FCC Test Report

FCC ID	:	**I88WSQ50**
Equipment	:	**Multy X AC3000 Tri-Band WiFi System**
Model No.	:	**WSQ50**
Brand Name	:	**ZYXEL**
Applicant	:	**Zyxel Communications Corporation**
Address	:	**No.2, Industry East Road IX, Hsinchu Science Park, Hsinchu, 30075, Taiwan, R.O.C.**
Standard	:	**47 CFR FCC Part 15.407**
Received Date	:	**May 26, 2017**
Tested Date	:	**May 31 ~ Aug. 22, 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:

Along Chen / Assistant Manager

Approved by:

Gary Chang / Manager

Testing Laboratory 2732

Table of Contents

1 GENERAL DESCRIPTION 5

1.1 Information 5
1.2 Local Support Equipment List 12
1.3 Test Setup Chart 12
1.4 The Equipment List 14
1.5 Testing Applied Standards 15
1.6 Measurement Uncertainty 15

2 TEST CONFIGURATION 16

2.1 Testing Condition 16
2.2 The Worst Test Modes and Channel Details 16

3 TRANSMITTER TEST RESULTS 18

3.1 Conducted Emissions 18
3.2 Emission Bandwidth 25
3.3 RF Output Power 29
3.4 Peak Power Spectral Density 32
3.5 Transmitter Radiated and Band Edge Emissions 37
3.6 Frequency Stability 94

4 TEST LABORATORY INFORMATION 96

Release Record

Report No.	Version	Description	Issued Date
FR760801AN	Rev. 01	Initial issue	Sep. 04, 2017

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.476MHz 30.50 (Margin -15.91dB) - AV	Pass
15.407(b) 15.209	Radiated Emissions	[dBuV/m at 3m]: 5150.00MHz 53.63 (Margin -0.37dB) - AV	Pass
15.407(a)	Emission Bandwidth	Meet the requirement of limit	Pass
15.407(e)	6dB bandwidth	Meet the requirement of limit	Pass
15.407(a)	RF Output Power	Max Power [dBm]: ***Non-beamforming mode*** 5150-5250MHz: 27.63 5725-5850MHz: 29.81 ***Beamforming mode*** 5725-5850MHz: 28.92	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 Note 3: 802.11ac does not support beamforming function..					

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]	4	6-54 Mbps
5725-5850	n (HT20)	5745-5825	149-165 [5]	4	MCS 0-31
5725-5850	n (HT40)	5755-5795	151-159 [2]	4	MCS 0-31
5725-5850	ac (VHT20)	5745-5825	149-165 [5]	4	MCS 0-9
5725-5850	ac (VHT40)	5755-5795	151-159 [2]	4	MCS 0-9
5725-5850	ac (VHT80)	5775	155 [1]	4	MCS 0-9
Note 1: RF output power specifies that Maximum Conducted Output Power. Note 2: 802.11a/n/ac uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation. Note 3: 802.11ac supports beamforming function.					

1.1.2 Main Chipset / RF Chipset

Function	Model No.
Main Chipset	IPQ4019
2.4G	IPQ4019
5G 2T2R	IPQ4019
5G 4T4R	QCA9984
Bluetooth LE	CSR8811

1.1.3 Antenna Details

Ant. No.	Model	Type	Connector	Operating Frequency (MHz) / Gain (dBi)		
				2400~2483.5	5150~5250	5725~5850
1	ALX17M-126XX3-A	PIFA	UFL	0	0	0.43

1.1.4 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	12Vdc from adapter

1.1.5 Accessories

Accessories		
No.	**Equipment**	**Description**
1	Adapter	Brand Name: APD Model Name: WA-36A12FU I/P: 100-240Vac, 50-60Hz 0.9 Max O/P: 12Vdc, 3A Power line: 1.75m non-shielded without core

1.1.6 Channel List

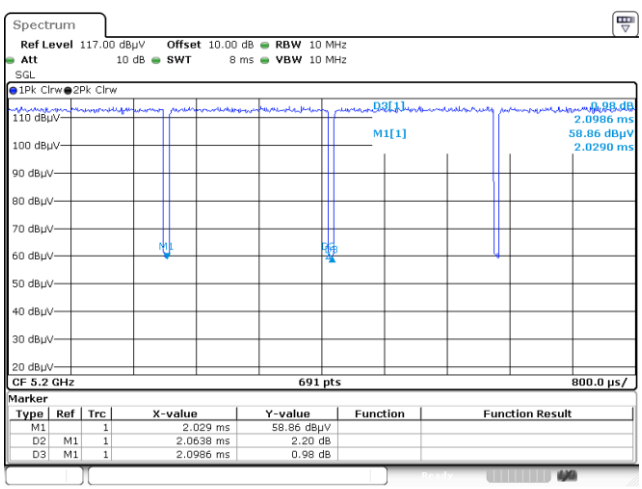
For Frequency band 5150-5250 MHz			
802.11 a / HT20 / VHT20		HT40 / VHT40	
Channel	Frequency(MHz)	Channel	Frequency(MHz)
36	5180	38	5190
40	5200	46	5230
44	5220	VHT80	
48	5240	42	5210

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	---	---

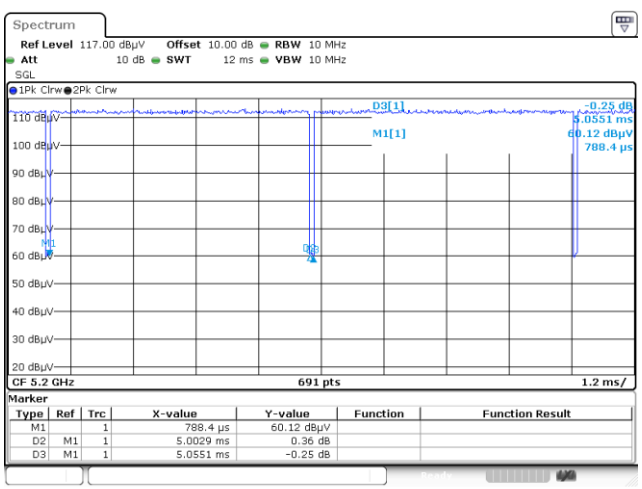
1.1.7 Test Tool and Duty Cycle

For Frequency band 5150-5250 MHz			
Test Tool	QRCT, Version: 3.0.144.0		
Duty Cycle and Duty Factor	**Mode**	**Duty cycle (%)**	**Duty factor (dB)**
	11a	98.34%	0.07
	VHT20	98.97%	0.05
	VHT40	98.14%	0.08
	VHT80	92.99%	0.32

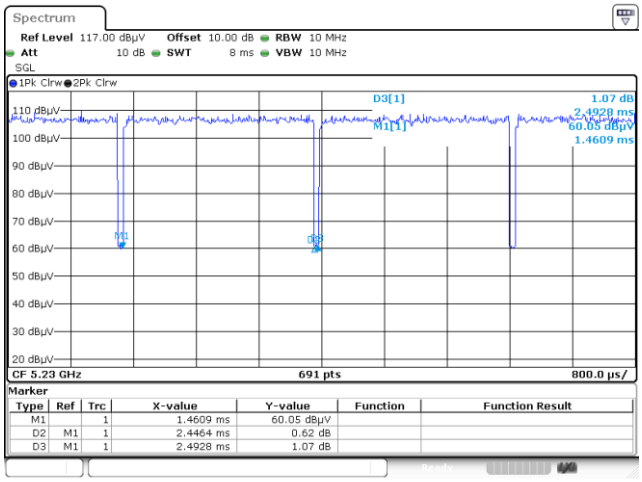
11a



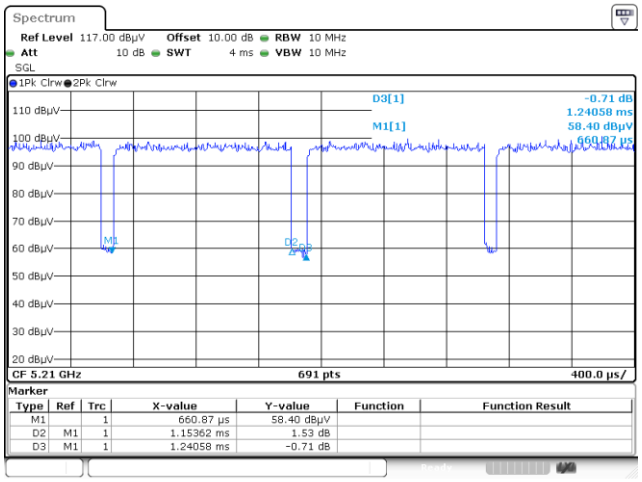
VHT20



VHT40



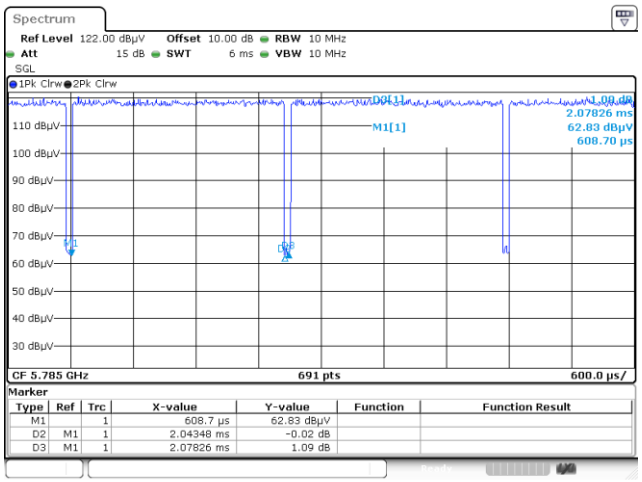
VHT80



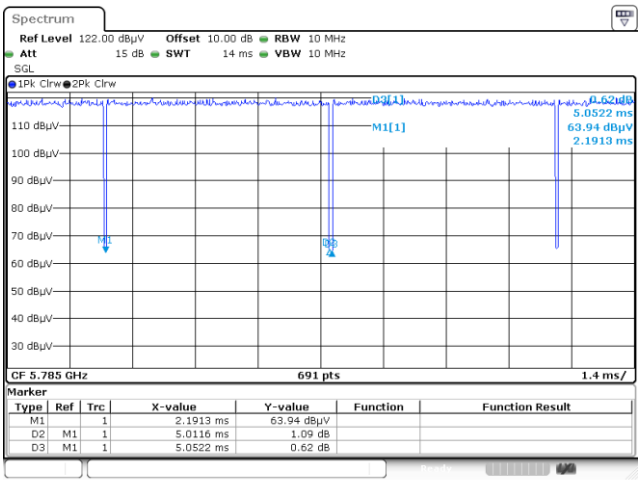
For Frequency band 5725~5850 MHz					
Test Tool	Non-Beamforming: QRCT, Version: 3.0.144.0 Beamforming: Telnet				
Duty Cycle and Duty Factor	**Mode**	**Non-beamforming**		**Beamforming**	
		Duty cycle (%)	**Duty factor (dB)**	**Duty cycle (%)**	**Duty factor (dB)**
	11a	98.33%	0.07	---	---
	VHT20	99.20%	0.04	92.10%	0.36
	VHT40	98.14%	0.08	91.83%	0.37
	VHT80	95.71%	0.19	92.81%	0.32

Non-beamforming mode

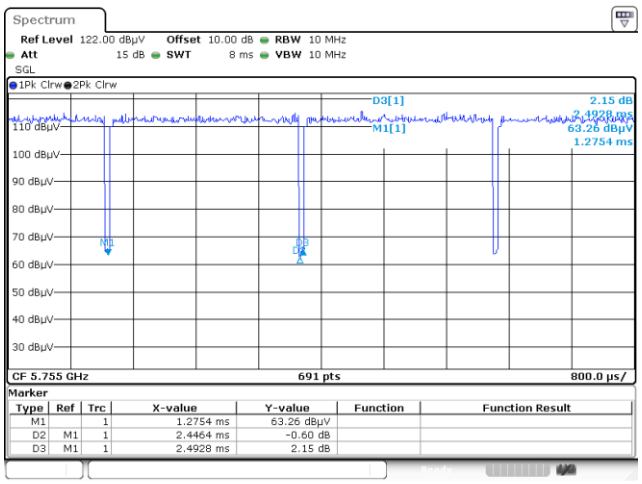
11a



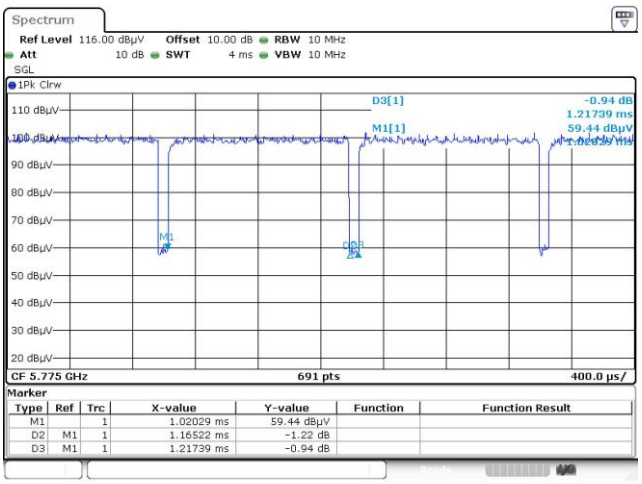
VHT20



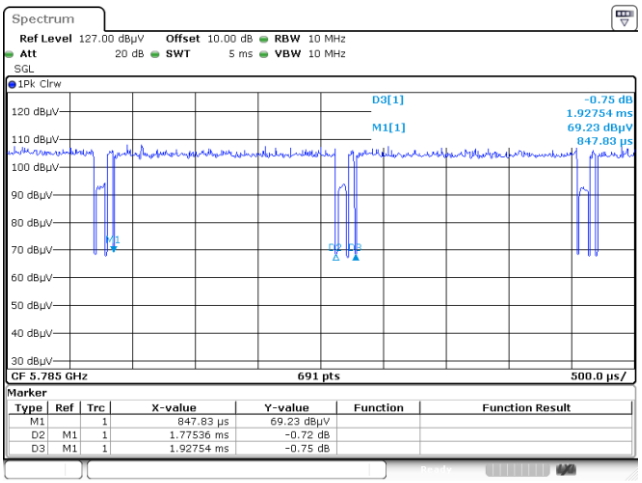
VHT40

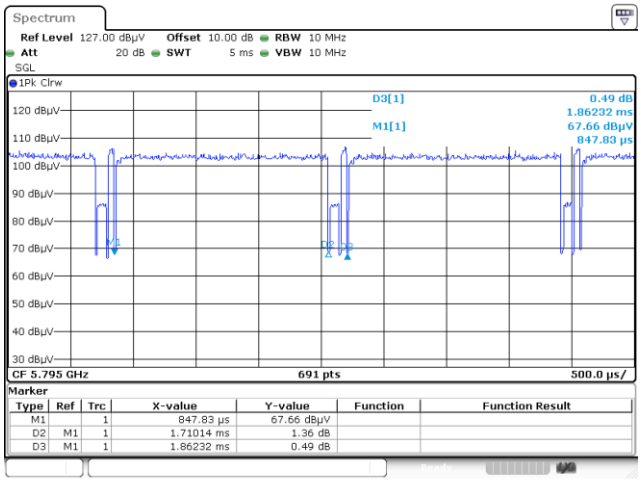
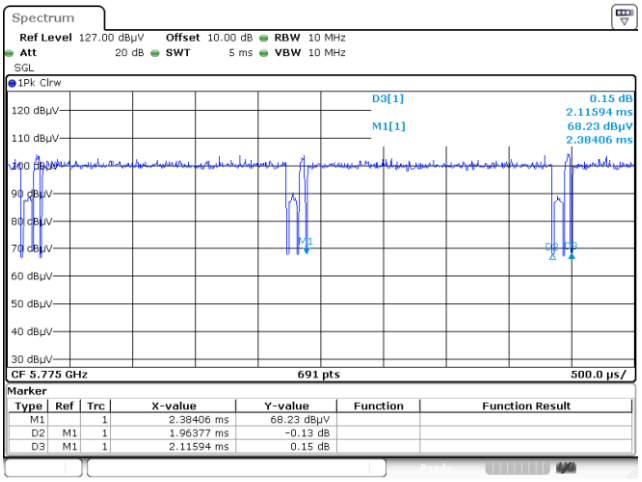


VHT80



Beamforming mode

11a	VHT20
---	

VHT40	VHT80
	

1.1.8 Power Setting

For Frequency band 5150-5250 MHz		
Modulation Mode	**Test Frequency (MHz)**	**Power Set**
11a	5180	23.50
11a	5200	26.00
11a	5240	26.00
HT20	5180	22.00
HT20	5200	26.00
HT20	5240	26.00
HT40	5190	19.00
HT40	5230	26.00
VHT20	5180	22.00
VHT20	5200	26.00
VHT20	5240	26.00
VHT40	5190	19.00
VHT40	5230	26.00
VHT80	5210	18.50

For Frequency band 5725~5850 MHz			
Modulation Mode	**Test Frequency (MHz)**	**Power Set**	
		Non-Beamforming	**Beamforming**
11a	5745	23.50	---
11a	5785	23.50	---
11a	5825	23.50	---
HT20	5745	23.50	29.00
HT20	5785	23.50	29.00
HT20	5825	23.50	29.00
HT40	5755	23.50	29.00
HT40	5795	23.50	29.00
VHT20	5745	23.50	29.00
VHT20	5785	23.50	29.00
VHT20	5825	23.50	29.00
VHT40	5755	23.50	29.00
VHT40	5795	23.50	29.00
VHT80	5775	20.00	26.00

1.2 Local Support Equipment List

Non-beamforming mode

Support Equipment List					
No.	**Equipment**	**Brand**	**Model**	**FCC ID**	**Signal cable / Length (m)**
1	Notebook	DELL	Latitude E6430	DoC	RJ45, 10m non-shielded.
2	Notebook	DELL	Latitude E5420	DoC	RJ45, 10m non-shielded.
3	USB Flash	Kingston	DTSE9	---	---

Beamforming mode

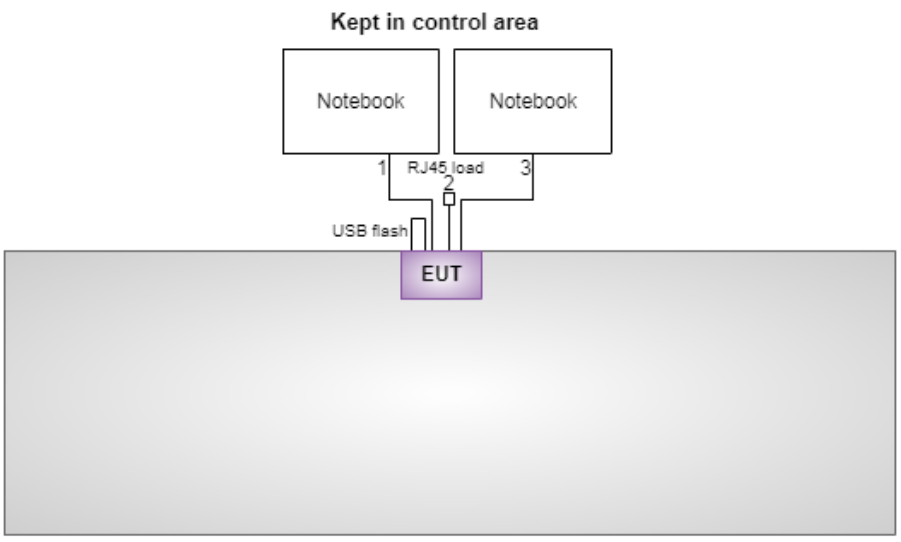
Support Equipment List					
No.	**Equipment**	**Brand**	**Model**	**FCC ID**	**Signal cable / Length (m)**
1	Notebook	DELL	Latitude E6430	DoC	RJ45, 10m non-shielded.
2	Notebook	DELL	Latitude E5420	DoC	RJ45, 10m non-shielded.
3	USB Flash	Kingston	DTSE9	---	---
4	Notebook	DELL	Latitude E6430	---	RJ45, 1m non-shielded.
5	Multy X AC3000 Tri-Band WiFi System	ZYXEL	WSQ50	---	---

Note: No.5 was supplied by applicant.

1.3 Test Setup Chart

Non-beamforming mode

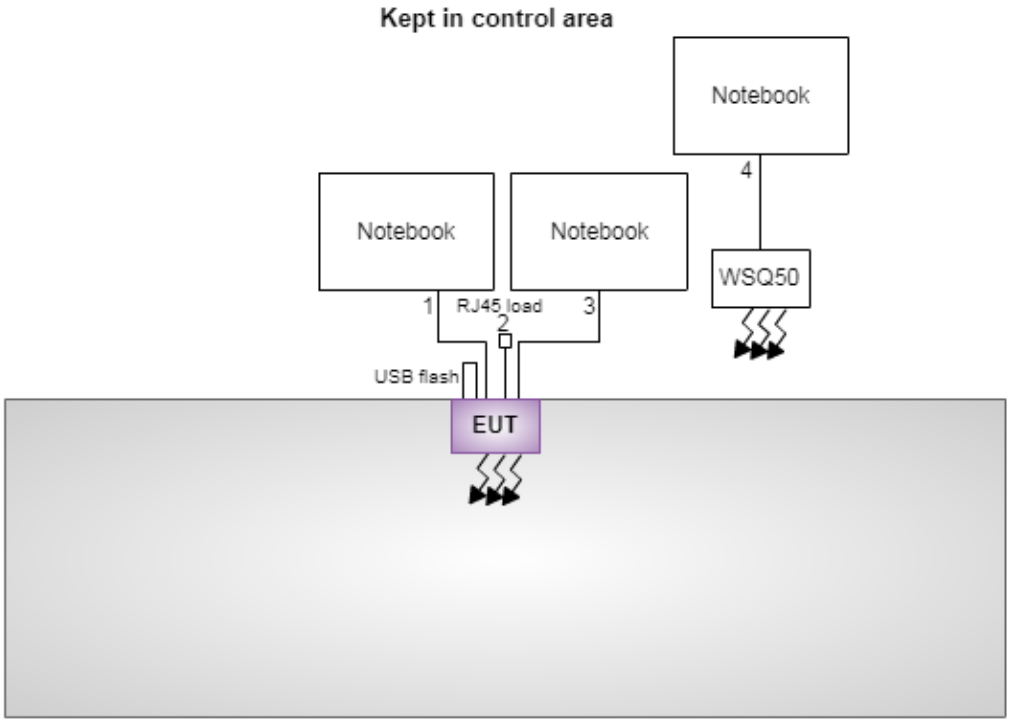
Test Setup Diagram



1. RJ45, 10m non-shielded.
2. RJ45, 1m(x2) non-shielded with load.
3. RJ45, 10m non-shielded.

Beamforming mode

Test Setup Diagram



1. RJ45, 10m non-shielded.
2. RJ45, 1m(x2) non-shielded with load.
3. RJ45, 10m non-shielded.
4. RJ45, 1m non-shielded.

1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Receiver	R&S	ESR3	101657	Dec. 21, 2016	Dec. 20, 2017
LISN	R&S	ENV216	101579	Jan. 19, 2017	Jan. 18, 2018
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)				
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	VULB9168-524	Oct. 13, 2016	Oct. 12, 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	980146	Oct. 08, 2016	Oct. 07, 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)				
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 ^{o}C

2 Test Configuration

2.1 Testing Condition

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

- FCC Designation No.: TW2732
- FCC site registration No.: 181692
- IC site registration No.: 10807A-1

2.2 The Worst Test Modes and Channel Details

Non-beamforming mode

For Frequency band 5150-5250 MHz				
Test item	**Modulation Mode**	**Test Frequency (MHz)**	**Data Rate (Mbps) / MCS**	**Test Configuration**
Conducted Emissions	11a	5200	6 Mbps	---
Radiated Emissions ≤1GHz	11a	5200	6 Mbps	---
RF Output Power	11a HT20 HT40 VHT20 VHT40 VHT80	5180 / 5200 / 5240 5180 / 5200 / 5240 5190 / 5230 5180 / 5200 / 5240 5190 / 5230 5210	6 Mbps MCS 0 MCS 0 MCS 0 MCS 0 MCS 0	---
Radiated Emissions >1GHz Emission Bandwidth Peak Power Spectral Density	11a VHT20 VHT40 VHT80	5180 / 5200 / 5240 5180 / 5200 / 5240 5190 / 5230 5210	6 Mbps MCS 0 MCS 0 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 HT20 HT40 VHT20 VHT40 VHT80	5745 / 5785 / 5825 5745 / 5785 / 5825 5755 / 5795 5745 / 5785 / 5825 5755 / 5795 5775	6 Mbps MCS 0 MCS 0 MCS 0 MCS 0 MCS 0	---
Radiated Emissions >1GHz Emission Bandwidth 6dB bandwidth Peak Power Spectral Density	11a VHT20 VHT40 VHT80	5745 / 5785 / 5825 5745 / 5785 / 5825 5755 / 5795 5775	6 Mbps MCS 0 MCS 0 MCS 0	---
Frequency Stability	Un-modulation	5785	---	---

Beamforming mode

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	HT20 HT40 VHT20 VHT40 VHT80	5745 / 5785 / 5825 5755 / 5795 5745 / 5785 / 5825 5755 / 5795 5775	MCS 0 MCS 0 MCS 0 MCS 0 MCS 0	---
Radiated Emissions >1GHz Emission Bandwidth 6dB bandwidth Peak Power Spectral Density	VHT20 VHT40 VHT80	5745 / 5785 / 5825 5755 / 5795 5775	MCS 0 MCS 0 MCS 0	---

3 Transmitter Test Results

3.1 Conducted Emissions

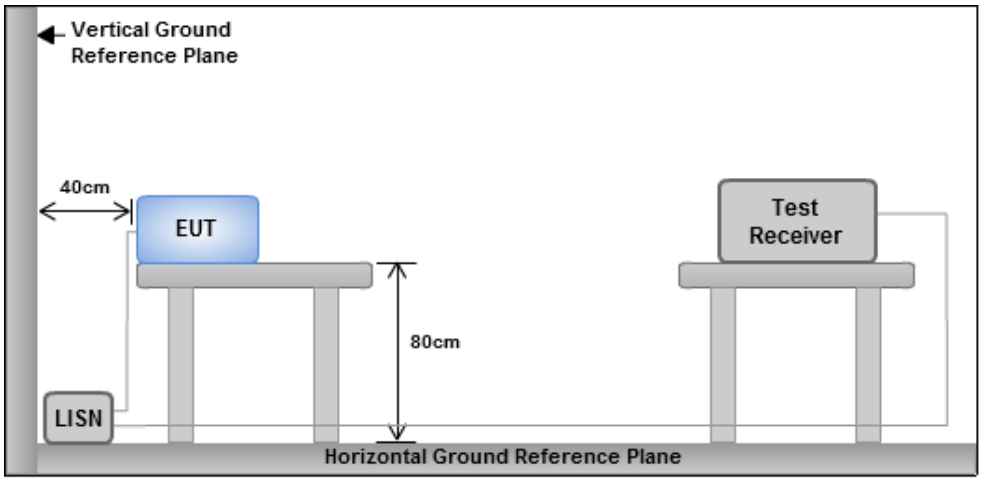
3.1.1 Limit of Conducted Emissions

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

3.1.2 Test Procedures

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

3.1.3 Test Setup

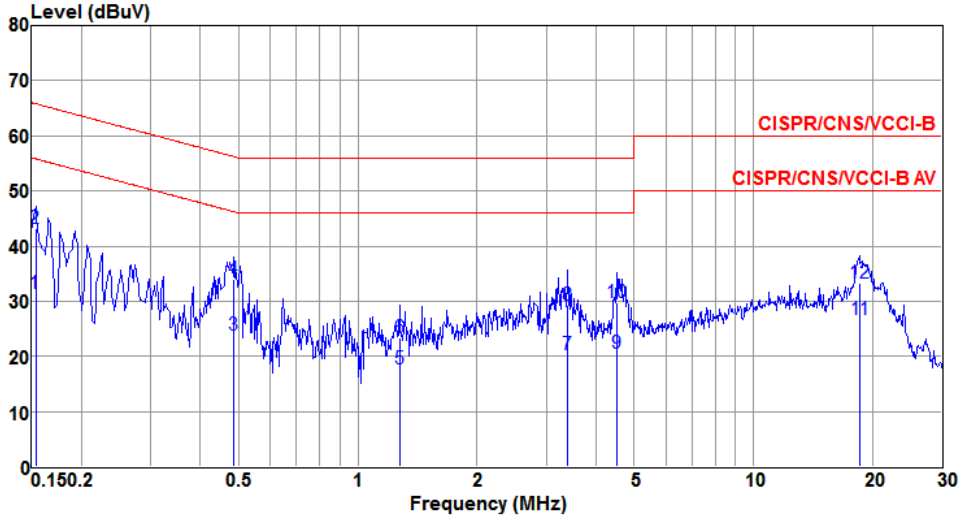


Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

3.1.4 Test Result of Conducted Emissions

Non-beamforming mode

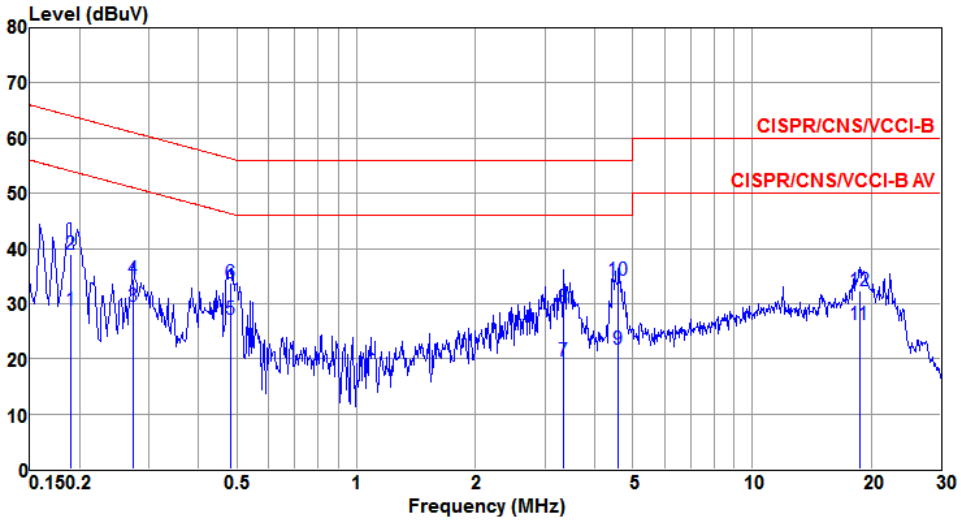
Modulation	11a	**Test Freq. (MHz)**	5200
Power Phase	Line		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.153	31.51	55.82	-24.31	21.97	9.50	0.04	Average
2	0.153	43.19	65.82	-22.63	33.65	9.50	0.04	QP
3	0.486	23.87	46.23	-22.36	14.26	9.57	0.04	Average
4@	0.486	33.96	56.23	-22.27	24.35	9.57	0.04	QP
5	1.276	17.62	46.00	-28.38	8.06	9.52	0.04	Average
6	1.276	23.26	56.00	-32.74	13.70	9.52	0.04	QP
7	3.399	20.38	46.00	-25.62	10.73	9.52	0.13	Average
8	3.399	29.35	56.00	-26.65	19.70	9.52	0.13	QP
9	4.501	20.54	46.00	-25.46	10.87	9.50	0.17	Average
10	4.501	29.68	56.00	-26.32	20.01	9.50	0.17	QP
11	18.589	26.78	50.00	-23.22	16.82	9.71	0.25	Average
12	18.589	33.26	60.00	-26.74	23.30	9.71	0.25	QP

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

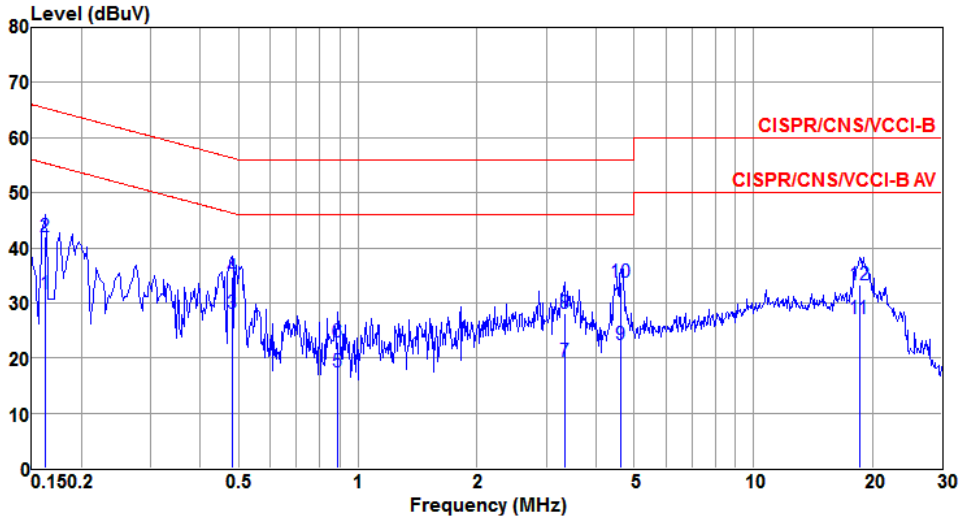
Modulation	11a	Test Freq. (MHz)	5200
Power Phase	Neutral		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.189	28.82	54.06	-25.24	19.18	9.60	0.04	Average
2	0.189	38.85	64.06	-25.21	29.21	9.60	0.04	QP
3	0.273	29.42	51.03	-21.61	19.81	9.57	0.04	Average
4	0.273	34.55	61.03	-26.48	24.94	9.57	0.04	QP
5@	0.481	27.21	46.32	-19.11	17.60	9.57	0.04	Average
6	0.481	33.65	56.32	-22.67	24.04	9.57	0.04	QP
7	3.346	19.55	46.00	-26.45	9.75	9.67	0.13	Average
8	3.346	29.18	56.00	-26.82	19.38	9.67	0.13	QP
9	4.598	21.61	46.00	-24.39	11.73	9.71	0.17	Average
10	4.598	34.12	56.00	-21.88	24.24	9.71	0.17	QP
11	18.678	26.16	50.00	-23.84	16.20	9.71	0.25	Average
12	18.678	32.38	60.00	-27.62	22.42	9.71	0.25	QP

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

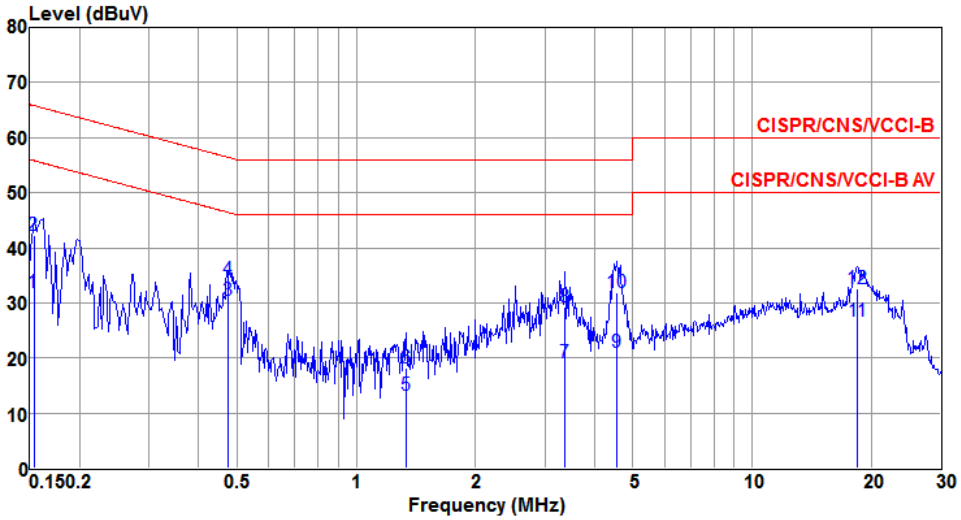
Modulation	11a	Test Freq. (MHz)	5785
Power Phase	Line		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.162	31.62	55.34	-23.72	22.08	9.50	0.04	Average
2	0.162	41.92	65.34	-23.42	32.38	9.50	0.04	QP
3@	0.481	27.98	46.32	-18.34	18.37	9.57	0.04	Average
4	0.481	34.74	56.32	-21.58	25.13	9.57	0.04	QP
5	0.890	17.58	46.00	-28.42	8.06	9.48	0.04	Average
6	0.890	23.01	56.00	-32.99	13.49	9.48	0.04	QP
7	3.328	19.29	46.00	-26.71	9.64	9.52	0.13	Average
8	3.328	28.10	56.00	-27.90	18.45	9.52	0.13	QP
9	4.622	22.33	46.00	-23.67	12.65	9.51	0.17	Average
10	4.622	33.84	56.00	-22.16	24.16	9.51	0.17	QP
11	18.524	27.11	50.00	-22.89	17.15	9.71	0.25	Average
12	18.524	33.29	60.00	-26.71	23.33	9.71	0.25	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		

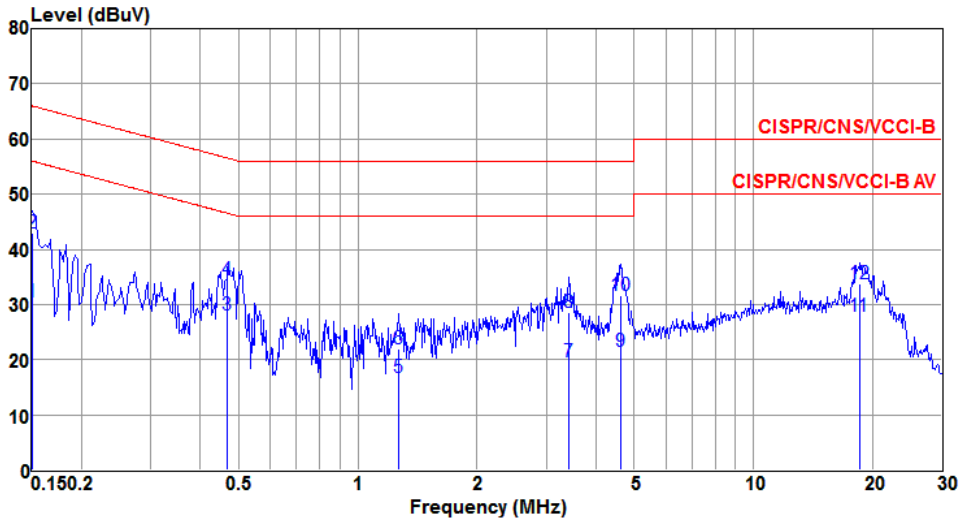


	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.153	31.98	55.82	-23.84	22.36	9.58	0.04	Average
2	0.153	42.17	65.82	-23.65	32.55	9.58	0.04	QP
3@	0.476	30.50	46.41	-15.91	20.90	9.56	0.04	Average
4	0.476	34.25	56.41	-22.16	24.65	9.56	0.04	QP
5	1.338	13.26	46.00	-32.74	3.61	9.61	0.04	Average
6	1.338	18.29	56.00	-37.71	8.64	9.61	0.04	QP
7	3.364	19.07	46.00	-26.93	9.27	9.67	0.13	Average
8	3.364	29.20	56.00	-26.80	19.40	9.67	0.13	QP
9	4.549	21.05	46.00	-24.95	11.17	9.71	0.17	Average
10	4.549	31.97	56.00	-24.03	22.09	9.71	0.17	QP
11	18.507	26.71	50.00	-23.29	16.75	9.71	0.25	Average
12	18.507	32.53	60.00	-27.47	22.57	9.71	0.25	QP

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

Beamforming mode

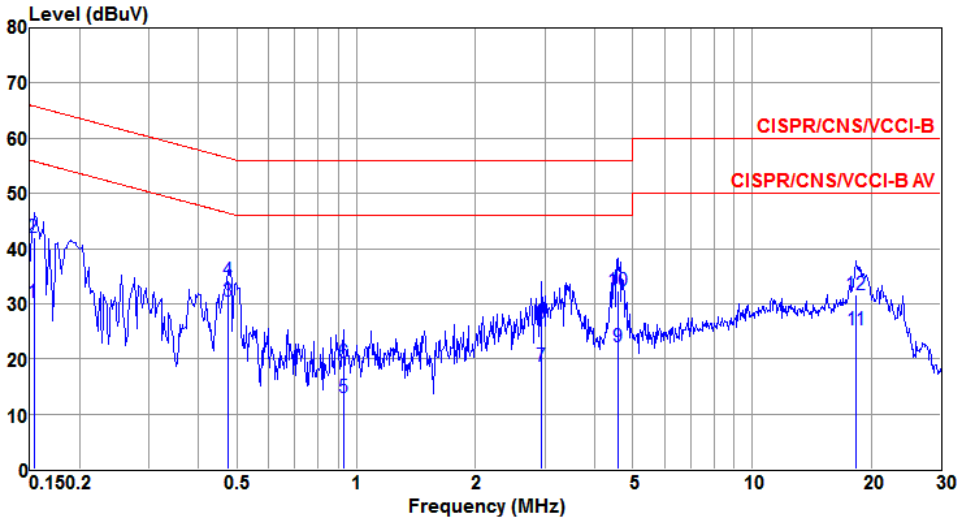
Modulation	VHT40	**Test Freq. (MHz)**	5795
Power Phase	Line		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.150	30.52	56.00	-25.48	20.98	9.50	0.04	Average
2	0.150	43.05	66.00	-22.95	33.51	9.50	0.04	QP
3@	0.469	28.07	46.54	-18.47	18.45	9.58	0.04	Average
4	0.469	34.53	56.54	-22.01	24.91	9.58	0.04	QP
5	1.269	16.73	46.00	-29.27	7.17	9.52	0.04	Average
6	1.269	21.96	56.00	-34.04	12.40	9.52	0.04	QP
7	3.417	19.71	46.00	-26.29	10.06	9.52	0.13	Average
8	3.417	28.59	56.00	-27.41	18.94	9.52	0.13	QP
9	4.622	21.44	46.00	-24.56	11.76	9.51	0.17	Average
10	4.622	31.63	56.00	-24.37	21.95	9.51	0.17	QP
11	18.578	27.80	50.00	-22.20	17.84	9.71	0.25	Average
12	18.578	33.70	60.00	-26.30	23.74	9.71	0.25	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 MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.153	30.20	55.82	-25.62	20.58	9.58	0.04	Average
2	0.153	41.92	65.82	-23.90	32.30	9.58	0.04	QP
3@	0.474	30.46	46.45	-15.99	20.86	9.56	0.04	Average
4	0.474	34.20	56.45	-22.25	24.60	9.56	0.04	QP
5	0.928	12.91	46.00	-33.09	3.21	9.66	0.04	Average
6	0.928	19.44	56.00	-36.56	9.74	9.66	0.04	QP
7	2.931	18.62	46.00	-27.38	8.88	9.63	0.11	Average
8	2.931	26.54	56.00	-29.46	16.80	9.63	0.11	QP
9	4.574	22.08	46.00	-23.92	12.20	9.71	0.17	Average
10	4.574	32.30	56.00	-23.70	22.42	9.71	0.17	QP
11	18.328	25.36	50.00	-24.64	15.40	9.71	0.25	Average
12	18.328	31.55	60.00	-28.45	21.59	9.71	0.25	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.

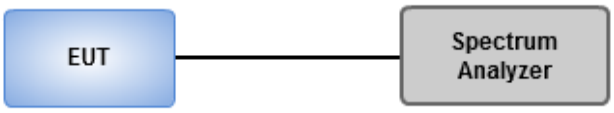
Occupied Bandwidth

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

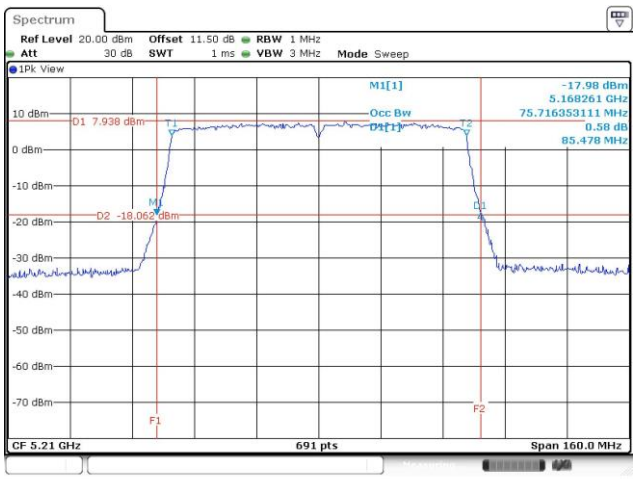
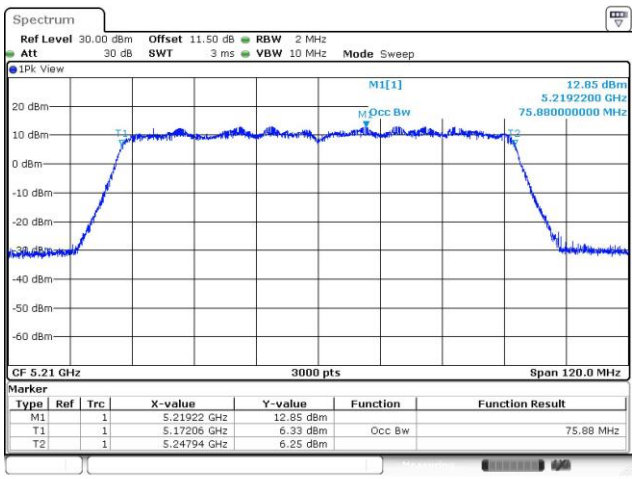
3.2.3 Test Setup



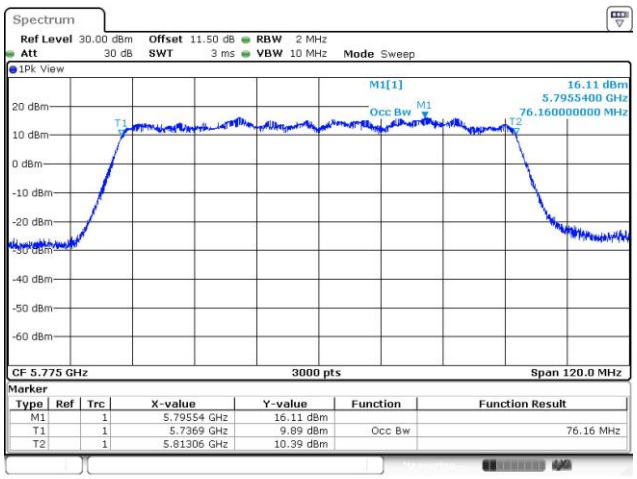
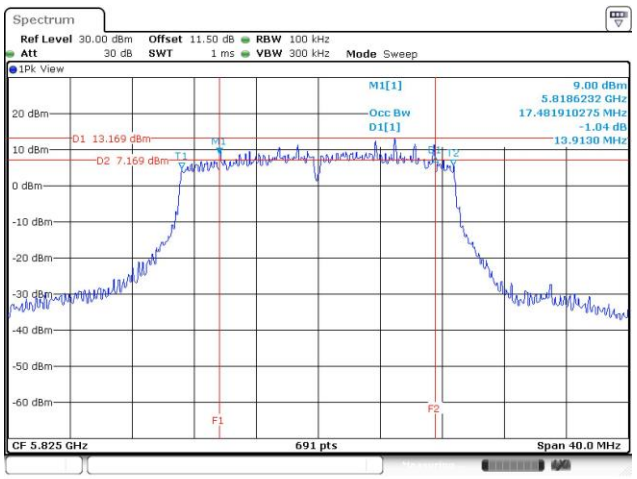
3.2.4 Test Result of Emission Bandwidth

Non-beamforming mode

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	24.93	20.75	---	---	16.47	16.57	---	---
11a	2	5200	41.74	38.41	---	---	16.94	18.86	---	---
11a	2	5240	38.91	37.54	---	---	17.16	16.79	---	---
VHT20	2	5180	20.52	20.35	---	---	17.62	17.63	---	---
VHT20	2	5200	42.83	45.07	---	---	18.02	18.80	---	---
VHT20	2	5240	43.19	39.93	---	---	18.10	17.88	---	---
VHT40	2	5190	40.46	40.46	---	---	35.98	35.98	---	---
VHT40	2	5230	84.49	82.61	---	---	37.60	36.90	---	---
VHT80	2	5210	85.48	83.25	---	---	75.88	75.72	---	---

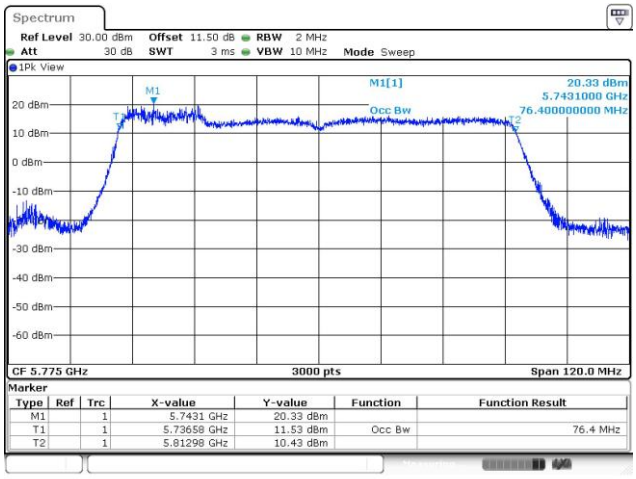
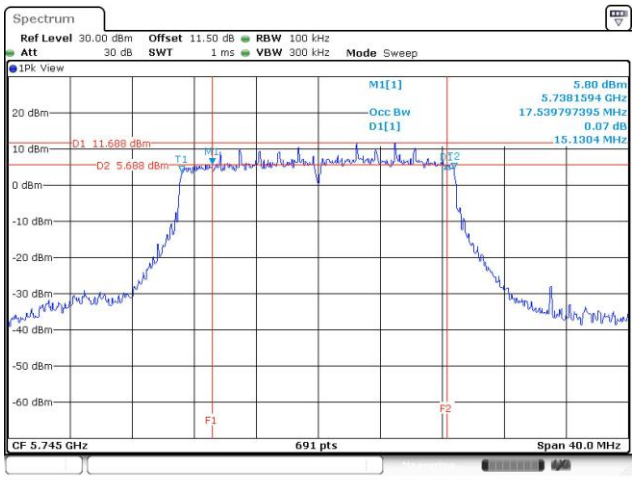
Worst Plot of 26dB Bandwidth	Worst Plot of 99% Bandwidth
	

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	4	5745	16.57	16.53	16.43	16.50	15.94	16.35	14.43	16.35	0.5
11a	4	5785	16.58	16.55	16.40	16.51	15.94	16.35	15.01	16.29	0.5
11a	4	5825	16.56	16.48	16.37	16.52	16.35	15.94	15.07	15.94	0.5
VHT20	4	5745	17.65	17.67	17.59	17.68	17.16	17.57	15.30	16.93	0.5
VHT20	4	5785	17.69	17.67	17.57	17.69	17.16	16.81	15.71	16.93	0.5
VHT20	4	5825	17.70	17.66	17.53	17.66	17.57	17.57	13.91	16.29	0.5
VHT40	4	5755	36.02	35.92	36.08	36.12	35.13	35.13	35.13	33.86	0.5
VHT40	4	5795	36.00	35.90	36.14	35.94	35.13	35.13	35.13	33.86	0.5
VHT80	4	5775	75.92	75.60	76.16	75.76	75.36	75.13	76.29	75.13	0.5

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

Beamforming mode

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)
VHT20	4	5745	17.65	17.72	17.63	17.71	17.33	17.28	15.13	16.99	0.5
VHT20	4	5785	17.68	17.74	17.61	17.71	17.39	17.39	15.65	16.70	0.5
VHT20	4	5825	17.69	17.68	17.62	17.71	16.58	17.28	16.99	17.39	0.5
VHT40	4	5755	36.18	36.24	36.02	36.06	34.55	35.13	33.28	35.71	0.5
VHT40	4	5795	36.30	36.16	36.08	36.34	35.71	35.36	35.13	35.71	0.5
VHT80	4	5775	76.36	76.40	76.20	76.40	75.13	75.83	75.83	74.20	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
☐	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 is performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

3.3.3 Test Setup

3.3.4 Test Result of Maximum Conducted Output Power

Non-beamforming mode

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	22.42	22.02	---	---	333.803	25.23	30.00
11a	2	5200	24.72	24.52	---	---	579.622	**27.63**	30.00
11a	2	5240	24.49	24.23	---	---	546.040	27.37	30.00
HT20	2	5180	21.06	20.49	---	---	239.588	23.79	30.00
HT20	2	5200	24.34	24.42	---	---	548.338	27.39	30.00
HT20	2	5240	24.44	24.03	---	---	530.901	27.25	30.00
HT40	2	5190	18.39	17.87	---	---	130.259	21.15	30.00
HT40	2	5230	24.21	23.98	---	---	513.668	27.11	30.00
VHT20	2	5180	21.11	20.58	---	---	243.410	23.86	30.00
VHT20	2	5200	24.52	24.50	---	---	564.977	27.52	30.00
VHT20	2	5240	24.51	24.12	---	---	540.714	27.33	30.00
VHT40	2	5190	18.48	17.92	---	---	132.413	21.22	30.00
VHT40	2	5230	24.36	24.12	---	---	531.124	27.25	30.00
VHT80	2	5210	17.47	16.47	---	---	100.208	20.01	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	4	5745	24.28	23.48	23.09	23.86	937.685	29.72	30.00
11a	4	5785	24.32	23.46	23.36	23.94	956.728	**29.81**	30.00
11a	4	5825	24.12	23.23	23.26	23.62	910.584	29.59	30.00
HT20	4	5745	23.88	23.02	22.95	23.31	856.322	29.33	30.00
HT20	4	5785	24.16	23.18	23.09	23.71	907.253	29.58	30.00
HT20	4	5825	23.77	22.85	22.94	23.37	845.043	29.27	30.00
HT40	4	5755	24.03	23.15	22.94	23.84	898.359	29.53	30.00
HT40	4	5795	24.11	23.19	23.06	23.87	912.164	29.60	30.00
VHT20	4	5745	23.91	23.06	22.98	23.41	866.229	29.38	30.00
VHT20	4	5785	24.21	23.34	23.14	23.83	927.017	29.67	30.00
VHT20	4	5825	23.88	22.91	23.07	23.42	862.331	29.36	30.00
VHT40	4	5755	24.09	23.28	23.02	23.91	915.746	29.62	30.00
VHT40	4	5795	24.16	23.23	23.18	23.96	927.849	29.67	30.00
VHT80	4	5775	20.67	20.06	19.76	20.52	425.416	26.29	30.00

Beamforming mode

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			
HT20	4	5745	22.06	22.19	22.39	23.72	735.156	28.66	29.55
HT20	4	5785	22.35	22.41	22.59	23.77	765.755	28.84	29.55
HT20	4	5825	22.06	22.35	22.07	23.71	728.513	28.62	29.55
HT40	4	5755	22.35	22.32	22.24	23.84	751.996	28.76	29.55
HT40	4	5795	22.43	22.16	22.75	23.74	764.379	28.83	29.55
VHT20	4	5745	22.19	22.28	22.56	23.85	757.584	28.79	29.55
VHT20	4	5785	22.43	22.53	22.68	23.82	780.389	28.92	29.55
VHT20	4	5825	22.18	22.42	22.18	23.88	749.318	28.75	29.55
VHT40	4	5755	22.43	22.38	22.31	23.89	763.088	28.83	29.55
VHT40	4	5795	22.45	22.25	22.81	23.81	775.094	**28.89**	29.55
VHT80	4	5775	19.84	19.40	19.46	21.11	400.909	26.03	29.55

Note:

1. Directional gain = 0.43+10* log(4/1) = 6.45 dBi > 6 dBi.
   Limit shall be reduced to 30 dBm – (6.45 dBi – 6 dBi) = 29.55 dBm.

3.4 Peak Power Spectral Density

3.4.1 Limit of Peak Power Spectral Density

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

Frequency Band (MHz)		**Limit**
☐	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 (Non- Beamforming: 802.11a/VHT20/VHT40)

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 (Non- Beamforming: 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

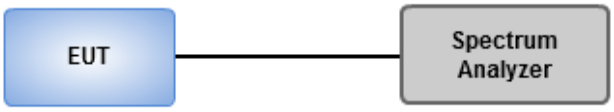
☒ Method SA-1 (Non- Beamforming: 802.11a/VHT20/VHT40)

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 (Non- Beamforming: VHT80 / Beamforming: all modes)

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



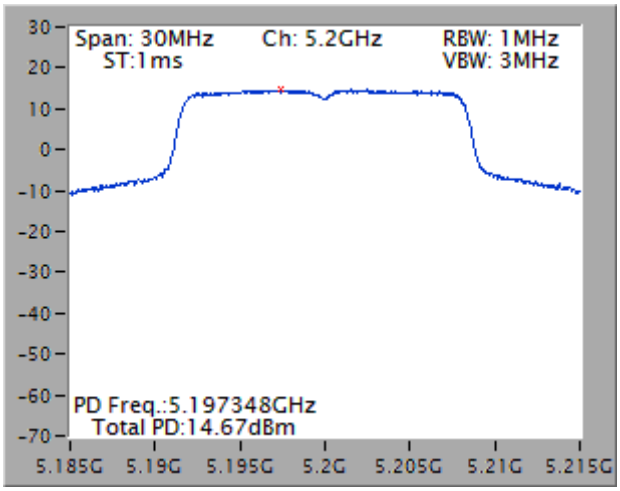
3.4.4 Test Result of Peak Power Spectral Density

Non-beamforming mode

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	11.80	0.00	11.80	17
11a	2	5200	14.67	0.00	14.67	17
11a	2	5240	13.65	0.00	13.65	17
VHT20	2	5180	10.32	0.00	10.32	17
VHT20	2	5200	13.69	0.00	13.69	17
VHT20	2	5240	13.47	0.00	13.47	17
VHT40	2	5190	4.77	0.00	4.77	17
VHT40	2	5230	11.07	0.00	11.07	17
VHT80	2	5210	0.23	0.32	0.55	17

Note:
1. D.F is duty factor.
2. Test result is bin-by-bin summing measured value of each TX port.

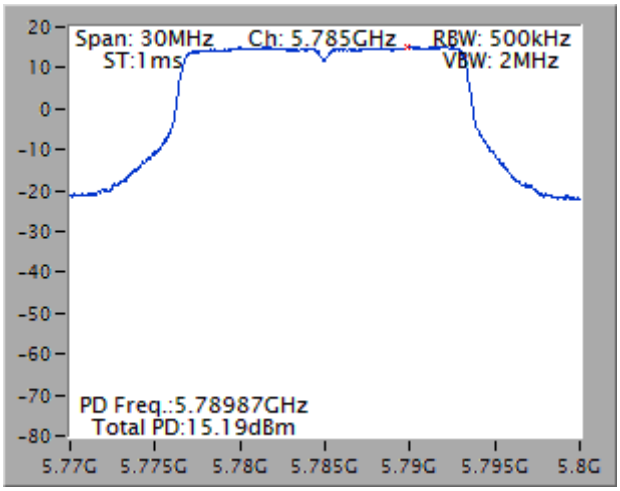
Worst Plot



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	4	5745	14.79	0.00	14.79	29.55
11a	4	5785	15.19	0.00	15.19	29.55
11a	4	5825	14.78	0.00	14.78	29.55
VHT20	4	5745	14.39	0.00	14.39	29.55
VHT20	4	5785	14.83	0.00	14.83	29.55
VHT20	4	5825	14.49	0.00	14.49	29.55
VHT40	4	5755	12.18	0.00	12.18	29.55
VHT40	4	5795	12.42	0.00	12.42	29.55
VHT80	4	5775	5.13	0.19	5.32	29.55

Note:
1. D.F is duty factor.
2. Test result is bin-by-bin summing measured value of each TX port.
3. Directional gain = 0.43+10* log(4/1) = 6.45 dBi
   Limit shall be reduced to 30 dBm – (6.45 dBi – 6 dBi) = 29.55 dBm.

Worst Plot

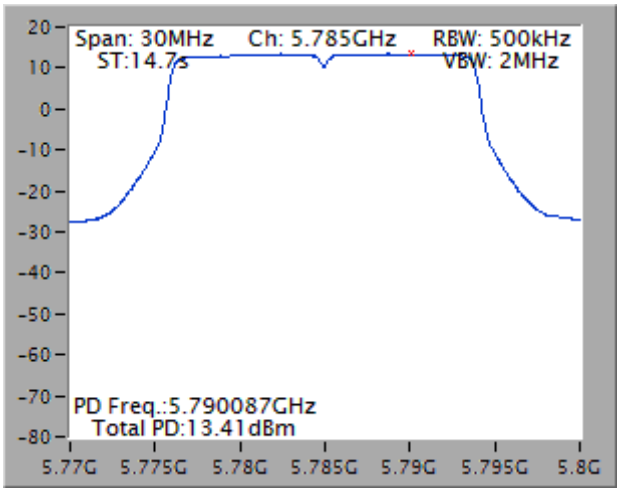


Beamforming mode

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)
VHT20	4	5745	13.28	0.36	13.64	29.55
VHT20	4	5785	13.41	0.36	13.77	29.55
VHT20	4	5825	13.03	0.36	13.39	29.55
VHT40	4	5755	10.27	0.37	10.64	29.55
VHT40	4	5795	10.39	0.37	10.76	29.55
VHT80	4	5775	5.13	0.32	5.45	29.55

Note:
1. D.F is duty factor.
2. Test result is bin-by-bin summing measured value of each TX port.
3. Directional gain = 0.43+10* log(4/1) = 6.45 dBi
   Limit shall be reduced to 30 dBm – (6.45 dBi – 6 dBi) = 29.55 dBm.

Worst Plot



Note: The plot 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

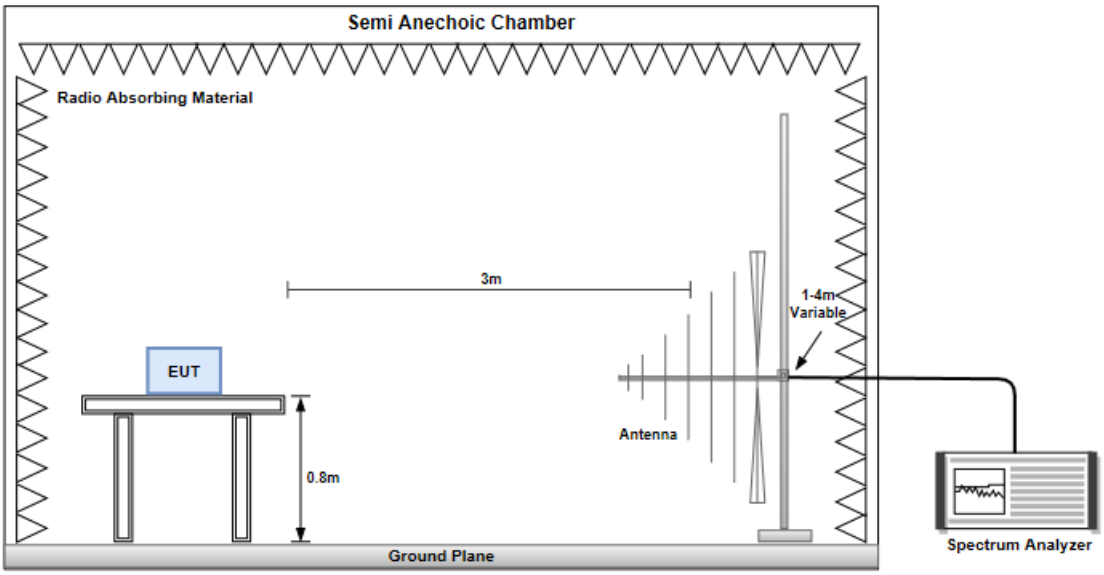
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission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

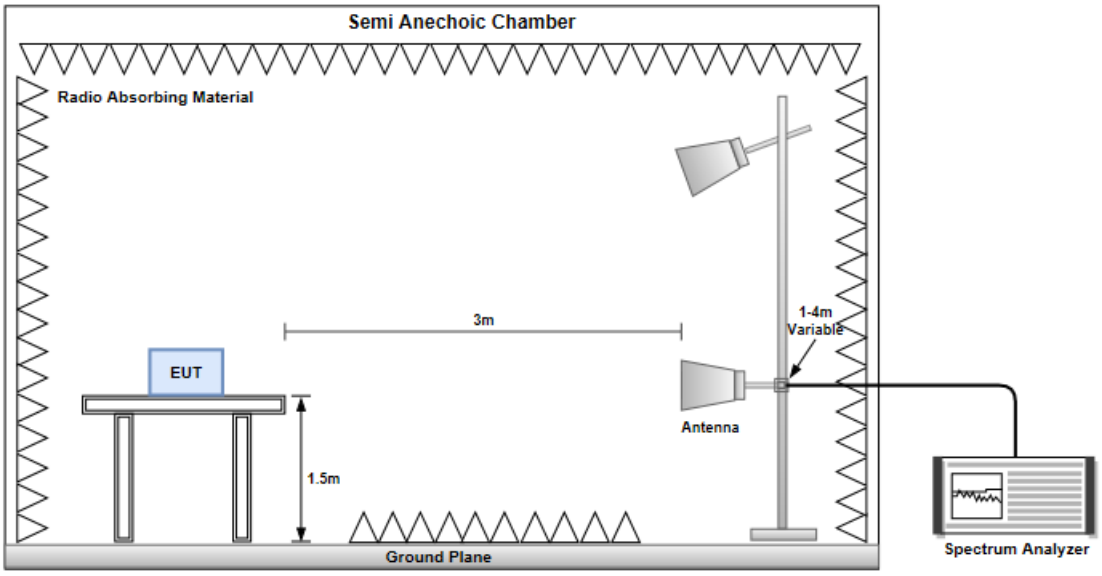
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

3.5.3 Test Setup

Radiated Emissions below 1 GHz



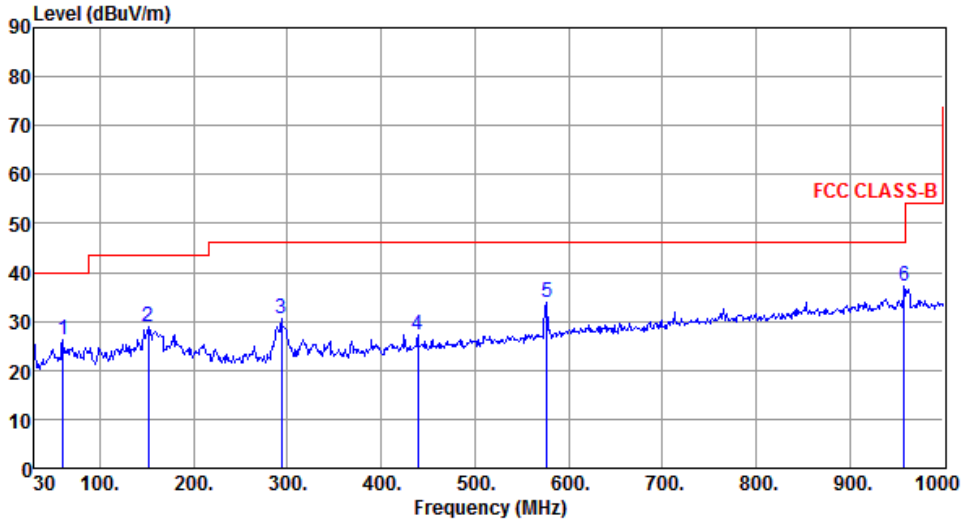
Radiated Emissions above 1 GHz



Non- beamforming mode

3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

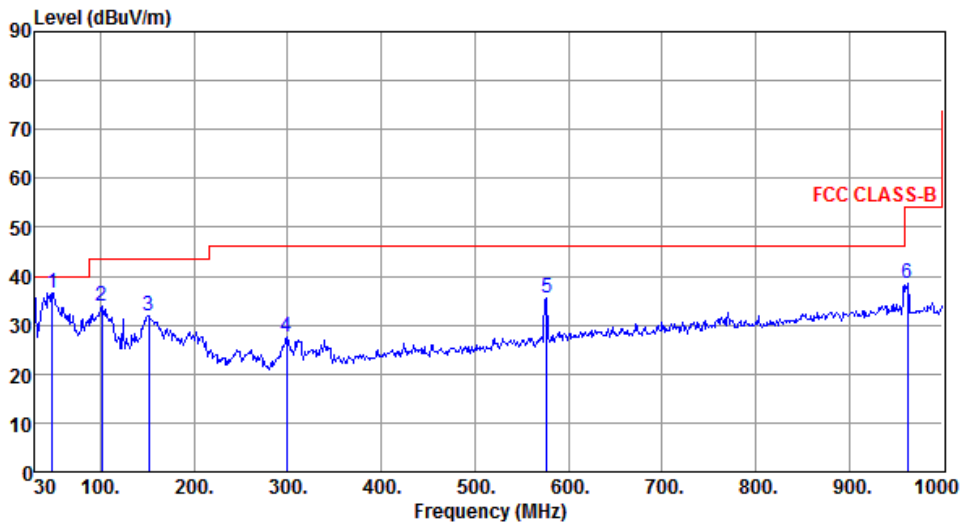
Modulation	11a	**Test Freq. (MHz)**	5200
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	61.04	26.18	40.00	-13.82	35.29	-9.11	Peak	---	---
2	151.25	28.74	43.50	-14.76	36.92	-8.18	Peak	---	---
3	293.84	30.43	46.00	-15.57	38.07	-7.64	Peak	---	---
4	439.34	27.32	46.00	-18.68	31.33	-4.01	Peak	---	---
5	577.08	33.71	46.00	-12.29	34.91	-1.20	Peak	---	---
6	958.29	37.09	46.00	-8.91	32.12	4.97	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.

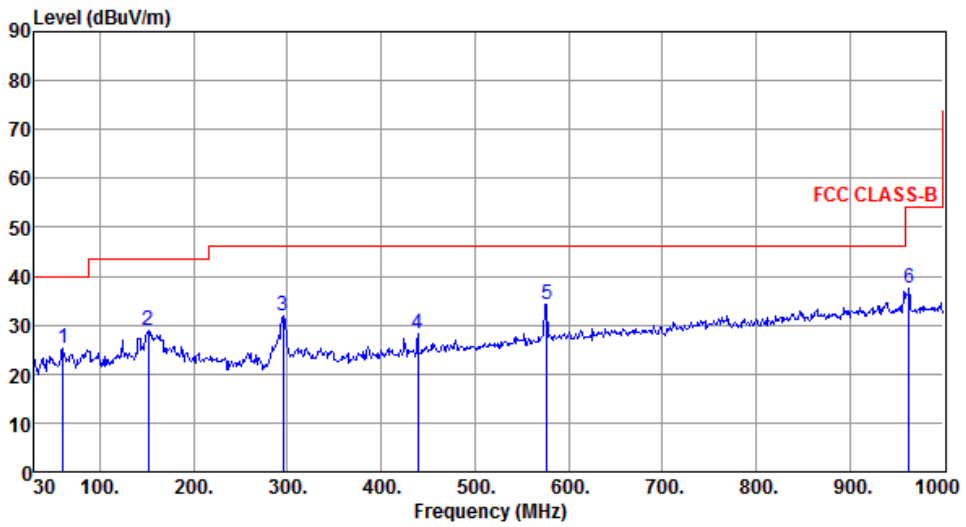
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	48.43	36.62	40.00	-3.38	44.24	-7.62	Peak	---	---
2	101.78	33.74	43.50	-9.76	46.31	-12.57	Peak	---	---
3	151.25	31.91	43.50	-11.59	40.09	-8.18	Peak	---	---
4	298.69	27.43	46.00	-18.57	34.97	-7.54	Peak	---	---
5	577.08	35.60	46.00	-10.40	36.80	-1.20	Peak	---	---
6	962.17	38.40	54.00	-15.60	33.38	5.02	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.

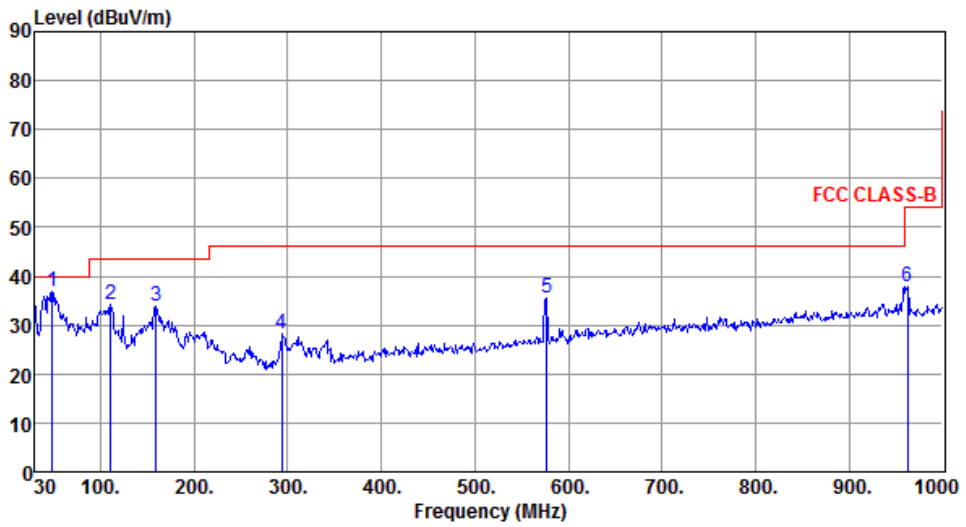
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	61.04	25.38	40.00	-14.62	34.49	-9.11	Peak	---	---
2	151.25	28.78	43.50	-14.72	36.96	-8.18	Peak	---	---
3	295.78	31.85	46.00	-14.15	39.45	-7.60	Peak	---	---
4	439.34	28.15	46.00	-17.85	32.16	-4.01	Peak	---	---
5	577.08	34.30	46.00	-11.70	35.50	-1.20	Peak	---	---
6	963.14	37.47	54.00	-16.53	32.43	5.04	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		

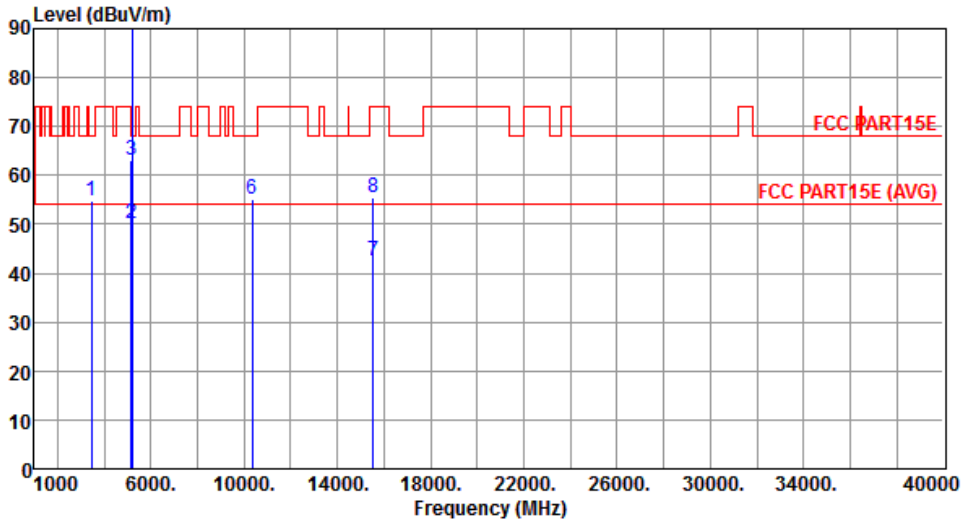


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	48.43	37.01	40.00	-2.99	44.63	-7.62	Peak	---	---
2	110.51	34.06	43.50	-9.44	45.17	-11.11	Peak	---	---
3	159.01	33.83	43.50	-9.67	41.91	-8.08	Peak	---	---
4	293.84	28.21	46.00	-17.79	35.85	-7.64	Peak	---	---
5	577.08	35.59	46.00	-10.41	36.79	-1.20	Peak	---	---
6	962.17	37.94	54.00	-16.06	32.92	5.02	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

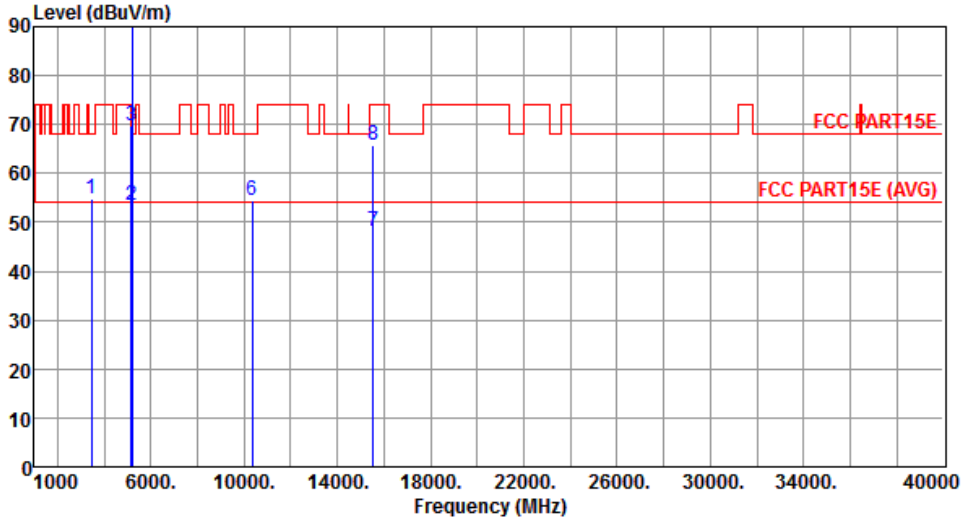
Modulation	11a	Test Freq. (MHz)	5180
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3453.00	54.87	68.20	-13.33	55.02	-0.15	Peak	100	146
2		5150.00	50.20	54.00	-3.80	45.72	4.48	Average	100	264
3		5150.00	62.97	74.00	-11.03	58.49	4.48	Peak	100	264
4	*	5180.00	98.70			94.20	4.50	Average	100	264
5	*	5180.00	110.37			105.87	4.50	Peak	100	264
6		10360.00	55.06	68.20	-13.14	41.28	13.78	Peak	100	86
7		15540.00	42.52	54.00	-11.48	28.13	14.39	Average	100	141
8		15540.00	55.36	74.00	-18.64	40.97	14.39	Peak	100	141

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:"*" is Peak / Average value of fundamental frequency

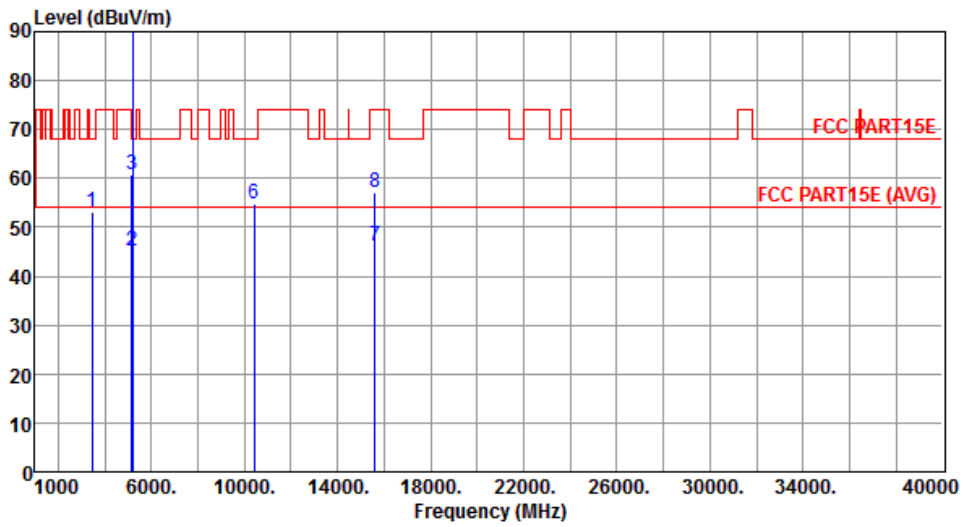
Modulation	11a	Test Freq. (MHz)	5180
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3453.00	54.75	68.20	-13.45	54.90	-0.15	Peak	100	51
2		5150.00	53.52	54.00	-0.48	49.04	4.48	Average	262	143
3		5150.00	69.74	74.00	-4.26	65.26	4.48	Peak	262	143
4	*	5180.00	104.84			100.34	4.50	Average	262	136
5	*	5180.00	117.39			112.89	4.50	Peak	262	136
6		10360.00	54.42	68.20	-13.78	40.64	13.78	Peak	100	223
7		15540.00	48.21	54.00	-5.79	33.82	14.39	Average	100	18
8		15540.00	65.76	74.00	-8.24	51.37	14.39	Peak	100	18

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:"*" is Peak / Average value of fundamental frequency

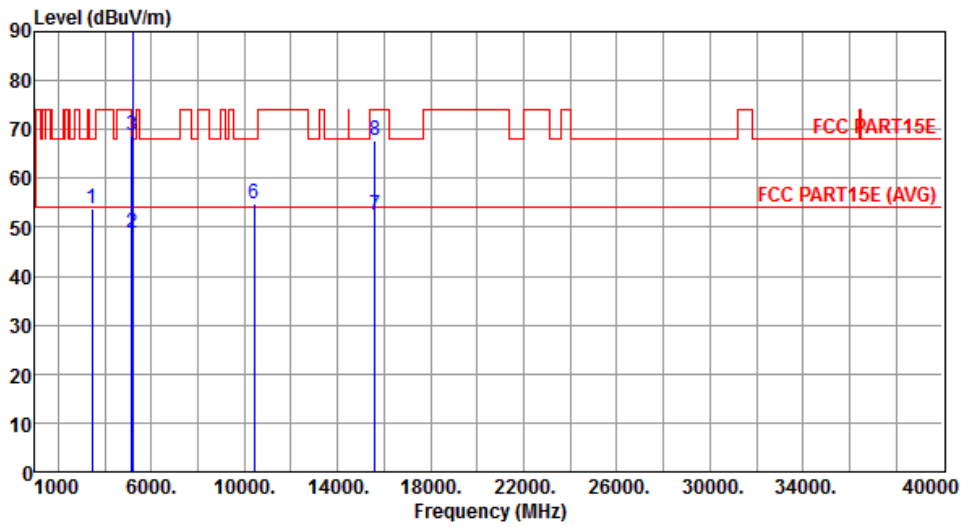
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3466.00	53.26	68.20	-14.94	53.39	-0.13	Peak	100	151
2		5150.00	45.18	54.00	-8.82	40.70	4.48	Average	100	273
3		5150.00	60.87	74.00	-13.13	56.39	4.48	Peak	100	273
4	*	5200.00	101.30			96.78	4.52	Average	100	273
5	*	5200.00	114.12			109.60	4.52	Peak	100	273
6		10400.00	54.94	68.20	-13.26	41.09	13.85	Peak	100	83
7		15600.00	46.23	54.00	-7.77	31.93	14.30	Average	100	141
8		15600.00	57.26	74.00	-16.74	42.96	14.30	Peak	100	141

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:"*" is Peak / Average value of fundamental frequency

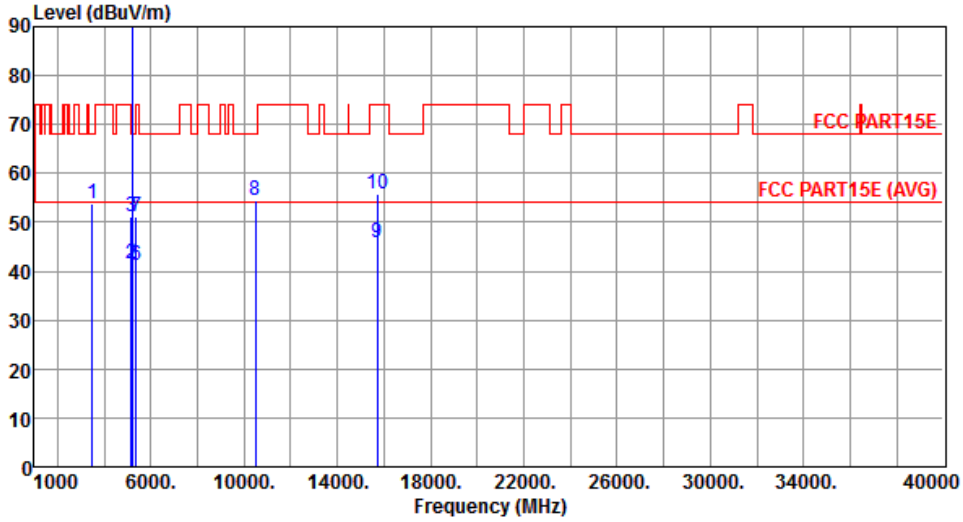
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3466.00	53.82	68.20	-14.38	53.95	-0.13	Peak	100	91
2		5150.00	48.65	54.00	-5.35	44.17	4.48	Average	239	78
3		5150.00	68.77	74.00	-5.23	64.29	4.48	Peak	239	78
4	*	5200.00	107.78			103.26	4.52	Average	239	78
5	*	5200.00	120.81			116.29	4.52	Peak	239	78
6		10400.00	54.70	68.20	-13.50	40.85	13.85	Peak	100	328
7		15600.00	52.43	54.00	-1.57	38.13	14.30	Average	100	22
8		15600.00	67.84	74.00	-6.16	53.54	14.30	Peak	100	22

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:"*" is Peak / Average value of fundamental frequency

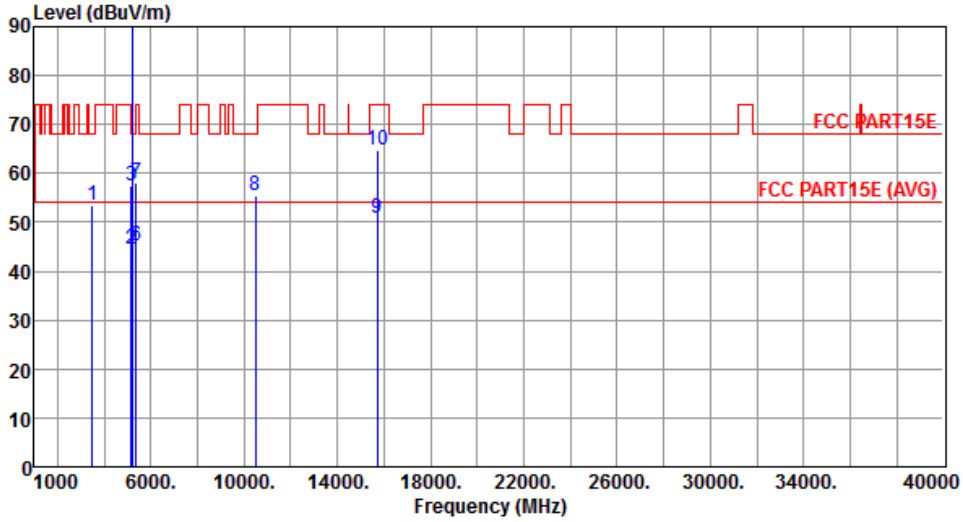
Modulation	11a	Test Freq. (MHz)	5240
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3493.00	53.88	68.20	-14.32	53.96	-0.08	Peak	100	141
2		5150.00	41.41	54.00	-12.59	36.93	4.48	Average	100	266
3		5150.00	51.08	74.00	-22.92	46.60	4.48	Peak	100	266
4	*	5240.00	101.70			97.12	4.58	Average	100	104
5	*	5240.00	114.02			109.44	4.58	Peak	100	104
6		5350.00	41.22	54.00	-12.78	36.48	4.74	Average	100	104
7		5350.00	51.10	74.00	-22.90	46.36	4.74	Peak	100	104
8		10480.00	54.46	68.20	-13.74	40.51	13.95	Peak	100	285
9		15720.00	45.93	54.00	-8.07	31.82	14.11	Average	100	330
10		15720.00	55.83	74.00	-18.17	41.72	14.11	Peak	100	330

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:"*" is Peak / Average value of fundamental frequency

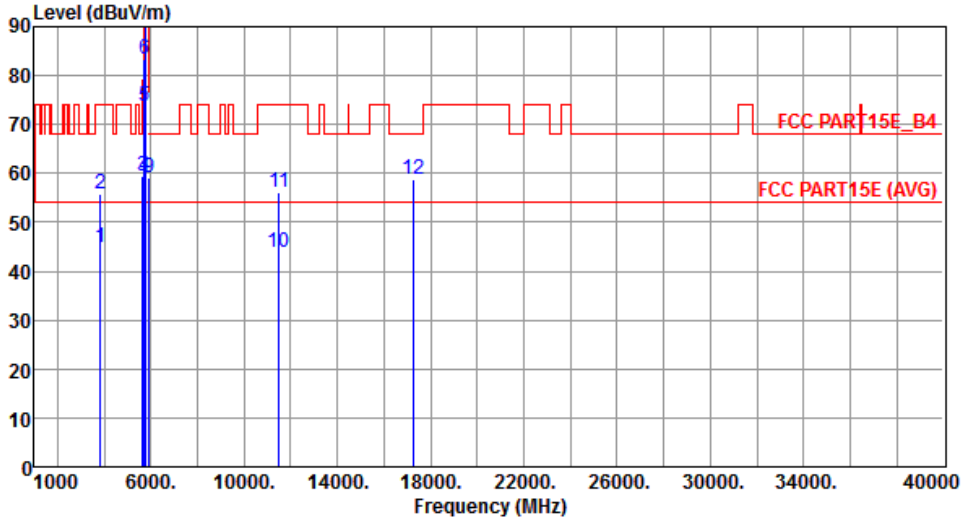
Modulation	11a	Test Freq. (MHz)	5240
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3493.00	53.40	68.20	-14.80	53.48	-0.08	Peak	100	338
2		5150.00	44.61	54.00	-9.39	40.13	4.48	Average	253	104
3		5150.00	57.31	74.00	-16.69	52.83	4.48	Peak	253	104
4	*	5240.00	107.10			102.52	4.58	Average	253	104
5	*	5240.00	120.02			115.44	4.58	Peak	253	104
6		5350.00	45.22	54.00	-8.78	40.48	4.74	Average	253	104
7		5350.00	58.10	74.00	-15.90	53.36	4.74	Peak	253	104
8		10480.00	55.46	68.20	-12.74	41.51	13.95	Peak	100	285
9		15720.00	50.93	54.00	-3.07	36.82	14.11	Average	100	330
10		15720.00	64.83	74.00	-9.17	50.72	14.11	Peak	100	330

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:"*" is Peak / Average value of fundamental frequency

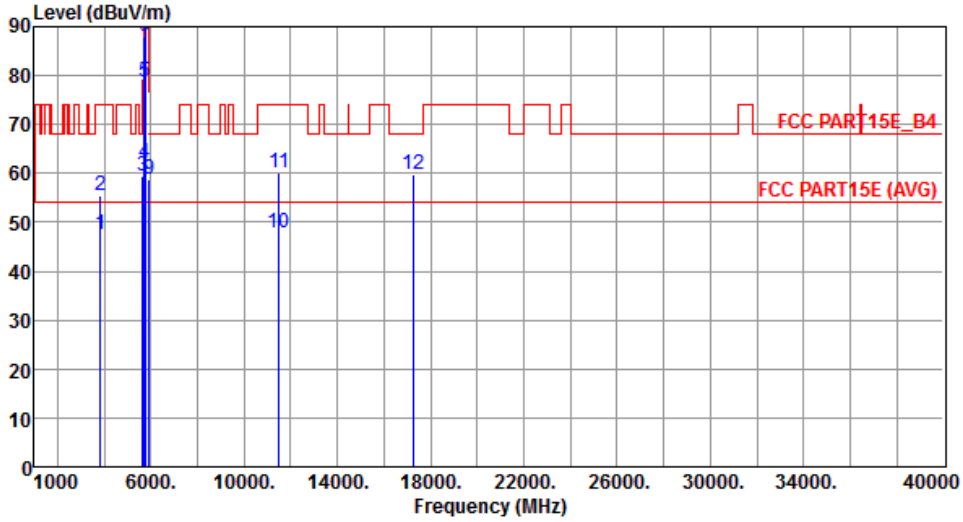
Modulation	11a	Test Freq. (MHz)	5745
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3829.60	44.93	54.00	-9.07	44.21	0.72	Average	100	306
2		3829.60	55.75	74.00	-18.25	55.03	0.72	Peak	100	306
3		5650.00	59.35	68.20	-8.85	54.16	5.19	Peak	100	181
4		5700.00	59.29	105.20	-45.91	54.01	5.28	Peak	100	181
5		5720.00	73.62	110.80	-37.18	68.31	5.31	Peak	100	181
6		5725.00	83.41	122.20	-38.79	78.09	5.32	Peak	100	181
7	*	5745.00	105.75			100.39	5.36	Average	100	181
8	*	5745.00	119.36			114.00	5.36	Peak	100	181
9		5925.00	59.16	68.20	-9.04	53.52	5.64	Peak	100	181
10		11490.00	43.68	54.00	-10.32	28.86	14.82	Average	100	311
11		11490.00	56.23	74.00	-17.77	41.41	14.82	Peak	100	311
12		17235.00	58.77	68.20	-9.43	41.06	17.71	Peak	100	272

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:"*" is Peak / Average value of fundamental frequency

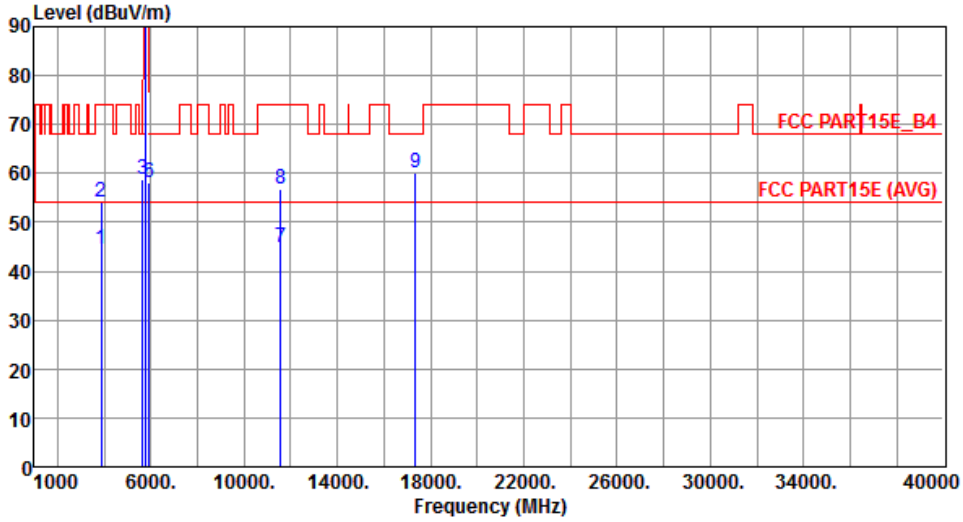
Modulation	11a	Test Freq. (MHz)	5745
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3829.60	47.42	54.00	-6.58	46.70	0.72	Average	100	322
2		3829.60	55.41	74.00	-18.59	54.69	0.72	Peak	100	322
3		5650.00	59.40	68.20	-8.80	54.21	5.19	Peak	234	182
4		5700.00	62.01	105.20	-43.19	56.73	5.28	Peak	234	182
5		5720.00	78.58	110.80	-32.22	73.27	5.31	Peak	234	182
6		5725.00	88.00	122.20	-34.20	82.68	5.32	Peak	234	182
7	*	5745.00	111.46			106.10	5.36	Average	234	182
8	*	5745.00	125.08			119.72	5.36	Peak	234	182
9		5925.00	58.93	68.20	-9.27	53.29	5.64	Peak	234	182
10		11490.00	47.71	54.00	-6.29	32.89	14.82	Average	100	325
11		11490.00	60.20	74.00	-13.80	45.38	14.82	Peak	100	325
12		17235.00	59.62	68.20	-8.58	41.91	17.71	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).
Note 3:"*" is Peak / Average value of fundamental frequency

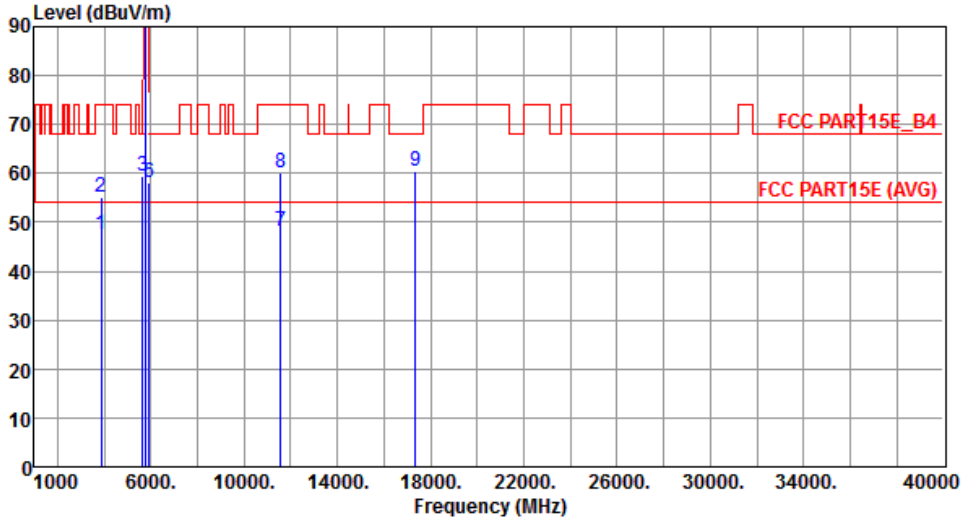
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3856.00	44.63	54.00	-9.37	43.83	0.80	Average	100	311
2		3856.00	54.21	74.00	-19.79	53.41	0.80	Peak	100	311
3		5650.00	58.73	68.20	-9.47	53.54	5.19	Peak	100	47
4	*	5785.00	105.57			100.15	5.42	Average	100	47
5	*	5785.00	118.64			113.22	5.42	Peak	100	47
6		5925.00	58.01	68.20	-10.19	52.37	5.64	Peak	100	47
7		11570.00	44.71	54.00	-9.29	30.07	14.64	Average	201	64
8		11570.00	56.80	74.00	-17.20	42.16	14.64	Peak	201	64
9		17355.00	60.24	68.20	-7.96	42.23	18.01	Peak	100	282

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:"*" is Peak / Average value of fundamental frequency

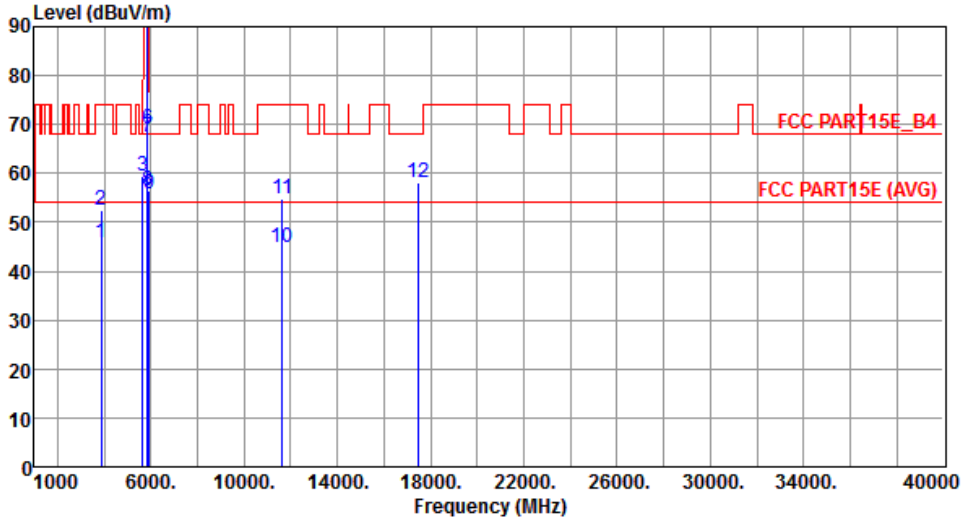
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3856.00	47.62	54.00	-6.38	46.82	0.80	Average	100	316
2		3856.00	55.11	74.00	-18.89	54.31	0.80	Peak	100	316
3		5650.00	59.36	68.20	-8.84	54.17	5.19	Peak	234	184
4	*	5785.00	112.01			106.59	5.42	Average	234	184
5	*	5785.00	124.80			119.38	5.42	Peak	234	184
6		5925.00	58.21	68.20	-9.99	52.57	5.64	Peak	234	184
7		11570.00	48.28	54.00	-5.72	33.64	14.64	Average	100	320
8		11570.00	60.25	74.00	-13.75	45.61	14.64	Peak	100	320
9		17355.00	60.38	68.20	-7.82	42.37	18.01	Peak	100	112

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:"*" is Peak / Average value of fundamental frequency

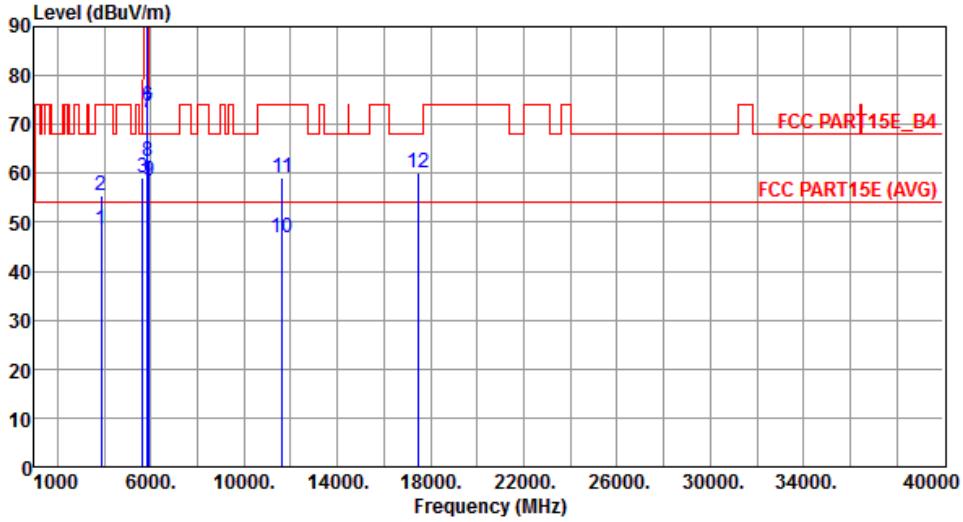
Modulation	11a	Test Freq. (MHz)	5825
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3883.00	45.82	54.00	-8.18	44.93	0.89	Average	100	306
2		3883.00	52.63	74.00	-21.37	51.74	0.89	Peak	100	306
3		5650.00	59.59	68.20	-8.61	54.40	5.19	Peak	100	48
4	*	5825.00	106.36			100.87	5.49	Average	100	48
5	*	5825.00	119.63			114.14	5.49	Peak	100	48
6		5850.00	68.92	122.20	-53.28	63.40	5.52	Peak	100	48
7		5855.00	67.53	110.80	-43.27	62.00	5.53	Peak	100	48
8		5875.00	56.48	105.20	-48.72	50.92	5.56	Peak	100	48
9		5925.00	55.85	68.20	-12.35	50.21	5.64	Peak	100	48
10		11650.00	44.97	54.00	-9.03	30.53	14.44	Average	100	272
11		11650.00	54.93	74.00	-19.07	40.49	14.44	Peak	100	272
12		17475.00	58.14	68.20	-10.06	39.85	18.29	Peak	100	260

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:"*" is Peak / Average value of fundamental frequency

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

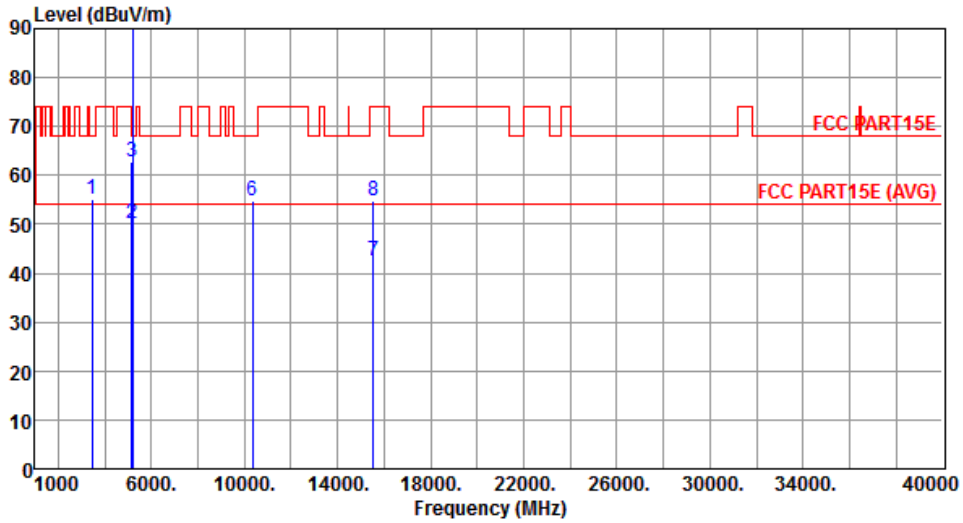


		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3883.00	48.53	54.00	-5.47	47.64	0.89	Average	100	321
2		3883.00	55.48	74.00	-18.52	54.59	0.89	Peak	100	321
3		5650.00	59.10	68.20	-9.10	53.91	5.19	Peak	229	184
4	*	5825.00	111.27			105.78	5.49	Average	229	184
5	*	5825.00	124.17			118.68	5.49	Peak	229	184
6		5850.00	73.58	122.20	-48.62	68.06	5.52	Peak	229	184
7		5855.00	72.53	110.80	-38.27	67.00	5.53	Peak	229	184
8		5875.00	62.37	105.20	-42.83	56.81	5.56	Peak	229	184
9		5925.00	58.37	68.20	-9.83	52.73	5.64	Peak	229	184
10		11650.00	46.96	54.00	-7.04	32.52	14.44	Average	100	331
11		11650.00	59.24	74.00	-14.76	44.80	14.44	Peak	100	331
12		17475.00	60.26	68.20	-7.94	41.97	18.29	Peak	100	96

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:"*" is Peak / Average value of fundamental frequency

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

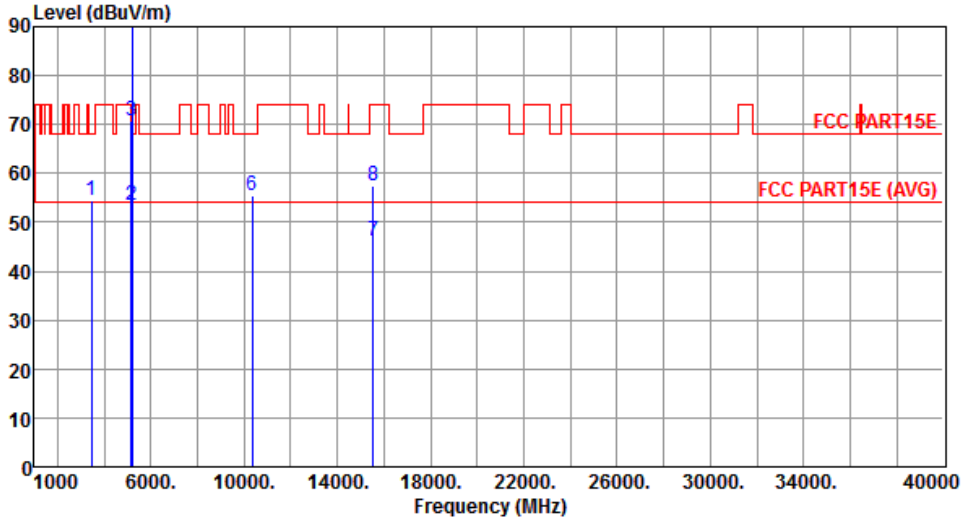
Modulation	VHT20	**Test Freq. (MHz)**	5180
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3453.00	54.98	68.20	-13.22	55.13	-0.15	Peak	100	156
2		5150.00	50.06	54.00	-3.94	45.58	4.48	Average	100	271
3		5150.00	62.82	74.00	-11.18	58.34	4.48	Peak	100	271
4	*	5180.00	98.84			94.34	4.50	Average	100	271
5	*	5180.00	110.53			106.03	4.50	Peak	100	271
6		10360.00	54.82	68.20	-13.38	41.04	13.78	Peak	100	42
7		15540.00	42.38	54.00	-11.62	27.99	14.39	Average	100	163
8		15540.00	54.83	74.00	-19.17	40.44	14.39	Peak	100	163

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:"*" is Peak / Average value of fundamental frequency

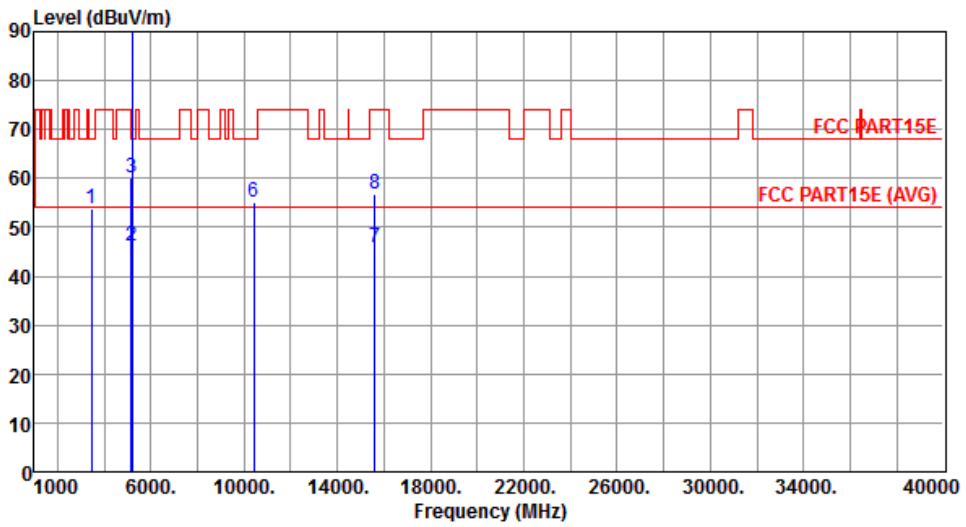
Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3453.00	54.45	68.20	-13.75	54.60	-0.15	Peak	100	52
2		5150.00	53.63	54.00	-0.37	49.15	4.48	Average	272	72
3		5150.00	70.86	74.00	-3.14	66.38	4.48	Peak	272	72
4	*	5180.00	104.84			100.34	4.50	Average	373	72
5	*	5180.00	116.53			112.03	4.50	Peak	373	72
6		10360.00	55.55	68.20	-12.65	41.77	13.78	Peak	100	259
7		15540.00	46.32	54.00	-7.68	31.93	14.39	Average	100	157
8		15540.00	57.36	74.00	-16.64	42.97	14.39	Peak	100	157

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:"*" is Peak / Average value of fundamental frequency

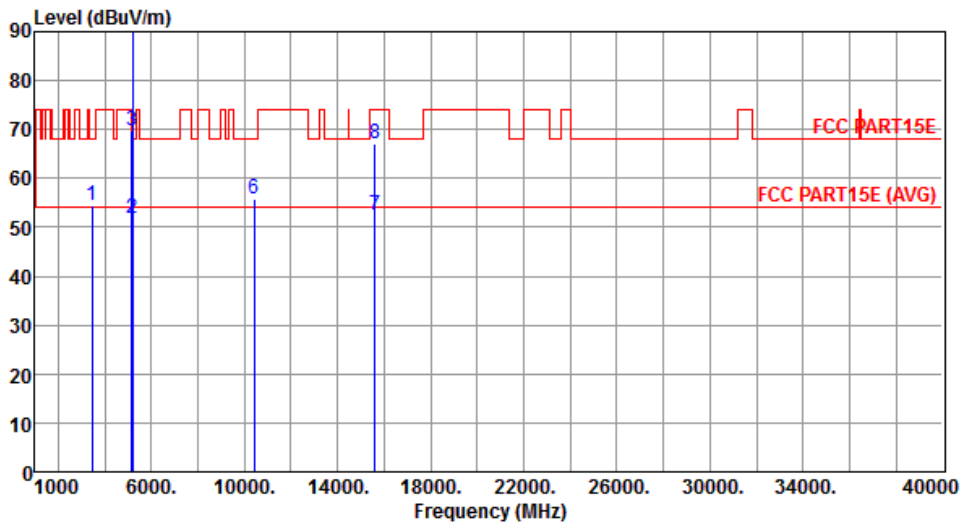
Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3466.00	53.68	68.20	-14.52	53.81	-0.13	Peak	100	158
2		5150.00	46.00	54.00	-8.00	41.52	4.48	Average	100	272
3		5150.00	60.25	74.00	-13.75	55.77	4.48	Peak	100	272
4	*	5200.00	102.47			97.95	4.52	Average	100	272
5	*	5200.00	114.36			109.84	4.52	Peak	100	272
6		10400.00	55.07	68.20	-13.13	41.22	13.85	Peak	100	14
7		15600.00	45.87	54.00	-8.13	31.57	14.30	Average	100	171
8		15600.00	56.94	74.00	-17.06	42.64	14.30	Peak	100	171

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:"*" is Peak / Average value of fundamental frequency

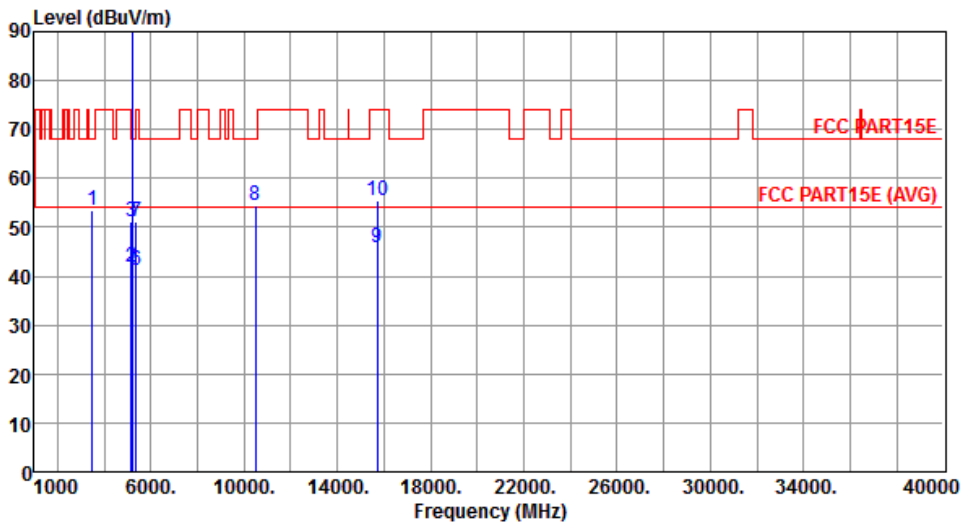
Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3466.00	54.43	68.20	-13.77	54.56	-0.13	Peak	100	52
2		5150.00	51.74	54.00	-2.26	47.26	4.48	Average	346	73
3		5150.00	69.73	74.00	-4.27	65.25	4.48	Peak	346	73
4	*	5200.00	108.95			104.43	4.52	Average	346	73
5	*	5200.00	121.58			117.06	4.52	Peak	346	73
6		10400.00	55.67	68.20	-12.53	41.82	13.85	Peak	100	291
7		15600.00	52.39	54.00	-1.61	38.09	14.30	Average	100	23
8		15600.00	67.11	74.00	-6.89	52.81	14.30	Peak	100	23

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

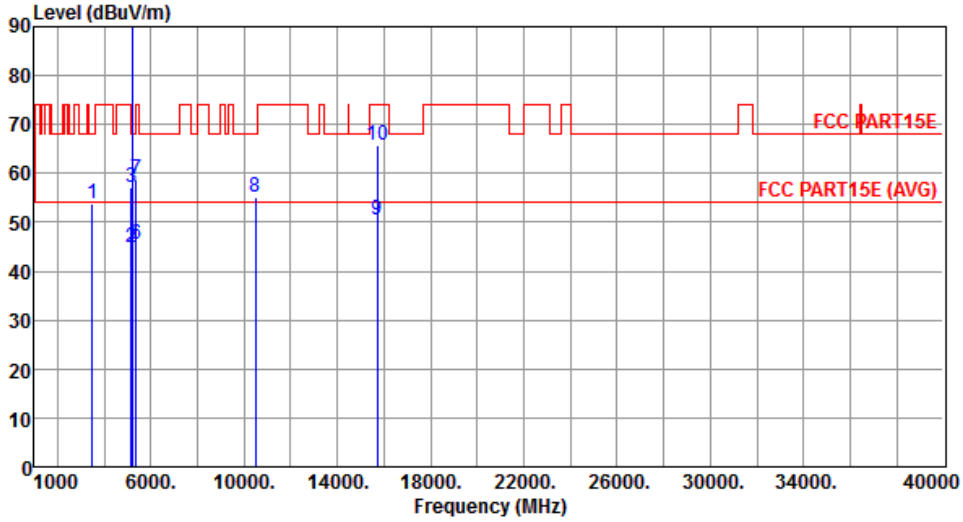
Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3493.00	53.41	68.20	-14.79	53.49	-0.08	Peak	10	138
2		5150.00	41.72	54.00	-12.28	37.24	4.48	Average	100	102
3		5150.00	51.29	74.00	-22.71	46.81	4.48	Peak	100	102
4	*	5240.00	102.63			98.05	4.58	Average	100	102
5	*	5240.00	114.31			109.73	4.58	Peak	100	102
6		5350.00	41.09	54.00	-12.91	36.35	4.74	Average	100	102
7		5350.00	50.99	74.00	-23.01	46.25	4.74	Peak	100	102
8		10480.00	54.58	68.20	-13.62	40.63	13.95	Peak	100	283
9		15720.00	45.67	54.00	-8.33	31.56	14.11	Average	100	328
10		15720.00	55.59	74.00	-18.41	41.48	14.11	Peak	100	328

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:"*" is Peak / Average value of fundamental frequency

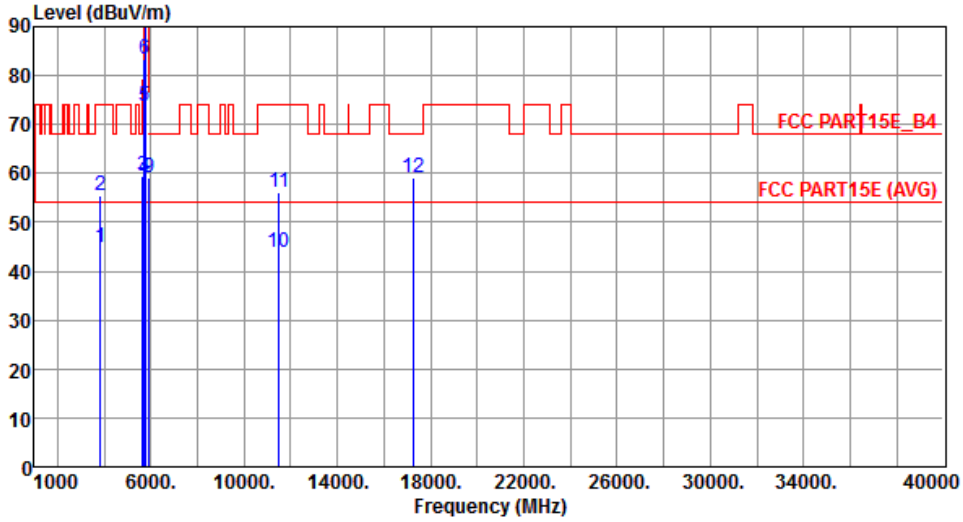
Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3493.00	53.82	68.20	-14.38	53.90	-0.08	Peak	100	341
2		5150.00	44.74	54.00	-9.26	40.26	4.48	Average	344	79
3		5150.00	57.13	74.00	-16.87	52.65	4.48	Peak	344	79
4	*	5240.00	108.90			104.32	4.58	Average	344	79
5	*	5240.00	121.47			116.89	4.58	Peak	344	79
6		5350.00	45.57	54.00	-8.43	40.83	4.74	Average	344	79
7		5350.00	58.65	74.00	-15.35	53.91	4.74	Peak	344	79
8		10480.00	55.16	68.20	-13.04	41.21	13.95	Peak	100	273
9		15720.00	50.63	54.00	-3.37	36.52	14.11	Average	100	24
10		15720.00	65.73	74.00	-8.27	51.62	14.11	Peak	100	24

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:"*" is Peak / Average value of fundamental frequency

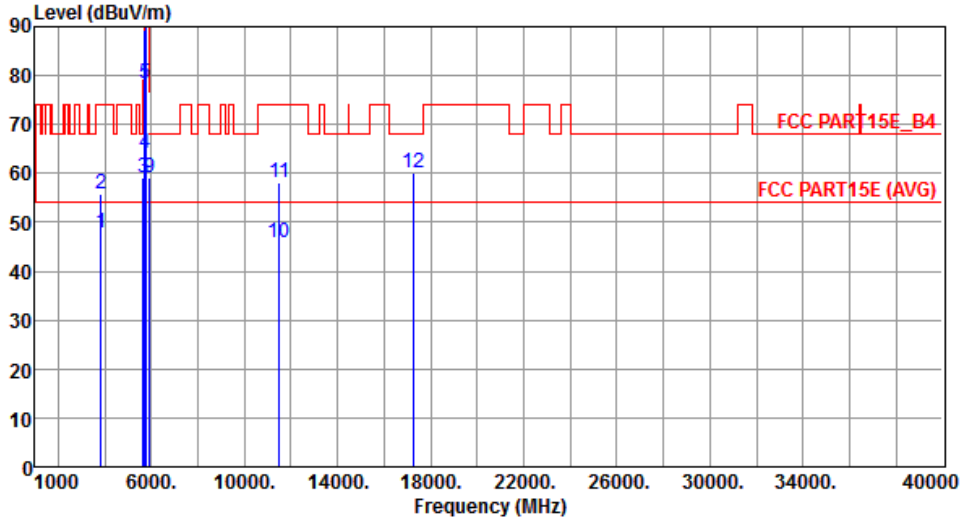
Modulation	VHT20	Test Freq. (MHz)	5745
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3829.60	44.74	54.00	-9.26	44.02	0.72	Average	100	302
2		3829.60	55.56	74.00	-18.44	54.84	0.72	Peak	100	302
3		5650.00	59.32	68.20	-8.88	54.13	5.19	Peak	100	184
4		5700.00	59.19	105.20	-46.01	53.91	5.28	Peak	100	184
5		5720.00	73.82	110.80	-36.98	68.51	5.31	Peak	100	184
6		5725.00	83.20	122.20	-39.00	77.88	5.32	Peak	100	184
7	*	5745.00	105.60			100.24	5.36	Average	100	184
8	*	5745.00	119.12			113.76	5.36	Peak	100	184
9		5925.00	59.22	68.20	-8.98	53.58	5.64	Peak	100	184
10		11490.00	43.90	54.00	-10.10	29.08	14.82	Average	100	316
11		11490.00	56.01	74.00	-17.99	41.19	14.82	Peak	100	316
12		17235.00	58.98	68.20	-9.22	41.27	17.71	Peak	100	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).
Note 3:"*" is Peak / Average value of fundamental frequency

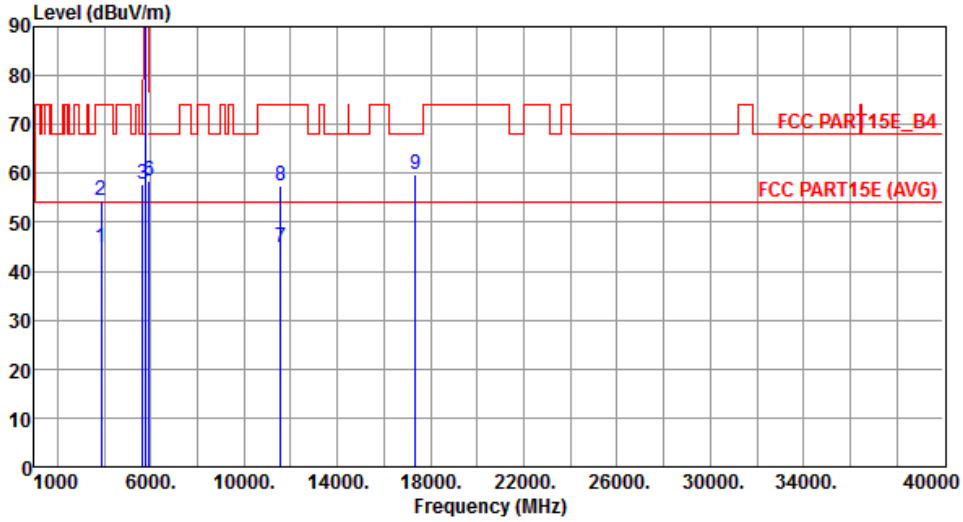
Modulation	VHT20	Test Freq. (MHz)	5745
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3829.60	47.74	54.00	-6.26	47.02	0.72	Average	100	319
2		3829.60	55.68	74.00	-18.32	54.96	0.72	Peak	100	319
3		5650.00	59.10	68.20	-9.10	53.91	5.19	Peak	227	184
4		5700.00	64.19	105.20	-41.01	58.91	5.28	Peak	227	184
5		5720.00	78.41	110.80	-32.39	73.10	5.31	Peak	227	184
6		5725.00	89.20	122.20	-33.00	83.88	5.32	Peak	227	184
7	*	5745.00	111.60			106.24	5.36	Average	227	184
8	*	5745.00	125.12			119.76	5.36	Peak	227	184
9		5925.00	59.22	68.20	-8.98	53.58	5.64	Peak	227	184
10		11490.00	45.90	54.00	-8.10	31.08	14.82	Average	100	316
11		11490.00	58.01	74.00	-15.99	43.19	14.82	Peak	100	316
12		17235.00	59.98	68.20	-8.22	42.27	17.71	Peak	100	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).
Note 3:"*" is Peak / Average value of fundamental frequency

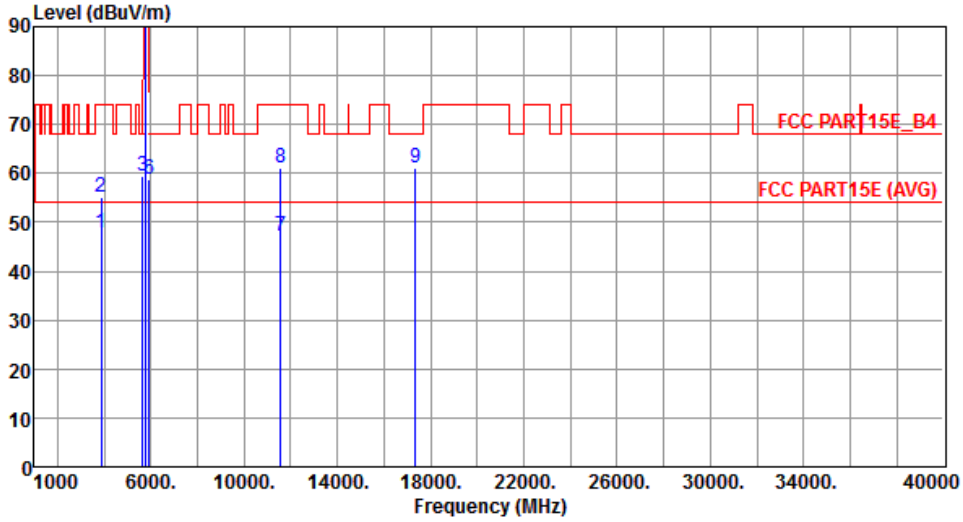
Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3856.00	44.97	54.00	-9.03	44.17	0.80	Average	100	307
2		3856.00	54.44	74.00	-19.56	53.64	0.80	Peak	100	307
3		5650.00	57.69	68.20	-10.51	52.50	5.19	Peak	100	46
4	*	5785.00	106.08			100.66	5.42	Average	100	46
5	*	5785.00	117.78			112.36	5.42	Peak	100	46
6		5925.00	58.48	68.20	-9.72	52.84	5.64	Peak	100	46
7		11570.00	44.87	54.00	-9.13	30.23	14.64	Average	100	251
8		11570.00	57.50	74.00	-16.50	42.86	14.64	Peak	100	251
9		17355.00	59.64	68.20	-8.56	41.63	18.01	Peak	100	127

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:"*" is Peak / Average value of fundamental frequency

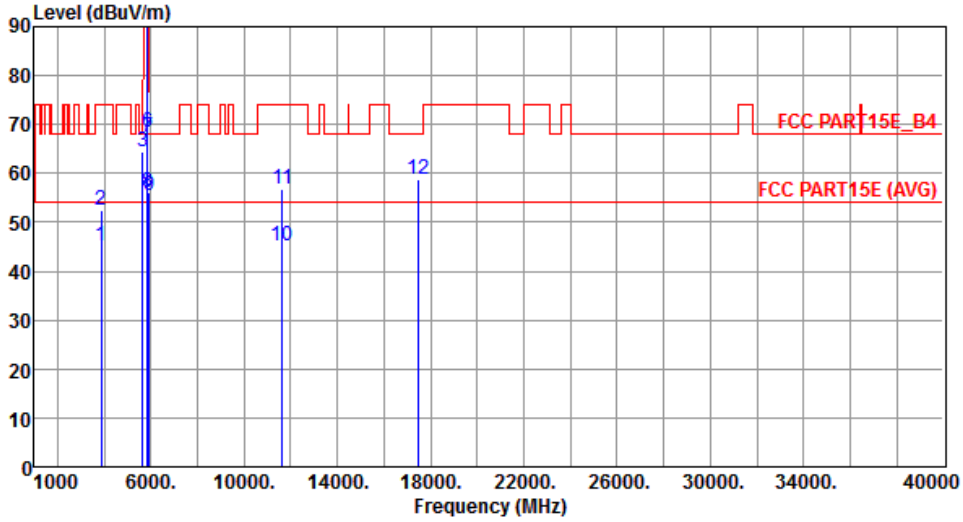
Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3856.00	47.98	54.00	-6.02	47.18	0.80	Average	100	319
2		3856.00	55.29	74.00	-18.71	54.49	0.80	Peak	100	319
3		5650.00	59.35	68.20	-8.85	54.16	5.19	Peak	231	183
4	*	5785.00	111.78			106.36	5.42	Average	231	183
5	*	5785.00	125.98			120.56	5.42	Peak	231	183
6		5925.00	58.72	68.20	-9.48	53.08	5.64	Peak	231	183
7		11570.00	47.04	54.00	-6.96	32.40	14.64	Average	100	318
8		11570.00	61.26	74.00	-12.74	46.62	14.64	Peak	100	318
9		17355.00	61.02	68.20	-7.18	43.01	18.01	Peak	100	249

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:"*" is Peak / Average value of fundamental frequency

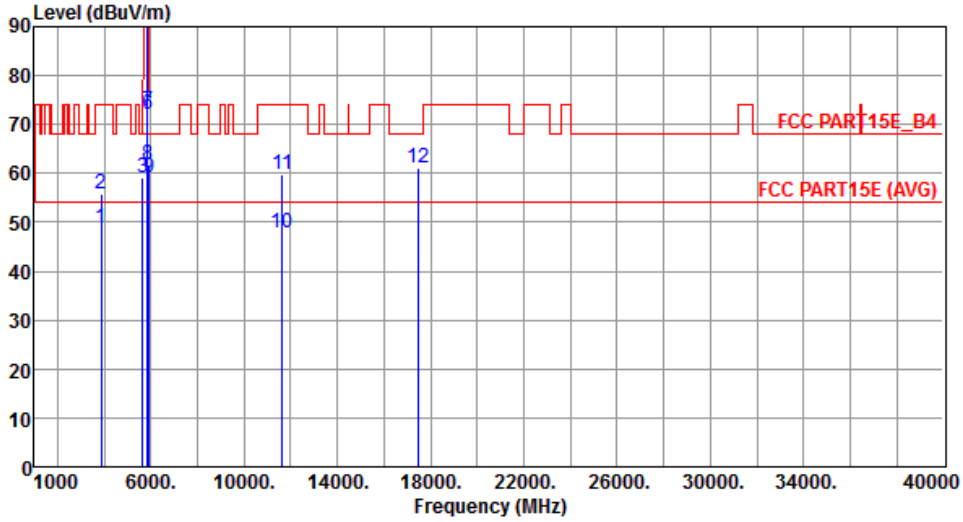
Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3883.00	45.12	54.00	-8.88	44.23	0.89	Average	100	302
2		3883.00	52.54	74.00	-21.46	51.65	0.89	Peak	100	302
3		5650.00	64.50	68.20	-3.70	59.31	5.19	Peak	100	41
4	*	5825.00	106.01			100.52	5.49	Average	100	41
5	*	5825.00	119.75			114.26	5.49	Peak	100	41
6		5850.00	68.35	122.20	-53.85	62.83	5.52	Peak	100	41
7		5855.00	67.41	110.80	-43.39	61.88	5.53	Peak	100	41
8		5875.00	56.13	105.20	-49.07	50.57	5.56	Peak	100	41
9		5925.00	55.38	68.20	-12.82	49.74	5.64	Peak	100	41
10		11650.00	45.28	54.00	-8.72	30.84	14.44	Average	100	263
11		11650.00	56.71	74.00	-17.29	42.27	14.44	Peak	100	263
12		17475.00	58.86	68.20	-9.34	40.57	18.29	Peak	100	123

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Vertical		

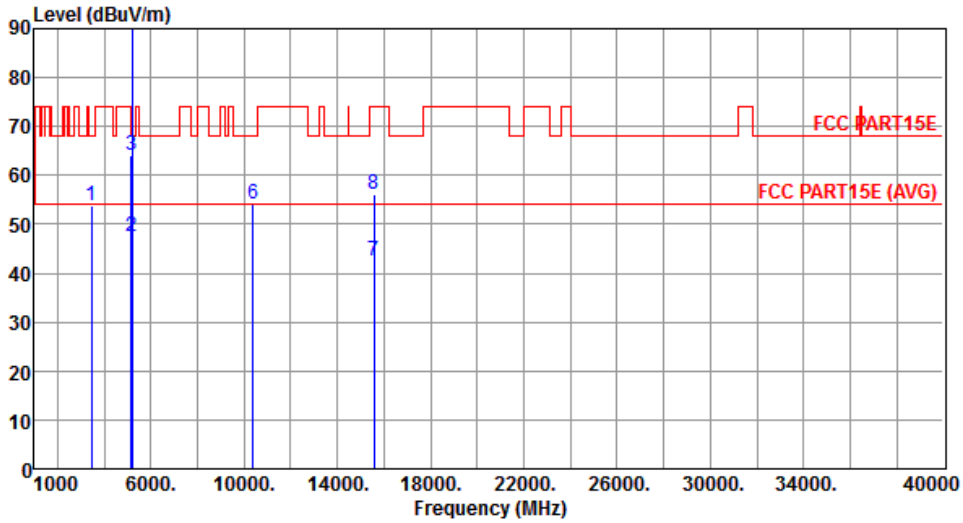


		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3883.00	48.93	54.00	-5.07	48.04	0.89	Average	100	323
2		3883.00	55.87	74.00	-18.13	54.98	0.89	Peak	100	323
3		5650.00	59.24	68.20	-8.96	54.05	5.19	Peak	222	186
4	*	5825.00	111.15			105.66	5.49	Average	222	186
5	*	5825.00	124.98			119.49	5.49	Peak	222	186
6		5850.00	71.90	122.20	-50.30	66.38	5.52	Peak	222	186
7		5855.00	72.83	110.80	-37.97	67.30	5.53	Peak	222	186
8		5875.00	61.80	105.20	-43.40	56.24	5.56	Peak	222	186
9		5925.00	59.27	68.20	-8.93	53.63	5.64	Peak	222	186
10		11650.00	47.97	54.00	-6.03	33.53	14.44	Average	100	319
11		11650.00	59.93	74.00	-14.07	45.49	14.44	Peak	100	319
12		17475.00	61.14	68.20	-7.06	42.85	18.29	Peak	100	247

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:"*" is Peak / Average value of fundamental frequency

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

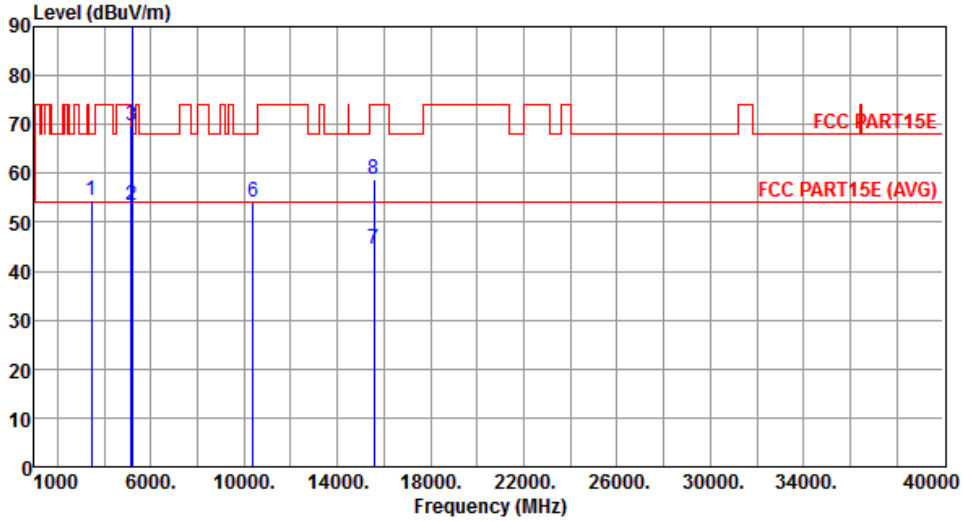
Modulation	VHT40	**Test Freq. (MHz)**	5190
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3460.00	53.82	68.20	-14.38	53.95	-0.13	Peak	100	101
2		5150.00	47.44	54.00	-6.56	42.96	4.48	Average	100	270
3		5150.00	64.09	74.00	-9.91	59.61	4.48	Peak	100	270
4	*	5190.00	95.07			90.56	4.51	Average	100	270
5	*	5190.00	107.04			102.53	4.51	Peak	100	270
6		10380.00	54.26	68.20	-13.94	40.44	13.82	Peak	100	160
7		15570.00	42.65	54.00	-11.35	28.31	14.34	Average	100	91
8		15570.00	55.96	74.00	-18.04	41.62	14.34	Peak	100	91

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:"*" is Peak / Average value of fundamental frequency

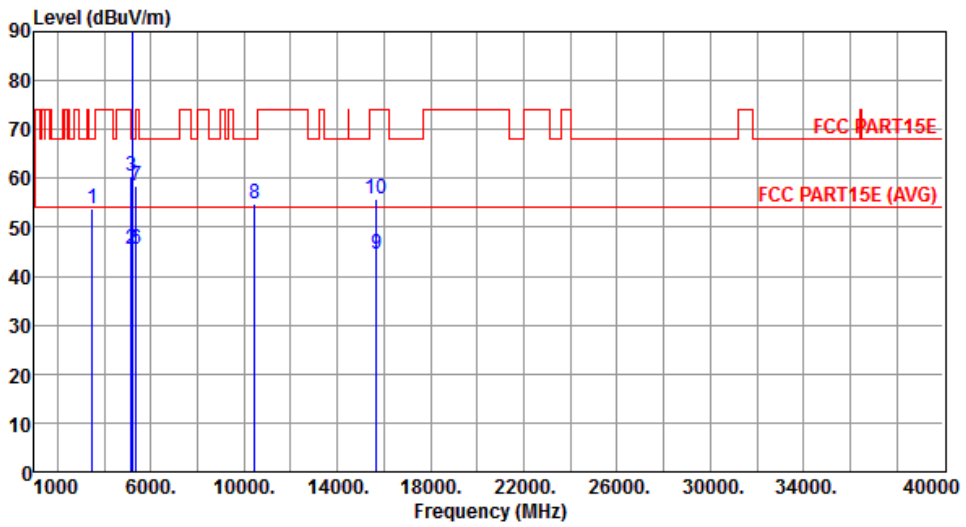
Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3460.00	54.62	68.20	-13.58	54.75	-0.13	Peak	100	50
2		5150.00	53.57	54.00	-0.43	49.09	4.48	Average	269	250
3		5150.00	69.89	74.00	-4.11	65.41	4.48	Peak	269	250
4	*	5190.00	101.25			96.74	4.51	Average	273	257
5	*	5190.00	113.27			108.76	4.51	Peak	273	257
6		10380.00	54.08	68.20	-14.12	40.26	13.82	Peak	100	71
7		15570.00	44.48	54.00	-9.52	30.14	14.34	Average	100	20
8		15570.00	58.64	74.00	-15.36	44.30	14.34	Peak	100	20

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

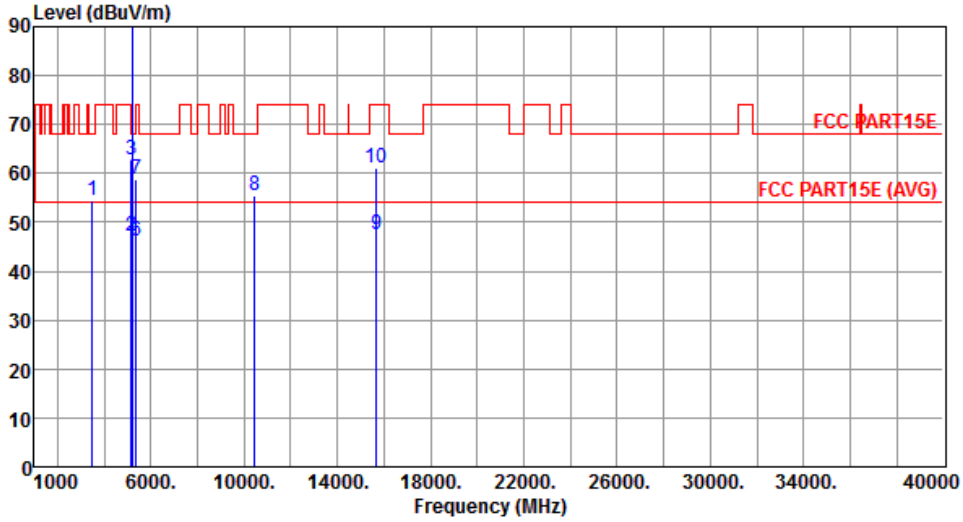
Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3486.00	53.72	68.20	-14.48	53.82	-0.10	Peak	100	105
2		5150.00	45.64	54.00	-8.36	41.16	4.48	Average	100	271
3		5150.00	60.35	74.00	-13.65	55.87	4.48	Peak	100	271
4	*	5230.00	98.07			93.51	4.56	Average	100	271
5	*	5230.00	110.73			106.17	4.56	Peak	100	271
6		5350.00	45.57	54.00	-8.43	40.83	4.74	Average	100	271
7		5350.00	58.30	74.00	-15.70	53.56	4.74	Peak	100	271
8		10460.00	54.76	68.20	-13.44	40.83	13.93	Peak	100	162
9		15690.00	44.34	54.00	-9.66	30.19	14.15	Average	100	94
10		15690.00	55.89	74.00	-18.11	41.74	14.15	Peak	100	94

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:"*" is Peak / Average value of fundamental frequency

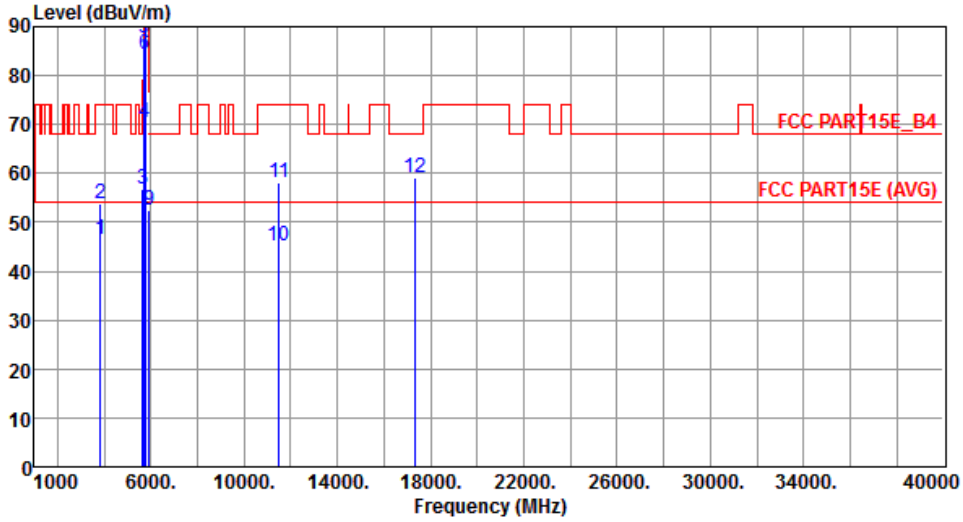
Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3486.00	54.62	68.20	-13.58	54.72	-0.10	Peak	100	200
2		5150.00	47.13	54.00	-6.87	42.65	4.48	Average	248	103
3		5150.00	62.79	74.00	-11.21	58.31	4.48	Peak	248	103
4	*	5230.00	103.97			99.41	4.56	Average	248	103
5	*	5230.00	116.37			111.81	4.56	Peak	248	103
6		5350.00	46.25	54.00	-7.75	41.51	4.74	Average	248	103
7		5350.00	58.86	74.00	-15.14	54.12	4.74	Peak	248	103
8		10460.00	55.48	68.20	-12.72	41.55	13.93	Peak	100	62
9		15690.00	47.37	54.00	-6.63	33.22	14.15	Average	100	23
10		15690.00	61.19	74.00	-12.81	47.04	14.15	Peak	100	23

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

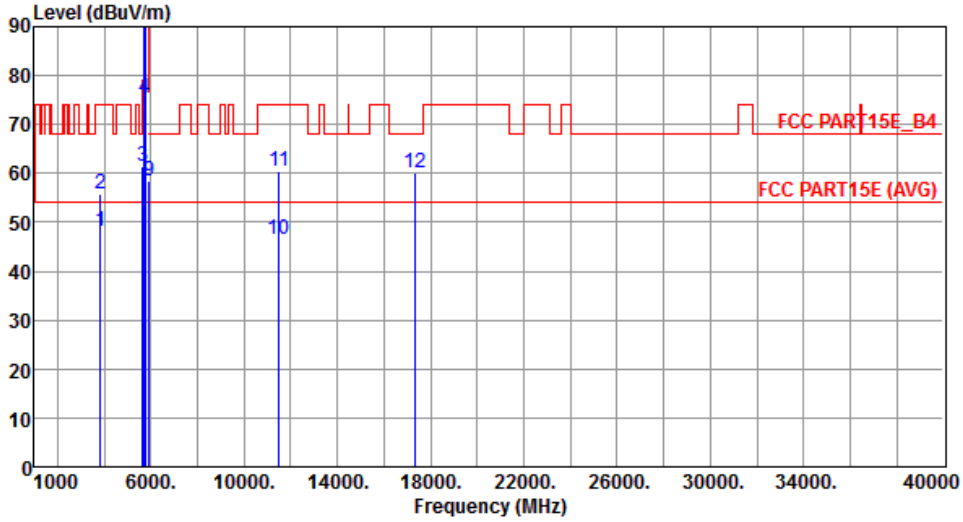
Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3836.00	46.56	54.00	-7.44	45.82	0.74	Average	100	111
2		3836.00	53.96	74.00	-20.04	53.22	0.74	Peak	100	111
3		5650.00	56.75	68.20	-11.45	51.56	5.19	Peak	100	180
4		5700.00	70.53	105.20	-34.67	65.25	5.28	Peak	100	180
5		5720.00	87.77	110.80	-23.03	82.46	5.31	Peak	100	180
6		5725.00	84.35	122.20	-37.85	79.03	5.32	Peak	100	180
7	*	5755.00	103.46			98.09	5.37	Average	100	180
8	*	5755.00	115.41			110.04	5.37	Peak	100	180
9		5925.00	52.54	68.20	-15.66	46.90	5.64	Peak	100	180
10		11510.00	45.27	54.00	-8.73	30.47	14.80	Average	100	306
11		11510.00	58.19	74.00	-15.81	43.39	14.80	Peak	100	306
12		17325.00	59.22	68.20	-8.98	41.29	17.93	Peak	100	258

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:"*" is Peak / Average value of fundamental frequency

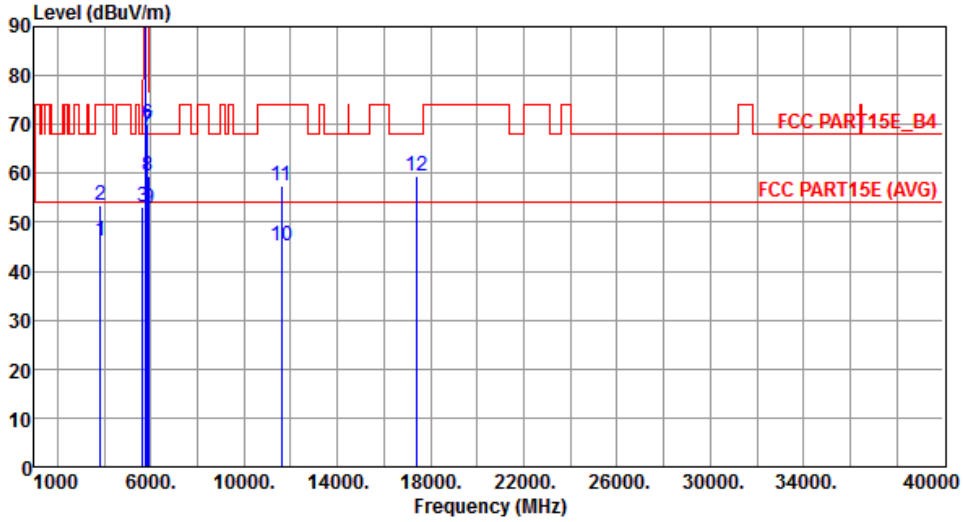
Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3836.00	48.31	54.00	-5.69	47.57	0.74	Average	100	319
2		3836.00	55.87	74.00	-18.13	55.13	0.74	Peak	100	319
3		5650.00	61.54	68.20	-6.66	56.35	5.19	Peak	214	183
4		5700.00	75.28	105.20	-29.92	70.00	5.28	Peak	214	183
5		5720.00	92.68	110.80	-18.12	87.37	5.31	Peak	214	183
6		5725.00	89.82	122.20	-32.38	84.50	5.32	Peak	214	183
7	*	5755.00	109.32			103.95	5.37	Average	214	183
8	*	5755.00	121.24			115.87	5.37	Peak	214	183
9		5925.00	58.30	68.20	-9.90	52.66	5.64	Peak	214	183
10		11510.00	46.37	54.00	-7.63	31.57	14.80	Average	100	312
11		11510.00	60.29	74.00	-13.71	45.49	14.80	Peak	100	312
12		17325.00	60.08	68.20	-8.12	42.15	17.93	Peak	100	266

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:"*" is Peak / Average value of fundamental frequency

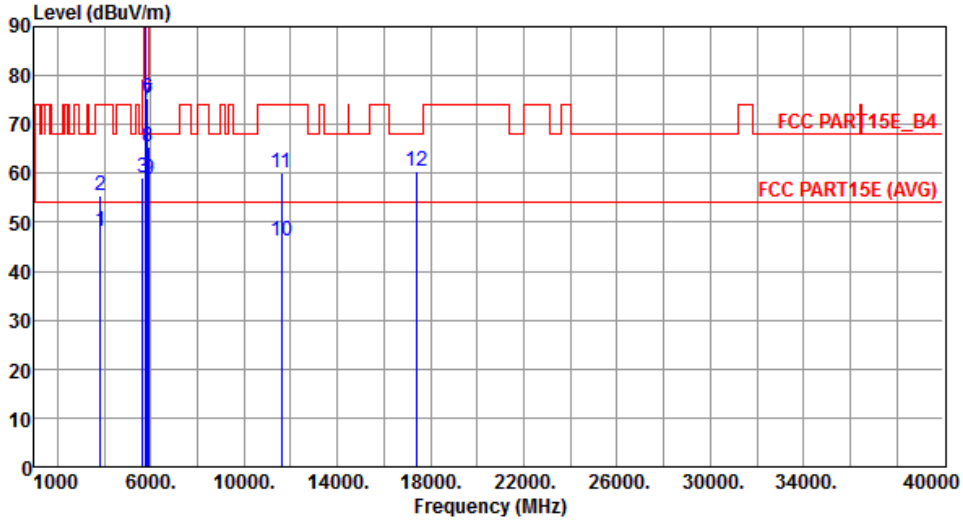
Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3836.00	46.27	54.00	-7.73	45.53	0.74	Average	100	106
2		3836.00	53.42	74.00	-20.58	52.68	0.74	Peak	100	106
3		5650.00	53.15	68.20	-15.05	47.96	5.19	Peak	100	182
4	*	5795.00	102.96			97.52	5.44	Average	100	182
5	*	5795.00	115.38			109.94	5.44	Peak	100	182
6		5850.00	69.96	122.20	-52.24	64.44	5.52	Peak	100	182
7		5855.00	68.72	110.80	-42.08	63.19	5.53	Peak	100	182
8		5875.00	59.45	105.20	-45.75	53.89	5.56	Peak	100	182
9		5925.00	52.86	68.20	-15.34	47.22	5.64	Peak	100	182
10		11590.00	45.31	54.00	-8.69	30.72	14.59	Average	100	302
11		11590.00	57.37	74.00	-16.63	42.78	14.59	Peak	100	302
12		17385.00	59.41	68.20	-8.79	41.34	18.07	Peak	100	251

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:"*" is Peak / Average value of fundamental frequency

Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Vertical		

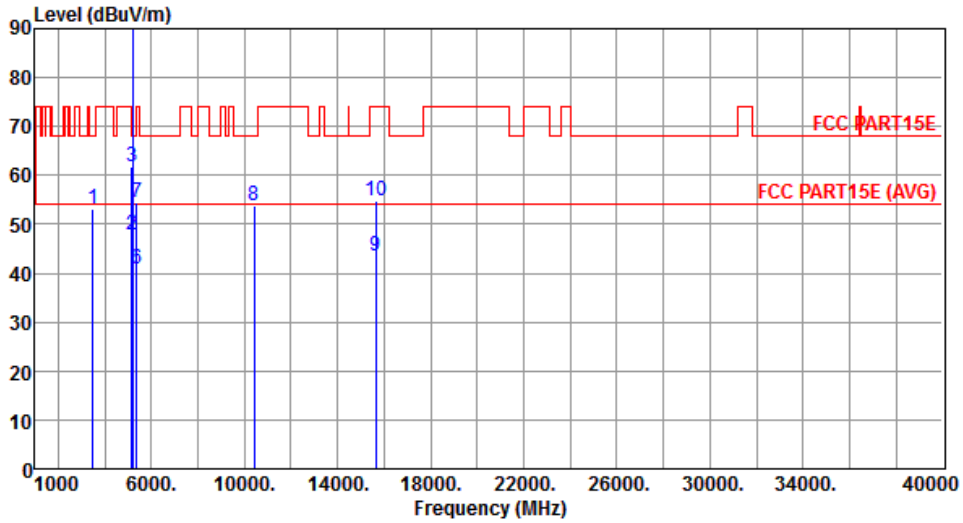


		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3836.00	48.11	54.00	-5.89	47.37	0.74	Average	100	322
2		3836.00	55.60	74.00	-18.40	54.86	0.74	Peak	100	322
3		5650.00	59.15	68.20	-9.05	53.96	5.19	Peak	239	182
4	*	5795.00	108.89			103.45	5.44	Average	239	182
5	*	5795.00	121.17			115.73	5.44	Peak	239	182
6		5850.00	75.33	122.20	-46.87	69.81	5.52	Peak	239	182
7		5855.00	74.51	110.80	-36.29	68.98	5.53	Peak	239	182
8		5875.00	65.26	105.20	-39.94	59.70	5.56	Peak	239	182
9		5925.00	58.69	68.20	-9.51	53.05	5.64	Peak	239	182
10		11590.00	46.22	54.00	-7.78	31.63	14.59	Average	100	315
11		11590.00	60.11	74.00	-13.89	45.52	14.59	Peak	100	315
12		17385.00	60.29	68.20	-7.91	42.22	18.07	Peak	100	256

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:"*" is Peak / Average value of fundamental frequency

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

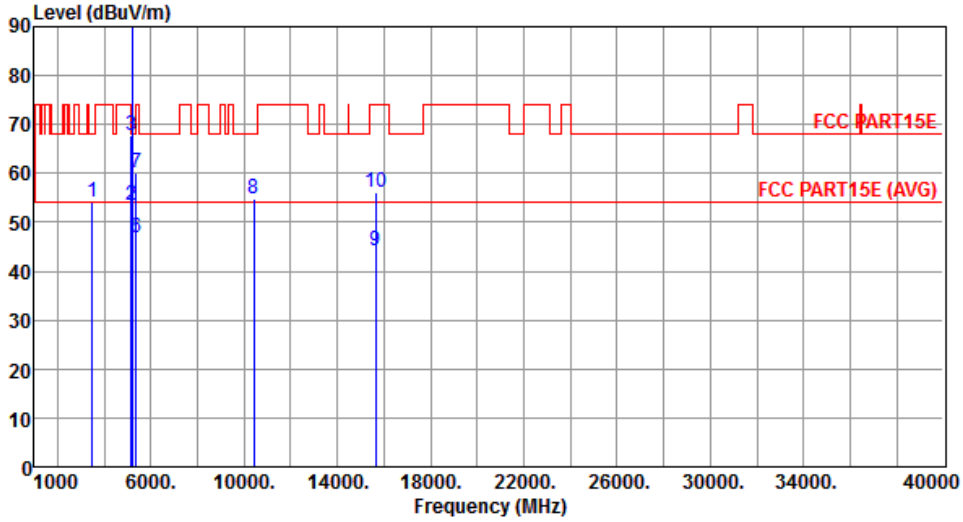
Modulation	VHT80	**Test Freq. (MHz)**	5210
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3473.00	53.12	68.20	-15.08	53.24	-0.12	Peak	100	103
2		5150.00	47.74	54.00	-6.26	43.26	4.48	Average	100	265
3		5150.00	61.78	74.00	-12.22	57.30	4.48	Peak	100	265
4	*	5210.00	92.85			88.31	4.54	Average	100	265
5	*	5210.00	104.26			99.72	4.54	Peak	100	265
6		5350.00	40.96	54.00	-13.04	36.22	4.74	Average	100	265
7		5350.00	54.35	74.00	-19.65	49.61	4.74	Peak	100	265
8		10420.00	53.95	68.20	-14.25	40.08	13.87	Peak	100	178
9		15630.00	43.36	54.00	-10.64	29.11	14.25	Average	100	122
10		15630.00	54.83	74.00	-19.17	40.58	14.25	Peak	100	122

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:"*" is Peak / Average value of fundamental frequency

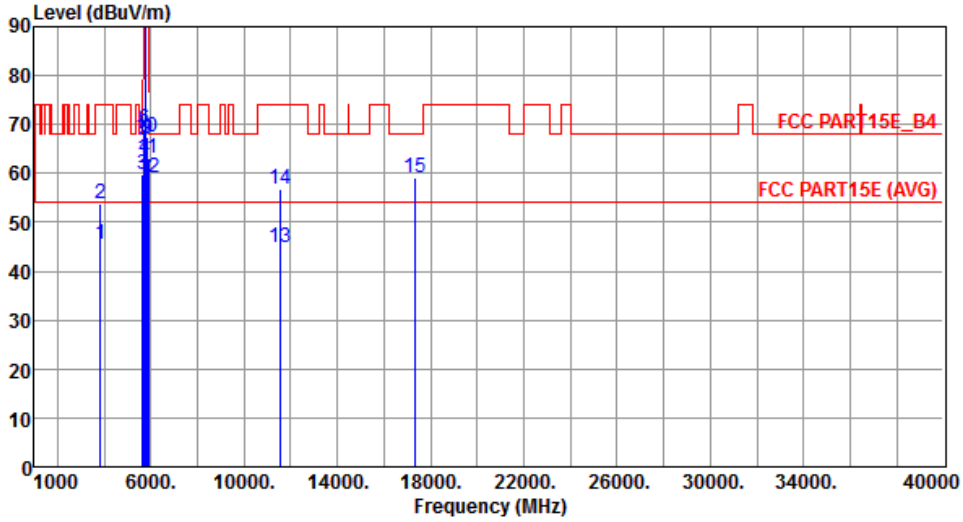
Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3473.00	54.12	68.20	-14.08	54.24	-0.12	Peak	100	56
2		5150.00	53.60	54.00	-0.40	49.12	4.48	Average	316	258
3		5150.00	67.82	74.00	-6.18	63.34	4.48	Peak	316	258
4	*	5210.00	98.92			94.38	4.54	Average	316	258
5	*	5210.00	110.10			105.56	4.54	Peak	316	258
6		5350.00	46.96	54.00	-7.04	42.22	4.74	Average	316	258
7		5350.00	60.13	74.00	-13.87	55.39	4.74	Peak	316	258
8		10420.00	54.83	68.20	-13.37	40.96	13.87	Peak	100	207
9		15630.00	44.29	54.00	-9.71	30.04	14.25	Average	100	236
10		15630.00	55.99	74.00	-18.01	41.74	14.25	Peak	100	236

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:"*" is Peak / Average value of fundamental frequency

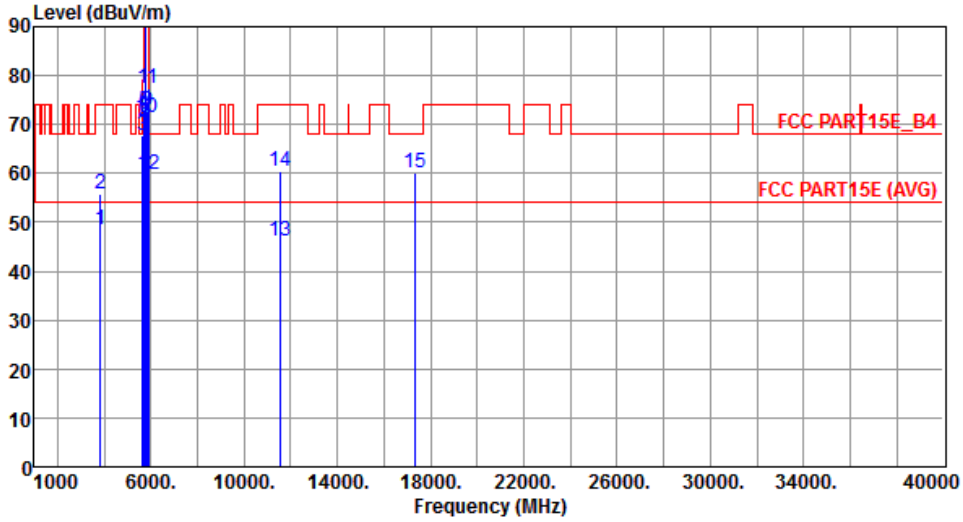
Modulation	VHT80	Test Freq. (MHz)	5775
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3850.00	45.61	54.00	-8.39	44.83	0.78	Average	100	306
2		3850.00	53.94	74.00	-20.06	53.16	0.78	Peak	100	306
3		5650.00	59.79	68.20	-8.41	54.60	5.19	Peak	100	27
4		5700.00	63.08	105.20	-42.12	57.80	5.28	Peak	100	27
5		5720.00	66.86	110.80	-43.94	61.55	5.31	Peak	100	27
6		5725.00	69.08	122.20	-53.12	63.76	5.32	Peak	100	27
7	*	5775.00	97.02			91.61	5.41	Average	100	27
8	*	5775.00	107.81			102.40	5.41	Peak	100	27
9		5850.00	67.12	122.20	-55.08	61.60	5.52	Peak	100	27
10		5855.00	67.33	110.80	-43.47	61.80	5.53	Peak	100	27
11		5875.00	63.26	105.20	-41.94	57.70	5.56	Peak	100	27
12		5925.00	59.24	68.20	-8.96	53.60	5.64	Peak	100	27
13		11550.00	44.72	54.00	-9.28	30.03	14.69	Average	100	215
14		11550.00	56.93	74.00	-17.07	42.24	14.69	Peak	100	215
15		17325.00	58.95	68.20	-9.25	41.02	17.93	Peak	100	166

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:"*" is Peak / Average value of fundamental frequency

Modulation	VHT80	Test Freq. (MHz)	5775
Polarization	Vertical		



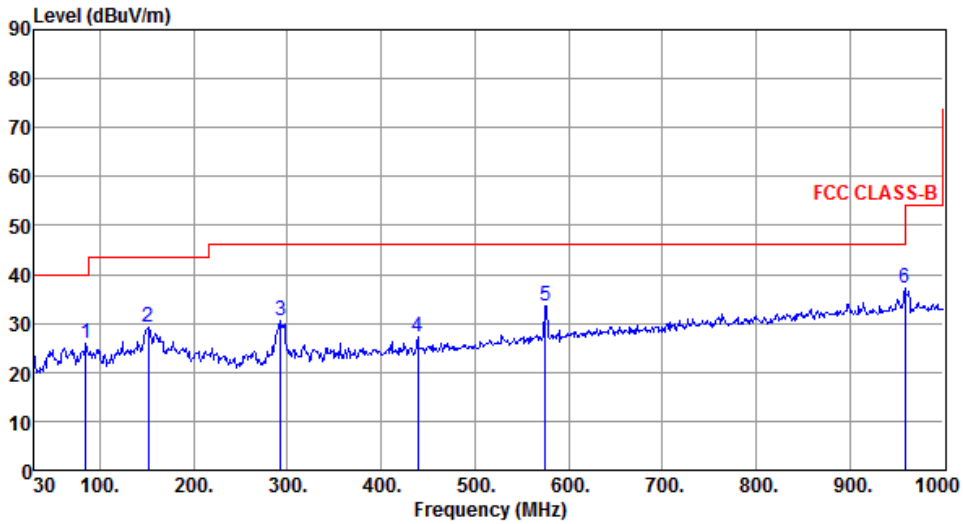
		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3850.00	48.39	54.00	-5.61	47.61	0.78	Average	100	321
2		3850.00	55.81	74.00	-18.19	55.03	0.78	Peak	100	321
3		5650.00	67.75	68.20	-0.45	62.56	5.19	Peak	257	182
4		5700.00	69.92	105.20	-35.28	64.64	5.28	Peak	257	182
5		5720.00	72.61	110.80	-38.19	67.30	5.31	Peak	257	182
6		5725.00	71.46	122.20	-50.74	66.14	5.32	Peak	257	182
7	*	5775.00	102.67			97.26	5.41	Average	257	182
8	*	5775.00	114.32			108.91	5.41	Peak	257	182
9		5850.00	72.72	122.20	-49.48	67.20	5.52	Peak	257	182
10		5855.00	71.39	110.80	-39.41	65.86	5.53	Peak	257	182
11		5875.00	77.34	105.20	-27.86	71.78	5.56	Peak	257	182
12		5925.00	59.76	68.20	-8.44	54.12	5.64	Peak	257	182
13		11550.00	46.07	54.00	-7.93	31.38	14.69	Average	100	321
14		11550.00	60.58	74.00	-13.42	45.89	14.69	Peak	100	321
15		17325.00	60.22	68.20	-7.98	42.29	17.93	Peak	100	232

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:"*" is Peak / Average value of fundamental frequency

Beamforming mode

3.5.9 Transmitter Radiated Unwanted Emissions (Below 1GHz)

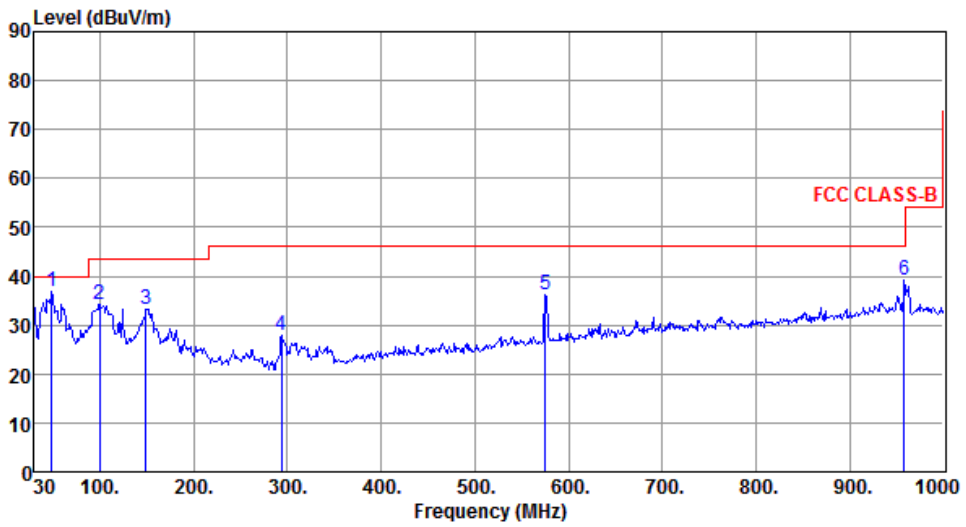
Modulation	VHT40	**Test Freq. (MHz)**	5795
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	85.29	25.97	40.00	-14.03	39.51	-13.54	Peak	---	---
2	151.25	29.31	43.50	-14.19	37.49	-8.18	Peak	---	---
3	292.87	30.64	46.00	-15.36	38.31	-7.67	Peak	---	---
4	439.34	27.13	46.00	-18.87	31.14	-4.01	Peak	---	---
5	575.14	33.47	46.00	-12.53	34.72	-1.25	Peak	---	---
6	959.26	37.19	46.00	-8.81	32.21	4.98	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		

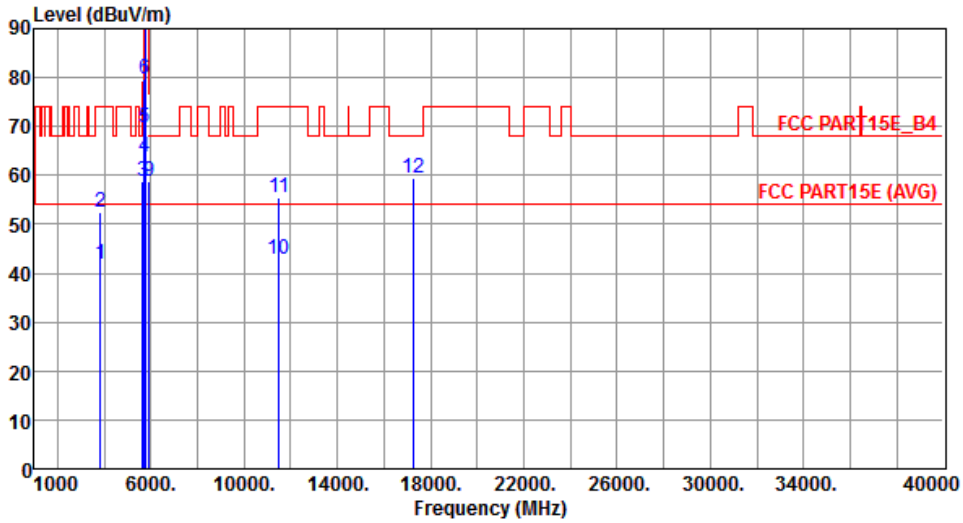


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	48.43	36.85	40.00	-3.15	44.47	-7.62	Peak	---	---
2	99.84	34.23	43.50	-9.27	47.12	-12.89	Peak	---	---
3	149.31	33.19	43.50	-10.31	41.39	-8.20	Peak	---	---
4	293.84	27.75	46.00	-18.25	35.39	-7.64	Peak	---	---
5	575.14	36.08	46.00	-9.92	37.33	-1.25	Peak	---	---
6	958.29	39.24	46.00	-6.76	34.27	4.97	Peak	---	---

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

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

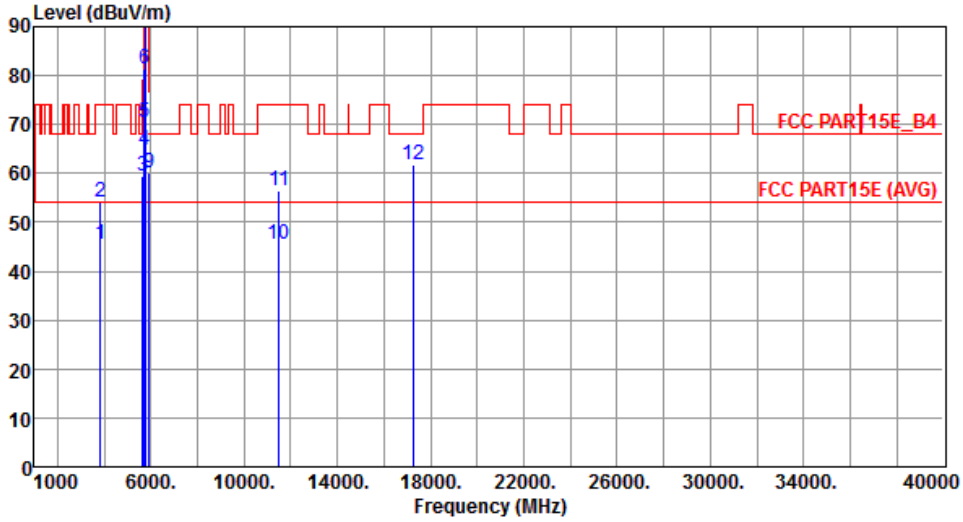
Modulation	VHT20	**Test Freq. (MHz)**	5745
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3830.00	41.95	54.00	-12.05	41.23	0.72	Average	107	2
2		3830.00	52.48	74.00	-21.52	51.76	0.72	Peak	107	2
3		5650.00	58.85	68.20	-9.35	53.66	5.19	Peak	100	350
4		5700.00	63.80	105.20	-41.40	58.52	5.28	Peak	100	350
5		5720.00	69.74	110.80	-41.06	64.43	5.31	Peak	100	350
6		5725.00	79.80	122.20	-42.40	74.48	5.32	Peak	100	350
7	*	5745.00	108.61			103.25	5.36	Average	100	350
8	*	5745.00	120.55			115.19	5.36	Peak	100	350
9		5925.00	58.87	68.20	-9.33	53.23	5.64	Peak	100	350
10		11490.00	42.97	54.00	-11.03	28.15	14.82	Average	100	35
11		11490.00	55.57	74.00	-18.43	40.75	14.82	Peak	100	35
12		17235.00	59.39	68.20	-8.81	41.68	17.71	Peak	100	325

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:"*" is Peak / Average value of fundamental frequency

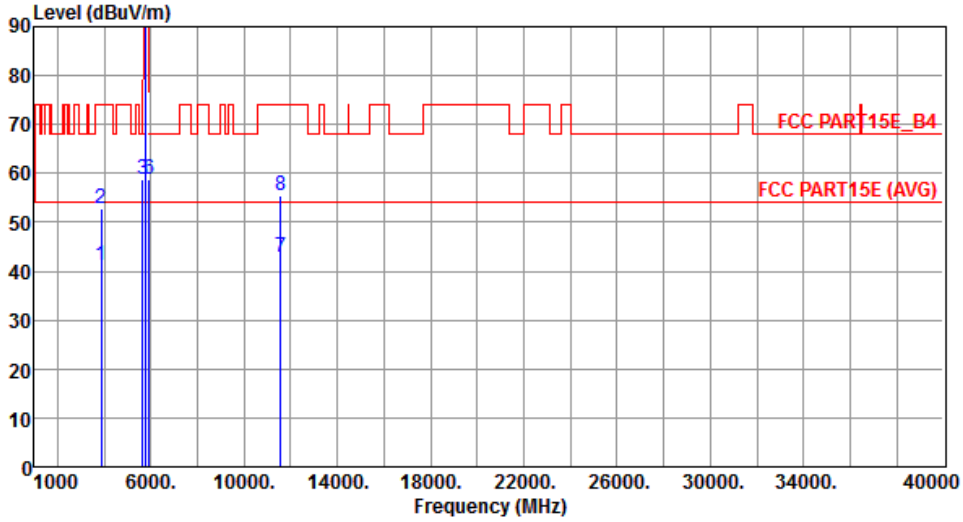
Modulation	VHT20	Test Freq. (MHz)	5745
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3830.00	45.61	54.00	-8.39	44.89	0.72	Average	100	300
2		3830.00	54.17	74.00	-19.83	53.45	0.72	Peak	100	300
3		5650.00	59.61	68.20	-8.59	54.42	5.19	Peak	253	213
4		5700.00	64.68	105.20	-40.52	59.40	5.28	Peak	253	213
5		5720.00	70.31	110.80	-40.49	65.00	5.31	Peak	253	213
6		5725.00	81.48	122.20	-40.72	76.16	5.32	Peak	253	213
7	*	5745.00	113.11			107.75	5.36	Average	253	213
8	*	5745.00	124.84			119.48	5.36	Peak	253	213
9		5925.00	60.06	68.20	-8.14	54.42	5.64	Peak	253	213
10		11490.00	45.47	54.00	-8.53	30.65	14.82	Average	100	317
11		11490.00	56.36	74.00	-17.64	41.54	14.82	Peak	100	317
12		17235.00	61.77	68.20	-6.43	44.06	17.71	Peak	100	130

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

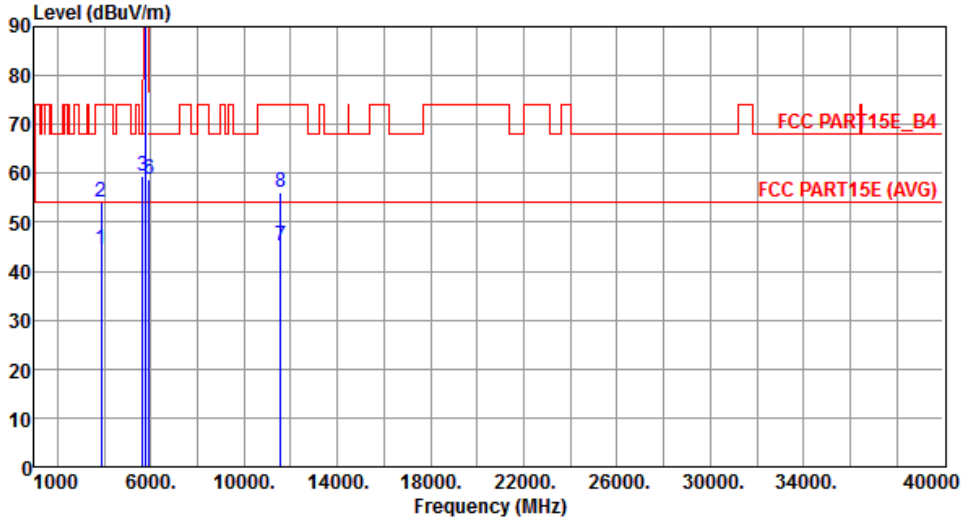
Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3856.66	41.28	54.00	-12.72	40.48	0.80	Average	100	4
2		3856.66	52.93	74.00	-21.07	52.13	0.80	Peak	100	4
3		5650.00	58.87	68.20	-9.33	53.68	5.19	Peak	100	352
4	*	5785.00	108.65			103.23	5.42	Average	100	352
5	*	5785.00	120.46			115.04	5.42	Peak	100	352
6		5925.00	58.76	68.20	-9.44	53.12	5.64	Peak	100	352
7		11570.00	42.85	54.00	-11.15	28.21	14.64	Average	100	37
8		11570.00	55.47	74.00	-18.53	40.83	14.64	Peak	100	37

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

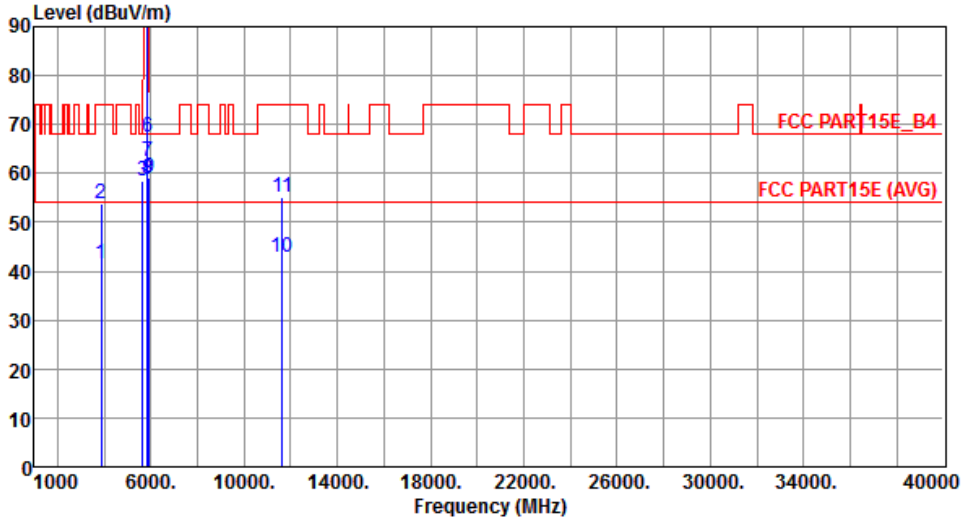
Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3856.88	44.56	54.00	-9.44	43.76	0.80	Average	100	301
2		3856.88	54.15	74.00	-19.85	53.35	0.80	Peak	100	301
3		5650.00	59.43	68.20	-8.77	54.24	5.19	Peak	252	204
4	*	5785.00	112.56			107.14	5.42	Average	252	204
5	*	5785.00	123.39			117.97	5.42	Peak	252	204
6		5925.00	58.73	68.20	-9.47	53.09	5.64	Peak	252	204
7		11570.00	45.09	54.00	-8.91	30.45	14.64	Average	100	308
8		11570.00	56.02	74.00	-17.98	41.38	14.64	Peak	100	308

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:"*" is Peak / Average value of fundamental frequency

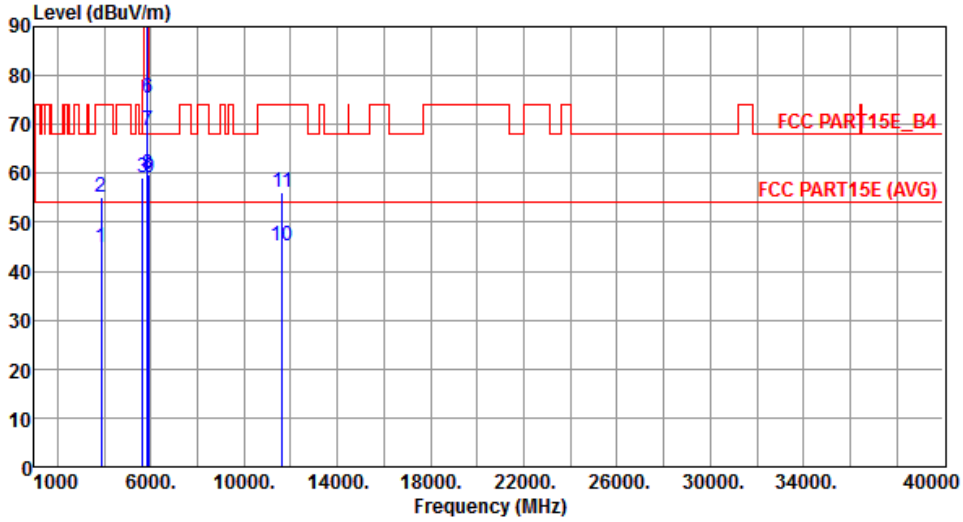
Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3883.33	41.63	54.00	-12.37	40.74	0.89	Average	108	4
2		3883.33	53.65	74.00	-20.35	52.76	0.89	Peak	108	4
3		5650.00	58.52	68.20	-9.68	53.33	5.19	Peak	126	351
4	*	5825.00	108.69			103.20	5.49	Average	126	351
5	*	5825.00	120.39			114.90	5.49	Peak	126	351
6		5850.00	67.42	122.20	-54.78	61.90	5.52	Peak	126	351
7		5855.00	62.38	110.80	-48.42	56.85	5.53	Peak	126	351
8		5875.00	58.64	105.20	-46.56	53.08	5.56	Peak	126	351
9		5925.00	59.15	68.20	-9.05	53.51	5.64	Peak	126	351
10		11650.00	42.70	54.00	-11.30	28.26	14.44	Average	100	42
11		11650.00	55.25	74.00	-18.75	40.81	14.44	Peak	100	42

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3:"*" is Peak / Average value of fundamental frequency

Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Vertical		

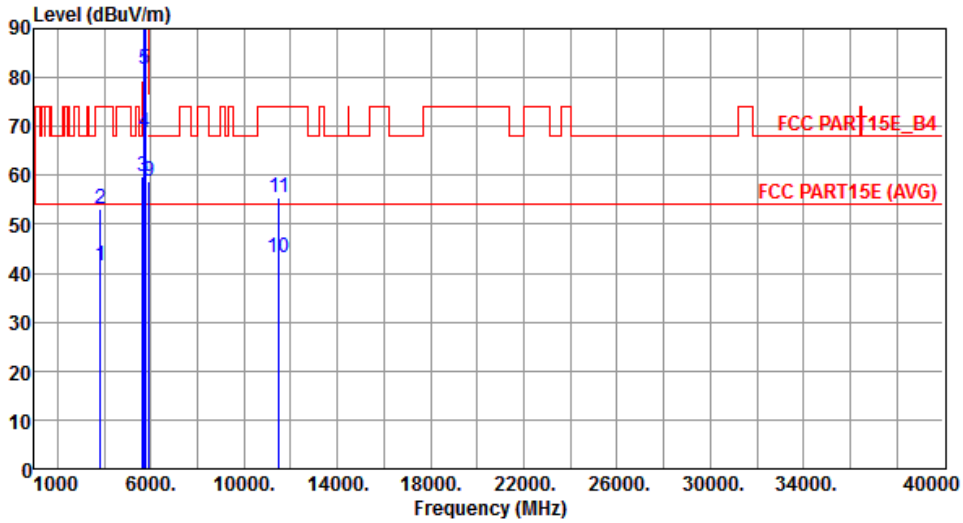


		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3883.33	44.93	54.00	-9.07	44.04	0.89	Average	100	301
2		3883.33	55.15	74.00	-18.85	54.26	0.89	Peak	100	301
3		5650.00	59.02	68.20	-9.18	53.83	5.19	Peak	209	202
4	*	5825.00	112.49			107.00	5.49	Average	209	202
5	*	5825.00	123.45			117.96	5.49	Peak	209	202
6		5850.00	75.22	122.20	-46.98	69.70	5.52	Peak	209	202
7		5855.00	68.91	110.80	-41.89	63.38	5.53	Peak	209	202
8		5875.00	59.84	105.20	-45.36	54.28	5.56	Peak	209	202
9		5925.00	59.10	68.20	-9.10	53.46	5.64	Peak	209	202
10		11650.00	45.33	54.00	-8.67	30.89	14.44	Average	100	307
11		11650.00	56.28	74.00	-17.72	41.84	14.44	Peak	100	307

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:"*" is Peak / Average value of fundamental frequency

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

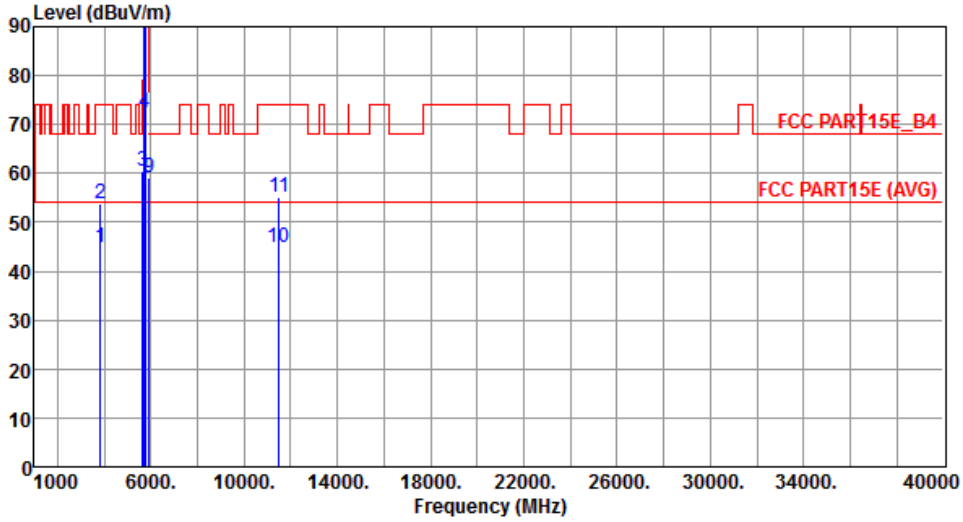
Modulation	VHT40	**Test Freq. (MHz)**	5755
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3836.66	41.50	54.00	-12.50	40.76	0.74	Average	109	2
2		3836.66	53.17	74.00	-20.83	52.43	0.74	Peak	109	2
3		5650.00	59.71	68.20	-8.49	54.52	5.19	Peak	100	352
4		5700.00	68.84	105.20	-36.36	63.56	5.28	Peak	100	352
5		5720.00	81.84	110.80	-28.96	76.53	5.31	Peak	100	352
6		5725.00	90.35	122.20	-31.85	85.03	5.32	Peak	100	352
7	*	5755.00	105.39			100.02	5.37	Average	100	352
8	*	5755.00	117.59			112.22	5.37	Peak	100	352
9		5925.00	58.62	68.20	-9.58	52.98	5.64	Peak	100	352
10		11510.00	43.01	54.00	-10.99	28.21	14.80	Average	100	53
11		11510.00	55.61	74.00	-18.39	40.81	14.80	Peak	100	53

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:"*" is Peak / Average value of fundamental frequency

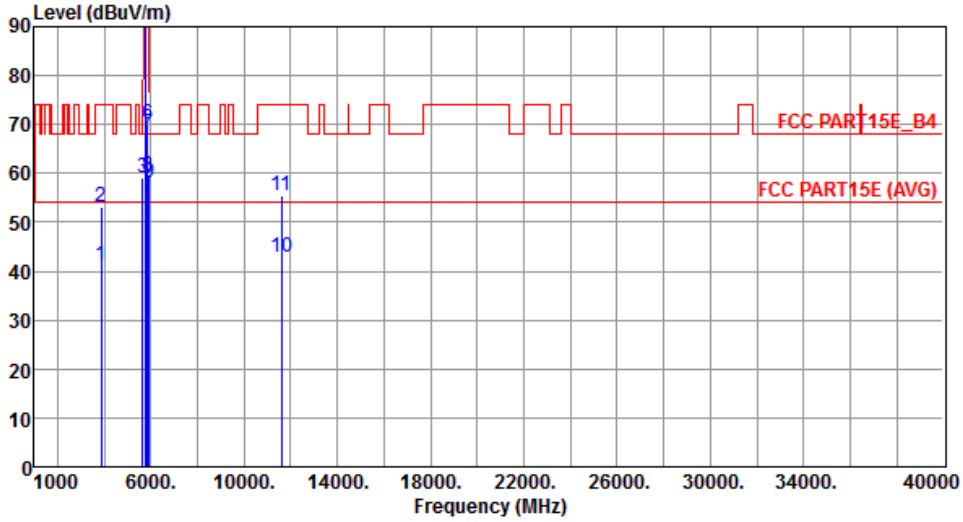
Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3836.66	44.82	54.00	-9.18	44.08	0.74	Average	100	303
2		3836.66	53.68	74.00	-20.32	52.94	0.74	Peak	100	303
3		5650.00	60.49	68.20	-7.71	55.30	5.19	Peak	277	131
4		5700.00	72.45	105.20	-32.75	67.17	5.28	Peak	277	131
5		5720.00	88.87	110.80	-21.93	83.56	5.31	Peak	277	131
6		5725.00	92.60	122.20	-29.60	87.28	5.32	Peak	277	131
7	*	5755.00	110.70			105.33	5.37	Average	277	131
8	*	5755.00	122.30			116.93	5.37	Peak	277	131
9		5925.00	59.24	68.20	-8.96	53.60	5.64	Peak	277	131
10		11510.00	44.95	54.00	-9.05	30.15	14.80	Average	100	303
11		11510.00	55.22	74.00	-18.78	40.42	14.80	Peak	100	303

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:"*" is Peak / Average value of fundamental frequency

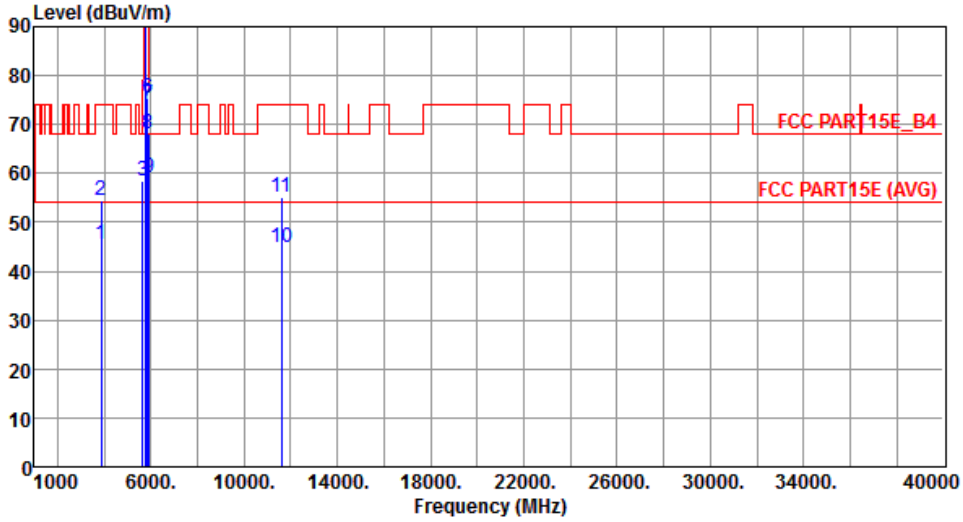
Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3863.33	41.19	54.00	-12.81	40.36	0.83	Average	100	1
2		3863.33	53.17	74.00	-20.83	52.34	0.83	Peak	100	1
3		5650.00	59.16	68.20	-9.04	53.97	5.19	Peak	100	353
4	*	5795.00	105.39			99.95	5.44	Average	100	353
5	*	5795.00	117.64			112.20	5.44	Peak	100	353
6		5850.00	70.01	122.20	-52.19	64.49	5.52	Peak	100	353
7		5855.00	68.07	110.80	-42.73	62.54	5.53	Peak	100	353
8		5875.00	59.37	105.20	-45.83	53.81	5.56	Peak	100	353
9		5925.00	58.24	68.20	-9.96	52.60	5.64	Peak	100	353
10		11590.00	42.91	54.00	-11.09	28.32	14.59	Average	100	59
11		11590.00	55.51	74.00	-18.49	40.92	14.59	Peak	100	59

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:"*" is Peak / Average value of fundamental frequency

Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Vertical		

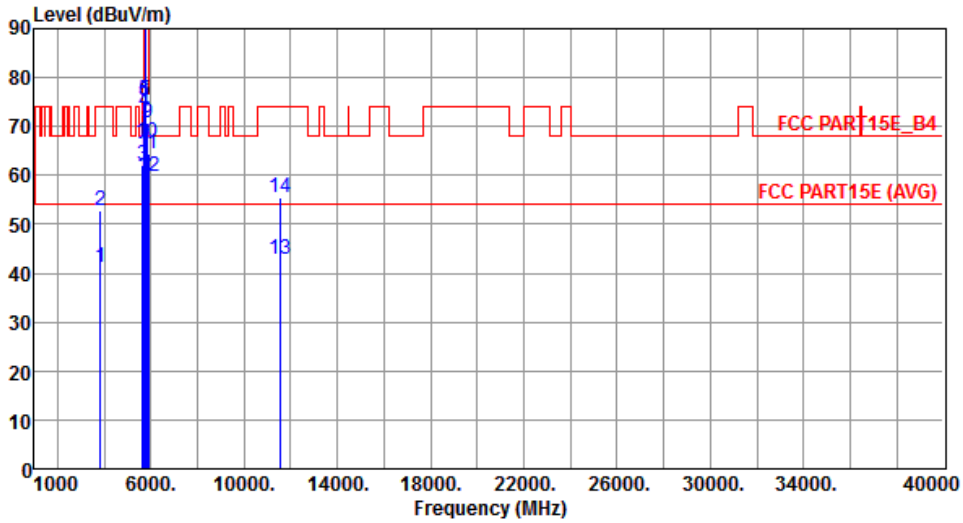


		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3863.33	45.45	54.00	-8.55	44.62	0.83	Average	100	168
2		3863.33	54.37	74.00	-19.63	53.54	0.83	Peak	100	168
3		5650.00	58.59	68.20	-9.61	53.40	5.19	Peak	274	302
4	*	5795.00	110.99			105.55	5.44	Average	274	302
5	*	5795.00	122.24			116.80	5.44	Peak	274	302
6		5850.00	75.43	122.20	-46.77	69.91	5.52	Peak	274	302
7		5855.00	74.09	110.80	-36.71	68.56	5.53	Peak	274	302
8		5875.00	68.03	105.20	-37.17	62.47	5.56	Peak	274	302
9		5925.00	59.18	68.20	-9.02	53.54	5.64	Peak	274	302
10		11590.00	44.85	54.00	-9.15	30.26	14.59	Average	100	297
11		11590.00	55.16	74.00	-18.84	40.57	14.59	Peak	100	297

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:"*" is Peak / Average value of fundamental frequency

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

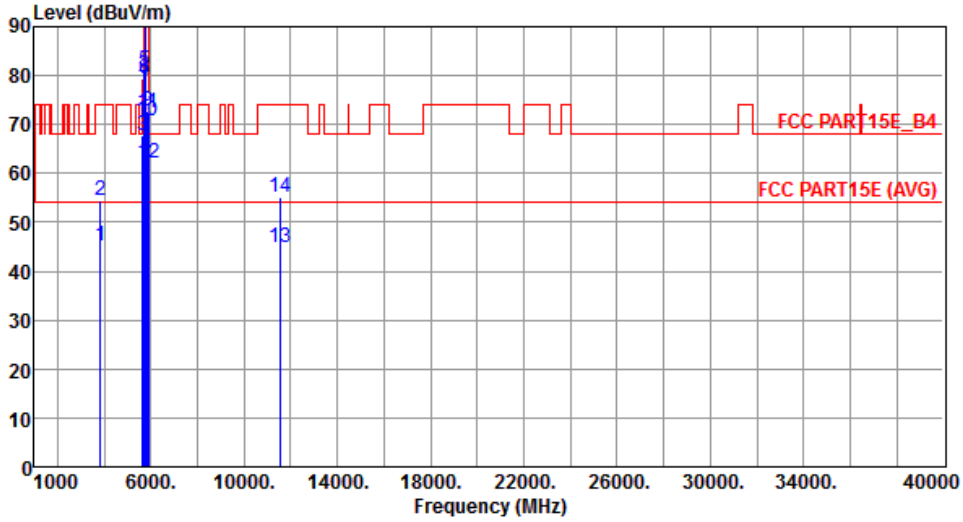
Modulation	VHT80	**Test Freq. (MHz)**	5775
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		3850.00	41.20	54.00	-12.80	40.42	0.78	Average	100	3
2		3850.00	52.86	74.00	-21.14	52.08	0.78	Peak	100	3
3		5650.00	62.26	68.20	-5.94	57.07	5.19	Peak	100	352
4		5700.00	72.90	105.20	-32.30	67.62	5.28	Peak	100	352
5		5720.00	75.46	110.80	-35.34	70.15	5.31	Peak	100	352
6		5725.00	75.20	122.20	-47.00	69.88	5.32	Peak	100	352
7	*	5775.00	98.73			93.32	5.41	Average	100	352
8	*	5775.00	112.03			106.62	5.41	Peak	100	352
9		5850.00	70.74	122.20	-51.46	65.22	5.52	Peak	100	352
10		5855.00	66.69	110.80	-44.11	61.16	5.53	Peak	100	352
11		5875.00	64.34	105.20	-40.86	58.78	5.56	Peak	100	352
12		5925.00	59.91	68.20	-8.29	54.27	5.64	Peak	100	352
13		11550.00	42.95	54.00	-11.05	28.26	14.69	Average	100	63
14		11550.00	55.57	74.00	-18.43	40.88	14.69	Peak	100	63

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:"*" is Peak / Average value of fundamental frequency

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		3850.00	45.11	54.00	-8.89	44.33	0.78	Average	100	302
2		3850.00	54.41	74.00	-19.59	53.63	0.78	Peak	100	302
3		5650.00	67.76	68.20	-0.44	62.57	5.19	Peak	255	299
4		5700.00	78.88	105.20	-26.32	73.60	5.28	Peak	255	299
5		5720.00	81.18	110.80	-29.62	75.87	5.31	Peak	255	299
6		5725.00	79.30	122.20	-42.90	73.98	5.32	Peak	255	299
7	*	5775.00	104.08			98.67	5.41	Average	255	299
8	*	5775.00	116.86			111.45	5.41	Peak	255	299
9		5850.00	72.65	122.20	-49.55	67.13	5.52	Peak	255	299
10		5855.00	70.62	110.80	-40.18	65.09	5.53	Peak	255	299
11		5875.00	72.53	105.20	-32.67	66.97	5.56	Peak	255	299
12		5925.00	61.97	68.20	-6.23	56.33	5.64	Peak	255	299
13		11550.00	44.98	54.00	-9.02	30.29	14.69	Average	100	310
14		11550.00	54.98	74.00	-19.02	40.29	14.69	Peak	100	310

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:"*" is Peak / Average value of fundamental frequency

3.6 Frequency Stability

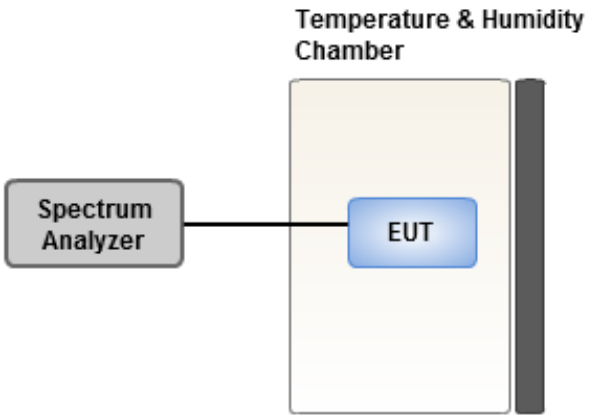
3.6.1 Limit of Frequency Stability

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	5.76	5.91	5.55	5.39
T20°CVmin	5.29	5.37	5.65	6.05
T50°CVnom	5.32	6.27	5.31	5.69
T40°CVnom	5.70	5.96	5.73	6.26
T30°CVnom	5.96	6.03	6.07	5.94
T20°CVnom	6.08	5.59	5.43	5.96
T10°CVnom	5.48	5.43	6.28	5.47
T0°CVnom	6.16	5.88	6.03	5.62
T-10°CVnom	6.11	5.46	5.42	5.82
T-20°CVnom	5.49	6.40	6.32	5.73
T-30°CVnom	5.85	6.04	5.69	5.17
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	5.54	5.53	4.84	4.84
T20°CVmin	5.29	4.74	5.46	5.04
T50°CVnom	5.12	4.86	4.95	5.41
T40°CVnom	4.78	5.62	5.45	5.24
T30°CVnom	5.17	4.67	4.92	4.98
T20°CVnom	4.93	5.16	4.96	5.03
T10°CVnom	5.25	4.80	5.09	5.48
T0°CVnom	5.08	4.96	5.04	5.07
T-10°CVnom	5.03	5.49	5.07	5.32
T-20°CVnom	5.71	5.48	4.52	5.30
T-30°CVnom	5.42	5.36	5.14	4.72
Vnom [Vac]: 120		Vmax [Vac]: 138		Vmin [Vac]: 102
Tnom [°C]: 20		Tmax [°C]: 50		Tmin [°C]: -30

4 Test laboratory information

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

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

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

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

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

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

═END═