FCC Test Report

FCC ID	:	**MXF-WRTM-331**
Equipment	:	**THINGS**
Model No.	:	**TH-GW10, VC-FLX1** **(Marketing difference)**
Brand Name	:	**Toshiba, Onkyo** **(Marketing difference)**
Applicant	:	**Gemtek Technology Co., Ltd.**
Address	:	**No. 15-1 Zhonghua Road, Hsinchu Industrial Park, Hukou, Hsinchu, Taiwan, 30352.**
Standard	:	**47 CFR FCC Part 15.407**
Received Date	:	**Apr. 12, 2017**
Tested Date	:	**Apr. 26 ~ Jul. 11, 2017**

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

Reviewed by: **Approved by:**

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

Testing Laboratory
2732

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Release Record

Report No.	Version	Description	Issued Date
FR741201AN	Rev. 01	Initial issue	Aug. 08, 2017

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.348MHz 35.38 (Margin -13.42dB) - AV	Pass
15.407(b) 15.209	Radiated Emissions	[dBuV/m at 3m]: 15600.00MHz 52.99 (Margin -1.01dB) - AV [dBuV/m at 3m]: 15720.00MHz 52.99 (Margin -1.01dB) - AV [dBuV/m at 3m]: 11570.00MHz 52.99 (Margin -1.01dB) - 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: 21.85 5725-5850MHz: 23.81	Pass
15.407(a)	Peak Power Spectral Density	Meet the requirement of limit	Pass
15.407(g)	Frequency Stability	Meet the requirement of limit	Pass
15.203	Antenna Requirement	Meet the requirement of limit	Pass

1 General Description

1.1 Information

1.1.1 Specification of the Equipment under Test (EUT)

RF General Information					
Frequency Range (MHz)	**IEEE Std. 802.11**	**Ch. Freq. (MHz)**	**Channel Number**	**Transmit Chains (N_{TX})**	**Data Rate / MCS**
5150-5250	a	5180-5240	36-48 [4]	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.	**Model**	**Type**	**Connector**	**Operating Frequencies (MHz) / Antenna Gain (dBi)**		
				2400~2483.5	**5150~5250**	**5725~5850**
1	A8-A006-00391	Dipole	IPEX	3.61	4.34	4.34
2	A8-A006-00392	Dipole	IPEX	3.61	4.34	4.34

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	12Vdc from adapter

1.1.4 Accessories

Accessories		
No.	**Equipment**	**Description**
1	AC adapter	Brand: APD Model: WA-36A12FU Power Rating: I/P: 100-240Vac, 50-60Hz, 0.9A Max. O/P: 12Vdc, 3A Power Line: 1.8m non-shielded without core

1.1.5 Channel List

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

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

1.1.6 Test Tool and Duty Cycle

Test Tool	MT7615QA, V0.0.1.63		
Duty Cycle and Duty Factor	**Mode**	**Duty cycle (%)**	**Duty factor (dB)**
	11a	82.63%	0.83
	VHT20	82.22%	0.85
	VHT40	68.56%	1.64
	VHT80	53.42%	2.72

1.1.7 Power Setting

For Frequency band 5150-5250 MHz		
Modulation Mode	**Test Frequency (MHz)**	**Power Set**
11a	5180	1D
11a	5200	1F
11a	5240	21
HT20	5180	1E
HT20	5200	1F
HT20	5240	22
HT40	5190	1C
HT40	5230	24
VHT20	5180	1E
VHT20	5200	1F
VHT20	5240	22
VHT40	5190	1C
VHT40	5230	24
VHT80	5210	17

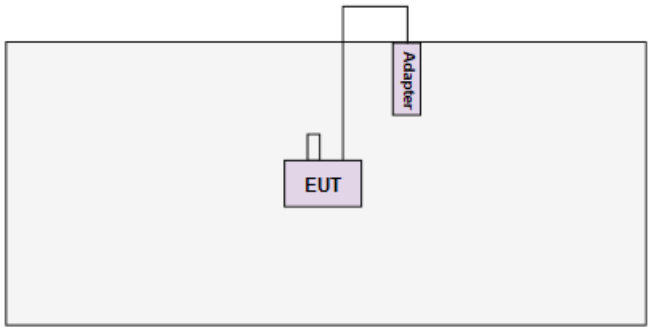
For Frequency band 5725~5850 MHz		
Modulation Mode	**Test Frequency (MHz)**	**Power Set**
11a	5745	24
11a	5785	26
11a	5825	26
HT20	5745	28
HT20	5785	28
HT20	5825	28
HT40	5755	25
HT40	5795	29
VHT20	5745	28
VHT20	5785	28
VHT20	5825	28
VHT40	5755	25
VHT40	5795	29
VHT80	5775	24

1.2 Local Support Equipment List

Support Equipment List						
No.	**Equipment**	**Brand**	**Model**	**S/N**	**FCC ID**	**Signal cable / Length (m)**
1	USB Flash	Kingston	DTSE9G2	TXVV6	---	---

1.3 Test Setup Chart

Test Setup Diagram



1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Tested Date	Apr. 26, 2017				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Receiver	R&S	ESR3	101657	Dec. 21, 2016	Dec. 20, 2017
LISN	SCHWARZBECK	Schwarzbeck 8127	8127-667	Nov. 08, 2016	Nov. 07, 2017
RF Cable-CON	EMC	EMCCFD300-BM-BM-6000	50821	Dec. 20, 2016	Dec. 19, 2017
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)				
Tested Date	Apr. 27 ~ Jun. 30, 2017				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101498	Nov. 25, 2016	Nov. 24, 2017
Receiver	R&S	ESR3	101658	Nov. 24, 2016	Nov. 23, 2017
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Aug. 04, 2016	Aug. 03, 2017
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 21, 2016	Dec. 20, 2017
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Oct. 25, 2016	Oct. 24, 2017
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 10, 2016	Nov. 09, 2017
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Dec. 09, 2016	Dec. 08, 2017
Preamplifier	EMC	EMC02325	980225	Aug. 05, 2016	Aug. 04, 2017
Preamplifier	Agilent	83017A	MY39501308	Oct. 06, 2016	Oct. 05, 2017
Preamplifier	EMC	EMC184045B	980192	Aug. 24, 2016	Aug. 23, 2017
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Dec. 09, 2016	Dec. 08, 2017
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Dec. 09, 2016	Dec. 08, 2017
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16139/4	Dec. 09, 2016	Dec. 08, 2017
LF cable 1M	EMC	EMCCFD400-NM-NM-1000	16052	Dec. 09, 2016	Dec. 08, 2017
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Dec. 09, 2016	Dec. 08, 2017
LF cable 10M	Woken	CFD400NL-LW	CFD400NL-002	Dec. 09, 2016	Dec. 08, 2017
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. 11, 2017				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101063	Mar. 15, 2017	Mar. 14, 2018
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Nov. 21, 2016	Nov. 20, 2017
Power Meter	Anritsu	ML2495A	1241002	Oct. 06, 2016	Oct. 05, 2017
Power Sensor	Anritsu	MA2411B	1207366	Oct. 06, 2016	Oct. 05, 2017
AC POWER SOURCE	APC	AFC-500W	F312060012	Oct. 28, 2016	Oct. 27, 2017
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 v01r04
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 °C

2 Test Configuration

2.1 Testing Condition

Test Item	Test Site	Ambient Condition	Tested By
AC Conduction	CO01-WS	20°C / 57%	Alex Tsai
Radiated Emissions	03CH01-WS	22-24°C / 62-64%	Vincent Yen Kevin Lee
RF Conducted	TH01-WS	23°C / 64%	Brad Wu

- FCC Designation No.: TW2732
- 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	VHT40	5795	MCS 0	---
Radiated Emissions ≤1GHz	VHT40	5795	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 >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

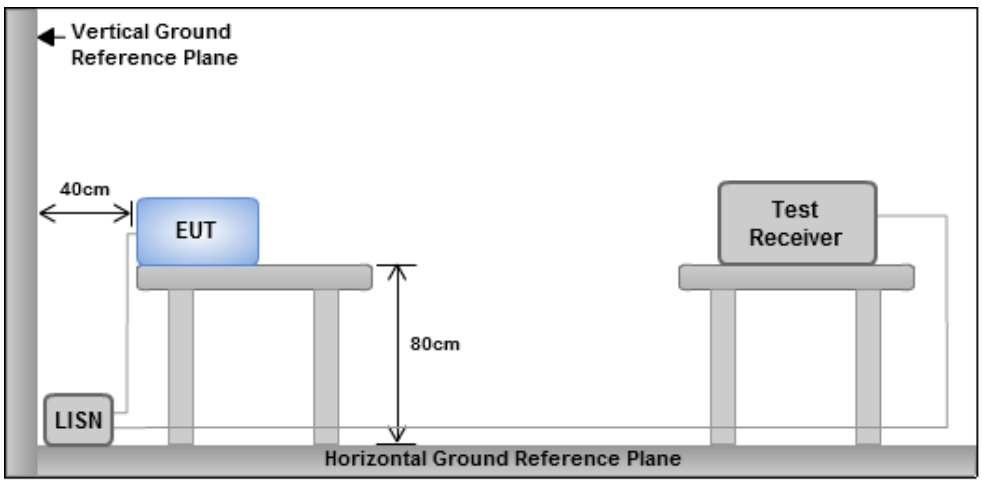
3.1.1 Limit of Conducted Emissions

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

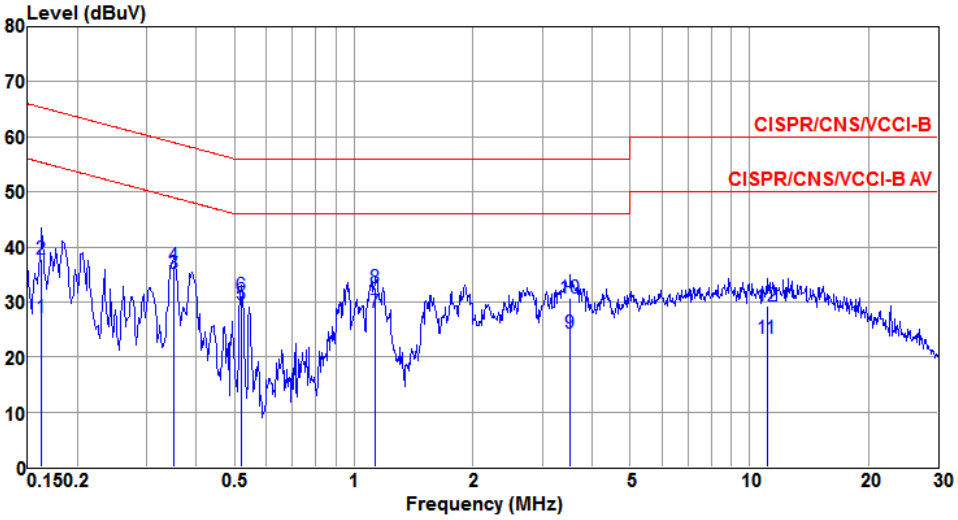


Note: 1. Support units were connected to second LISN.

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

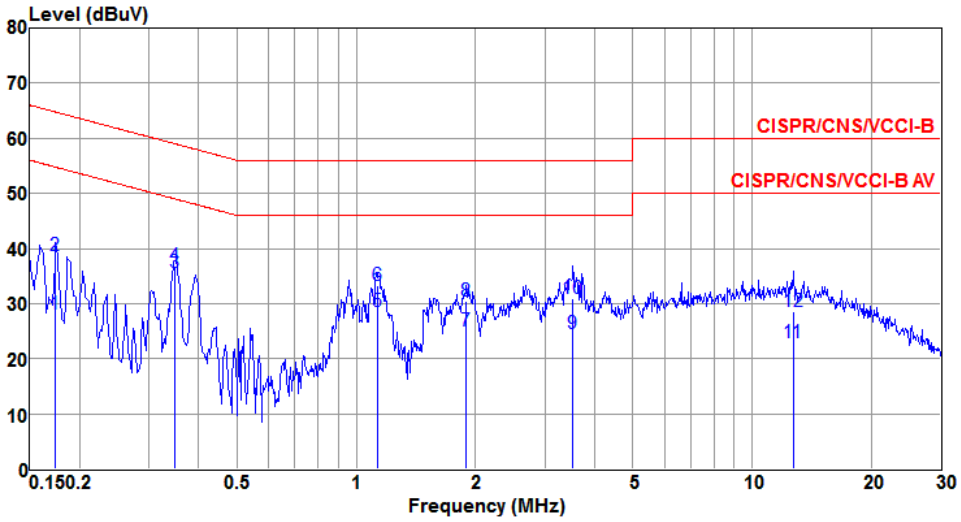
Modulation	VHT40	Test Freq. (MHz)	5230
Power Phase	Line		



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.162	27.19	55.34	-28.15	26.77	0.38	0.04	Average
2	0.162	37.80	65.34	-27.54	37.38	0.38	0.04	QP
3@	0.350	35.18	48.96	-13.78	34.79	0.35	0.04	Average
4	0.350	36.65	58.96	-22.31	36.26	0.35	0.04	QP
5	0.518	29.57	46.00	-16.43	29.19	0.34	0.04	Average
6	0.518	31.23	56.00	-24.77	30.85	0.34	0.04	QP
7	1.135	28.00	46.00	-18.00	27.61	0.35	0.04	Average
8	1.135	32.69	56.00	-23.31	32.30	0.35	0.04	QP
9	3.528	24.35	46.00	-21.65	23.64	0.57	0.14	Average
10	3.528	30.78	56.00	-25.22	30.07	0.57	0.14	QP
11	11.080	23.41	50.00	-26.59	22.31	0.88	0.22	Average
12	11.080	29.26	60.00	-30.74	28.16	0.88	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).

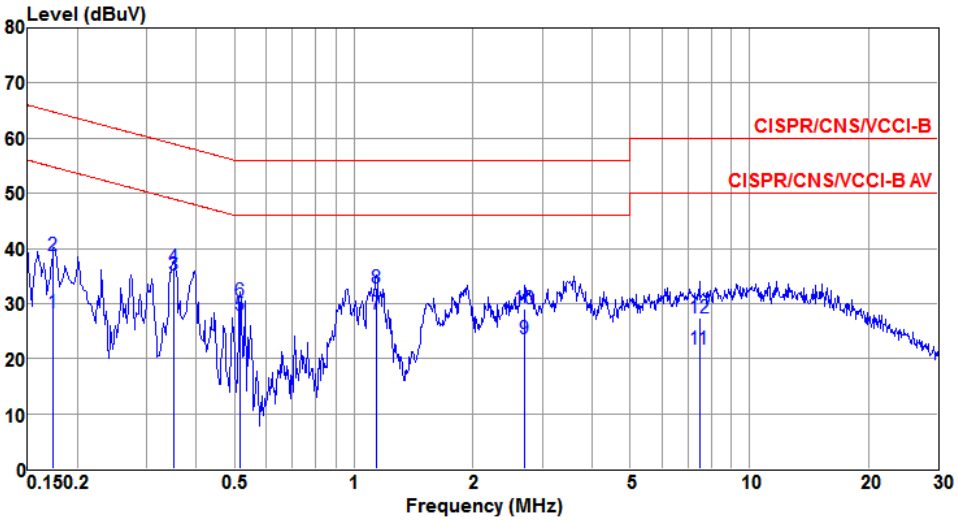
Modulation	VHT40	Test Freq. (MHz)	5230
Power Phase	Neutral		



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.174	27.99	54.77	-26.78	27.61	0.34	0.04	Average
2	0.174	38.77	64.77	-26.00	38.39	0.34	0.04	QP
3@	0.348	35.58	49.00	-13.42	35.17	0.37	0.04	Average
4	0.348	36.79	59.00	-22.21	36.38	0.37	0.04	QP
5	1.135	28.63	46.00	-17.37	28.21	0.38	0.04	Average
6	1.135	33.22	56.00	-22.78	32.80	0.38	0.04	QP
7	1.898	25.06	46.00	-20.94	24.56	0.46	0.04	Average
8	1.898	30.39	56.00	-25.61	29.89	0.46	0.04	QP
9	3.528	24.66	46.00	-21.34	23.98	0.54	0.14	Average
10	3.528	30.97	56.00	-25.03	30.29	0.54	0.14	QP
11	12.716	22.96	50.00	-27.04	22.30	0.43	0.23	Average
12	12.716	28.56	60.00	-31.44	27.90	0.43	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).

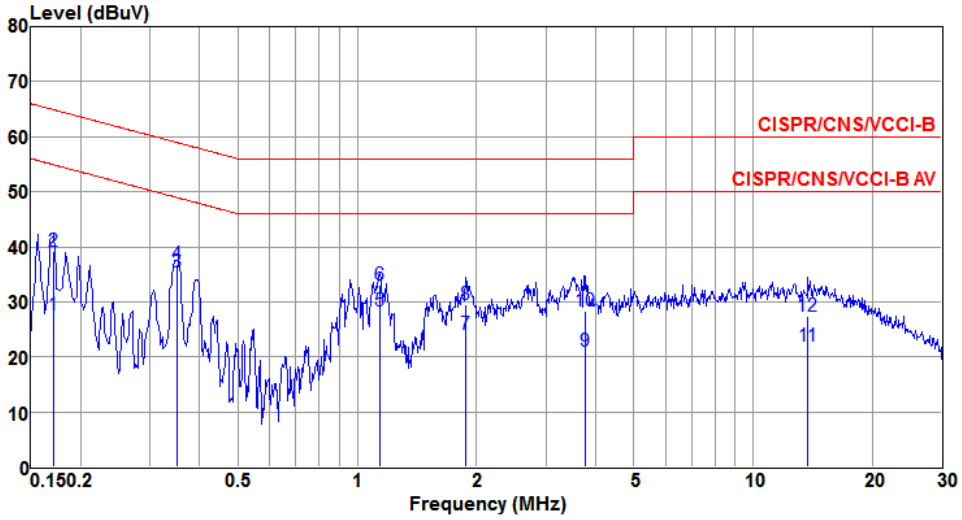
Modulation	VHT40	Test Freq. (MHz)	5795
Power Phase	Line		



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.174	28.32	54.77	-26.45	27.89	0.39	0.04	Average
2	0.174	38.65	64.77	-26.12	38.22	0.39	0.04	QP
3@	0.350	35.10	48.96	-13.86	34.71	0.35	0.04	Average
4	0.350	36.59	58.96	-22.37	36.20	0.35	0.04	QP
5	0.516	27.77	46.00	-18.23	27.39	0.34	0.04	Average
6	0.516	30.54	56.00	-25.46	30.16	0.34	0.04	QP
7	1.141	28.18	46.00	-17.82	27.79	0.35	0.04	Average
8	1.141	32.81	56.00	-23.19	32.42	0.35	0.04	QP
9	2.707	23.53	46.00	-22.47	22.93	0.51	0.09	Average
10	2.707	29.14	56.00	-26.86	28.54	0.51	0.09	QP
11	7.486	21.81	50.00	-28.19	20.70	0.91	0.20	Average
12	7.486	27.45	60.00	-32.55	26.34	0.91	0.20	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)	5795
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	27.69	54.90	-27.21	27.31	0.34	0.04	Average
2	0.171	39.18	64.90	-25.72	38.80	0.34	0.04	QP
3@	0.350	35.52	48.96	-13.44	35.11	0.37	0.04	Average
4	0.350	36.87	58.96	-22.09	36.46	0.37	0.04	QP
5	1.141	28.36	46.00	-17.64	27.94	0.38	0.04	Average
6	1.141	33.15	56.00	-22.85	32.73	0.38	0.04	QP
7	1.878	24.05	46.00	-21.95	23.55	0.46	0.04	Average
8	1.878	29.60	56.00	-26.40	29.10	0.46	0.04	QP
9	3.779	21.08	46.00	-24.92	20.38	0.55	0.15	Average
10	3.779	28.30	56.00	-27.70	27.60	0.55	0.15	QP
11	13.768	21.94	50.00	-28.06	21.37	0.34	0.23	Average
12	13.768	27.37	60.00	-32.63	26.80	0.34	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.

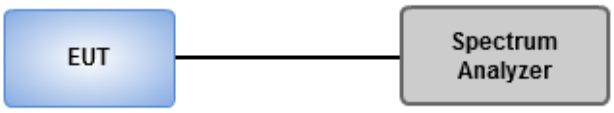
Occupied Bandwidth

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

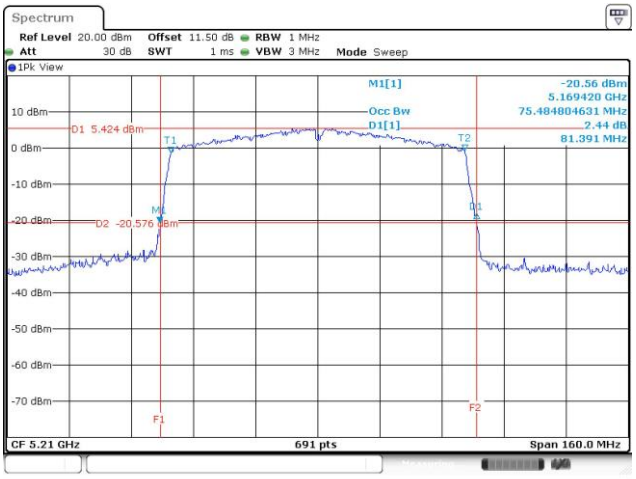
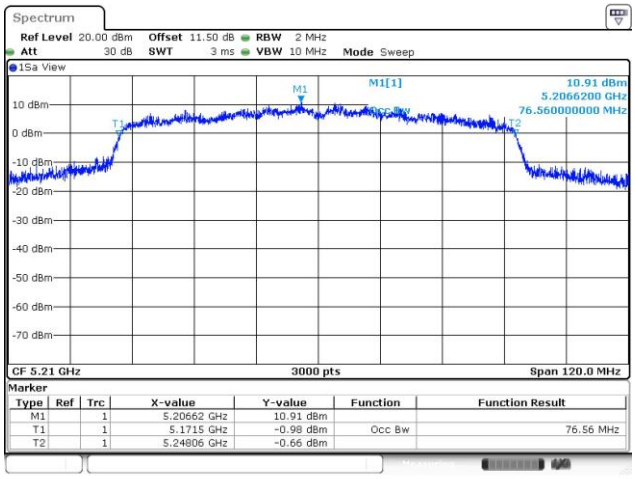
1. Set RBW = 100kHz, VBW = 300kHz
2. Detector = Peak,Trace mode = max hold.
3. Allow the trace to stabilize.
4. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB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

3.2.3 Test Setup

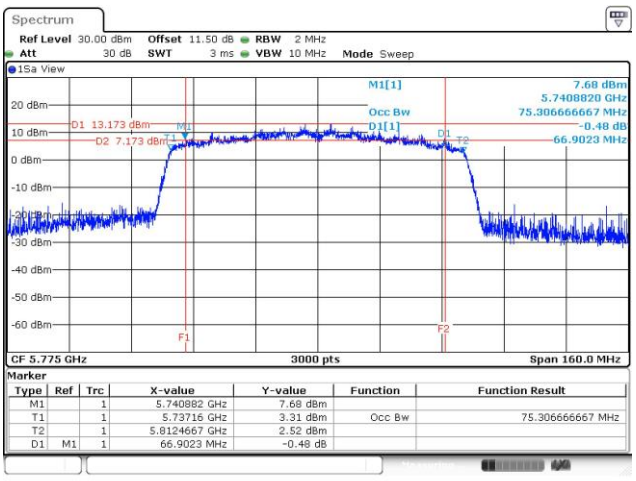
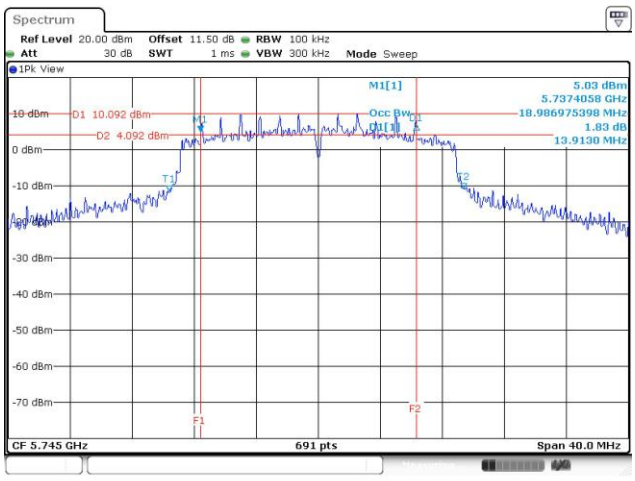


3.2.4 Test Result of Emission Bandwidth

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	2	5180	20.00	19.77	---	---	16.70	16.45	---	---
11a	2	5200	20.12	19.83	---	---	16.72	16.47	---	---
11a	2	5240	24.64	24.58	---	---	16.75	16.49	---	---
VHT20	2	5180	20.52	20.29	---	---	17.65	17.58	---	---
VHT20	2	5200	20.46	20.46	---	---	17.64	17.57	---	---
VHT20	2	5240	20.70	20.46	---	---	17.66	17.59	---	---
VHT40	2	5190	41.51	41.04	---	---	36.08	36.06	---	---
VHT40	2	5230	41.28	48.00	---	---	36.16	36.10	---	---
VHT80	2	5210	81.39	79.77	---	---	75.20	76.56	---	---

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	2	5745	16.64	17.73	---	---	15.01	14.43	---	---	0.5
11a	2	5785	16.81	17.20	---	---	15.07	14.43	---	---	0.5
11a	2	5825	16.84	17.15	---	---	15.19	15.13	---	---	0.5
VHT20	2	5745	18.37	20.60	---	---	15.71	13.91	---	---	0.5
VHT20	2	5785	18.36	18.77	---	---	15.71	15.07	---	---	0.5
VHT20	2	5825	18.48	18.45	---	---	15.71	15.13	---	---	0.5
VHT40	2	5755	36.37	37.23	---	---	35.13	35.13	---	---	0.5
VHT40	2	5795	37.92	37.87	---	---	35.13	35.13	---	---	0.5
VHT80	2	5775	75.25	75.31	---	---	75.13	72.58	---	---	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	2	5180	15.61	15.83	---	---	74.674	18.73	30.00
11a	2	5200	16.37	16.58	---	---	88.850	19.49	30.00
11a	2	5240	17.4	17.65	---	---	113.164	20.54	30.00
HT20	2	5180	15.72	16.03	---	---	77.412	18.89	30.00
HT20	2	5200	16.21	16.69	---	---	88.449	19.47	30.00
HT20	2	5240	17.54	18.13	---	---	121.767	20.86	30.00
HT40	2	5190	14.92	15.34	---	---	65.244	18.15	30.00
HT40	2	5230	18.41	19.02	---	---	149.142	21.74	30.00
VHT20	2	5180	15.86	16.2	---	---	80.235	19.04	30.00
VHT20	2	5200	16.31	16.82	---	---	90.840	19.58	30.00
VHT20	2	5240	17.65	18.27	---	---	125.353	20.98	30.00
VHT40	2	5190	15.07	15.51	---	---	67.700	18.31	30.00
VHT40	2	5230	18.52	19.13	---	---	152.968	21.85	30.00
VHT80	2	5210	12.60	12.96	---	---	37.967	15.79	30.00

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	2	5745	18.35	18.31	---	---	136.155	21.34	30.00
11a	2	5785	19.41	19.52	---	---	176.834	22.48	30.00
11a	2	5825	19.31	19.53	---	---	175.053	22.43	30.00
HT20	2	5745	20.11	20.02	---	---	203.027	23.08	30.00
HT20	2	5785	20.04	20.13	---	---	203.964	23.10	30.00
HT20	2	5825	20.38	20.12	---	---	211.946	23.26	30.00
HT40	2	5755	19.25	18.74	---	---	158.956	22.01	30.00
HT40	2	5795	20.65	20.69	---	---	233.364	23.68	30.00
VHT20	2	5745	20.22	20.15	---	---	208.710	23.20	30.00
VHT20	2	5785	20.13	20.24	---	---	208.720	23.20	30.00
VHT20	2	5825	20.51	20.26	---	---	218.630	23.40	30.00
VHT40	2	5755	19.40	18.90	---	---	164.721	22.17	30.00
VHT40	2	5795	20.77	20.82	---	---	240.180	23.81	30.00
VHT80	2	5775	14.92	15.27	---	---	64.697	18.11	30.00

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

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

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

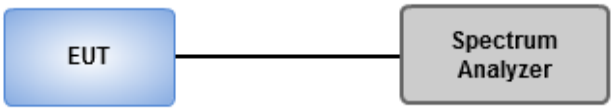
☐ Method SA-1

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

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

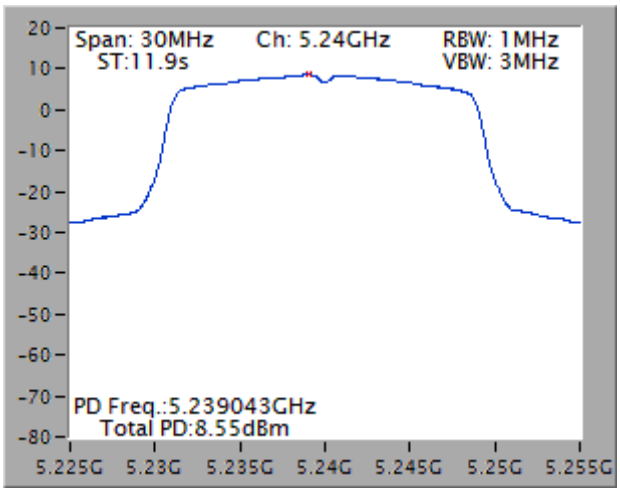


3.4.4 Test Result of Peak Power Spectral Density

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	2	5180	5.97	0.83	6.80	15.65
11a	2	5200	6.75	0.83	7.58	15.65
11a	2	5240	8.29	0.83	9.12	15.65
VHT20	2	5180	6.04	0.85	6.89	15.65
VHT20	2	5200	6.92	0.85	7.77	15.65
VHT20	2	5240	8.55	0.85	9.40	15.65
VHT40	2	5190	1.79	1.64	3.43	15.65
VHT40	2	5230	5.06	1.64	6.70	15.65
VHT80	2	5210	-4.53	2.72	-1.81	15.65

Note:
1. Test result is bin-by-bin summing measured value of each TX port.
2. Directional gain = 4.34+10* log(2/1) = 7.35 dBi > 6 dBi.
   Limit shall be reduced to 17 dBm – (7.35 dBi – 6 dBi) = 15.65 dBm.

Worst Plot



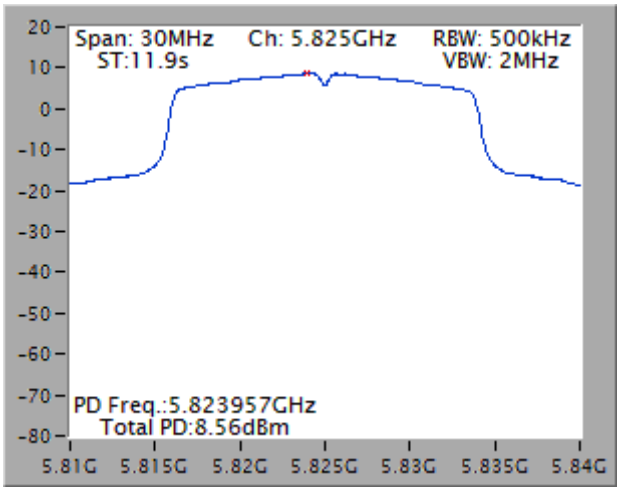
Note: The plot without duty factor.

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	2	5745	7.14	0.83	7.97	28.65
11a	2	5785	8.14	0.83	8.97	28.65
11a	2	5825	8.22	0.83	9.05	28.65
VHT20	2	5745	8.41	0.85	9.26	28.65
VHT20	2	5785	8.53	0.85	9.38	28.65
VHT20	2	5825	8.56	0.85	9.41	28.65
VHT40	2	5755	3.60	1.64	5.24	28.65
VHT40	2	5795	5.51	1.64	7.15	28.65
VHT80	2	5775	-3.58	2.72	-0.86	28.65

Note:

1. Test result is bin-by-bin summing measured value of each TX port.
2. Directional gain = 4.34+10* log(2/1) = 7.35 dBi > 6 dBi.
   Limit shall be reduced to 30 dBm – (7.35 dBi – 6 dBi) = 28.65 dBm.

Worst Plot



Note: The plot is without duty factor.

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

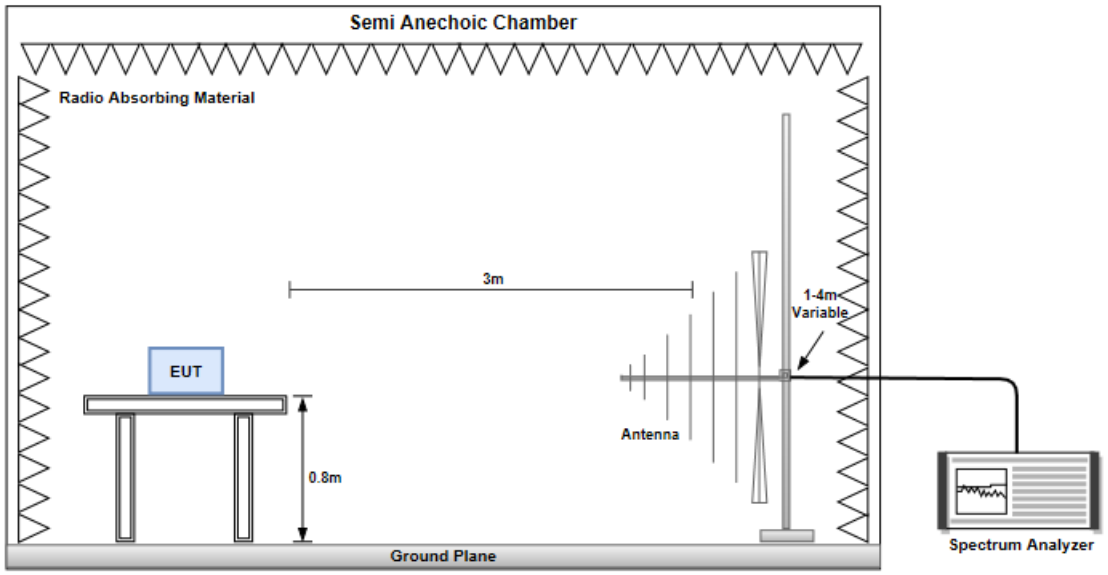
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission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

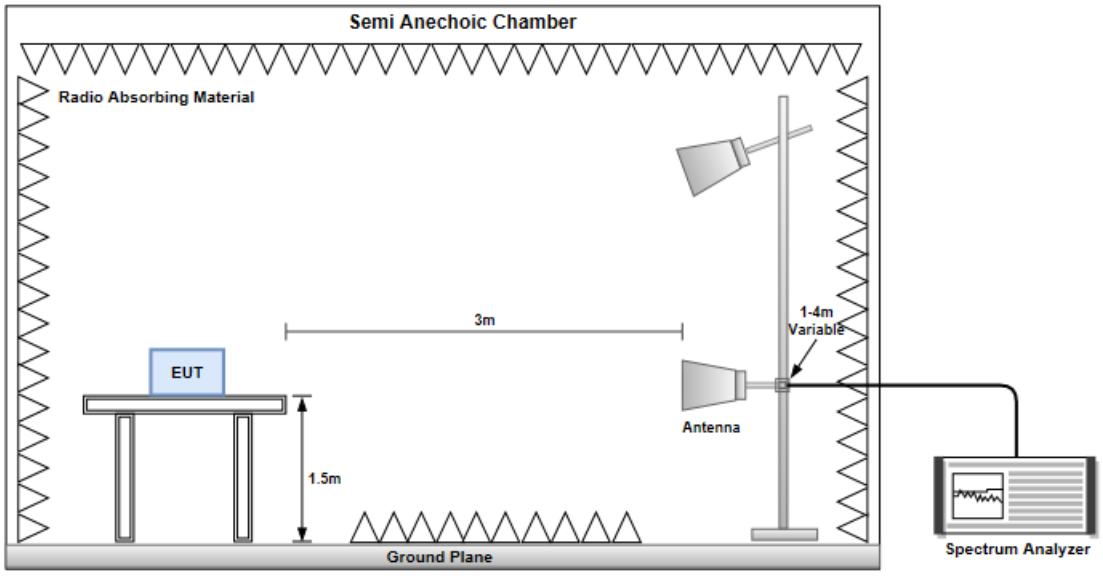
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

3.5.3 Test Setup

Radiated Emissions below 1 GHz

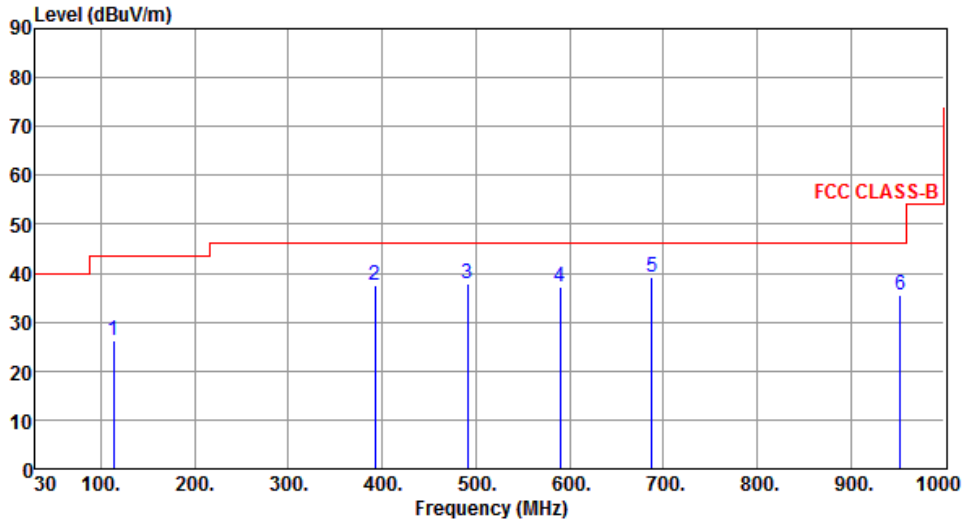


Radiated Emissions above 1 GHz



3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

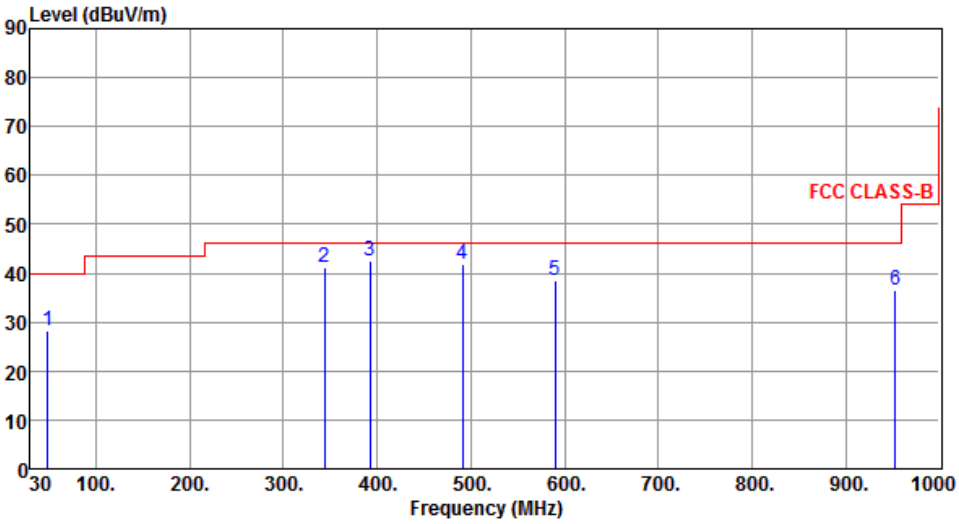
Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	113.42	26.34	43.50	-17.16	37.15	-10.81	Peak	---	---
2	392.78	37.66	46.00	-8.34	42.83	-5.17	Peak	---	---
3	490.75	37.80	46.00	-8.20	40.79	-2.99	Peak	---	---
4	589.69	37.11	46.00	-8.89	38.01	-0.90	Peak	---	---
5	687.66	39.06	46.00	-6.94	38.46	0.60	Peak	---	---
6	952.47	35.38	46.00	-10.62	30.48	4.90	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.

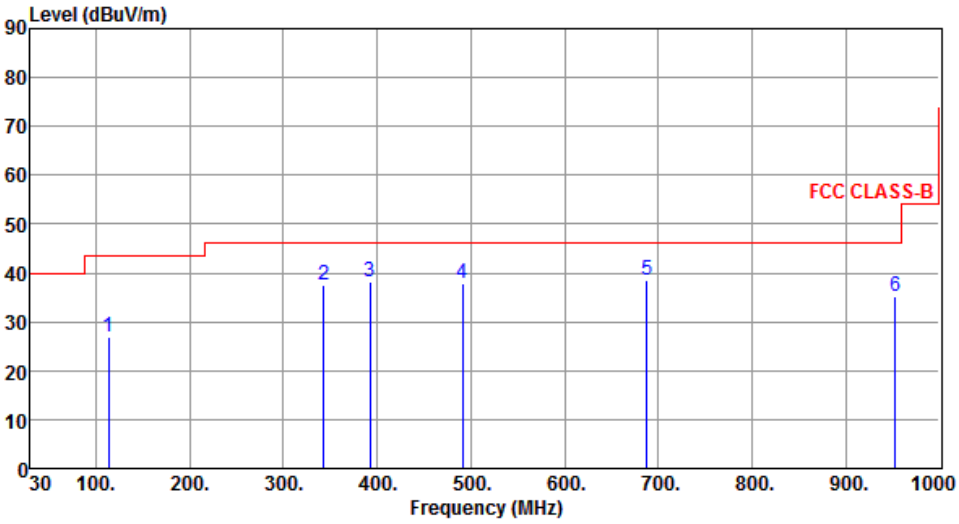
Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	48.43	28.08	40.00	-11.92	35.70	-7.62	Peak	---	---
2	343.64	41.33	46.00	-4.67	47.73	-6.40	Peak	---	---
3	392.47	42.36	46.00	-3.64	47.55	-5.19	QP	126	199
4	490.92	41.79	46.00	-4.21	44.78	-2.99	Peak	---	---
5	589.87	38.64	46.00	-7.36	39.53	-0.89	Peak	---	---
6	952.83	36.59	46.00	-9.41	31.69	4.90	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.

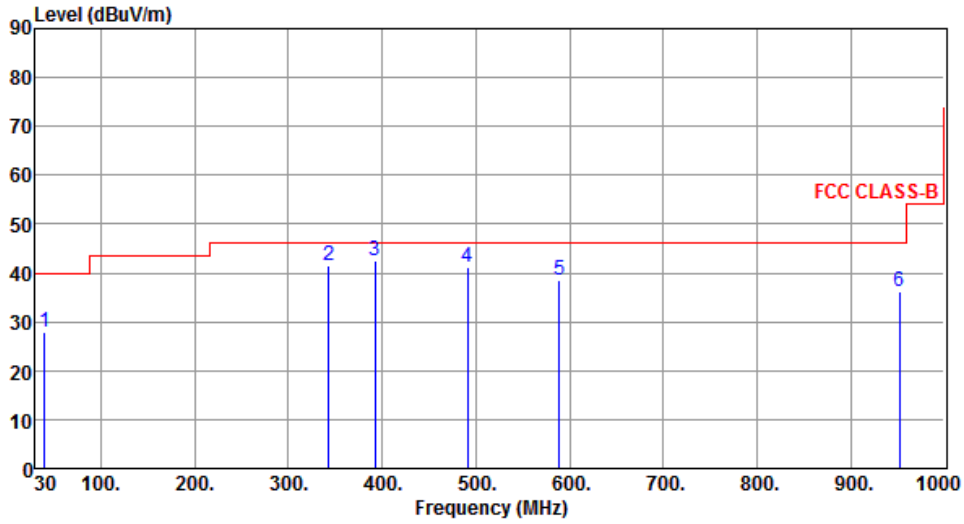
Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	113.42	26.78	43.50	-16.72	37.59	-10.81	Peak	---	---
2	343.31	37.39	46.00	-8.61	43.80	-6.41	Peak	---	---
3	392.78	38.20	46.00	-7.80	43.37	-5.17	Peak	---	---
4	490.75	37.83	46.00	-8.17	40.82	-2.99	Peak	---	---
5	687.66	38.59	46.00	-7.41	37.99	0.60	Peak	---	---
6	952.47	35.24	46.00	-10.76	30.34	4.90	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.

Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Vertical		

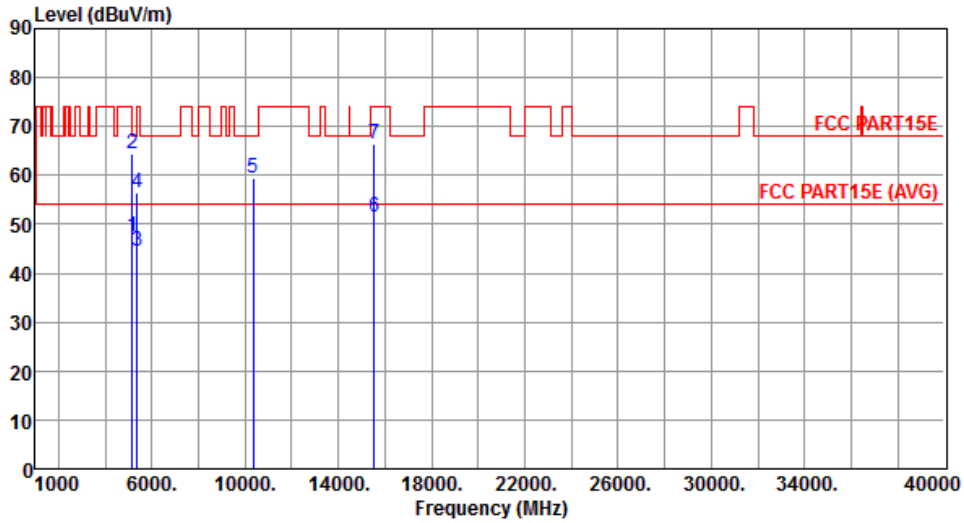


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	39.70	27.97	40.00	-12.03	35.82	-7.85	Peak	---	---
2	343.26	41.67	46.00	-4.33	48.08	-6.41	Peak	---	---
3	392.52	42.56	46.00	-3.44	47.73	-5.17	QP	218	195
4	490.87	41.35	46.00	-4.65	44.34	-2.99	Peak	---	---
5	589.48	38.67	46.00	-7.33	39.57	-0.90	Peak	---	---
6	952.38	36.09	46.00	-9.91	31.19	4.90	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

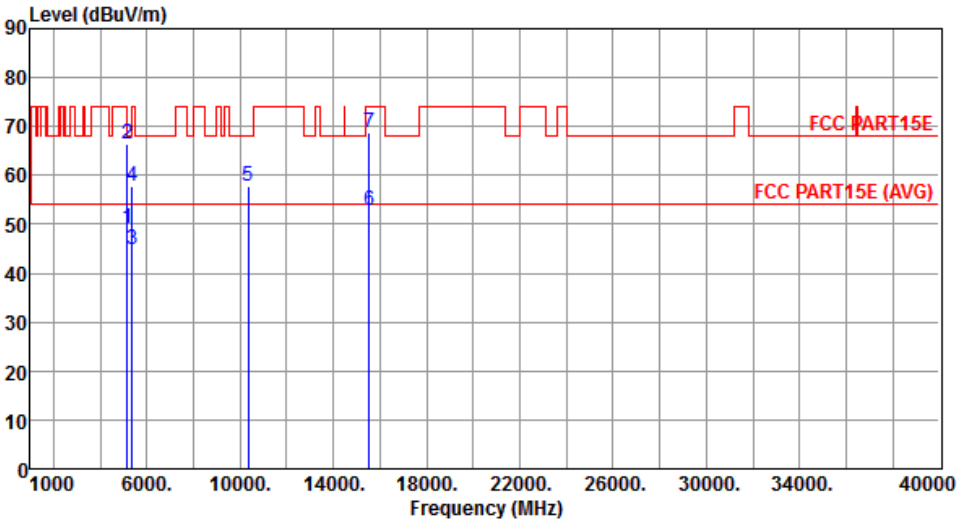
Modulation	11a	Test Freq. (MHz)	5180
Polarization	Horizontal		



	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	47.38	54.00	-6.62	42.90	4.48	Average	250	228
2	5150.00	64.59	74.00	-9.41	60.11	4.48	Peak	250	228
3	5350.00	44.34	54.00	-9.66	39.60	4.74	Average	250	228
4	5350.00	56.31	74.00	-17.69	51.57	4.74	Peak	250	228
5	10360.00	59.32	68.20	-8.88	45.54	13.78	Peak	342	144
6	15540.00	51.53	54.00	-2.47	37.14	14.39	Average	136	234
7	15540.00	66.38	74.00	-7.62	51.99	14.39	Peak	136	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).

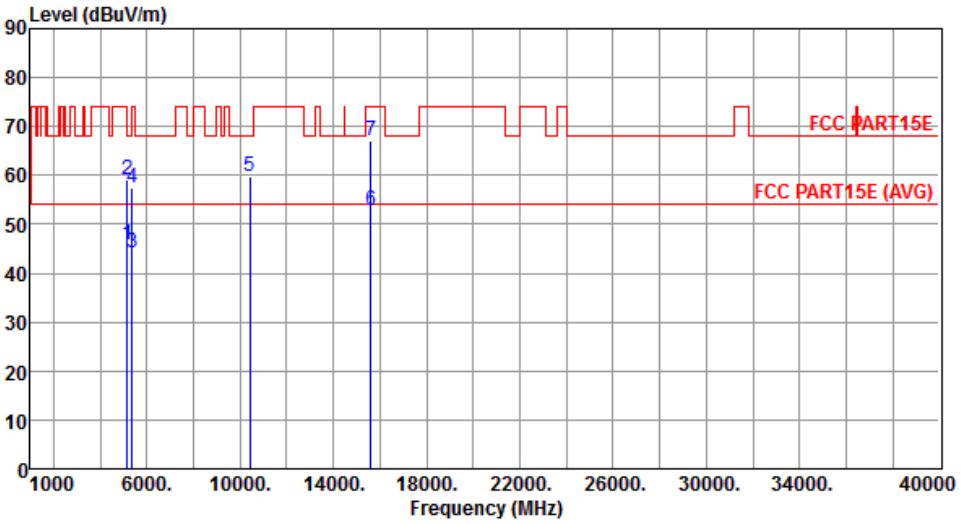
Modulation	11a	Test Freq. (MHz)	5180
Polarization	Vertical		



	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	49.29	54.00	-4.71	44.81	4.48	Average	180	101
2	5150.00	66.40	74.00	-7.60	61.92	4.48	Peak	180	101
3	5350.00	44.97	54.00	-9.03	40.23	4.74	Average	180	101
4	5350.00	57.80	74.00	-16.20	53.06	4.74	Peak	180	101
5	10360.00	57.73	68.20	-10.47	43.95	13.78	Peak	131	211
6	15540.00	52.74	54.00	-1.26	38.35	14.39	Average	294	342
7	15540.00	68.63	74.00	-5.37	54.24	14.39	Peak	294	342

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

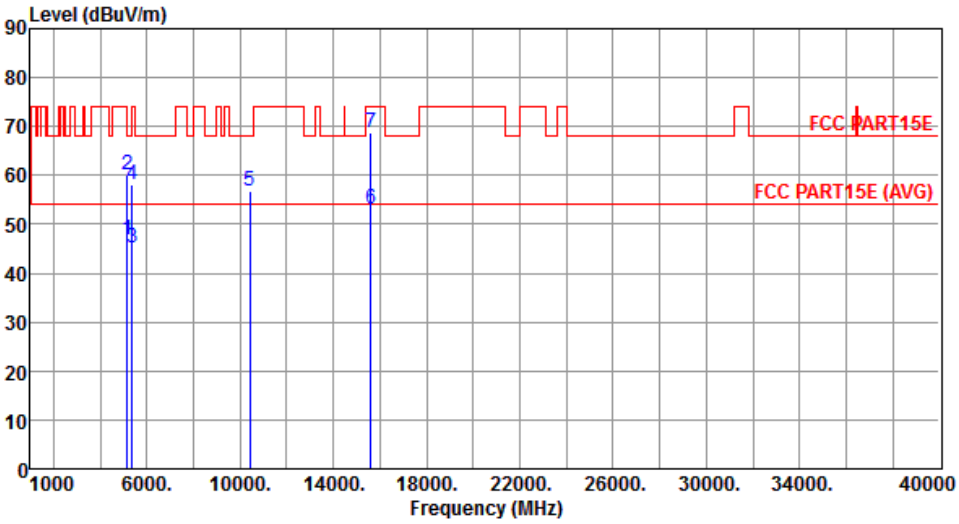
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Horizontal		



	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	45.68	54.00	-8.32	41.20	4.48	Average	246	230
2	5150.00	59.24	74.00	-14.76	54.76	4.48	Peak	246	230
3	5350.00	44.26	54.00	-9.74	39.52	4.74	Average	246	230
4	5350.00	57.29	74.00	-16.71	52.55	4.74	Peak	246	230
5	10400.00	59.65	68.20	-8.55	45.80	13.85	Peak	134	238
6	15600.00	52.79	54.00	-1.21	38.49	14.30	Average	290	269
7	15600.00	67.04	74.00	-6.96	52.74	14.30	Peak	290	269

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

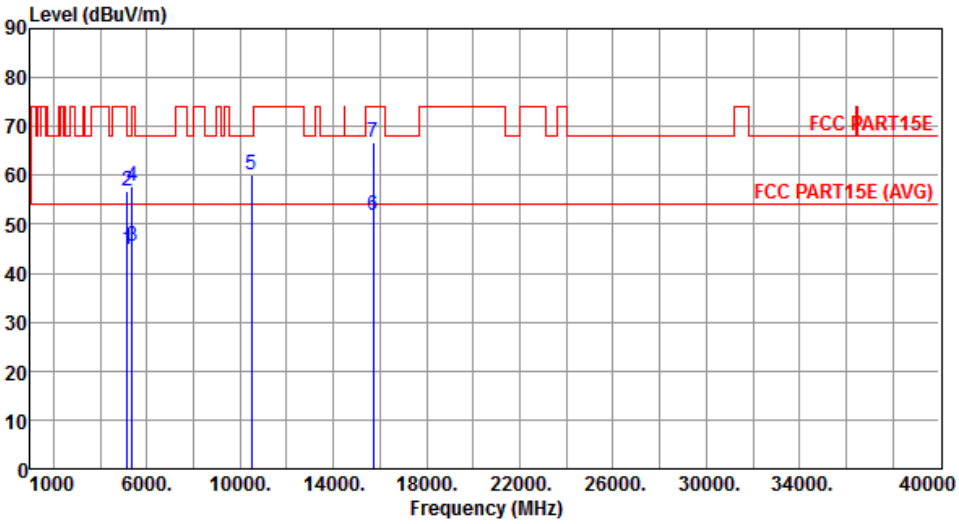
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.75	54.00	-7.25	42.27	4.48	Average	207	99
2	5150.00	60.01	74.00	-13.99	55.53	4.48	Peak	207	99
3	5350.00	45.01	54.00	-8.99	40.27	4.74	Average	207	99
4	5350.00	57.97	74.00	-16.03	53.23	4.74	Peak	207	99
5	10400.00	56.94	68.20	-11.26	43.09	13.85	Peak	194	209
6	15600.00	52.99	54.00	-1.01	38.69	14.30	Average	337	341
7	15600.00	68.81	74.00	-5.19	54.51	14.30	Peak	337	341

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

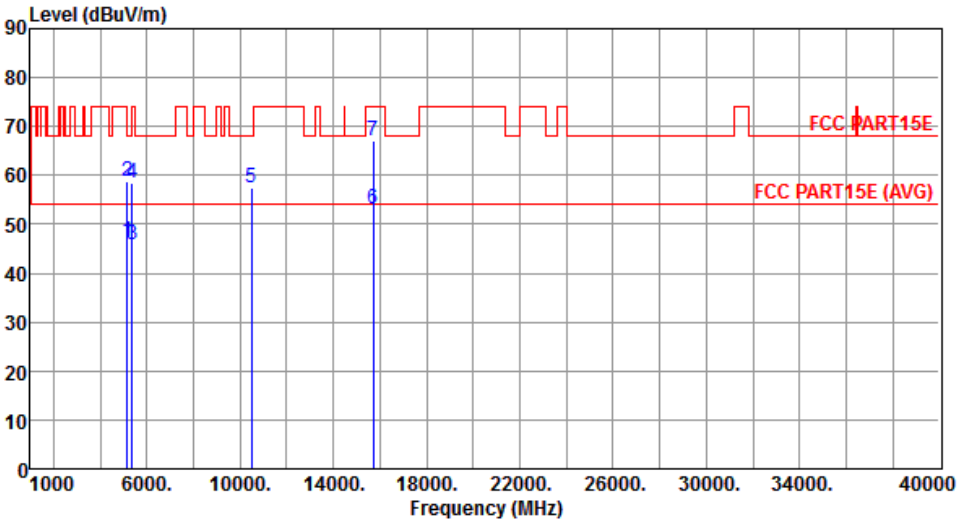
Modulation	11a	Test Freq. (MHz)	5240
Polarization	Horizontal		



	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	44.72	54.00	-9.28	40.24	4.48	Average	242	233
2	5150.00	56.64	74.00	-17.36	52.16	4.48	Peak	242	233
3	5350.00	45.38	54.00	-8.62	40.64	4.74	Average	242	233
4	5350.00	57.87	74.00	-16.13	53.13	4.74	Peak	242	233
5	10480.00	60.19	68.20	-8.01	46.24	13.95	Peak	131	240
6	15720.00	51.84	54.00	-2.16	37.73	14.11	Average	295	267
7	15720.00	66.82	74.00	-7.18	52.71	14.11	Peak	295	267

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

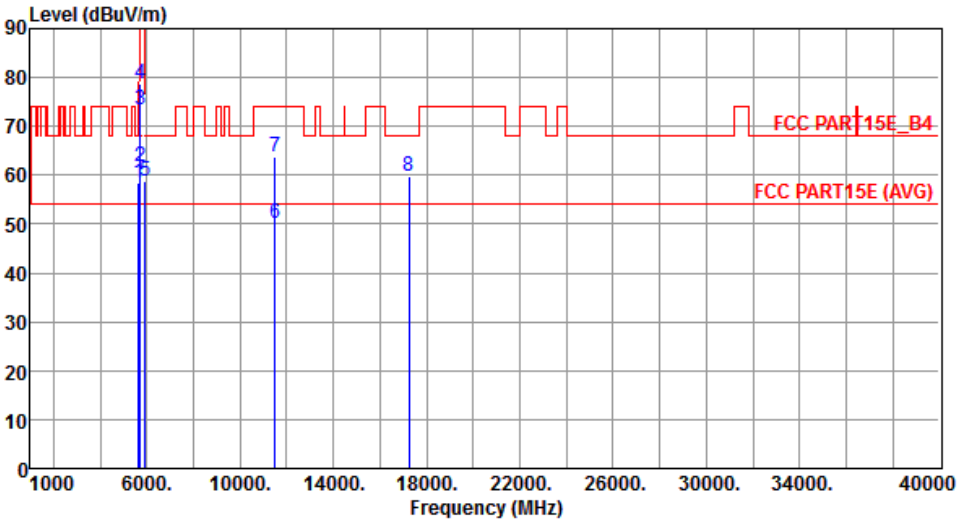
Modulation	11a	Test Freq. (MHz)	5240
Polarization	Vertical		



	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	46.64	54.00	-7.36	42.16	4.48	Average	200	114
2	5150.00	58.87	74.00	-15.13	54.39	4.48	Peak	200	114
3	5350.00	45.73	54.00	-8.27	40.99	4.74	Average	200	114
4	5350.00	58.33	74.00	-15.67	53.59	4.74	Peak	200	114
5	10480.00	57.57	68.20	-10.63	43.62	13.95	Peak	185	212
6	15720.00	52.99	54.00	-1.01	38.88	14.11	Average	302	340
7	15720.00	67.17	74.00	-6.83	53.06	14.11	Peak	302	340

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

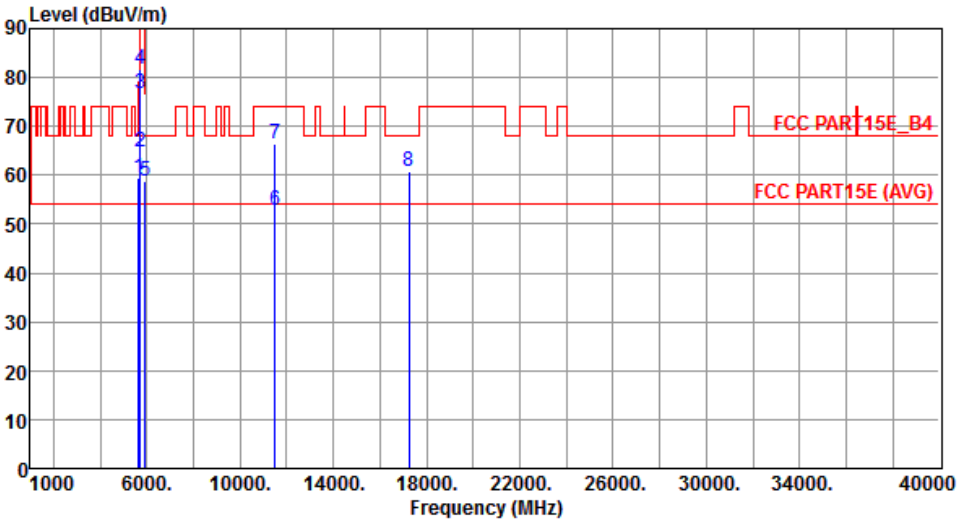
Modulation	11a	Test Freq. (MHz)	5745
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.34	68.20	-9.86	53.15	5.19	Peak	100	77
2	5700.00	61.85	105.20	-43.35	56.57	5.28	Peak	100	77
3	5720.00	73.44	110.80	-37.36	68.13	5.31	Peak	100	77
4	5725.00	78.83	122.20	-43.37	73.51	5.32	Peak	100	77
5	5925.00	58.79	68.20	-9.41	53.15	5.64	Peak	100	77
6	11490.00	50.31	54.00	-3.69	35.49	14.82	Average	138	335
7	11490.00	63.63	74.00	-10.37	48.81	14.82	Peak	138	335
8	17235.00	59.74	68.20	-8.46	42.03	17.71	Peak	100	143

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

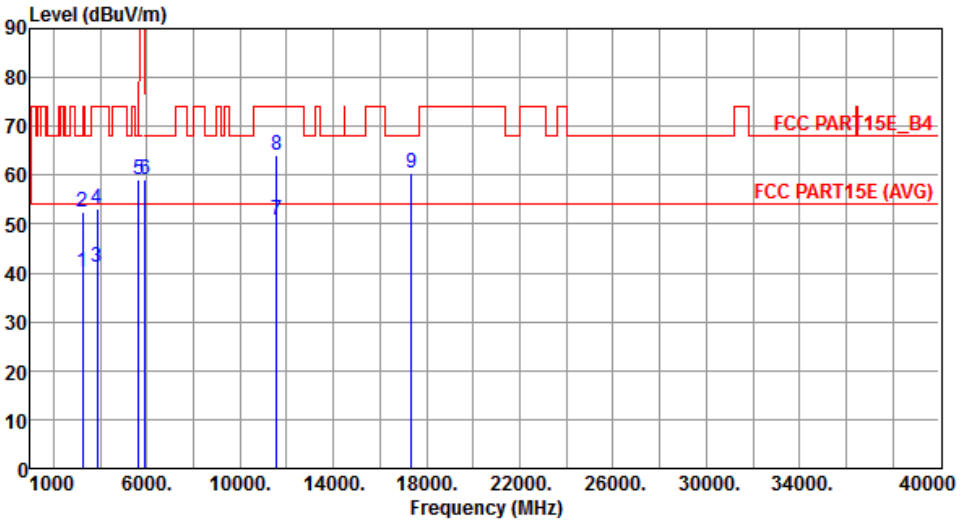
Modulation	11a	Test Freq. (MHz)	5745
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	59.56	68.20	-8.64	54.37	5.19	Peak	159	42
2	5700.00	64.72	105.20	-40.48	59.44	5.28	Peak	159	42
3	5720.00	76.56	110.80	-34.24	71.25	5.31	Peak	159	42
4	5725.00	81.66	122.20	-40.54	76.34	5.32	Peak	159	42
5	5925.00	58.78	68.20	-9.42	53.14	5.64	Peak	159	42
6	11490.00	52.85	54.00	-1.15	38.03	14.82	Average	125	6
7	11490.00	66.35	74.00	-7.65	51.53	14.82	Peak	125	6
8	17235.00	60.62	68.20	-7.58	42.91	17.71	Peak	100	186

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

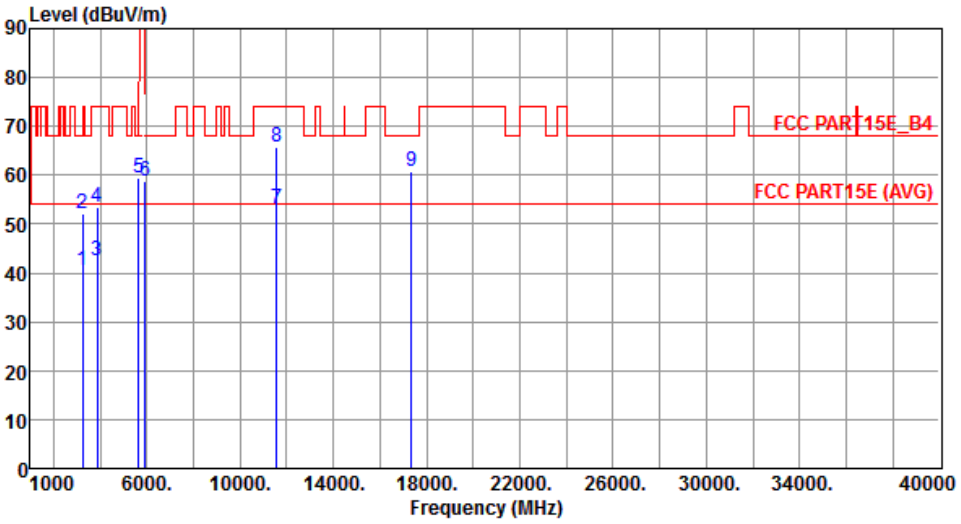
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3249.60	40.29	54.00	-13.71	40.86	-0.57	Average	100	359
2	3249.60	52.36	68.20	-15.84	52.93	-0.57	Peak	100	359
3	3856.00	41.08	54.00	-12.92	40.28	0.80	Average	100	11
4	3856.00	53.12	74.00	-20.88	52.32	0.80	Peak	100	11
5	5650.00	59.02	68.20	-9.18	53.83	5.19	Peak	100	74
6	5925.00	59.11	68.20	-9.09	53.47	5.64	Peak	100	74
7	11570.00	50.71	54.00	-3.29	36.07	14.64	Average	126	353
8	11570.00	64.14	74.00	-9.86	49.50	14.64	Peak	126	353
9	17355.00	60.31	68.20	-7.89	42.30	18.01	Peak	100	238

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

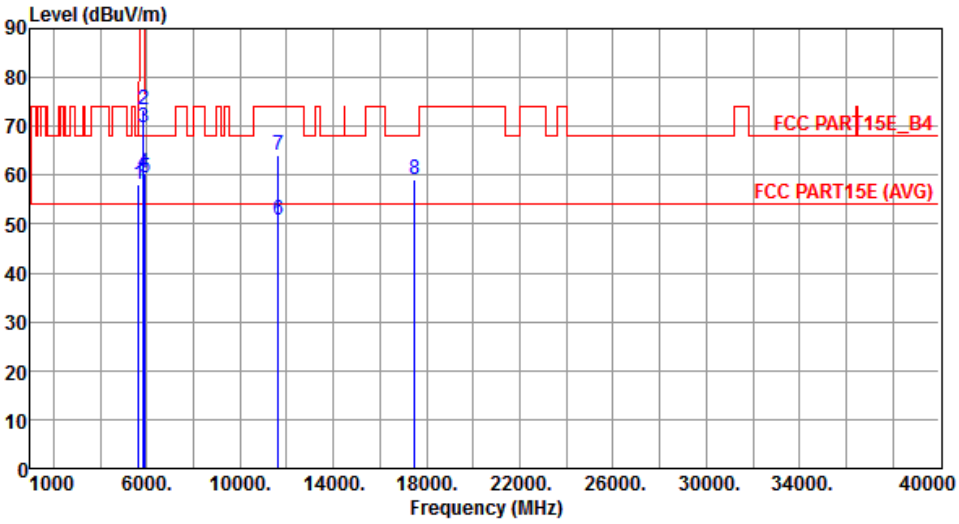
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3249.60	40.43	54.00	-13.57	41.00	-0.57	Average	100	28
2	3249.60	52.09	68.20	-16.11	52.66	-0.57	Peak	100	28
3	3856.00	42.37	54.00	-11.63	41.57	0.80	Average	100	326
4	3856.00	53.48	74.00	-20.52	52.68	0.80	Peak	100	326
5	5650.00	59.40	68.20	-8.80	54.21	5.19	Peak	138	43
6	5925.00	58.83	68.20	-9.37	53.19	5.64	Peak	138	43
7	11570.00	52.99	54.00	-1.01	38.35	14.64	Average	140	8
8	11570.00	65.82	74.00	-8.18	51.18	14.64	Peak	140	8
9	17355.00	60.76	68.20	-7.44	42.75	18.01	Peak	140	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).

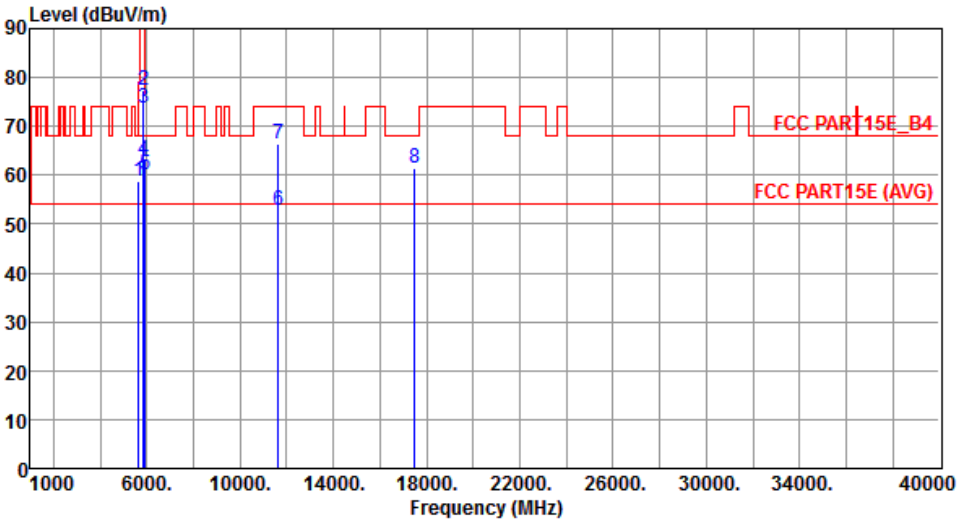
Modulation	11a	Test Freq. (MHz)	5825
Polarization	Horizontal		



	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	58.01	68.20	-10.19	52.82	5.19	Peak	100	78
2	5850.00	73.42	122.20	-48.78	67.90	5.52	Peak	100	78
3	5855.00	69.90	110.80	-40.90	64.37	5.53	Peak	100	78
4	5875.00	60.53	105.20	-44.67	54.97	5.56	Peak	100	78
5	5925.00	59.50	68.20	-8.70	53.86	5.64	Peak	100	78
6	11650.00	50.94	54.00	-3.06	36.50	14.44	Average	100	359
7	11650.00	63.97	74.00	-10.03	49.53	14.44	Peak	100	359
8	17475.00	58.99	68.20	-9.21	40.70	18.29	Peak	100	134

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

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

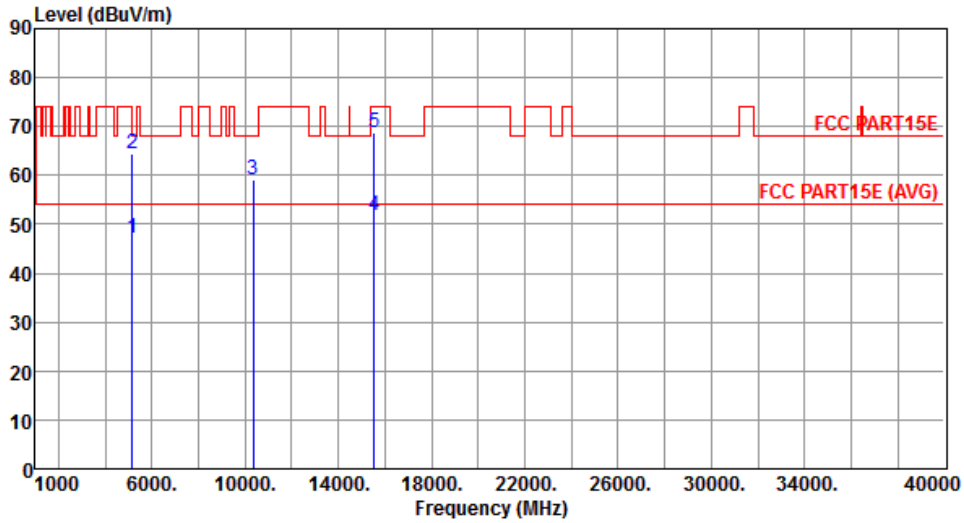


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.68	68.20	-9.52	53.49	5.19	Peak	248	26
2	5850.00	77.25	122.20	-44.95	71.73	5.52	Peak	248	26
3	5855.00	73.72	110.80	-37.08	68.19	5.53	Peak	248	26
4	5875.00	63.03	105.20	-42.17	57.47	5.56	Peak	248	26
5	5925.00	59.96	68.20	-8.24	54.32	5.64	Peak	248	26
6	11650.00	52.84	54.00	-1.16	38.40	14.44	Average	123	4
7	11650.00	66.40	74.00	-7.60	51.96	14.44	Peak	123	4
8	17475.00	61.58	68.20	-6.62	43.29	18.29	Peak	100	158

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

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

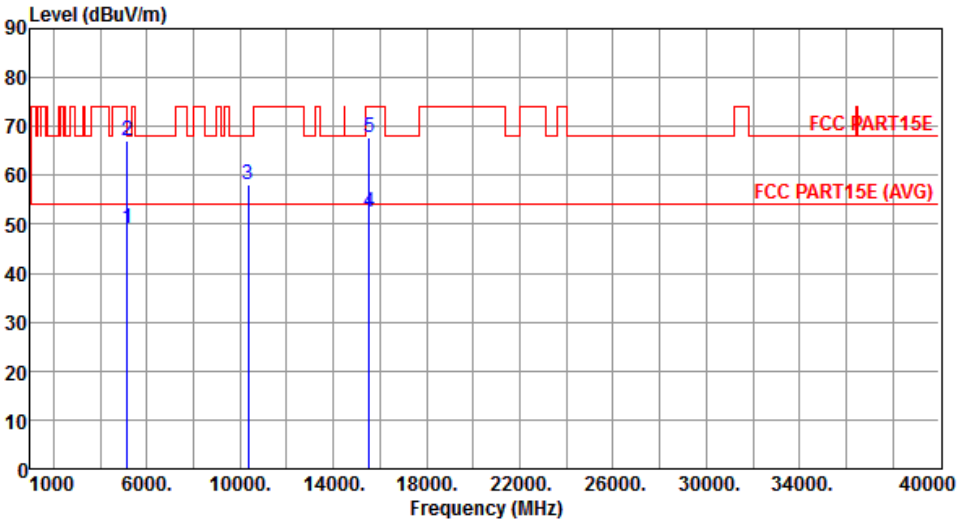
Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	47.23	54.00	-6.77	42.75	4.48	Average	248	230
2	5150.00	64.43	74.00	-9.57	59.95	4.48	Peak	248	230
3	10360.00	59.19	68.20	-9.01	45.41	13.78	Peak	135	225
4	15540.00	51.74	54.00	-2.26	37.35	14.39	Average	215	332
5	15540.00	68.74	74.00	-5.26	54.35	14.39	Peak	215	332

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

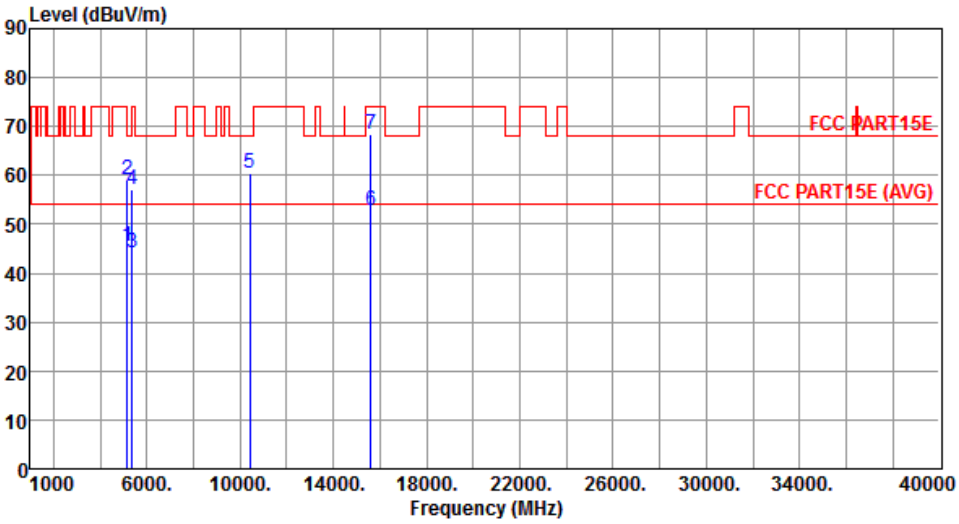
Modulation	VHT20	**Test Freq. (MHz)**	5180
Polarization	Vertical		



	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	49.14	54.00	-4.86	44.66	4.48	Average	177	93
2	5150.00	66.96	74.00	-7.04	62.48	4.48	Peak	177	93
3	10360.00	58.19	68.20	-10.01	44.41	13.78	Peak	100	184
4	15540.00	52.52	54.00	-1.48	38.13	14.39	Average	367	324
5	15540.00	67.63	74.00	-6.37	53.24	14.39	Peak	367	324

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

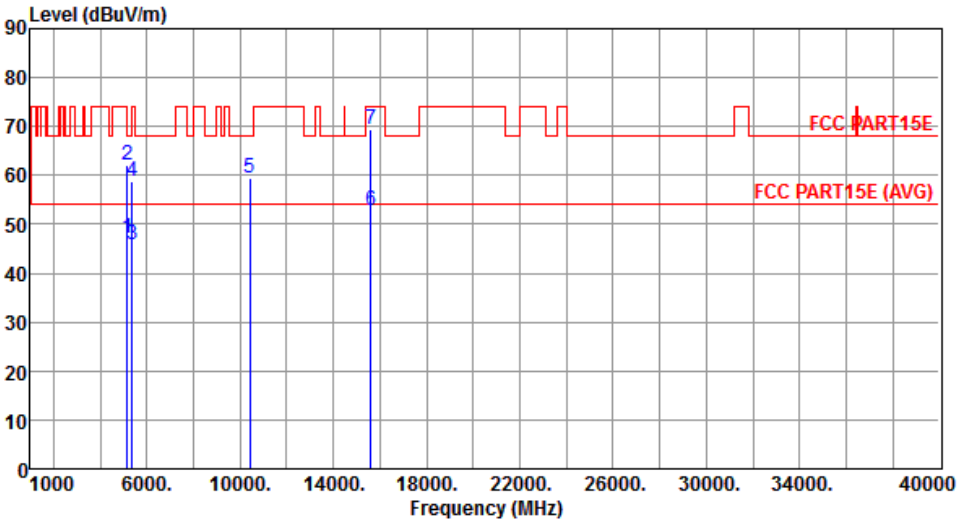
Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	45.53	54.00	-8.47	41.05	4.48	Average	250	232
2	5150.00	59.13	74.00	-14.87	54.65	4.48	Peak	250	232
3	5350.00	44.08	54.00	-9.92	39.34	4.74	Average	250	232
4	5350.00	57.11	74.00	-16.89	52.37	4.74	Peak	250	232
5	10400.00	60.48	68.20	-7.72	46.63	13.85	Peak	131	235
6	15600.00	52.67	54.00	-1.33	38.37	14.30	Average	290	290
7	15600.00	68.52	74.00	-5.48	54.22	14.30	Peak	290	290

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

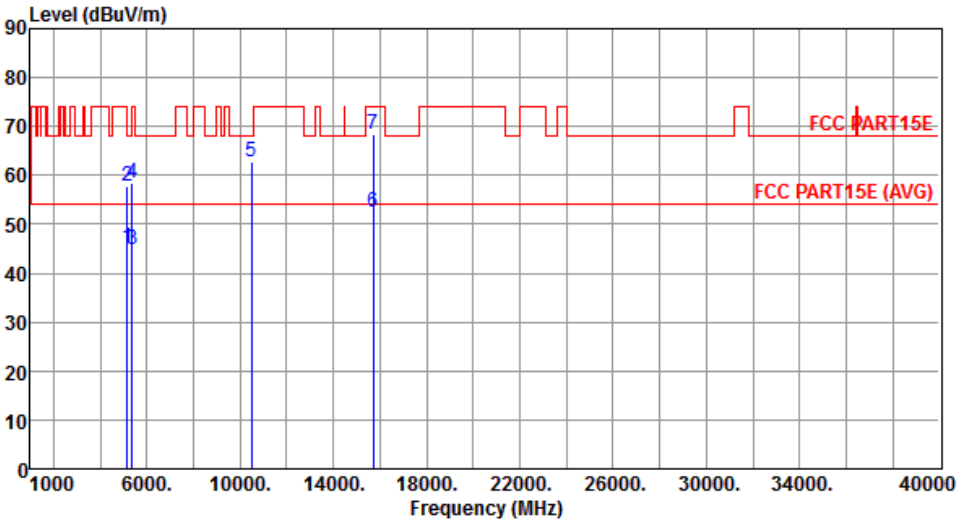
Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Vertical		



	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	47.20	54.00	-6.80	42.72	4.48	Average	214	100
2	5150.00	61.98	74.00	-12.02	57.50	4.48	Peak	214	100
3	5350.00	45.94	54.00	-8.06	41.20	4.74	Average	214	100
4	5350.00	58.81	74.00	-15.19	54.07	4.74	Peak	214	100
5	10400.00	59.36	68.20	-8.84	45.51	13.85	Peak	114	182
6	15600.00	52.93	54.00	-1.07	38.63	14.30	Average	346	322
7	15600.00	69.51	74.00	-4.49	55.21	14.30	Peak	346	322

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

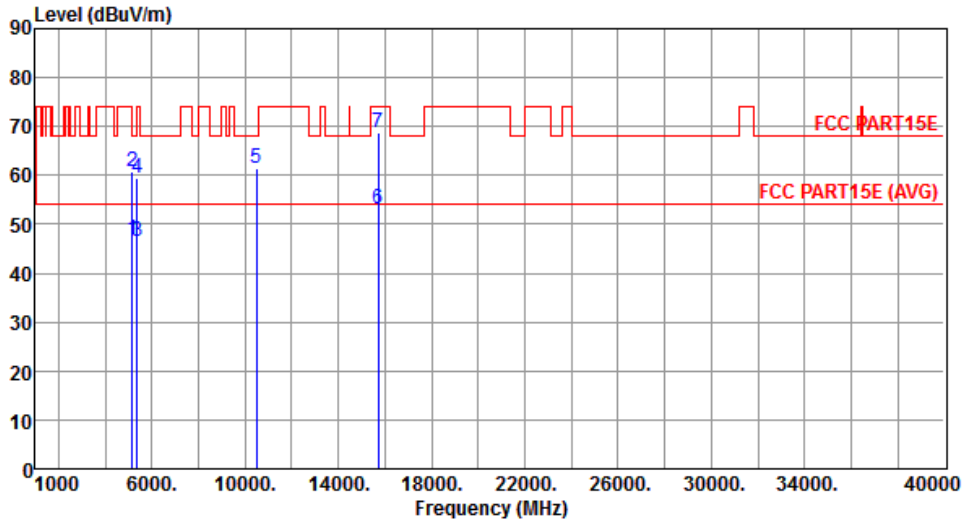
Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	45.02	54.00	-8.98	40.54	4.48	Average	202	237
2	5150.00	57.64	74.00	-16.36	53.16	4.48	Peak	202	237
3	5350.00	44.90	54.00	-9.10	40.16	4.74	Average	202	237
4	5350.00	58.37	74.00	-15.63	53.63	4.74	Peak	202	237
5	10480.00	62.90	68.20	-5.30	48.95	13.95	Peak	121	238
6	15720.00	52.41	54.00	-1.59	38.30	14.11	Average	285	290
7	15720.00	68.27	74.00	-5.73	54.16	14.11	Peak	285	290

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

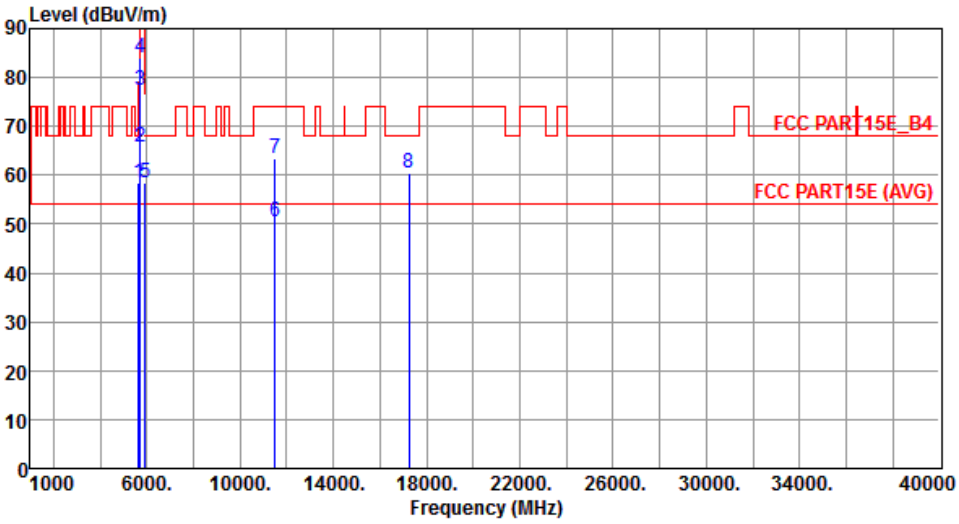
Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Vertical		



	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	46.95	54.00	-7.05	42.47	4.48	Average	226	97
2	5150.00	60.78	74.00	-13.22	56.30	4.48	Peak	226	97
3	5350.00	46.44	54.00	-7.56	41.70	4.74	Average	226	97
4	5350.00	59.43	74.00	-14.57	54.69	4.74	Peak	226	97
5	10480.00	61.46	68.20	-6.74	47.51	13.95	Peak	110	181
6	15720.00	52.99	54.00	-1.01	38.88	14.11	Average	342	324
7	15720.00	68.87	74.00	-5.13	54.76	14.11	Peak	342	324

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

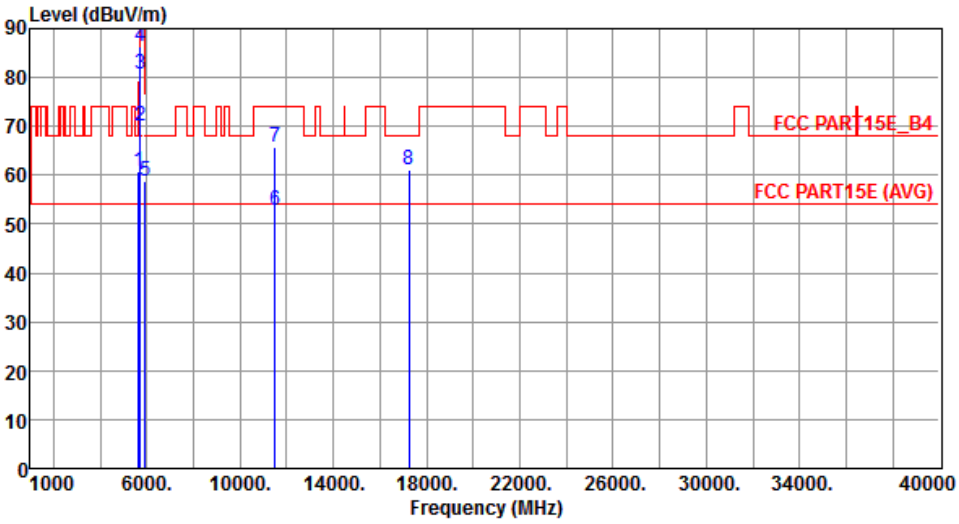
Modulation	VHT20	Test Freq. (MHz)	5745
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.40	68.20	-9.80	53.21	5.19	Peak	100	70
2	5700.00	65.73	105.20	-39.47	60.45	5.28	Peak	100	70
3	5720.00	77.23	110.80	-33.57	71.92	5.31	Peak	100	70
4	5725.00	84.17	122.20	-38.03	78.85	5.32	Peak	100	70
5	5925.00	58.52	68.20	-9.68	52.88	5.64	Peak	100	70
6	11490.00	50.50	54.00	-3.50	35.68	14.82	Average	121	352
7	11490.00	63.51	74.00	-10.49	48.69	14.82	Peak	121	352
8	17235.00	60.52	68.20	-7.68	42.81	17.71	Peak	100	148

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

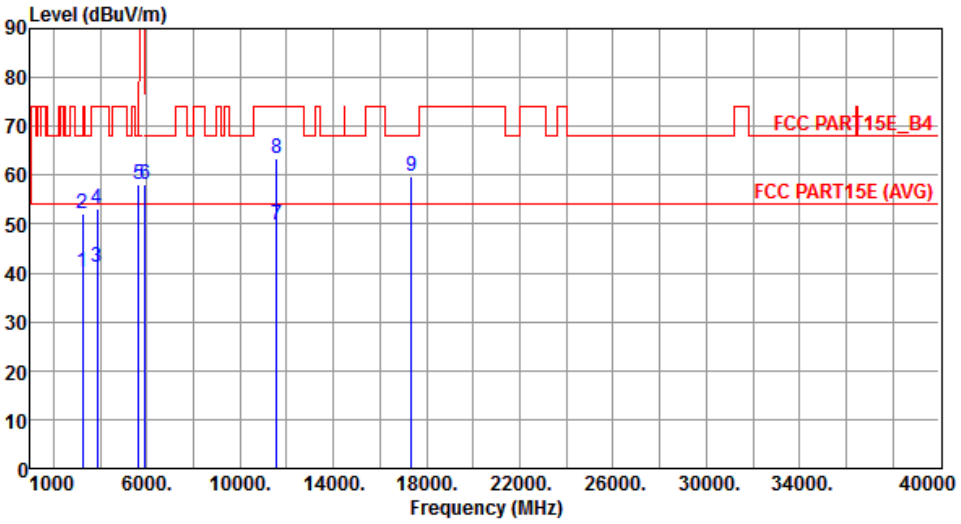
Modulation	VHT20	Test Freq. (MHz)	5745
Polarization	Vertical		



	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	60.76	68.20	-7.44	55.57	5.19	Peak	157	39
2	5700.00	70.12	105.20	-35.08	64.84	5.28	Peak	157	39
3	5720.00	80.84	110.80	-29.96	75.53	5.31	Peak	157	39
4	5725.00	86.33	122.20	-35.87	81.01	5.32	Peak	157	39
5	5925.00	58.69	68.20	-9.51	53.05	5.64	Peak	157	39
6	11490.00	52.97	54.00	-1.03	38.15	14.82	Average	126	9
7	11490.00	65.73	74.00	-8.27	50.91	14.82	Peak	126	9
8	17235.00	61.22	68.20	-6.98	43.51	17.71	Peak	100	172

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

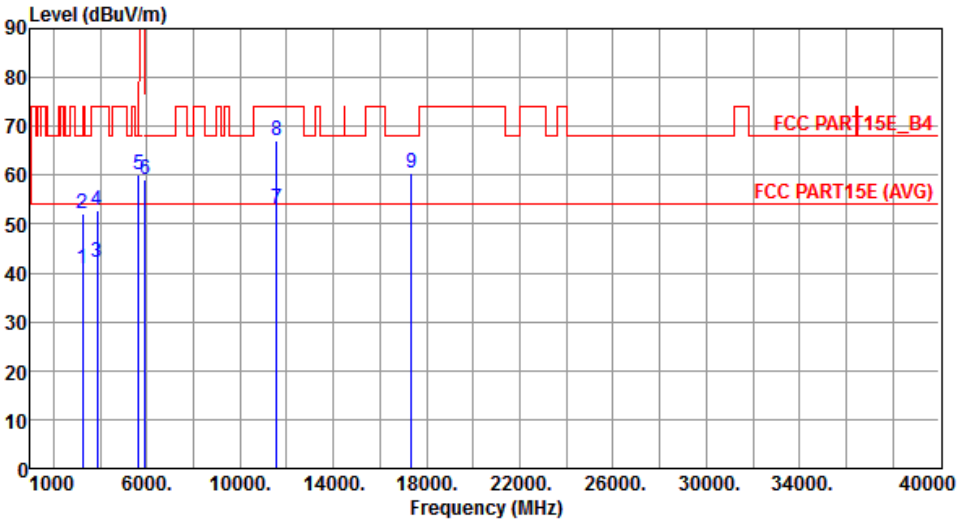
Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3249.60	40.17	54.00	-13.83	40.74	-0.57	Average	100	358
2	3249.60	52.25	68.20	-15.95	52.82	-0.57	Peak	100	358
3	3856.00	41.06	54.00	-12.94	40.26	0.80	Average	100	13
4	3856.00	53.07	74.00	-20.93	52.27	0.80	Peak	100	13
5	5650.00	58.28	68.20	-9.92	53.09	5.19	Peak	100	77
6	5925.00	58.25	68.20	-9.95	52.61	5.64	Peak	100	77
7	11570.00	49.66	54.00	-4.34	35.02	14.64	Average	100	358
8	11570.00	63.32	74.00	-10.68	48.68	14.64	Peak	100	358
9	17355.00	59.82	68.20	-8.38	41.81	18.01	Peak	100	121

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

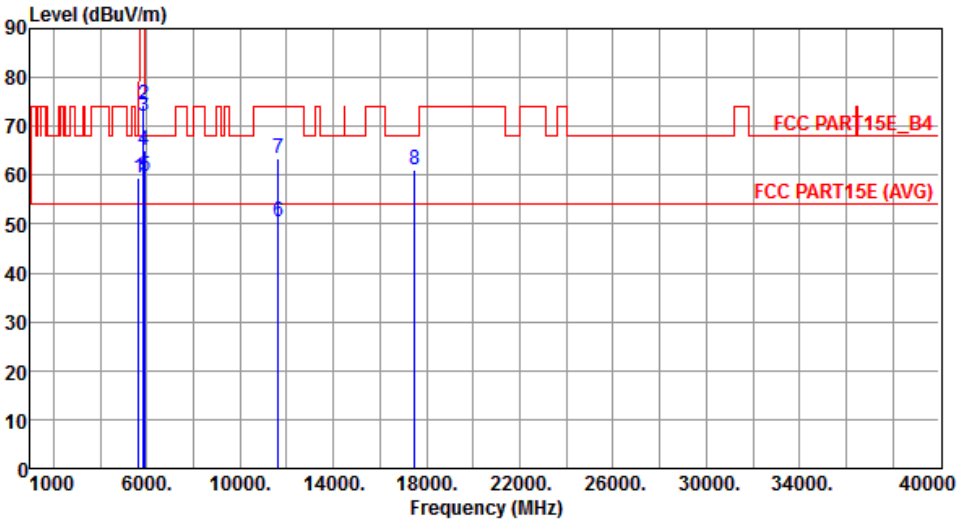
Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3249.60	40.77	54.00	-13.23	41.34	-0.57	Average	100	6
2	3249.60	52.23	68.20	-15.97	52.80	-0.57	Peak	100	6
3	3856.00	42.34	54.00	-11.66	41.54	0.80	Average	193	0
4	3856.00	52.73	74.00	-21.27	51.93	0.80	Peak	193	0
5	5650.00	60.26	68.20	-7.94	55.07	5.19	Peak	140	42
6	5925.00	58.96	68.20	-9.24	53.32	5.64	Peak	140	42
7	11570.00	52.99	54.00	-1.01	38.35	14.64	Average	117	7
8	11570.00	66.93	74.00	-7.07	52.29	14.64	Peak	117	7
9	17355.00	60.52	68.20	-7.68	42.51	18.01	Peak	100	218

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

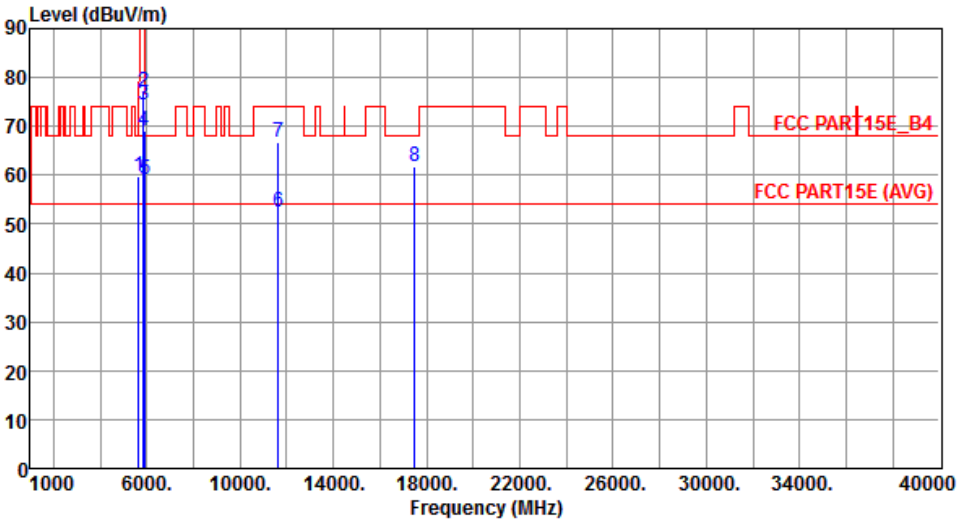
Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Horizontal		



	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	59.31	68.20	-8.89	54.12	5.19	Peak	100	78
2	5850.00	74.54	122.20	-47.66	69.02	5.52	Peak	100	78
3	5855.00	72.01	110.80	-38.79	66.48	5.53	Peak	100	78
4	5875.00	65.25	105.20	-39.95	59.69	5.56	Peak	100	78
5	5925.00	59.68	68.20	-8.52	54.04	5.64	Peak	100	78
6	11650.00	50.53	54.00	-3.47	36.09	14.44	Average	110	359
7	11650.00	63.33	74.00	-10.67	48.89	14.44	Peak	110	359
8	17475.00	60.97	68.20	-7.23	42.68	18.29	Peak	100	161

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

Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Vertical		

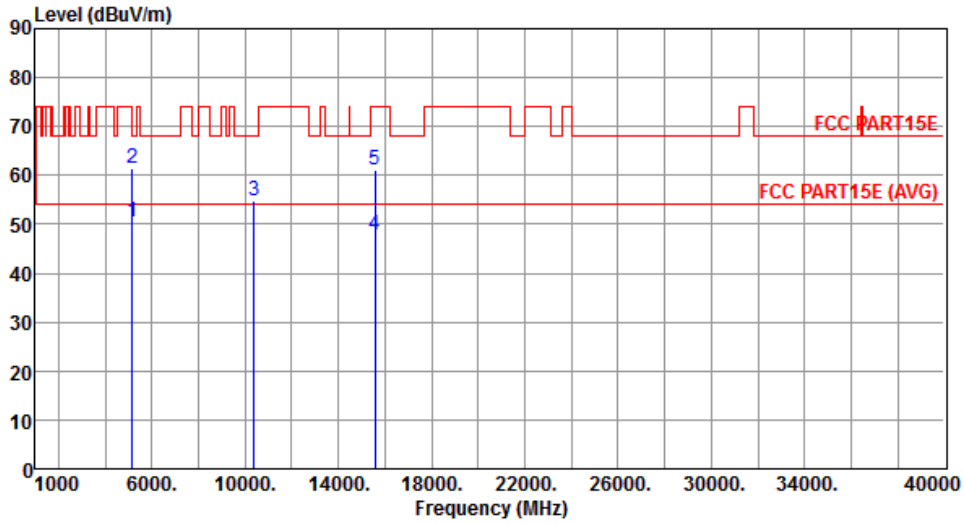


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	59.62	68.20	-8.58	54.43	5.19	Peak	138	42
2	5850.00	77.01	122.20	-45.19	71.49	5.52	Peak	138	42
3	5855.00	74.46	110.80	-36.34	68.93	5.53	Peak	138	42
4	5875.00	68.96	105.20	-36.24	63.40	5.56	Peak	138	42
5	5925.00	59.23	68.20	-8.97	53.59	5.64	Peak	138	42
6	11650.00	52.52	54.00	-1.48	38.08	14.44	Average	121	2
7	11650.00	66.60	74.00	-7.40	52.16	14.44	Peak	121	2
8	17475.00	61.69	68.20	-6.51	43.40	18.29	Peak	100	138

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

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

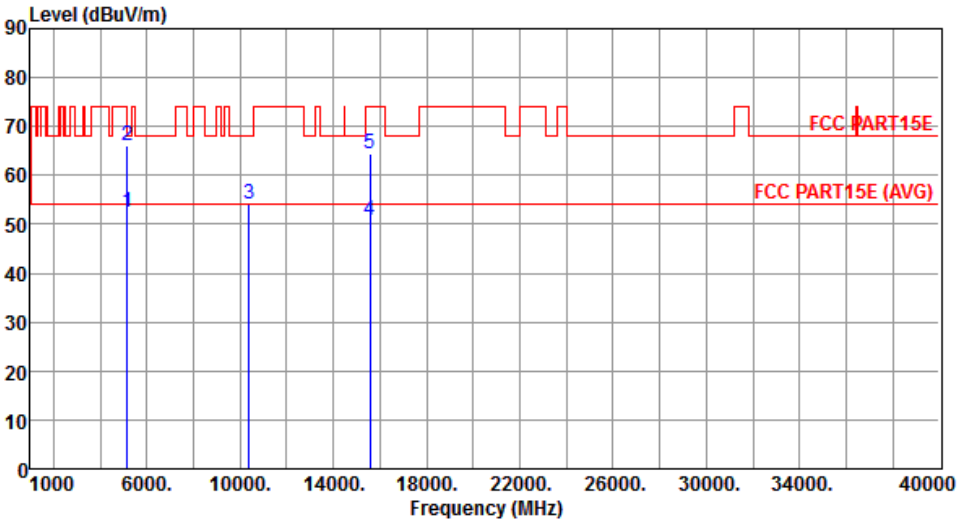
Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Horizontal		



	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	50.53	54.00	-3.47	46.05	4.48	Average	238	226
2	5150.00	61.38	74.00	-12.62	56.90	4.48	Peak	238	226
3	10380.00	54.68	68.20	-13.52	40.86	13.82	Peak	139	247
4	15570.00	47.82	54.00	-6.18	33.48	14.34	Average	286	273
5	15570.00	61.20	74.00	-12.80	46.86	14.34	Peak	286	273

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

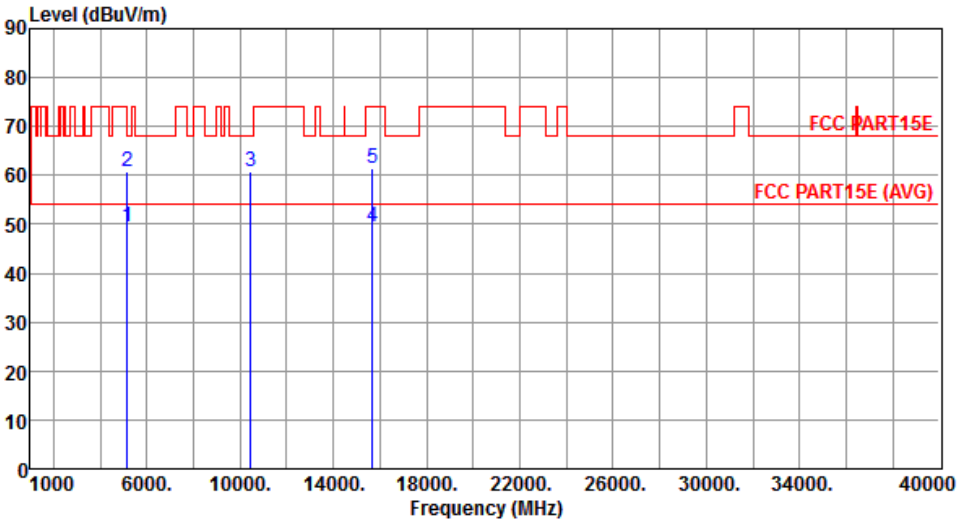
Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Vertical		



	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	52.42	54.00	-1.58	47.94	4.48	Average	148	98
2	5150.00	66.10	74.00	-7.90	61.62	4.48	Peak	148	98
3	10380.00	54.08	68.20	-14.12	40.26	13.82	Peak	110	268
4	15570.00	50.75	54.00	-3.25	36.41	14.34	Average	111	321
5	15570.00	64.52	74.00	-9.48	50.18	14.34	Peak	111	321

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

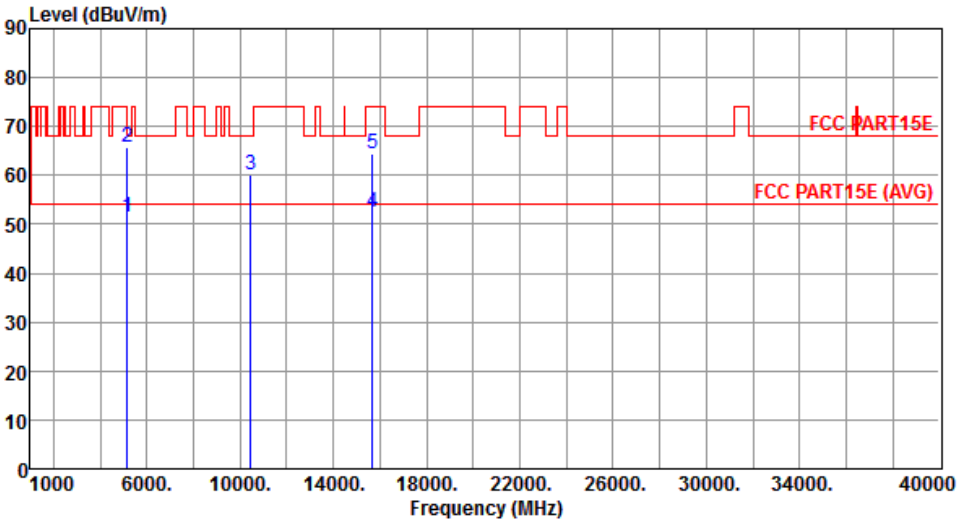
Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Horizontal		



	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	49.44	54.00	-4.56	44.96	4.48	Average	234	232
2	5150.00	60.71	74.00	-13.29	56.23	4.48	Peak	234	232
3	10460.00	60.93	68.20	-7.27	47.00	13.93	Peak	142	250
4	15690.00	49.48	54.00	-4.52	35.33	14.15	Average	283	271
5	15690.00	61.56	74.00	-12.44	47.41	14.15	Peak	283	271

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

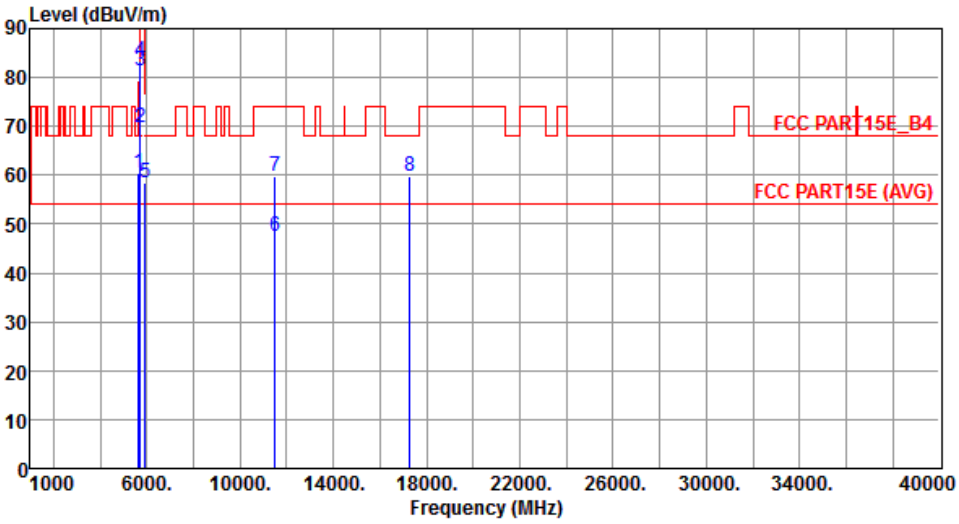
Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Vertical		



	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	51.32	54.00	-2.68	46.84	4.48	Average	144	98
2	5150.00	65.87	74.00	-8.13	61.39	4.48	Peak	144	98
3	10460.00	60.25	68.20	-7.95	46.32	13.93	Peak	106	182
4	15690.00	52.55	54.00	-1.45	38.40	14.15	Average	115	78
5	15690.00	64.43	74.00	-9.57	50.28	14.15	Peak	115	78

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

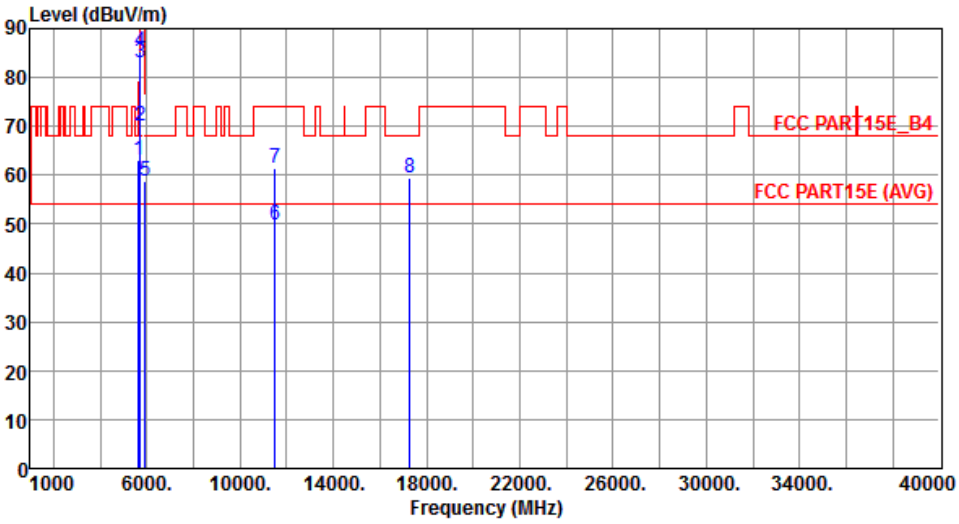
Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Horizontal		



	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	60.35	68.20	-7.85	55.16	5.19	Peak	156	61
2	5700.00	69.68	105.20	-35.52	64.40	5.28	Peak	156	61
3	5720.00	81.31	110.80	-29.49	76.00	5.31	Peak	156	61
4	5725.00	83.47	122.20	-38.73	78.15	5.32	Peak	156	61
5	5925.00	58.56	68.20	-9.64	52.92	5.64	Peak	156	61
6	11510.00	47.48	54.00	-6.52	32.68	14.80	Average	133	353
7	11510.00	59.67	74.00	-14.33	44.87	14.80	Peak	133	353
8	17265.00	59.82	68.20	-8.38	42.04	17.78	Peak	100	128

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

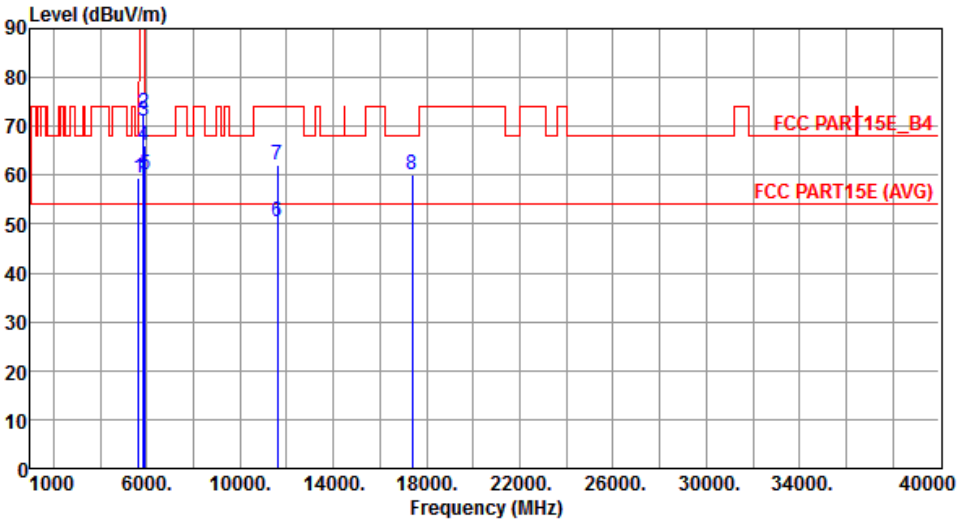
Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Vertical		



	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	63.03	68.20	-5.17	57.84	5.19	Peak	233	13
2	5700.00	70.16	105.20	-35.04	64.88	5.28	Peak	233	13
3	5720.00	83.06	110.80	-27.74	77.75	5.31	Peak	233	13
4	5725.00	85.38	122.20	-36.82	80.06	5.32	Peak	233	13
5	5925.00	58.68	68.20	-9.52	53.04	5.64	Peak	233	13
6	11510.00	49.89	54.00	-4.11	35.09	14.80	Average	116	10
7	11510.00	61.59	74.00	-12.41	46.79	14.80	Peak	116	10
8	17265.00	59.44	68.20	-8.76	41.66	17.78	Peak	100	264

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

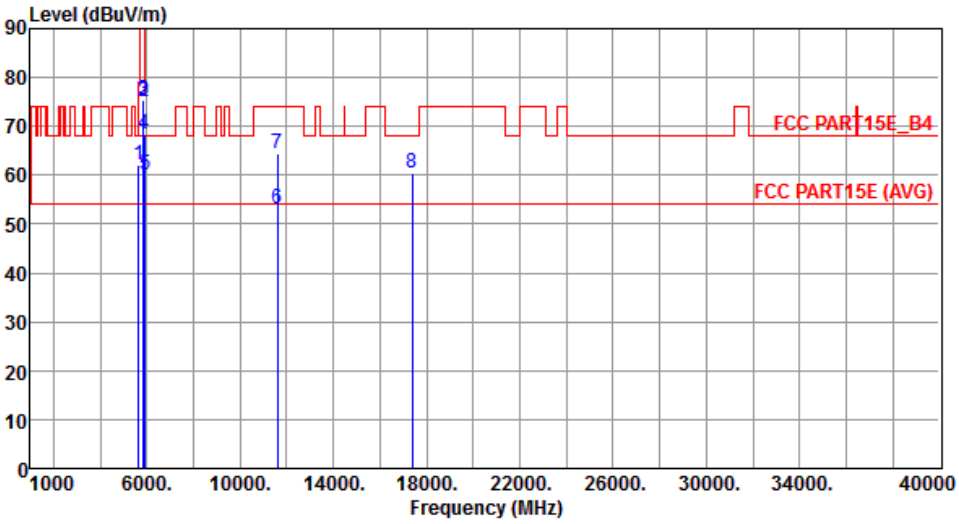
Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	59.28	68.20	-8.92	54.09	5.19	Peak	146	61
2	5850.00	72.63	122.20	-49.57	67.11	5.52	Peak	146	61
3	5855.00	70.98	110.80	-39.82	65.45	5.53	Peak	146	61
4	5875.00	66.02	105.20	-39.18	60.46	5.56	Peak	146	61
5	5925.00	60.19	68.20	-8.01	54.55	5.64	Peak	146	61
6	11590.00	50.33	54.00	-3.67	35.74	14.59	Average	124	352
7	11590.00	62.22	74.00	-11.78	47.63	14.59	Peak	124	352
8	17385.00	60.17	68.20	-8.03	42.10	18.07	Peak	100	120

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

Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Vertical		

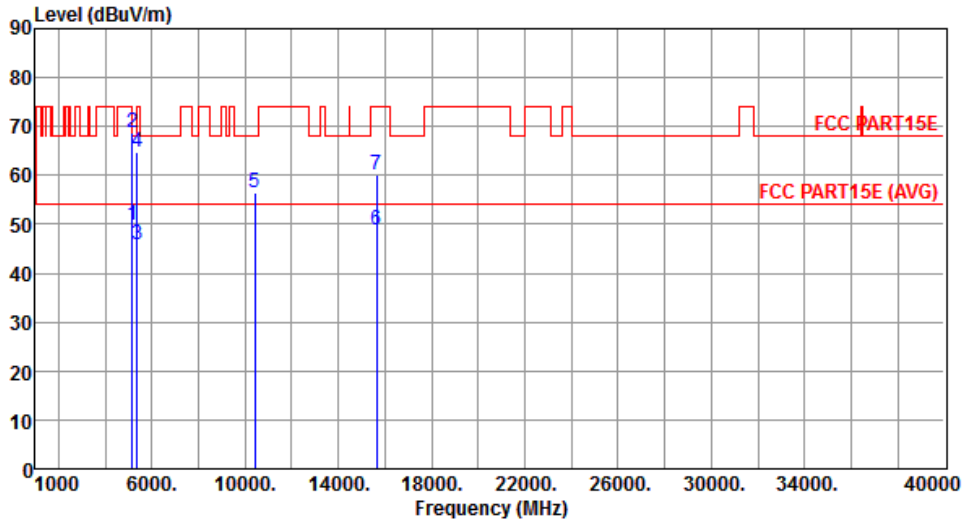


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	62.24	68.20	-5.96	57.05	5.19	Peak	233	17
2	5850.00	75.14	122.20	-47.06	69.62	5.52	Peak	233	17
3	5855.00	75.24	110.80	-35.56	69.71	5.53	Peak	233	17
4	5875.00	68.39	105.20	-36.81	62.83	5.56	Peak	233	17
5	5925.00	60.05	68.20	-8.15	54.41	5.64	Peak	233	17
6	11590.00	52.98	54.00	-1.02	38.39	14.59	Average	120	1
7	11590.00	64.29	74.00	-9.71	49.70	14.59	Peak	120	1
8	17385.00	60.53	68.20	-7.67	42.46	18.07	Peak	100	159

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

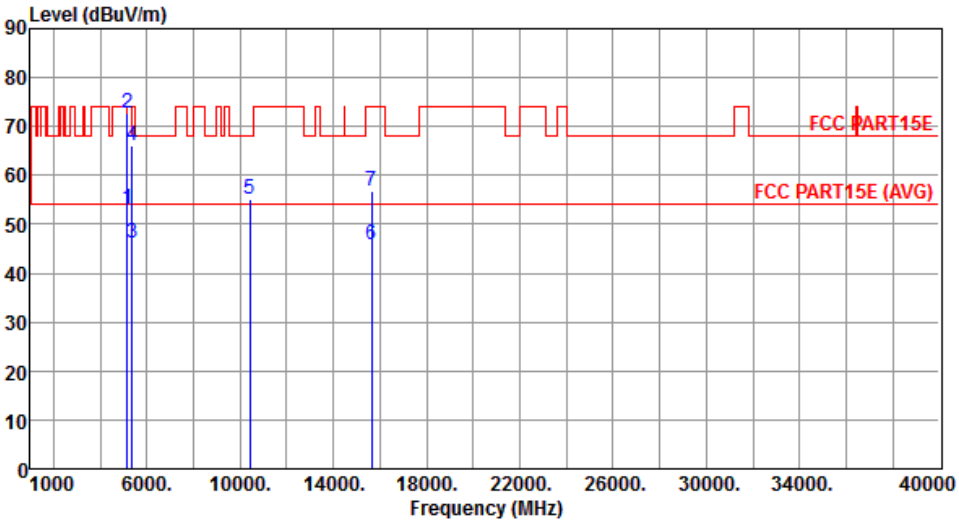
Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Horizontal		



	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	49.81	54.00	-4.19	45.33	4.48	Average	211	229
2	5150.00	68.76	74.00	-5.24	64.28	4.48	Peak	211	229
3	5350.00	45.86	54.00	-8.14	41.12	4.74	Average	211	229
4	5350.00	64.92	74.00	-9.08	60.18	4.74	Peak	211	229
5	10420.00	56.57	68.20	-11.63	42.70	13.87	Peak	124	233
6	15630.00	48.82	54.00	-5.18	34.57	14.25	Average	290	294
7	15630.00	60.18	74.00	-13.82	45.93	14.25	Peak	290	294

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

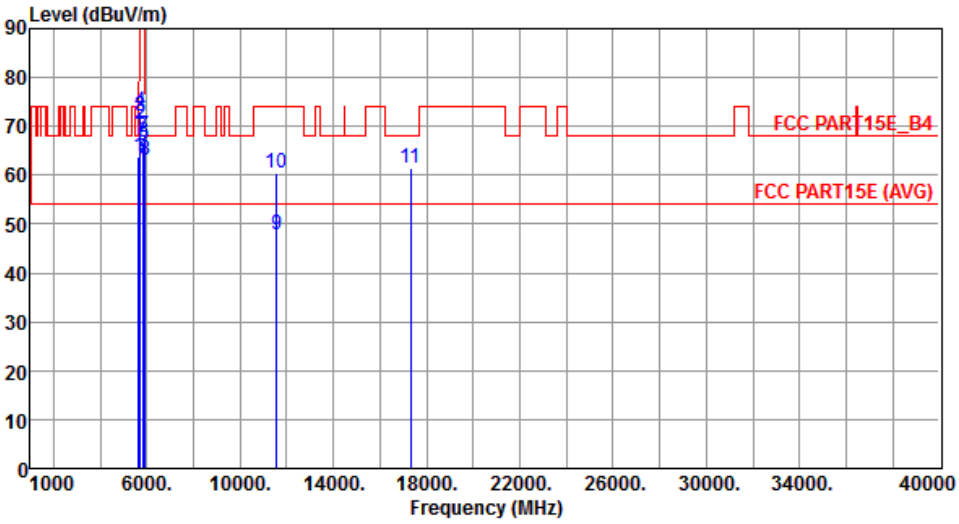
Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Vertical		



	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	52.98	54.00	-1.02	48.50	4.48	Average	166	100
2	5150.00	72.80	74.00	-1.20	68.32	4.48	Peak	166	100
3	5350.00	46.25	54.00	-7.75	41.51	4.74	Average	166	100
4	5350.00	65.94	74.00	-8.06	61.20	4.74	Peak	166	100
5	10420.00	55.28	68.20	-12.92	41.41	13.87	Peak	183	251
6	15630.00	45.69	54.00	-8.31	31.44	14.25	Average	128	286
7	15630.00	56.78	74.00	-17.22	42.53	14.25	Peak	128	286

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

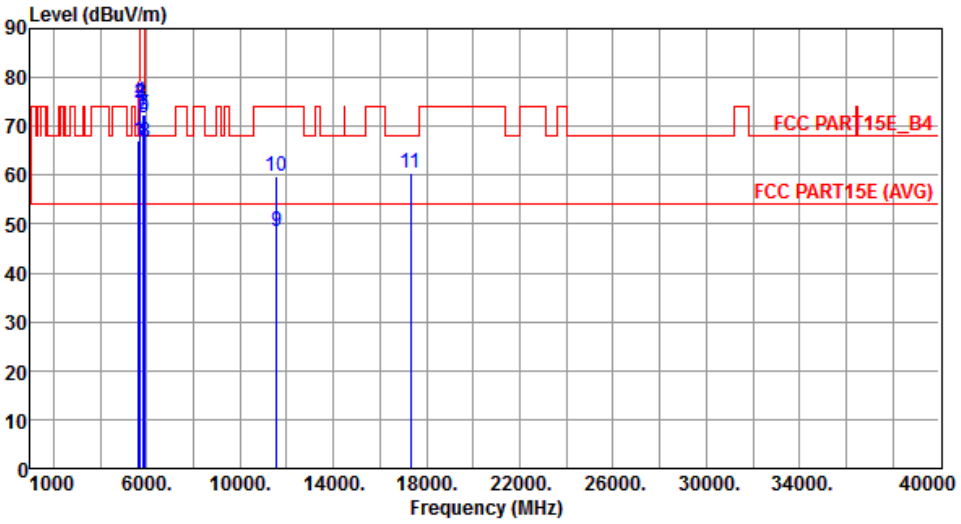
Modulation	VHT80	Test Freq. (MHz)	5775
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	63.81	68.20	-4.39	58.62	5.19	Peak	100	77
2	5700.00	70.47	105.20	-34.73	65.19	5.28	Peak	100	77
3	5720.00	72.22	110.80	-38.58	66.91	5.31	Peak	100	77
4	5725.00	73.15	122.20	-49.05	67.83	5.32	Peak	100	77
5	5850.00	66.06	122.20	-56.14	60.54	5.52	Peak	100	77
6	5855.00	66.90	110.80	-43.90	61.37	5.53	Peak	100	77
7	5875.00	67.98	105.20	-37.22	62.42	5.56	Peak	100	77
8	5925.00	63.19	68.20	-5.01	57.55	5.64	Peak	100	77
9	11550.00	47.97	54.00	-6.03	33.28	14.69	Average	100	134
10	11550.00	60.55	74.00	-13.45	45.86	14.69	Peak	100	134
11	17325.00	61.28	68.20	-6.92	43.35	17.93	Peak	100	153

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

Modulation	VHT80	Test Freq. (MHz)	5775
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	67.10	68.20	-1.10	61.91	5.19	Peak	227	24
2	5700.00	74.85	105.20	-30.35	69.57	5.28	Peak	227	24
3	5720.00	74.82	110.80	-35.98	69.51	5.31	Peak	227	24
4	5725.00	75.05	122.20	-47.15	69.73	5.32	Peak	227	24
5	5850.00	72.47	122.20	-49.73	66.95	5.52	Peak	227	24
6	5855.00	71.80	110.80	-39.00	66.27	5.53	Peak	227	24
7	5875.00	72.42	105.20	-32.78	66.86	5.56	Peak	227	24
8	5925.00	66.78	68.20	-1.42	61.14	5.64	Peak	227	24
9	11550.00	48.54	54.00	-5.46	33.85	14.69	Average	100	192
10	11550.00	59.87	74.00	-14.13	45.18	14.69	Peak	100	192
11	17325.00	60.40	68.20	-7.80	42.47	17.93	Peak	100	183

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

3.6 Frequency Stability

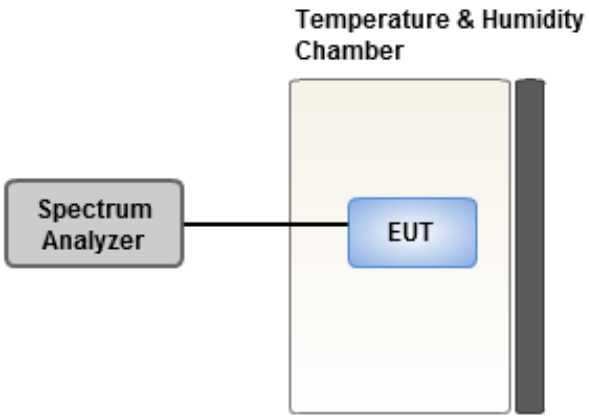
3.6.1 Limit of Frequency Stability

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

3.6.2 Test Procedures

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

3.6.3 Test Setup



3.6.4 Test Result of Frequency Stability

Frequency: 5200 MHz	Frequency Drift (ppm)			
Temperature (°C)	0 minute	2 minutes	5 minutes	10 minutes
T20°CVmax	7.15	7.38	7.99	6.89
T20°CVmin	6.14	6.05	6.10	6.60
T50°CVnom	5.76	5.93	6.11	6.32
T40°CVnom	5.03	5.16	4.99	5.62
T30°CVnom	3.03	3.43	2.51	3.61
T20°CVnom	4.15	4.03	4.36	4.85
T10°CVnom	5.51	5.14	5.21	5.40
T0°CVnom	5.07	5.14	5.80	4.90
T-10°CVnom	4.08	4.01	4.34	4.56
T-20°CVnom	3.68	3.92	4.13	3.33
T-30°CVnom	2.82	3.19	3.15	3.00
Vnom [Vac]: 120		Vmax [Vac]: 138		Vmin [Vac]: 102
Tnom [°C]: 20		Tmax [°C]: 50		Tmin [°C]: -30

Frequency: 5785 MHz	Frequency Drift (ppm)			
Temperature (°C)	0 minute	2 minutes	5 minutes	10 minutes
T20°CVmax	6.39	6.87	6.42	6.85
T20°CVmin	5.50	5.72	5.68	5.97
T50°CVnom	4.64	5.05	5.39	4.96
T40°CVnom	3.81	3.79	3.65	4.04
T30°CVnom	3.04	3.46	3.20	3.50
T20°CVnom	3.27	3.48	3.55	3.09
T10°CVnom	3.99	4.37	4.40	4.42
T0°CVnom	4.47	4.64	4.22	4.53
T-10°CVnom	2.82	2.79	2.56	3.22
T-20°CVnom	2.27	3.02	2.66	2.78
T-30°CVnom	1.05	1.01	1.17	0.87
Vnom [Vac]: 120		Vmax [Vac]: 138		Vmin [Vac]: 102
Tnom [°C]: 20		Tmax [°C]: 50		Tmin [°C]: -30

4 Test laboratory information

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

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

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

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

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

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

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