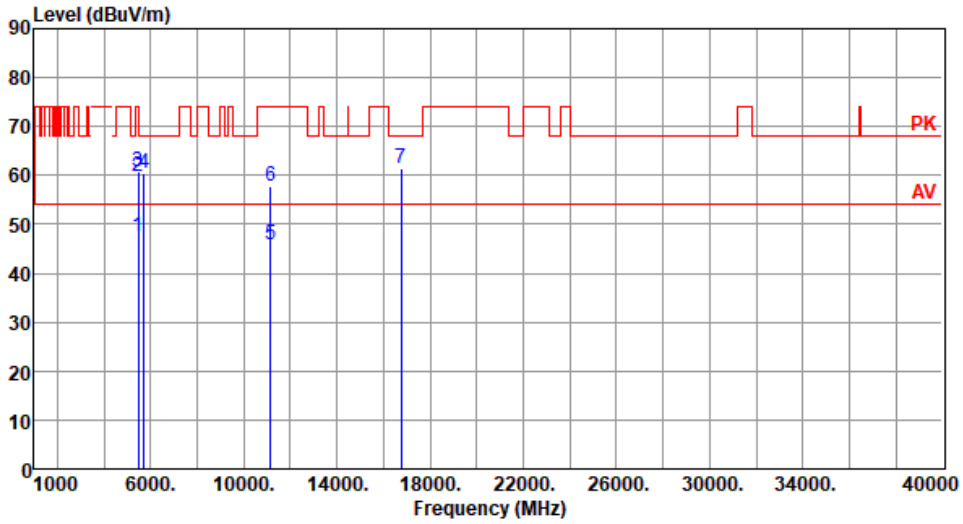
Modulation	VHT20	Test Freq. (MHz)	5580
Polarization	Horizontal		



	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	47.78	54.00	-6.22	40.53	7.25	Average	222	193
2	5460.00	59.81	74.00	-14.19	52.56	7.25	Peak	222	193
3	5470.00	60.59	68.20	-7.61	53.31	7.28	Peak	222	193
4	5725.00	60.14	68.20	-8.06	52.48	7.66	Peak	222	192
5	11160.00	45.72	54.00	-8.28	29.13	16.59	Average	100	63
6	11160.00	58.04	74.00	-15.96	41.45	16.59	Peak	100	63
7	16740.00	61.12	68.20	-7.08	42.89	18.23	Peak	100	55

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

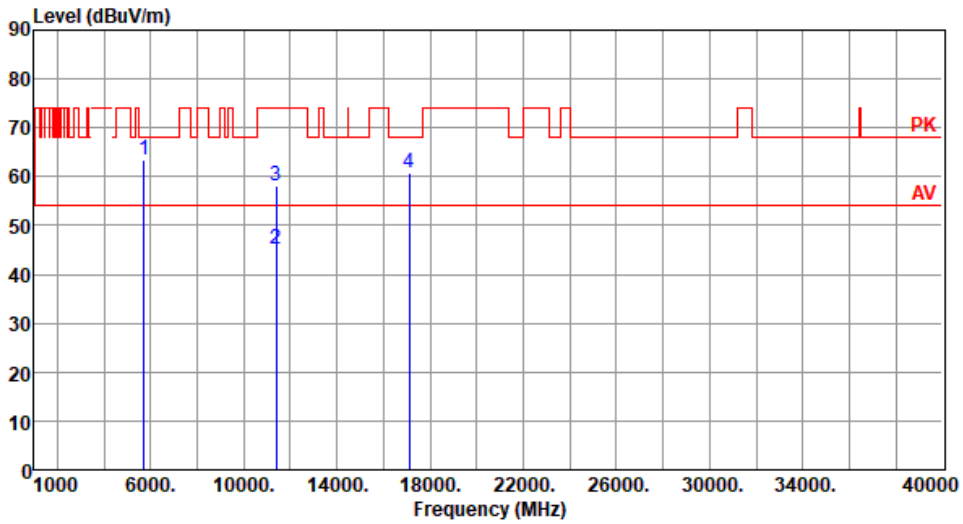
Modulation	VHT20	Test Freq. (MHz)	5580
Polarization	Vertical		



	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	47.37	54.00	-6.63	40.12	7.25	Average	230	8
2	5460.00	59.94	74.00	-14.06	52.69	7.25	Peak	230	8
3	5470.00	60.73	68.20	-7.47	53.45	7.28	Peak	230	8
4	5725.00	60.31	68.20	-7.89	52.65	7.66	Peak	230	8
5	11160.00	45.84	54.00	-8.16	29.25	16.59	Average	100	40
6	11160.00	57.85	74.00	-16.15	41.26	16.59	Peak	100	40
7	16740.00	61.53	68.20	-6.67	43.30	18.23	Peak	100	20

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

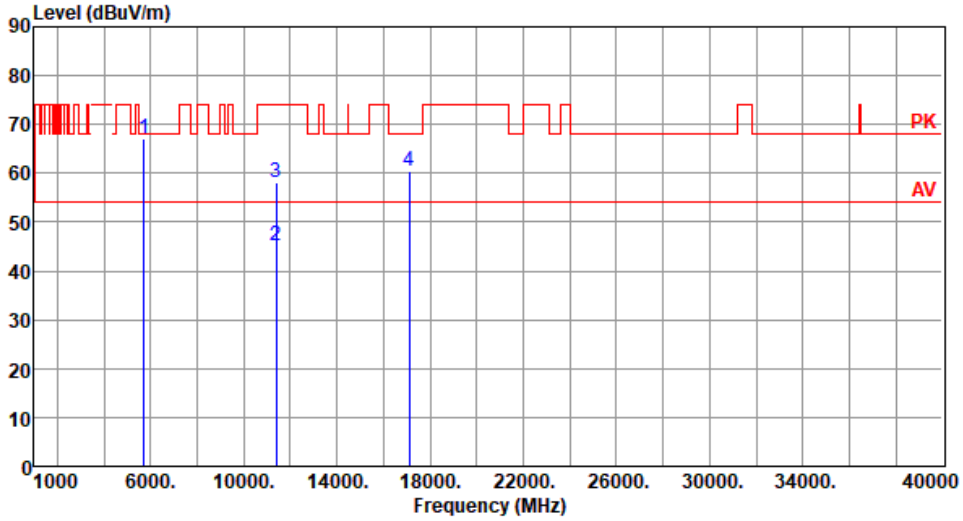
Modulation	VHT20	Test Freq. (MHz)	5700
Polarization	Horizontal		



	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	63.43	68.20	-4.77	55.77	7.66	Peak	231	198
2	11400.00	45.08	54.00	-8.92	28.35	16.73	Average	100	48
3	11400.00	58.24	74.00	-15.76	41.51	16.73	Peak	100	155
4	17100.00	60.62	68.20	-7.58	42.38	18.24	Peak	100	155

Note 1: Emission Level (dBuV/m) = SA Reading (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		

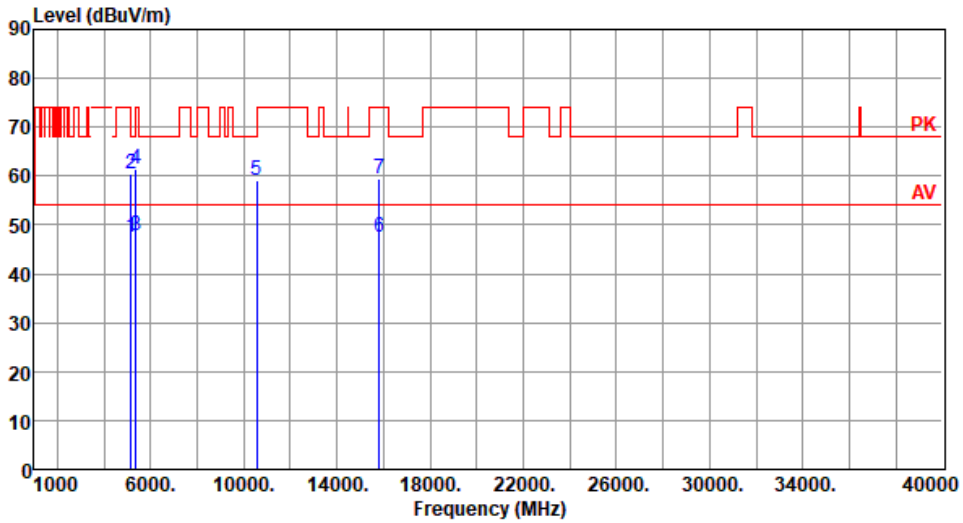


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	67.10	68.20	-1.10	59.44	7.66	Peak	229	259
2	11400.00	45.24	54.00	-8.76	28.51	16.73	Average	100	165
3	11400.00	58.10	74.00	-15.90	41.37	16.73	Peak	100	165
4	17100.00	60.46	68.20	-7.74	42.22	18.24	Peak	100	198

Note 1: Emission Level (dBuV/m) = SA Reading (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

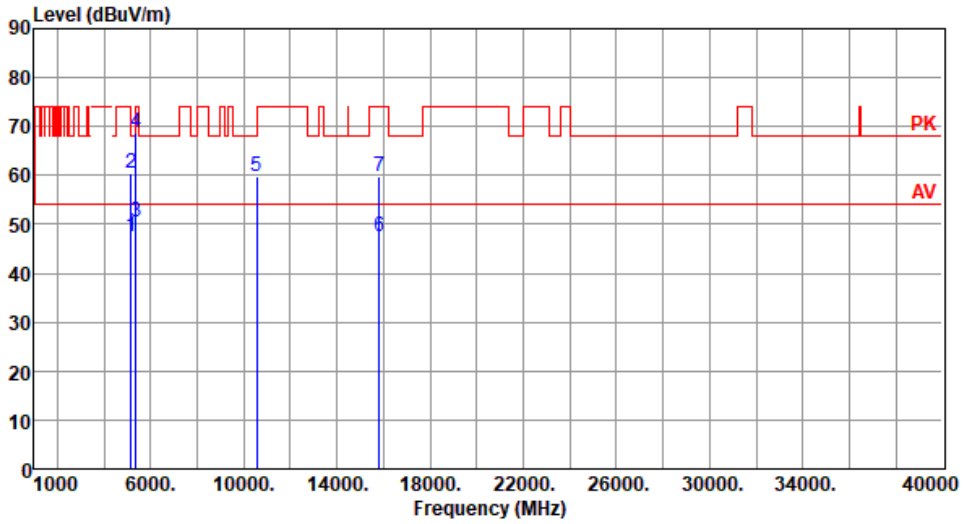
Modulation	VHT40	**Test Freq. (MHz)**	5270
Polarization	Horizontal		



	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	47.63	54.00	-6.37	40.31	7.32	Average	100	246
2	5150.00	60.53	74.00	-13.47	53.21	7.32	Peak	100	246
3	5350.00	47.81	54.00	-6.19	40.96	6.85	Average	100	246
4	5350.00	61.50	74.00	-12.50	54.65	6.85	Peak	100	246
5	10540.00	59.26	68.20	-8.94	42.85	16.41	Peak	100	66
6	15810.00	47.45	54.00	-6.55	30.89	16.56	Average	100	212
7	15810.00	59.44	74.00	-14.56	42.88	16.56	Peak	100	212

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

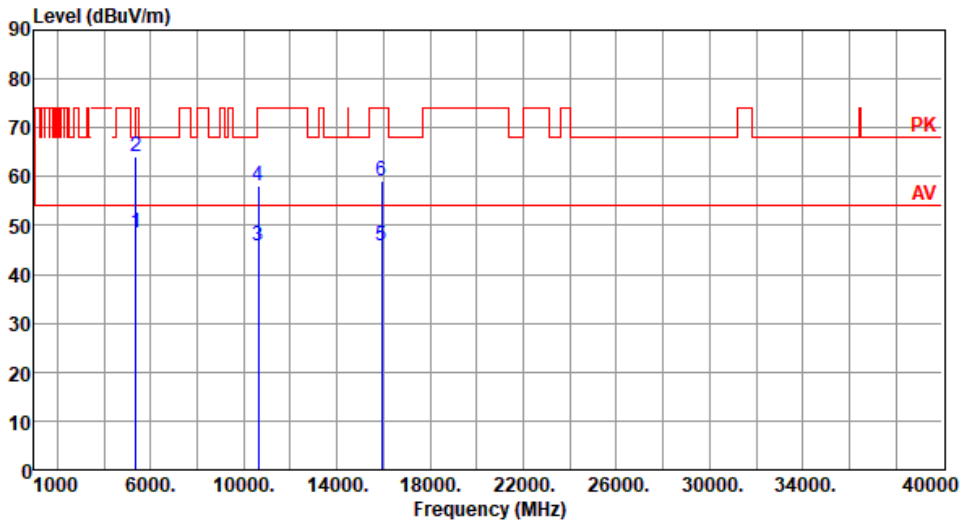
Modulation	VHT40	Test Freq. (MHz)	5270
Polarization	Vertical		



	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	47.59	54.00	-6.41	40.27	7.32	Average	115	330
2	5150.00	60.47	74.00	-13.53	53.15	7.32	Peak	115	330
3	5350.00	50.64	54.00	-3.36	43.79	6.85	Average	115	330
4	5350.00	68.58	74.00	-5.42	61.73	6.85	Peak	115	330
5	10540.00	59.86	68.20	-8.34	43.45	16.41	Peak	100	185
6	15810.00	47.58	54.00	-6.42	31.02	16.56	Average	100	40
7	15810.00	59.91	74.00	-14.09	43.35	16.56	Peak	100	40

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

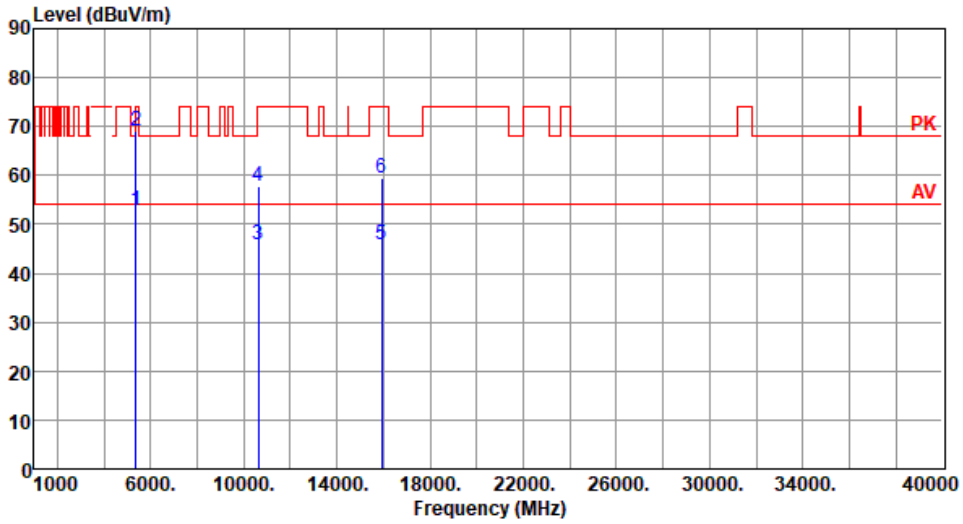
Modulation	VHT40	Test Freq. (MHz)	5310
Polarization	Horizontal		



	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	48.53	54.00	-5.47	41.68	6.85	Average	100	243
2	5350.00	64.16	74.00	-9.84	57.31	6.85	Peak	100	243
3	10620.00	45.67	54.00	-8.33	29.30	16.37	Average	100	62
4	10620.00	58.19	74.00	-15.81	41.82	16.37	Peak	100	62
5	15930.00	45.86	54.00	-8.14	29.25	16.61	Average	100	128
6	15930.00	59.15	74.00	-14.85	42.54	16.61	Peak	100	128

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

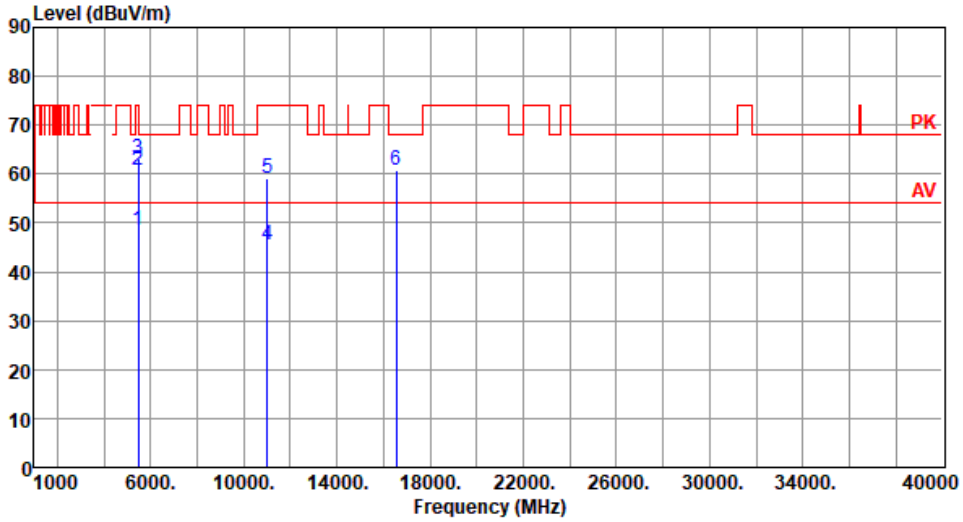
Modulation	VHT40	Test Freq. (MHz)	5310
Polarization	Vertical		



	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	52.76	54.00	-1.24	45.91	6.85	Average	118	331
2	5350.00	69.00	74.00	-5.00	62.15	6.85	Peak	118	331
3	10620.00	45.90	54.00	-8.10	29.53	16.37	Average	100	53
4	10620.00	57.83	74.00	-16.17	41.46	16.37	Peak	100	53
5	15930.00	45.98	54.00	-8.02	29.37	16.61	Average	100	138
6	15930.00	59.60	74.00	-14.40	42.99	16.61	Peak	100	138

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

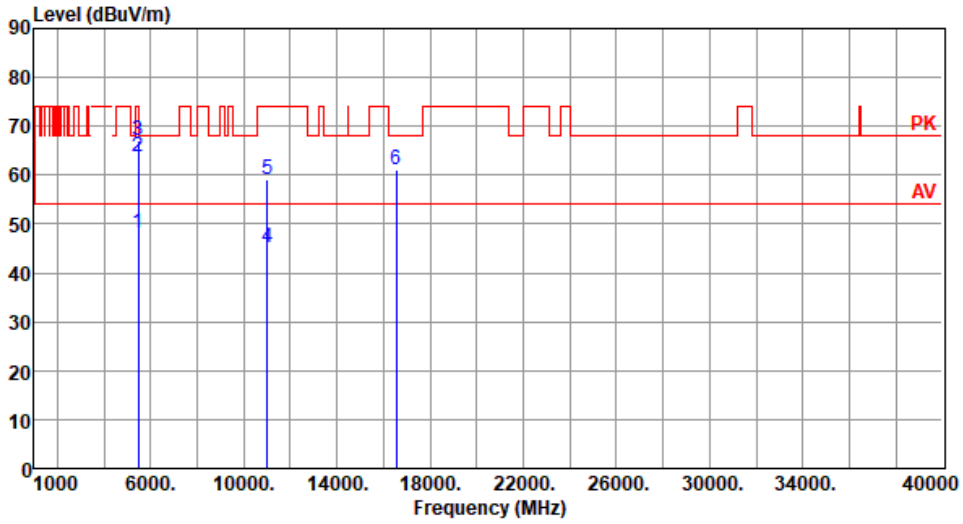
Modulation	VHT40	Test Freq. (MHz)	5510
Polarization	Horizontal		



	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	48.50	54.00	-5.50	41.25	7.25	Average	221	196
2	5460.00	60.77	74.00	-13.23	53.52	7.25	Peak	221	196
3	5470.00	63.04	68.20	-5.16	55.76	7.28	Peak	222	196
4	11020.00	45.43	54.00	-8.57	28.62	16.81	Average	100	96
5	11020.00	59.24	74.00	-14.76	42.43	16.81	Peak	100	96
6	16530.00	60.74	68.20	-7.46	42.91	17.83	Peak	100	132

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

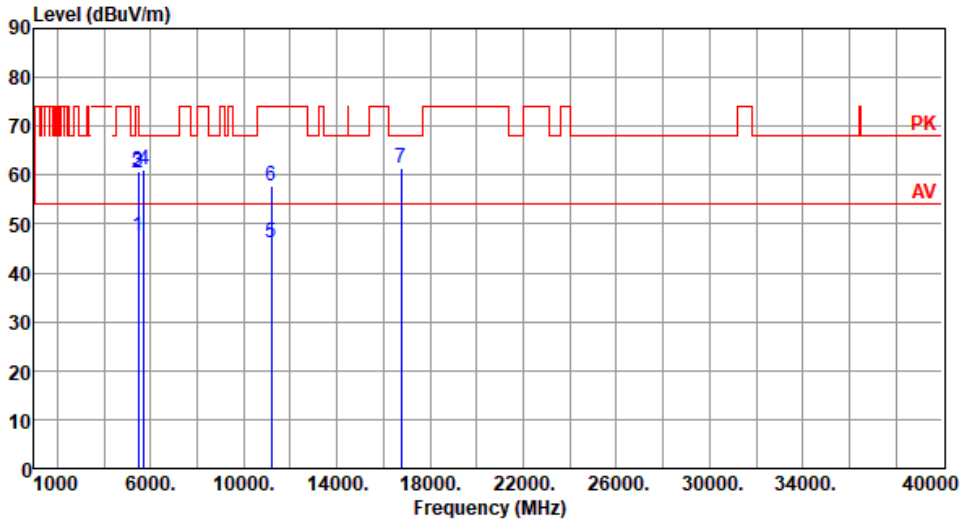
Modulation	VHT40	Test Freq. (MHz)	5510
Polarization	Vertical		



	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	48.26	54.00	-5.74	41.01	7.25	Average	250	344
2	5460.00	63.68	74.00	-10.32	56.43	7.25	Peak	250	344
3	5470.00	67.20	68.20	-1.00	59.92	7.28	Peak	250	344
4	11020.00	45.32	54.00	-8.68	28.51	16.81	Average	100	63
5	11020.00	59.02	74.00	-14.98	42.21	16.81	Peak	100	63
6	16530.00	61.01	68.20	-7.19	43.18	17.83	Peak	100	72

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

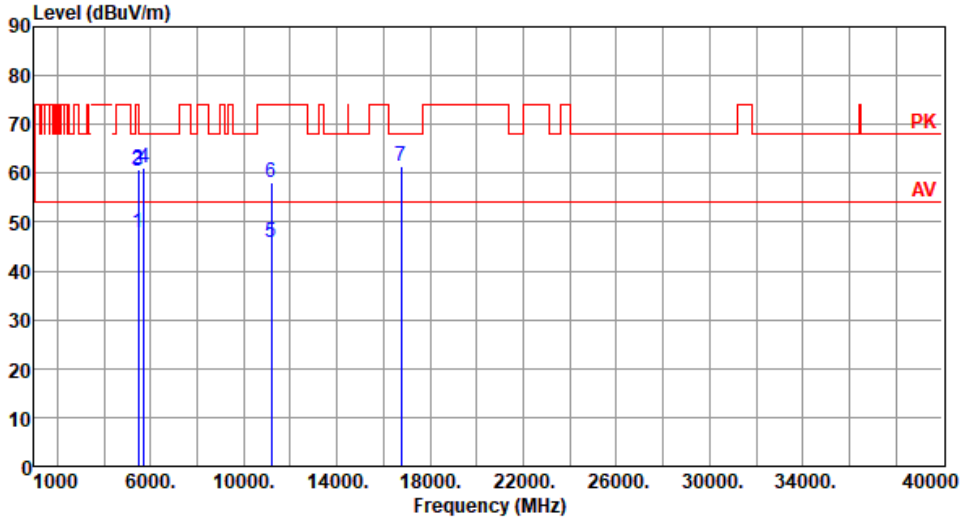
Modulation	VHT40	Test Freq. (MHz)	5590
Polarization	Horizontal		



	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	47.60	54.00	-6.40	40.35	7.25	Average	249	9
2	5460.00	60.37	74.00	-13.63	53.12	7.25	Peak	249	9
3	5470.00	60.73	68.20	-7.47	53.45	7.28	Peak	249	9
4	5725.00	61.20	68.20	-7.00	53.54	7.66	Peak	249	9
5	11180.00	46.01	54.00	-7.99	29.45	16.56	Average	100	55
6	11180.00	57.77	74.00	-16.23	41.21	16.56	Peak	100	55
7	16770.00	61.34	68.20	-6.86	43.11	18.23	Peak	100	20

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

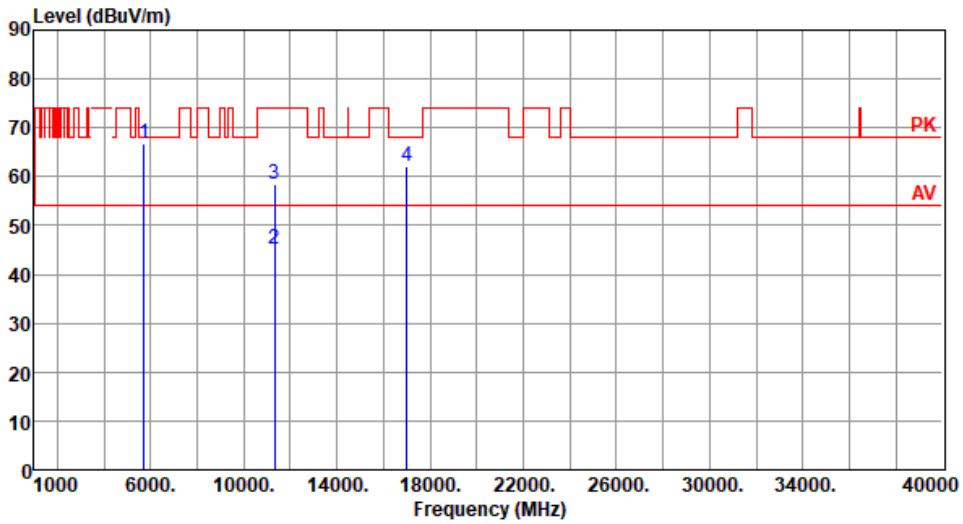
Modulation	VHT40	Test Freq. (MHz)	5590
Polarization	Vertical		



	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	47.73	54.00	-6.27	40.48	7.25	Average	210	193
2	5460.00	60.63	74.00	-13.37	53.38	7.25	Peak	210	193
3	5470.00	60.43	68.20	-7.77	53.15	7.28	Peak	210	193
4	5725.00	60.96	68.20	-7.24	53.30	7.66	Peak	210	193
5	11180.00	45.97	54.00	-8.03	29.41	16.56	Average	100	72
6	11180.00	57.99	74.00	-16.01	41.43	16.56	Peak	100	72
7	16770.00	61.28	68.20	-6.92	43.05	18.23	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).

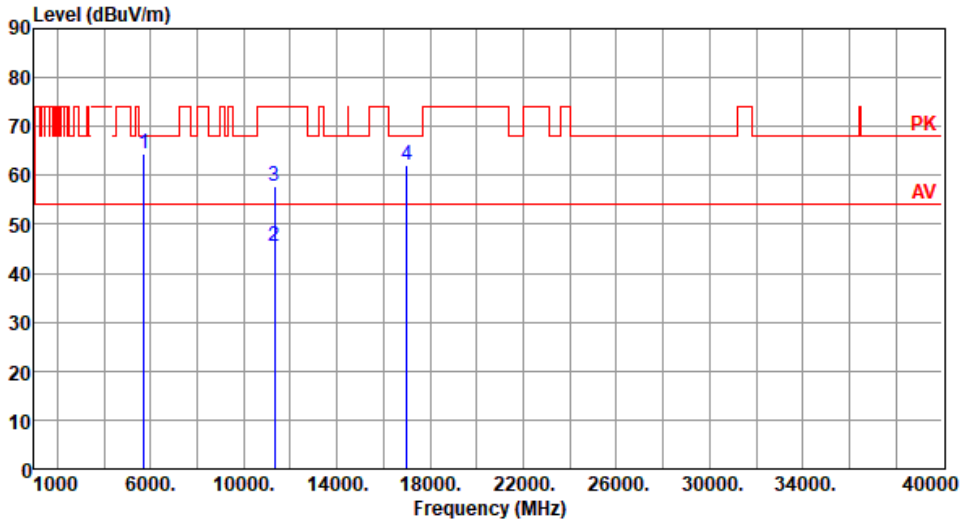
Modulation	VHT40	Test Freq. (MHz)	5670
Polarization	Horizontal		



	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	66.91	68.20	-1.29	59.25	7.66	Peak	247	279
2	11340.00	45.26	54.00	-8.74	28.68	16.58	Average	100	163
3	11340.00	58.33	74.00	-15.67	41.75	16.58	Peak	100	163
4	17010.00	62.20	68.20	-6.00	43.54	18.66	Peak	100	199

Note 1: Emission Level (dBuV/m) = SA Reading (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		

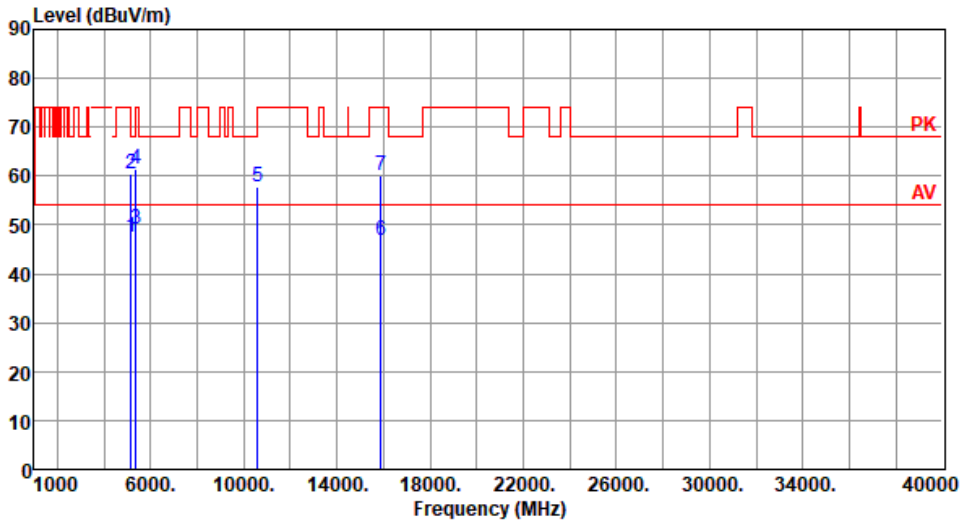


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	64.38	68.20	-3.82	56.72	7.66	Peak	235	216
2	11340.00	45.35	54.00	-8.65	28.77	16.58	Average	100	158
3	11340.00	57.92	74.00	-16.08	41.34	16.58	Peak	100	158
4	17010.00	62.03	68.20	-6.17	43.37	18.66	Peak	100	105

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

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

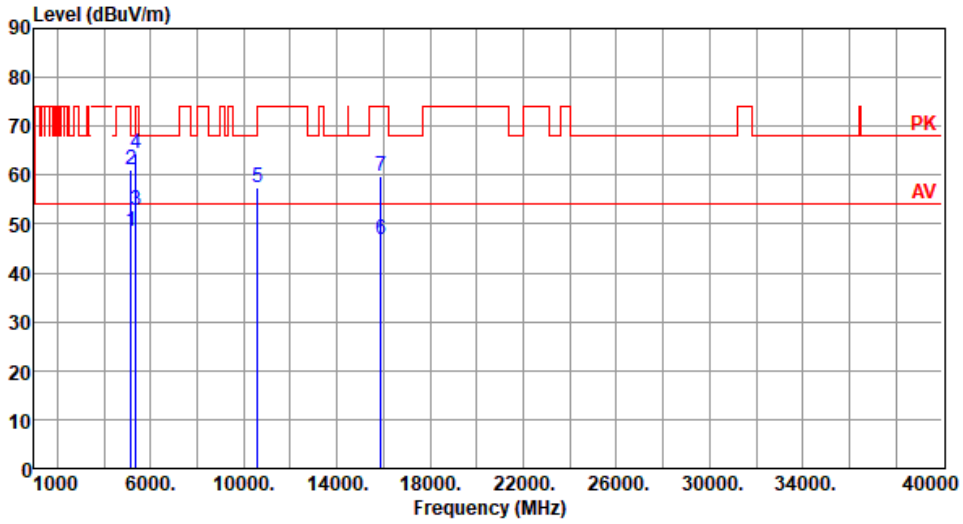
Modulation	VHT80	**Test Freq. (MHz)**	5290
Polarization	Horizontal		



	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	47.58	54.00	-6.42	40.26	7.32	Average	100	204
2	5150.00	60.45	74.00	-13.55	53.13	7.32	Peak	100	204
3	5350.00	49.10	54.00	-4.90	42.25	6.85	Average	100	220
4	5350.00	61.41	74.00	-12.59	54.56	6.85	Peak	100	220
5	10580.00	57.69	68.20	-10.51	41.32	16.37	Peak	100	132
6	15870.00	46.84	54.00	-7.16	30.20	16.64	Average	100	20
7	15870.00	60.12	74.00	-13.88	43.48	16.64	Peak	100	20

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

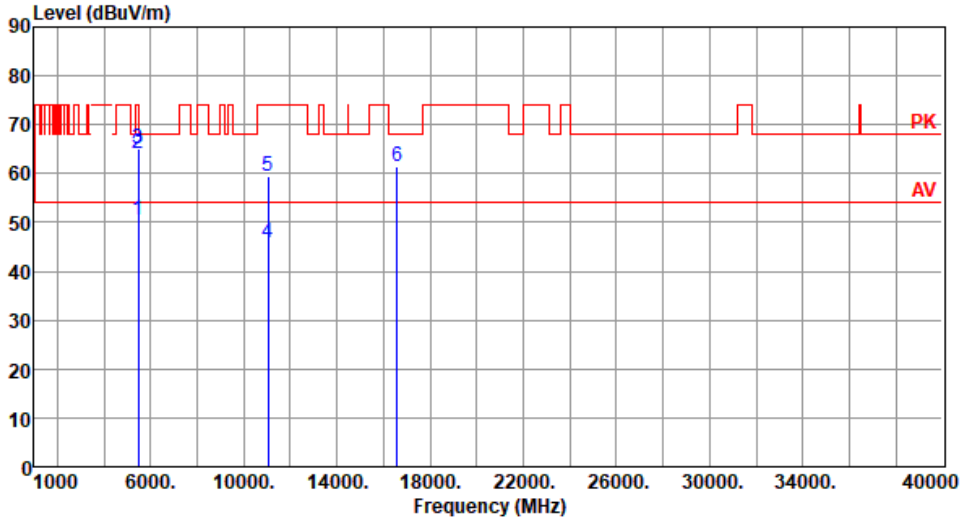
Modulation	VHT80	Test Freq. (MHz)	5290
Polarization	Vertical		



	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	48.33	54.00	-5.67	41.01	7.32	Average	108	3
2	5150.00	61.19	74.00	-12.81	53.87	7.32	Peak	108	3
3	5350.00	52.80	54.00	-1.20	45.95	6.85	Average	108	3
4	5350.00	64.47	74.00	-9.53	57.62	6.85	Peak	108	3
5	10580.00	57.56	68.20	-10.64	41.19	16.37	Peak	100	128
6	15870.00	46.79	54.00	-7.21	30.15	16.64	Average	100	90
7	15870.00	59.91	74.00	-14.09	43.27	16.64	Peak	100	90

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

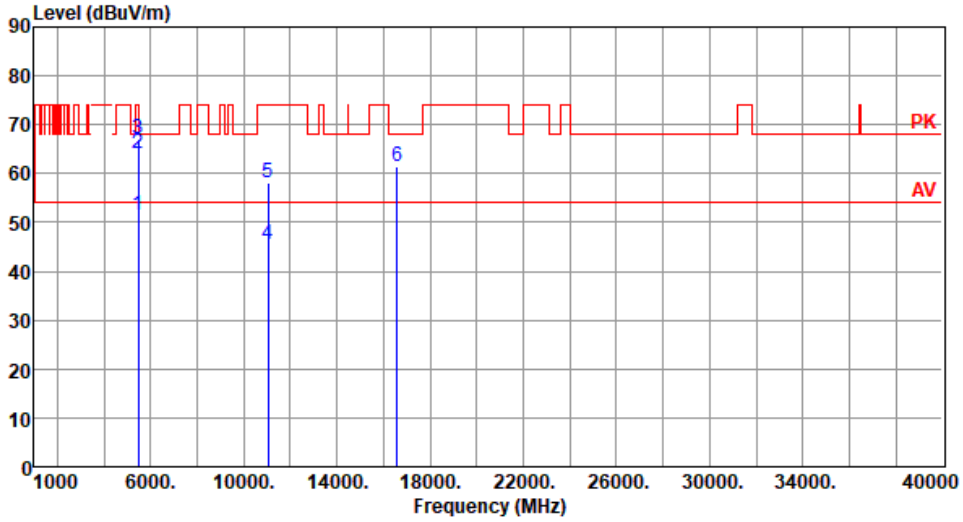
Modulation	VHT80	Test Freq. (MHz)	5530
Polarization	Horizontal		



	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	50.50	54.00	-3.50	43.25	7.25	Average	236	187
2	5460.00	64.00	74.00	-10.00	56.75	7.25	Peak	236	187
3	5470.00	65.16	68.20	-3.04	57.88	7.28	Peak	236	187
4	11060.00	45.91	54.00	-8.09	29.16	16.75	Average	100	50
5	11060.00	59.31	74.00	-14.69	42.56	16.75	Peak	100	50
6	16590.00	61.36	68.20	-6.84	43.15	18.21	Peak	100	20

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

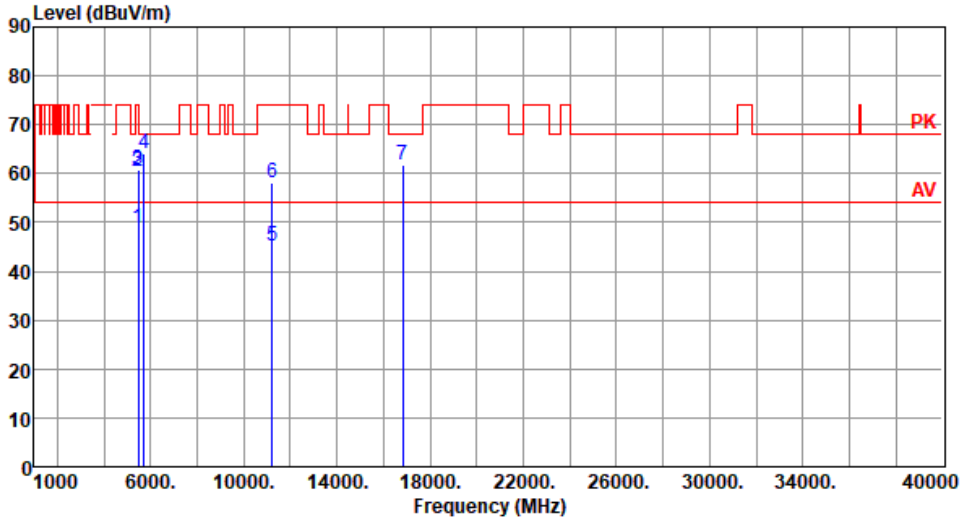
Modulation	VHT80	Test Freq. (MHz)	5530
Polarization	Vertical		



	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	51.58	54.00	-2.42	44.33	7.25	Average	247	353
2	5460.00	64.20	74.00	-9.80	56.95	7.25	Peak	247	353
3	5470.00	67.13	68.20	-1.07	59.85	7.28	Peak	247	353
4	11060.00	45.43	54.00	-8.57	28.68	16.75	Average	100	157
5	11060.00	58.18	74.00	-15.82	41.43	16.75	Peak	100	157
6	16590.00	61.56	68.20	-6.64	43.35	18.21	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).

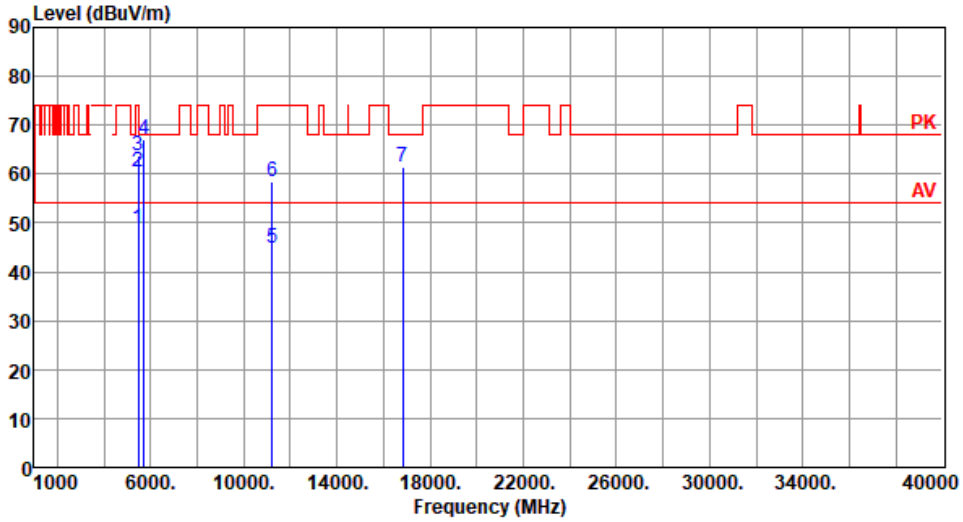
Modulation	VHT80	Test Freq. (MHz)	5610
Polarization	Horizontal		



	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	48.69	54.00	-5.31	41.44	7.25	Average	221	210
2	5460.00	60.41	74.00	-13.59	53.16	7.25	Peak	221	210
3	5470.00	60.79	68.20	-7.41	53.51	7.28	Peak	221	210
4	5725.00	64.02	68.20	-4.18	56.36	7.66	Peak	228	292
5	11220.00	45.17	54.00	-8.83	28.65	16.52	Average	100	163
6	11220.00	58.06	74.00	-15.94	41.54	16.52	Peak	100	163
7	16830.00	61.87	68.20	-6.33	43.53	18.34	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	VHT80	Test Freq. (MHz)	5610
Polarization	Vertical		



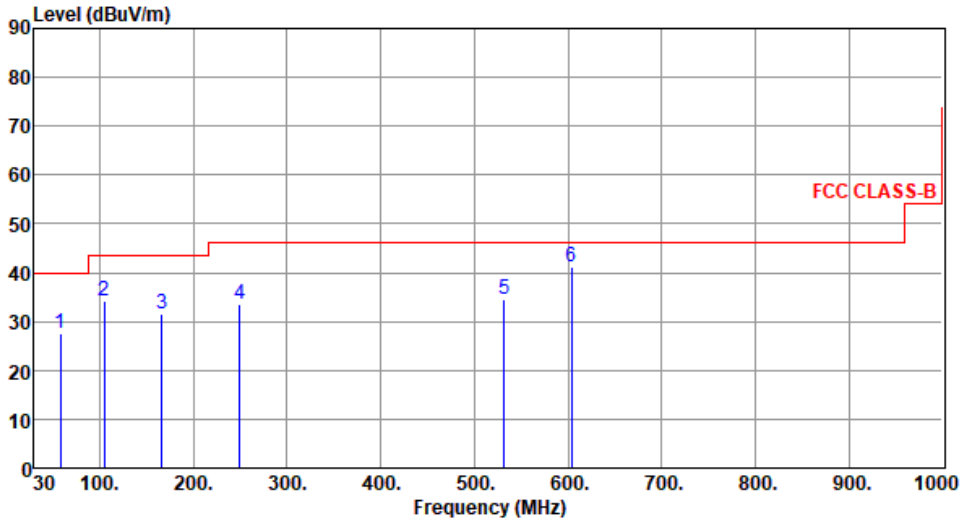
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	48.77	54.00	-5.23	41.52	7.25	Average	228	14
2	5460.00	60.49	74.00	-13.51	53.24	7.25	Peak	228	14
3	5470.00	63.85	68.20	-4.35	56.57	7.28	Peak	228	14
4	5725.00	67.02	68.20	-1.18	59.36	7.66	Peak	228	292
5	11220.00	44.83	54.00	-9.17	28.31	16.52	Average	100	173
6	11220.00	58.48	74.00	-15.52	41.96	16.52	Peak	100	173
7	16830.00	61.53	68.20	-6.67	43.19	18.34	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).

Beamforming mode

3.5.9 Transmitter Radiated Unwanted Emissions (Below 1GHz)

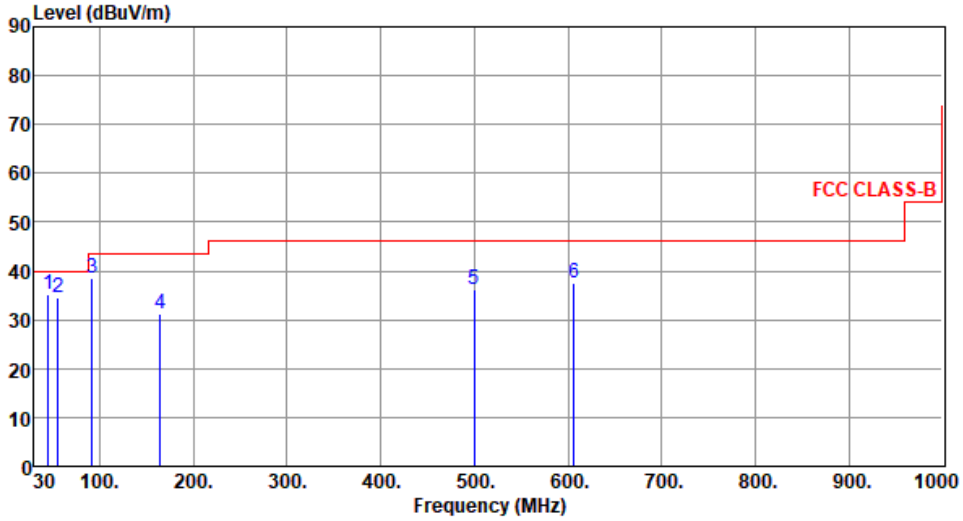
Modulation	VHT40	**Test Freq. (MHz)**	5590
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	58.05	27.52	40.00	-12.48	36.74	-9.22	Peak	---	---
2	104.53	34.25	43.50	-9.25	47.19	-12.94	Peak	---	---
3	166.53	31.52	43.50	-11.98	40.70	-9.18	Peak	---	---
4	249.36	33.56	46.00	-12.44	43.74	-10.18	Peak	---	---
5	531.52	34.52	46.00	-11.48	37.03	-2.51	Peak	---	---
6	603.41	41.32	46.00	-4.68	41.80	-0.48	Peak	---	---

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

Modulation	VHT40	Test Freq. (MHz)	5590
Polarization	Vertical		

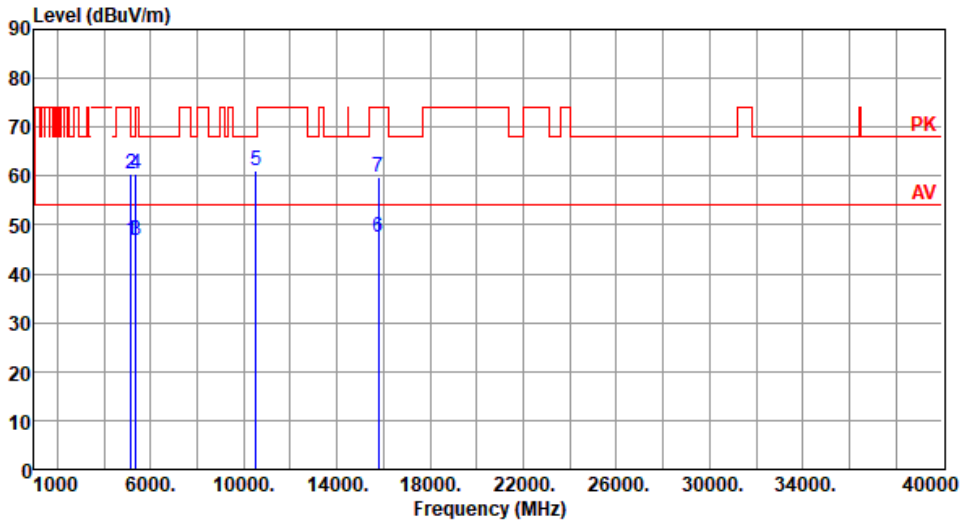


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	45.36	35.21	40.00	-4.79	44.00	-8.79	Peak	---	---
2	55.36	34.51	40.00	-5.49	43.60	-9.09	Peak	---	---
3	92.23	38.52	43.50	-4.98	53.42	-14.90	Peak	---	---
4	164.36	31.21	43.50	-12.29	40.30	-9.09	Peak	---	---
5	499.53	36.25	46.00	-9.75	39.40	-3.15	Peak	---	---
6	606.21	37.52	46.00	-8.48	37.81	-0.29	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

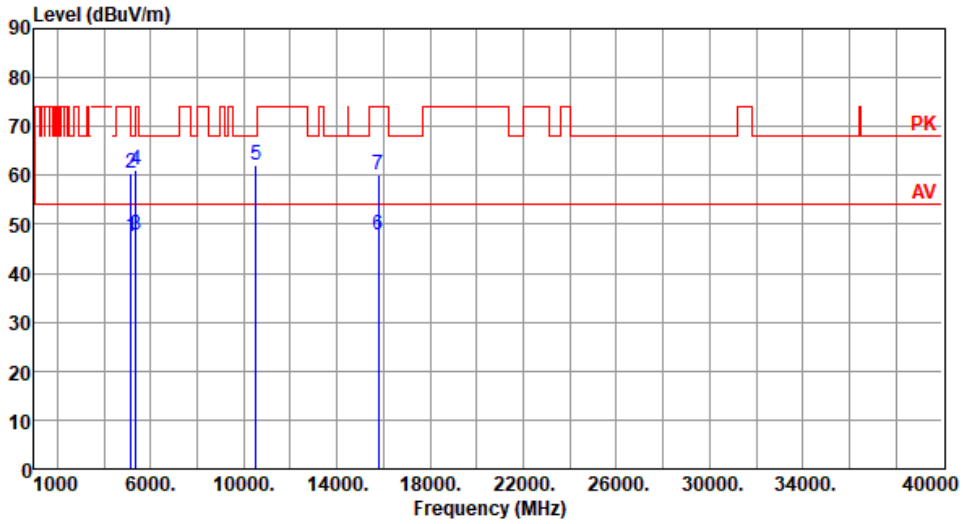
Modulation	VHT20	**Test Freq. (MHz)**	5260
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.77	54.00	-7.23	39.45	7.32	Average	133	198
2	5150.00	60.38	74.00	-13.62	53.06	7.32	Peak	133	198
3	5350.00	46.97	54.00	-7.03	40.12	6.85	Average	133	198
4	5350.00	60.54	74.00	-13.46	53.69	6.85	Peak	133	198
5	10520.00	60.98	68.20	-7.22	44.56	16.42	Peak	100	20
6	15780.00	47.58	54.00	-6.42	31.02	16.56	Average	100	20
7	15780.00	59.68	74.00	-14.32	43.12	16.56	Peak	100	20

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

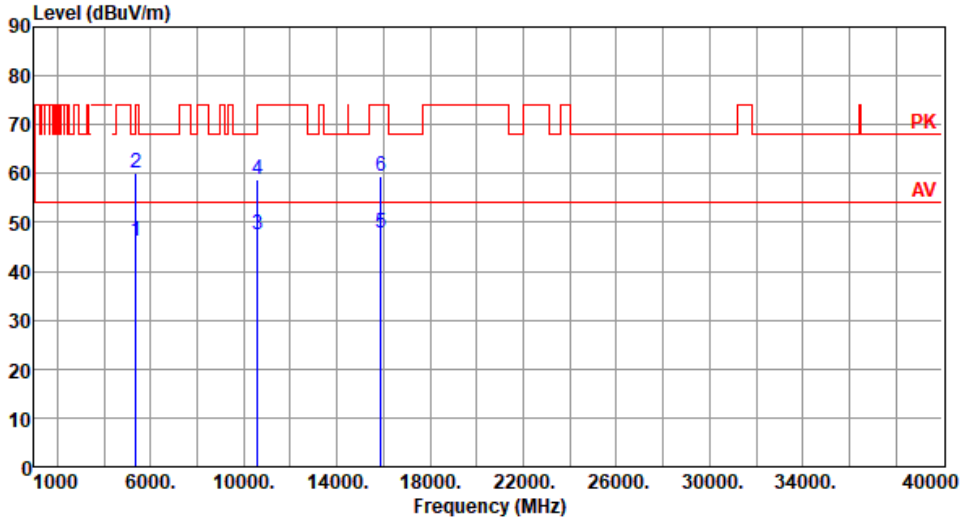
Modulation	VHT20	Test Freq. (MHz)	5260
Polarization	Vertical		



	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	47.52	54.00	-6.48	40.20	7.32	Average	123	359
2	5150.00	60.45	74.00	-13.55	53.13	7.32	Peak	123	359
3	5350.00	47.69	54.00	-6.31	40.84	6.85	Average	123	359
4	5350.00	61.18	74.00	-12.82	54.33	6.85	Peak	123	359
5	10520.00	61.94	68.20	-6.26	45.52	16.42	Peak	121	159
6	15780.00	47.79	54.00	-6.21	31.23	16.56	Average	100	35
7	15780.00	59.98	74.00	-14.02	43.42	16.56	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).

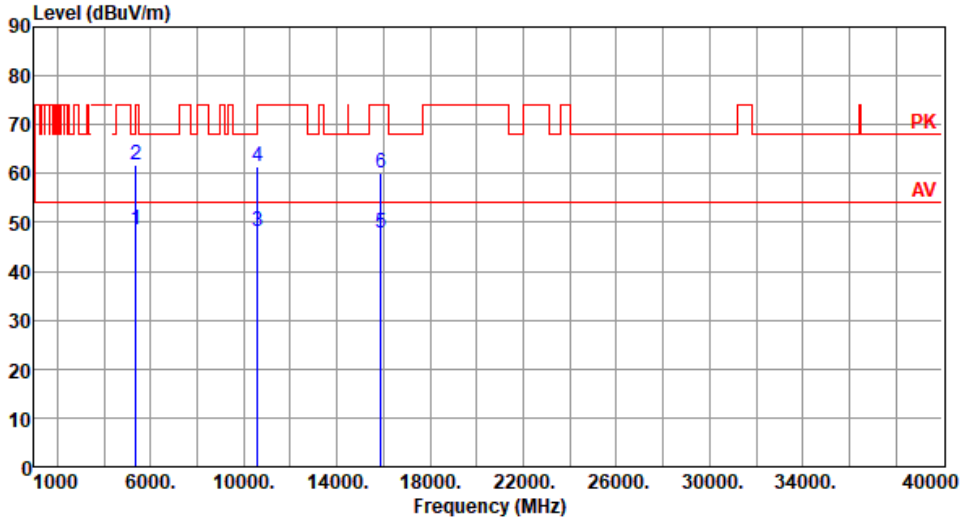
Modulation	VHT20	Test Freq. (MHz)	5300
Polarization	Horizontal		



	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	46.10	54.00	-7.90	39.25	6.85	Average	135	195
2	5350.00	59.97	74.00	-14.03	53.12	6.85	Peak	135	195
3	10600.00	47.42	54.00	-6.58	31.06	16.36	Average	100	28
4	10600.00	58.84	74.00	-15.16	42.48	16.36	Peak	100	28
5	15900.00	47.76	54.00	-6.24	31.07	16.69	Average	100	36
6	15900.00	59.58	74.00	-14.42	42.89	16.69	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).

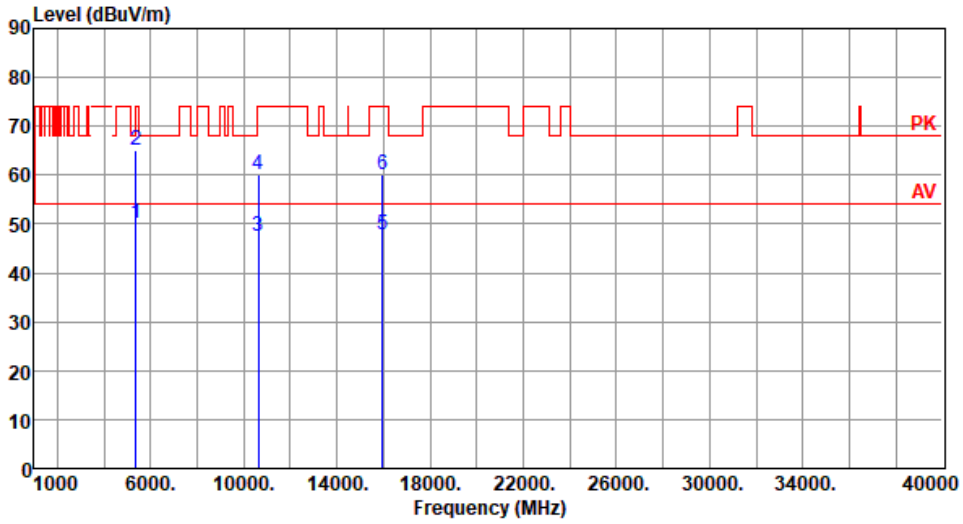
Modulation	VHT20	Test Freq. (MHz)	5300
Polarization	Vertical		



	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	48.50	54.00	-5.50	41.65	6.85	Average	102	8
2	5350.00	61.76	74.00	-12.24	54.91	6.85	Peak	102	8
3	10600.00	48.26	54.00	-5.74	31.90	16.36	Average	125	181
4	10600.00	61.44	74.00	-12.56	45.08	16.36	Peak	125	181
5	15900.00	47.89	54.00	-6.11	31.20	16.69	Average	100	25
6	15900.00	60.14	74.00	-13.86	43.45	16.69	Peak	100	25

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

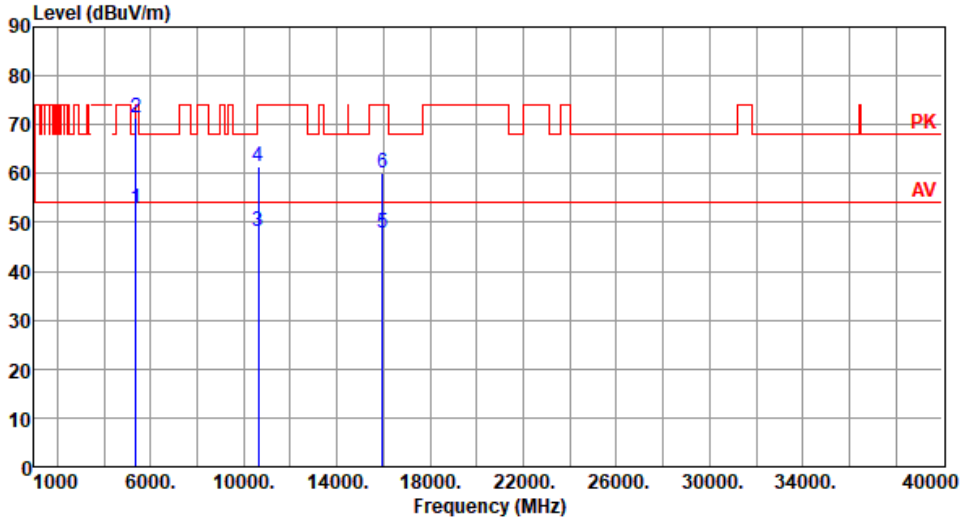
Modulation	VHT20	Test Freq. (MHz)	5320
Polarization	Horizontal		



	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	50.18	54.00	-3.82	43.33	6.85	Average	131	193
2	5350.00	65.04	74.00	-8.96	58.19	6.85	Peak	131	193
3	10640.00	47.42	54.00	-6.58	31.05	16.37	Average	100	334
4	10640.00	60.14	74.00	-13.86	43.77	16.37	Peak	100	334
5	15960.00	47.82	54.00	-6.18	31.29	16.53	Average	100	45
6	15960.00	60.16	74.00	-13.84	43.63	16.53	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).

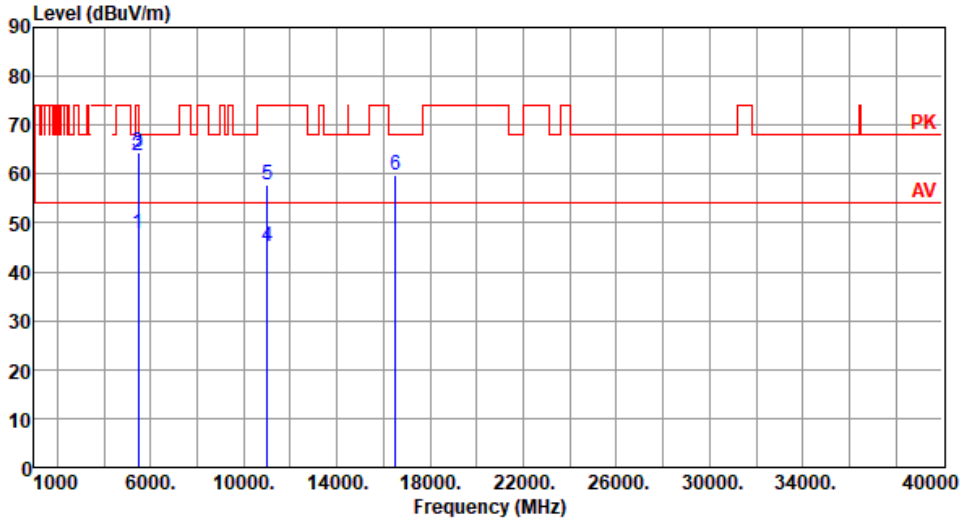
Modulation	VHT20	Test Freq. (MHz)	5320
Polarization	Vertical		



	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	52.86	54.00	-1.14	46.01	6.85	Average	100	359
2	5350.00	71.40	74.00	-2.60	64.55	6.85	Peak	100	359
3	10640.00	48.26	54.00	-5.74	31.89	16.37	Average	121	164
4	10640.00	61.55	74.00	-12.45	45.18	16.37	Peak	121	164
5	15960.00	47.79	54.00	-6.21	31.26	16.53	Average	100	31
6	15960.00	59.96	74.00	-14.04	43.43	16.53	Peak	100	31

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

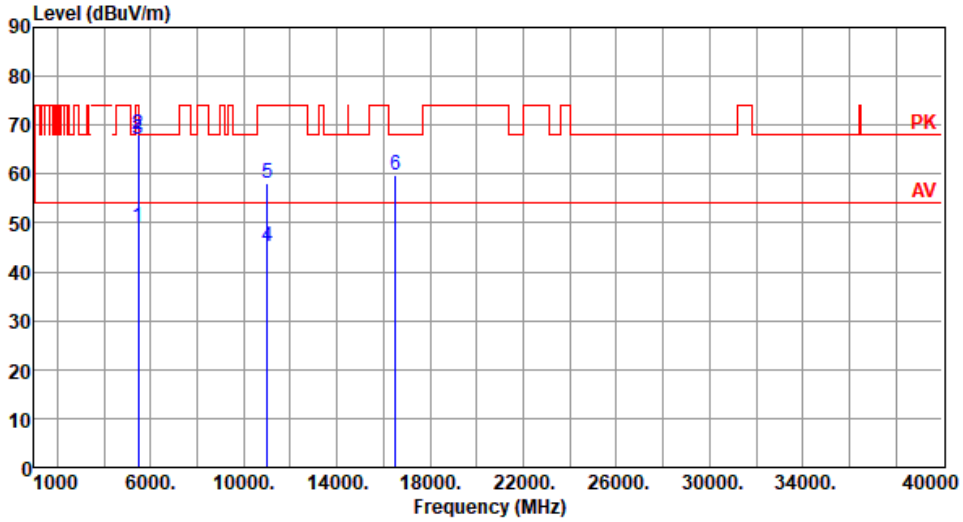
Modulation	VHT20	Test Freq. (MHz)	5500
Polarization	Horizontal		



	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	47.81	54.00	-6.19	40.56	7.25	Average	156	163
2	5460.00	63.76	74.00	-10.24	56.51	7.25	Peak	156	163
3	5470.00	64.40	68.20	-3.80	57.12	7.28	Peak	156	163
4	11000.00	45.19	54.00	-8.81	28.35	16.84	Average	100	20
5	11000.00	57.90	74.00	-16.10	41.06	16.84	Peak	100	20
6	16500.00	59.69	68.20	-8.51	42.05	17.64	Peak	100	50

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

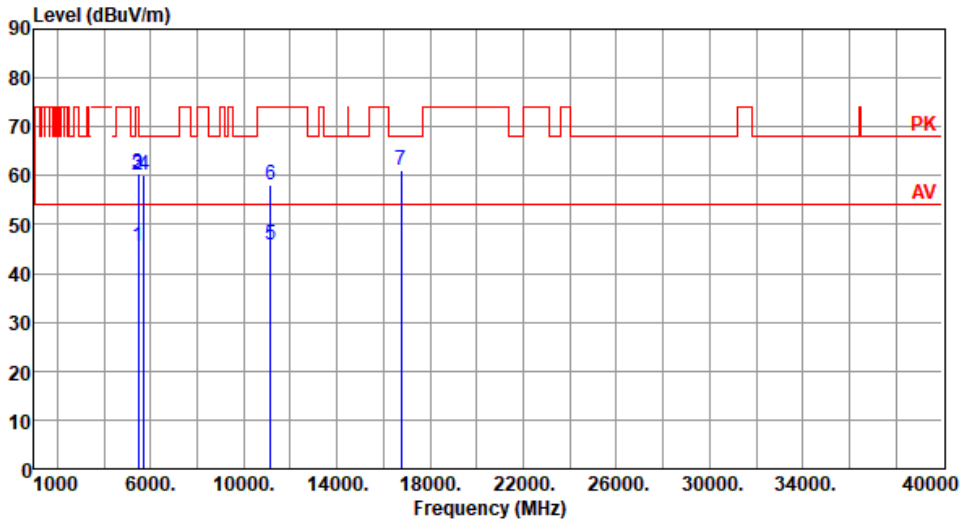
Modulation	VHT20	Test Freq. (MHz)	5500
Polarization	Vertical		



	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	49.20	54.00	-4.80	41.95	7.25	Average	138	18
2	5460.00	68.03	74.00	-5.97	60.78	7.25	Peak	138	18
3	5470.00	67.08	68.20	-1.12	59.80	7.28	Peak	138	18
4	11000.00	45.31	54.00	-8.69	28.47	16.84	Average	100	102
5	11000.00	58.04	74.00	-15.96	41.20	16.84	Peak	100	102
6	16500.00	59.82	68.20	-8.38	42.18	17.64	Peak	100	111

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

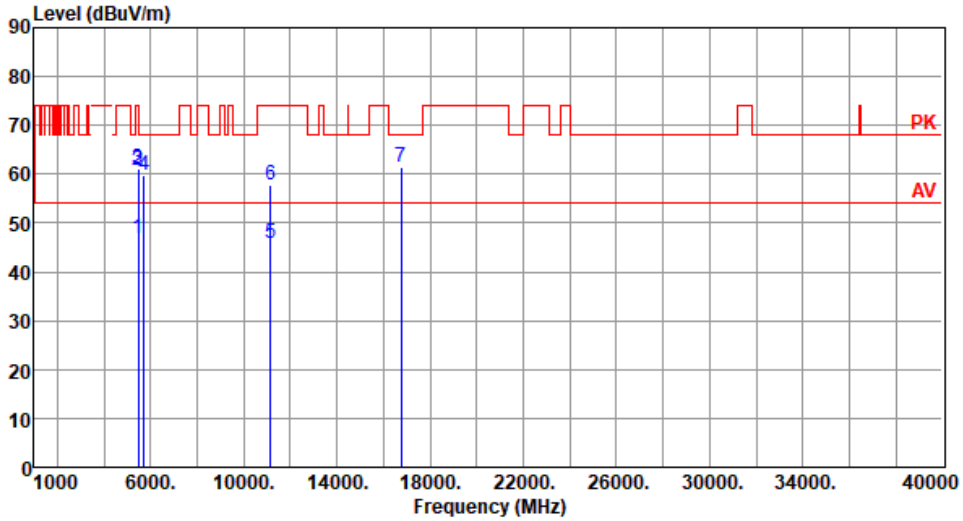
Modulation	VHT20	Test Freq. (MHz)	5580
Polarization	Horizontal		



	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	45.36	54.00	-8.64	38.11	7.25	Average	155	159
2	5460.00	60.27	74.00	-13.73	53.02	7.25	Peak	155	159
3	5470.00	60.46	68.20	-7.74	53.18	7.28	Peak	155	159
4	5725.00	60.04	68.20	-8.16	52.38	7.66	Peak	155	159
5	11160.00	45.69	54.00	-8.31	29.10	16.59	Average	100	58
6	11160.00	57.98	74.00	-16.02	41.39	16.59	Peak	100	58
7	16740.00	61.09	68.20	-7.11	42.86	18.23	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).

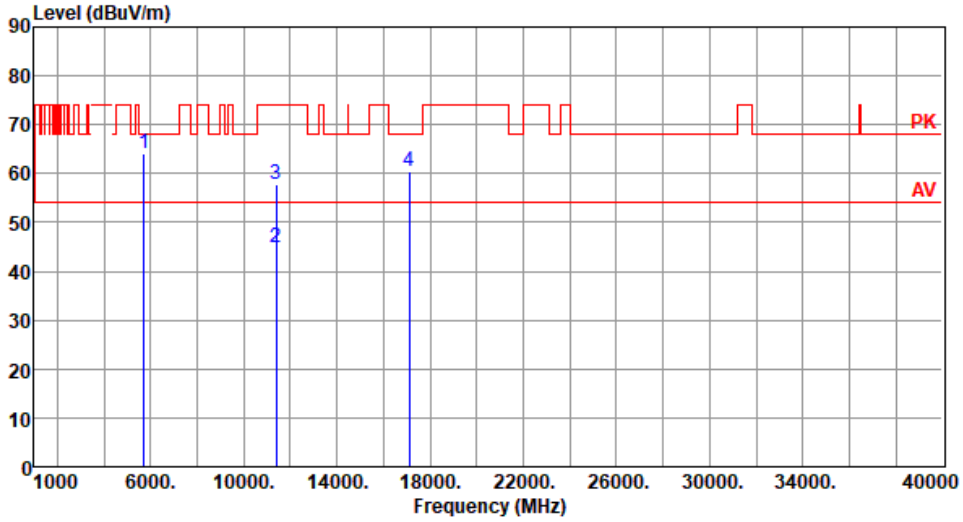
Modulation	VHT20	Test Freq. (MHz)	5580
Polarization	Vertical		



	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	46.86	54.00	-7.14	39.61	7.25	Average	154	39
2	5460.00	60.83	74.00	-13.17	53.58	7.25	Peak	154	39
3	5470.00	61.26	68.20	-6.94	53.98	7.28	Peak	154	39
4	5725.00	59.93	68.20	-8.27	52.27	7.66	Peak	154	39
5	11160.00	45.81	54.00	-8.19	29.22	16.59	Average	100	36
6	11160.00	57.79	74.00	-16.21	41.20	16.59	Peak	100	36
7	16740.00	61.48	68.20	-6.72	43.25	18.23	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).

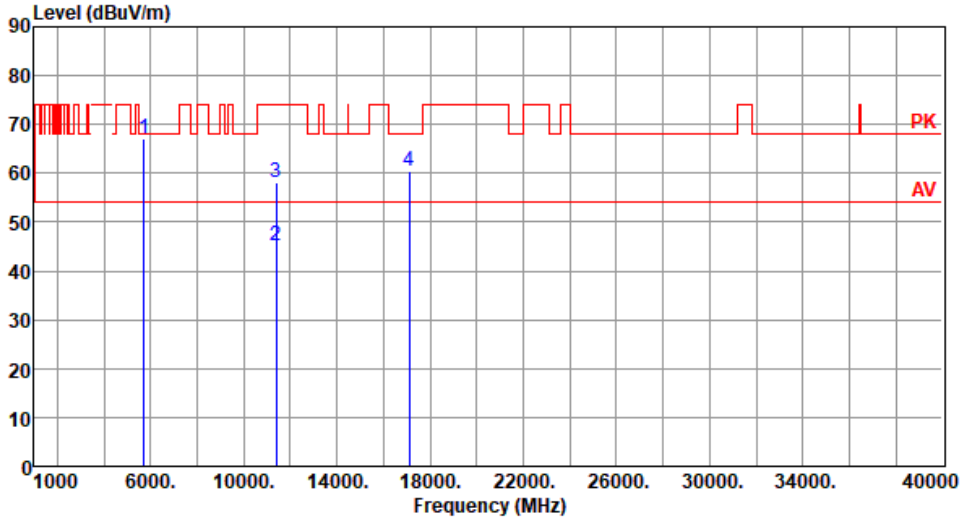
Modulation	VHT20	Test Freq. (MHz)	5700
Polarization	Horizontal		



	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	64.26	68.20	-3.94	56.60	7.66	Peak	154	156
2	11400.00	44.84	54.00	-9.16	28.11	16.73	Average	100	20
3	11400.00	57.88	74.00	-16.12	41.15	16.73	Peak	100	20
4	17100.00	60.32	68.20	-7.88	42.08	18.24	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)	5700
Polarization	Vertical		

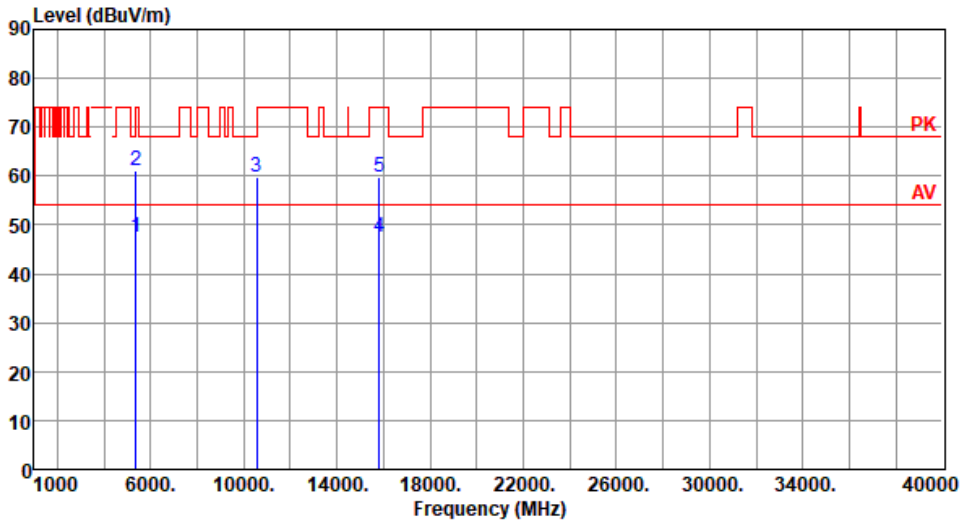


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	67.12	68.20	-1.08	59.46	7.66	Peak	140	39
2	11400.00	45.16	54.00	-8.84	28.43	16.73	Average	100	161
3	11400.00	58.04	74.00	-15.96	41.31	16.73	Peak	100	161
4	17100.00	60.42	68.20	-7.78	42.18	18.24	Peak	100	195

Note 1: Emission Level (dBuV/m) = SA Reading (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

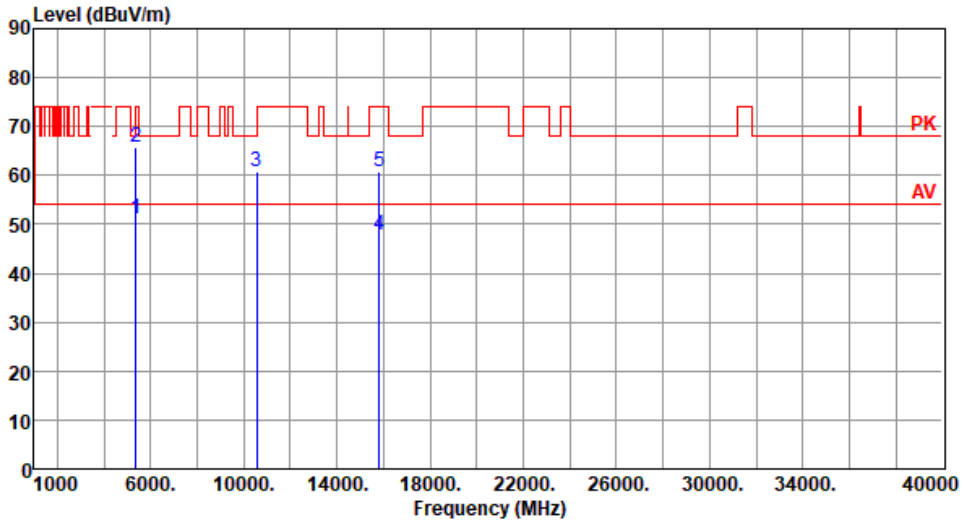
Modulation	VHT40	**Test Freq. (MHz)**	5270
Polarization	Horizontal		



	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	47.41	54.00	-6.59	40.56	6.85	Average	134	198
2	5350.00	61.10	74.00	-12.90	54.25	6.85	Peak	134	198
3	10540.00	59.67	68.20	-8.53	43.26	16.41	Peak	100	20
4	15810.00	47.57	54.00	-6.43	31.01	16.56	Average	100	40
5	15810.00	59.82	74.00	-14.18	43.26	16.56	Peak	100	40

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

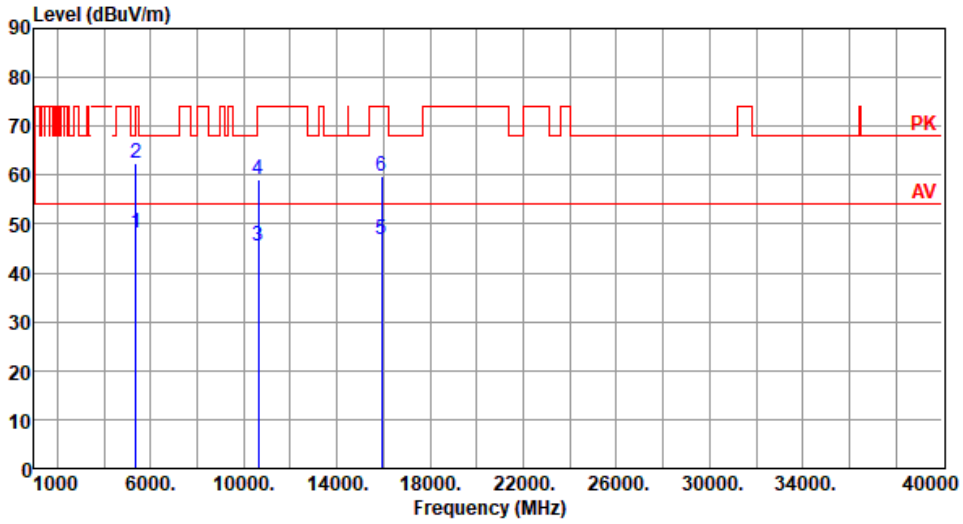
Modulation	VHT40	Test Freq. (MHz)	5270
Polarization	Vertical		



	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	51.06	54.00	-2.94	44.21	6.85	Average	138	2
2	5350.00	65.91	74.00	-8.09	59.06	6.85	Peak	138	2
3	10540.00	60.76	68.20	-7.44	44.35	16.41	Peak	100	69
4	15810.00	47.80	54.00	-6.20	31.24	16.56	Average	100	55
5	15810.00	60.75	74.00	-13.25	44.19	16.56	Peak	100	55

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

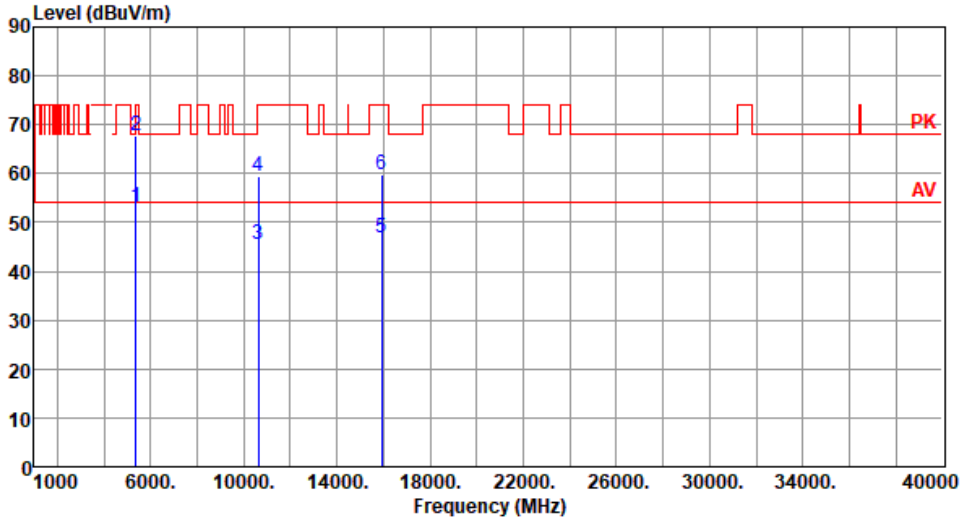
Modulation	VHT40	Test Freq. (MHz)	5310
Polarization	Horizontal		



	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	48.10	54.00	-5.90	41.25	6.85	Average	135	198
2	5350.00	62.31	74.00	-11.69	55.46	6.85	Peak	135	198
3	10620.00	45.41	54.00	-8.59	29.04	16.37	Average	100	20
4	10620.00	59.05	74.00	-14.95	42.68	16.37	Peak	100	20
5	15930.00	46.66	54.00	-7.34	30.05	16.61	Average	100	70
6	15930.00	59.72	74.00	-14.28	43.11	16.61	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).

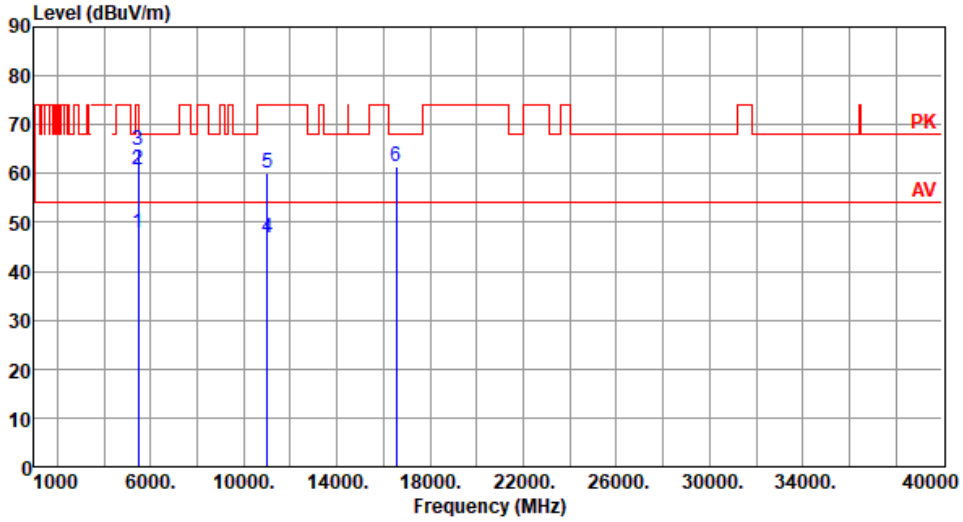
Modulation	VHT40	Test Freq. (MHz)	5310
Polarization	Vertical		



	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	53.20	54.00	-0.80	46.35	6.85	Average	110	16
2	5350.00	67.74	74.00	-6.26	60.89	6.85	Peak	110	16
3	10620.00	45.48	54.00	-8.52	29.11	16.37	Average	100	50
4	10620.00	59.48	74.00	-14.52	43.11	16.37	Peak	100	50
5	15930.00	46.76	54.00	-7.24	30.15	16.61	Average	100	60
6	15930.00	59.86	74.00	-14.14	43.25	16.61	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).

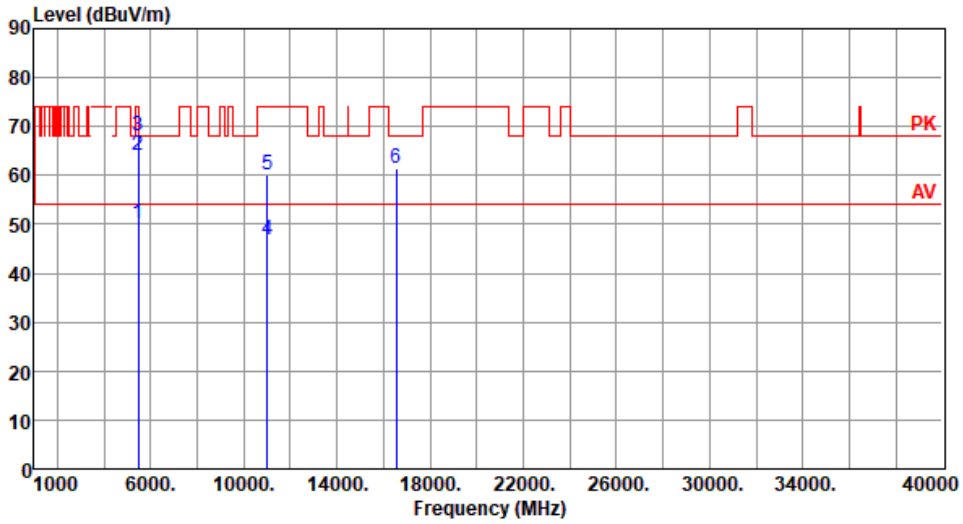
Modulation	VHT40	Test Freq. (MHz)	5510
Polarization	Horizontal		



	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	47.81	54.00	-6.19	40.56	7.25	Average	154	163
2	5460.00	60.83	74.00	-13.17	53.58	7.25	Peak	154	163
3	5470.00	64.69	68.20	-3.51	57.41	7.28	Peak	154	163
4	11020.00	46.99	54.00	-7.01	30.18	16.81	Average	100	20
5	11020.00	60.10	74.00	-13.90	43.29	16.81	Peak	100	20
6	16530.00	61.28	68.20	-6.92	43.45	17.83	Peak	100	40

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

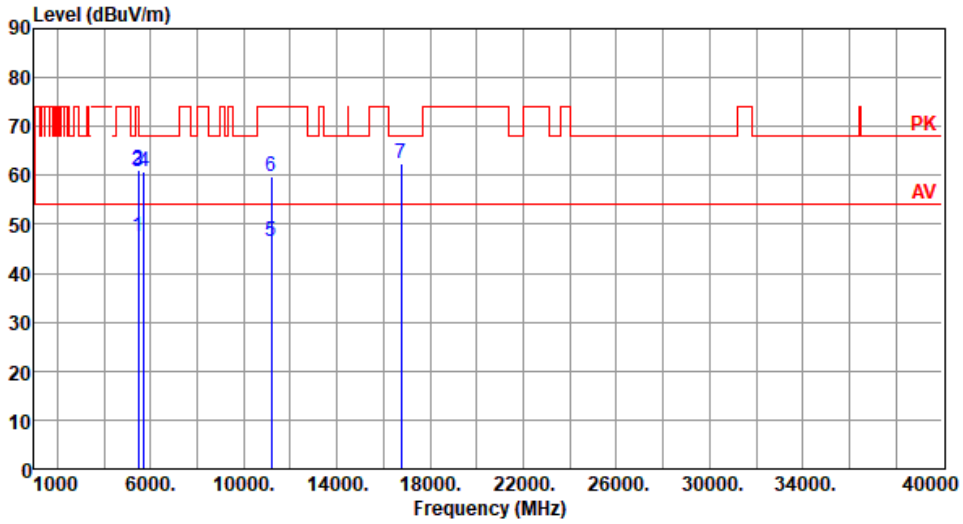
Modulation	VHT40	Test Freq. (MHz)	5510
Polarization	Vertical		



	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	50.07	54.00	-3.93	42.82	7.25	Average	160	4
2	5460.00	64.10	74.00	-9.90	56.85	7.25	Peak	160	4
3	5470.00	67.96	68.20	-0.24	60.68	7.28	Peak	160	4
4	11020.00	46.86	54.00	-7.14	30.05	16.81	Average	100	90
5	11020.00	59.96	74.00	-14.04	43.15	16.81	Peak	100	90
6	16530.00	61.42	68.20	-6.78	43.59	17.83	Peak	100	70

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

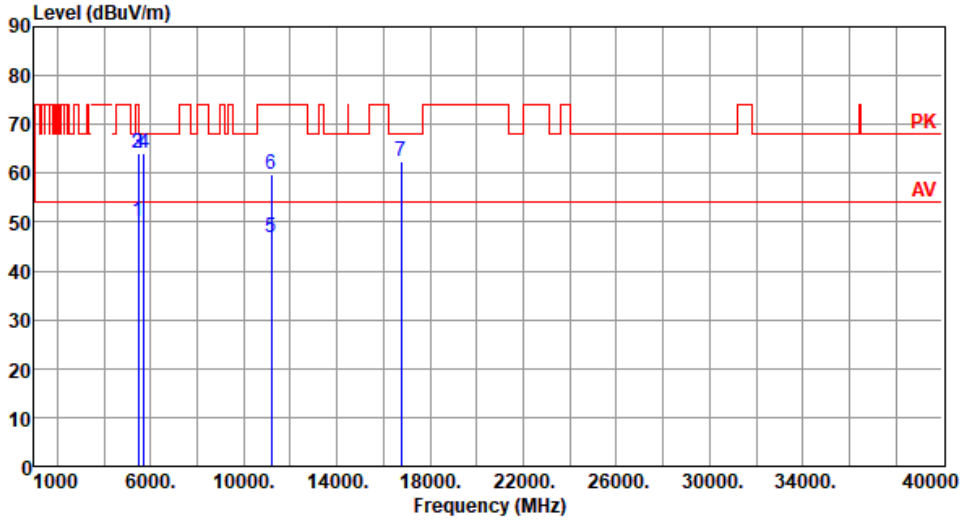
Modulation	VHT40	Test Freq. (MHz)	5590
Polarization	Horizontal		



	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	47.50	54.00	-6.50	40.25	7.25	Average	154	162
2	5460.00	60.94	74.00	-13.06	53.69	7.25	Peak	154	162
3	5470.00	60.82	68.20	-7.38	53.54	7.28	Peak	154	162
4	5725.00	60.90	68.20	-7.30	53.24	7.66	Peak	154	162
5	11180.00	46.63	54.00	-7.37	30.07	16.56	Average	100	20
6	11180.00	59.71	74.00	-14.29	43.15	16.56	Peak	100	20
7	16770.00	62.38	68.20	-5.82	44.15	18.23	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).

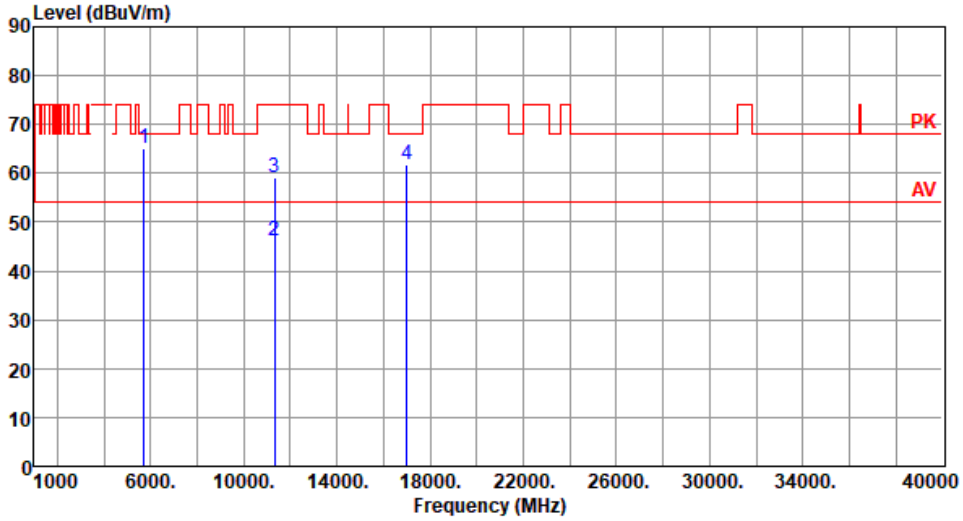
Modulation	VHT40	Test Freq. (MHz)	5590
Polarization	Vertical		



	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	50.01	54.00	-3.99	42.76	7.25	Average	100	10
2	5460.00	64.18	74.00	-9.82	56.93	7.25	Peak	100	10
3	5470.00	64.14	68.20	-4.06	56.86	7.28	Peak	100	10
4	5725.00	64.03	68.20	-4.17	56.37	7.66	Peak	100	10
5	11180.00	46.72	54.00	-7.28	30.16	16.56	Average	100	28
6	11180.00	59.78	74.00	-14.22	43.22	16.56	Peak	100	28
7	16770.00	62.49	68.20	-5.71	44.26	18.23	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).

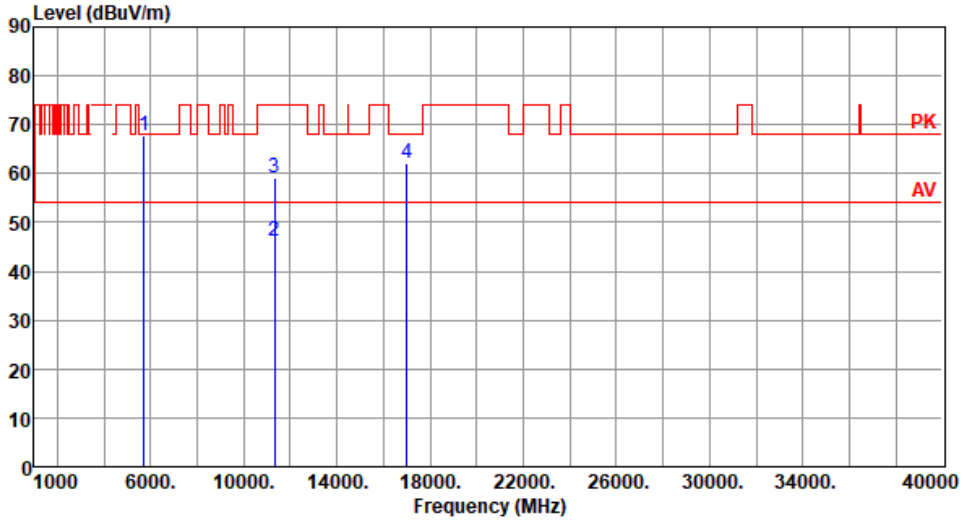
Modulation	VHT40	Test Freq. (MHz)	5670
Polarization	Horizontal		



	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	65.11	68.20	-3.09	57.45	7.66	Peak	146	157
2	11340.00	46.06	54.00	-7.94	29.48	16.58	Average	100	20
3	11340.00	59.14	74.00	-14.86	42.56	16.58	Peak	100	20
4	17010.00	61.92	68.20	-6.28	43.26	18.66	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		

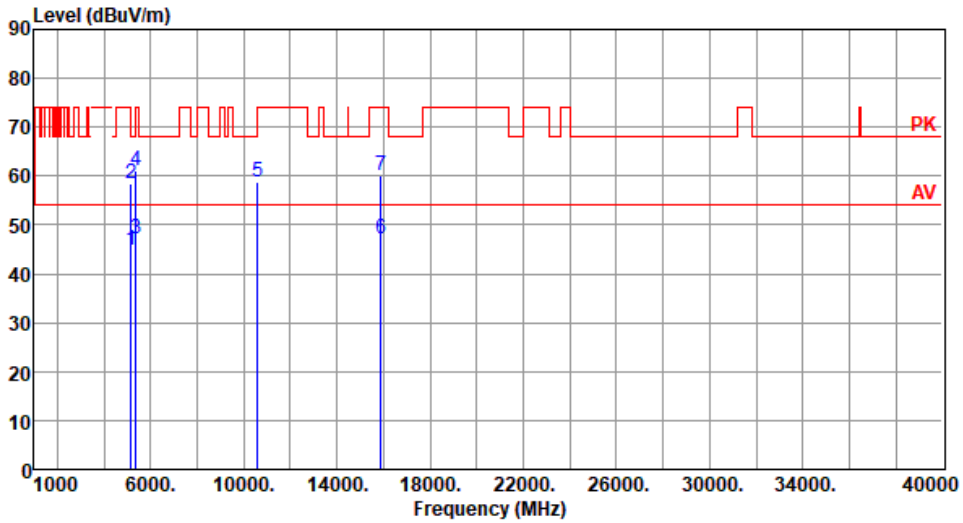


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	67.66	68.20	-0.54	60.00	7.66	Peak	238	20
2	11340.00	46.14	54.00	-7.86	29.56	16.58	Average	100	70
3	11340.00	59.20	74.00	-14.80	42.62	16.58	Peak	100	70
4	17010.00	62.01	68.20	-6.19	43.35	18.66	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).

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

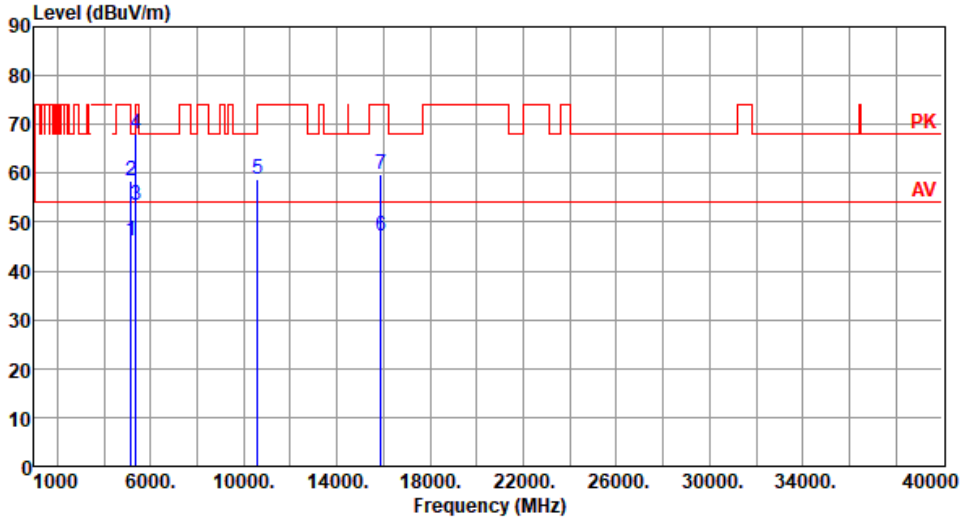
Modulation	VHT80	**Test Freq. (MHz)**	5290
Polarization	Horizontal		



	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	44.72	54.00	-9.28	37.40	7.32	Average	100	228
2	5150.00	58.29	74.00	-15.71	50.97	7.32	Peak	100	228
3	5350.00	47.21	54.00	-6.79	40.36	6.85	Average	100	228
4	5350.00	61.19	74.00	-12.81	54.34	6.85	Peak	100	228
5	10580.00	58.92	68.20	-9.28	42.55	16.37	Peak	100	70
6	15870.00	47.10	54.00	-6.90	30.46	16.64	Average	100	20
7	15870.00	60.12	74.00	-13.88	43.48	16.64	Peak	100	20

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

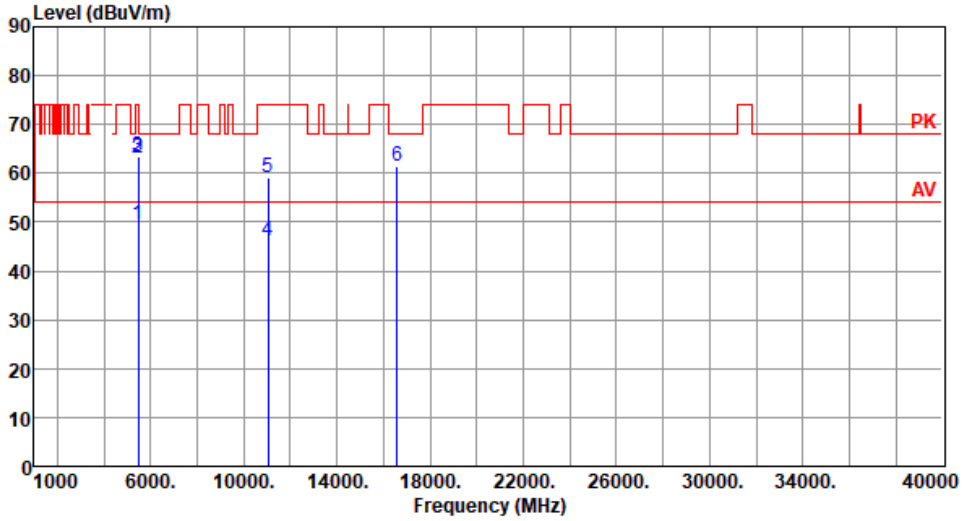
Modulation	VHT80	Test Freq. (MHz)	5290
Polarization	Vertical		



	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	46.22	54.00	-7.78	38.90	7.32	Average	100	3
2	5150.00	58.45	74.00	-15.55	51.13	7.32	Peak	100	3
3	5350.00	53.36	54.00	-0.64	46.51	6.85	Average	100	3
4	5350.00	67.93	74.00	-6.07	61.08	6.85	Peak	100	3
5	10580.00	58.73	68.20	-9.47	42.36	16.37	Peak	100	20
6	15870.00	47.00	54.00	-7.00	30.36	16.64	Average	100	30
7	15870.00	59.82	74.00	-14.18	43.18	16.64	Peak	100	30

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

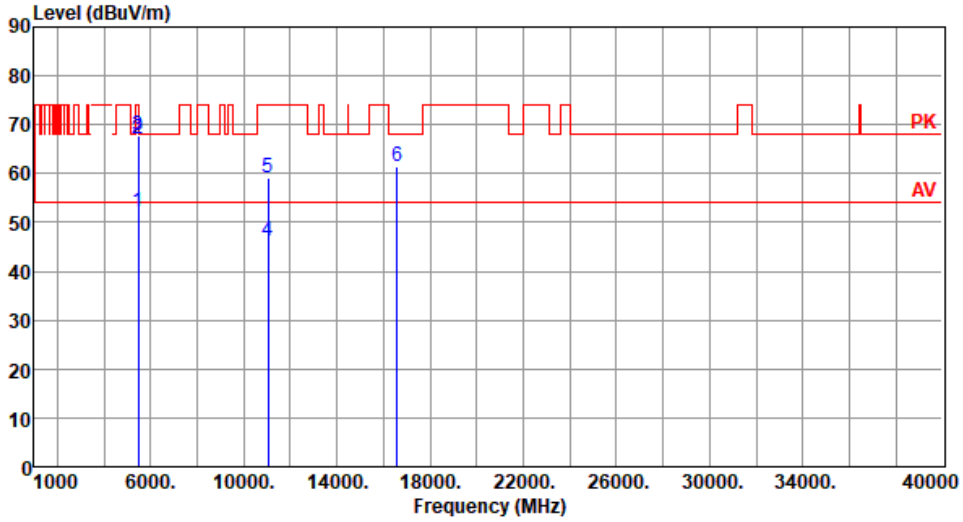
Modulation	VHT80	Test Freq. (MHz)	5530
Polarization	Horizontal		



	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	49.49	54.00	-4.51	42.24	7.25	Average	168	208
2	5460.00	63.07	74.00	-10.93	55.82	7.25	Peak	168	208
3	5470.00	63.50	68.20	-4.70	56.22	7.28	Peak	168	208
4	11060.00	46.23	54.00	-7.77	29.48	16.75	Average	100	70
5	11060.00	59.28	74.00	-14.72	42.53	16.75	Peak	100	70
6	16590.00	61.46	68.20	-6.74	43.25	18.21	Peak	100	20

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

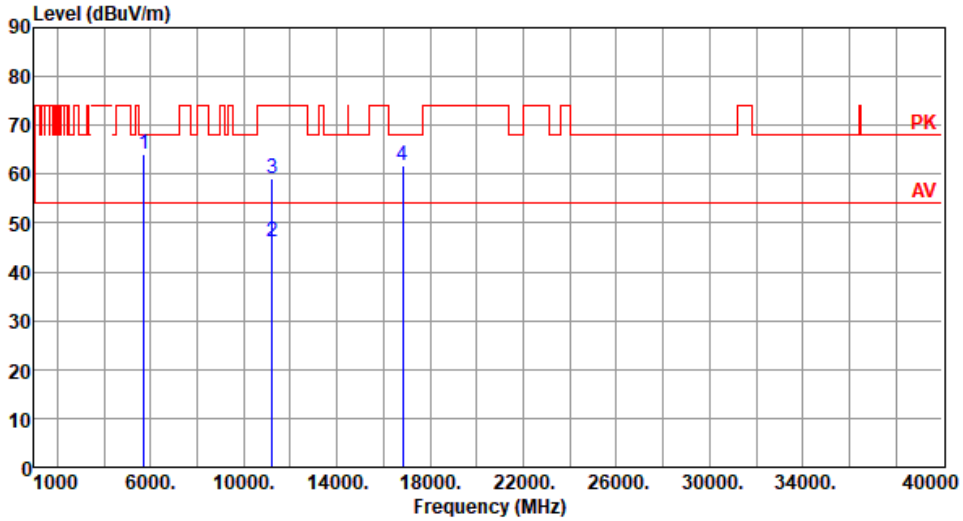
Modulation	VHT80	Test Freq. (MHz)	5530
Polarization	Vertical		



	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	52.21	54.00	-1.79	44.96	7.25	Average	100	20
2	5460.00	67.08	74.00	-6.92	59.83	7.25	Peak	100	20
3	5470.00	67.86	68.20	-0.34	60.58	7.28	Peak	100	20
4	11060.00	46.17	54.00	-7.83	29.42	16.75	Average	100	30
5	11060.00	59.10	74.00	-14.90	42.35	16.75	Peak	100	30
6	16590.00	61.40	68.20	-6.80	43.19	18.21	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).

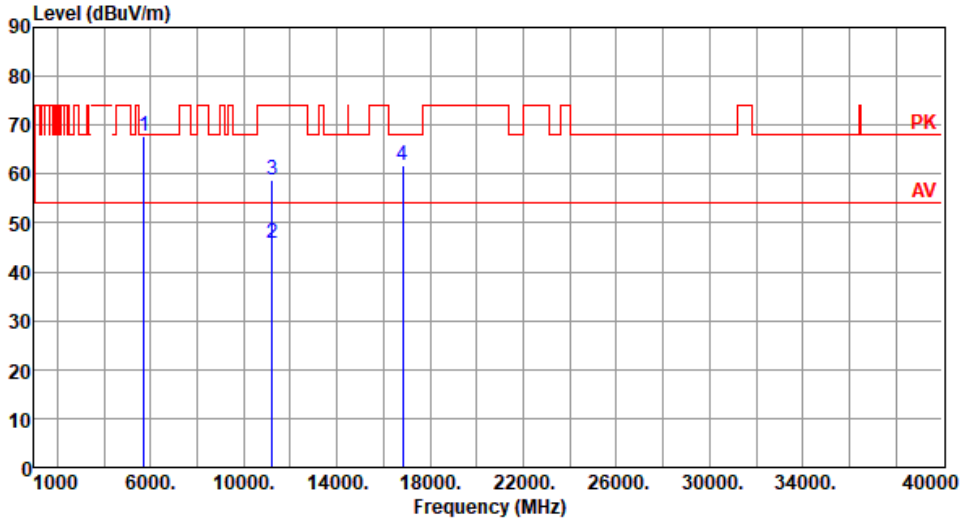
Modulation	VHT80	Test Freq. (MHz)	5610
Polarization	Horizontal		



	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	64.21	68.20	-3.99	56.55	7.66	Peak	224	214
2	11220.00	46.17	54.00	-7.83	29.65	16.52	Average	100	30
3	11220.00	58.97	74.00	-15.03	42.45	16.52	Peak	100	30
4	16830.00	61.68	68.20	-6.52	43.34	18.34	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	VHT80	Test Freq. (MHz)	5610
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	67.75	68.20	-0.45	60.09	7.66	Peak	242	349
2	11220.00	45.78	54.00	-8.22	29.26	16.52	Average	100	70
3	11220.00	58.87	74.00	-15.13	42.35	16.52	Peak	100	70
4	16830.00	61.62	68.20	-6.58	43.28	18.34	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).

3.6 Frequency Stability

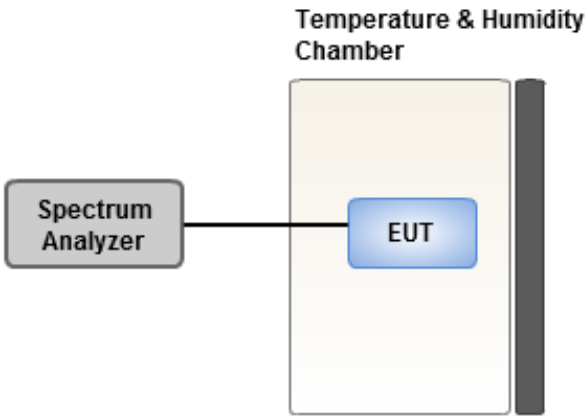
3.6.1 Limit of Frequency Stability

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: 5500 MHz	Frequency Drift (ppm)			
Temperature (°C)	**0 minute**	**2 minutes**	**5 minutes**	**10 minutes**
T20°CVmax	5.05	5.32	5.38	4.78
T20°CVmin	4.54	4.71	4.98	4.07
T50°CVnom	4.63	4.38	4.56	4.50
T40°CVnom	4.77	4.56	4.99	4.81
T30°CVnom	3.65	3.63	3.72	3.71
T20°CVnom	5.32	5.82	5.30	5.57
T10°CVnom	5.02	5.15	4.91	4.69
T0°CVnom	4.16	4.70	4.70	3.97
T-10°CVnom	2.11	2.85	2.76	2.56
T-20°CVnom	1.71	1.89	1.33	2.39
T-30°CVnom	2.41	2.48	2.38	3.06
Vnom [Vac]: 120		Vmax [Vac]: 138		Vmin [Vac]: 102
Tnom [°C]: 20		Tmax [°C]: 50		Tmin [°C]: -30

4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corp (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website http://www.icertifi.com.tw.

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

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

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

═END═