FCC Test Report

FCC ID	:	**TVE-26155013**
Equipment	:	**Secured Wireless Access Point**
Model No.	:	**FAP-S322C**
Multiple Listing	:	**Please refer to section 1.1.1 for more details.**
Brand Name	:	**Fortinet, Inc.**
Applicant	:	**Fortinet, Inc.**
Address	:	**899 Kifer Road Sunnyvale, CA 94086, USA**
Standard	:	**47 CFR FCC Part 15.407**
Received Date	:	**Jun. 18, 2015**
Tested Date	:	**Jul. 05, 2015 ~ Jan. 27, 2016**

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.

Approved & Reviewed by:

Gary Chang / Manager

Testing Laboratory
2732

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Release Record

Report No.	Version	Description	Issued Date
FR562202AN	Rev. 01	Initial issue	Jun. 28, 2016

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.431MHz 35.96 (Margin -11.28dB) - AV	Pass
15.407(b) 15.209	Radiated Emissions	[dBuV/m at 3m]: 5150.00MHz 53.00 (Margin -1.00dB) - AV	Pass
15.407(a)	Emission Bandwidth	Meet the requirement of limit	Pass
15.407(e)	6dB bandwidth	Meet the requirement of limit	Pass
15.407(a)	RF Output Power	Max Power [dBm]: 5150-5250MHz: 25.25 5725-5850MHz: 26.40	Pass
15.407(a)	Peak Power Spectral Density	Meet the requirement of limit	Pass
15.407(g)	Frequency Stability	Meet the requirement of limit	Pass
15.203	Antenna Requirement	Meet the requirement of limit	Pass

1 General Description

1.1 Information

1.1.1 Product Details

The following models are provided to this EUT.

Brand Name	Model Name	Multiple Listing	Product Name	Description
Fortinet, Inc.	FAP-S322C	FORTIAP-S322Cxxxxxx FortiAP S322Cxxxxxx FortiAP-S322Cxxxxxx FAP-S322Cxxxxxx	Secured Wireless Access Point	Outdoor device
Note: Where “x” can be used as “A-Z”, or “0-9”, or “-“, or blank for software changes or marketing purposes only. No Safety related changes.				

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**
5150-5250	a	5180-5240	36-48 [4]	3	6-54 Mbps
5150-5250	n (HT20)	5180-5240	36-48 [4]	3	MCS 0-23
5150-5250	n (HT40)	5190-5230	38-46 [2]	3	MCS 0-23
5150-5250	ac (VHT20)	5180-5240	36-48 [4]	3	MCS 0-9
5150-5250	ac (VHT40)	5190-5230	38-46 [2]	3	MCS 0-9
5150-5250	ac (VHT80)	5210	42 [1]	3	MCS 0-9
Note 1: RF output power specifies that Maximum Conducted Output Power. Note 2: 802.11a/n/ac uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.					

RF General Information					
Frequency Range (MHz)	**IEEE Std. 802.11**	**Ch. Freq. (MHz)**	**Channel Number**	**Transmit Chains (N_{TX})**	**Data Rate / MCS**
5725-5850	a	5745-5825	149-165 [5]	3	6-54 Mbps
5725-5850	n (HT20)	5745-5825	149-165 [5]	3	MCS 0-23
5725-5850	n (HT40)	5755-5795	151-159 [2]	3	MCS 0-23
5725-5850	ac (VHT20)	5745-5825	149-165 [5]	3	MCS 0-9
5725-5850	ac (VHT40)	5755-5795	151-159 [2]	3	MCS 0-9
5725-5850	ac (VHT80)	5775	155 [1]	3	MCS 0-9
Note 1: RF output power specifies that Maximum Conducted Output Power. Note 2: 802.11a/n/ac uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.					

1.1.3 Antenna Details

Model	Type	Connector	Operating Frequencies (MHz) / Antenna Gain (dBi)		
			2400~2483.5	5150~5250	5725~5850
2G_Left	Dipole	MCX	5.40	---	---
2G_Right	Dipole	MCX	5.45	---	---
2G_Middle	Dipole	MCX	4.84	---	---
5G_Left	Dipole	MCX	---	7.35	6.11
5G_Right	Dipole	MCX	---	7.34	7.5
5G_Middle	Dipole	MCX	---	6.85	6.55

1.1.4 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	55Vdc from POE

1.1.5 Accessories

Accessories		
No.	Equipment	Description
1	POE	Brand Name: Microsemi Model Name: PD-9001GR/AC Power Rating: I/P: 100-240Vac, 50-60Hz, 0.67A O/P: 55Vdc, 0.6A Power Line: DC 1.8m non-shielded w/o core

1.1.6 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	---	---

1.1.7 Test Tool and Duty Cycle

Test Tool	ART2-GUI, version: 2.3		
Duty Cycle and Duty Factor	Mode	Duty cycle (%)	Duty factor (dB)
	11a	98.26%	0.08
	VHT20	98.46%	0.07
	VHT40	93.94%	0.27
	VHT80	86.89%	0.61

1.1.8 Power Setting

For Frequency band 5150-5250 MHz		
Modulation Mode	**Test Frequency (MHz)**	**Power Set**
11a	5180	18
11a	5200	19
11a	5240	19
HT20	5180	17.5
HT20	5200	20
HT20	5240	20
HT40	5190	11
HT40	5230	21
VHT20	5180	17.5
VHT20	5200	20
VHT20	5240	20
VHT40	5190	11
VHT40	5230	21
VHT80	5210	7

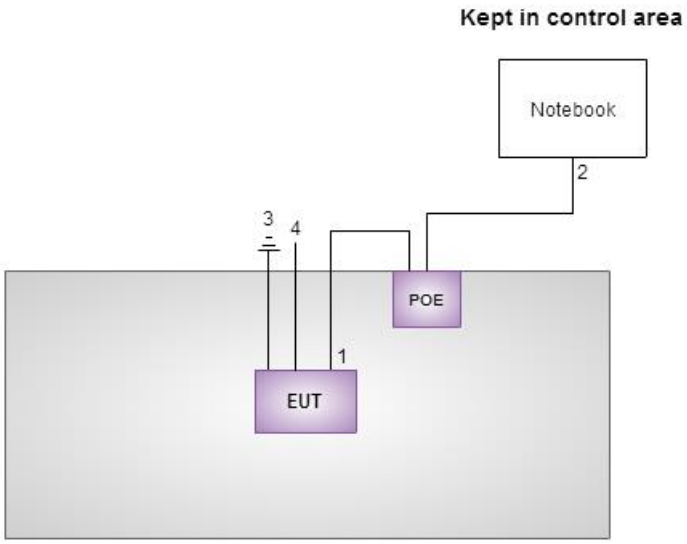
For Frequency band 5725~5850 MHz		
Modulation Mode	**Test Frequency (MHz)**	**Power Set**
11a	5745	16
11a	5785	21
11a	5825	17.5
HT20	5745	15.5
HT20	5785	21
HT20	5825	16.5
HT40	5755	11.5
HT40	5795	18.5
VHT20	5745	15.5
VHT20	5785	21
VHT20	5825	16.5
VHT40	5755	11.5
VHT40	5795	18.5
VHT80	5775	7

1.2 Local Support Equipment List

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

1.3 Test Setup Chart

Test Setup Diagram



1. RJ45, 1m shielded
2. RJ45, 10m non-shielded
3. Ground cable, 1.5m
4. Console, 1.75m non-shielded

1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Tested Date	Nov. 26, 2015				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
EMC Receiver	R&S	ESCS 30	100169	Oct. 21, 2015	Oct. 20, 2016
LISN	SCHWARZBECK	Schwarzbeck 8127	8127-667	Nov. 13, 2015	Nov. 12, 2016
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Dec. 31, 2014	Dec. 30, 2015
Measurement Software	AUDIX	e3	6.120210k	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission below 1GHz				
Test Site	966 chamber 1 / (03CH01-WS)				
Tested Date	Jan. 27, 2016				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Receiver	R&S	ESR3	101658	Nov. 04, 2015	Nov. 03, 2016
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Aug. 20, 2015	Aug. 19, 2016
Preamplifier	Burgeon	BPA-530	SN:100219	Sep. 10, 2015	Sep. 09, 2016
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Dec. 10, 2015	Dec. 09, 2016
LF cable 10M	Woken	CFD400NL-LW	CFD400NL-002	Dec. 10, 2015	Dec. 09, 2016
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission above 1GHz				
Test Site	966 chamber1 / (03CH01-WS)				
Tested Date	Jul. 05 ~ Jul. 20, 2015				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101498	Dec. 09, 2014	Dec. 08, 2015
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 11, 2014	Dec. 10, 2015
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 10, 2014	Nov. 09, 2015
Preamplifier	Burgeon	BPA-530	SN:100219	Sep. 09, 2014	Sep. 08, 2015
Preamplifier	EMC	EMC184045B	980192	Aug. 26, 2014	Aug. 25, 2015
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Dec. 15, 2014	Dec. 14, 2015
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Dec. 15, 2014	Dec. 14, 2015
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16139/4	Dec. 15, 2014	Dec. 14, 2015
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Tested Date	Jul. 24, 2015				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101063	Feb. 03, 2015	Feb. 02, 2016
Power Meter	Anritsu	ML2495A	1241002	Sep. 29, 2014	Sep. 28, 2015
Power Sensor	Anritsu	MA2411B	1207366	Sep. 29, 2014	Sep. 28, 2015
Measurement Software	Sporton	Sporton_1	1.3.30	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

1.5 Testing Applied Standards

According to the specification of EUT, the EUT must comply with following standards and KDB documents.

47 CFR FCC Part 15.407
ANSI C63.10-2013
FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02
FCC KDB 644545 D03 Guidance for IEEE 802 11ac New Rules v01
FCC KDB 662911 D01 Multiple Transmitter Output v02r01
FCC KDB 412172 D01 Determining ERP and EIRP v01r01

1.6 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Measurement Uncertainty	
Parameters	**Uncertainty**
Bandwidth	±34.134 Hz
Conducted power	±0.808 dB
Frequency error	±34.134 Hz
Power density	±0.463 dB
Conducted emission	±2.670 dB
AC conducted emission	±2.90 dB
Radiated emission ≤ 1GHz	±3.66 dB
Radiated emission > 1GHz	±5.63 dB
Time	±0.1%
Temperature	±0.6 ^{o}C

2 Test Configuration

2.1 Testing Condition

Test Item	Test Site	Ambient Condition	Tested By
AC Conduction	CO01-WS	21°C / 43%	Peter Lin
Radiated Emissions	03CH01-WS	21-24°C / 64-66%	Aska Huang
RF Conducted	TH01-WS	22°C / 64%	Brad Wu

- FCC site registration No.: 181692
- IC site registration No.: 10807A-1

2.2 The Worst Test Modes and Channel Details

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

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

3 Transmitter Test Results

3.1 Conducted Emissions

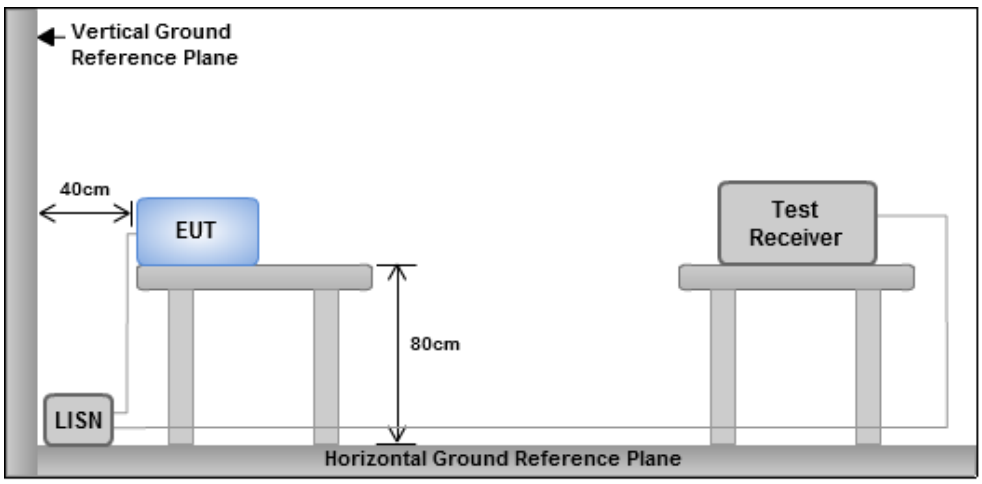
3.1.1 Limit of Conducted Emissions

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

3.1.2 Test Procedures

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

3.1.3 Test Setup

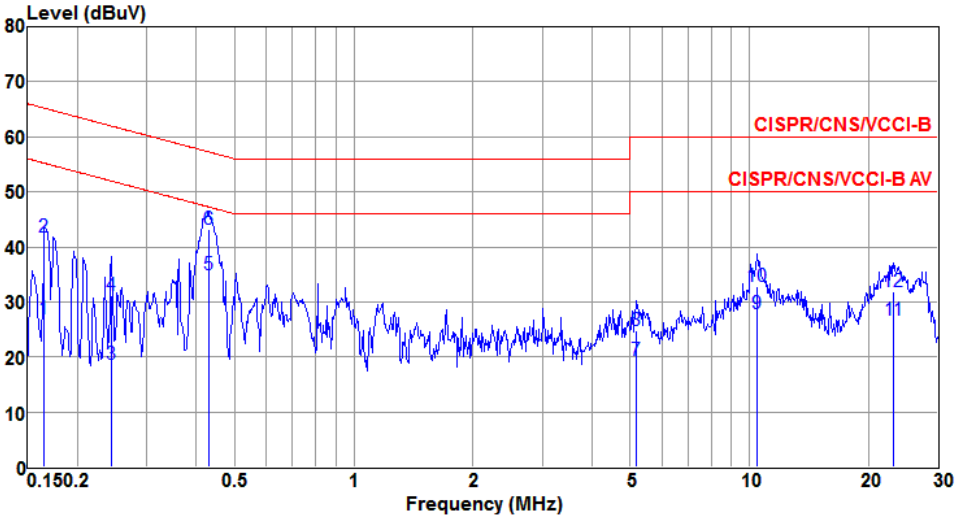


Note: 1. Support units were connected to second LISN.

2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

3.1.4 Test Result of Conducted Emissions

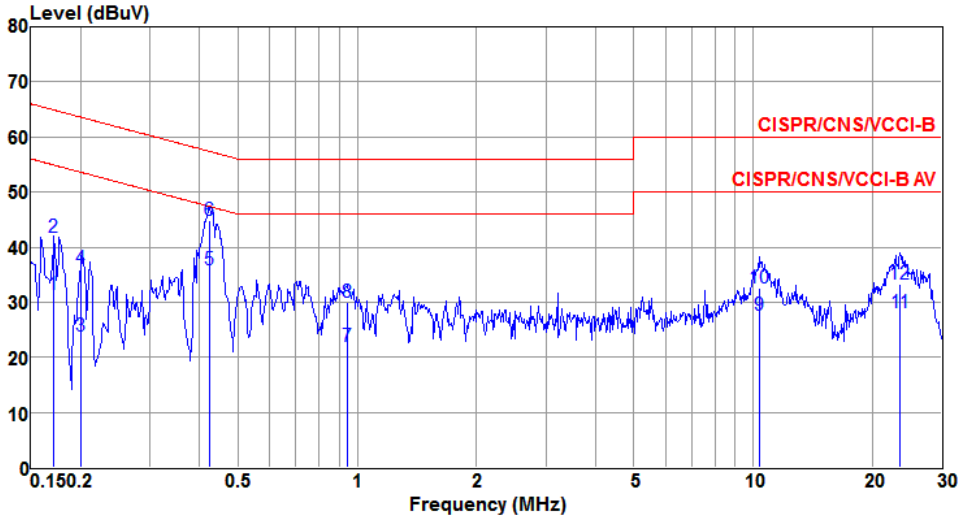
Modulation	VHT40	Test Freq. (MHz)	5230
Power Phase	Line		



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.165	26.92	55.21	-28.29	26.79	0.11	0.02	Average
2	0.165	41.75	65.21	-23.46	41.62	0.11	0.02	QP
3	0.244	18.71	51.95	-33.24	18.57	0.12	0.02	Average
4	0.244	31.05	61.95	-30.90	30.91	0.12	0.02	QP
5@	0.431	34.84	47.24	-12.40	34.68	0.13	0.03	Average
6	0.431	43.29	57.24	-13.95	43.13	0.13	0.03	QP
7	5.166	19.39	50.00	-30.61	19.06	0.20	0.13	Average
8	5.166	24.83	60.00	-35.17	24.50	0.20	0.13	QP
9	10.452	27.75	50.00	-22.25	27.34	0.25	0.16	Average
10	10.452	32.79	60.00	-27.21	32.38	0.25	0.16	QP
11	23.140	26.61	50.00	-23.39	25.99	0.40	0.22	Average
12	23.140	31.80	60.00	-28.20	31.18	0.40	0.22	QP

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

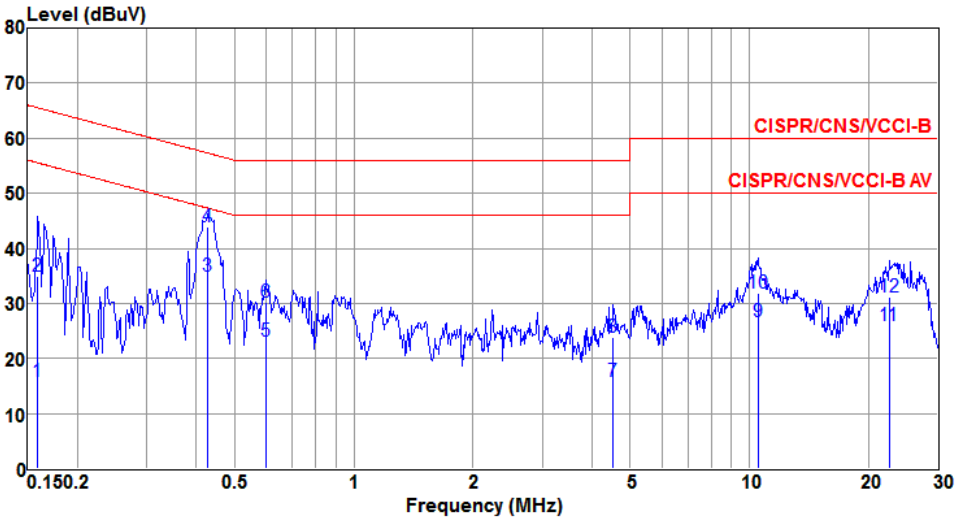
Modulation	VHT40	Test Freq. (MHz)	5230
Power Phase	Neutral		



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.171	31.36	54.90	-23.54	31.22	0.12	0.02	Average
2	0.171	41.82	64.90	-23.08	41.68	0.12	0.02	QP
3	0.201	23.83	53.58	-29.75	23.71	0.10	0.02	Average
4	0.201	36.22	63.58	-27.36	36.10	0.10	0.02	QP
5@	0.424	35.82	47.37	-11.55	35.65	0.14	0.03	Average
6	0.424	44.91	57.37	-12.46	44.74	0.14	0.03	QP
7	0.943	21.97	46.00	-24.03	21.78	0.13	0.06	Average
8	0.943	30.05	56.00	-25.95	29.86	0.13	0.06	QP
9	10.342	27.65	50.00	-22.35	27.21	0.28	0.16	Average
10	10.342	32.62	60.00	-27.38	32.18	0.28	0.16	QP
11	23.511	28.05	50.00	-21.95	27.38	0.44	0.23	Average
12	23.511	33.22	60.00	-26.78	32.55	0.44	0.23	QP

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

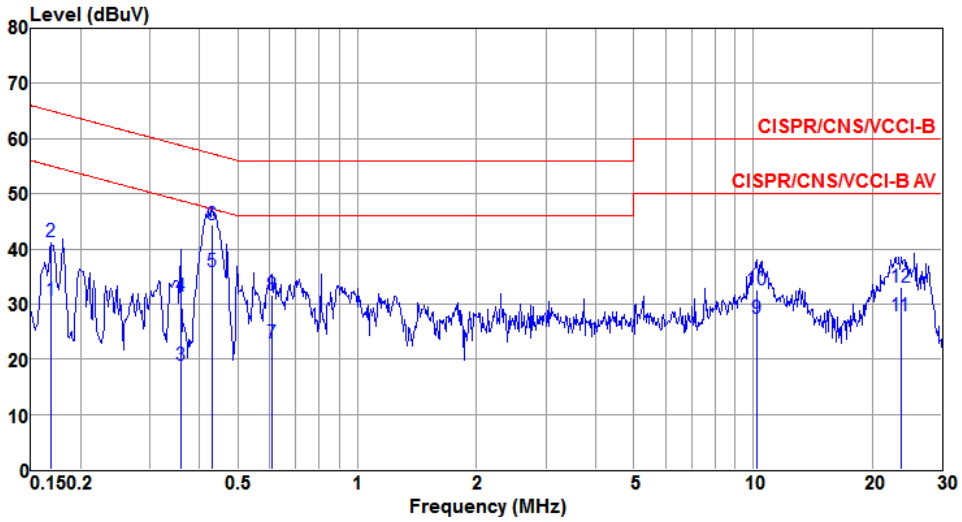
Modulation	11a	Test Freq. (MHz)	5785
Power Phase	Line		



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.159	15.91	55.52	-39.61	15.78	0.11	0.02	Average
2	0.159	34.91	65.52	-30.61	34.78	0.11	0.02	QP
3@	0.428	34.86	47.29	-12.43	34.70	0.13	0.03	Average
4	0.428	43.84	57.29	-13.45	43.68	0.13	0.03	QP
5	0.598	23.11	46.00	-22.89	22.94	0.13	0.04	Average
6	0.598	30.30	56.00	-25.70	30.13	0.13	0.04	QP
7	4.525	15.81	46.00	-30.19	15.48	0.20	0.13	Average
8	4.525	23.79	56.00	-32.21	23.46	0.20	0.13	QP
9	10.508	26.75	50.00	-23.25	26.33	0.25	0.17	Average
10	10.508	31.80	60.00	-28.20	31.38	0.25	0.17	QP
11	22.535	25.94	50.00	-24.06	25.33	0.40	0.21	Average
12	22.535	31.18	60.00	-28.82	30.57	0.40	0.21	QP

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

Modulation	11a	Test Freq. (MHz)	5785
Power Phase	Neutral		



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.169	30.73	55.03	-24.30	30.59	0.12	0.02	Average
2	0.169	41.34	65.03	-23.69	41.20	0.12	0.02	QP
3	0.358	18.92	48.78	-29.86	18.76	0.13	0.03	Average
4	0.358	31.44	58.78	-27.34	31.28	0.13	0.03	QP
5@	0.431	35.96	47.24	-11.28	35.79	0.14	0.03	Average
6	0.431	44.45	57.24	-12.79	44.28	0.14	0.03	QP
7	0.608	22.96	46.00	-23.04	22.78	0.14	0.04	Average
8	0.608	31.53	56.00	-24.47	31.35	0.14	0.04	QP
9	10.233	27.45	50.00	-22.55	27.02	0.27	0.16	Average
10	10.233	32.49	60.00	-27.51	32.06	0.27	0.16	QP
11	23.636	27.81	50.00	-22.19	27.14	0.44	0.23	Average
12	23.636	33.10	60.00	-26.90	32.43	0.44	0.23	QP

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

3.2 Emission Bandwidth

3.2.1 Limit of Emission bandwidth

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

3.2.2 Test Procedures

26dB Bandwidth

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

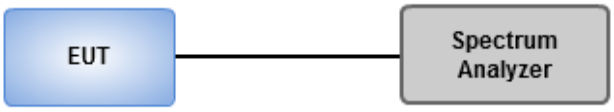
Occupied Bandwidth

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

6dB Bandwidth

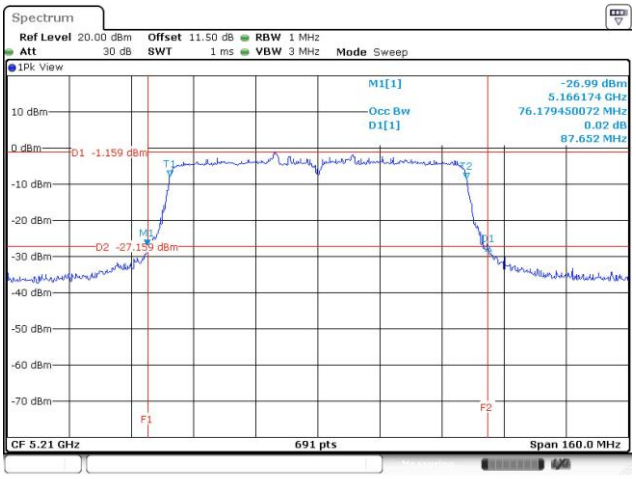
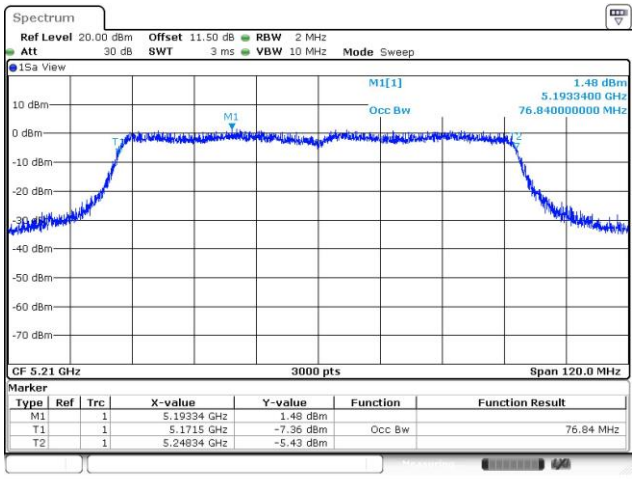
1. Set RBW = 100kHz, VBW = 300kHz
2. Detector = Peak,Trace mode = max hold.
3. Allow the trace to stabilize.
4. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

3.2.3 Test Setup

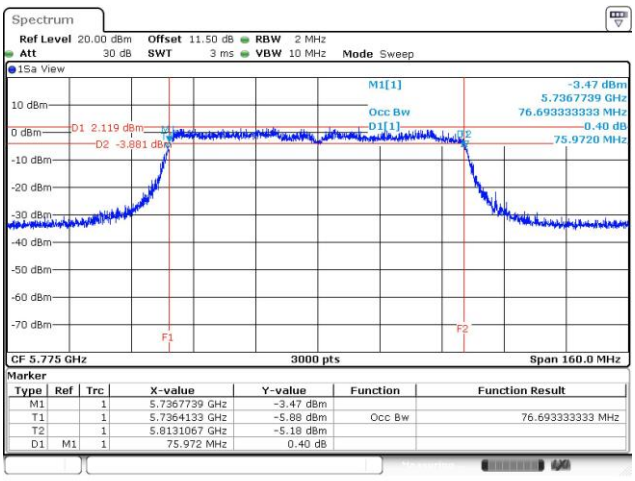
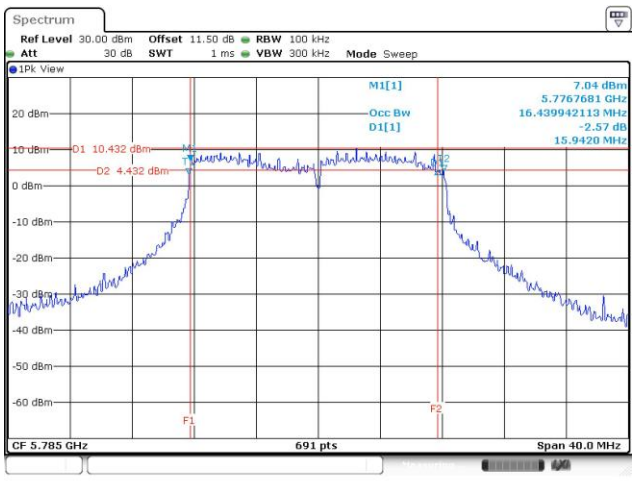


3.2.4 Test Result of Emission Bandwidth

For Frequency band 5150-5250 MHz										
Emission Bandwidth										
Mode	N_{TX}	Freq. (MHz)	26dB Bandwidth (MHz)				99% Bandwidth (MHz)			
			Chain 0	Chain 1	Chain 2	Chain 3	Chain 0	Chain 1	Chain 2	Chain 3
11a	3	5180	21.91	21.62	22.38	---	16.75	16.70	16.70	---
11a	3	5200	22.84	22.03	21.97	---	16.75	16.70	16.69	---
11a	3	5240	22.38	22.26	22.20	---	16.67	16.70	16.69	---
VHT20	3	5180	23.07	23.13	23.19	---	17.97	17.88	17.87	---
VHT20	3	5200	23.13	24.17	23.42	---	17.97	17.86	17.80	---
VHT20	3	5240	22.26	23.77	23.42	---	17.94	17.91	17.86	---
VHT40	3	5190	45.22	45.22	46.26	---	36.90	36.86	36.84	---
VHT40	3	5230	46.73	45.80	45.57	---	36.96	36.90	36.80	---
VHT80	3	5210	86.96	87.19	87.65	---	76.64	76.84	76.40	---

Worst Plot of 26dB Bandwidth	Worst Plot of 99% Bandwidth
	

For Frequency band 5725-5850 MHz											
Emission Bandwidth											
Mode	N_{TX}	Freq. (MHz)	OBW Bandwidth (MHz)				6dB Bandwidth (MHz)				
			Chain 0	Chain 1	Chain 2	Chain 3	Chain 0	Chain 1	Chain 2	Chain 3	6dB BW Limit (MHz)
11a	3	5745	16.76	16.71	16.67	---	16.35	16.35	16.35	---	0.5
11a	3	5785	16.75	16.76	16.67	---	16.35	15.94	16.35	---	0.5
11a	3	5825	16.75	16.68	16.64	---	16.41	16.41	16.41	---	0.5
VHT20	3	5745	17.88	17.88	17.87	---	17.57	17.22	17.57	---	0.5
VHT20	3	5785	17.83	17.97	17.84	---	17.57	16.93	17.62	---	0.5
VHT20	3	5825	17.83	18.07	17.87	---	17.28	17.57	17.57	---	0.5
VHT40	3	5755	36.75	36.85	36.80	---	35.83	35.71	36.41	---	0.5
VHT40	3	5795	36.91	36.91	36.85	---	36.29	35.71	36.41	---	0.5
VHT80	3	5775	76.69	76.48	76.53	---	76.29	73.28	75.83	---	0.5

Worst Plot of 99% Bandwidth	Worst Plot of 6dB Bandwidth
	

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
☐	Mobile and portable client devices	Conducted Power: 250 mW

Frequency Band (MHz)		**Limit**
☐	5250 ~ 5350	250mW or 11dBm+10 log B
☐	5470 ~ 5725	250mW or 11dBm+10 log B
☒	5725 ~ 5850	1 W
Note: “B” is the 26dB emission bandwidth in MHz.		

3.3.2 Test Procedures

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

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

3.3.3 Test Setup

3.3.4 Test Result of Maximum Conducted Output Power

For Frequency band 5150-5250 MHz									
Mode	N_{TX}	Freq. (MHz)	Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)
			Chain 0	Chain 1	Chain 2	Chain 3			
11a	3	5180	18.09	18.11	17.66	---	187.476	22.73	28.65
11a	3	5200	19.09	19.25	18.89	---	242.682	23.85	28.65
11a	3	5240	19.16	19.32	18.59	---	240.197	23.81	28.65
HT20	3	5180	17.56	17.52	16.95	---	163.055	22.12	28.65
HT20	3	5200	20.08	20.11	19.72	---	298.181	24.74	28.65
HT20	3	5240	19.94	20.06	19.75	---	294.425	24.69	28.65
HT40	3	5190	10.42	10.51	9.86	---	31.944	15.04	28.65
HT40	3	5230	20.54	20.51	20.06	---	327.092	25.15	28.65
VHT20	3	5180	17.68	17.65	17.04	---	167.407	22.24	28.65
VHT20	3	5200	20.16	20.22	19.81	---	304.668	24.84	28.65
VHT20	3	5240	20.02	20.18	19.84	---	301.076	24.79	28.65
VHT40	3	5190	10.54	10.62	9.94	---	32.721	15.15	28.65
VHT40	3	5230	20.68	20.62	20.11	---	334.860	**25.25**	28.65
VHT80	3	5210	6.06	6.39	5.69	---	12.098	10.83	28.65

Note: The maximum antenna gain 7.35dBi is higher than 6dBi, so the limit of output power shall be reduced by 1.35dB.

For Frequency band 5725-5850 MHz									
Mode	N_{TX}	Freq. (MHz)	Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)
			Chain 0	Chain 1	Chain 2	Chain 3			
11a	3	5745	16.93	16.64	15.35	---	129.726	21.13	28.50
11a	3	5785	22.14	21.76	20.9	---	436.677	**26.40**	28.50
11a	3	5825	18.5	17.89	17.06	---	183.128	22.63	28.50
HT20	3	5745	16.25	15.96	14.54	---	110.060	20.42	28.50
HT20	3	5785	21.96	21.44	20.62	---	411.697	26.15	28.50
HT20	3	5825	17.25	17.44	16.13	---	149.571	21.75	28.50
HT40	3	5755	11.58	11.42	10.06	---	38.395	15.84	28.50
HT40	3	5795	18.95	18.91	17.42	---	211.535	23.25	28.50
VHT20	3	5745	16.38	16.1	14.65	---	113.363	20.54	28.50
VHT20	3	5785	22.06	21.52	20.71	---	420.360	26.24	28.50
VHT20	3	5825	17.36	17.57	16.24	---	153.671	21.87	28.50
VHT40	3	5755	11.69	11.54	10.12	---	39.293	15.94	28.50
VHT40	3	5795	19.01	19.05	17.56	---	216.985	23.36	28.50
VHT80	3	5775	6.99	7.02	5.40	---	13.503	11.30	28.50

Note: The maximum antenna gain 7.5dBi is higher than 6dBi, so the limit of output power shall be reduced by 1.5dB.

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
☐	Mobile and portable client devices	11 dBm / MHz

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

3.4.2 Test Procedures

For 5150 ~ 5250 MHz

☒ Method SA-1 (for 11a/VHT20)

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

☒ Method SA-2 Alternative (for VHT40/VHT80)

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

For 5725 ~ 5850 MHz

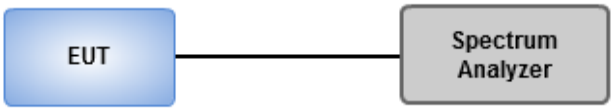
☒ Method SA-1 (for 11a/VHT20)

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

☒ Method SA-2 Alternative (for VHT40/VHT80)

1. Set RBW = 500 kHz, VBW = 2 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



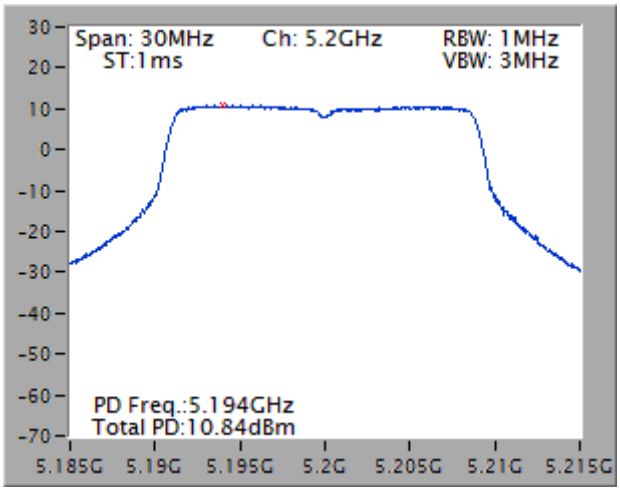
3.4.4 Test Result of Peak Power Spectral Density

For Frequency band 5150-5250 MHz						
Condition			Peak Power Spectral Density (dBm/MHz)			
Modulation Mode	N_{TX}	Freq. (MHz)	PPSD w/o D.F (dBm/MHz)	Duty Factor (dB)	PPSD with D.F (dBm/MHz)	PPSD Limit (dBm/MHz)
11a	3	5180	10.13	0.00	10.13	11.05
11a	3	5200	10.68	0.00	10.68	11.05
11a	3	5240	10.43	0.00	10.43	11.05
VHT20	3	5180	9.42	0.00	9.42	11.05
VHT20	3	5200	10.84	0.00	10.84	11.05
VHT20	3	5240	10.77	0.00	10.77	11.05
VHT40	3	5190	-1.16	0.27	-0.89	11.05
VHT40	3	5230	8.18	0.27	8.45	11.05
VHT80	3	5210	-8.89	0.61	-8.28	11.05

Note:

1. D.F is duty factor.
2. Test results for VHT20 / VHT40 / VHT80 are bin-by-bin summing measured value of each TX port.
3. Directional gain = 10 * log((10$^{7.35/20}$+10$^{7.34/20}$+10$^{6.85/20}$)^2/3) = 11.95 dBi > 6 dBi
   Limit shall be reduced to 17 dBm – (11.95 dBi – 6 dBi) = 11.05 dBm

Worst Plots

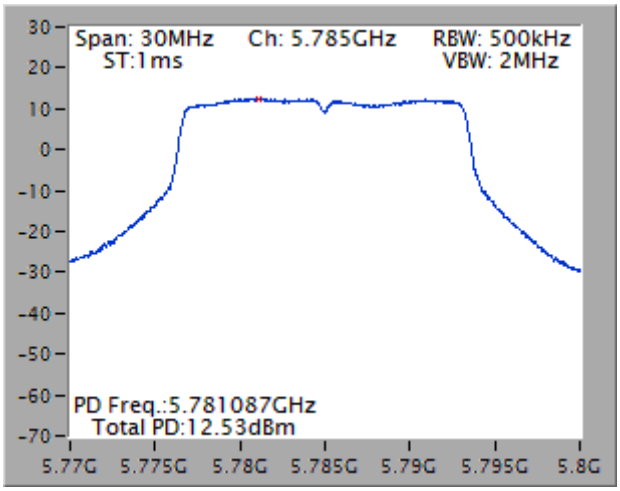


For Frequency band 5725-5850 MHz						
Condition			Peak Power Spectral Density (dBm/500kHz)			
Modulation Mode	N_{TX}	Freq. (MHz)	PPSD w/o D.F (dBm/500kHz)	Duty Factor (dB)	PPSD with D.F (dBm/500kHz)	PPSD Limit (dBm/500kHz)
11a	3	5745	7.09	0.00	7.09	24.49
11a	3	5785	12.53	0.00	12.53	24.49
11a	3	5825	9.86	0.00	9.86	24.49
VHT20	3	5745	6.20	0.00	6.20	24.49
VHT20	3	5785	11.95	0.00	11.95	24.49
VHT20	3	5825	7.94	0.00	7.94	24.49
VHT40	3	5755	-1.39	0.27	-1.12	24.49
VHT40	3	5795	6.24	0.27	6.51	24.49
VHT80	3	5775	-9.52	0.61	-8.91	24.49

Note:

1. D.F is duty factor.
2. Test results for VHT20 / VHT40 / VHT80 are bin-by-bin summing measured value of each TX port.
3. Directional gain = 10 * log((10$^{6.11/20}$+10$^{7.5/20}$+10$^{6.55/20}$)^2/3) = 11.51 dBi > 6 dBi
   Limit shall be reduced to 30 dBm – (11.51 dBi – 6 dBi) = 24.49 dBm

Worst Plots



3.5 Transmitter Radiated and Band Edge Emissions

3.5.1 Limit of Transmitter Radiated and Band Edge Emissions

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

Note 1:
Qusai-Peak value is measured for frequency below 1GHz except for 9–90 kHz, 110–490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit
Note 2:
Measurements may be performed at a distance other than what is specified provided. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor as below, Frequency at or above 30 MHz: 20 dB/decade Frequency below 30 MHz: 40 dB/decade.

Un-restricted band emissions above 1GHz Limit		
Operating Band	**Limit**	
5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]	
5.725 - 5.850 GHz	☒	15.407(b)(4)(i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
	☐	15.407(b)(4)(ii) ,compliance with the emission limits in § 15.247(d) Shall be at least 30dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power,. Attenuation below the general limits specified in §15.209(a) is not required. In addition,radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see § 15.205(c))
Note 1: Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).		

3.5.2 Test Procedures

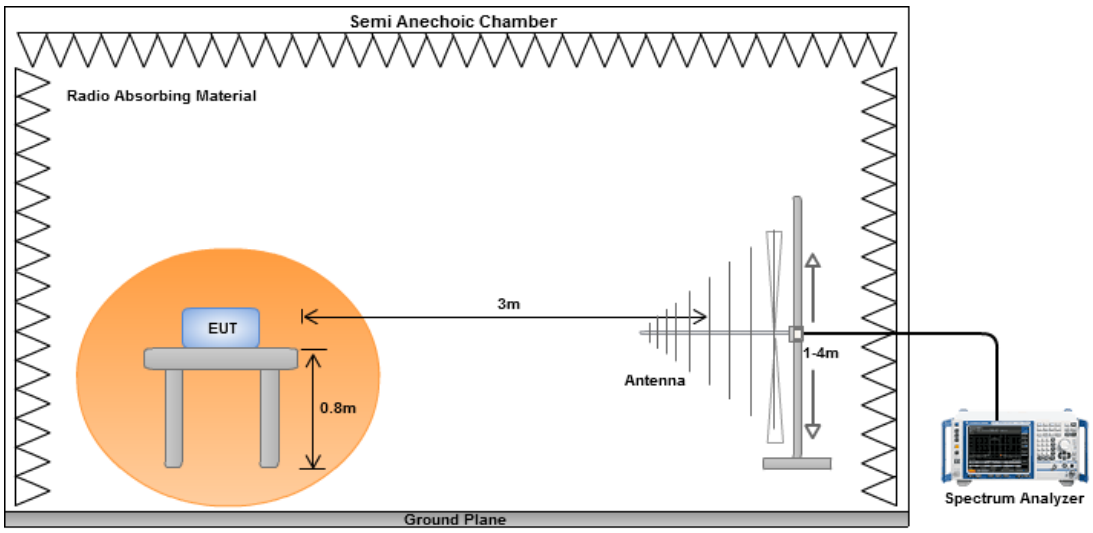
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission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

Note:

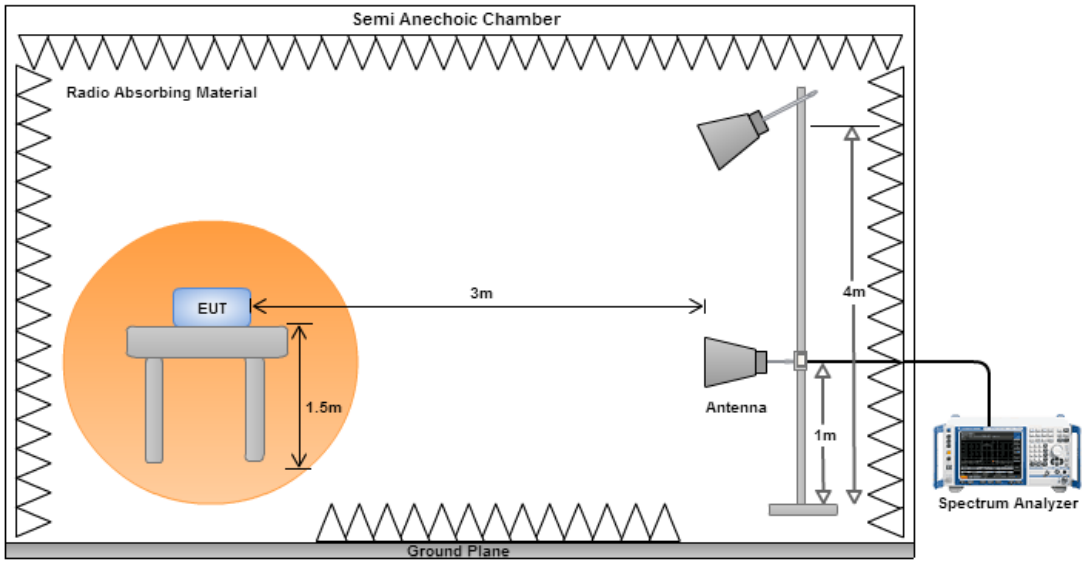
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

3.5.3 Test Setup

Radiated Emissions below 1 GHz

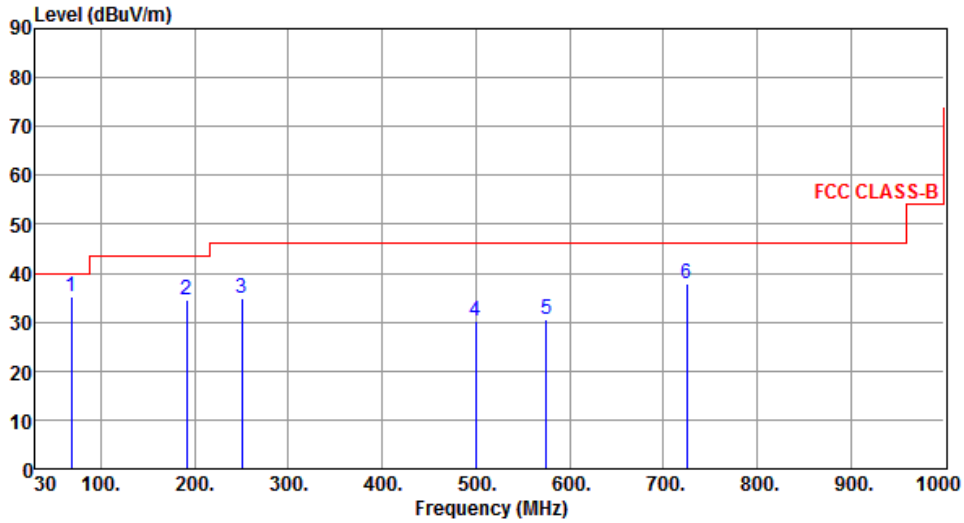


Radiated Emissions above 1 GHz



3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

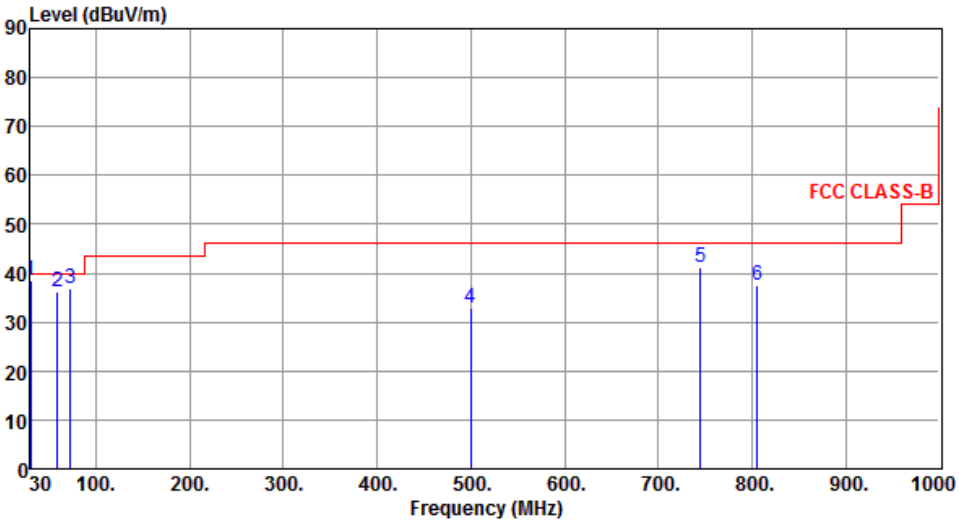
Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	68.52	35.29	40.00	-4.71	54.36	-19.07	Peak	---	---
2	191.54	34.62	43.50	-8.88	53.76	-19.14	Peak	---	---
3	250.16	34.94	46.00	-11.06	52.66	-17.72	Peak	---	---
4	500.25	30.24	46.00	-15.76	41.36	-11.12	Peak	---	---
5	575.37	30.61	46.00	-15.39	40.59	-9.98	Peak	---	---
6	725.18	37.76	46.00	-8.24	45.26	-7.50	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.

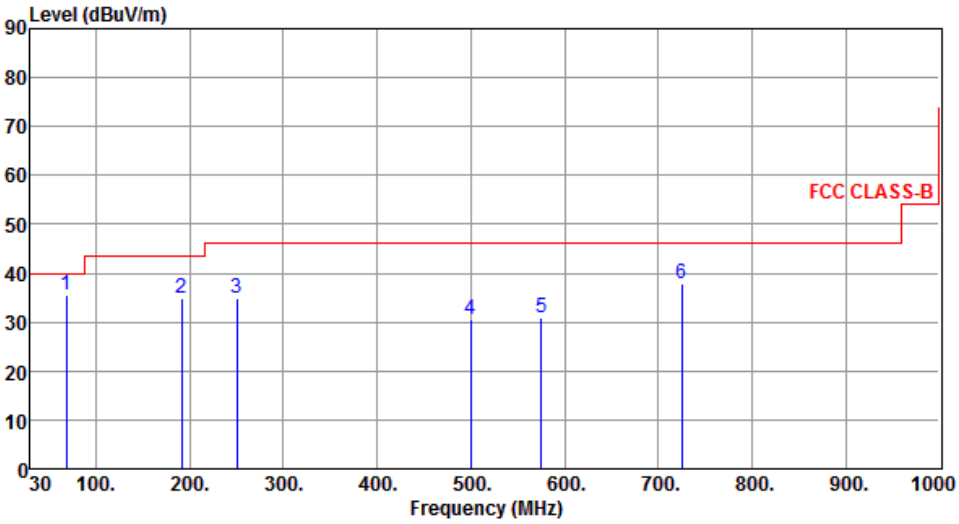
Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	30.56	38.69	40.00	-1.31	56.49	-17.80	QP	---	---
2	59.34	36.20	40.00	-3.80	53.63	-17.43	Peak	---	---
3	72.41	36.72	40.00	-3.28	56.53	-19.81	Peak	---	---
4	500.18	32.78	46.00	-13.22	43.90	-11.12	Peak	---	---
5	745.24	41.23	46.00	-4.77	48.28	-7.05	Peak	---	---
6	805.42	37.65	46.00	-8.35	44.09	-6.44	Peak	---	---

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

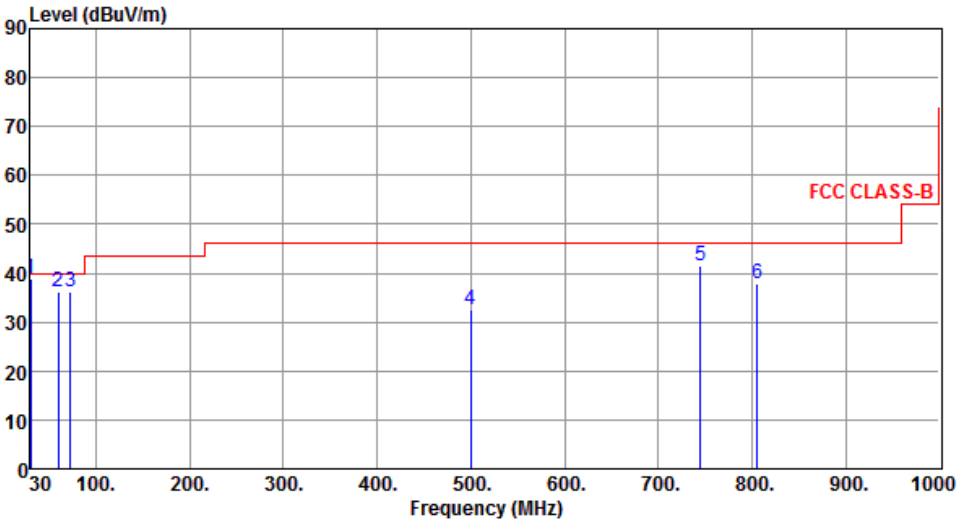
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	68.57	35.43	40.00	-4.57	54.51	-19.08	Peak	---	---
2	191.52	34.93	43.50	-8.57	54.07	-19.14	Peak	---	---
3	250.12	34.78	46.00	-11.22	52.50	-17.72	Peak	---	---
4	500.14	30.70	46.00	-15.30	41.82	-11.12	Peak	---	---
5	575.38	30.75	46.00	-15.25	40.73	-9.98	Peak	---	---
6	725.34	37.91	46.00	-8.09	45.40	-7.49	Peak	---	---

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

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

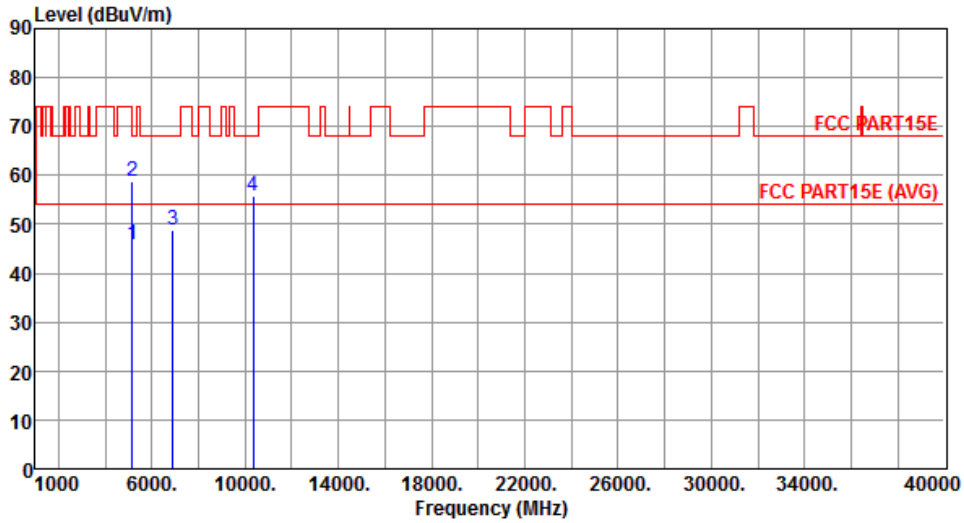


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	30.64	38.98	40.00	-1.02	56.77	-17.79	QP	---	---
2	59.37	36.08	40.00	-3.92	53.51	-17.43	Peak	---	---
3	72.54	36.34	40.00	-3.66	56.17	-19.83	Peak	---	---
4	500.12	32.68	46.00	-13.32	43.80	-11.12	Peak	---	---
5	745.19	41.35	46.00	-4.65	48.40	-7.05	Peak	---	---
6	805.36	37.84	46.00	-8.16	44.29	-6.45	Peak	---	---

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

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

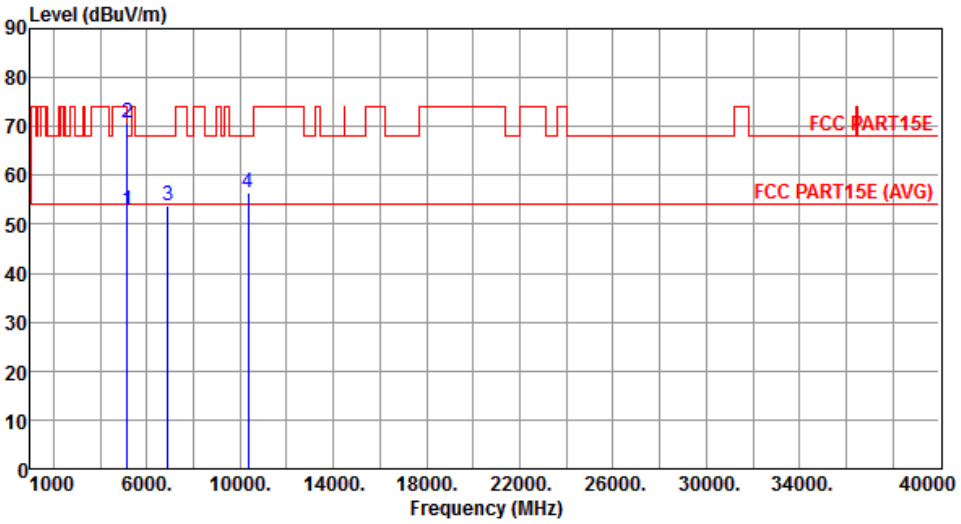
Modulation	11a	Test Freq. (MHz)	5180
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	45.70	54.00	-8.30	40.24	5.46	Average	---	---
2	5150.00	58.77	74.00	-15.23	53.31	5.46	Peak	---	---
3	6906.66	48.66	68.20	-19.54	40.25	8.41	Peak	---	---
4	10360.00	55.73	68.20	-12.47	40.32	15.41	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).

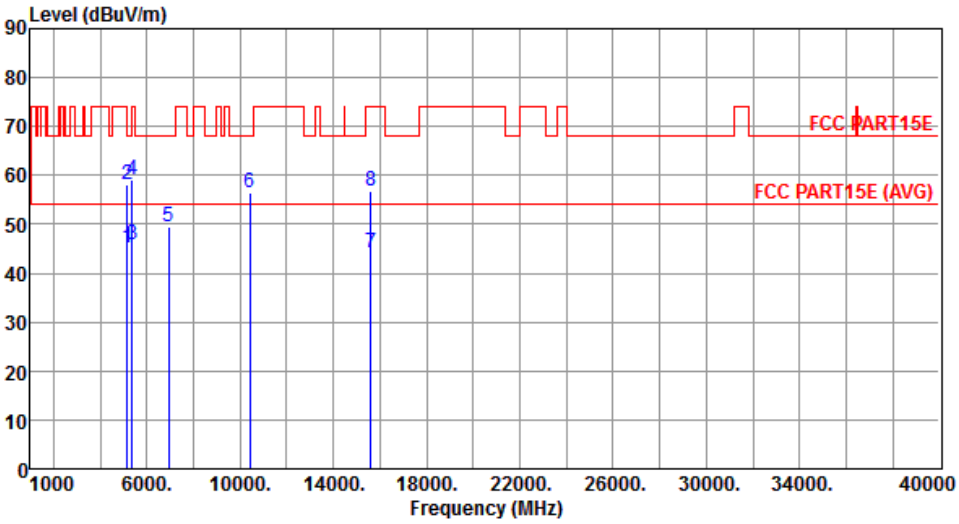
Modulation	11a	Test Freq. (MHz)	5180
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.68	54.00	-1.32	47.22	5.46	Average	---	---
2	5150.00	70.79	74.00	-3.21	65.33	5.46	Peak	---	---
3	6906.66	53.65	68.20	-14.55	45.24	8.41	Peak	---	---
4	10360.00	56.34	68.20	-11.86	40.93	15.41	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).

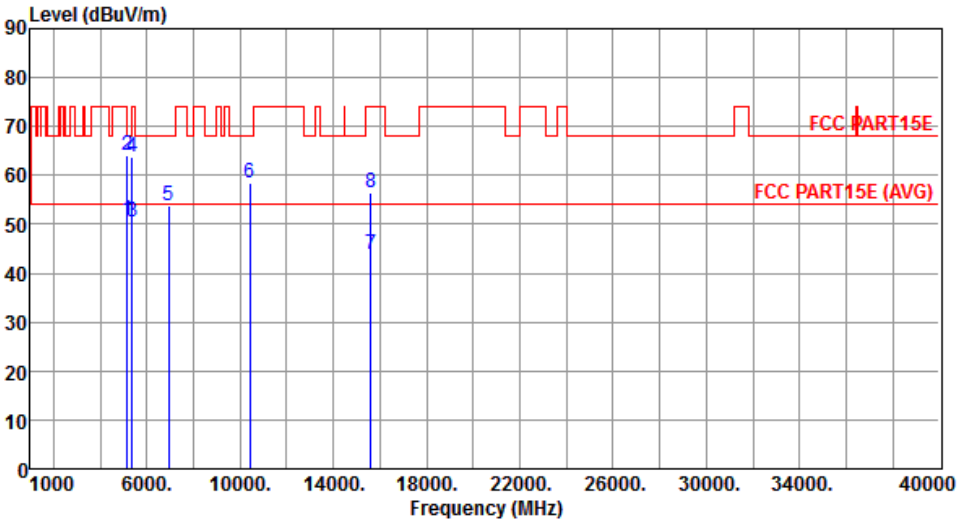
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Horizontal		



	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	45.02	54.00	-8.98	39.56	5.46	Average	---	---
2	5150.00	58.21	74.00	-15.79	52.75	5.46	Peak	---	---
3	5350.00	46.00	54.00	-8.00	40.44	5.56	Average	---	---
4	5350.00	59.09	74.00	-14.91	53.53	5.56	Peak	---	---
5	6933.33	49.36	68.20	-18.84	40.91	8.45	Peak	---	---
6	10400.00	56.35	68.20	-11.85	40.80	15.55	Peak	---	---
7	15600.00	44.03	54.00	-9.97	28.47	15.56	Average	---	---
8	15600.00	56.75	74.00	-17.25	41.19	15.56	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).

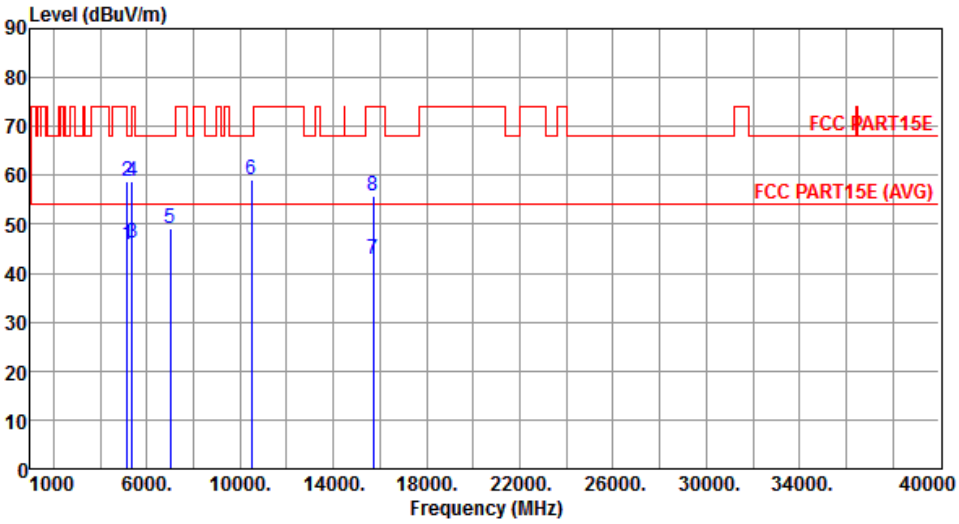
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Vertical		



	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	50.67	54.00	-3.33	45.21	5.46	Average	---	---
2	5150.00	64.08	74.00	-9.92	58.62	5.46	Peak	---	---
3	5350.00	50.59	54.00	-3.41	45.03	5.56	Average	---	---
4	5350.00	63.92	74.00	-10.08	58.36	5.56	Peak	---	---
5	6933.33	53.73	68.20	-14.47	45.28	8.45	Peak	---	---
6	10400.00	58.59	68.20	-9.61	43.04	15.55	Peak	---	---
7	15600.00	43.76	54.00	-10.24	28.20	15.56	Average	---	---
8	15600.00	56.53	74.00	-17.47	40.97	15.56	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).

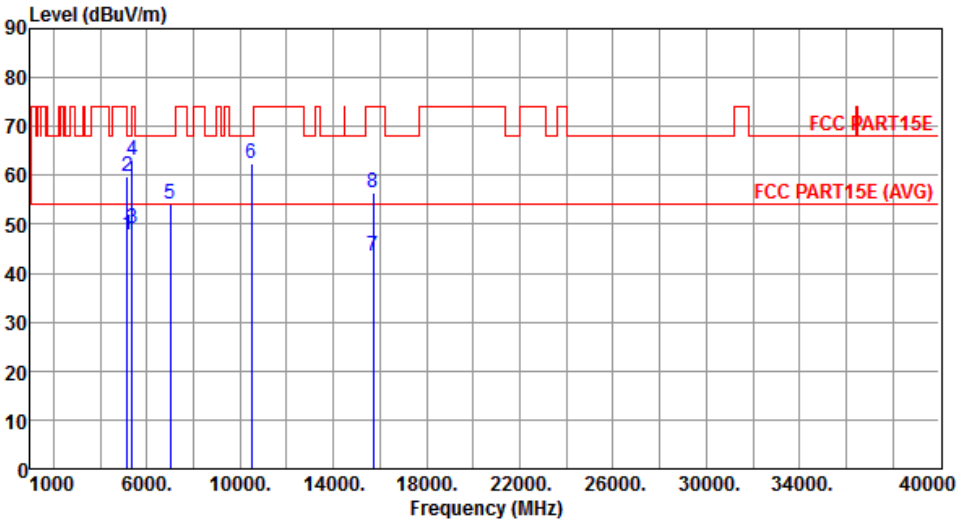
Modulation	11a	Test Freq. (MHz)	5240
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	45.79	54.00	-8.21	40.33	5.46	Average	---	---
2	5150.00	58.77	74.00	-15.23	53.31	5.46	Peak	---	---
3	5350.00	46.22	54.00	-7.78	40.66	5.56	Average	---	---
4	5350.00	58.88	74.00	-15.12	53.32	5.56	Peak	---	---
5	6986.66	48.99	68.20	-19.21	40.48	8.51	Peak	---	---
6	10480.00	59.18	68.20	-9.02	43.32	15.86	Peak	---	---
7	15720.00	42.78	54.00	-11.22	27.69	15.09	Average	---	---
8	15720.00	55.95	74.00	-18.05	40.86	15.09	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).

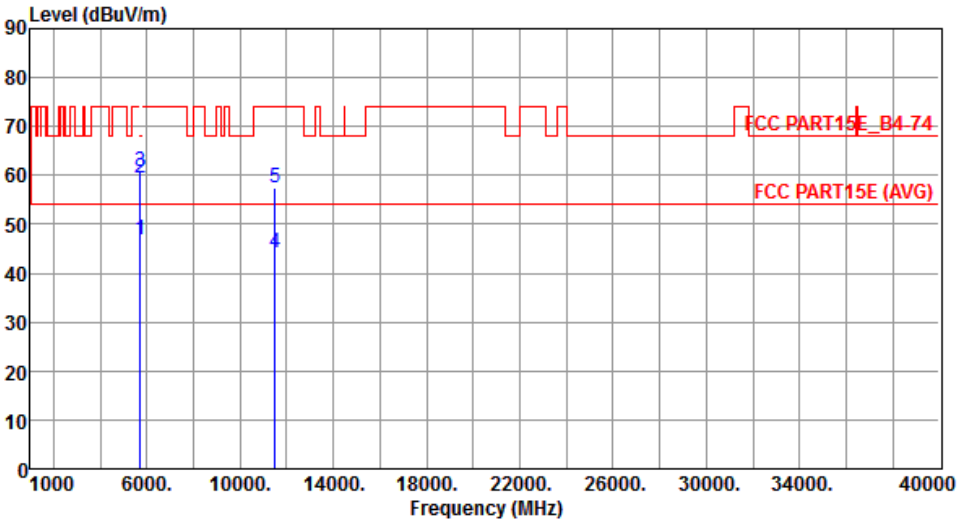
Modulation	11a	Test Freq. (MHz)	5240
Polarization	Vertical		



	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	47.67	54.00	-6.33	42.21	5.46	Average	---	---
2	5150.00	59.69	74.00	-14.31	54.23	5.46	Peak	---	---
3	5350.00	49.13	54.00	-4.87	43.57	5.56	Average	---	---
4	5350.00	63.20	74.00	-10.80	57.64	5.56	Peak	---	---
5	6986.66	54.28	68.20	-13.92	45.77	8.51	Peak	---	---
6	10480.00	62.38	68.20	-5.82	46.52	15.86	Peak	---	---
7	15720.00	43.41	54.00	-10.59	28.32	15.09	Average	---	---
8	15720.00	56.45	74.00	-17.55	41.36	15.09	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).

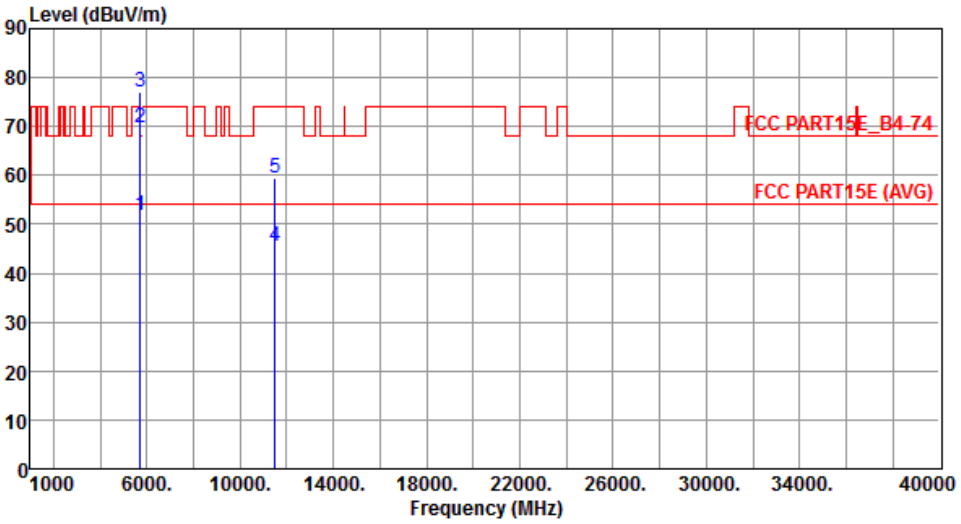
Modulation	11a	Test Freq. (MHz)	5745
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5715.00	46.85	54.00	-7.15	41.20	5.65	Average	---	---
2	5715.00	59.29	74.00	-14.71	53.64	5.65	Peak	---	---
3	5725.00	60.85	78.20	-17.35	55.21	5.64	Peak	---	---
4	11490.00	44.05	54.00	-9.95	28.12	15.93	Average	---	---
5	11490.00	57.31	74.00	-16.69	41.38	15.93	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).

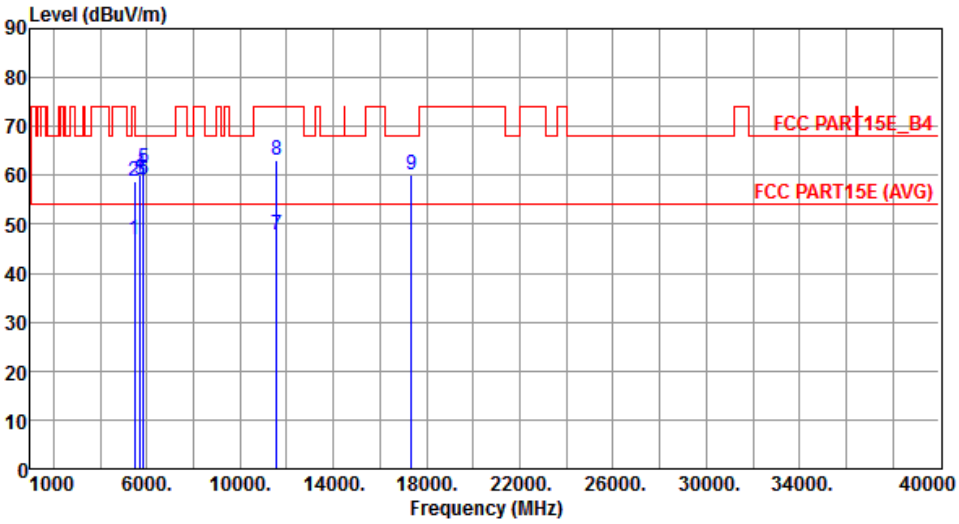
Modulation	11a	Test Freq. (MHz)	5745
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5715.00	51.85	54.00	-2.15	46.20	5.65	Average	---	---
2	5715.00	69.83	74.00	-4.17	64.18	5.65	Peak	---	---
3	5725.00	77.17	78.20	-1.03	71.53	5.64	Peak	---	---
4	11490.00	45.48	54.00	-8.52	29.55	15.93	Average	---	---
5	11490.00	59.48	74.00	-14.52	43.55	15.93	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).

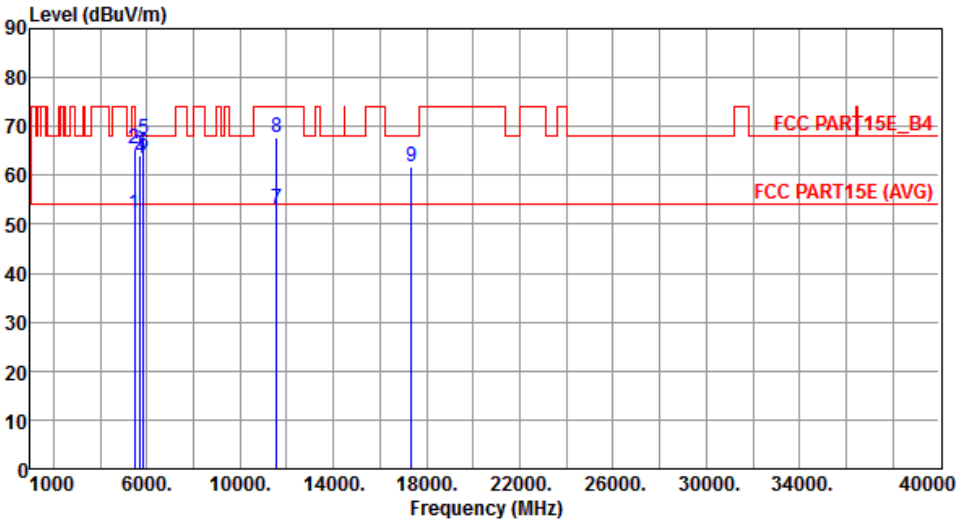
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	46.81	54.00	-7.19	41.21	5.60	Average	---	---
2	5460.00	58.80	74.00	-15.20	53.20	5.60	Peak	---	---
3	5715.00	58.95	68.20	-9.25	53.30	5.65	Peak	---	---
4	5725.00	60.19	78.20	-18.01	54.55	5.64	Peak	---	---
5	5850.00	61.28	78.20	-16.92	55.53	5.75	Peak	---	---
6	5860.00	59.24	68.20	-8.96	53.48	5.76	Peak	---	---
7	11570.00	47.98	54.00	-6.02	32.21	15.77	Average	---	---
8	11570.00	63.02	74.00	-10.98	47.25	15.77	Peak	---	---
9	17355.00	59.97	68.20	-8.23	40.24	19.73	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).

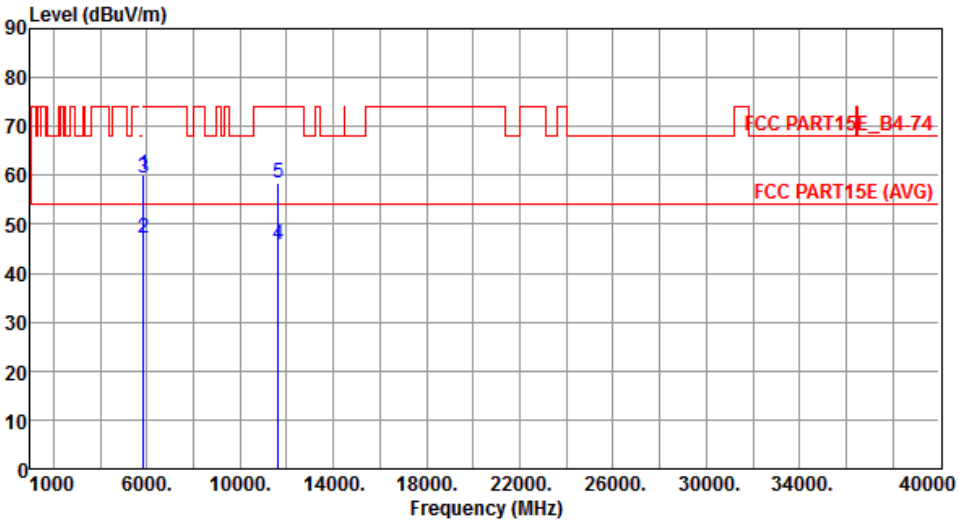
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	52.29	54.00	-1.71	46.69	5.60	Average	---	---
2	5460.00	65.55	74.00	-8.45	59.95	5.60	Peak	---	---
3	5715.00	64.12	68.20	-4.08	58.47	5.65	Peak	---	---
4	5725.00	63.32	78.20	-14.88	57.68	5.64	Peak	---	---
5	5850.00	67.55	78.20	-10.65	61.80	5.75	Peak	---	---
6	5860.00	64.51	68.20	-3.69	58.75	5.76	Peak	---	---
7	11570.00	52.99	54.00	-1.01	37.22	15.77	Average	---	---
8	11570.00	67.68	74.00	-6.32	51.91	15.77	Peak	---	---
9	17355.00	61.67	68.20	-6.53	41.94	19.73	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).

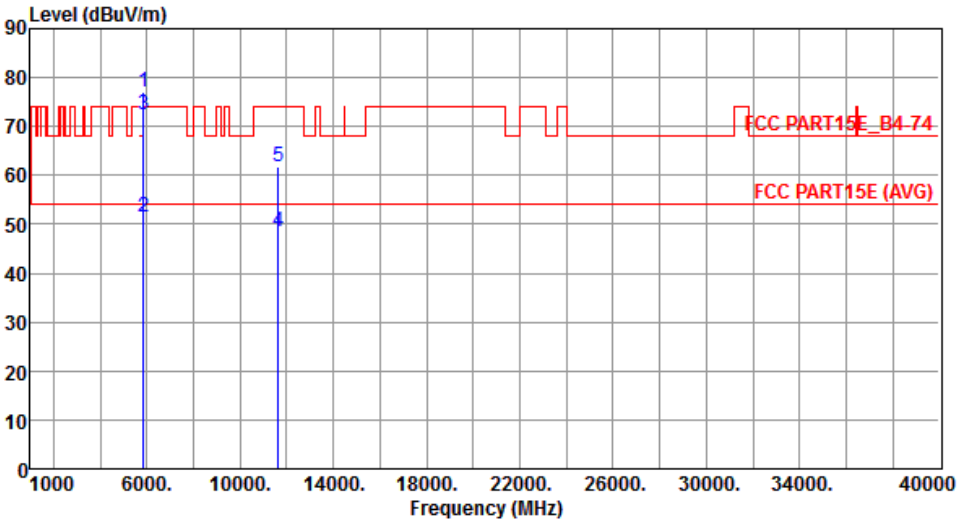
Modulation	11a	Test Freq. (MHz)	5825
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5850.00	60.26	78.20	-17.94	54.51	5.75	Peak	---	---
2	5860.00	47.20	54.00	-6.80	41.44	5.76	Average	---	---
3	5860.00	59.49	74.00	-14.51	53.73	5.76	Peak	---	---
4	11650.00	45.69	54.00	-8.31	30.13	15.56	Average	---	---
5	11650.00	58.42	74.00	-15.58	42.86	15.56	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).

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

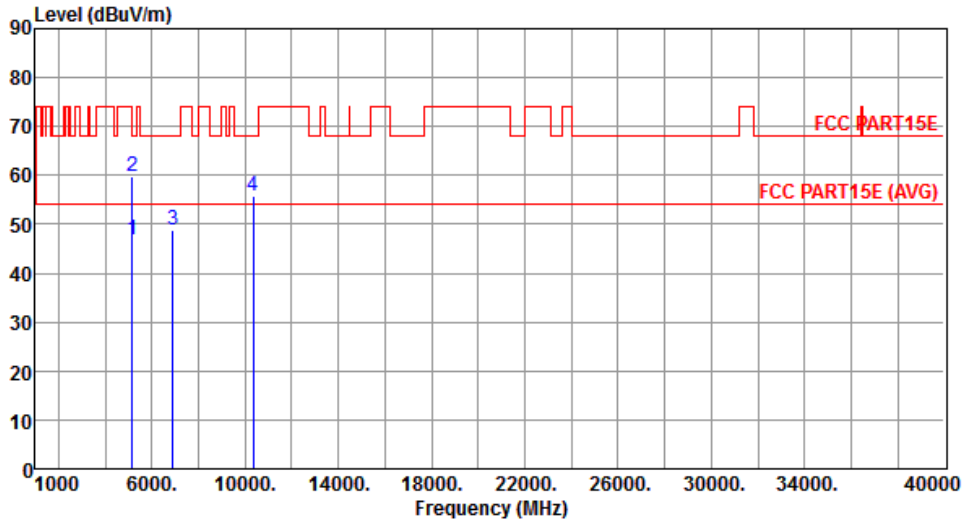


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5850.00	76.94	78.20	-1.26	71.19	5.75	Peak	---	---
2	5860.00	51.54	54.00	-2.46	45.78	5.76	Average	---	---
3	5860.00	72.35	74.00	-1.65	66.59	5.76	Peak	---	---
4	11650.00	48.59	54.00	-5.41	33.03	15.56	Average	---	---
5	11650.00	61.82	74.00	-12.18	46.26	15.56	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).

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

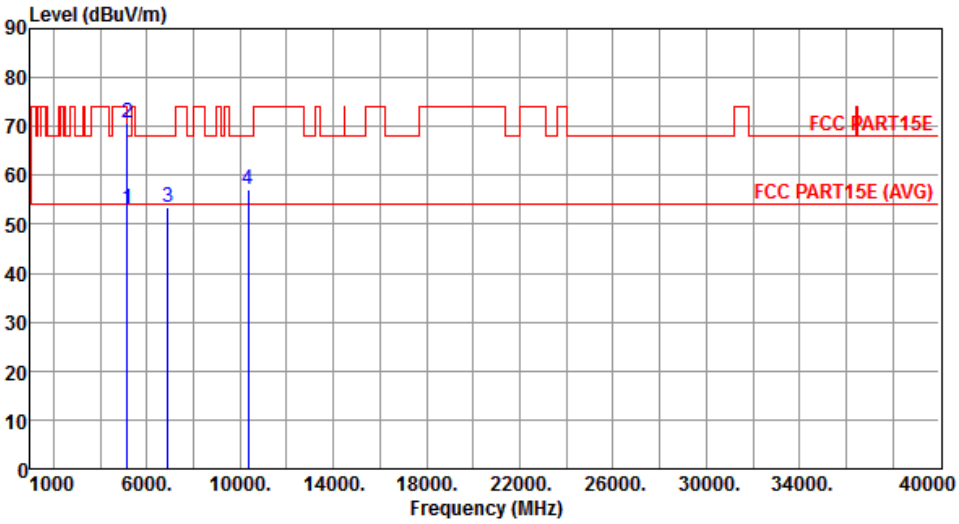
Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Horizontal		



	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	46.66	54.00	-7.34	41.20	5.46	Average	---	---
2	5150.00	59.78	74.00	-14.22	54.32	5.46	Peak	---	---
3	6906.66	48.94	68.20	-19.26	40.53	8.41	Peak	---	---
4	10360.00	55.84	68.20	-12.36	40.43	15.41	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).

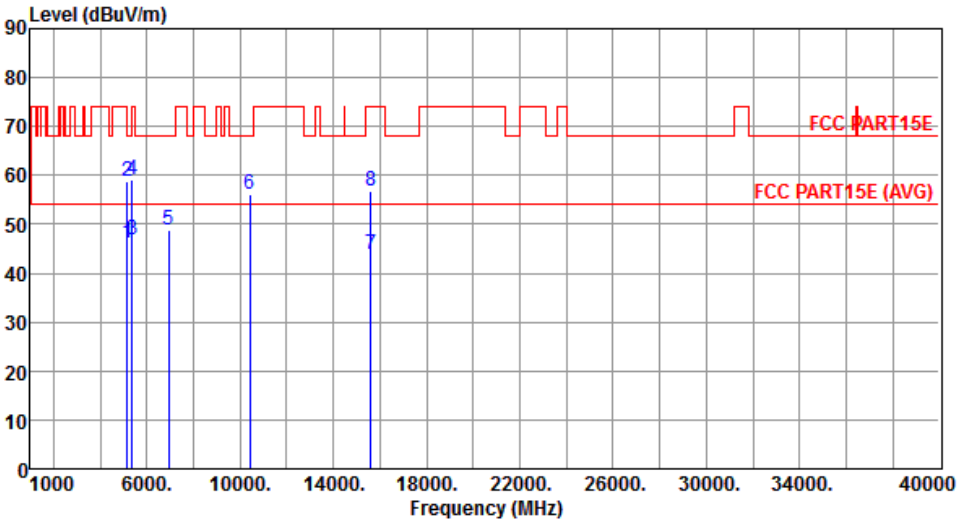
Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	53.00	54.00	-1.00	47.54	5.46	Average	---	---
2	5150.00	70.85	74.00	-3.15	65.39	5.46	Peak	---	---
3	6906.66	53.43	68.20	-14.77	45.02	8.41	Peak	---	---
4	10360.00	56.96	68.20	-11.24	41.55	15.41	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).

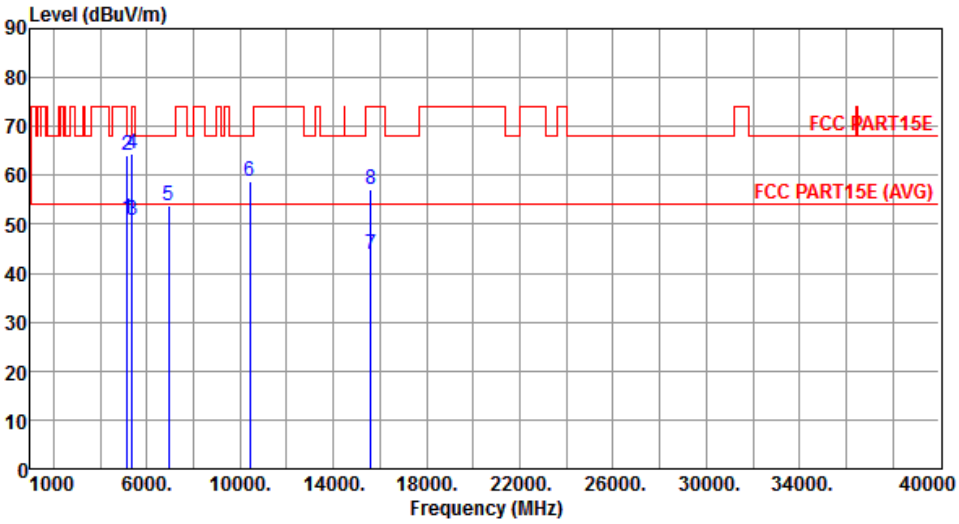
Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Horizontal		



	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	46.03	54.00	-7.97	40.57	5.46	Average	---	---
2	5150.00	58.79	74.00	-15.21	53.33	5.46	Peak	---	---
3	5350.00	46.78	54.00	-7.22	41.22	5.56	Average	---	---
4	5350.00	59.22	74.00	-14.78	53.66	5.56	Peak	---	---
5	6933.33	48.92	68.20	-19.28	40.47	8.45	Peak	---	---
6	10400.00	55.99	68.20	-12.21	40.44	15.55	Peak	---	---
7	15600.00	43.90	54.00	-10.10	28.34	15.56	Average	---	---
8	15600.00	56.85	74.00	-17.15	41.29	15.56	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).

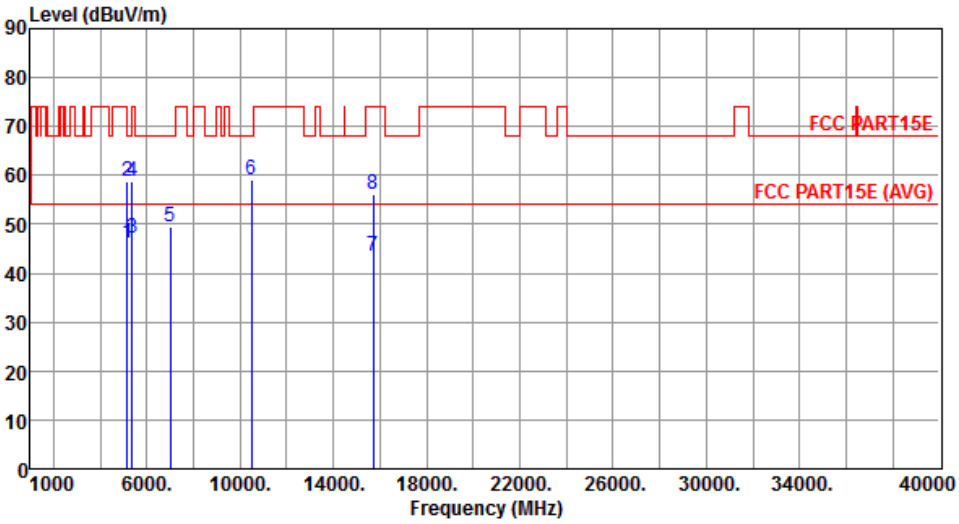
Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Vertical		



	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	51.18	54.00	-2.82	45.72	5.46	Average	---	---
2	5150.00	64.02	74.00	-9.98	58.56	5.46	Peak	---	---
3	5350.00	50.88	54.00	-3.12	45.32	5.56	Average	---	---
4	5350.00	64.53	74.00	-9.47	58.97	5.56	Peak	---	---
5	6933.33	53.65	68.20	-14.55	45.20	8.45	Peak	---	---
6	10400.00	58.67	68.20	-9.53	43.12	15.55	Peak	---	---
7	15600.00	43.81	54.00	-10.19	28.25	15.56	Average	---	---
8	15600.00	57.10	74.00	-16.90	41.54	15.56	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).

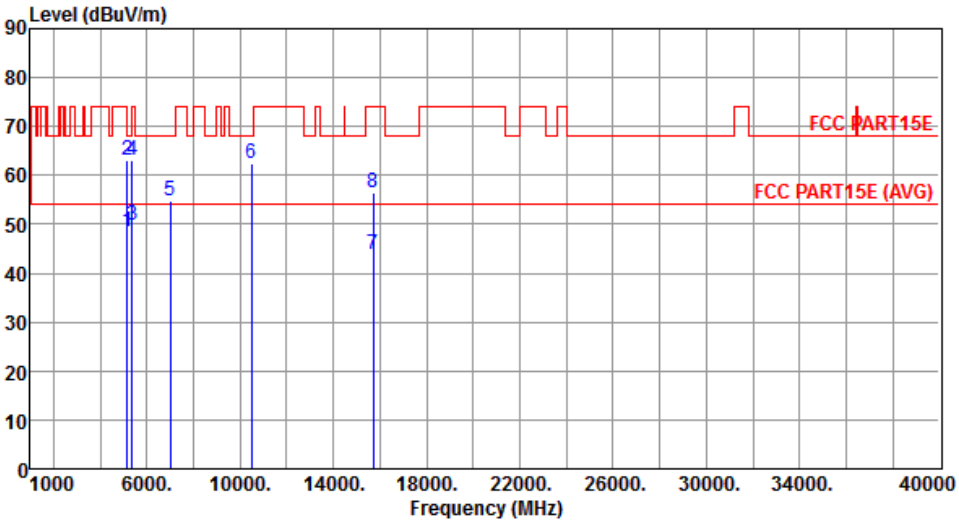
Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.14	54.00	-7.86	40.68	5.46	Average	---	---
2	5150.00	58.87	74.00	-15.13	53.41	5.46	Peak	---	---
3	5350.00	47.13	54.00	-6.87	41.57	5.56	Average	---	---
4	5350.00	58.88	74.00	-15.12	53.32	5.56	Peak	---	---
5	6986.66	49.53	68.20	-18.67	41.02	8.51	Peak	---	---
6	10480.00	59.17	68.20	-9.03	43.31	15.86	Peak	---	---
7	15720.00	43.36	54.00	-10.64	28.27	15.09	Average	---	---
8	15720.00	56.27	74.00	-17.73	41.18	15.09	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).

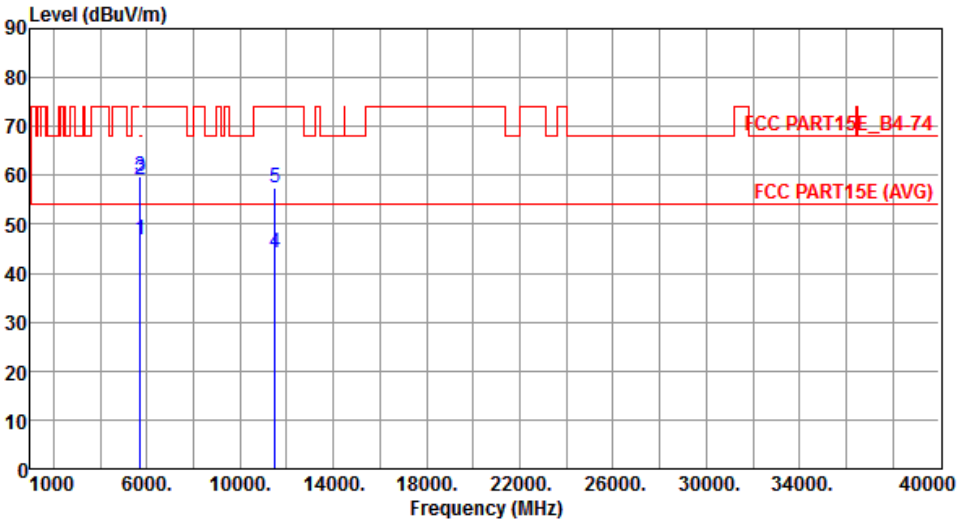
Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Vertical		



	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	48.58	54.00	-5.42	43.12	5.46	Average	---	---
2	5150.00	63.09	74.00	-10.91	57.63	5.46	Peak	---	---
3	5350.00	49.89	54.00	-4.11	44.33	5.56	Average	---	---
4	5350.00	63.20	74.00	-10.80	57.64	5.56	Peak	---	---
5	6986.66	54.76	68.20	-13.44	46.25	8.51	Peak	---	---
6	10480.00	62.33	68.20	-5.87	46.47	15.86	Peak	---	---
7	15720.00	43.77	54.00	-10.23	28.68	15.09	Average	---	---
8	15720.00	56.60	74.00	-17.40	41.51	15.09	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).

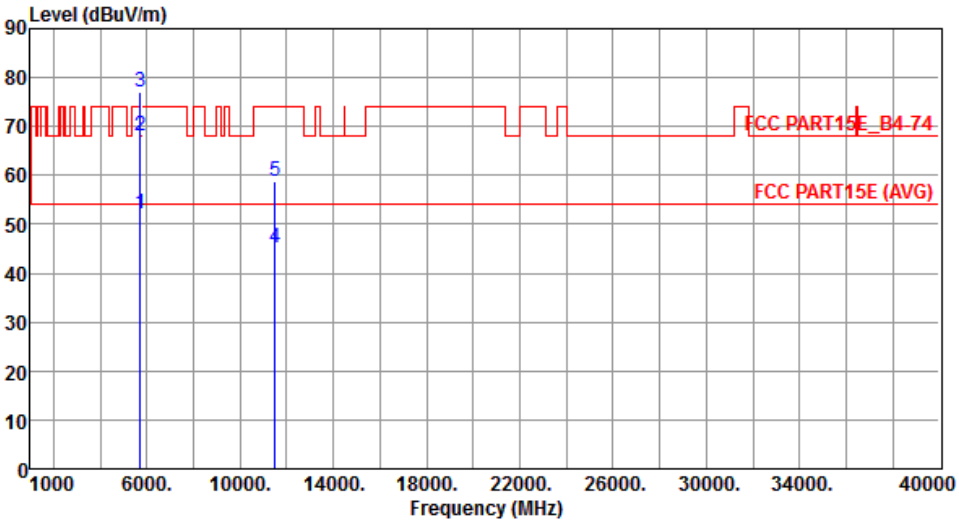
Modulation	VHT20	**Test Freq. (MHz)**	5745
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5715.00	46.86	54.00	-7.14	41.21	5.65	Average	---	---
2	5715.00	58.99	74.00	-15.01	53.34	5.65	Peak	---	---
3	5725.00	59.92	78.20	-18.28	54.28	5.64	Peak	---	---
4	11490.00	44.09	54.00	-9.91	28.16	15.93	Average	---	---
5	11490.00	57.31	74.00	-16.69	41.38	15.93	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).

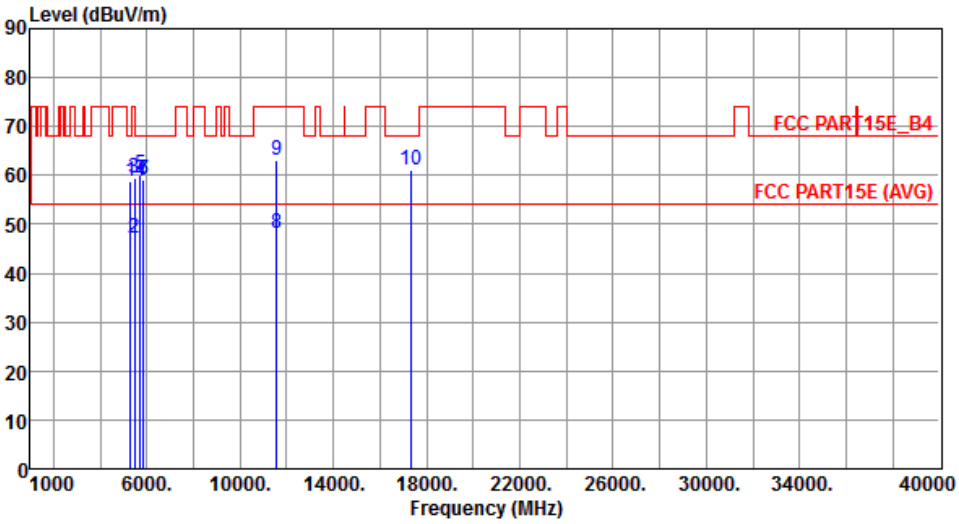
Modulation	VHT20	Test Freq. (MHz)	5745
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5715.00	52.09	54.00	-1.91	46.44	5.65	Average	---	---
2	5715.00	68.19	74.00	-5.81	62.54	5.65	Peak	---	---
3	5725.00	77.02	78.20	-1.18	71.38	5.64	Peak	---	---
4	11490.00	45.02	54.00	-8.98	29.09	15.93	Average	---	---
5	11490.00	58.82	74.00	-15.18	42.89	15.93	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).

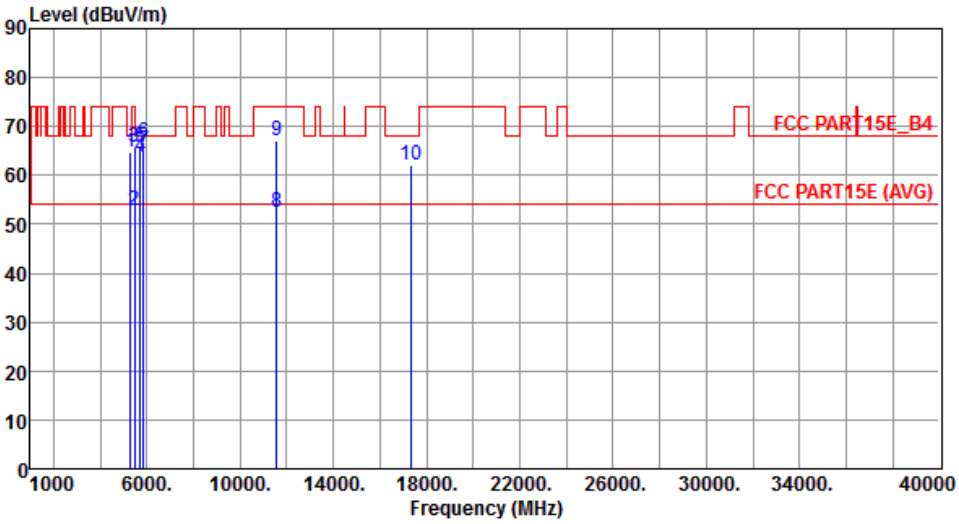
Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5280.00	58.87	68.20	-9.33	53.33	5.54	Peak	---	---
2	5460.00	47.21	54.00	-6.79	41.61	5.60	Average	---	---
3	5460.00	59.46	74.00	-14.54	53.86	5.60	Peak	---	---
4	5715.00	58.80	68.20	-9.40	53.15	5.65	Peak	---	---
5	5725.00	59.95	78.20	-18.25	54.31	5.64	Peak	---	---
6	5850.00	59.22	78.20	-18.98	53.47	5.75	Peak	---	---
7	5860.00	58.99	68.20	-9.21	53.23	5.76	Peak	---	---
8	11570.00	48.09	54.00	-5.91	32.32	15.77	Average	---	---
9	11570.00	63.12	74.00	-10.88	47.35	15.77	Peak	---	---
10	17355.00	61.06	68.20	-7.14	41.33	19.73	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).

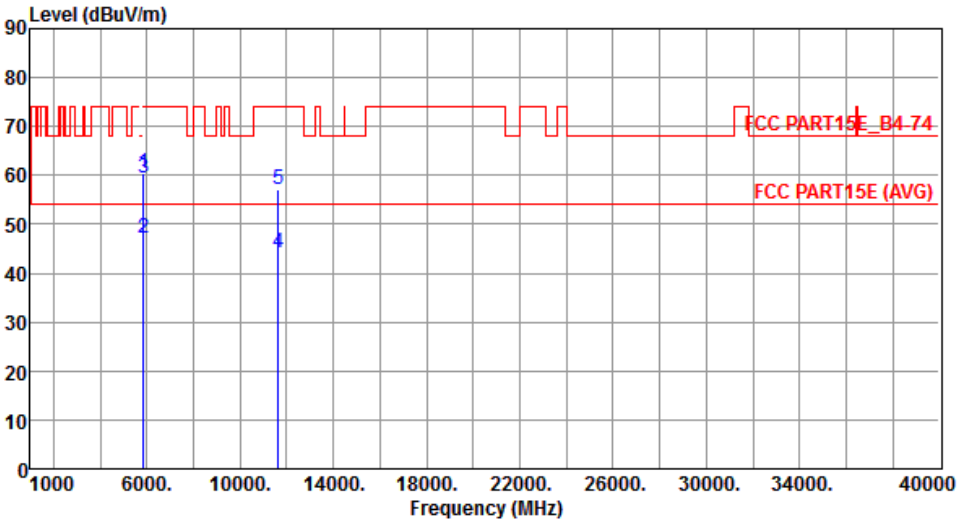
Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5280.00	64.86	68.20	-3.34	59.32	5.54	Peak	---	---
2	5460.00	52.87	54.00	-1.13	47.27	5.60	Average	---	---
3	5460.00	65.88	74.00	-8.12	60.28	5.60	Peak	---	---
4	5715.00	63.79	68.20	-4.41	58.14	5.65	Peak	---	---
5	5725.00	65.62	78.20	-12.58	59.98	5.64	Peak	---	---
6	5850.00	66.70	78.20	-11.50	60.95	5.75	Peak	---	---
7	5860.00	65.15	68.20	-3.05	59.39	5.76	Peak	---	---
8	11570.00	52.57	54.00	-1.43	36.80	15.77	Average	---	---
9	11570.00	67.00	74.00	-7.00	51.23	15.77	Peak	---	---
10	17355.00	61.98	68.20	-6.22	42.25	19.73	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).

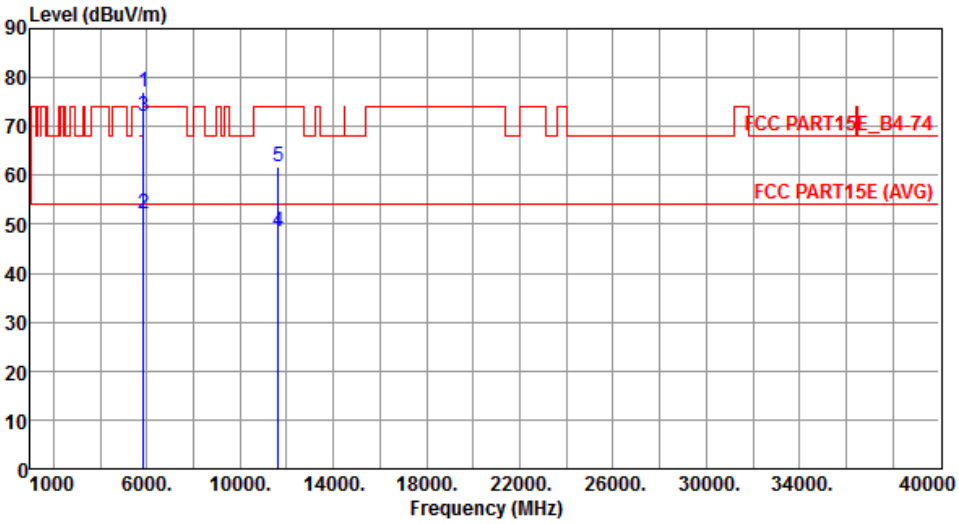
Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5850.00	60.42	78.20	-17.78	54.67	5.75	Peak	---	---
2	5860.00	47.02	54.00	-6.98	41.26	5.76	Average	---	---
3	5860.00	59.54	74.00	-14.46	53.78	5.76	Peak	---	---
4	11650.00	44.22	54.00	-9.78	28.66	15.56	Average	---	---
5	11650.00	57.04	74.00	-16.96	41.48	15.56	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).

Modulation	VHT20	**Test Freq. (MHz)**	5825
Polarization	Vertical		

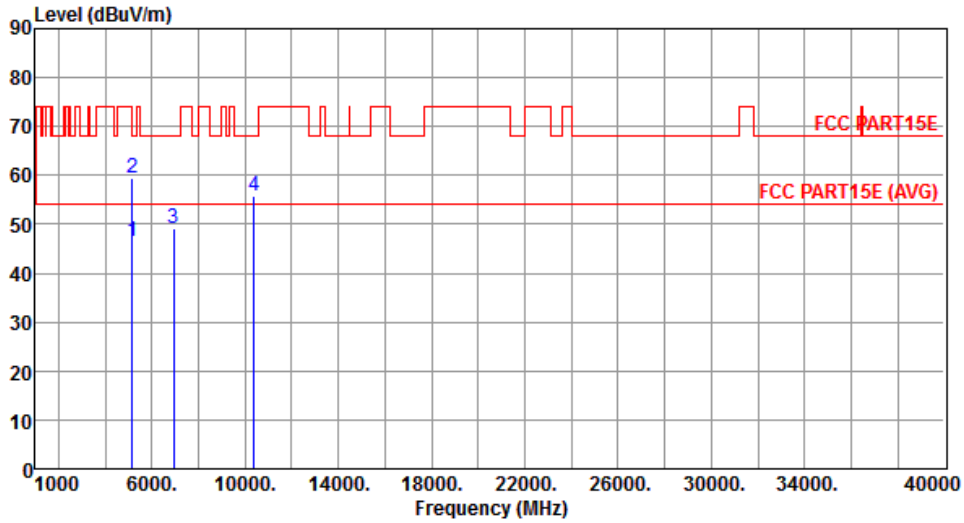


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5850.00	77.17	78.20	-1.03	71.42	5.75	Peak	---	---
2	5860.00	52.30	54.00	-1.70	46.54	5.76	Average	---	---
3	5860.00	72.02	74.00	-1.98	66.26	5.76	Peak	---	---
4	11650.00	48.59	54.00	-5.41	33.03	15.56	Average	---	---
5	11650.00	61.67	74.00	-12.33	46.11	15.56	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).

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

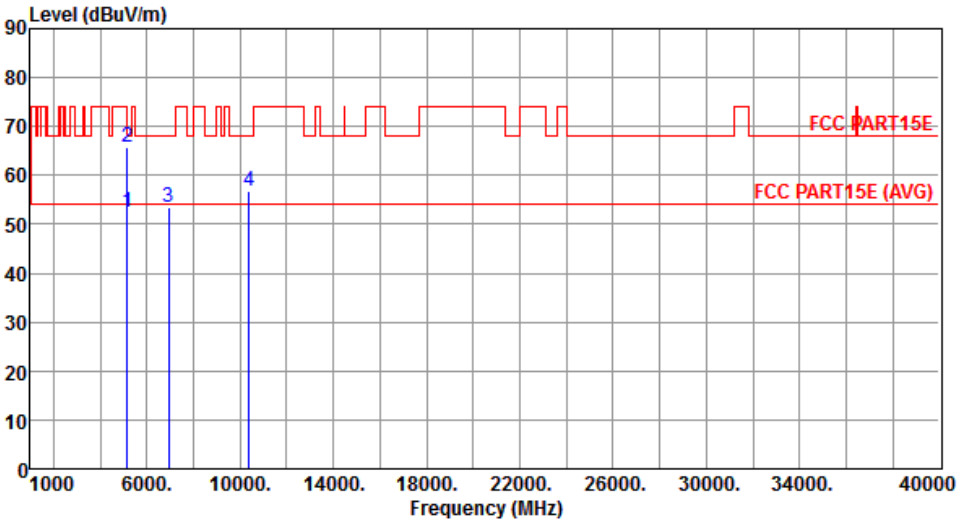
Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Horizontal		



	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	46.48	54.00	-7.52	41.02	5.46	Average	---	---
2	5150.00	59.33	74.00	-14.67	53.87	5.46	Peak	---	---
3	6920.00	48.99	68.20	-19.21	40.56	8.43	Peak	---	---
4	10380.00	55.95	68.20	-12.25	40.47	15.48	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).

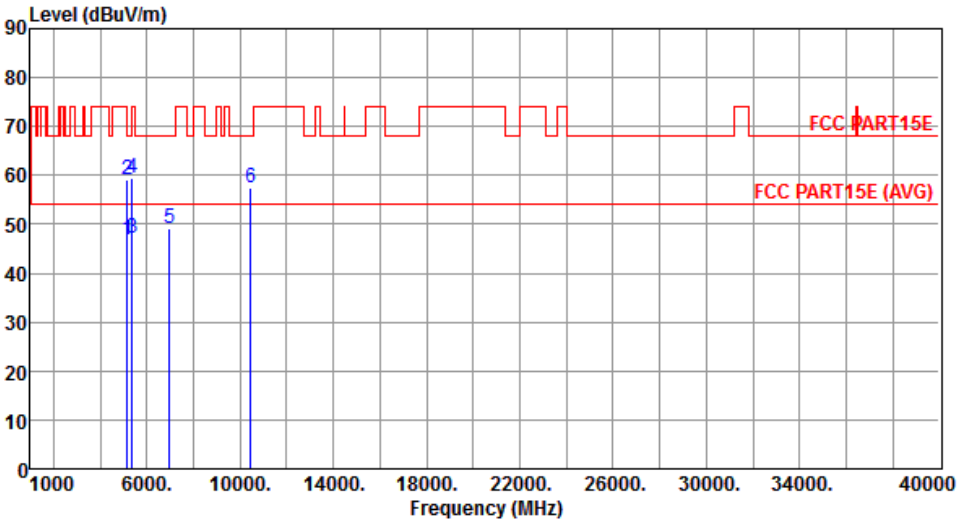
Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.56	54.00	-1.44	47.10	5.46	Average	---	---
2	5150.00	65.67	74.00	-8.33	60.21	5.46	Peak	---	---
3	6920.00	53.51	68.20	-14.69	45.08	8.43	Peak	---	---
4	10380.00	56.92	68.20	-11.28	41.44	15.48	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).

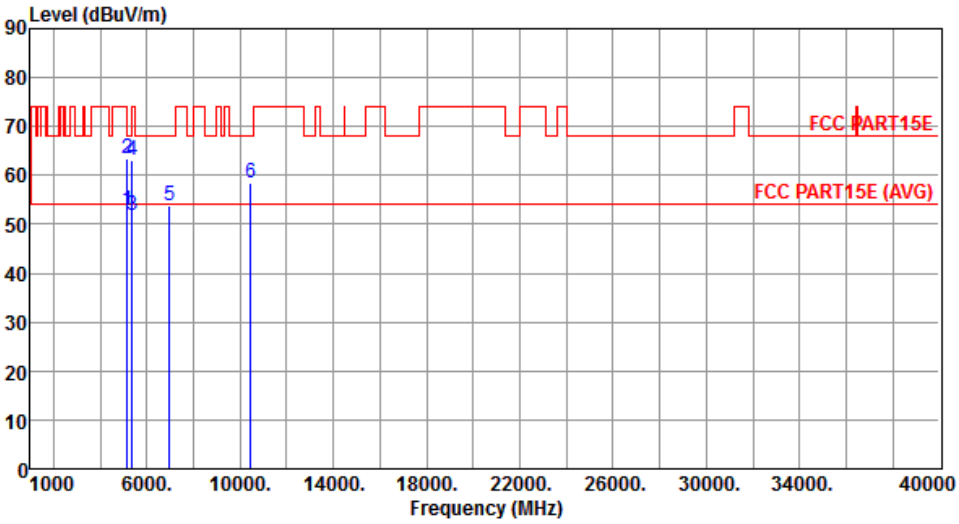
Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.89	54.00	-7.11	41.43	5.46	Average	---	---
2	5150.00	59.11	74.00	-14.89	53.65	5.46	Peak	---	---
3	5350.00	47.01	54.00	-6.99	41.45	5.56	Average	---	---
4	5350.00	59.39	74.00	-14.61	53.83	5.56	Peak	---	---
5	6973.33	49.17	68.20	-19.03	40.67	8.50	Peak	---	---
6	10460.00	57.43	68.20	-10.77	41.65	15.78	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).

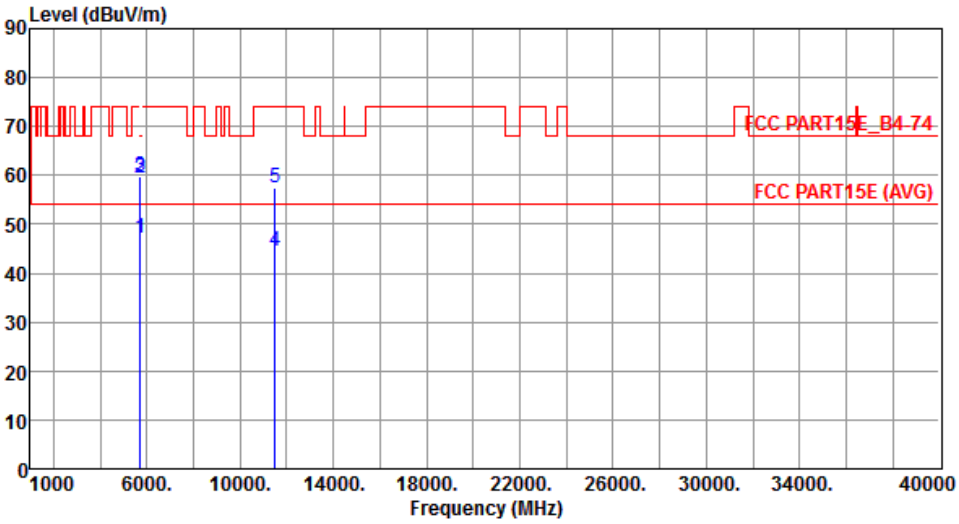
Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.69	54.00	-1.31	47.23	5.46	Average	---	---
2	5150.00	63.32	74.00	-10.68	57.86	5.46	Peak	---	---
3	5350.00	51.78	54.00	-2.22	46.22	5.56	Average	---	---
4	5350.00	62.97	74.00	-11.03	57.41	5.56	Peak	---	---
5	6973.33	53.70	68.20	-14.50	45.20	8.50	Peak	---	---
6	10460.00	58.31	68.20	-9.89	42.53	15.78	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).

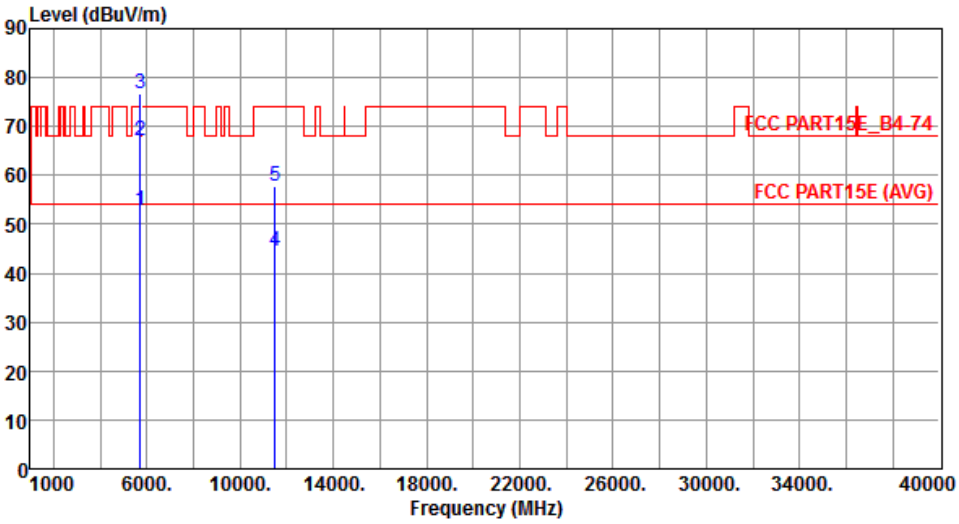
Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5715.00	47.29	54.00	-6.71	41.64	5.65	Average	---	---
2	5715.00	59.49	74.00	-14.51	53.84	5.65	Peak	---	---
3	5725.00	59.89	78.20	-18.31	54.25	5.64	Peak	---	---
4	11510.00	44.37	54.00	-9.63	28.45	15.92	Average	---	---
5	11510.00	57.44	74.00	-16.56	41.52	15.92	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).

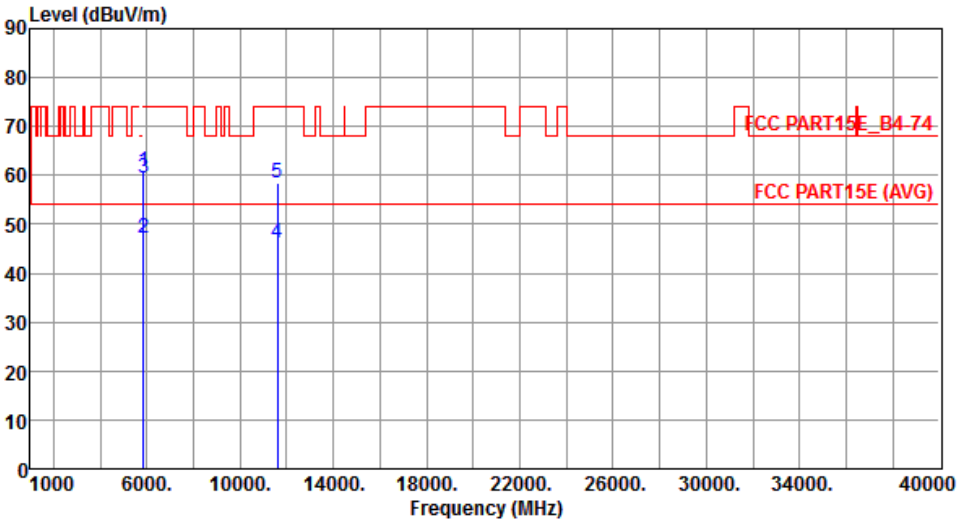
Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5715.00	52.97	54.00	-1.03	47.32	5.65	Average	---	---
2	5715.00	67.15	74.00	-6.85	61.50	5.65	Peak	---	---
3	5725.00	76.62	78.20	-1.58	70.98	5.64	Peak	---	---
4	11510.00	44.58	54.00	-9.42	28.66	15.92	Average	---	---
5	11510.00	57.66	74.00	-16.34	41.74	15.92	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).

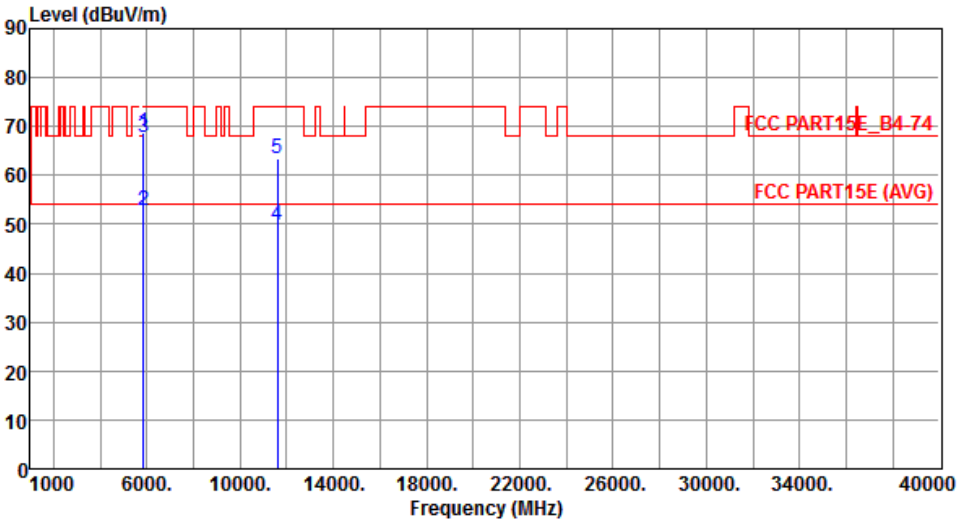
Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5850.00	60.86	78.20	-17.34	55.11	5.75	Peak	---	---
2	5860.00	47.12	54.00	-6.88	41.36	5.76	Average	---	---
3	5860.00	59.45	74.00	-14.55	53.69	5.76	Peak	---	---
4	11590.00	46.23	54.00	-7.77	30.52	15.71	Average	---	---
5	11590.00	58.57	74.00	-15.43	42.86	15.71	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).

Modulation	VHT40	**Test Freq. (MHz)**	5795
Polarization	Vertical		

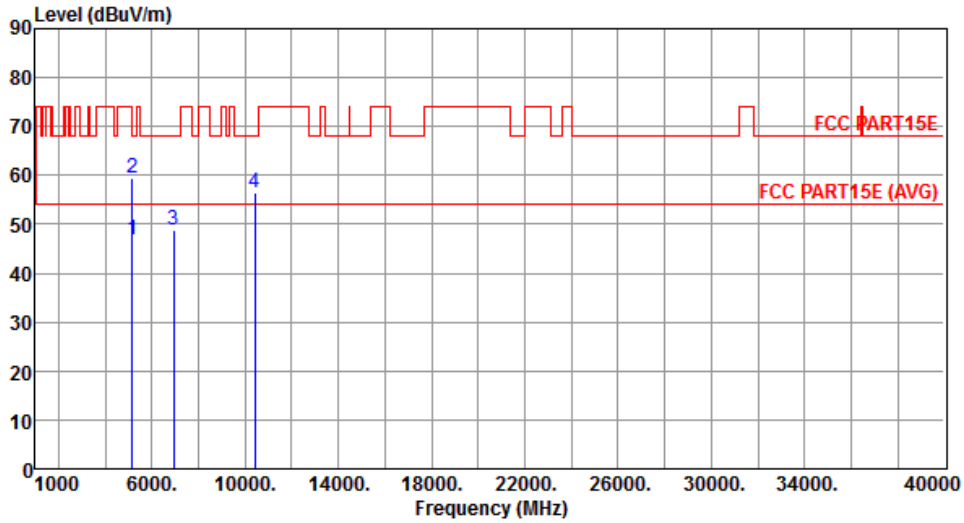


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5850.00	68.89	78.20	-9.31	63.14	5.75	Peak	---	---
2	5860.00	52.68	54.00	-1.32	46.92	5.76	Average	---	---
3	5860.00	67.89	74.00	-6.11	62.13	5.76	Peak	---	---
4	11590.00	49.97	54.00	-4.03	34.26	15.71	Average	---	---
5	11590.00	63.41	74.00	-10.59	47.70	15.71	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).

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

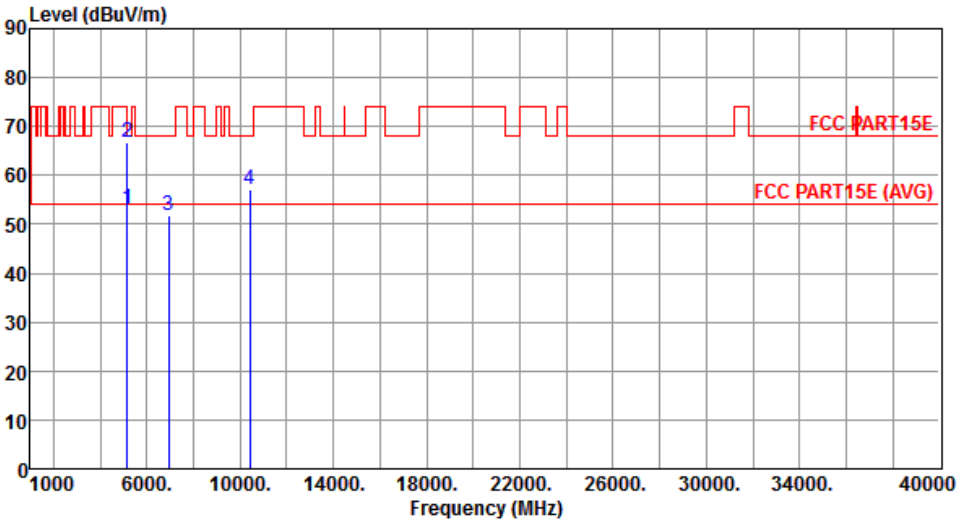
Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Horizontal		



	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	46.99	54.00	-7.01	41.53	5.46	Average	---	---
2	5150.00	59.33	74.00	-14.67	53.87	5.46	Peak	---	---
3	6946.00	48.68	68.20	-19.52	40.22	8.46	Peak	---	---
4	10420.00	56.30	68.20	-11.90	40.67	15.63	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).

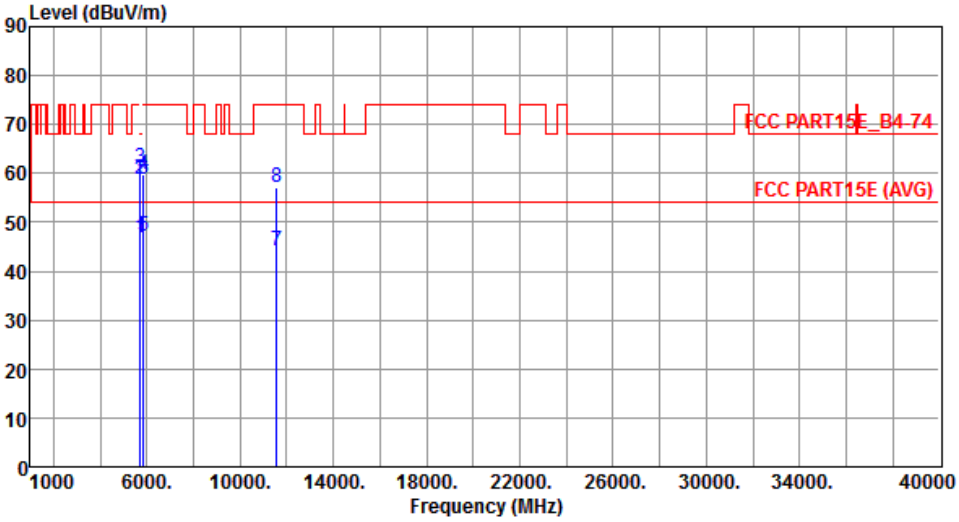
Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Vertical		



	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	52.99	54.00	-1.01	47.53	5.46	Average	---	---
2	5150.00	66.69	74.00	-7.31	61.23	5.46	Peak	---	---
3	6946.00	51.97	68.20	-16.23	43.51	8.46	Peak	---	---
4	10420.00	57.01	68.20	-11.19	41.38	15.63	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).

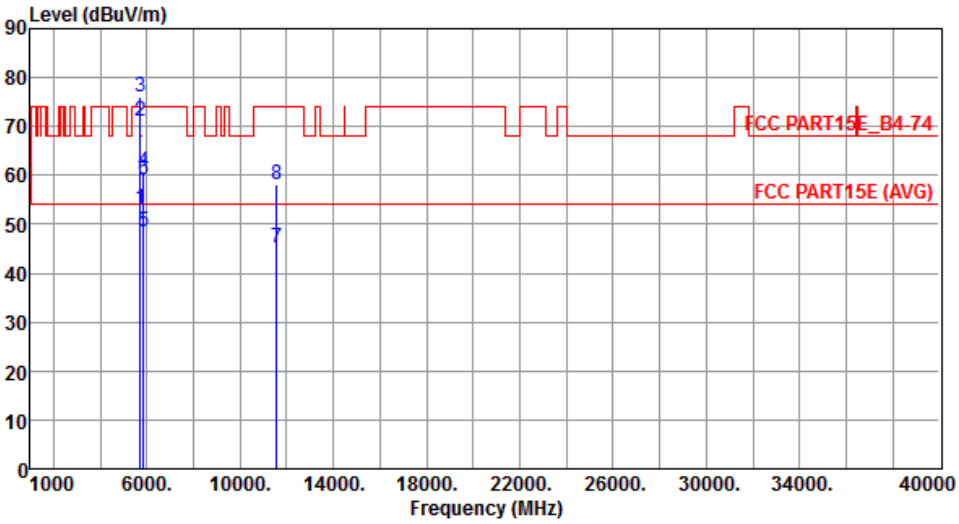
Modulation	VHT80	Test Freq. (MHz)	5775
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5715.00	46.89	54.00	-7.11	41.24	5.65	Average	---	---
2	5715.00	58.85	74.00	-15.15	53.20	5.65	Peak	---	---
3	5725.00	61.05	78.20	-17.15	55.41	5.64	Peak	---	---
4	5850.00	59.86	78.20	-18.34	54.11	5.75	Peak	---	---
5	5860.00	47.09	54.00	-6.91	41.33	5.76	Average	---	---
6	5860.00	58.95	74.00	-15.05	53.19	5.76	Peak	---	---
7	11550.00	44.24	54.00	-9.76	28.43	15.81	Average	---	---
8	11550.00	57.14	74.00	-16.86	41.33	15.81	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).

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	5715.00	52.99	54.00	-1.01	47.34	5.65	Average	---	---
2	5715.00	70.95	74.00	-3.05	65.30	5.65	Peak	---	---
3	5725.00	75.89	78.20	-2.31	70.25	5.64	Peak	---	---
4	5850.00	60.66	78.20	-17.54	54.91	5.75	Peak	---	---
5	5860.00	48.42	54.00	-5.58	42.66	5.76	Average	---	---
6	5860.00	59.18	74.00	-14.82	53.42	5.76	Peak	---	---
7	11550.00	45.03	54.00	-8.97	29.22	15.81	Average	---	---
8	11550.00	58.17	74.00	-15.83	42.36	15.81	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).

3.6 Frequency Stability

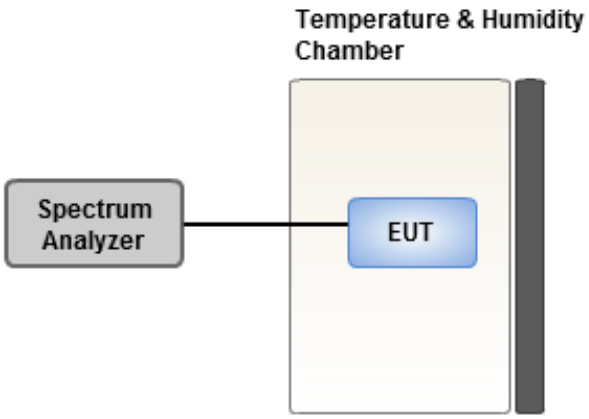
3.6.1 Limit of Frequency Stability

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

3.6.2 Test Procedures

1. The EUT is installed in an environment test chamber with external power source.
2. Set the chamber to operate at 50 centigrade and external power source to output at nominal voltage of EUT.
3. A sufficient stabilization period at each temperature is used prior to each frequency measurement.
4. When temperature is stabled, measure the frequency stability.
5. The test shall be performed under -40 to 60 centigrade and 85 to 115 percent of the nominal voltage. Change setting of chamber and external power source to complete all conditions.

3.6.3 Test Setup



3.6.4 Test Result of Frequency Stability

Frequency: 5200 MHz	Frequency Drift (ppm)			
Temperature (°C)	0 minute	2 minutes	5 minutes	10 minutes
T20°CVmax	6.46	6.32	6.08	6.01
T20°CVmin	5.10	4.08	4.27	4.29
T60°CVnom	4.97	5.21	5.12	4.24
T50°CVnom	3.94	3.49	3.73	3.88
T40°CVnom	3.47	4.00	3.10	3.83
T30°CVnom	3.08	3.29	3.43	3.52
T20°CVnom	2.92	2.40	2.92	3.12
T10°CVnom	2.39	2.17	2.50	2.67
T0°CVnom	2.64	3.38	3.55	2.92
T-10°CVnom	1.40	2.28	2.08	1.61
T-20°CVnom	1.07	0.76	0.55	0.91
T-30°CVnom	0.70	0.20	0.37	0.76
T-40°CVnom	0.42	-0.08	-0.10	-0.26
Vnom [Vac]: 120		Vmax [Vac]: 138		Vmin [Vac]: 102
Tnom [°C]: 20		Tmax [°C]: 60		Tmin [°C]: -40

Frequency: 5785 MHz	Frequency Drift (ppm)			
Temperature (°C)	0 minute	2 minutes	5 minutes	10 minutes
T20°CVmax	5.45	5.66	5.47	5.72
T20°CVmin	4.73	4.84	4.99	4.77
T60°CVnom	4.34	4.14	4.94	4.49
T50°CVnom	3.93	4.78	4.48	4.09
T40°CVnom	4.16	3.75	3.41	4.06
T30°CVnom	2.43	3.00	3.00	2.72
T20°CVnom	2.91	2.70	2.62	2.80
T10°CVnom	2.78	2.19	2.64	3.26
T0°CVnom	1.89	2.39	2.52	1.93
T-10°CVnom	2.11	1.45	2.37	1.98
T-20°CVnom	0.82	0.85	1.48	0.77
T-30°CVnom	1.27	1.55	1.41	0.81
T-40°CVnom	0.93	0.78	0.87	0.44
Vnom [Vac]: 120		Vmax [Vac]: 138		Vmin [Vac]: 102
Tnom [°C]: 20		Tmax [°C]: 60		Tmin [°C]: -40

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 Hsiang. 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
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