

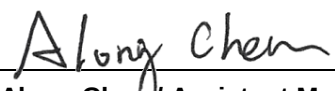
FCC Test Report

FCC ID : QISR2561
Equipment : Indoor Router
Model No. : R2561
Brand Name : Huawei
Applicant : Huawei Technologies Co., Ltd.
Address : Administration Building, Headquarters of
Huawei Technologies Co., Ltd., Bantian,
Longgang District, Shenzhen, 518129, China.
Standard : 47 CFR FCC Part 15.407
Received Date : Jun. 24, 2019
Tested Date : Jul. 06 ~ Jul. 15, 2019

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

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:


Along Chen / Assistant Manager

Approved by:

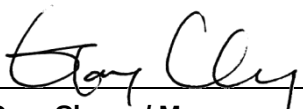

Gary Chang / Manager



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Release Record

Report No.	Version	Description	Issued Date
FR962401-01AN	Rev. 01	Initial issue	Jul. 07, 2020

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 7.252MHz 29.81 (Margin -20.19dB) - AV	Pass
15.407(b) 15.209	Radiated Emissions	[dBuV/m at 3m]: 17235.00MHz 67.19 (Margin -1.01dB) - 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]: 5150-5250MHz: 18.16 5725-5850MHz: 22.13	Pass
15.407(a)	Peak Power Spectral Density	Meet the requirement of limit	Pass
15.407(g)	Frequency Stability	Meet the requirement of limit	Pass
15.203	Antenna Requirement	Meet the requirement of limit	Pass

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1 General Description

1.1 Information

1.1.1 Specification of the Equipment under Test (EUT)

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N _{TX})	Data Rate / MCS
5150-5250	a	5180-5240	36-48 [4]	2	6-54 Mbps
5150-5250	n (HT20)	5180-5240	36-48 [4]	2	MCS 0-15
5150-5250	n (HT40)	5190-5230	38-46 [2]	2	MCS 0-15
5150-5250	ac (VHT20)	5180-5240	36-48 [4]	2	MCS 0-9
5150-5250	ac (VHT40)	5190-5230	38-46 [2]	2	MCS 0-9
5150-5250	ac (VHT80)	5210	42 [1]	2	MCS 0-9

Note 1: RF output power specifies that Maximum Conducted Output Power.
Note 2: 802.11a/n/ac uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N _{TX})	Data Rate / MCS
5725-5850	a	5745-5825	149-165 [5]	2	6-54 Mbps
5725-5850	n (HT20)	5745-5825	149-165 [5]	2	MCS 0-15
5725-5850	n (HT40)	5755-5795	151-159 [2]	2	MCS 0-15
5725-5850	ac (VHT20)	5745-5825	149-165 [5]	2	MCS 0-9
5725-5850	ac (VHT40)	5755-5795	151-159 [2]	2	MCS 0-9
5725-5850	ac (VHT80)	5775	155 [1]	2	MCS 0-9

Note 1: RF output power specifies that Maximum Conducted Output Power.
Note 2: 802.11a/n/ac uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.

1.1.2 Antenna Details

Ant. No.	Type	Connector	Operating Frequencies (MHz) / Antenna Gain (dBi)		
			2400~2483.5	5150~5250	5725~5850
1	PIFA	UFL	2.77	2.88	3.22
2	PIFA	UFL	1.94	4.28	5.33

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	19Vdc from adapter
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1.1.4 Accessories

Accessories		
No.	Equipment	Description
1	AC adapter	Brand: FRECOM Model: F30L2-190160SPACP Power Rating: I/P: 100-240Vac, 50/60Hz, 0.8A O/P: 19Vdc, 1.6A Power Line: 1.5m non-shielded without core

1.1.5 Channel List

For Frequency band 5150-5250 MHz			
802.11 a / HT20 / VHT20		HT40 / VHT40	
Channel	Frequency(MHz)	Channel	Frequency(MHz)
36	5180	38	5190
40	5200	46	5230
44	5220	VHT 80	
48	5240	42	5210

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

1.1.6 Test Tool and Duty Cycle

Test Tool	MT7662 QA, version: V1.0.3.2		
Duty Cycle and Duty Factor	Mode	Duty Cycle (%)	Duty Factor (dB)
	11a	96.63%	0.15
	VHT20	89.62%	0.48
	VHT40	81.83%	0.87
	VHT80	68.27%	1.66

1.1.7 Power Index of Test Tool

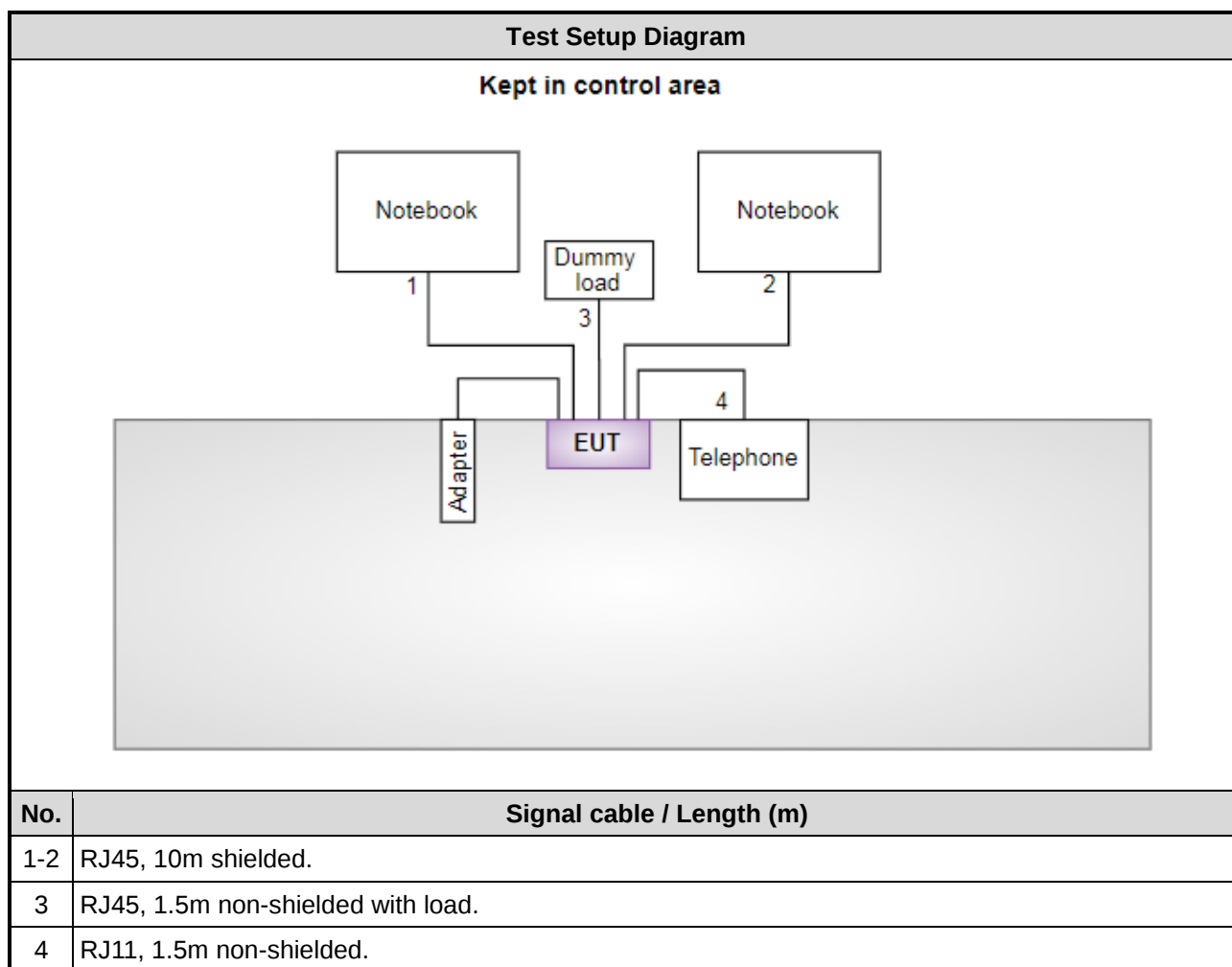
For Frequency band 5150-5250 MHz		
Modulation Mode	Test Frequency (MHz)	Power Index
11a	5180	14/13
11a	5200	14/13
11a	5240	14/13
VHT20	5180	14/13
VHT20	5200	13/12
VHT20	5240	14/13
VHT40	5190	12/11
VHT40	5230	19/18
VHT80	5210	0C/0B

For Frequency band 5725~5850 MHz		
Modulation Mode	Test Frequency (MHz)	Power Index
11a	5745	20/20
11a	5785	20/20
11a	5825	20/20
VHT20	5745	20/20
VHT20	5785	20/20
VHT20	5825	20/20
VHT40	5755	1F/1F
VHT40	5795	1F/1F
VHT80	5775	1A/1A

1.2 Local Support Equipment List

Support Equipment List					
No.	Equipment	Brand	Model	FCC ID	Remarks
1	Notebook	DELL	Latitude E5470	DoC	---
2	Notebook	DELL	Latitude E6430	DoC	---
3	Telephone	HTT	HTT-806	---	---
4	Dummy load	ICC	---	---	---

1.3 Test Setup Chart



1.4 The Equipment List

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

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101498	Dec. 27, 2018	Dec. 26, 2019
Receiver	R&S	ESR3	101658	Dec. 11, 2018	Dec. 10, 2019
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Jul. 18, 2018	Jul. 17, 2019
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 18, 2018	Dec. 17, 2019
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 15, 2018	Nov. 14, 2019
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 09, 2018	Nov. 08, 2019
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 08, 2018	Oct. 07, 2019
Preamplifier	EMC	EMC02325	980225	Jul. 20, 2018	Jul. 19, 2019
Preamplifier	Agilent	83017A	MY39501308	Oct. 04, 2018	Oct. 03, 2019
Preamplifier	EMC	EMC184045B	980192	Aug. 09, 2018	Aug. 08, 2019
RF Cable	EMC	EMC104-SM-SM-8000	181106	Oct. 08, 2018	Oct. 07, 2019
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Oct. 08, 2018	Oct. 07, 2019
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Oct. 08, 2018	Oct. 07, 2019
LF cable 1M	EMC	EMCCFD400-NM-NM-1000	160502	Oct. 08, 2018	Oct. 07, 2019
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Oct. 08, 2018	Oct. 07, 2019
LF cable 10M	Woken	CFD400NL-LW	CFD400NL-002	Oct. 08, 2018	Oct. 07, 2019
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101063	Apr. 17, 2019	Apr. 16, 2020
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Dec. 05, 2018	Dec. 04, 2019
Power Meter	Anritsu	ML2495A	1241002	Oct. 09, 2018	Oct. 08, 2019
Power Sensor	Anritsu	MA2411B	1207366	Oct. 09, 2018	Oct. 08, 2019
AC POWER SOURCE	APC	AFC-500W	F312060012	Nov. 29, 2018	Nov. 28, 2019
Measurement Software	Sporton	SENSE-15407_NII	V5.10	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 ≤ 1 GHz	± 3.41 dB
Radiated emission > 1 GHz	± 4.59 dB
Time	$\pm 0.1\%$
Temperature	± 0.4 °C

2 Test Configuration

2.1 Testing Condition

Test Item	Test Site	Ambient Condition	Tested By
AC Conduction	CO01-WS	25°C / 61%	Alex Tsai
Radiated Emissions	03CH01-WS	24-25°C / 64%	Akun Chung
RF Conducted	TH01-WS	21°C / 64%	Brad Wu

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

2.2 Testing Facility

Test Laboratory	International Certification Corp.
Test Site	CO01-WS, 03CH01-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.

2.3 The Worst Test Modes and Channel Details

For Frequency band 5150-5250 MHz				
Test item	Modulation Mode	Test Frequency (MHz)	Data Rate (Mbps) / MCS	Test Configuration
Conducted Emissions	VHT40	5230	MCS 0	---
Radiated Emissions ≤ 1 GHz	VHT40	5230	MCS 0	---
RF Output Power	11a	5180 / 5200 / 5240	6 Mbps	---
	HT20	5180 / 5200 / 5240	MCS 0	
	HT40	5190 / 5230	MCS 0	
	VHT20	5180 / 5200 / 5240	MCS 0	
	VHT40	5190 / 5230	MCS 0	
	VHT80	5210	MCS 0	
Radiated Emissions > 1 GHz Emission Bandwidth Peak Power Spectral Density	11a	5180 / 5200 / 5240	6 Mbps	---
	VHT20	5180 / 5200 / 5240	MCS 0	
	VHT40	5190 / 5230	MCS 0	
	VHT80	5210	MCS 0	
Frequency Stability	Un-modulation	5200	---	---

NOTE: The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **Y-plane** results were found as the worst case and were shown in this report.

For Frequency band 5725-5850 MHz				
Test item	Modulation Mode	Test Frequency (MHz)	Data Rate (Mbps) / MCS	Test Configuration
Conducted Emissions	VHT40	5755	MCS 0	---
Radiated Emissions ≤ 1 GHz	VHT40	5755	MCS 0	---
RF Output Power	11a	5745 / 5785 / 5825	6 Mbps	---
	HT20	5745 / 5785 / 5825	MCS 0	
	HT40	5755 / 5795	MCS 0	
	VHT20	5745 / 5785 / 5825	MCS 0	
	VHT40	5755 / 5795	MCS 0	
	VHT80	5775	MCS 0	
Radiated Emissions > 1 GHz Emission Bandwidth 6dB bandwidth Peak Power Spectral Density	11a	5745 / 5785 / 5825	6 Mbps	---
	VHT20	5745 / 5785 / 5825	MCS 0	
	VHT40	5755 / 5795	MCS 0	
	VHT80	5775	MCS 0	
Frequency Stability	Un-modulation	5785	---	---

NOTE: The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **Y-plane** results were found as the worst case and were shown in this report.

3 Transmitter Test Results

3.1 Conducted Emissions

3.1.1 Limit of Conducted Emissions

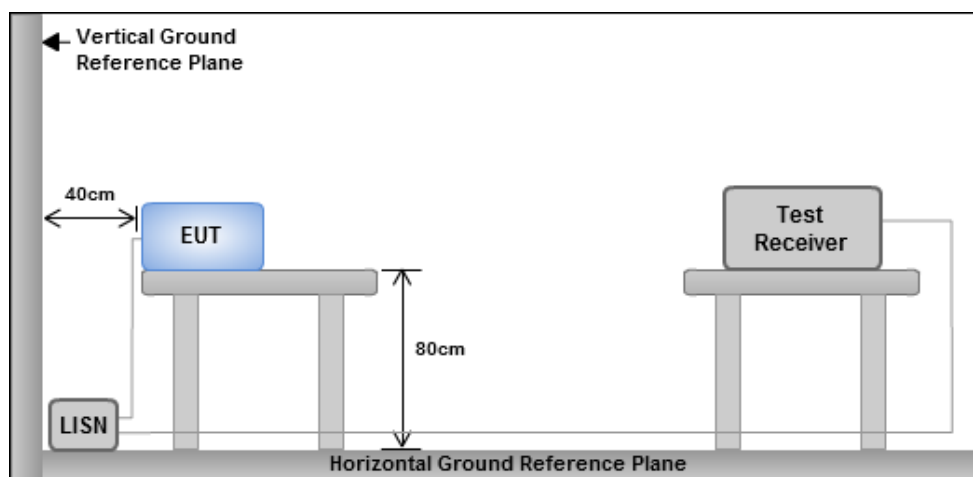
Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

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.

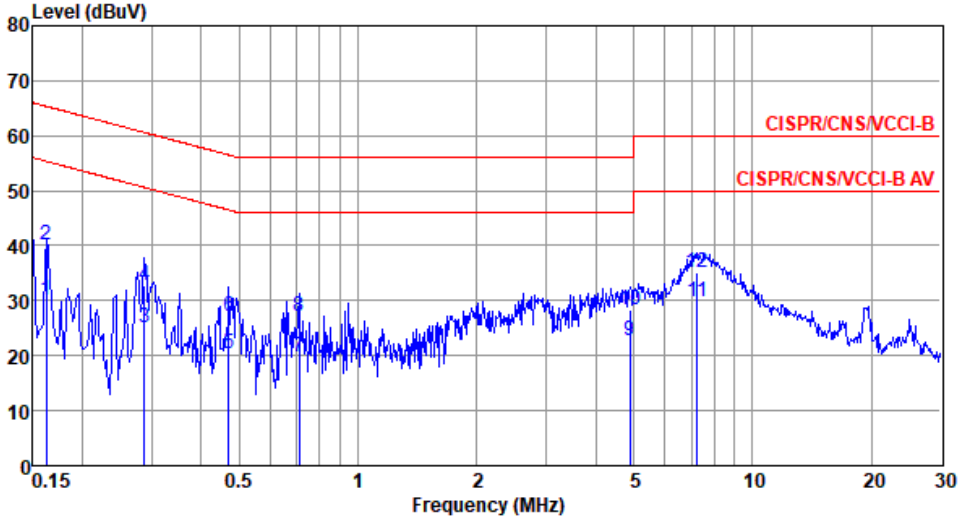
3.1.3 Test Setup



- 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

Modulation	VHT40	Test Freq. (MHz)	5230
Power Phase	Line		

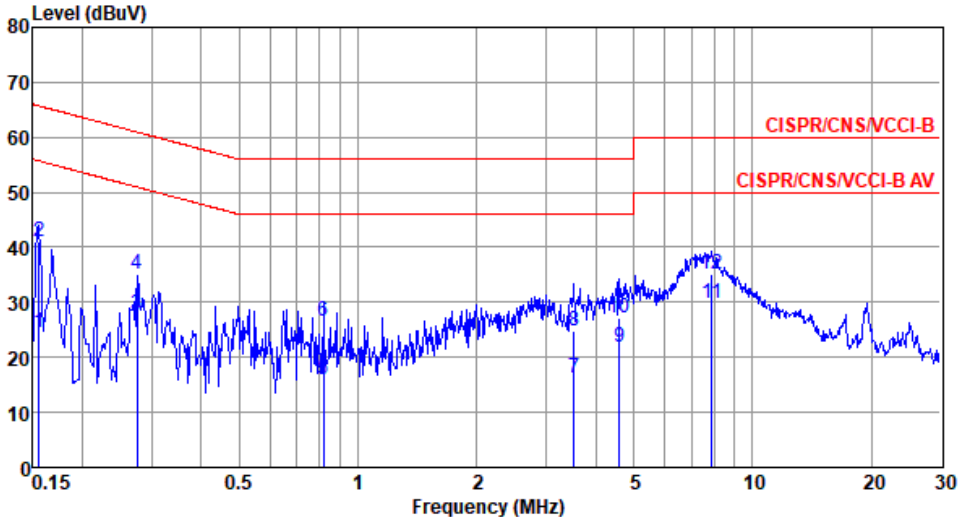


	Freq MHz	Level dBUV	Limit Line dBUV	Over Limit dB	Read Level dBUV	LISN factor dB	cable loss dB	Remark
1	0.162	30.00	55.34	-25.34	20.27	9.53	0.06	Average
2	0.162	40.26	65.34	-25.08	30.53	9.53	0.06	QP
3	0.288	25.00	50.59	-25.59	15.13	9.56	0.08	Average
4	0.288	32.90	60.59	-27.69	23.03	9.56	0.08	QP
5	0.471	20.35	46.49	-26.14	10.42	9.58	0.08	Average
6	0.471	27.08	56.49	-29.41	17.15	9.58	0.08	QP
7	0.708	19.90	46.00	-26.10	9.94	9.59	0.09	Average
8	0.708	27.21	56.00	-28.79	17.25	9.59	0.09	QP
9	4.900	22.80	46.00	-23.20	12.48	9.62	0.32	Average
10	4.900	28.39	56.00	-27.61	18.07	9.62	0.32	QP
11*	7.252	29.81	50.00	-20.19	19.40	9.64	0.38	Average
12	7.252	35.13	60.00	-24.87	24.72	9.64	0.38	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)	5230																																																																																																																																							
Power Phase	Neutral																																																																																																																																									
Level (dBuV) <table><tr><th></th><th>Freq</th><th>Level</th><th>Limit</th><th>Over</th><th>Read</th><th>LISN</th><th>cable</th><th></th></tr><tr><th></th><th>MHz</th><th>dBuV</th><th>Line</th><th>Limit</th><th>Level</th><th>factor</th><th>loss</th><th>Remark</th></tr><tr><th></th><th></th><th></th><th>dBuV</th><th>dB</th><th>dBuV</th><th>dB</th><th>dB</th><th></th></tr><tr><td>1</td><td>0.186</td><td>21.60</td><td>54.20</td><td>-32.60</td><td>11.82</td><td>9.58</td><td>0.07</td><td>Average</td></tr><tr><td>2</td><td>0.186</td><td>35.29</td><td>64.20</td><td>-28.91</td><td>25.51</td><td>9.58</td><td>0.07</td><td>QP</td></tr><tr><td>3</td><td>0.285</td><td>22.93</td><td>50.68</td><td>-27.75</td><td>13.12</td><td>9.60</td><td>0.08</td><td>Average</td></tr><tr><td>4</td><td>0.285</td><td>30.62</td><td>60.68</td><td>-30.06</td><td>20.81</td><td>9.60</td><td>0.08</td><td>QP</td></tr><tr><td>5</td><td>0.489</td><td>22.47</td><td>46.19</td><td>-23.72</td><td>12.63</td><td>9.62</td><td>0.08</td><td>Average</td></tr><tr><td>6</td><td>0.489</td><td>27.85</td><td>56.19</td><td>-28.34</td><td>18.01</td><td>9.62</td><td>0.08</td><td>QP</td></tr><tr><td>7</td><td>0.712</td><td>20.34</td><td>46.00</td><td>-25.66</td><td>10.43</td><td>9.63</td><td>0.09</td><td>Average</td></tr><tr><td>8</td><td>0.712</td><td>30.00</td><td>56.00</td><td>-26.00</td><td>20.09</td><td>9.63</td><td>0.09</td><td>QP</td></tr><tr><td>9</td><td>1.898</td><td>19.17</td><td>46.00</td><td>-26.83</td><td>9.11</td><td>9.65</td><td>0.16</td><td>Average</td></tr><tr><td>10</td><td>1.898</td><td>24.69</td><td>56.00</td><td>-31.31</td><td>14.63</td><td>9.65</td><td>0.16</td><td>QP</td></tr><tr><td>11*</td><td>7.606</td><td>28.75</td><td>50.00</td><td>-21.25</td><td>18.37</td><td>9.70</td><td>0.39</td><td>Average</td></tr><tr><td>12</td><td>7.606</td><td>33.71</td><td>60.00</td><td>-26.29</td><td>23.33</td><td>9.70</td><td>0.39</td><td>QP</td></tr></table>					Freq	Level	Limit	Over	Read	LISN	cable			MHz	dBuV	Line	Limit	Level	factor	loss	Remark				dBuV	dB	dBuV	dB	dB		1	0.186	21.60	54.20	-32.60	11.82	9.58	0.07	Average	2	0.186	35.29	64.20	-28.91	25.51	9.58	0.07	QP	3	0.285	22.93	50.68	-27.75	13.12	9.60	0.08	Average	4	0.285	30.62	60.68	-30.06	20.81	9.60	0.08	QP	5	0.489	22.47	46.19	-23.72	12.63	9.62	0.08	Average	6	0.489	27.85	56.19	-28.34	18.01	9.62	0.08	QP	7	0.712	20.34	46.00	-25.66	10.43	9.63	0.09	Average	8	0.712	30.00	56.00	-26.00	20.09	9.63	0.09	QP	9	1.898	19.17	46.00	-26.83	9.11	9.65	0.16	Average	10	1.898	24.69	56.00	-31.31	14.63	9.65	0.16	QP	11*	7.606	28.75	50.00	-21.25	18.37	9.70	0.39	Average	12	7.606	33.71	60.00	-26.29	23.33	9.70	0.39	QP
	Freq	Level	Limit	Over	Read	LISN	cable																																																																																																																																			
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6	0.489	27.85	56.19	-28.34	18.01	9.62	0.08	QP																																																																																																																																		
7	0.712	20.34	46.00	-25.66	10.43	9.63	0.09	Average																																																																																																																																		
8	0.712	30.00	56.00	-26.00	20.09	9.63	0.09	QP																																																																																																																																		
9	1.898	19.17	46.00	-26.83	9.11	9.65	0.16	Average																																																																																																																																		
10	1.898	24.69	56.00	-31.31	14.63	9.65	0.16	QP																																																																																																																																		
11*	7.606	28.75	50.00	-21.25	18.37	9.70	0.39	Average																																																																																																																																		
12	7.606	33.71	60.00	-26.29	23.33	9.70	0.39	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)	5755
Power Phase	Line		

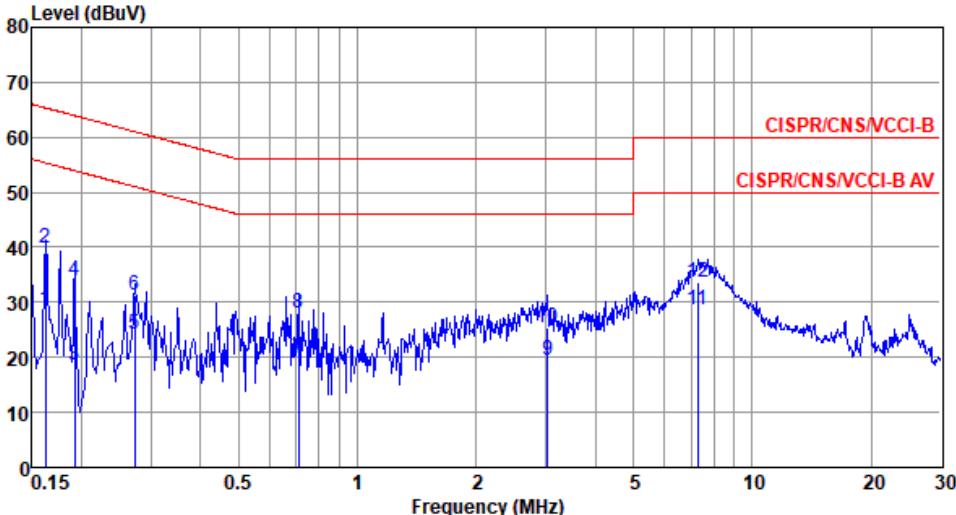


The graph displays the measured level in dBuV against frequency in MHz. Two red lines represent the CISPR/CNS/VCCI-B and CISPR/CNS/VCCI-B AV limits. The blue line shows the measured signal with several peaks labeled 1 through 12. The x-axis is logarithmic from 0.15 to 30 MHz, and the y-axis is linear from 0 to 80 dBuV.

	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.156	24.47	55.69	-31.22	14.76	9.53	0.05	Average
2	0.156	41.03	65.69	-24.66	31.32	9.53	0.05	QP
3	0.276	27.83	50.94	-23.11	17.99	9.55	0.07	Average
4	0.276	35.00	60.94	-25.94	25.16	9.55	0.07	QP
5	0.817	15.91	46.00	-30.09	5.93	9.59	0.10	Average
6	0.817	26.62	56.00	-29.38	16.64	9.59	0.10	QP
7	3.528	16.25	46.00	-29.75	6.00	9.61	0.26	Average
8	3.528	24.73	56.00	-31.27	14.48	9.61	0.26	QP
9	4.598	21.98	46.00	-24.02	11.68	9.62	0.30	Average
10	4.598	27.26	56.00	-28.74	16.96	9.62	0.30	QP
11*	7.893	29.72	50.00	-20.28	19.29	9.64	0.40	Average
12	7.893	34.99	60.00	-25.01	24.56	9.64	0.40	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)	5755
Power Phase	Neutral		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.162	28.67	55.34	-26.67	18.92	9.57	0.06	Average
2	0.162	39.95	65.34	-25.39	30.20	9.57	0.06	QP
3	0.192	18.61	53.93	-35.32	8.82	9.58	0.07	Average
4	0.192	33.93	63.93	-30.00	24.14	9.58	0.07	QP
5	0.273	24.26	51.03	-26.77	14.47	9.59	0.07	Average
6	0.273	31.22	61.03	-29.81	21.43	9.59	0.07	QP
7	0.708	19.72	46.00	-26.28	9.81	9.63	0.09	Average
8	0.708	28.13	56.00	-27.87	18.22	9.63	0.09	QP
9	3.025	19.40	46.00	-26.60	9.25	9.66	0.23	Average
10	3.025	25.34	56.00	-30.66	15.19	9.66	0.23	QP
11*	7.290	28.60	50.00	-21.40	18.24	9.69	0.38	Average
12	7.290	33.74	60.00	-26.26	23.38	9.69	0.38	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).

2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

3.2 Emission Bandwidth

3.2.1 Limit of Emission bandwidth

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

3.2.2 Test Procedures

26dB Bandwidth

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

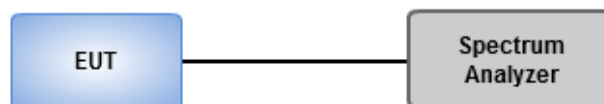
Occupied Bandwidth

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

6dB Bandwidth

1. Set resolution bandwidth (RBW) = 1% to 5% of the anticipated emission, Video bandwidth = 3x the RBW.
2. Detector = Peak, Trace mode = max hold.
3. Allow the trace to stabilize.
4. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

3.2.3 Test Setup



3.2.4 Test Result of Emission Bandwidth

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	19.565M	16.643M	16M6D1D	19.203M	16.57M
802.11ac VHT20_Nss1,(MCS0)_2TX	20.29M	17.583M	17M6D1D	19.71M	17.583M
802.11ac VHT40_Nss1,(MCS0)_2TX	58.261M	36.179M	36M2D1D	40M	36.035M
802.11ac VHT80_Nss1,(MCS0)_2TX	81.159M	75.253M	75M3D1D	81.159M	75.253M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	16.304M	22.359M	22M4D1D	15.145M	18.596M
802.11ac VHT20_Nss1,(MCS0)_2TX	17.609M	24.964M	25M0D1D	16.014M	19.247M
802.11ac VHT40_Nss1,(MCS0)_2TX	35.072M	50.362M	50M4D1D	34.348M	47.902M
802.11ac VHT80_Nss1,(MCS0)_2TX	75.362M	75.543M	75M5D1D	75.362M	75.543M

Max-N dB = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

Max-OBW = Maximum 99% occupied bandwidth;

Min-N dB = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

Min-OBW = Minimum 99% occupied bandwidth;

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	19.42M	16.57M	19.42M	16.57M
5200MHz	Pass	Inf	19.493M	16.643M	19.348M	16.57M
5240MHz	Pass	Inf	19.203M	16.643M	19.565M	16.643M
5745MHz	Pass	500k	16.304M	20.55M	16.304M	18.596M
5785MHz	Pass	500k	15.29M	22.287M	15.87M	19.392M
5825MHz	Pass	500k	15.725M	22.359M	15.145M	19.537M
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	19.71M	17.583M	19.928M	17.583M
5200MHz	Pass	Inf	20.217M	17.583M	19.855M	17.583M
5240MHz	Pass	Inf	19.783M	17.583M	20.29M	17.583M
5745MHz	Pass	500k	16.087M	23.878M	17.101M	19.247M
5785MHz	Pass	500k	16.014M	24.891M	17.609M	21.129M
5825MHz	Pass	500k	17.029M	24.964M	17.174M	20.478M
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	40M	36.035M	40.29M	36.179M
5230MHz	Pass	Inf	58.261M	36.179M	40.29M	36.035M
5755MHz	Pass	500k	35.072M	49.638M	35.072M	47.902M
5795MHz	Pass	500k	35.072M	50.362M	34.348M	48.046M
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	81.159M	75.253M	81.159M	75.253M
5775MHz	Pass	500k	75.362M	75.543M	75.362M	75.543M

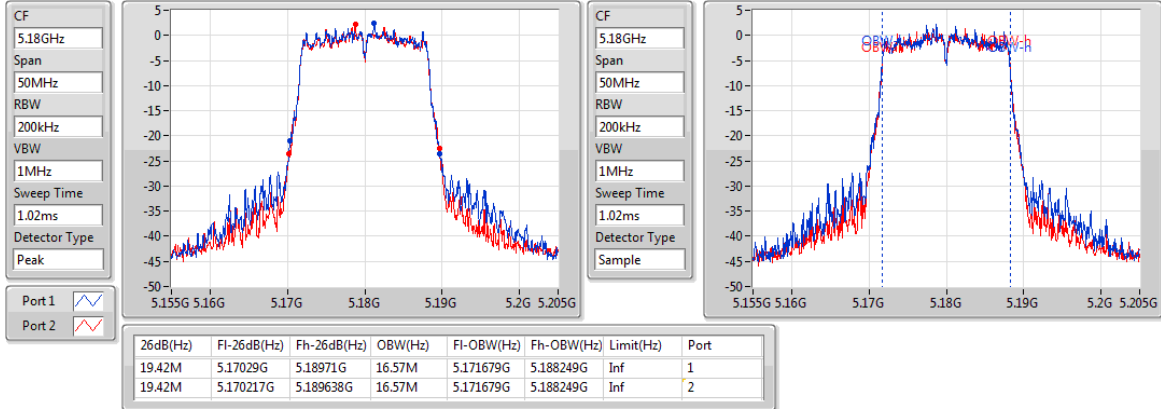
Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band

Port X-OBW = Port X 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_2TX

EBW

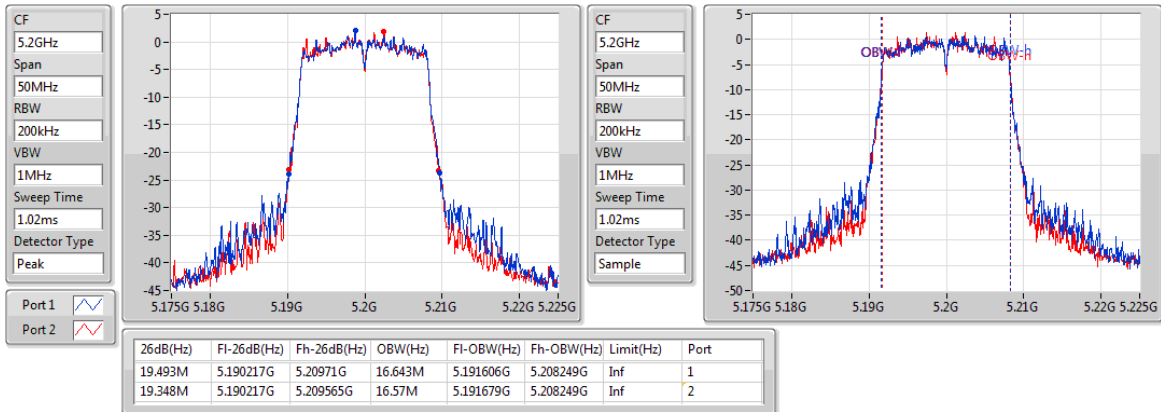
5180MHz



802.11a_Nss1,(6Mbps)_2TX

EBW

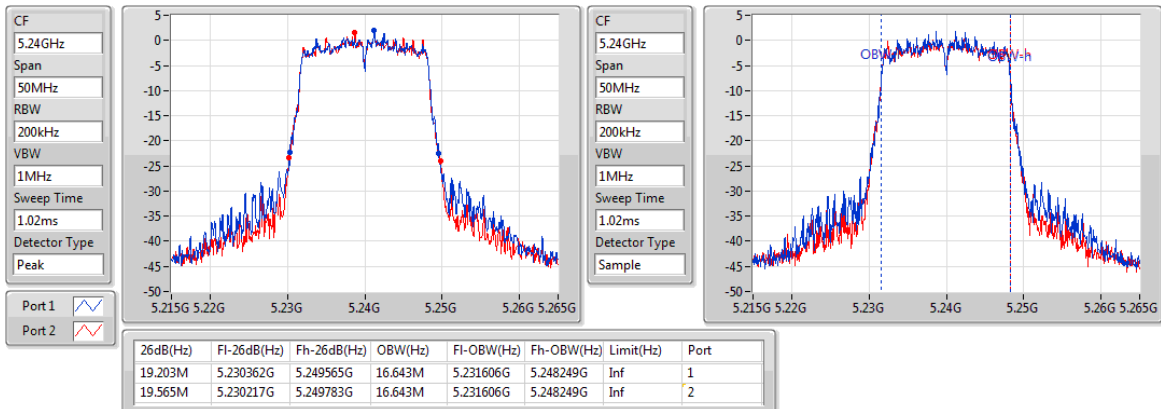
5200MHz



802.11a_Nss1,(6Mbps)_2TX

EBW

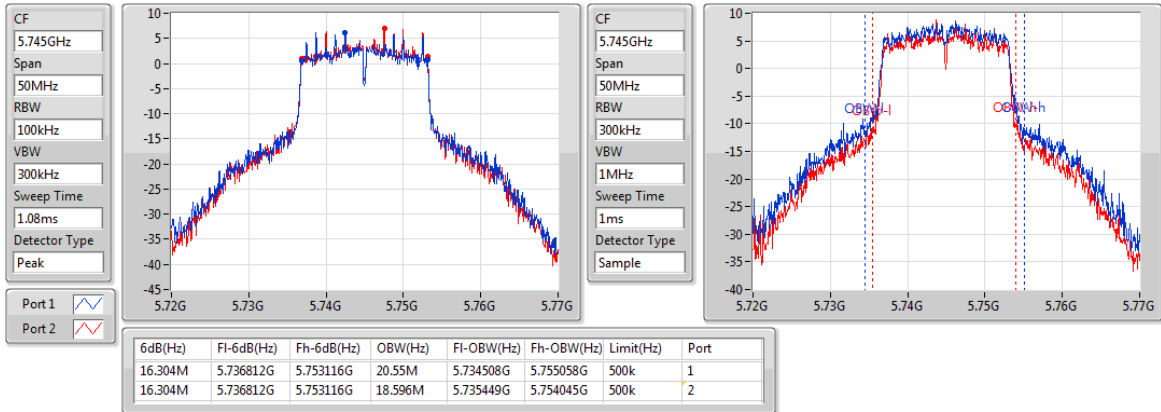
5240MHz



802.11a_Nss1,(6Mbps)_2TX

EBW

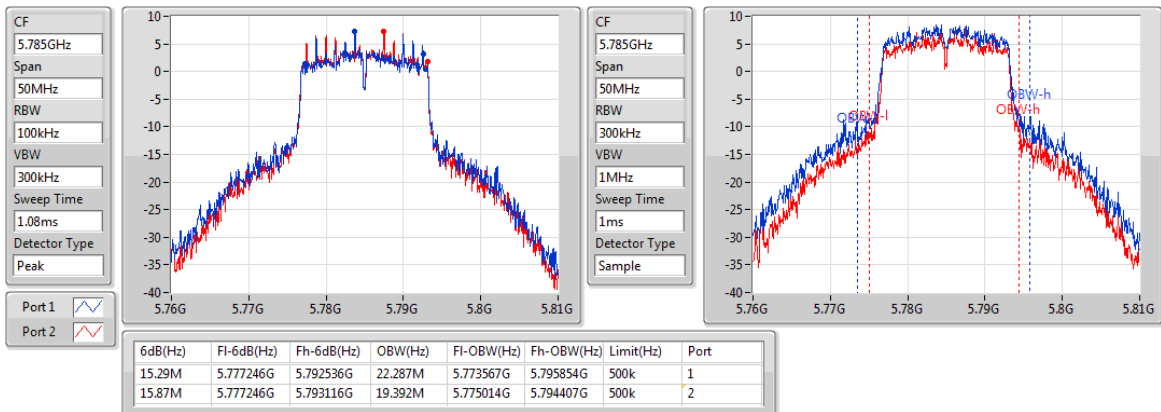
5745MHz



802.11a_Nss1,(6Mbps)_2TX

EBW

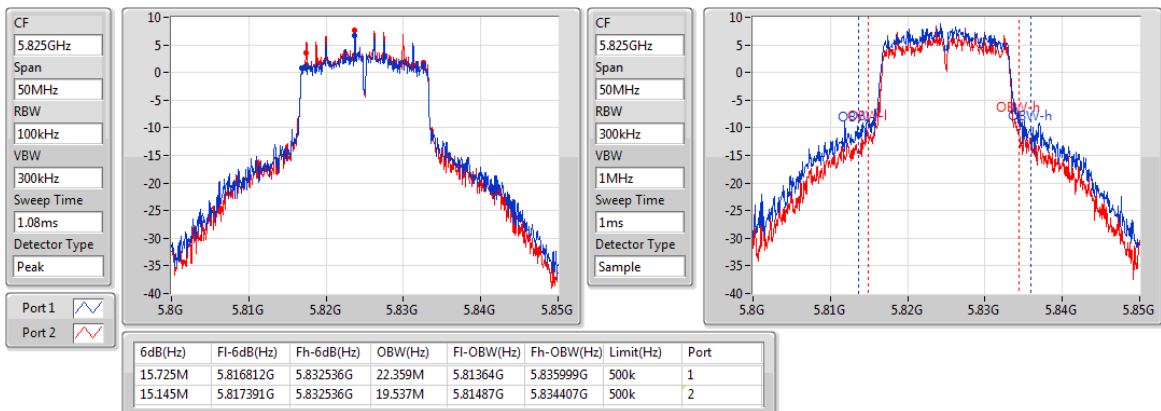
5785MHz



802.11a_Nss1,(6Mbps)_2TX

EBW

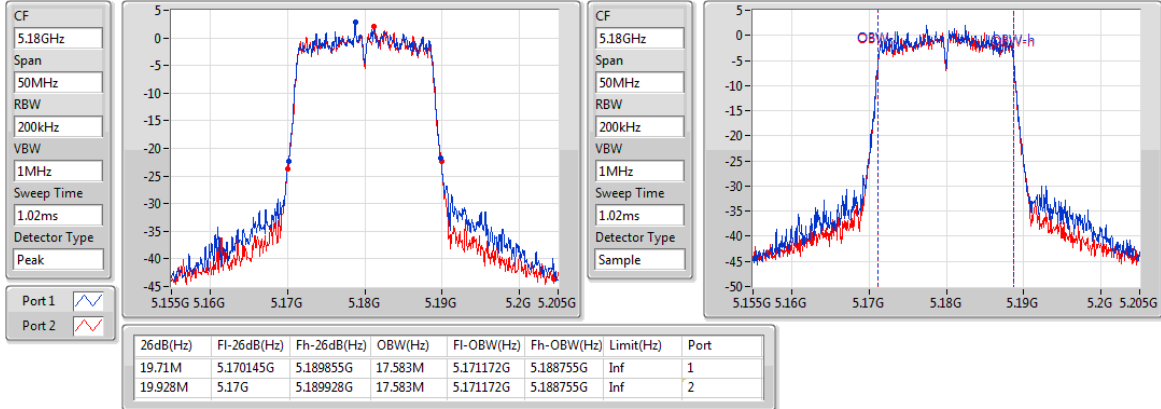
5825MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

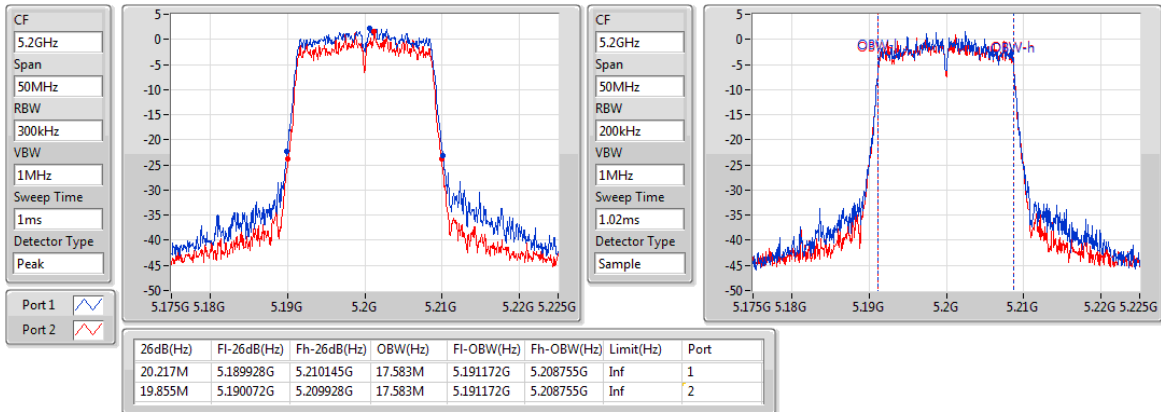
5180MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

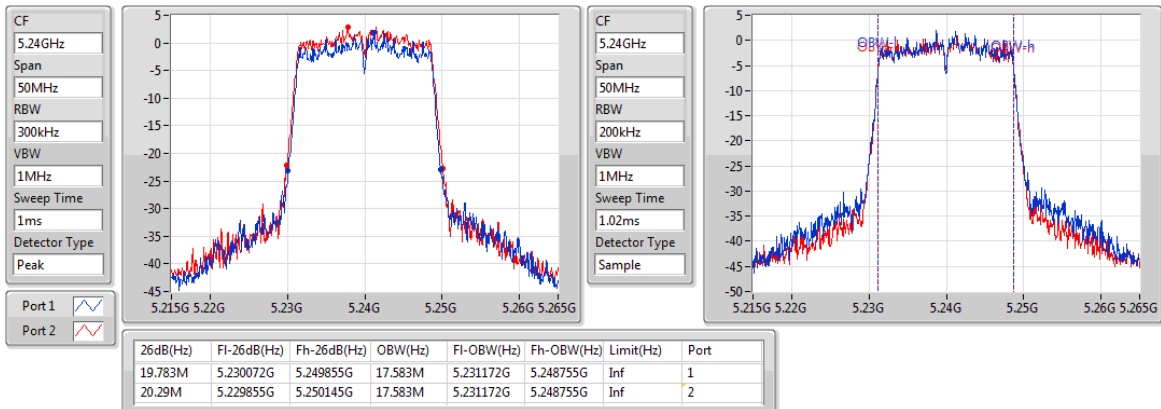
5200MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

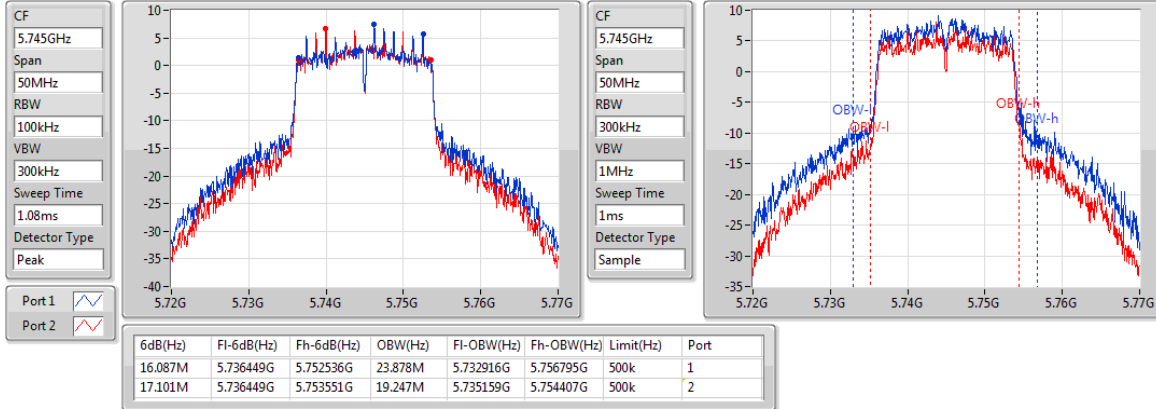
5240MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

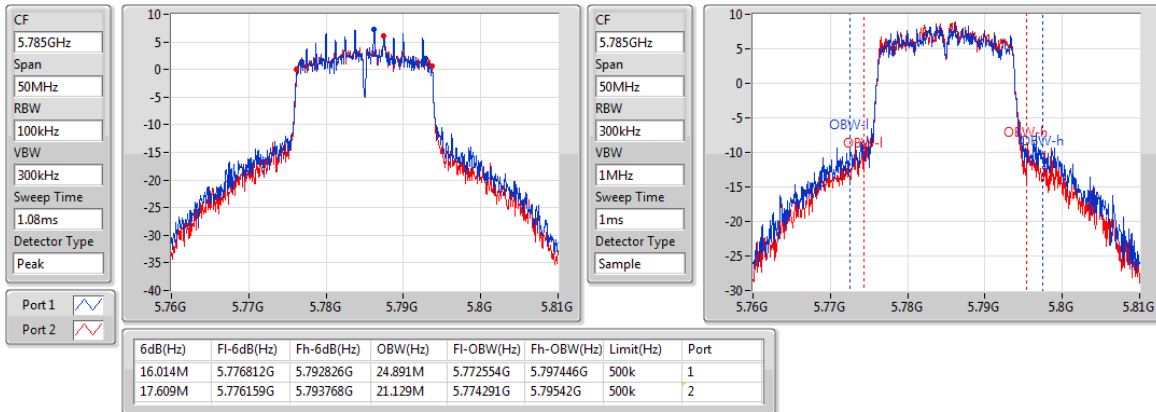
5745MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

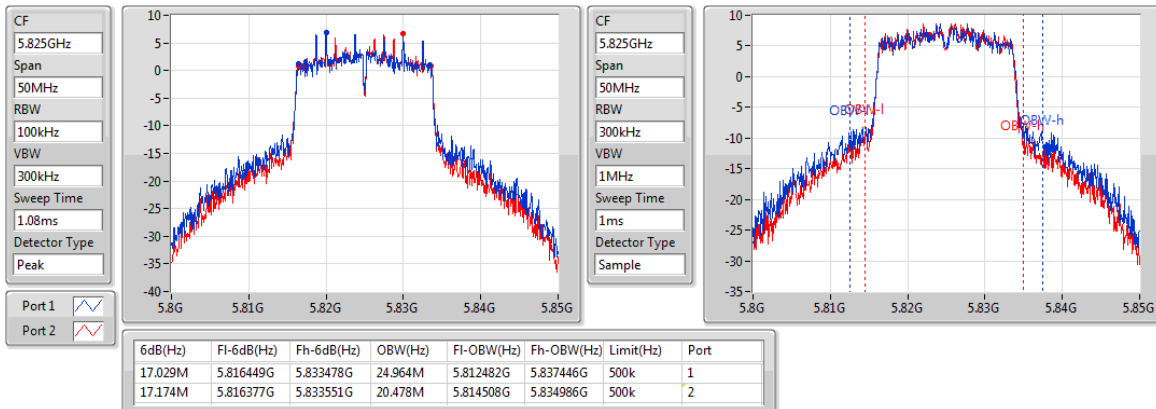
5785MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

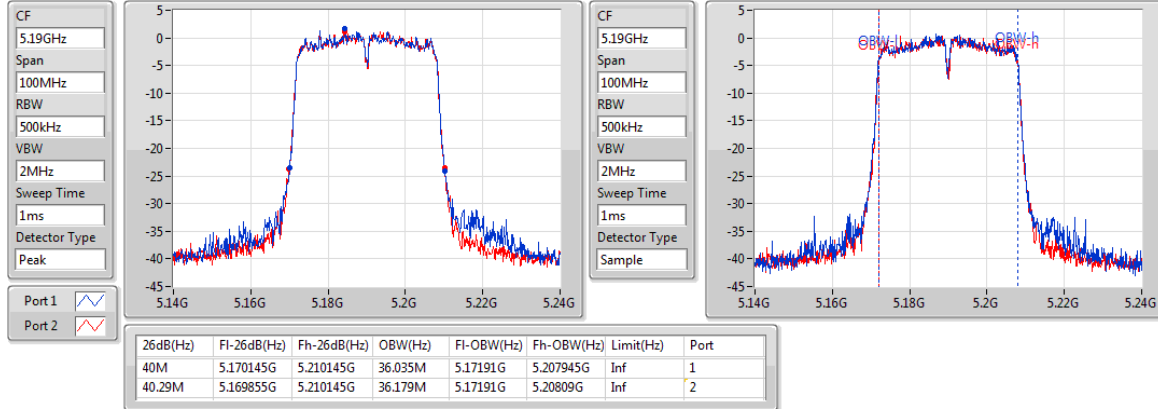
5825MHz



802.11ac VHT40_Nss1,(MCS0)_2TX

EBW

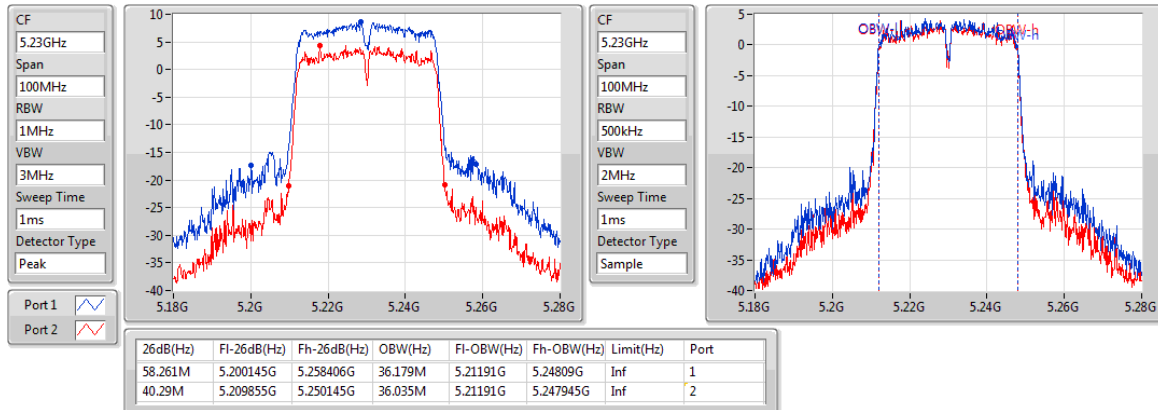
5190MHz



802.11ac VHT40_Nss1,(MCS0)_2TX

EBW

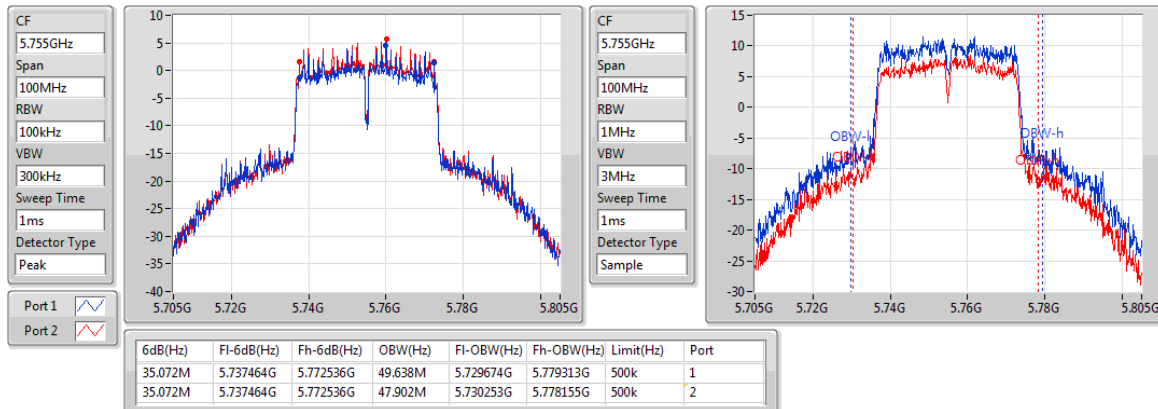
5230MHz



802.11ac VHT40_Nss1,(MCS0)_2TX

EBW

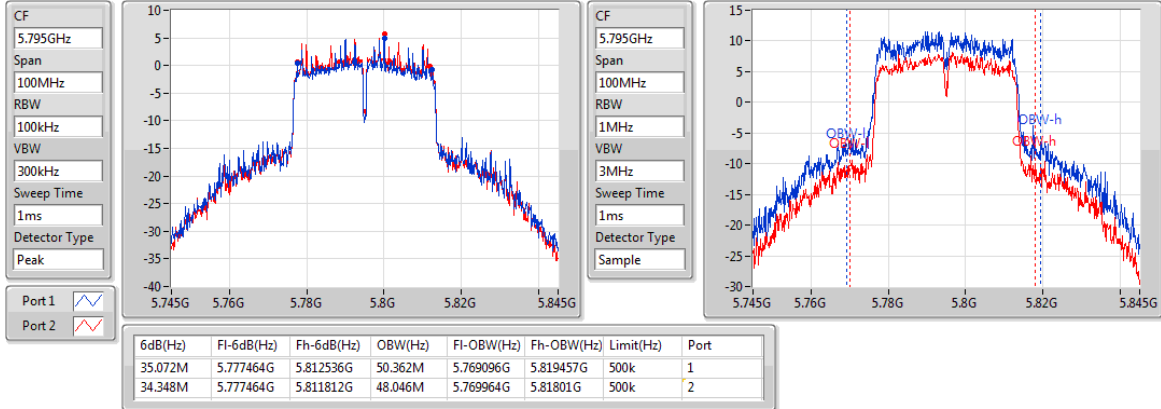
5755MHz



802.11ac VHT40_Nss1,(MCS0)_2TX

EBW

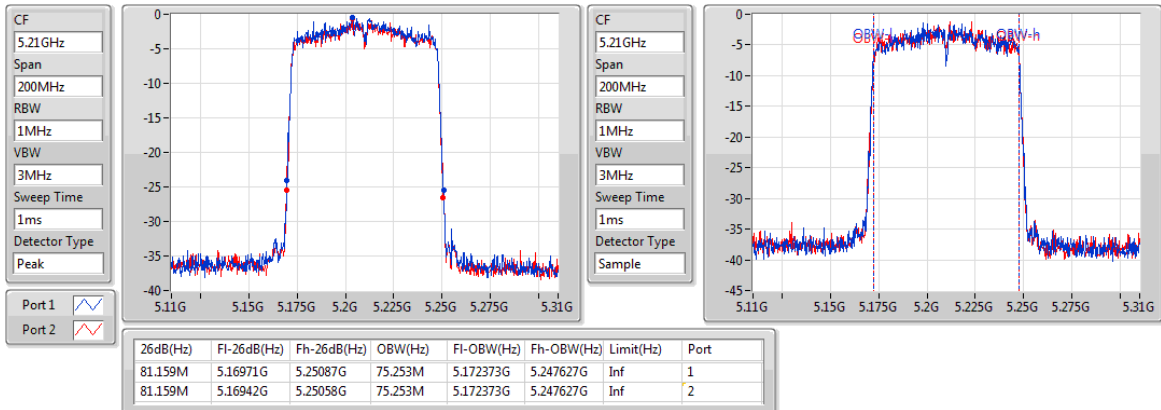
5795MHz



802.11ac VHT80_Nss1,(MCS0)_2TX

EBW

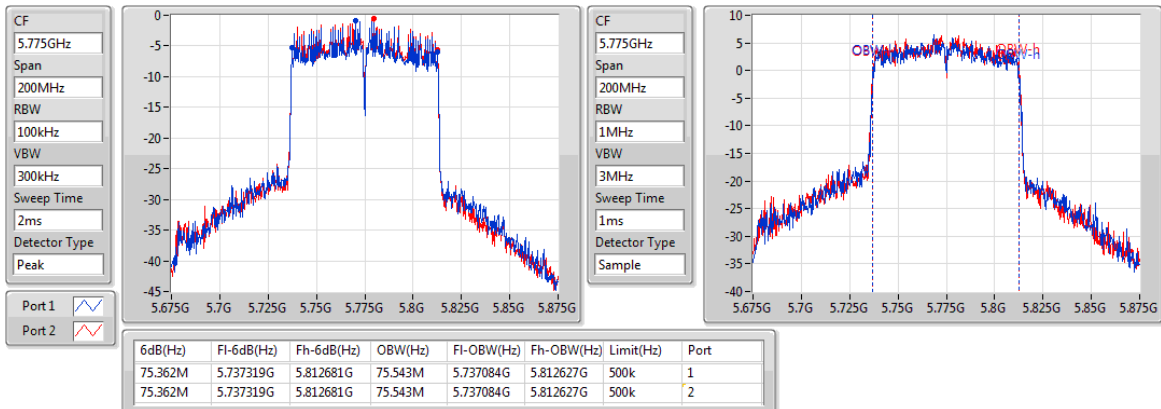
5210MHz



802.11ac VHT80_Nss1,(MCS0)_2TX

EBW

5775MHz



3.3 RF Output Power

3.3.1 Limit of RF Output Power

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

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

3.3.2 Test Procedures

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

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

3.3.3 Test Setup



3.3.4 Test Result of Maximum Output Power

Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.15-5.25GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	15.74	0.03750	20.02	0.10046
802.11ac VHT20_Nss1,(MCS0)_2TX	15.66	0.03681	19.94	0.09863
802.11ac VHT40_Nss1,(MCS0)_2TX	18.16	0.06546	22.44	0.17539
802.11ac VHT80_Nss1,(MCS0)_2TX	11.89	0.01545	16.17	0.04140
5.725-5.85GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	21.77	0.15031	27.10	0.51286
802.11ac VHT20_Nss1,(MCS0)_2TX	21.62	0.14521	26.95	0.49545
802.11ac VHT40_Nss1,(MCS0)_2TX	22.13	0.16331	27.46	0.55719
802.11ac VHT80_Nss1,(MCS0)_2TX	18.83	0.07638	24.16	0.26062

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	4.28	12.76	12.69	15.74	30.00	20.02	36.00
5200MHz	Pass	4.28	12.81	12.54	15.69	30.00	19.97	36.00
5240MHz	Pass	4.28	12.65	12.61	15.64	30.00	19.92	36.00
5745MHz	Pass	5.33	18.72	18.75	21.75	30.00	27.08	36.00
5785MHz	Pass	5.33	18.59	18.93	21.77	30.00	27.10	36.00
5825MHz	Pass	5.33	18.51	18.86	21.70	30.00	27.03	36.00
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	4.28	12.73	12.56	15.66	30.00	19.94	36.00
5200MHz	Pass	4.28	12.01	12.05	15.04	30.00	19.32	36.00
5240MHz	Pass	4.28	12.55	12.57	15.57	30.00	19.85	36.00
5745MHz	Pass	5.33	18.49	18.72	21.62	30.00	26.95	36.00
5785MHz	Pass	5.33	18.41	18.77	21.60	30.00	26.93	36.00
5825MHz	Pass	5.33	18.42	18.78	21.61	30.00	26.94	36.00
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5190MHz	Pass	4.28	11.68	11.65	14.68	30.00	18.96	36.00
5230MHz	Pass	4.28	15.08	15.21	18.16	30.00	22.44	36.00
5755MHz	Pass	5.33	18.91	19.32	22.13	30.00	27.46	36.00
5795MHz	Pass	5.33	18.74	19.21	21.99	30.00	27.32	36.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5210MHz	Pass	4.28	8.86	8.89	11.89	30.00	16.17	36.00
5775MHz	Pass	5.33	15.68	15.96	18.83	30.00	24.16	36.00

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

3.4 Peak Power Spectral Density

3.4.1 Limit of Peak Power Spectral Density

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

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

3.4.2 Test Procedures

For 5150 ~ 5250 MHz

Duty cycle $\geq$ 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 $\geq 10 \times (\text{number of points in sweep}) \times (\text{total on/off period of the transmitted signal})$.
3. Perform a single sweep.
4. Use the peak marker function to determine the maximum amplitude level.
5. Add $10 \log(1/x)$, where x is the duty cycle.

For 5725 ~ 5850 MHz

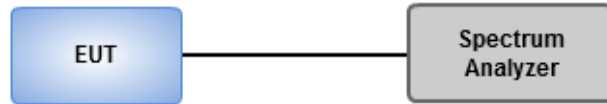
Duty cycle $\geq$ 98 %

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

Duty cycle < 98 %

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

3.4.3 Test Setup



3.4.4 Test Result of Peak Power Spectral Density

Summary

Mode	PD (dBm/RBW)	EIRP PD (dBm/RBW)
5.15-5.25GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	3.19	9.81
802.11ac VHT20_Nss1,(MCS0)_2TX	3.23	9.85
802.11ac VHT40_Nss1,(MCS0)_2TX	2.56	9.18
802.11ac VHT80_Nss1,(MCS0)_2TX	-6.89	-0.27
5.725-5.85GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	6.98	14.33
802.11ac VHT20_Nss1,(MCS0)_2TX	7.07	14.42
802.11ac VHT40_Nss1,(MCS0)_2TX	4.40	11.75
802.11ac VHT80_Nss1,(MCS0)_2TX	-1.29	6.06

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

Result

Mode	Result	DG (dBi)	Port 1 (dBm/R BW)	Port 2 (dBm/R BW)	PD (dBm/R BW)	PD Limit (dBm/R BW)	EIRP PD (dBm/R BW)	EIRP PD Limit (dBm/R BW)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	6.62	0.18	0.22	3.19	16.38	9.81	23.00
5200MHz	Pass	6.62	0.03	0.36	3.14	16.38	9.76	23.00
5240MHz	Pass	6.62	0.09	0.04	3.05	16.38	9.67	23.00
5745MHz	Pass	7.35	3.86	4.10	6.98	28.65	14.33	36.00
5785MHz	Pass	7.35	3.73	4.15	6.93	28.65	14.28	36.00
5825MHz	Pass	7.35	3.91	4.11	6.97	28.65	14.32	36.00
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	6.62	0.30	0.19	3.23	16.38	9.85	23.00
5200MHz	Pass	6.62	-0.47	-0.46	2.53	16.38	9.15	23.00
5240MHz	Pass	6.62	0.11	0.04	3.05	16.38	9.67	23.00
5745MHz	Pass	7.35	3.90	3.84	6.83	28.65	14.18	36.00
5785MHz	Pass	7.35	3.75	4.13	6.94	28.65	14.29	36.00
5825MHz	Pass	7.35	3.93	4.21	7.07	28.65	14.42	36.00
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5190MHz	Pass	6.62	-4.17	-4.26	-1.29	16.38	5.33	23.00
5230MHz	Pass	6.62	-0.31	-0.50	2.56	16.38	9.18	23.00
5755MHz	Pass	7.35	1.09	1.67	4.40	28.65	11.75	36.00
5795MHz	Pass	7.35	1.15	1.55	4.36	28.65	11.71	36.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5210MHz	Pass	6.62	-9.57	-10.16	-6.89	16.38	-0.27	23.00
5775MHz	Pass	7.35	-4.58	-3.99	-1.29	28.65	6.06	36.00

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

PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;

For 5.15 ~ 5.25 GHz

Directional gain = $10 * \log((10^{2.88/20} + 10^{4.28/20})^2 / 2) = 6.62 \text{ dBi} > 6 \text{ dBi}$, limit shall be reduced to 17 dBm – (6.62 dBi – 6 dBi) = 16.38 dBm

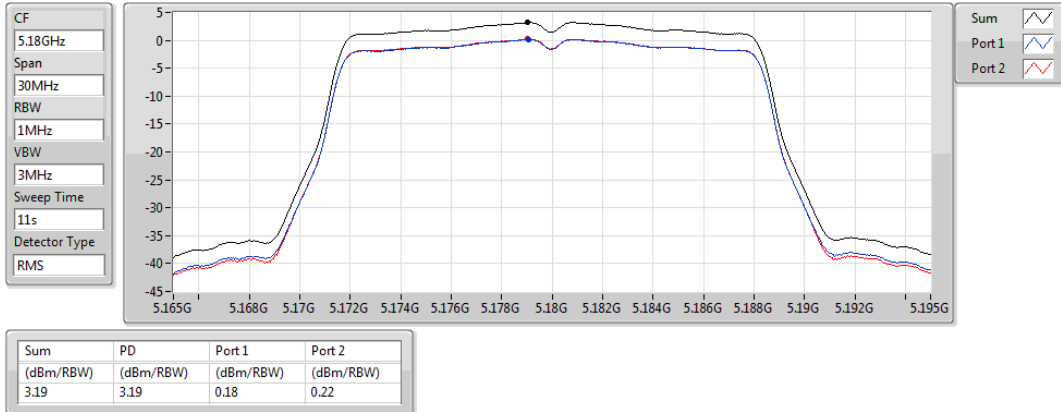
For 5.725 ~ 5.85 GHz

Directional gain = $10 * \log((10^{3.22/20} + 10^{5.33/20})^2 / 2) = 7.35 \text{ dBi} > 6 \text{ dBi}$, limit shall be reduced to 30 dBm – (7.35 dBi – 6 dBi) = 28.65 dBm

802.11a_Nss1,(6Mbps)_2TX

PSD

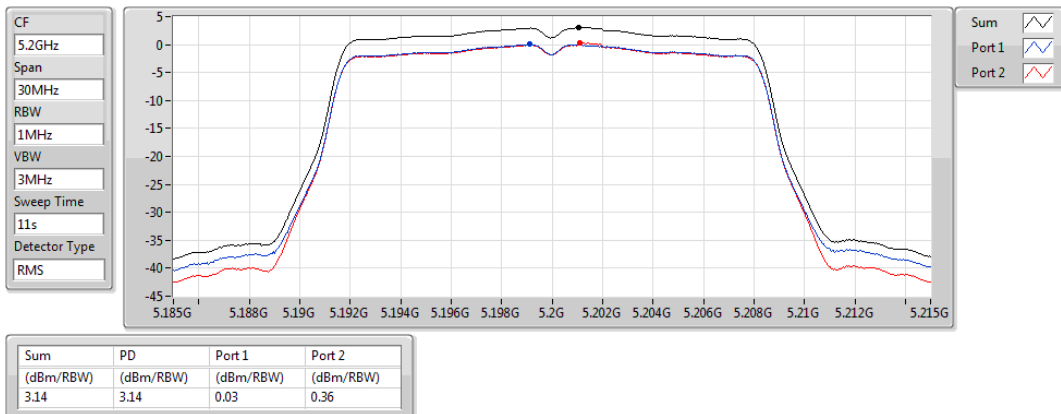
5180MHz



802.11a_Nss1,(6Mbps)_2TX

PSD

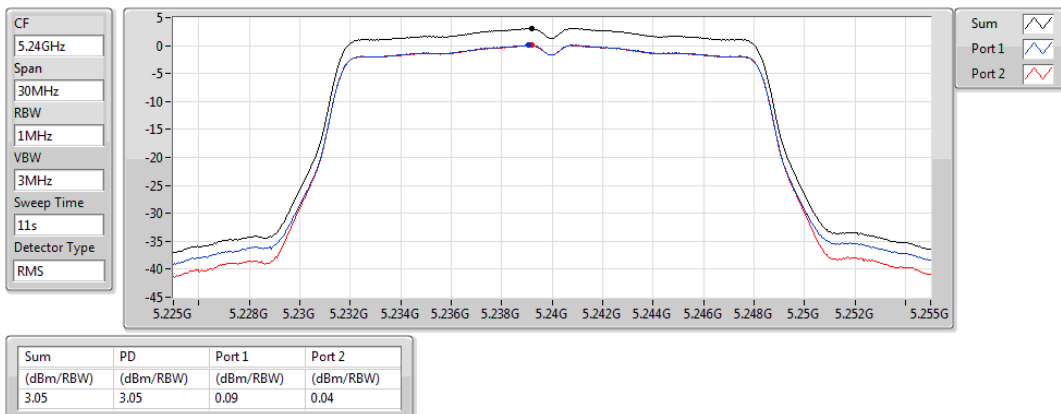
5200MHz



802.11a_Nss1,(6Mbps)_2TX

PSD

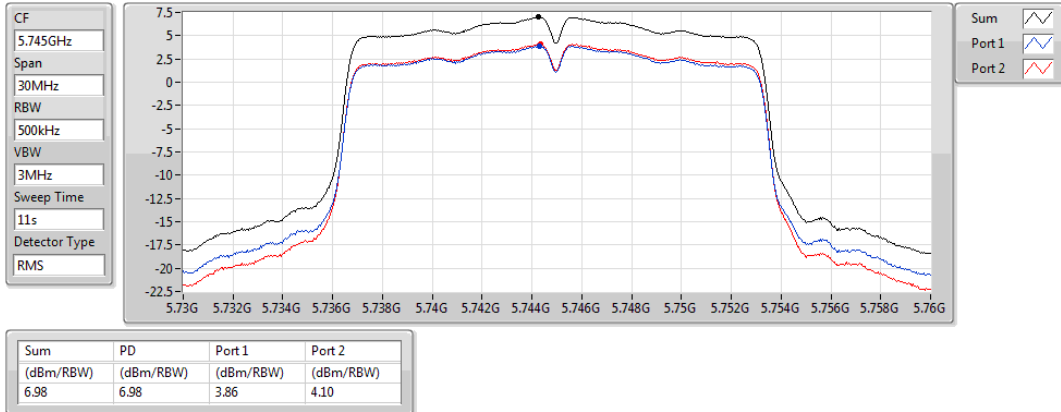
5240MHz



802.11a_Nss1,(6Mbps)_2TX

PSD

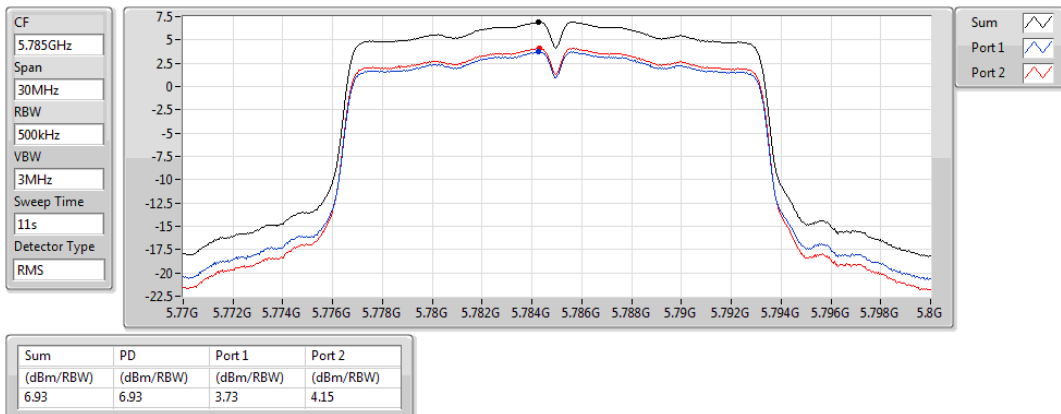
5745MHz



802.11a_Nss1,(6Mbps)_2TX

PSD

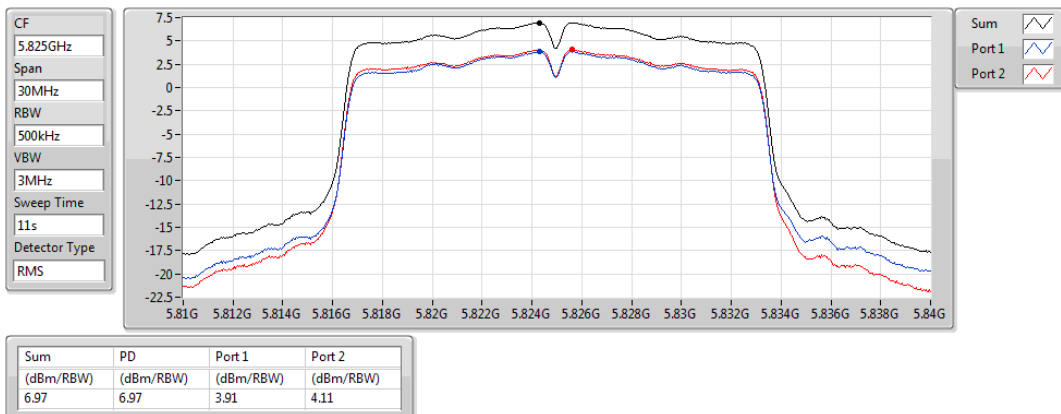
5785MHz



802.11a_Nss1,(6Mbps)_2TX

PSD

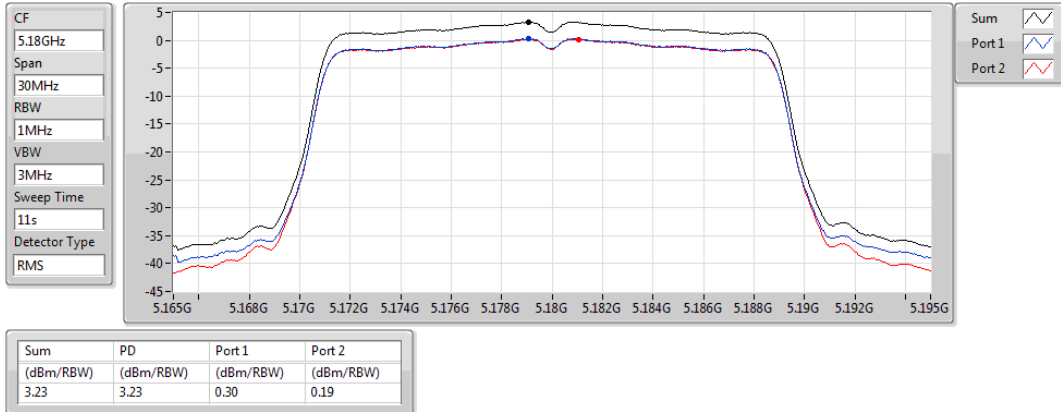
5825MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

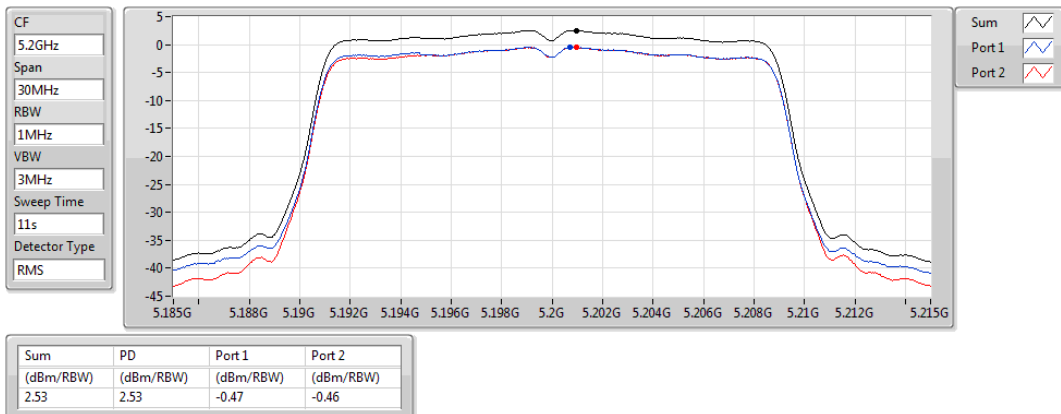
5180MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

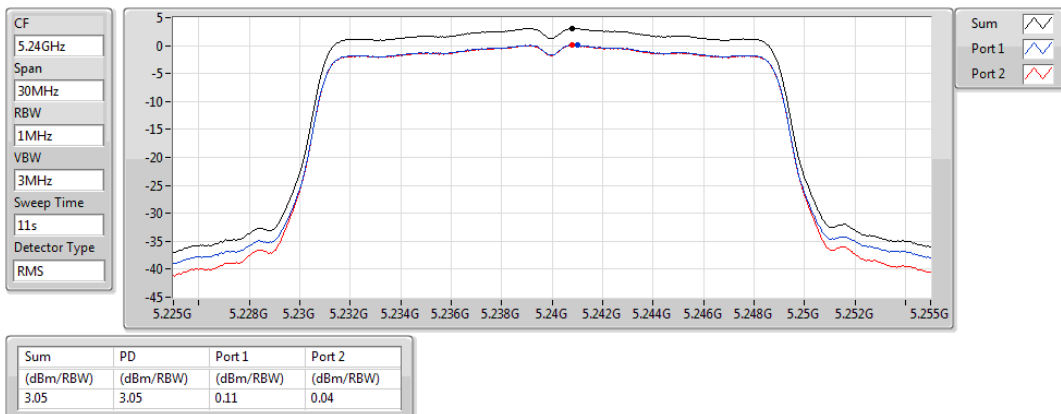
5200MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

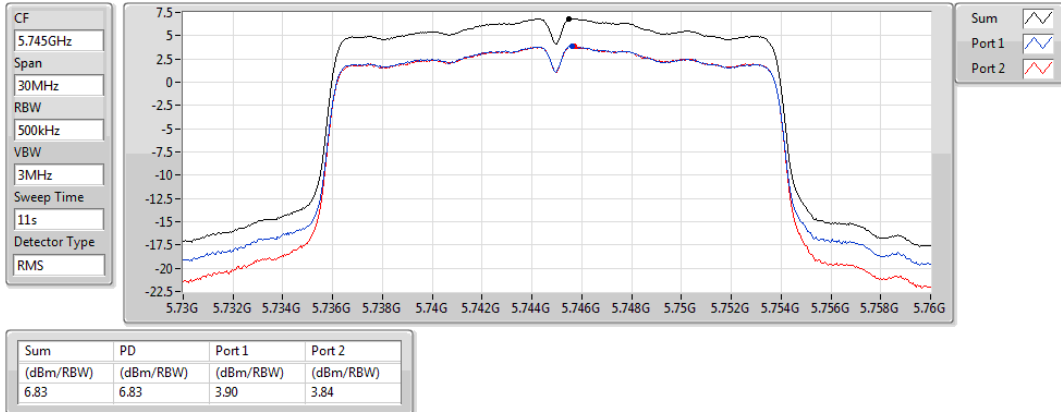
5240MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

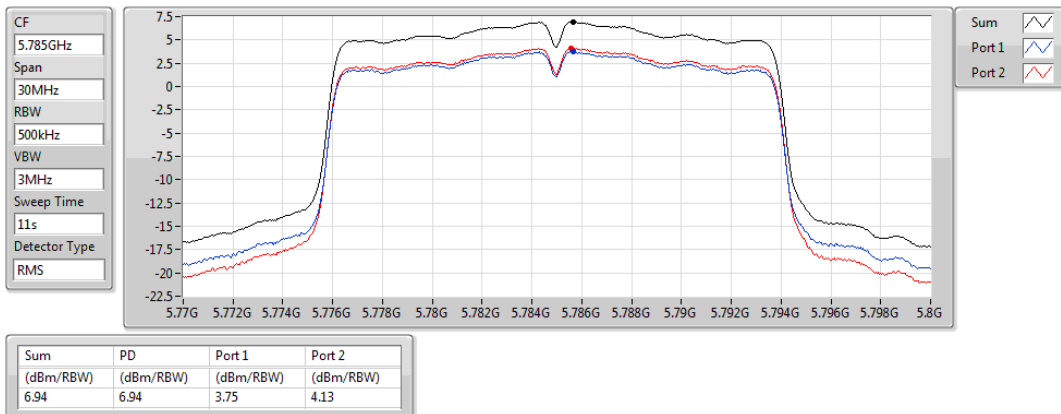
5745MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

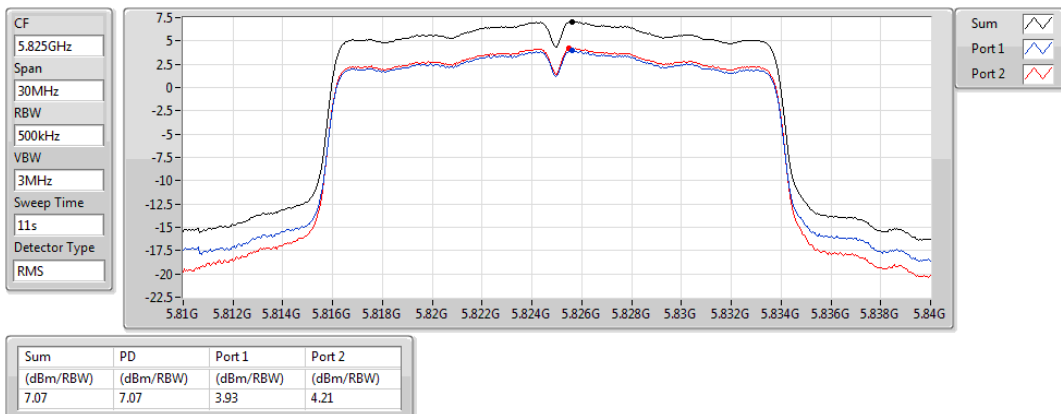
5785MHz



802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

5825MHz



802.11ac VHT40_Nss1,(MCS0)_2TX

PSD

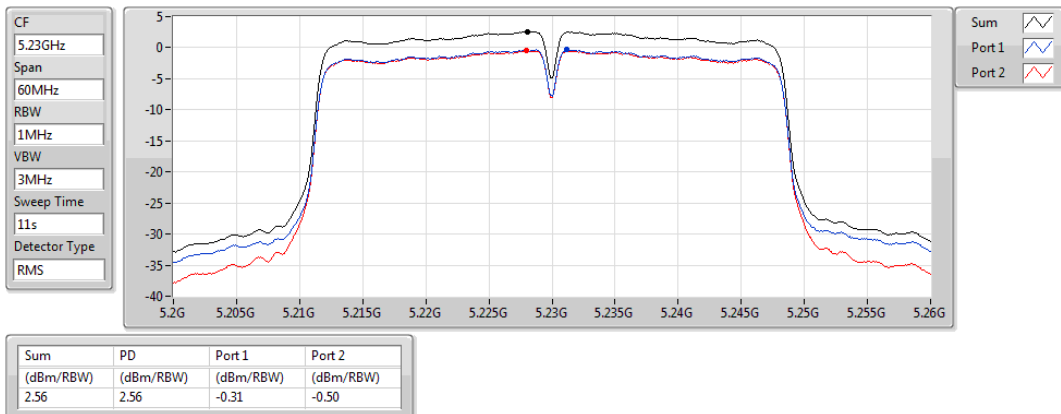
5190MHz



802.11ac VHT40_Nss1,(MCS0)_2TX

PSD

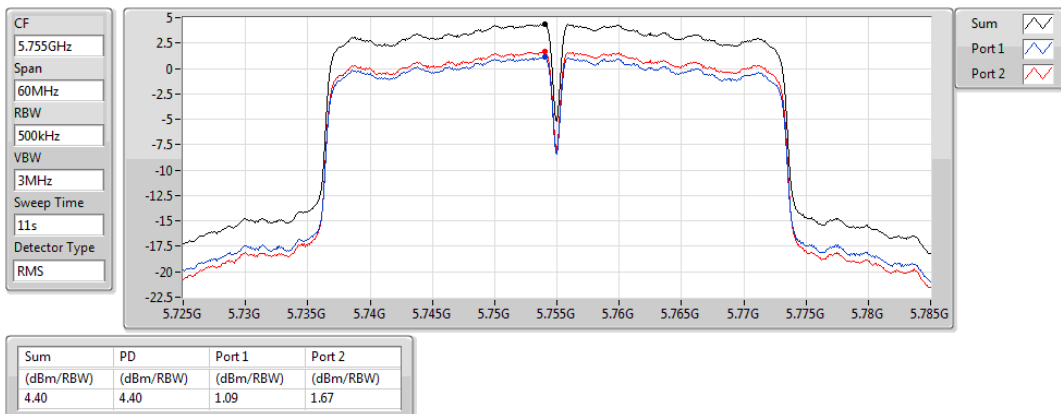
5230MHz



802.11ac VHT40_Nss1,(MCS0)_2TX

PSD

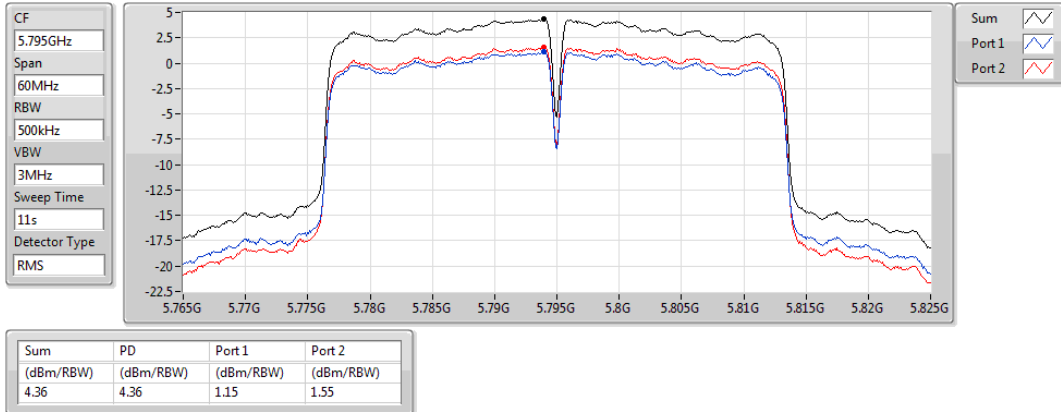
5755MHz



802.11ac VHT40_Nss1,(MCS0)_2TX

PSD

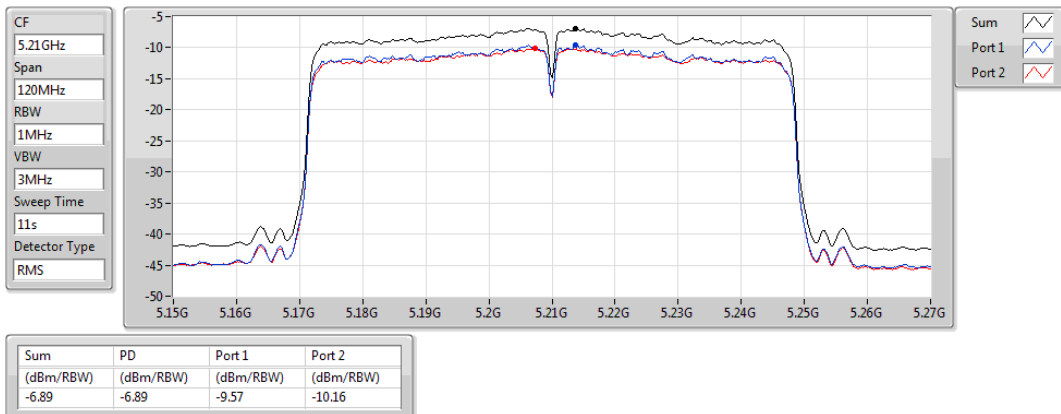
5795MHz



802.11ac VHT80_Nss1,(MCS0)_2TX

PSD

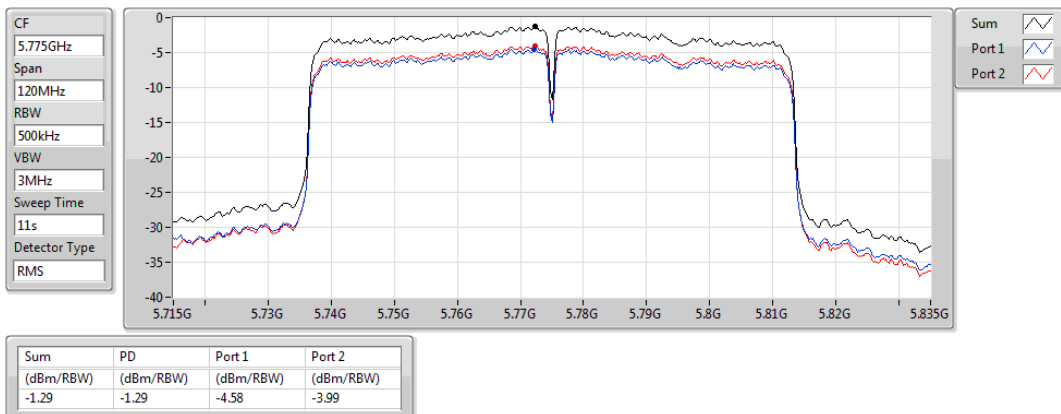
5210MHz



802.11ac VHT80_Nss1,(MCS0)_2TX

PSD

5775MHz



3.5 Transmitter Radiated and Band Edge Emissions

3.5.1 Limit of Transmitter Radiated and Band Edge Emissions

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

Note 1:
Qusai-Peak value is measured for frequency below 1GHz except for 9–90 kHz, 110–490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit

Note 2:
Measurements may be performed at a distance other than what is specified provided. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor as below, Frequency at or above 30 MHz: 20 dB/decade Frequency below 30 MHz: 40 dB/decade.

Un-restricted band emissions above 1GHz Limit	
Operating Band	Limit
5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.725 - 5.850 GHz	a) 27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edges; b) 15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges; c) 10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges; and d) -27 dBm/MHz at frequencies more than 75 MHz above or below the band edges.

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

3.5.2 Test Procedures

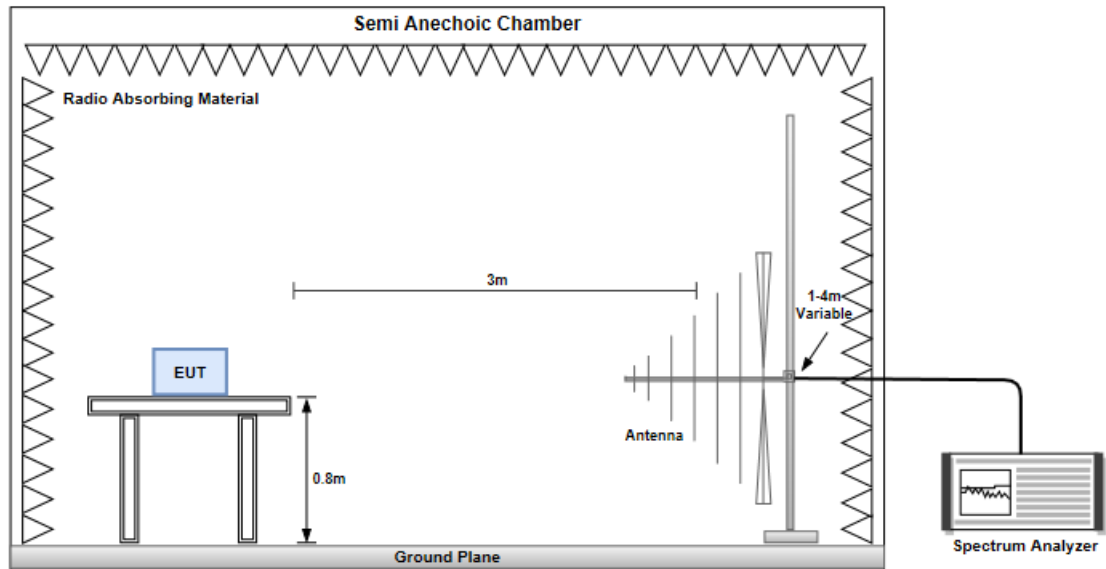
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360° . A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission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

Note:

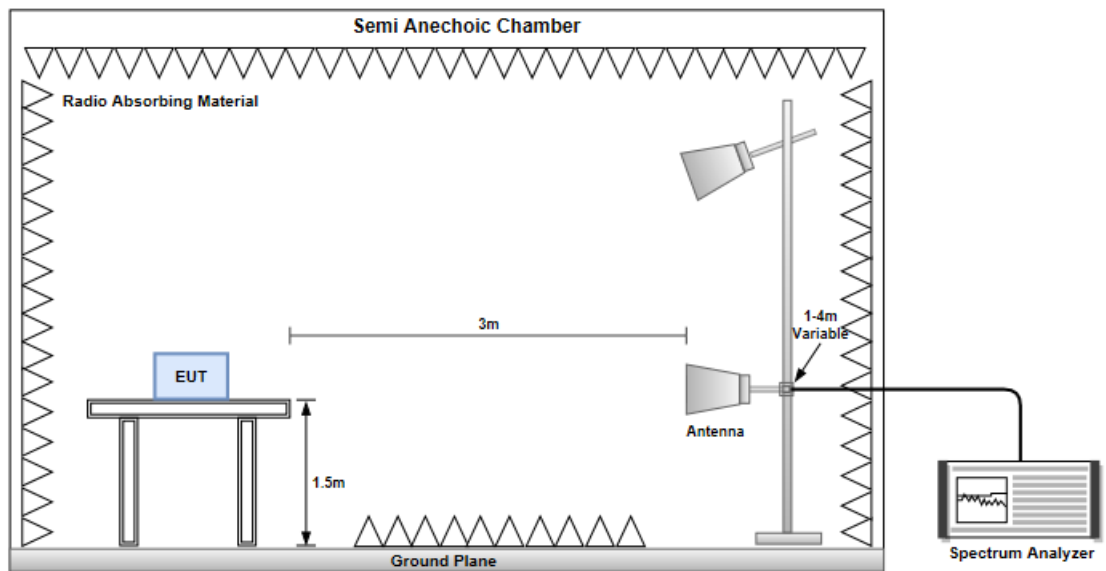
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

3.5.3 Test Setup

Radiated Emissions below 1 GHz

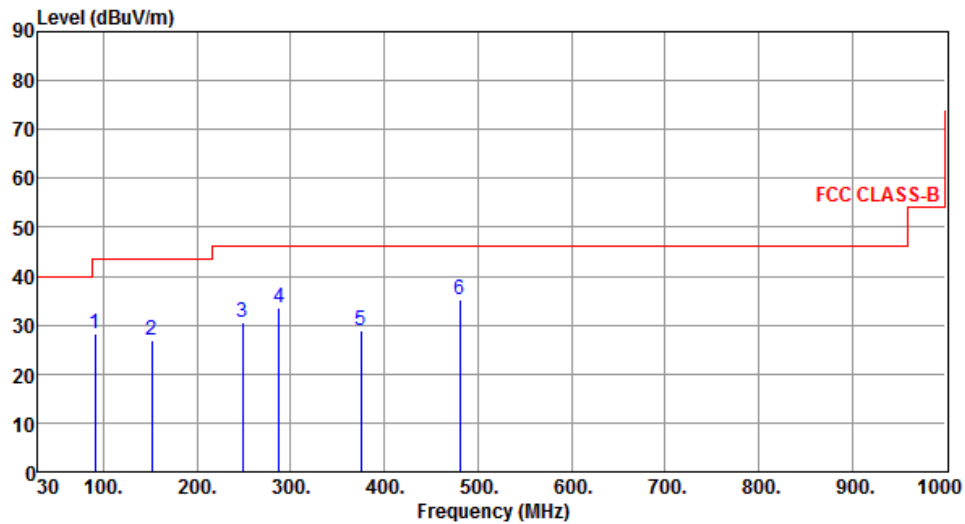


Radiated Emissions above 1 GHz



3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	90.60	28.21	43.50	-15.29	42.88	-14.67	Peak	---	---
2	151.32	26.85	43.50	-16.65	35.43	-8.58	Peak	---	---
3	248.56	30.44	46.00	-15.56	40.55	-10.11	Peak	---	---
4	287.89	33.70	46.00	-12.30	42.48	-8.78	Peak	---	---
5	375.00	28.85	46.00	-17.15	35.35	-6.50	Peak	---	---
6	481.10	35.21	46.00	-10.79	38.99	-3.78	Peak	---	---

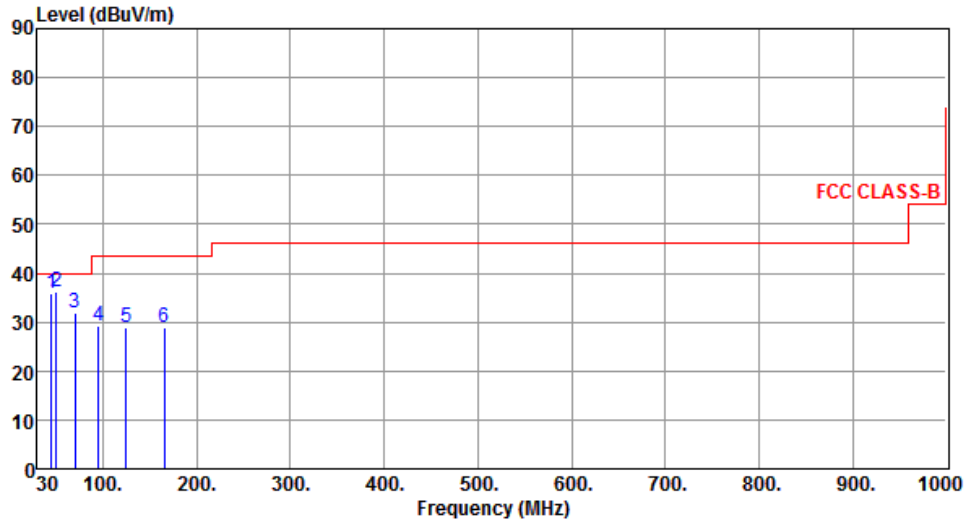
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*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)	5230
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	45.32	35.84	40.00	-4.16	44.45	-8.61	Peak	---	---
2	50.22	36.21	40.00	-3.79	44.75	-8.54	Peak	---	---
3	70.52	32.03	40.00	-7.97	42.80	-10.77	Peak	---	---
4	95.52	29.11	43.50	-14.39	43.33	-14.22	Peak	---	---
5	124.50	29.00	43.50	-14.50	39.57	-10.57	Peak	---	---
6	165.80	28.85	43.50	-14.65	37.72	-8.87	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

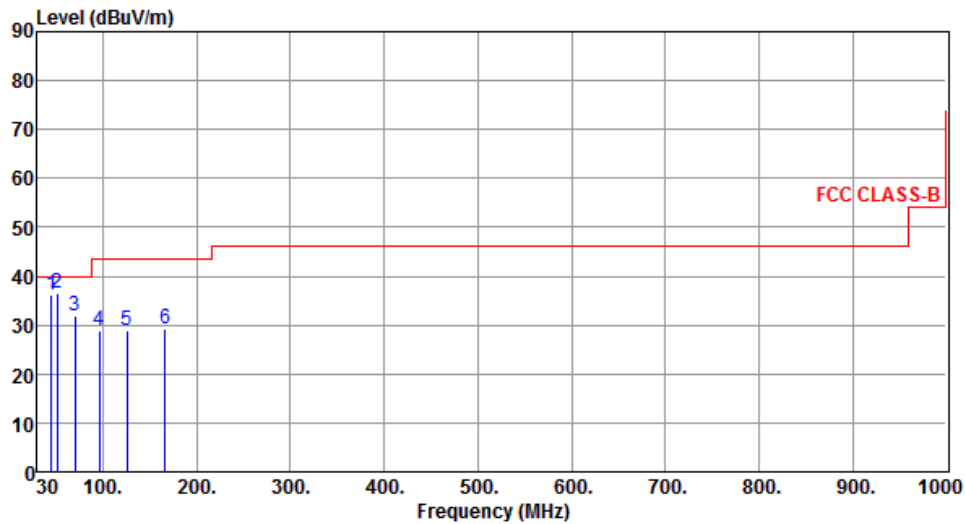
*Factor includes antenna factor , cable loss and amplifier gain

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)	5755
Polarization	Horizontal		
Level (dBuV/m) <			

Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	45.21	36.12	40.00	-3.88	44.75	-8.63	Peak	---	---
2	50.89	36.52	40.00	-3.48	45.06	-8.54	Peak	---	---
3	70.54	31.87	40.00	-8.13	42.64	-10.77	Peak	---	---
4	95.80	28.94	43.50	-14.56	43.13	-14.19	Peak	---	---
5	125.20	29.02	43.50	-14.48	39.52	-10.50	Peak	---	---
6	166.40	29.11	43.50	-14.39	38.01	-8.90	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

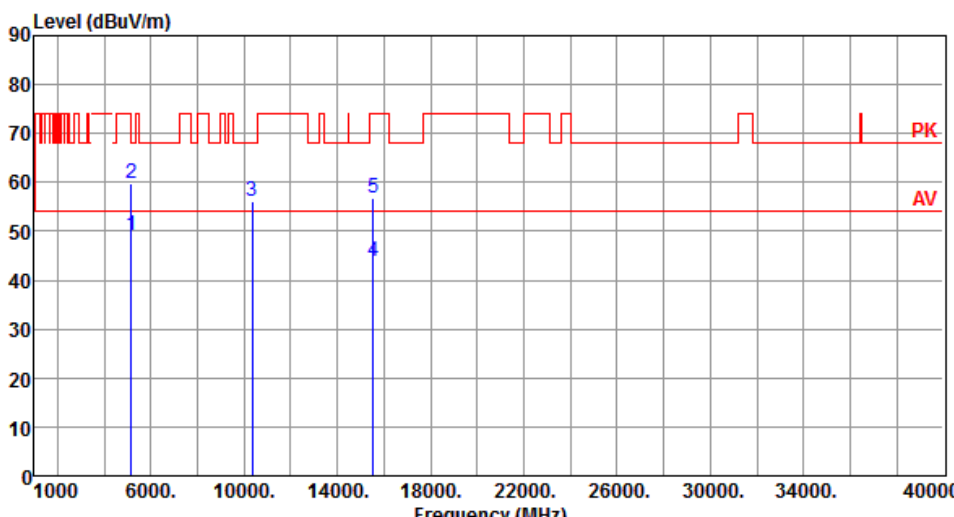
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

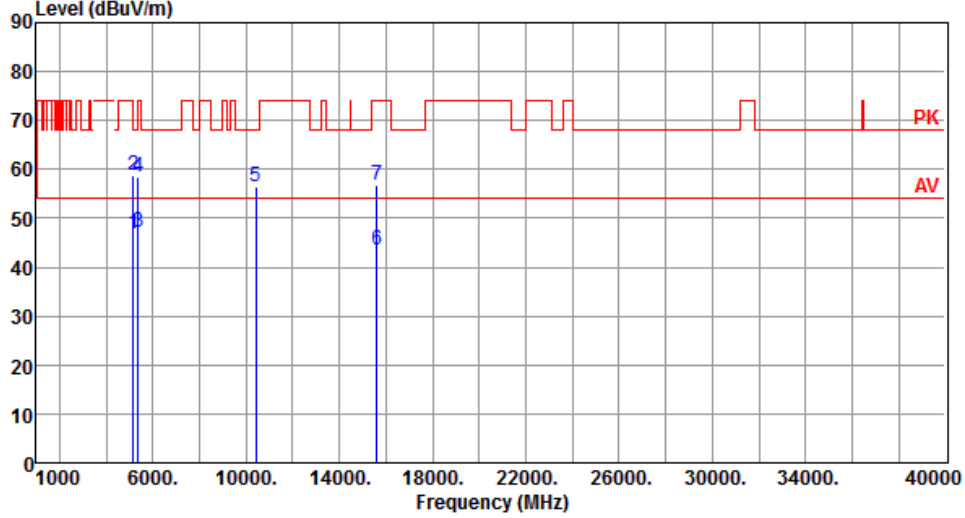
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

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

Modulation	11a	Test Freq. (MHz)	5180
Polarization	Horizontal		
Level (dBuV/m)			

Modulation	11a	Test Freq. (MHz)	5180																																																												
Polarization	Vertical																																																														
 <table><tr><th></th><th>Freq. MHz</th><th>Emission level dBUV/m</th><th>Limit dBUV/m</th><th>Margin dB</th><th>SA reading dBUV</th><th>Factor dB</th><th>Remark</th><th>ANT High cm</th><th>Turn Table deg</th></tr><tr><td>1</td><td>5150.00</td><td>49.13</td><td>54.00</td><td>-4.87</td><td>44.59</td><td>4.54</td><td>Average</td><td>255</td><td>41</td></tr><tr><td>2</td><td>5150.00</td><td>59.88</td><td>74.00</td><td>-14.12</td><td>55.34</td><td>4.54</td><td>Peak</td><td>255</td><td>41</td></tr><tr><td>3</td><td>10360.00</td><td>56.19</td><td>68.20</td><td>-12.01</td><td>42.41</td><td>13.78</td><td>Peak</td><td>100</td><td>224</td></tr><tr><td>4</td><td>15540.00</td><td>43.79</td><td>54.00</td><td>-10.21</td><td>29.51</td><td>14.28</td><td>Average</td><td>100</td><td>211</td></tr><tr><td>5</td><td>15540.00</td><td>56.82</td><td>74.00</td><td>-17.18</td><td>42.54</td><td>14.28</td><td>Peak</td><td>100</td><td>211</td></tr></table>					Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg	1	5150.00	49.13	54.00	-4.87	44.59	4.54	Average	255	41	2	5150.00	59.88	74.00	-14.12	55.34	4.54	Peak	255	41	3	10360.00	56.19	68.20	-12.01	42.41	13.78	Peak	100	224	4	15540.00	43.79	54.00	-10.21	29.51	14.28	Average	100	211	5	15540.00	56.82	74.00	-17.18	42.54	14.28	Peak	100	211
	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg																																																						
1	5150.00	49.13	54.00	-4.87	44.59	4.54	Average	255	41																																																						
2	5150.00	59.88	74.00	-14.12	55.34	4.54	Peak	255	41																																																						
3	10360.00	56.19	68.20	-12.01	42.41	13.78	Peak	100	224																																																						
4	15540.00	43.79	54.00	-10.21	29.51	14.28	Average	100	211																																																						
5	15540.00	56.82	74.00	-17.18	42.54	14.28	Peak	100	211																																																						
Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor* (dB) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).																																																															

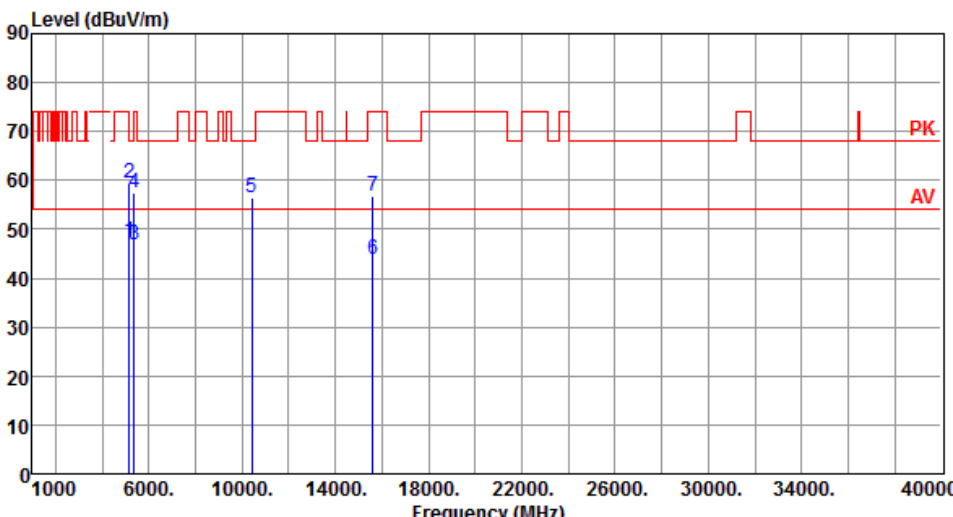
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Horizontal		



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.88	54.00	-7.12	42.34	4.54	Average	100	65
2	5150.00	58.83	74.00	-15.17	54.29	4.54	Peak	100	65
3	5350.00	47.11	54.00	-6.89	42.98	4.13	Average	100	65
4	5350.00	58.34	74.00	-15.66	54.21	4.13	Peak	100	65
5	10400.00	56.61	68.20	-11.59	42.72	13.89	Peak	100	122
6	15600.00	43.66	54.00	-10.34	29.56	14.10	Average	100	117
7	15600.00	56.76	74.00	-17.24	42.66	14.10	Peak	100	117

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

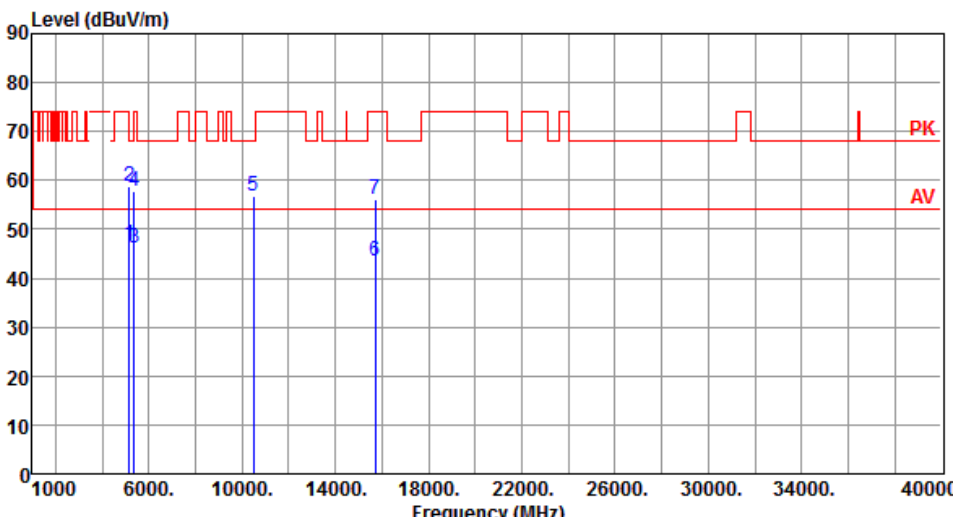
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	47.66	54.00	-6.34	43.12	4.54	Average	250	36
2	5150.00	59.43	74.00	-14.57	54.89	4.54	Peak	250	36
3	5350.00	46.92	54.00	-7.08	42.79	4.13	Average	250	36
4	5350.00	57.53	74.00	-16.47	53.40	4.13	Peak	250	36
5	10400.00	56.59	68.20	-11.61	42.70	13.89	Peak	100	223
6	15600.00	43.86	54.00	-10.14	29.76	14.10	Average	100	213
7	15600.00	56.74	74.00	-17.26	42.64	14.10	Peak	100	213

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

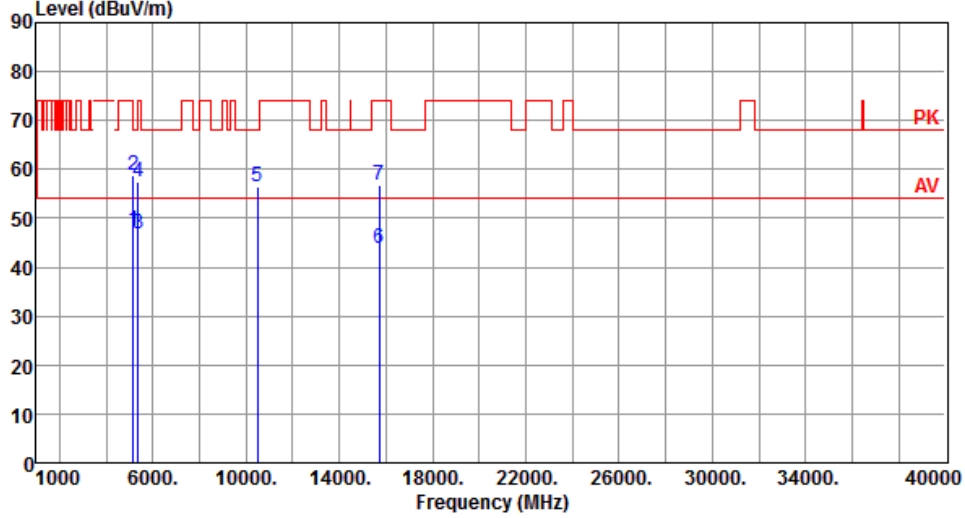
Modulation	11a	Test Freq. (MHz)	5240
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.83	54.00	-7.17	42.29	4.54	Average	100	68
2	5150.00	58.66	74.00	-15.34	54.12	4.54	Peak	100	68
3	5350.00	46.24	54.00	-7.76	42.11	4.13	Average	100	68
4	5350.00	57.94	74.00	-16.06	53.81	4.13	Peak	100	68
5	10480.00	56.81	68.20	-11.39	42.93	13.88	Peak	100	112
6	15720.00	43.57	54.00	-10.43	29.68	13.89	Average	100	108
7	15720.00	56.11	74.00	-17.89	42.22	13.89	Peak	100	108

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

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



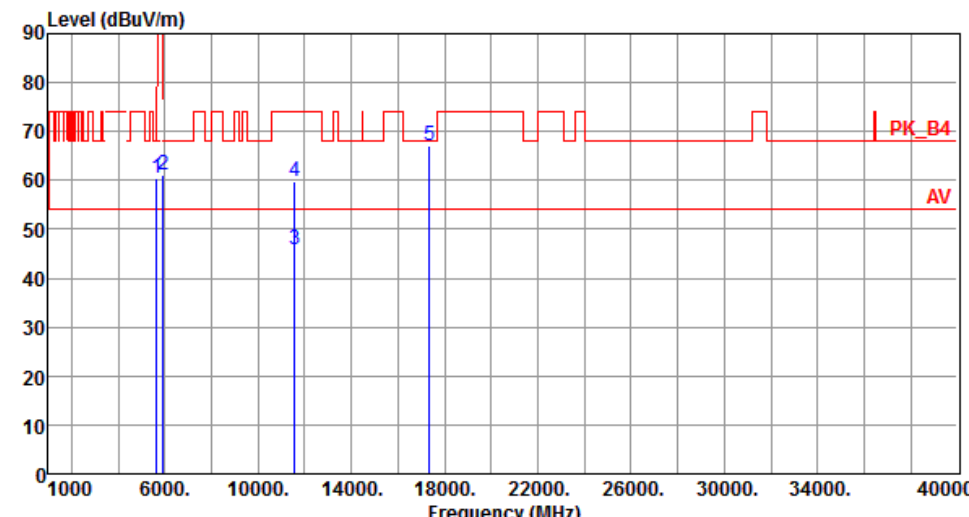
	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	47.43	54.00	-6.57	42.89	4.54	Average	259	41
2	5150.00	58.79	74.00	-15.21	54.25	4.54	Peak	259	41
3	5350.00	46.82	54.00	-7.18	42.69	4.13	Average	259	41
4	5350.00	57.33	74.00	-16.67	53.20	4.13	Peak	259	41
5	10480.00	56.35	68.20	-11.85	42.47	13.88	Peak	100	229
6	15720.00	43.74	54.00	-10.26	29.85	13.89	Average	100	221
7	15720.00	56.88	74.00	-17.12	42.99	13.89	Peak	100	221

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

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

Modulation	11a	Test Freq. (MHz)	5745
Polarization	Vertical		
Level (dBuV/m) </			

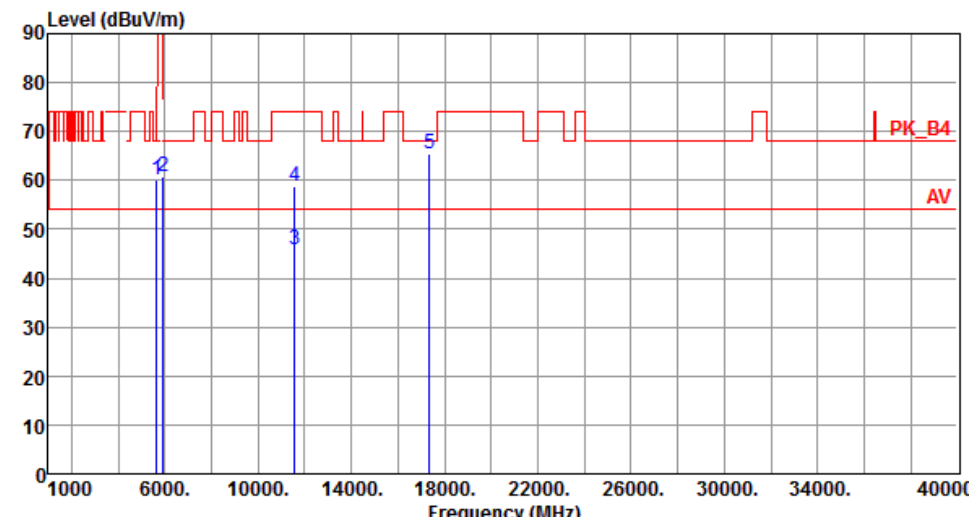
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Horizontal		



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	60.31	68.20	-7.89	55.34	4.97	Peak	100	287
2	5925.00	61.26	68.20	-6.94	55.17	6.09	Peak	100	287
3	11570.00	45.92	54.00	-8.08	31.97	13.95	Average	100	241
4	11570.00	59.84	74.00	-14.16	45.89	13.95	Peak	100	241
5	17355.00	67.18	68.20	-1.02	49.56	17.62	Peak	219	233

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

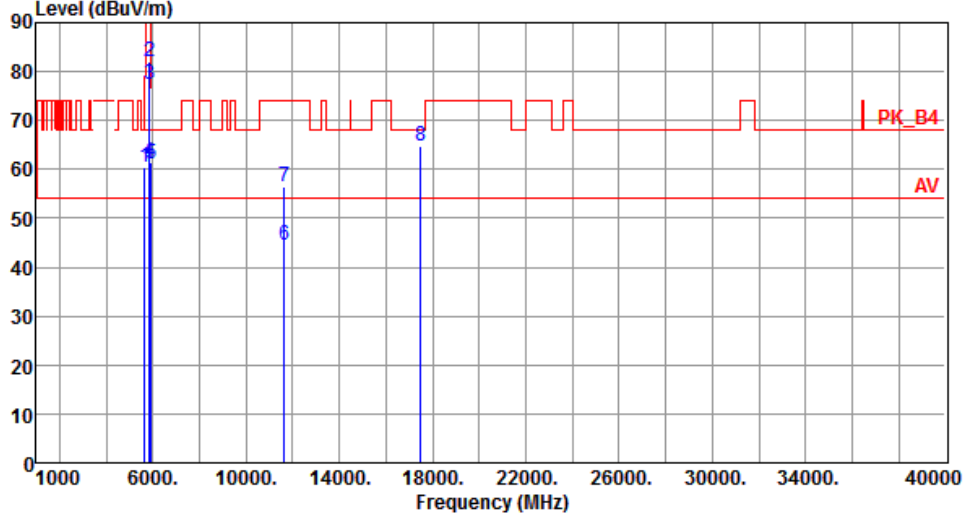
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Vertical		



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	60.09	68.20	-8.11	55.12	4.97	Peak	251	19
2	5925.00	60.94	68.20	-7.26	54.85	6.09	Peak	251	19
3	11570.00	45.73	54.00	-8.27	31.78	13.95	Average	100	10
4	11570.00	58.81	74.00	-15.19	44.86	13.95	Peak	100	10
5	17355.00	65.35	68.20	-2.85	47.73	17.62	Peak	300	8

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

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



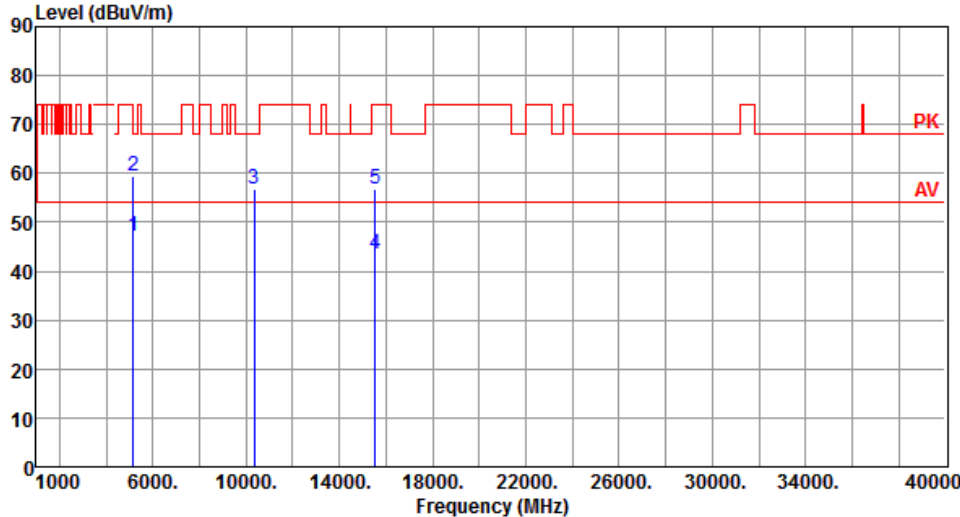
	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	60.35	68.20	-7.85	55.38	4.97	Peak	100	275
2	5850.00	82.18	122.20	-40.02	76.37	5.81	Peak	100	275
3	5855.00	77.36	110.80	-33.44	71.53	5.83	Peak	100	275
4	5875.00	61.60	105.20	-43.60	55.70	5.90	Peak	100	275
5	5925.00	61.26	68.20	-6.94	55.17	6.09	Peak	100	275
6	11650.00	44.67	54.00	-9.33	31.05	13.62	Average	100	244
7	11650.00	56.49	74.00	-17.51	42.87	13.62	Peak	100	244
8	17475.00	64.79	68.20	-3.41	46.89	17.90	Peak	190	234

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

Modulation	11a	Test Freq. (MHz)	5825
Polarization	Vertical		
Level (dBUV/m)			

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

Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Horizontal		

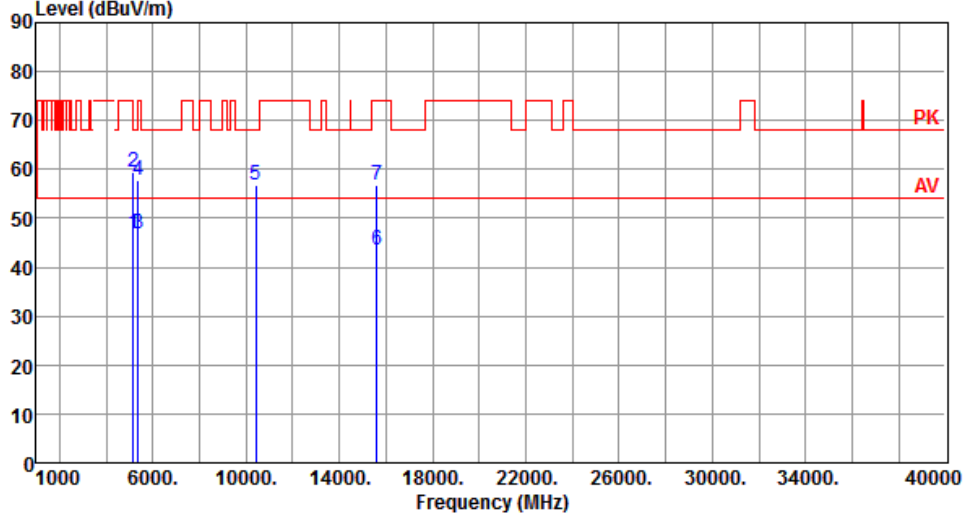


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	47.12	54.00	-6.88	42.58	4.54	Average	100	69
2	5150.00	59.40	74.00	-14.60	54.86	4.54	Peak	100	69
3	10360.00	56.66	68.20	-11.54	42.88	13.78	Peak	100	119
4	15540.00	43.38	54.00	-10.62	29.10	14.28	Average	100	123
5	15540.00	56.69	74.00	-17.31	42.41	14.28	Peak	100	123

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

Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Vertical		
Level (dBUV/m) </			

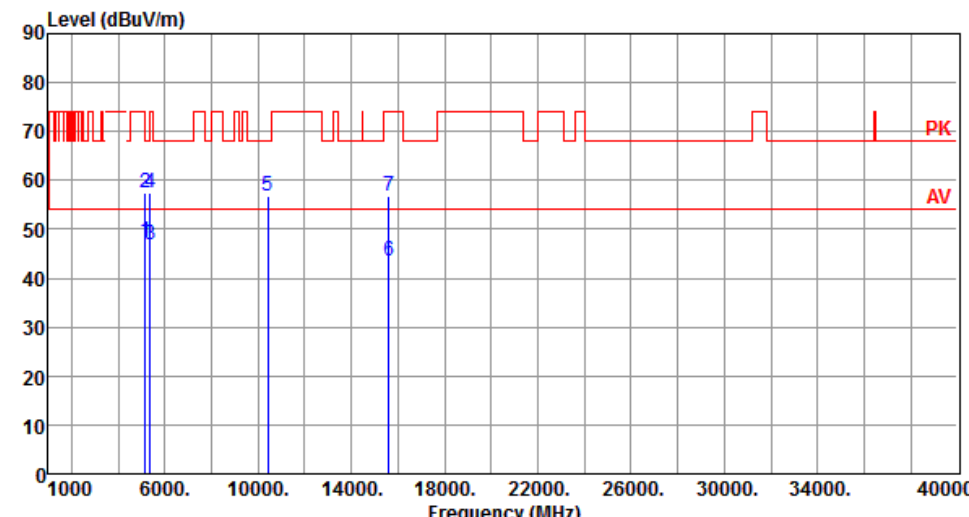
Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.96	54.00	-7.04	42.42	4.54	Average	100	72
2	5150.00	59.34	74.00	-14.66	54.80	4.54	Peak	100	72
3	5350.00	46.68	54.00	-7.32	42.55	4.13	Average	100	72
4	5350.00	57.69	74.00	-16.31	53.56	4.13	Peak	100	72
5	10400.00	56.63	68.20	-11.57	42.74	13.89	Peak	100	122
6	15600.00	43.60	54.00	-10.40	29.50	14.10	Average	100	125
7	15600.00	56.78	74.00	-17.22	42.68	14.10	Peak	100	125

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

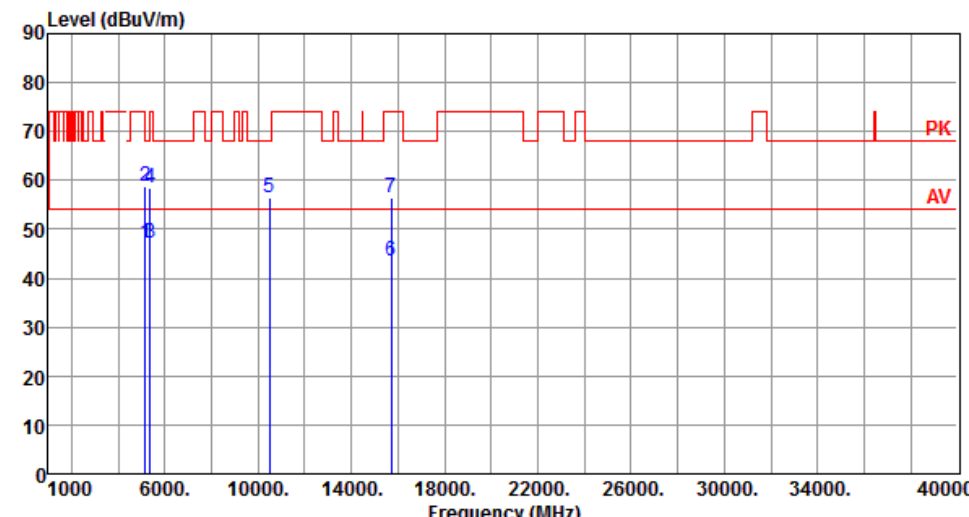
Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	47.39	54.00	-6.61	42.85	4.54	Average	240	36
2	5150.00	57.48	74.00	-16.52	52.94	4.54	Peak	240	36
3	5350.00	46.83	54.00	-7.17	42.70	4.13	Average	240	36
4	5350.00	57.32	74.00	-16.68	53.19	4.13	Peak	240	36
5	10400.00	56.82	68.20	-11.38	42.93	13.89	Peak	100	205
6	15600.00	43.55	54.00	-10.45	29.45	14.10	Average	100	206
7	15600.00	56.69	74.00	-17.31	42.59	14.10	Peak	100	206

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

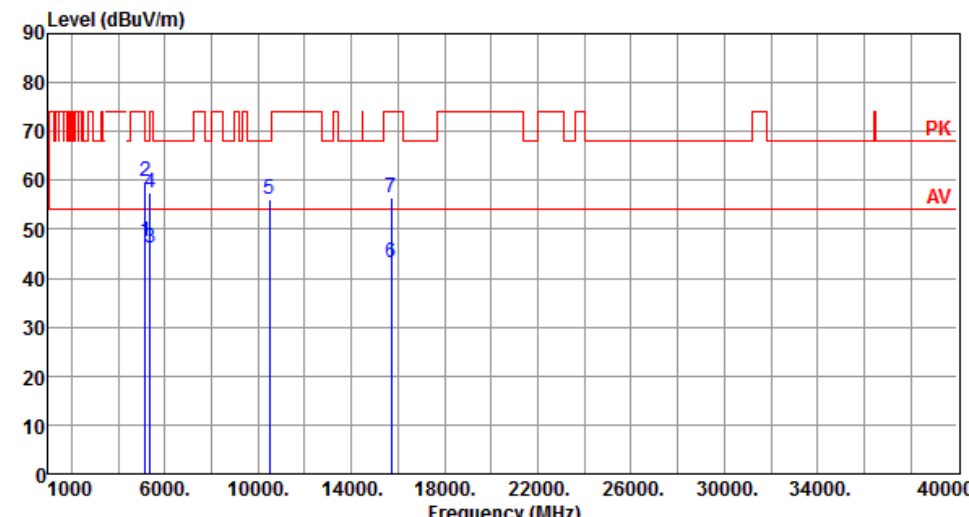
Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Horizontal		



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	47.29	54.00	-6.71	42.75	4.54	Average	100	70
2	5150.00	58.77	74.00	-15.23	54.23	4.54	Peak	100	70
3	5350.00	47.00	54.00	-7.00	42.87	4.13	Average	100	70
4	5350.00	58.51	74.00	-15.49	54.38	4.13	Peak	100	70
5	10480.00	56.59	68.20	-11.61	42.71	13.88	Peak	100	123
6	15720.00	43.44	54.00	-10.56	29.55	13.89	Average	100	128
7	15720.00	56.55	74.00	-17.45	42.66	13.89	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).

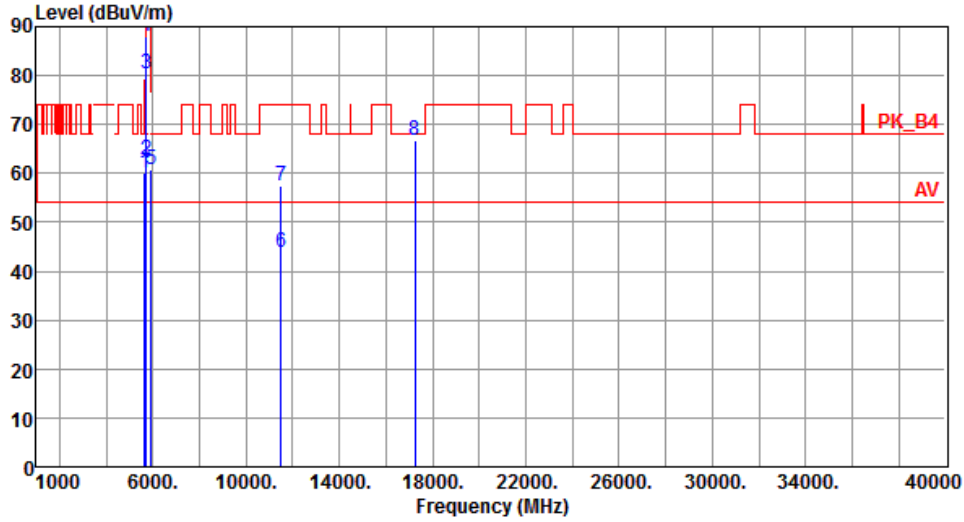
Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Vertical		



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	47.47	54.00	-6.53	42.93	4.54	Average	239	37
2	5150.00	59.69	74.00	-14.31	55.15	4.54	Peak	239	37
3	5350.00	46.26	54.00	-7.74	42.13	4.13	Average	239	37
4	5350.00	57.32	74.00	-16.68	53.19	4.13	Peak	239	37
5	10480.00	56.27	68.20	-11.93	42.39	13.88	Peak	100	211
6	15720.00	43.30	54.00	-10.70	29.41	13.89	Average	100	199
7	15720.00	56.42	74.00	-17.58	42.53	13.89	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).

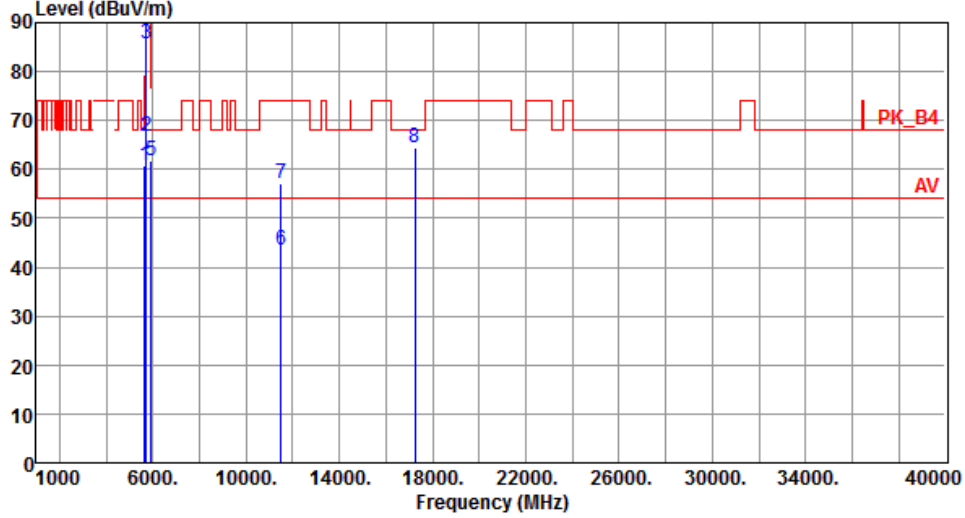
Modulation	VHT20	Test Freq. (MHz)	5745
Polarization	Horizontal		



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	60.11	68.20	-8.09	55.14	4.97	Peak	100	76
2	5700.00	62.69	105.20	-42.51	57.53	5.16	Peak	100	76
3	5720.00	80.45	110.80	-30.35	75.22	5.23	Peak	100	76
4	5725.00	88.11	122.20	-34.09	82.86	5.25	Peak	100	76
5	5925.00	60.89	68.20	-7.31	54.80	6.09	Peak	100	76
6	11490.00	43.91	54.00	-10.09	29.79	14.12	Average	100	332
7	11490.00	57.44	74.00	-16.56	43.32	14.12	Peak	100	332
8	17235.00	66.74	68.20	-1.46	49.51	17.23	Peak	186	331

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

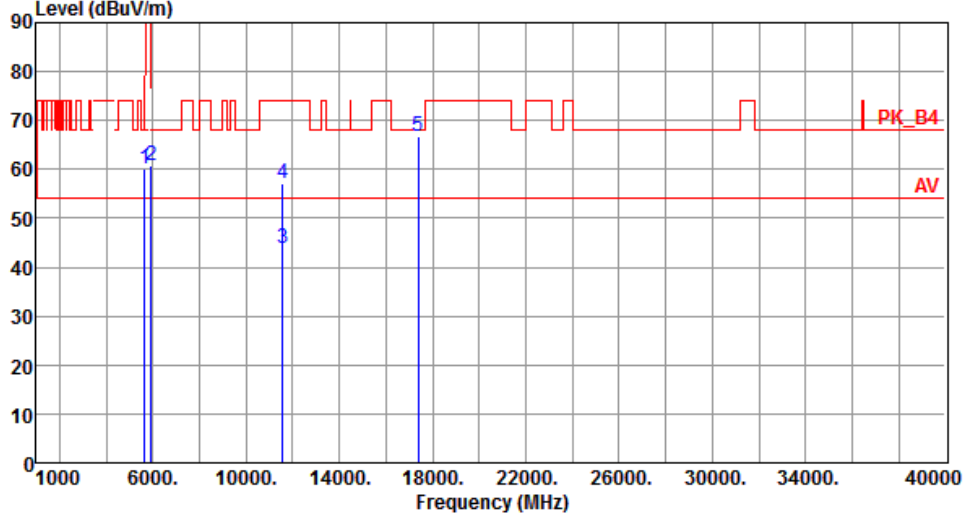
Modulation	VHT20	Test Freq. (MHz)	5745
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	60.82	68.20	-7.38	55.85	4.97	Peak	253	15
2	5700.00	66.79	105.20	-38.41	61.63	5.16	Peak	253	15
3	5720.00	85.76	110.80	-25.04	80.53	5.23	Peak	253	15
4	5725.00	95.40	122.20	-26.80	90.15	5.25	Peak	253	15
5	5925.00	61.93	68.20	-6.27	55.84	6.09	Peak	253	15
6	11490.00	43.66	54.00	-10.34	29.54	14.12	Average	100	5
7	11490.00	57.01	74.00	-16.99	42.89	14.12	Peak	100	5
8	17235.00	64.41	68.20	-3.79	47.18	17.23	Peak	373	358

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

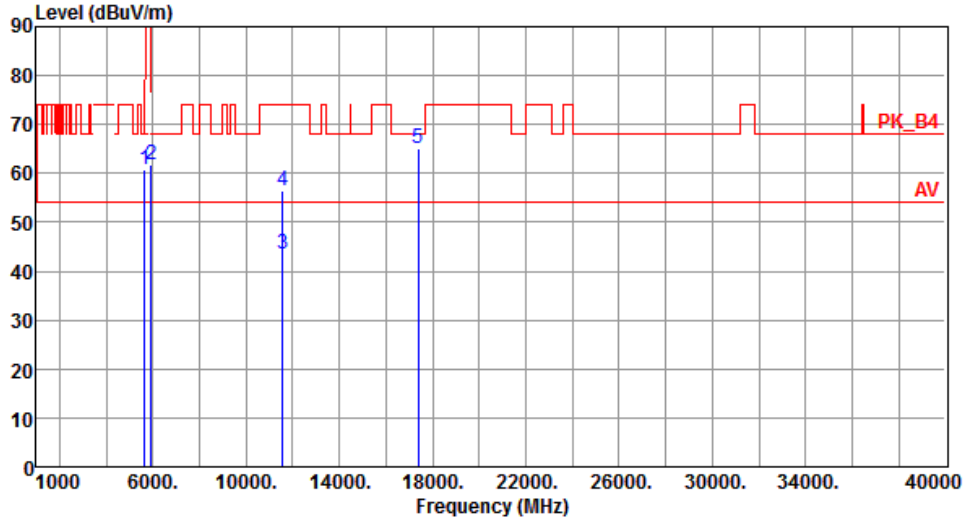
Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Horizontal		



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	60.11	68.20	-8.09	55.14	4.97	Peak	100	73
2	5925.00	60.81	68.20	-7.39	54.72	6.09	Peak	100	73
3	11570.00	43.81	54.00	-10.19	29.86	13.95	Average	100	319
4	11570.00	57.23	74.00	-16.77	43.28	13.95	Peak	100	319
5	17375.00	66.71	68.20	-1.49	49.00	17.71	Peak	192	333

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

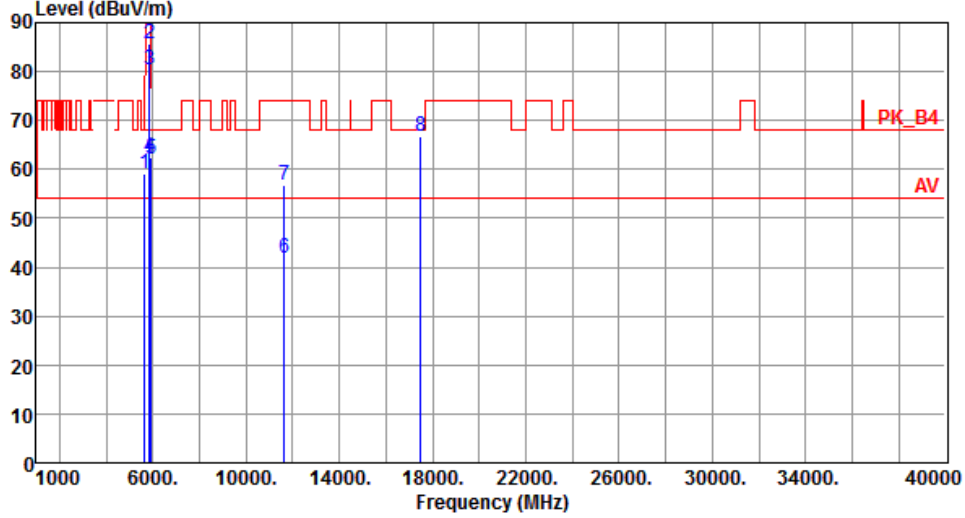
Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Vertical		



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	60.68	68.20	-7.52	55.71	4.97	Peak	255	7
2	5925.00	61.80	68.20	-6.40	55.71	6.09	Peak	255	7
3	11570.00	43.58	54.00	-10.42	29.63	13.95	Average	100	3
4	11570.00	56.37	74.00	-17.63	42.42	13.95	Peak	100	3
5	17375.00	65.00	68.20	-3.20	47.29	17.71	Peak	380	359

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

Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Horizontal		



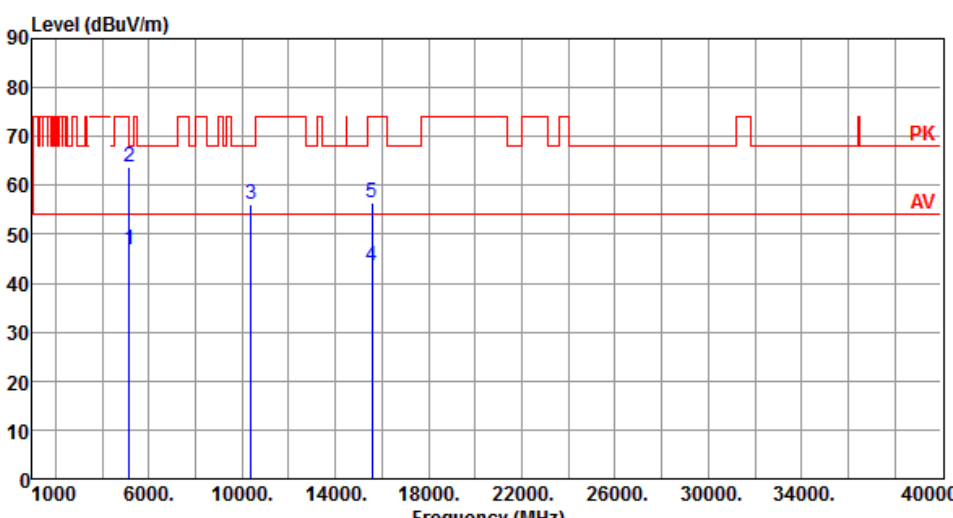
	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	59.26	68.20	-8.94	54.29	4.97	Peak	100	79
2	5850.00	85.83	122.20	-36.37	80.02	5.81	Peak	100	79
3	5855.00	80.41	110.80	-30.39	74.58	5.83	Peak	100	79
4	5875.00	62.43	105.20	-42.77	56.53	5.90	Peak	100	79
5	5925.00	62.08	68.20	-6.12	55.99	6.09	Peak	100	79
6	11650.00	41.94	54.00	-12.06	28.32	13.62	Average	100	328
7	11650.00	56.88	74.00	-17.12	43.26	13.62	Peak	100	328
8	17475.00	66.80	68.20	-1.40	48.90	17.90	Peak	190	333

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

Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Vertical		
Level (dBUV/m)			

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

Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Horizontal		

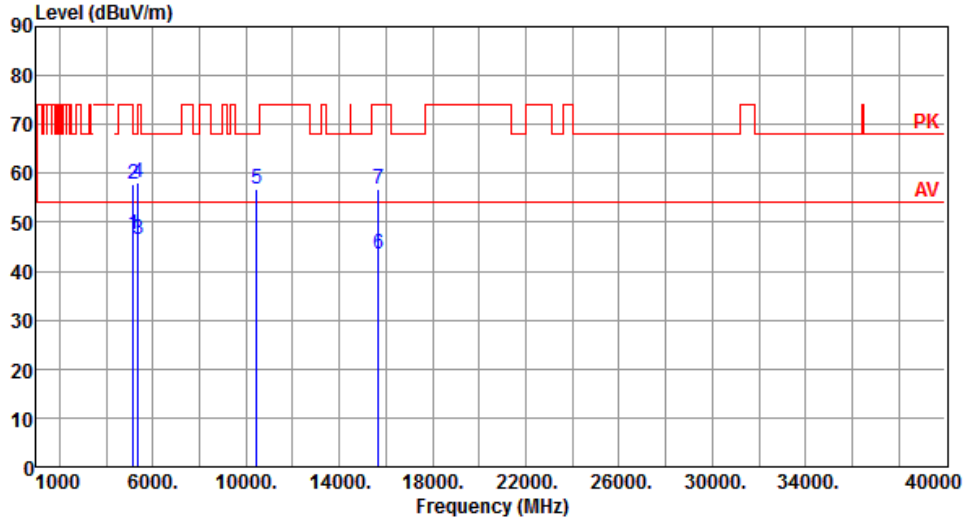


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.92	54.00	-7.08	42.38	4.54	Average	100	69
2	5150.00	63.89	74.00	-10.11	59.35	4.54	Peak	100	69
3	10380.00	56.25	68.20	-11.95	42.41	13.84	Peak	100	129
4	15570.00	43.60	54.00	-10.40	29.41	14.19	Average	100	130
5	15570.00	56.58	74.00	-17.42	42.39	14.19	Peak	100	130

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

Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Vertical		
Level (dBuV/m)			

Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Horizontal		

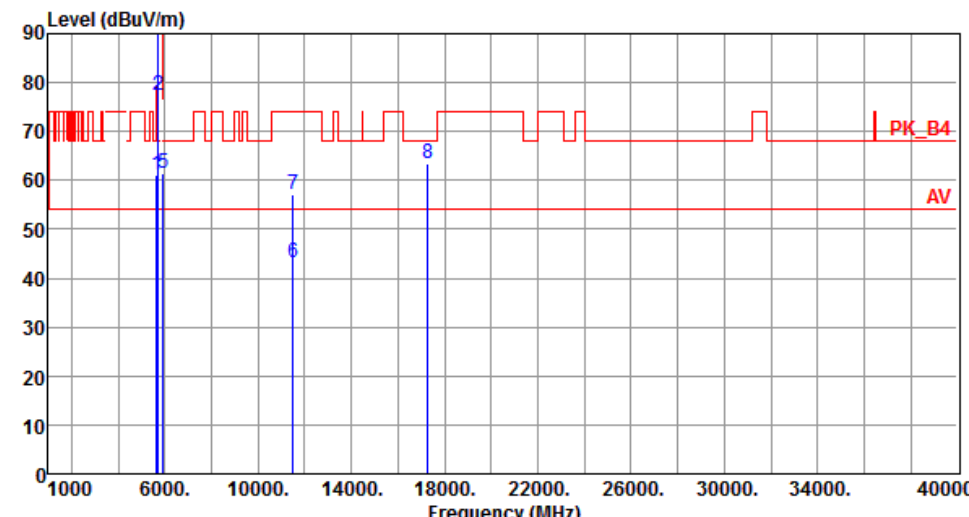


	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	47.39	54.00	-6.61	42.85	4.54	Average	100	52
2	5150.00	57.76	74.00	-16.24	53.22	4.54	Peak	100	52
3	5350.00	46.54	54.00	-7.46	42.41	4.13	Average	100	52
4	5350.00	58.00	74.00	-16.00	53.87	4.13	Peak	100	52
5	10460.00	56.74	68.20	-11.46	42.85	13.89	Peak	100	117
6	15690.00	43.44	54.00	-10.56	29.51	13.93	Average	100	116
7	15690.00	56.79	74.00	-17.21	42.86	13.93	Peak	100	116

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

Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Vertical		
Level (dBuV/m) </			

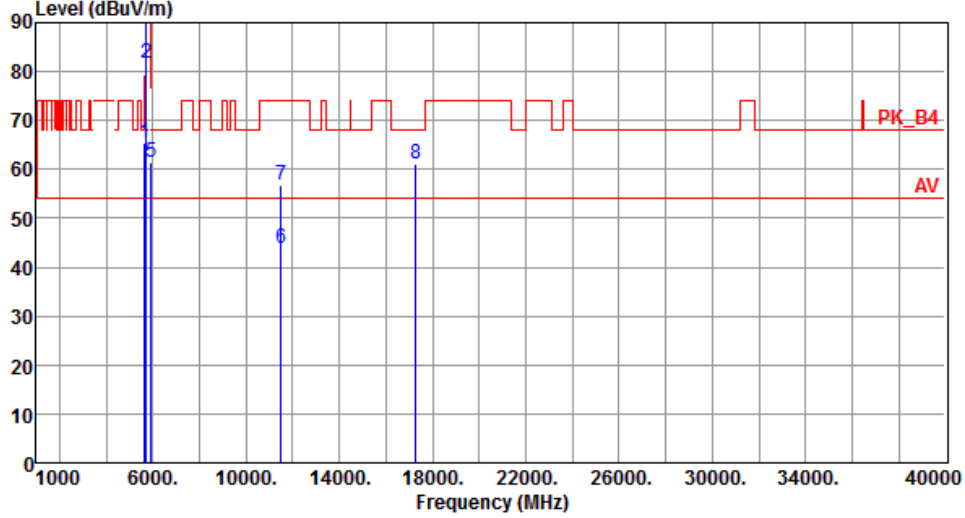
Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Horizontal		



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	61.21	68.20	-6.99	56.24	4.97	Peak	100	279
2	5700.00	77.27	105.20	-27.93	72.11	5.16	Peak	100	279
3	5720.00	89.81	110.80	-20.99	84.58	5.23	Peak	100	279
4	5725.00	91.25	122.20	-30.95	86.00	5.25	Peak	100	279
5	5925.00	61.48	68.20	-6.72	55.39	6.09	Peak	100	279
6	11510.00	43.03	74.00	-30.97	28.92	14.11	Peak	100	329
7	11510.00	57.03	74.00	-16.97	42.92	14.11	Peak	100	329
8	17265.00	63.54	68.20	-4.66	46.23	17.31	Peak	205	339

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

Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	65.50	68.20	-2.70	60.53	4.97	Peak	265	14
2	5700.00	81.80	105.20	-23.40	76.64	5.16	Peak	265	14
3	5720.00	95.18	110.80	-15.62	89.95	5.23	Peak	265	14
4	5725.00	98.24	122.20	-23.96	92.99	5.25	Peak	265	14
5	5925.00	61.53	68.20	-6.67	55.44	6.09	Peak	265	14
6	11510.00	43.72	54.00	-10.28	29.61	14.11	Average	100	3
7	11510.00	56.91	74.00	-17.09	42.80	14.11	Peak	100	3
8	17265.00	61.17	68.20	-7.03	43.86	17.31	Peak	377	3

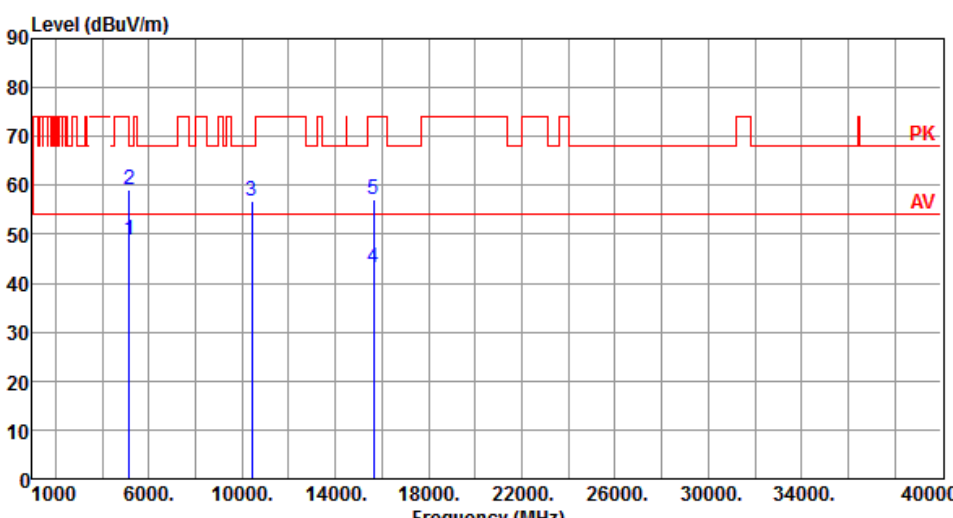
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Horizontal		
Level (dBUV/m) </			

Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Vertical		
Level (dBUV/m)			

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

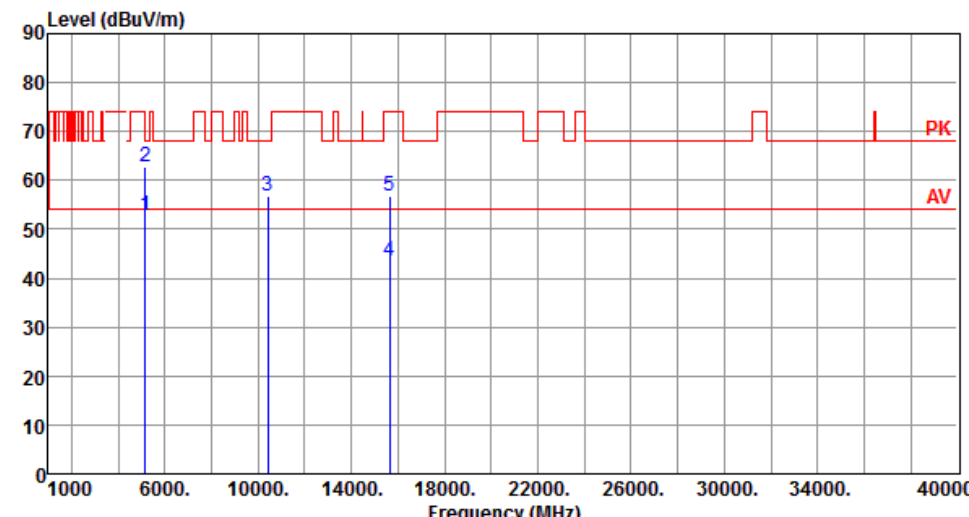
Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	48.94	54.00	-5.06	44.40	4.54	Average	100	58
2	5150.00	59.17	74.00	-14.83	54.63	4.54	Peak	100	58
3	10420.00	56.83	68.20	-11.37	42.94	13.89	Peak	100	120
4	15630.00	43.19	54.00	-10.81	29.15	14.04	Average	100	125
5	15630.00	57.26	74.00	-16.74	43.22	14.04	Peak	100	125

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

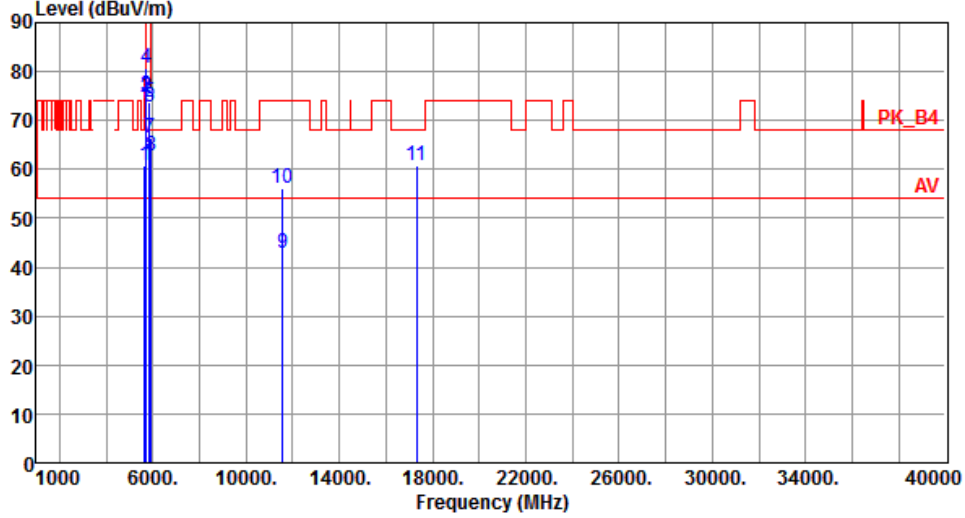
Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Vertical		



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.84	54.00	-1.16	48.30	4.54	Average	244	33
2	5150.00	62.90	74.00	-11.10	58.36	4.54	Peak	244	33
3	10420.00	56.77	68.20	-11.43	42.88	13.89	Peak	100	202
4	15630.00	43.46	54.00	-10.54	29.42	14.04	Average	100	201
5	15630.00	56.89	74.00	-17.11	42.85	14.04	Peak	100	201

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

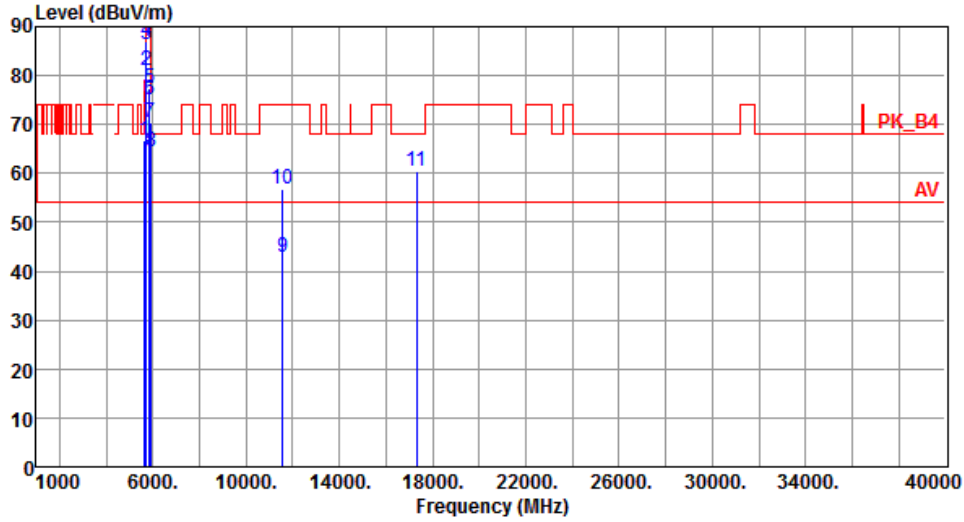
Modulation	VHT80	Test Freq. (MHz)	5775
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	60.93	68.20	-7.27	55.96	4.97	Peak	100	284
2	5700.00	74.80	105.20	-30.40	69.64	5.16	Peak	100	284
3	5720.00	74.98	110.80	-35.82	69.75	5.23	Peak	100	284
4	5725.00	80.74	122.20	-41.46	75.49	5.25	Peak	100	284
5	5850.00	73.66	122.20	-48.54	67.85	5.81	Peak	100	284
6	5855.00	72.69	110.80	-38.11	66.86	5.83	Peak	100	284
7	5875.00	66.30	105.20	-38.90	60.40	5.90	Peak	100	284
8	5925.00	62.78	68.20	-5.42	56.69	6.09	Peak	100	284
9	11550.00	42.93	54.00	-11.07	28.93	14.00	Average	100	334
10	11550.00	56.13	74.00	-17.87	42.13	14.00	Peak	100	334
11	17325.00	60.73	68.20	-7.47	43.24	17.49	Peak	100	338

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

Modulation	VHT80	Test Freq. (MHz)	5775
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	66.77	68.20	-1.43	61.80	4.97	Peak	248	324
2	5700.00	81.15	105.20	-24.05	75.99	5.16	Peak	248	324
3	5720.00	86.19	110.80	-24.61	80.96	5.23	Peak	248	324
4	5725.00	87.08	122.20	-35.12	81.83	5.25	Peak	248	324
5	5850.00	77.38	122.20	-44.82	71.57	5.81	Peak	248	324
6	5855.00	75.16	110.80	-35.64	69.33	5.83	Peak	248	324
7	5875.00	70.43	105.20	-34.77	64.53	5.90	Peak	248	324
8	5925.00	64.56	68.20	-3.64	58.47	6.09	Peak	248	324
9	11550.00	42.93	54.00	-11.07	28.93	14.00	Average	100	4
10	11550.00	56.82	74.00	-17.18	42.82	14.00	Peak	100	4
11	17325.00	60.45	68.20	-7.75	42.96	17.49	Peak	100	7

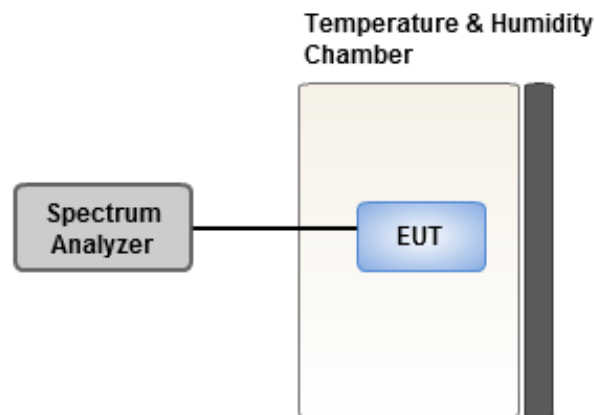
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.6 Frequency Stability (Reference only)

3.6.1 Test Procedures

1. The EUT is installed in an environment test chamber with external power source.
2. Set the chamber to operate at 50 centigrade and external power source to output at nominal voltage of EUT.
3. A sufficient stabilization period at each temperature is used prior to each frequency measurement.
4. When temperature is stabled, measure the frequency stability.
5. The test shall be performed under -30 to 50 centigrade and 85 to 115 percent of the nominal voltage. Change setting of chamber and external power source to complete all conditions.

3.6.2 Test Setup



3.6.3 Test Result of Frequency Stability

Frequency: 5200 MHz	Frequency Drift (ppm)			
Temperature (°C)	0 minute	2 minutes	5 minutes	10 minutes
T20°C Vmax	6.69	6.38	7.42	6.69
T20°C Vmin	4.90	5.61	4.90	4.80
T50°C Vnom	3.72	4.16	3.86	4.39
T40°C Vnom	3.87	4.31	4.09	4.07
T30°C Vnom	2.51	2.77	2.83	2.28
T20°C Vnom	4.29	4.88	4.13	4.35
T10°C Vnom	3.79	4.20	3.65	3.54
T0°C Vnom	4.35	4.04	4.26	4.24
T-10°C Vnom	2.92	3.46	3.69	3.07
T-20°C Vnom	1.88	2.59	2.29	1.55
T-30°C Vnom	-0.04	-0.13	0.29	0.11
Vnom [Vac]: 110		Vmax [Vac]: 126.5		Vmin [Vac]: 93.5
Tnom [°C]: 20		Tmax [°C]: 50		Tmin [°C]: -30

Frequency: 5785 MHz	Frequency Drift (ppm)			
Temperature (°C)	0 minute	2 minutes	5 minutes	10 minutes
T20°C Vmax	5.90	6.40	5.71	6.52
T20°C Vmin	4.22	4.95	4.55	4.57
T50°C Vnom	3.61	3.57	3.27	3.32
T40°C Vnom	3.92	3.65	3.39	3.70
T30°C Vnom	2.25	3.07	2.21	2.58
T20°C Vnom	4.40	4.07	4.16	4.74
T10°C Vnom	3.54	3.56	3.77	3.81
T0°C Vnom	4.57	4.55	4.29	4.67
T-10°C Vnom	2.95	3.00	3.25	2.53
T-20°C Vnom	2.76	2.46	1.73	2.92
T-30°C Vnom	-0.16	0.32	0.21	0.51
Vnom [Vac]: 110		Vmax [Vac]: 126.5		Vmin [Vac]: 93.5
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

Tel: 886-2-2601-1640

No. 30-2, Ding Fwu Tsuen, Lin
Kou District, New Taipei City,
Taiwan, R.O.C.

Kwei Shan

Tel: 886-3-271-8666

No. 3-1, Lane 6, Wen San 3rd St.,
Kwei Shan District, Tao Yuan City
333, Taiwan, R.O.C.

Kwei Shan Site II

Tel: 886-3-271-8640

No. 14-1, Lane 19, Wen San 3rd
St., Kwei Shan District, Tao Yuan
City 333, Taiwan, R.O.C.

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

Tel: 886-3-271-8666

Fax: 886-3-318-0155

Email: ICC_Service@icertifi.com.tw

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