FCC Test Report

FCC ID	:	**I88WRE6505V2**
Equipment	:	**Wireless AC750 Range Extender**
Model No.	:	**WRE6505 v2**
Brand Name	:	**ZYXEL**
Applicant	:	**Zyxel Communications Corporation**
Address	:	**No.2 Industry East RD. IX, Hsinchu Science Park, Hsinchu 30075, Taiwan, R.O.C**
Standard	:	**47 CFR FCC Part 15.407**
Received Date	:	**May 04, 2016**
Tested Date	:	**Aug. 11 ~ Aug. 12, 2016**

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

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 9
1.3 Test Setup Chart 9
1.4 The Equipment List 10
1.5 Testing Applied Standards 11
1.6 Measurement Uncertainty 11

2 TEST CONFIGURATION 12

2.1 Testing Condition 12
2.2 The Worst Test Modes and Channel Details 12

3 TRANSMITTER TEST RESULTS 14

3.1 Conducted Emissions 14
3.2 Emission Bandwidth 23
3.3 RF Output Power 26
3.4 Peak Power Spectral Density 28
3.5 Transmitter Radiated and Band Edge Emissions 32
3.6 Frequency Stability 97

4 TEST LABORATORY INFORMATION 99

Release Record

Report No.	Version	Description	Issued Date
FR650401AN	Rev. 01	Initial issue	Oct. 21, 2016

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.541MHz 37.35 (Margin -8.65dB) - AV	Pass
15.407(b) 15.209	Radiated Emissions	[dBuV/m at 3m]: 5150.00MHz 53.75 (Margin -0.25dB) - AV	Pass
15.407(a)	Emission Bandwidth	Meet the requirement of limit	Pass
15.407(e)	6dB bandwidth	Meet the requirement of limit	Pass
15.407(a)	RF Output Power	Max Power [dBm]: 5150-5250MHz: 17.61 5725-5850MHz: 17.26	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

The following versions are provided to this EUT.

sample version	Internal DDR Size	Working voltage of DDR
VE3	32M	DDR1 voltage: 2.5V
VE4	64M	DDR2 voltabe:1.8V

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]	1	6-54 Mbps
5150-5250	n (HT20)	5180-5240	36-48 [4]	1	MCS 0-7
5150-5250	n (HT40)	5190-5230	38-46 [2]	1	MCS 0-7
5150-5250	ac (VHT20)	5180-5240	36-48 [4]	1	MCS 0-9
5150-5250	ac (VHT40)	5190-5230	38-46 [2]	1	MCS 0-9
5150-5250	ac (VHT80)	5210	42 [1]	1	MCS 0-9
Note 1: RF output power specifies that Maximum Conducted Output Power. Note 2: 802.11a/n/ac uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.					

RF General Information					
Frequency Range (MHz)	**IEEE Std. 802.11**	**Ch. Freq. (MHz)**	**Channel Number**	**Transmit Chains (N_{TX})**	**Data Rate / MCS**
5725-5850	a	5745-5825	149-165 [5]	1	6-54 Mbps
5725-5850	n (HT20)	5745-5825	149-165 [5]	1	MCS 0-7
5725-5850	n (HT40)	5755-5795	151-159 [2]	1	MCS 0-7
5725-5850	ac (VHT20)	5745-5825	149-165 [5]	1	MCS 0-9
5725-5850	ac (VHT40)	5755-5795	151-159 [2]	1	MCS 0-9
5725-5850	ac (VHT80)	5775	155 [1]	1	MCS 0-9
Note 1: RF output power specifies that Maximum Conducted Output Power. Note 2: 802.11a/n/ac uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.					

1.1.2 Antenna Details

Model	Type	Connector	Operating Frequencies (MHz) / Antenna Gain (dBi)		
			2400~2483.5	5150~5250	5725~5850
ALA110-052026	PIFA	N/A	4.70836	--	--
ALA160-222034	PIFA	N/A	2.82	3.43	3.43

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	100-240V, 0.15A, 50/60Hz

1.1.4 Accessories

Accessories		
No.	**Equipment**	**Description**
1	RJ45 cable	0.94m non-shielded w/o core

1.1.5 Channel List

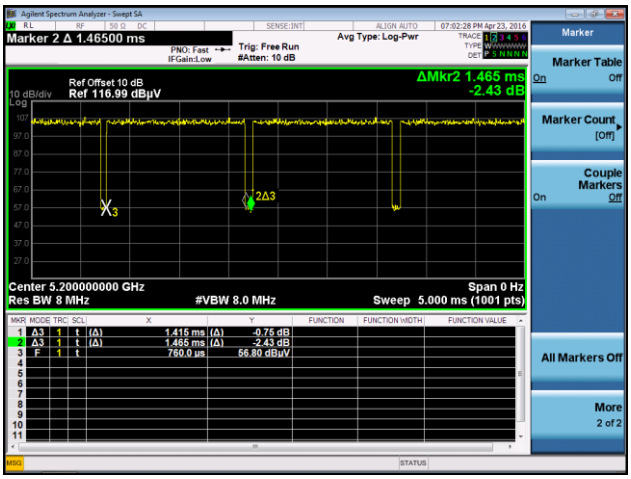
For Frequency band 5150-5250 MHz			
802.11 a / HT20 / VHT20		HT40 / VHT40	
Channel	**Frequency(MHz)**	**Channel**	**Frequency(MHz)**
36	5180	38	5190
40	5200	46	5230
44	5220	VHT 80	
48	5240	42	5210

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

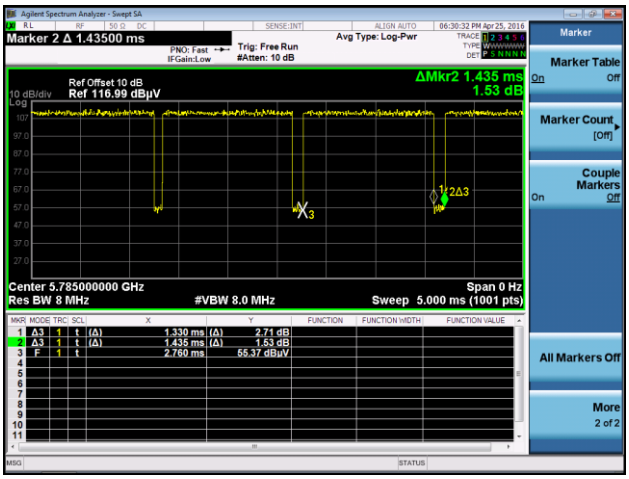
1.1.6 Test Tool and Duty Cycle

Test Tool	MP_TEST, version : 1.3.8.0		
Duty Cycle and Duty Factor	**Mode**	**Duty cycle (%)**	**Duty factor (dB)**
	11a	96.59%	0.15
	VHT20	92.68%	0.33
	VHT40	88.88%	0.51
	VHT80	76.20%	1.18

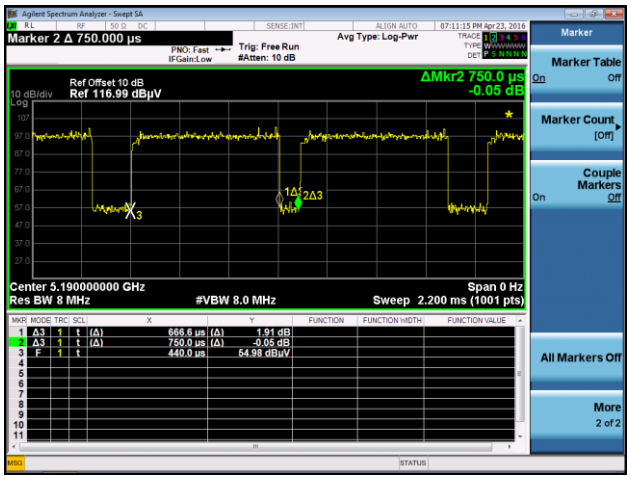
11a



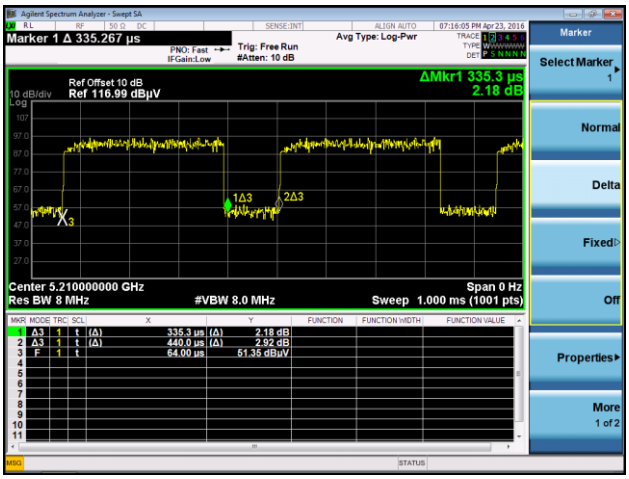
VHT20



VHT40



VHT80



1.1.7 Power Setting

For Frequency band 5150-5250 MHz		
Modulation Mode	**Test Frequency (MHz)**	**Power Set**
11a	5180	42
11a	5200	46
11a	5240	42
HT20	5180	42
HT20	5200	43
HT20	5240	41
HT40	5190	37
HT40	5230	41
VHT20	5180	42
VHT20	5200	43
VHT20	5240	41
VHT40	5190	37
VHT40	5230	41
VHT80	5210	33

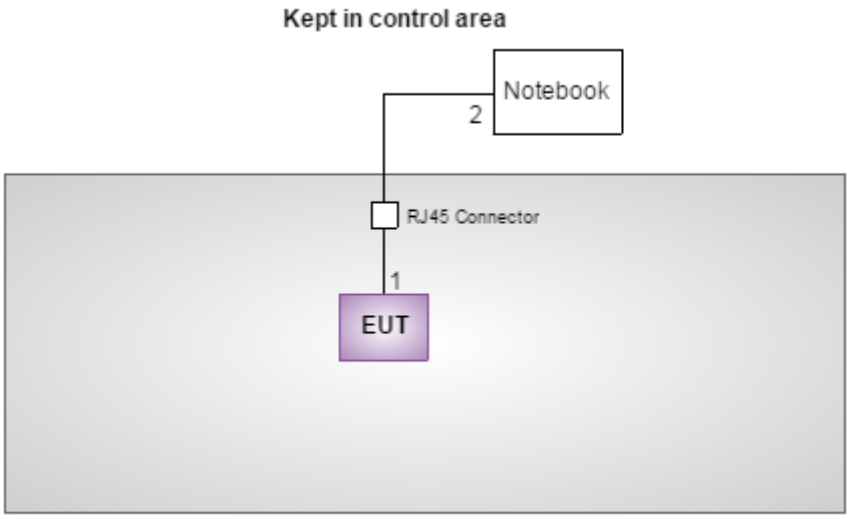
For Frequency band 5725~5850 MHz		
Modulation Mode	**Test Frequency (MHz)**	**Power Set**
11a	5745	32
11a	5785	31
11a	5825	30
HT20	5745	32
HT20	5785	31
HT20	5825	30
HT40	5755	32
HT40	5795	32
VHT20	5745	32
VHT20	5785	31
VHT20	5825	30
VHT40	5755	32
VHT40	5795	32
VHT80	5775	31

1.2 Local Support Equipment List

Support Equipment List					
No.	**Equipment**	**Brand**	**Model**	**S/N**	**Signal cable / Length (m)**
1	Notebook	DELL	Latitude E6430	C0GB4X1	RJ45, 10m non-shielded.

1.3 Test Setup Chart

Test Setup Diagram



1. RJ45, 0.94m non-shielded
2. RJ45, 10m 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**
EMC Receiver	R&S	ESCS 30	100169	Oct. 21, 2015	Oct. 20, 2016
LISN	R&S	ENV216	101579	Jan. 11, 2016	Jan. 10, 2017
RF Cable-CON	EMC	EMCCFD300-BM-BM-6000	50821	Dec. 21, 2015	Dec. 20, 2016
Measurement Software	AUDIX	e3	6.120210k	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission				
Test Site	966 chamber 3 / (03CH03-WS)				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	Agilent	N9010A	MY53400091	Sep. 14, 2015	Sep. 13, 2016
Receiver	Agilent	N9038A	MY53290044	Oct. 14, 2015	Oct. 13, 2016
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-563	Dec. 29, 2015	Dec. 28, 2016
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1206	Feb. 24, 2016	Feb. 23, 2017
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 04, 2015	Nov. 03, 2016
Preamplifier	EMC	EMC02325	980187	Sep. 21, 2015	Sep. 20, 2016
Preamplifier	Agilent	83017A	MY53270014	Sep. 07, 2015	Sep. 06, 2016
Preamplifier	EMC	EMC184045B	980192	Sep. 01, 2015	Aug. 31, 2016
RF cable-3M	HUBER+SUHNER	SUCOFLEX104	MY22620/4	Feb. 05, 2016	Feb. 04, 2017
RF cable-8M	HUBER+SUHNER	SUCOFLEX104	MY22600/4	Feb. 05, 2016	Feb. 04, 2017
RF cable-1M	HUBER+SUHNER	SUCOFLEX104	MY22624/4	Feb. 05, 2016	Feb. 04, 2017
LF cable-0.8M	EMC	EMC8D-NM-NM-800	EMC8D-NM-NM-800-001	Feb. 05, 2016	Feb. 04, 2017
LF cable-3M	EMC	EMC8D-NM-NM-3000	131103	Feb. 05, 2016	Feb. 04, 2017
LF cable-13M	EMC	EMC8D-NM-NM-13000	131104	Feb. 05, 2016	Feb. 04, 2017
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 16, 2015	Nov. 15, 2016
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	Feb. 17, 2016	Feb. 16, 2017
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Nov. 27, 2015	Nov. 26, 2016
Power Meter	Anritsu	ML2495A	1241002	Sep. 21, 2015	Sep. 20, 2016
Power Sensor	Anritsu	MA2411B	1207366	Sep. 21, 2015	Sep. 20, 2016
AC POWER SOURCE	APC	AFC-500W	F312060012	Oct. 26, 2015	Oct. 25, 2016
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 v01r03
FCC KDB 644545 D03 Guidance for IEEE 802 11ac New Rules v01
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	±5.37 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 / 62%	Howard Huang
Radiated Emissions	03CH03-WS	24-25°C / 60-63%	Warren Lee
RF Conducted	TH01-WS	22°C / 65%	Brad Wu

- FCC site registration No.: 207696
- IC site registration No.: 10807C-1

2.2 The Worst Test Modes and Channel Details

For Frequency band 5150-5250 MHz				
Test item	**Modulation Mode**	**Test Frequency (MHz)**	**Data Rate (Mbps) / MCS**	**Test Configuration**
Conducted Emissions	11a	5200	6 Mbps	1, 2
Radiated Emissions ≤1GHz	11a	5200	6 Mbps	1, 2
RF Output Power	11a	5180 / 5200 / 5240	6 Mbps	1
	HT20	5180 / 5200 / 5240	MCS 0	
	HT40	5190 / 5230	MCS 0	
	VHT20	5180 / 5200 / 5240	MCS 0	
	VHT40	5190 / 5230	MCS 0	
	VHT80	5210	MCS 0	
Radiated Emissions >1GHz Emission Bandwidth Peak Power Spectral Density	11a	5180 / 5200 / 5240	6 Mbps	1
	VHT20	5180 / 5200 / 5240	MCS 0	
	VHT40	5190 / 5230	MCS 0	
	VHT80	5210	MCS 0	
Frequency Stability	Un-modulation	5200	---	1

NOTE:

1) The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **X-plane** results were found as the worst case and were shown in this report.
2) The EUT has two versions for different Internal DDR Size and Working voltage of DDR (Sample 1: VE3; Sample 2: VE4).
3) The test configurations are listed as follows:
   Configuration 1 : Sample 1: VE3
   Configuration 2 : Sample 2: VE4

For Frequency band 5725-5850 MHz				
Test item	**Modulation Mode**	**Test Frequency (MHz)**	**Data Rate (Mbps) / MCS**	**Test Configuration**
Conducted Emissions	11a	5745	6 Mbps	1, 2
Radiated Emissions ≤1GHz	11a	5745	6 Mbps	1, 2
RF Output Power	11a	5745 / 5785 / 5825	6 Mbps	1
	HT20	5745 / 5785 / 5825	MCS 0	
	HT40	5755 / 5795	MCS 0	
	VHT20	5745 / 5785 / 5825	MCS 0	
	VHT40	5755 / 5795	MCS 0	
	VHT80	5775	MCS 0	
Radiated Emissions >1GHz Emission Bandwidth 6dB bandwidth Peak Power Spectral Density	11a	5745 / 5785 / 5825	6 Mbps	1
	VHT20	5745 / 5785 / 5825	MCS 0	
	VHT40	5755 / 5795	MCS 0	
	VHT80	5775	MCS 0	
Frequency Stability	Un-modulation	5785	---	1

NOTE:

1) The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **X-plane** results were found as the worst case and were shown in this report.
2) The EUT has two versions for different Internal DDR Size and Working voltage of DDR (Sample 1: VE3; Sample 2: VE4).
3) The test configurations are listed as follows:
   Configuration 1 : Sample 1: VE3
   Configuration 2 : Sample 2: VE4

3 Transmitter Test Results

3.1 Conducted Emissions

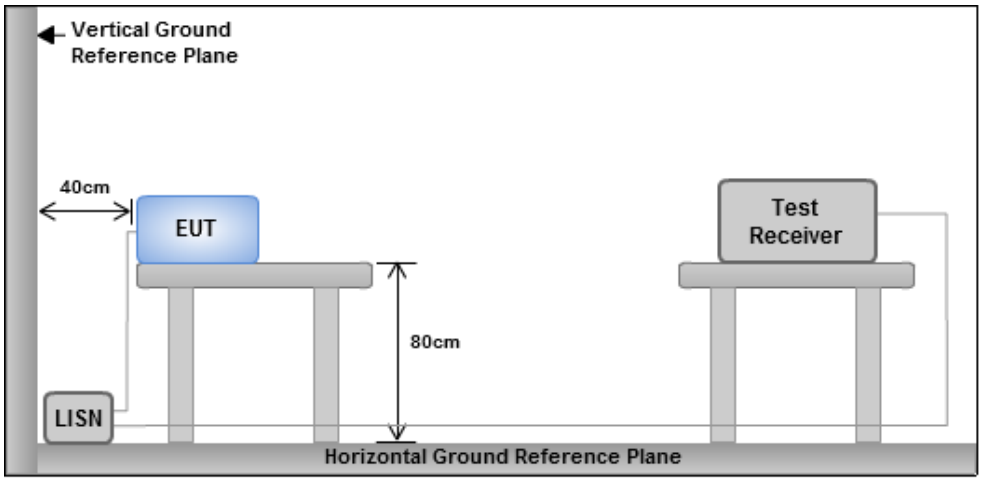
3.1.1 Limit of Conducted Emissions

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

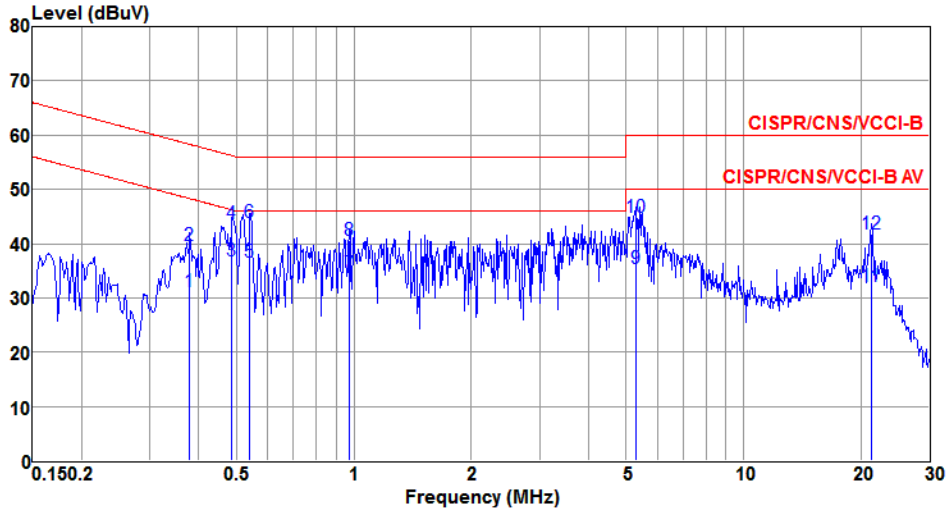


Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

Configuration 1 : Sample 1: VE3

3.1.4 Test Result of Conducted Emissions

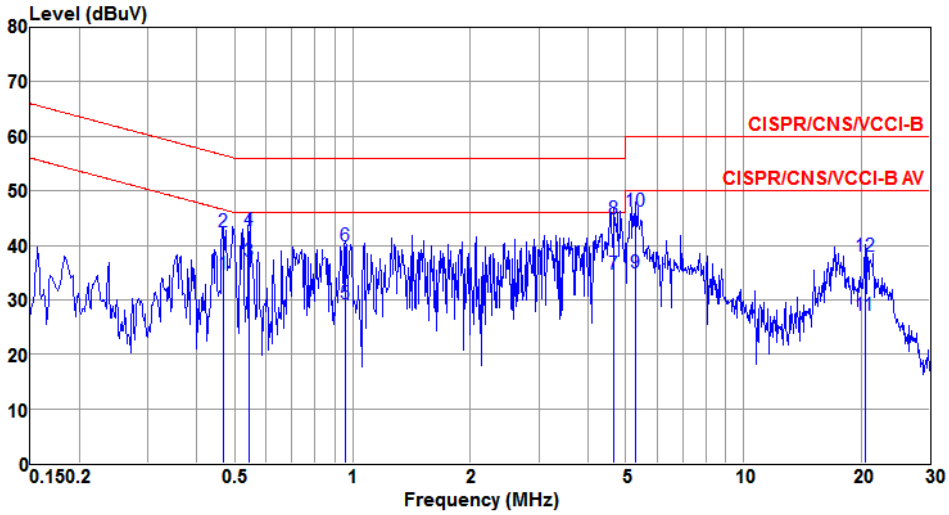
Modulation	11a	Test Freq. (MHz)	5200
Power Phase	Line		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.379	31.08	48.30	-17.22	21.42	9.63	0.03	Average
2	0.379	39.77	58.30	-18.53	30.11	9.63	0.03	QP
3	0.486	36.79	46.23	-9.44	27.12	9.63	0.04	Average
4	0.486	43.59	56.23	-12.64	33.92	9.63	0.04	QP
5@	0.541	36.65	46.00	-9.35	26.98	9.63	0.04	Average
6	0.541	43.90	56.00	-12.10	34.23	9.63	0.04	QP
7	0.974	34.40	46.00	-11.60	24.71	9.63	0.06	Average
8	0.974	40.67	56.00	-15.33	30.98	9.63	0.06	QP
9	5.305	35.33	50.00	-14.67	25.55	9.65	0.13	Average
10	5.305	44.94	60.00	-15.06	35.16	9.65	0.13	QP
11	21.260	32.21	50.00	-17.79	22.35	9.67	0.19	Average
12	21.260	41.80	60.00	-18.20	31.94	9.67	0.19	QP

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

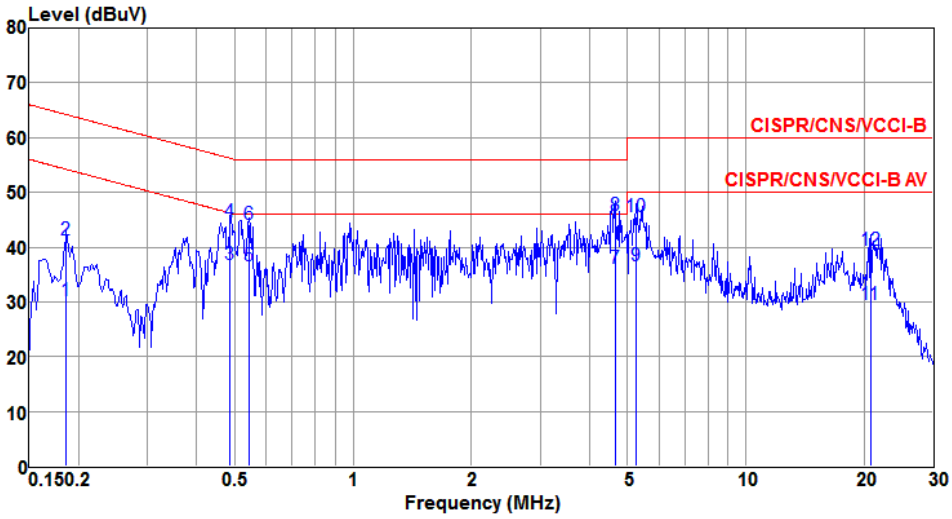
Modulation	11a	Test Freq. (MHz)	5200
Power Phase	Neutral		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.466	34.62	46.58	-11.96	24.95	9.63	0.04	Average
2	0.466	42.53	56.58	-14.05	32.86	9.63	0.04	QP
3@	0.544	37.07	46.00	-8.93	27.40	9.63	0.04	Average
4	0.544	42.61	56.00	-13.39	32.94	9.63	0.04	QP
5	0.958	29.22	46.00	-16.78	19.54	9.62	0.06	Average
6	0.958	39.80	56.00	-16.20	30.12	9.62	0.06	QP
7	4.672	34.79	46.00	-11.21	25.02	9.64	0.13	Average
8	4.672	44.85	56.00	-11.15	35.08	9.64	0.13	QP
9	5.277	34.90	50.00	-15.10	25.12	9.65	0.13	Average
10	5.277	46.16	60.00	-13.84	36.38	9.65	0.13	QP
11	20.486	27.18	50.00	-22.82	17.22	9.78	0.18	Average
12	20.486	38.11	60.00	-21.89	28.15	9.78	0.18	QP

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

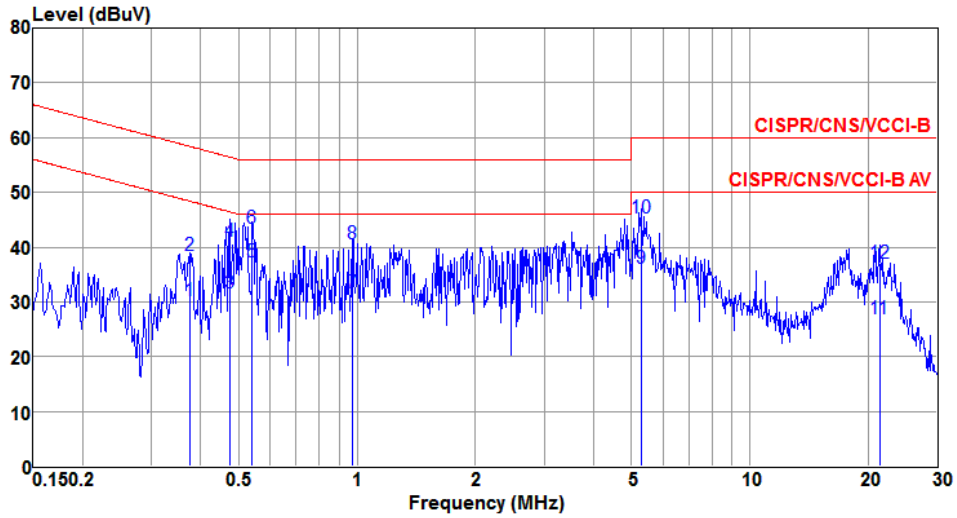
Modulation	11a	Test Freq. (MHz)	5745
Power Phase	Line		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.186	30.25	54.20	-23.95	20.59	9.64	0.02	Average
2	0.186	41.34	64.20	-22.86	31.68	9.64	0.02	QP
3@	0.486	36.85	46.23	-9.38	27.18	9.63	0.04	Average
4	0.486	44.73	56.23	-11.50	35.06	9.63	0.04	QP
5	0.544	36.61	46.00	-9.39	26.94	9.63	0.04	Average
6	0.544	44.25	56.00	-11.75	34.58	9.63	0.04	QP
7	4.647	36.19	46.00	-9.81	26.41	9.65	0.13	Average
8	4.647	45.86	56.00	-10.14	36.08	9.65	0.13	QP
9	5.249	36.65	50.00	-13.35	26.87	9.65	0.13	Average
10	5.249	45.65	60.00	-14.35	35.87	9.65	0.13	QP
11	20.814	29.55	50.00	-20.45	19.69	9.68	0.18	Average
12	20.814	39.44	60.00	-20.56	29.58	9.68	0.18	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)	5745
Power Phase	Neutral		

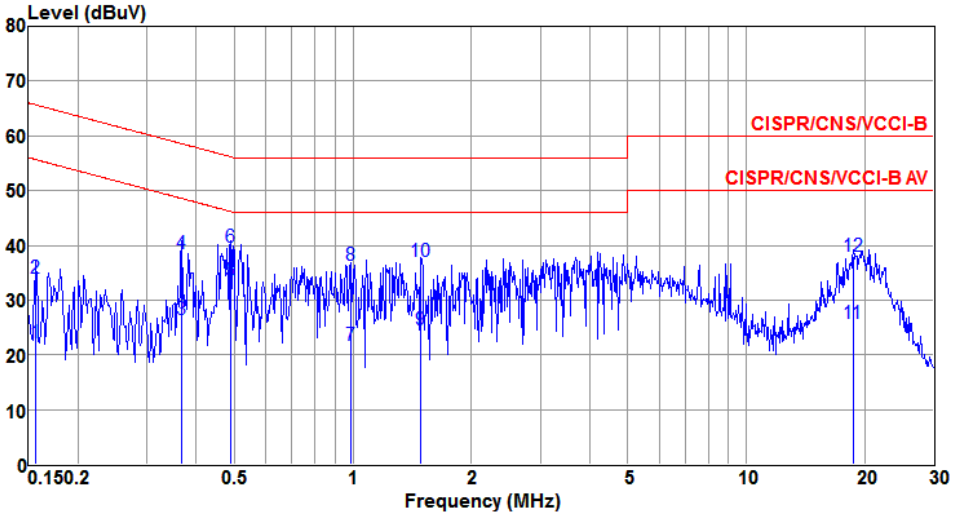


	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.375	30.18	48.39	-18.21	20.52	9.63	0.03	Average
2	0.375	38.43	58.39	-19.96	28.77	9.63	0.03	QP
3	0.474	31.68	46.45	-14.77	22.01	9.63	0.04	Average
4	0.474	41.10	56.45	-15.35	31.43	9.63	0.04	QP
5@	0.541	37.35	46.00	-8.65	27.68	9.63	0.04	Average
6	0.541	43.32	56.00	-12.68	33.65	9.63	0.04	QP
7	0.974	31.64	46.00	-14.36	21.96	9.62	0.06	Average
8	0.974	40.62	56.00	-15.38	30.94	9.62	0.06	QP
9	5.277	36.12	50.00	-13.88	26.34	9.65	0.13	Average
10	5.277	45.26	60.00	-14.74	35.48	9.65	0.13	QP
11	21.373	26.94	50.00	-23.06	16.98	9.77	0.19	Average
12	21.373	37.01	60.00	-22.99	27.05	9.77	0.19	QP

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

Configuration 2 : Sample 2: VE4

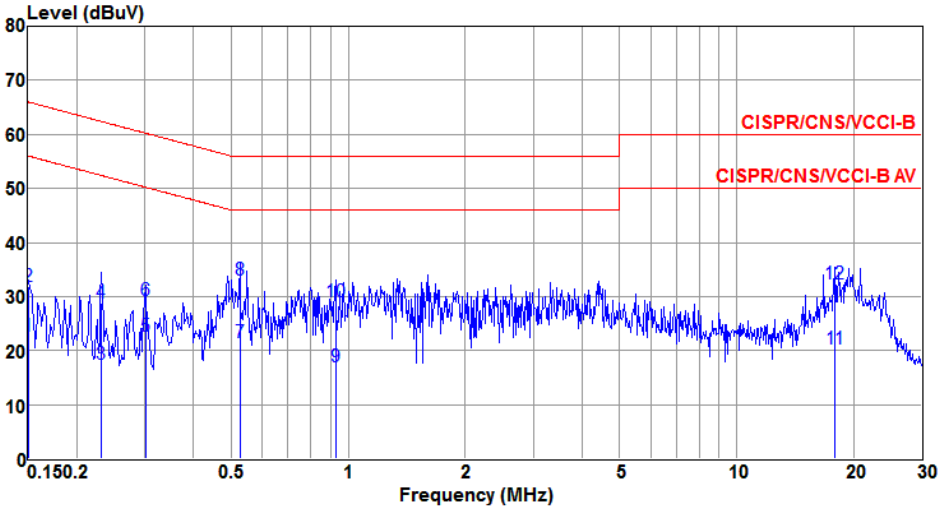
Modulation	11a	**Test Freq. (MHz)**	5200
Power Phase	Line		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.156	22.23	55.65	-33.42	12.58	9.63	0.02	Average
2	0.156	34.07	65.65	-31.58	24.42	9.63	0.02	QP
3	0.367	26.49	48.56	-22.07	16.83	9.63	0.03	Average
4	0.367	38.36	58.56	-20.20	28.70	9.63	0.03	QP
5@	0.489	33.59	46.19	-12.60	23.92	9.63	0.04	Average
6	0.489	39.71	56.19	-16.48	30.04	9.63	0.04	QP
7	0.989	21.70	46.00	-24.30	12.01	9.63	0.06	Average
8	0.989	36.24	56.00	-19.76	26.55	9.63	0.06	QP
9	1.487	24.49	46.00	-21.51	14.80	9.62	0.07	Average
10	1.487	37.03	56.00	-18.97	27.34	9.62	0.07	QP
11	18.721	25.83	50.00	-24.17	15.96	9.69	0.18	Average
12	18.721	38.11	60.00	-21.89	28.24	9.69	0.18	QP

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

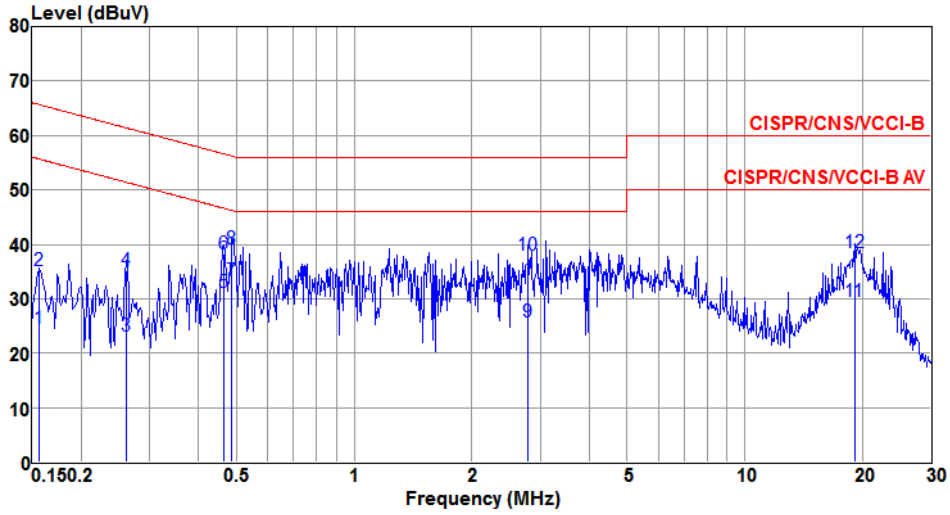
Modulation	11a	Test Freq. (MHz)	5200
Power Phase	Neutral		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.150	22.72	56.00	-33.28	13.08	9.62	0.02	Average
2	0.150	31.79	66.00	-34.21	22.15	9.62	0.02	QP
3	0.232	17.46	52.39	-34.93	7.82	9.62	0.02	Average
4	0.232	28.85	62.39	-33.54	19.21	9.62	0.02	QP
5	0.300	22.66	50.24	-27.58	13.00	9.63	0.03	Average
6	0.300	29.37	60.24	-30.87	19.71	9.63	0.03	QP
7	0.527	21.57	46.00	-24.43	11.90	9.63	0.04	Average
8@	0.527	33.03	56.00	-22.97	23.36	9.63	0.04	QP
9	0.928	17.07	46.00	-28.93	7.39	9.62	0.06	Average
10	0.928	29.07	56.00	-26.93	19.39	9.62	0.06	QP
11	17.944	20.38	50.00	-29.62	10.43	9.77	0.18	Average
12	17.944	32.23	60.00	-27.77	22.28	9.77	0.18	QP

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

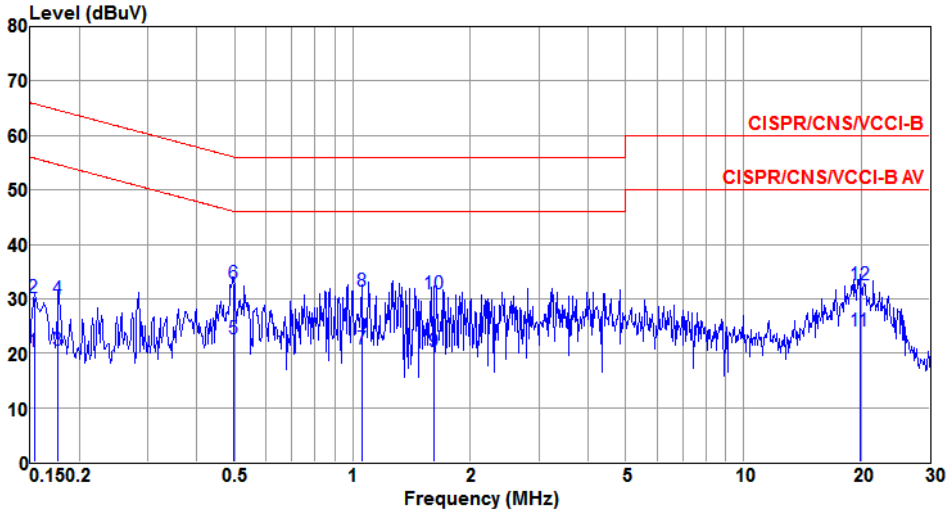
Modulation	11a	Test Freq. (MHz)	5745
Power Phase	Line		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.156	24.50	55.65	-31.15	14.85	9.63	0.02	Average
2	0.156	35.23	65.65	-30.42	25.58	9.63	0.02	QP
3	0.262	23.20	51.38	-28.18	13.54	9.64	0.02	Average
4	0.262	35.25	61.38	-26.13	25.59	9.64	0.02	QP
5	0.464	31.22	46.63	-15.41	21.56	9.63	0.03	Average
6	0.464	38.32	56.63	-18.31	28.66	9.63	0.03	QP
7@	0.486	33.29	46.23	-12.94	23.62	9.63	0.04	Average
8	0.486	39.29	56.23	-16.94	29.62	9.63	0.04	QP
9	2.794	25.62	46.00	-20.38	15.89	9.63	0.10	Average
10	2.794	38.03	56.00	-17.97	28.30	9.63	0.10	QP
11	19.122	29.56	50.00	-20.44	19.69	9.69	0.18	Average
12	19.122	38.56	60.00	-21.44	28.69	9.69	0.18	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)	5745
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	20.32	55.82	-35.50	10.68	9.62	0.02	Average
2	0.153	30.21	65.82	-35.61	20.57	9.62	0.02	QP
3	0.177	20.64	54.64	-34.00	11.00	9.62	0.02	Average
4	0.177	29.94	64.64	-34.70	20.30	9.62	0.02	QP
5@	0.497	22.73	46.05	-23.32	13.06	9.63	0.04	Average
6	0.497	32.69	56.05	-23.36	23.02	9.63	0.04	QP
7	1.054	20.81	46.00	-25.19	11.13	9.62	0.06	Average
8	1.054	31.30	56.00	-24.70	21.62	9.62	0.06	QP
9	1.610	20.27	46.00	-25.73	10.57	9.63	0.07	Average
10	1.610	30.90	56.00	-25.10	21.20	9.63	0.07	QP
11	19.845	24.07	50.00	-25.93	14.12	9.78	0.17	Average
12	19.845	32.52	60.00	-27.48	22.57	9.78	0.17	QP

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

3.2 Emission Bandwidth

3.2.1 Limit of Emission bandwidth

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

3.2.2 Test Procedures

26dB Bandwidth

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

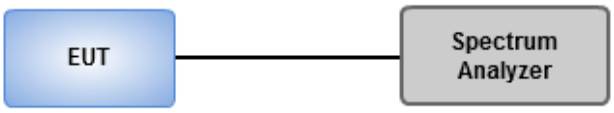
Occupied Bandwidth

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

6dB Bandwidth

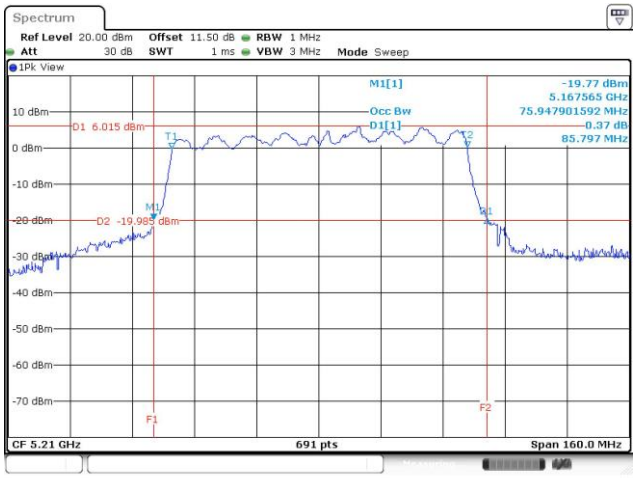
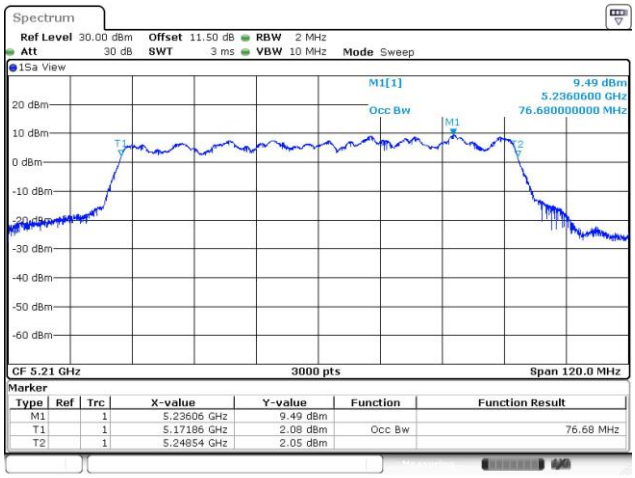
1. Set RBW = 100kHz, VBW = 300kHz
2. Detector = Peak,Trace mode = max hold.
3. Allow the trace to stabilize.
4. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB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

3.2.3 Test Setup

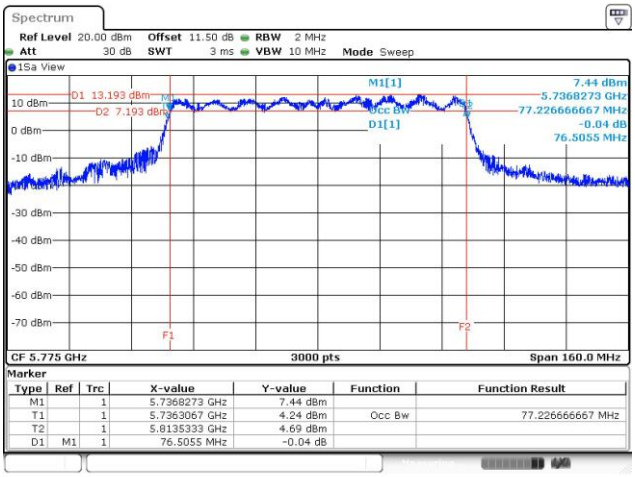
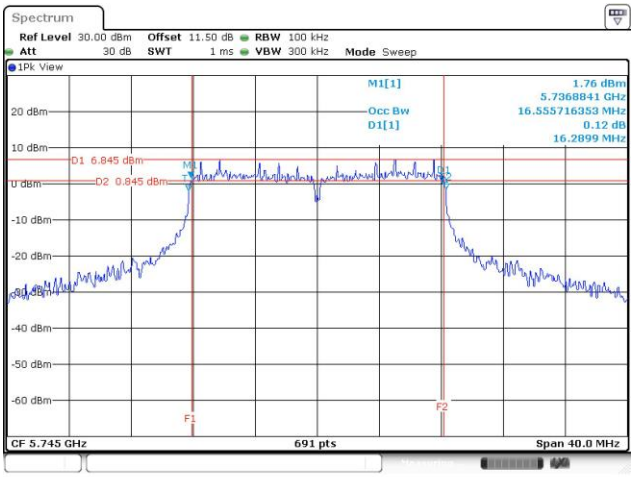


3.2.4 Test Result of Emission Bandwidth

For Frequency band 5150-5250 MHz										
Emission Bandwidth										
Mode	N_{TX}	Freq. (MHz)	26dB Bandwidth (MHz)				99% Bandwidth (MHz)			
			Chain 0	Chain 1	Chain 2	Chain 3	Chain 0	Chain 1	Chain 2	Chain 3
11a	1	5180	24.70	---	---	---	16.95	---	---	---
11a	1	5200	34.42	---	---	---	17.20	---	---	---
11a	1	5240	29.33	---	---	---	17.13	---	---	---
VHT20	1	5180	28.29	---	---	---	17.99	---	---	---
VHT20	1	5200	34.28	---	---	---	18.11	---	---	---
VHT20	1	5240	28.70	---	---	---	18.08	---	---	---
VHT40	1	5190	61.91	---	---	---	36.94	---	---	---
VHT40	1	5230	69.91	---	---	---	37.18	---	---	---
VHT80	1	5210	85.80	---	---	---	76.68	---	---	---

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	1	5745	17.12	---	---	---	16.29	---	---	---	0.5
11a	1	5785	17.16	---	---	---	16.35	---	---	---	0.5
11a	1	5825	17.12	---	---	---	16.35	---	---	---	0.5
VHT20	1	5745	18.12	---	---	---	17.28	---	---	---	0.5
VHT20	1	5785	18.15	---	---	---	17.51	---	---	---	0.5
VHT20	1	5825	18.12	---	---	---	17.51	---	---	---	0.5
VHT40	1	5755	37.49	---	---	---	36.17	---	---	---	0.5
VHT40	1	5795	37.57	---	---	---	36.17	---	---	---	0.5
VHT80	1	5775	77.23	---	---	---	75.13	---	---	---	0.5

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

3.3 RF Output Power

3.3.1 Limit of RF Output Power

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

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

3.3.2 Test Procedures

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

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

3.3.3 Test Setup

3.3.4 Test Result of Maximum Conducted Output Power

For Frequency band 5150-5250 MHz									
Mode	N_{TX}	Freq. (MHz)	Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)
			Chain 0	Chain 1	Chain 2	Chain 3			
11a	1	5180	16.32	---	---	---	42.855	16.32	30.00
11a	1	5200	17.61	---	---	---	57.677	**17.61**	30.00
11a	1	5240	17.32	---	---	---	53.951	17.32	30.00
HT20	1	5180	16.14	---	---	---	41.115	16.14	30.00
HT20	1	5200	17.02	---	---	---	50.350	17.02	30.00
HT20	1	5240	17.05	---	---	---	50.699	17.05	30.00
HT40	1	5190	14.01	---	---	---	25.177	14.01	30.00
HT40	1	5230	16.96	---	---	---	49.659	16.96	30.00
VHT20	1	5180	16.21	---	---	---	41.783	16.21	30.00
VHT20	1	5200	17.18	---	---	---	52.240	17.18	30.00
VHT20	1	5240	17.12	---	---	---	51.523	17.12	30.00
VHT40	1	5190	14.06	---	---	---	25.468	14.06	30.00
VHT40	1	5230	17.02	---	---	---	50.350	17.02	30.00
VHT80	1	5210	13.25	---	---	---	21.135	13.25	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	1	5745	17.26	---	---	---	53.211	**17.26**	30.00
11a	1	5785	17.24	---	---	---	52.966	17.24	30.00
11a	1	5825	17.08	---	---	---	51.050	17.08	30.00
HT20	1	5745	16.98	---	---	---	49.888	16.98	30.00
HT20	1	5785	16.92	---	---	---	49.204	16.92	30.00
HT20	1	5825	16.96	---	---	---	49.659	16.96	30.00
HT40	1	5755	16.95	---	---	---	49.545	16.95	30.00
HT40	1	5795	16.91	---	---	---	49.091	16.91	30.00
VHT20	1	5745	17.04	---	---	---	50.582	17.04	30.00
VHT20	1	5785	17.08	---	---	---	51.050	17.08	30.00
VHT20	1	5825	17.05	---	---	---	50.699	17.05	30.00
VHT40	1	5755	17.02	---	---	---	50.350	17.02	30.00
VHT40	1	5795	17.04	---	---	---	50.582	17.04	30.00
VHT80	1	5775	17.06	---	---	---	50.816	17.06	30.00

3.4 Peak Power Spectral Density

3.4.1 Limit of Peak Power Spectral Density

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

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

3.4.2 Test Procedures

For 5150 ~ 5250 MHz

☐ Method SA-1

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

☒ Method SA-2 Alternative

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

For 5725 ~ 5850 MHz

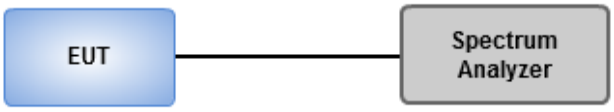
☐ Method SA-1

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

☒ Method SA-2 Alternative

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

3.4.3 Test Setup

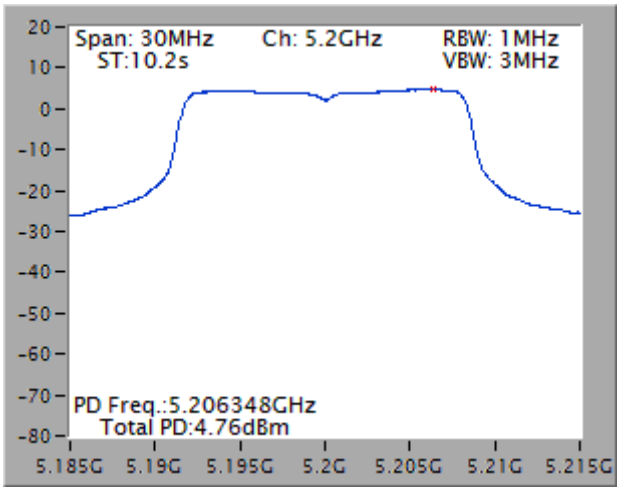


3.4.4 Test Result of Peak Power Spectral Density

For Frequency band 5150-5250 MHz						
Condition			Peak Power Spectral Density (dBm/MHz)			
Modulation Mode	N_{TX}	Freq. (MHz)	PPSD w/o D.F (dBm/MHz)	Duty Factor (dB)	PPSD with D.F (dBm/MHz)	PPSD Limit (dBm/MHz)
11a	1	5180	3.21	0.15	3.36	17
11a	1	5200	4.76	0.15	4.91	17
11a	1	5240	4.76	0.15	4.91	17
VHT20	1	5180	3.19	0.33	3.52	17
VHT20	1	5200	4.05	0.33	4.38	17
VHT20	1	5240	4.13	0.33	4.46	17
VHT40	1	5190	-2.65	0.51	-2.14	17
VHT40	1	5230	0.45	0.51	0.96	17
VHT80	1	5210	-5.62	1.18	-4.44	17

Note:
1. D.F is duty factor.

Worst Plot

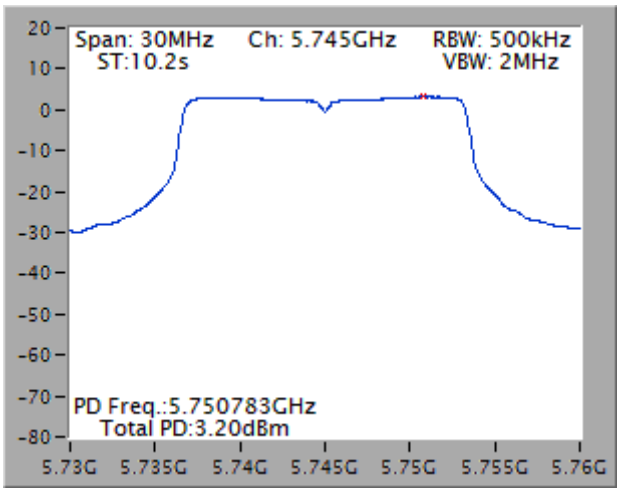


Note: Test plot without duty factor

For Frequency band 5725-5850 MHz						
Condition			Peak Power Spectral Density (dBm/500kHz)			
Modulation Mode	N_{TX}	Freq. (MHz)	PPSD w/o D.F (dBm/500kHz)	Duty Factor (dB)	PPSD with D.F (dBm/500kHz)	PPSD Limit (dBm/500kHz)
11a	1	5745	3.20	0.15	3.35	30.00
11a	1	5785	3.20	0.15	3.35	30.00
11a	1	5825	2.93	0.15	3.08	30.00
VHT20	1	5745	2.99	0.33	3.32	30.00
VHT20	1	5785	2.90	0.33	3.23	30.00
VHT20	1	5825	2.63	0.33	2.96	30.00
VHT40	1	5755	-0.64	0.51	-0.13	30.00
VHT40	1	5795	-0.44	0.51	0.07	30.00
VHT80	1	5775	-2.96	1.18	-1.78	30.00

Note:
1. D.F is duty factor.

Worst Plot



Note: Test 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

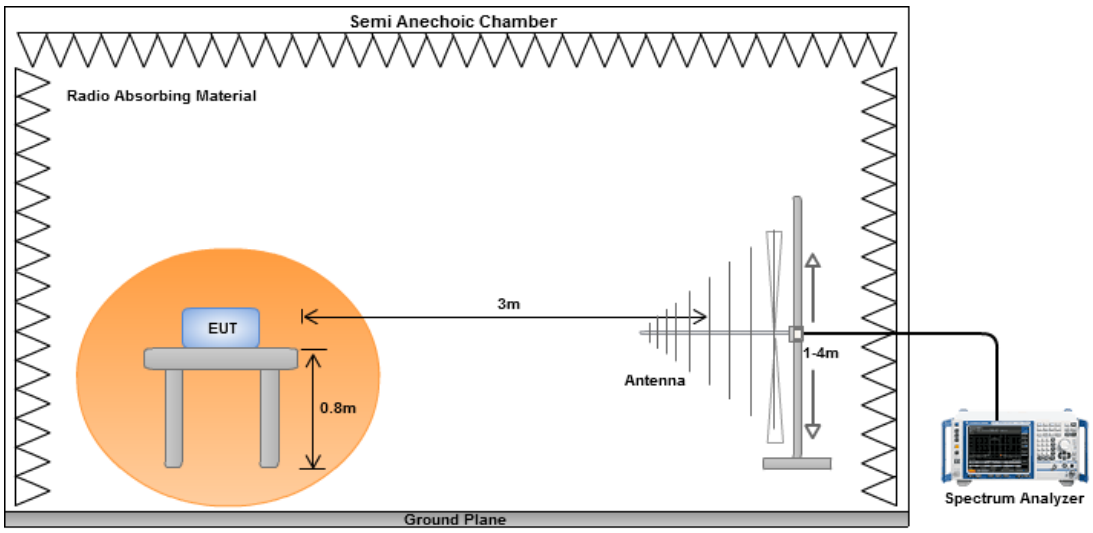
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission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

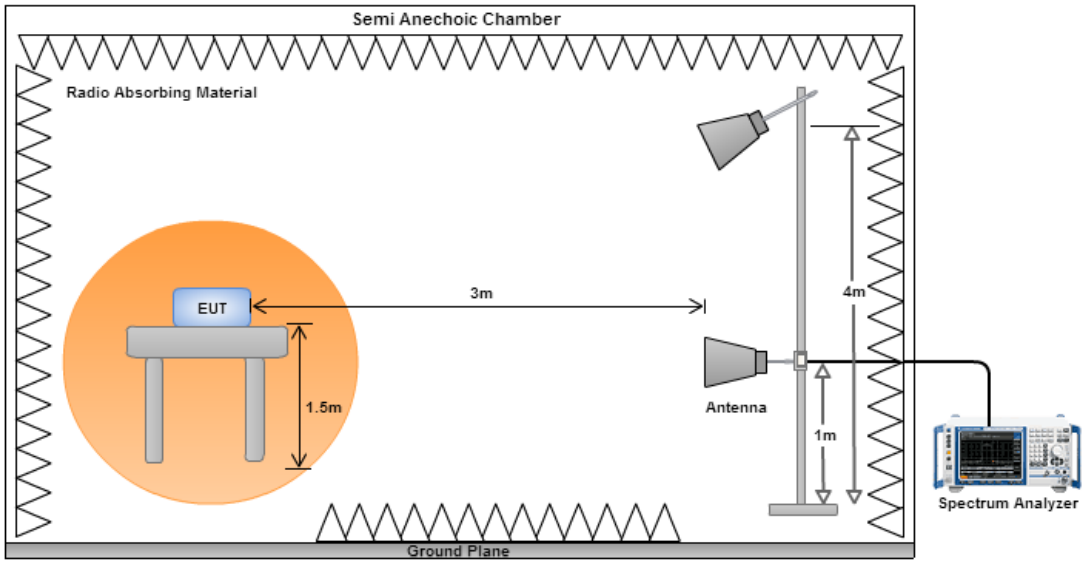
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

3.5.3 Test Setup

Radiated Emissions below 1 GHz



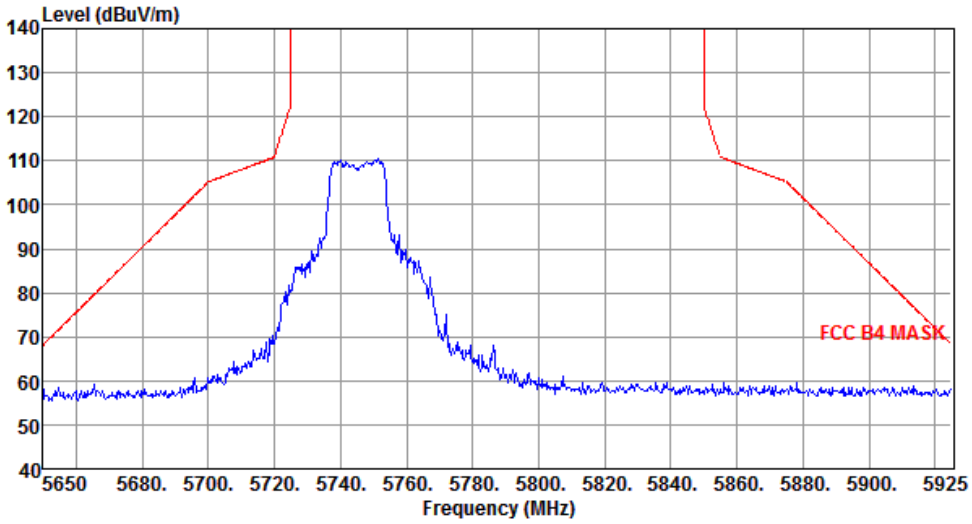
Radiated Emissions above 1 GHz



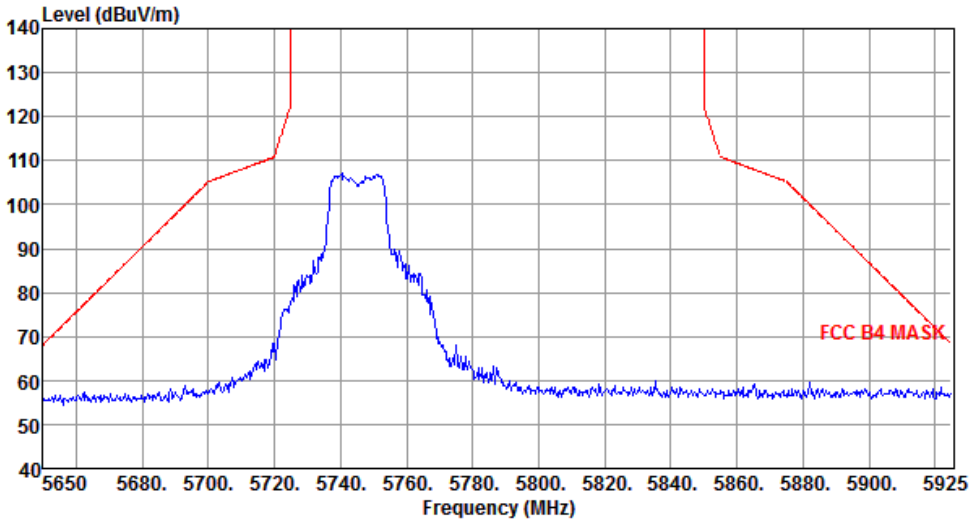
Configuration 1 : Sample 1: VE3

3.5.4 Transmitter Radiated Band Edge for 11a

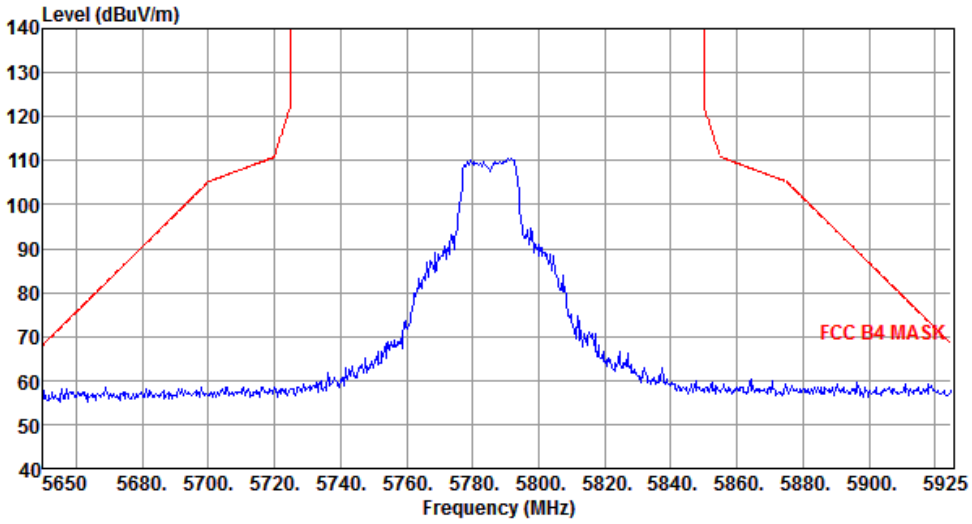
Modulation	11a	**Test Freq. (MHz)**	5745
Polarization	Horizontal		



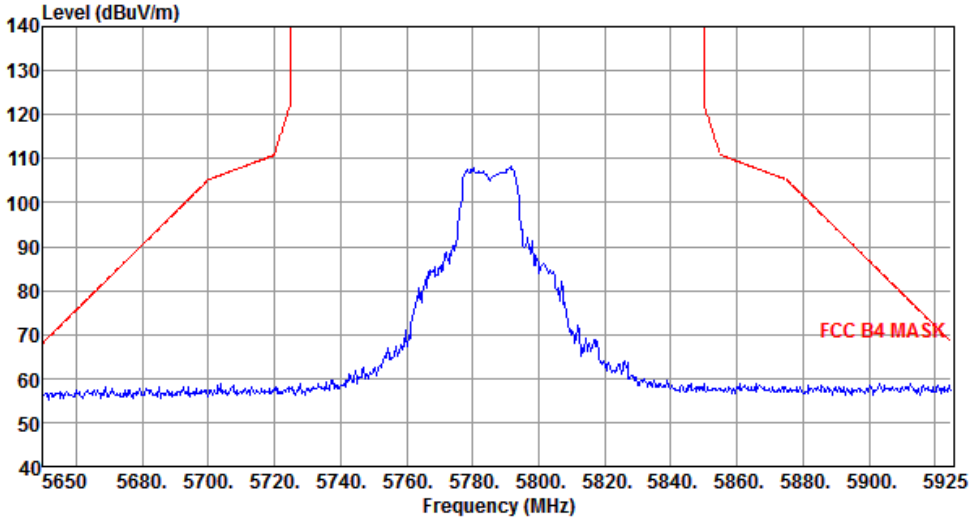
Modulation	11a	**Test Freq. (MHz)**	5745
Polarization	Vertical		



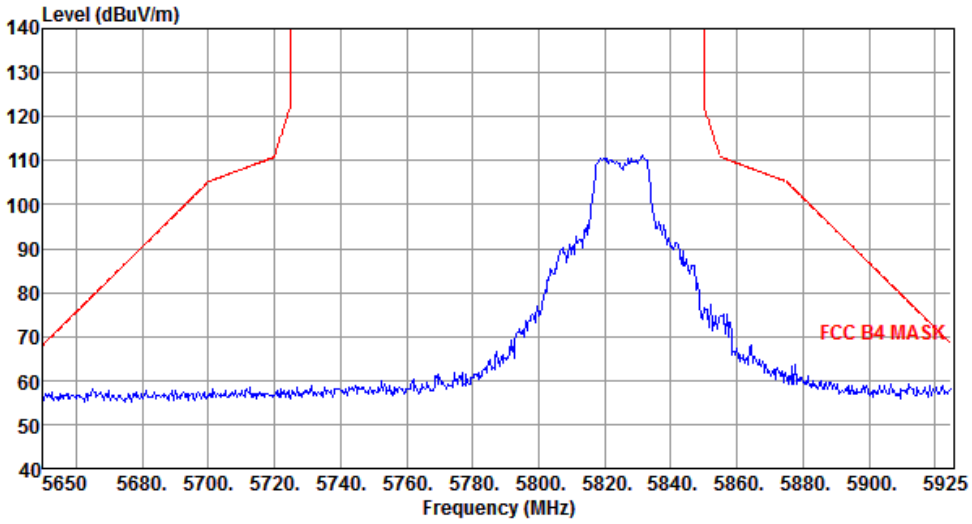
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Horizontal		



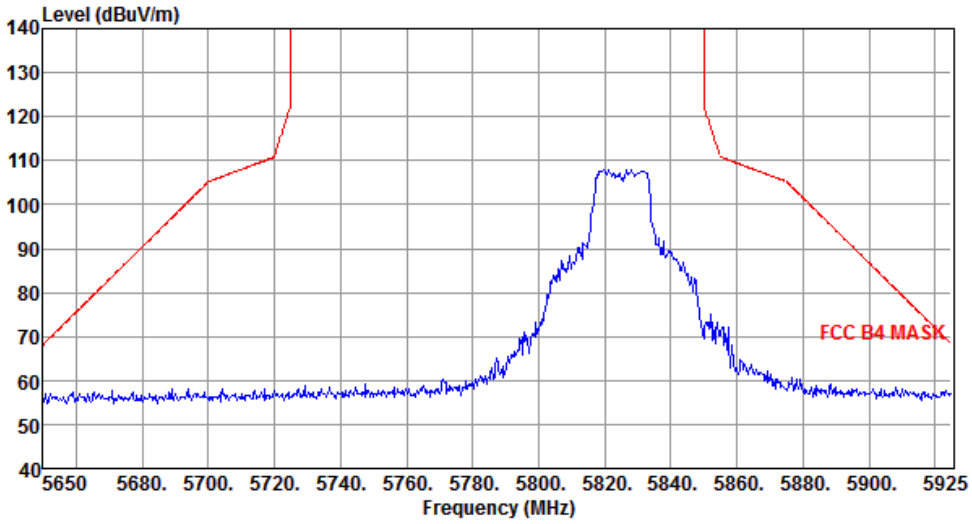
Modulation	11a	**Test Freq. (MHz)**	5785
Polarization	Vertical		



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

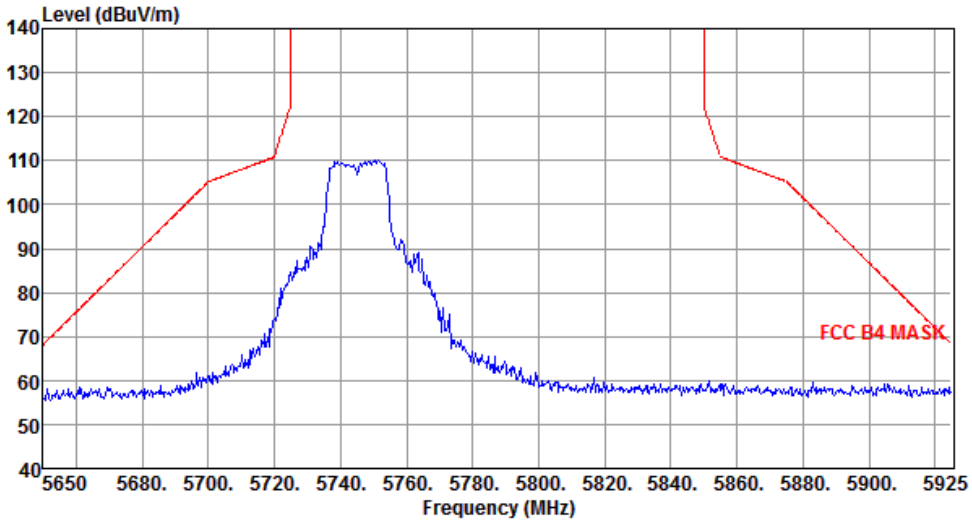


Modulation	11a	**Test Freq. (MHz)**	5825
Polarization	Vertical		

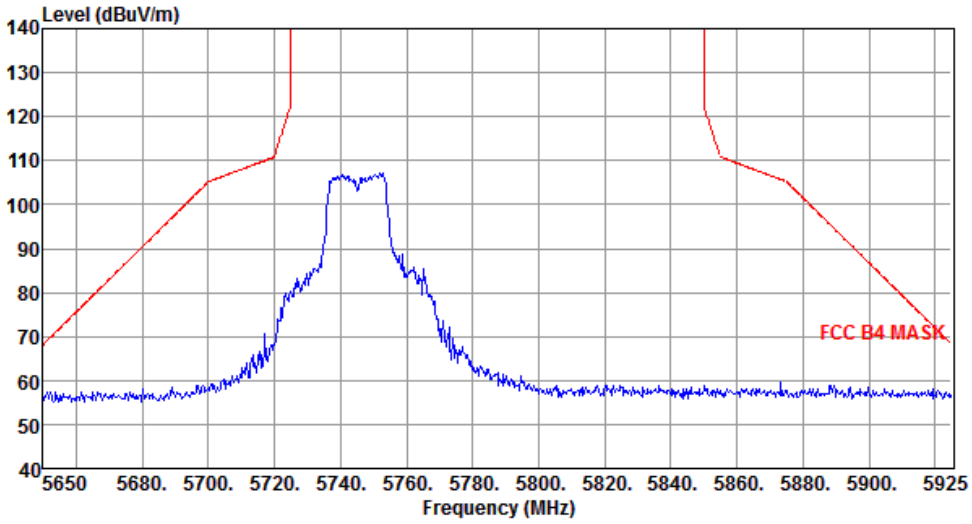


3.5.5 Transmitter Radiated Band Edge for VHT20

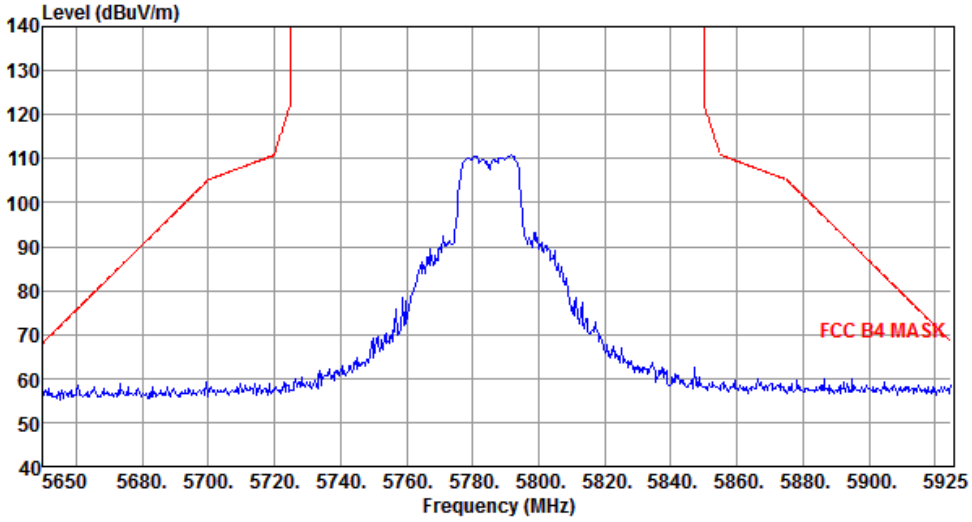
Modulation	VHT20	**Test Freq. (MHz)**	5745
Polarization	Horizontal		



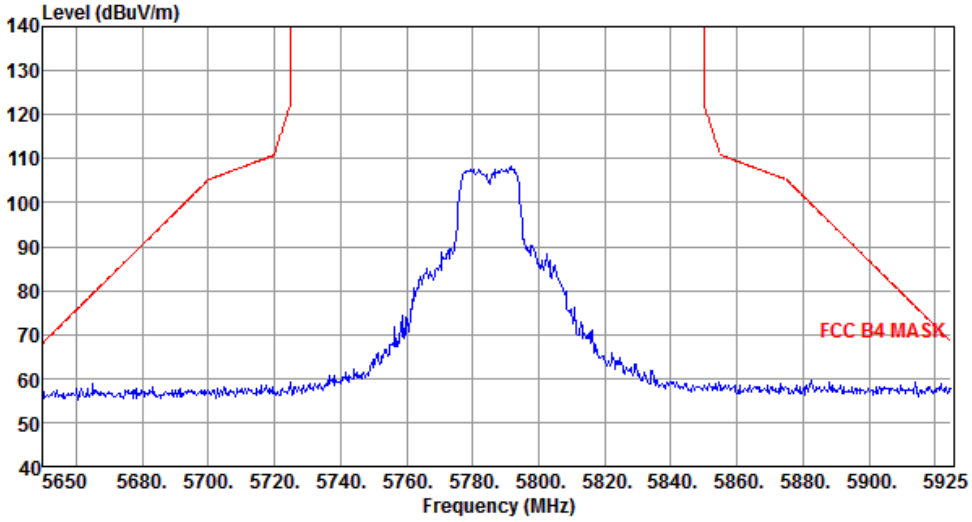
Modulation	VHT20	**Test Freq. (MHz)**	5745
Polarization	Vertical		



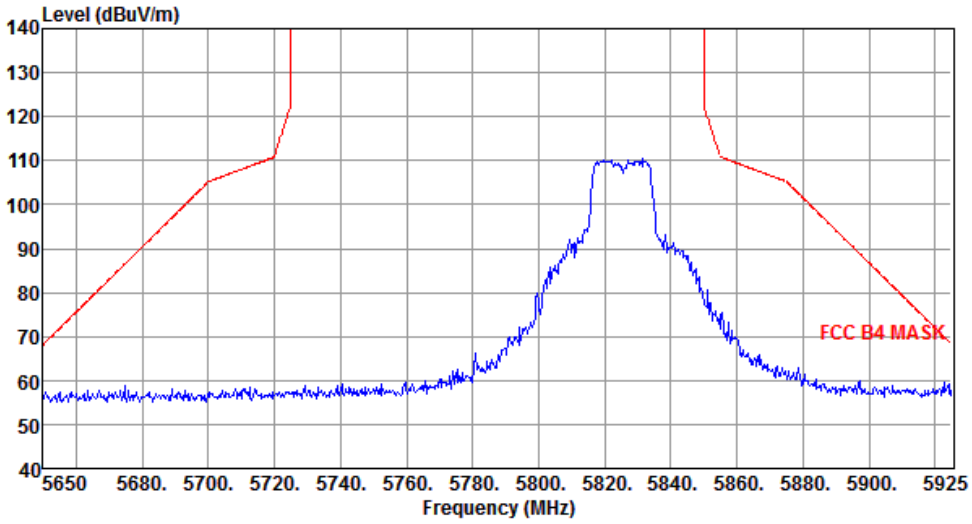
Modulation	VHT20	**Test Freq. (MHz)**	5785
Polarization	Horizontal		



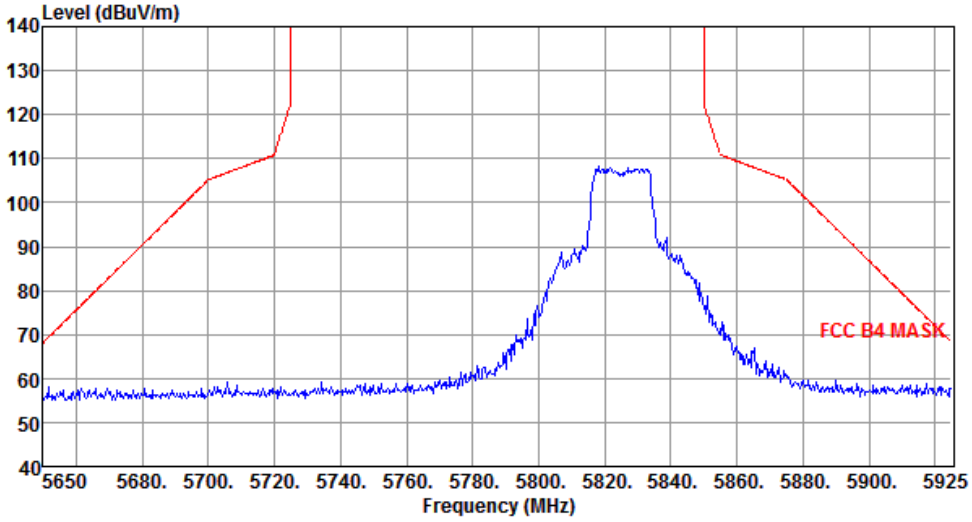
Modulation	VHT20	**Test Freq. (MHz)**	5785
Polarization	Vertical		



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

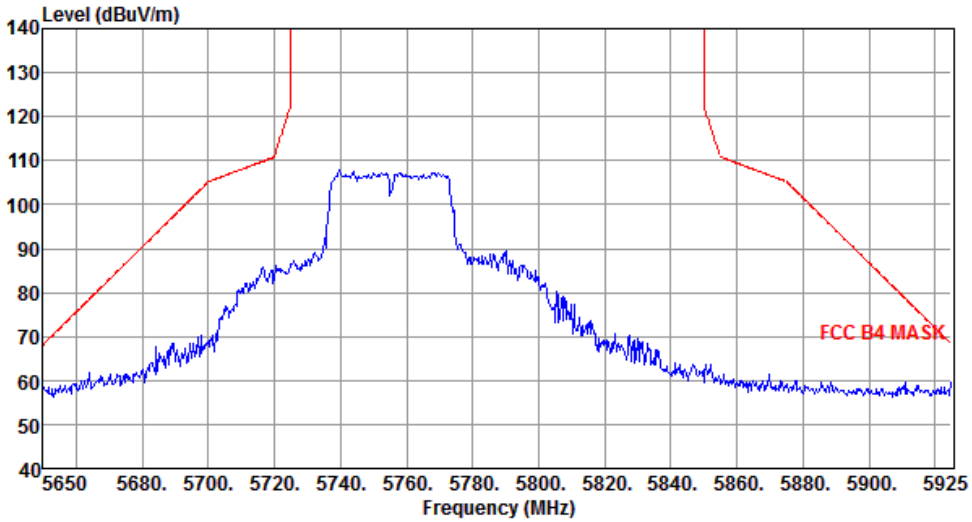


Modulation	VHT20	**Test Freq. (MHz)**	5825
Polarization	Vertical		

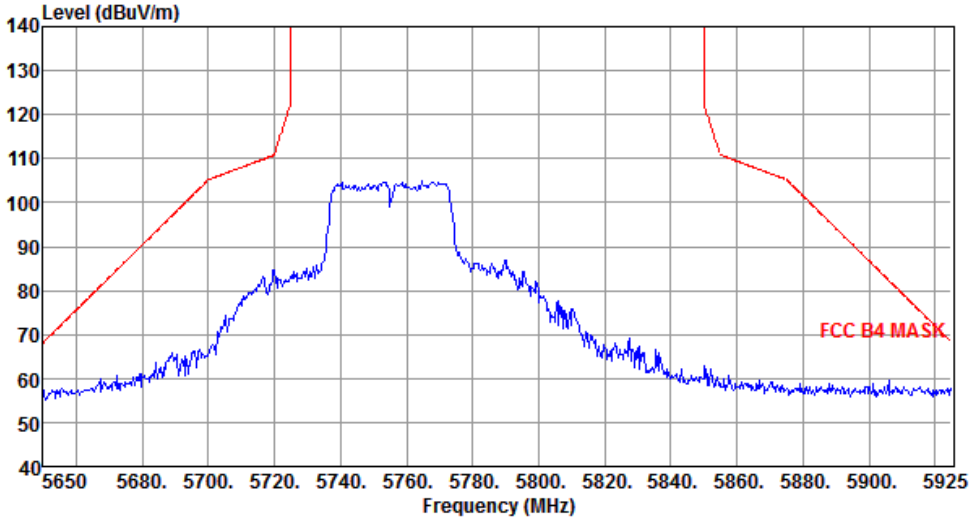


3.5.6 Transmitter Radiated Band Edge for VHT40

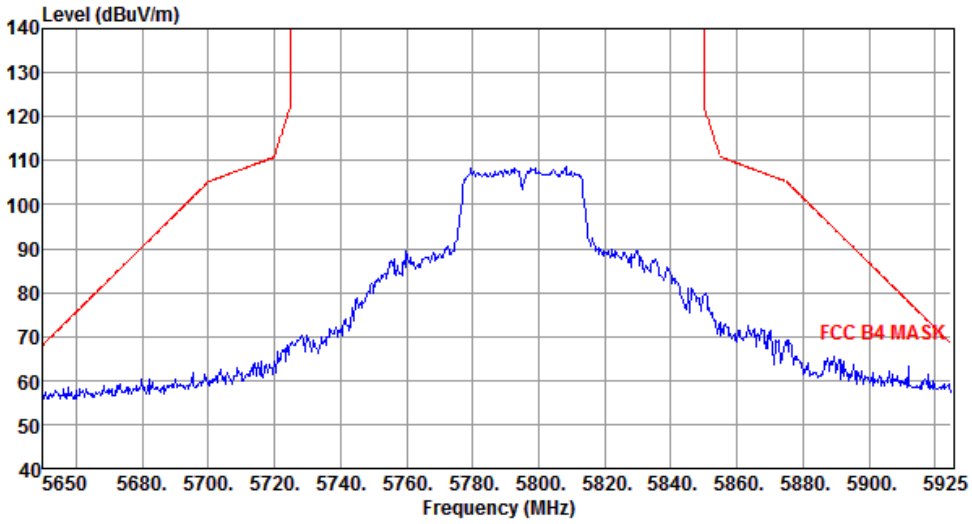
Modulation	VHT40	**Test Freq. (MHz)**	5755
Polarization	Horizontal		



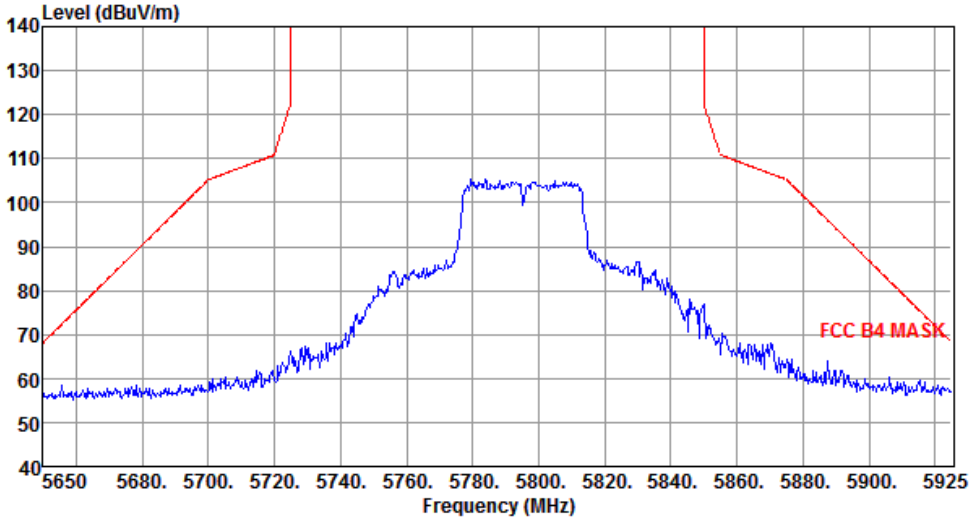
Modulation	VHT40	**Test Freq. (MHz)**	5755
Polarization	Vertical		



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

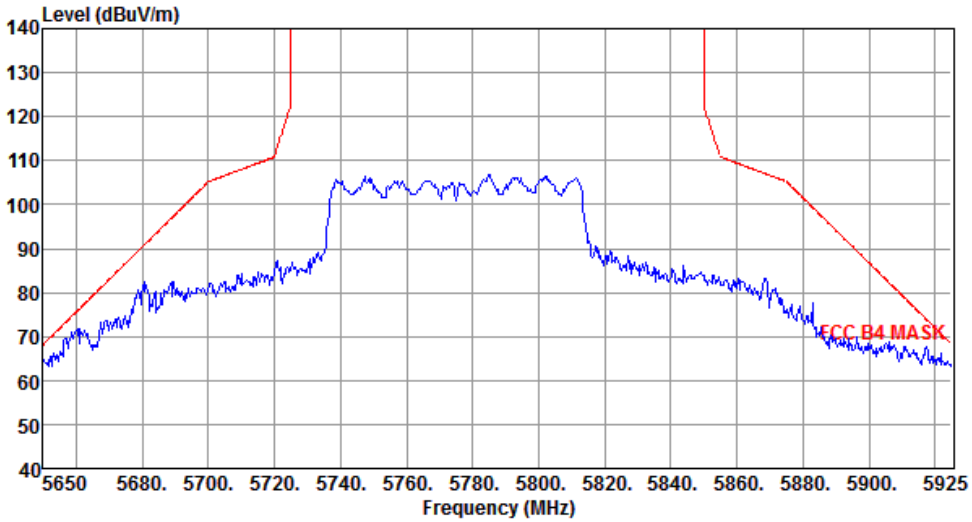


Modulation	VHT40	**Test Freq. (MHz)**	5795
Polarization	Vertical		

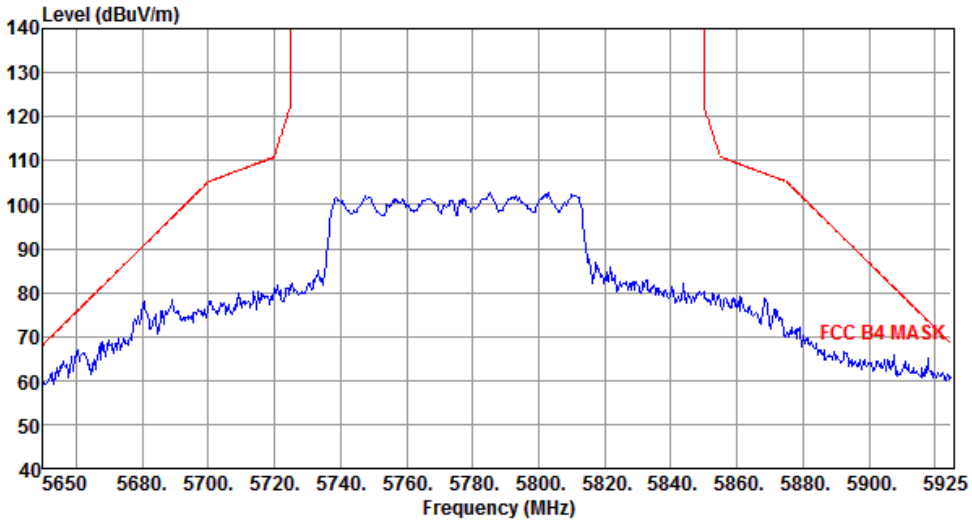


3.5.7 Transmitter Radiated Band Edge for VHT80

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

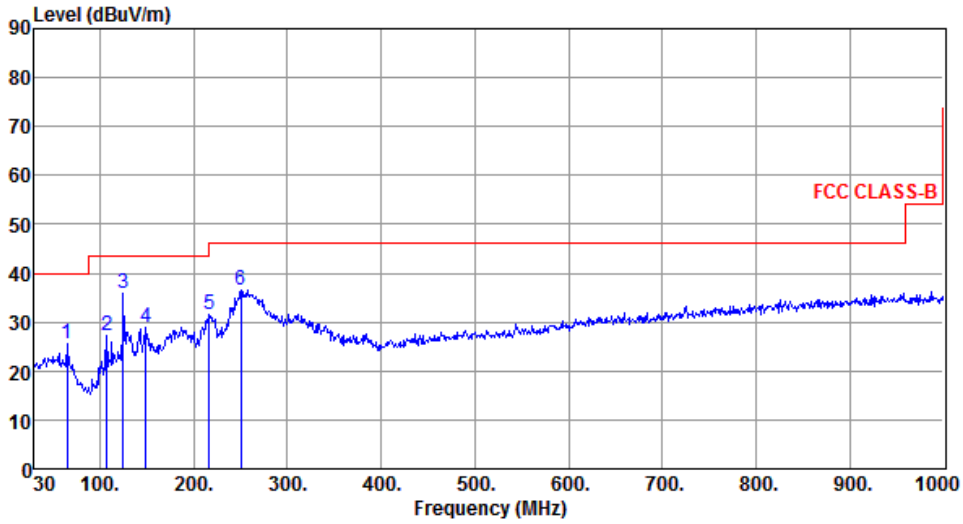


Modulation	VHT80	**Test Freq. (MHz)**	5775
Polarization	Vertical		



3.5.8 Transmitter Radiated Unwanted Emissions (Below 1GHz)

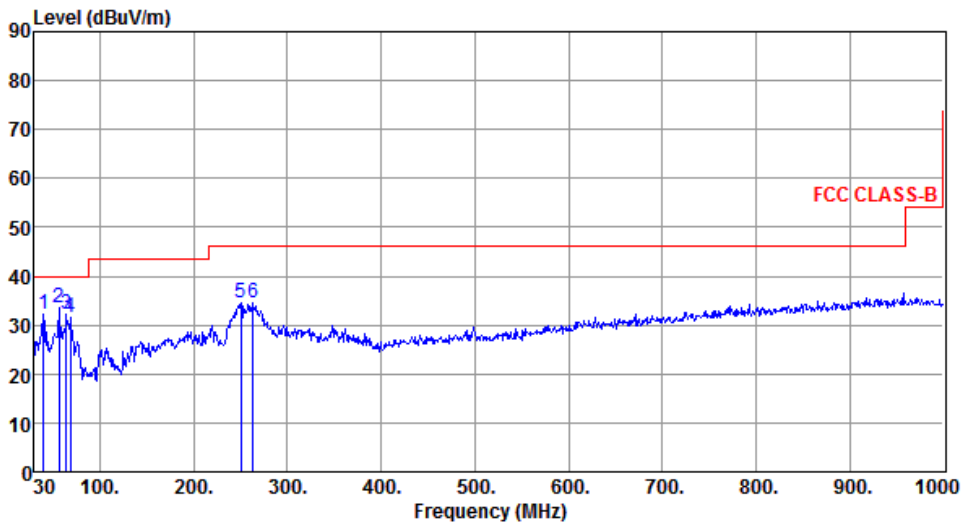
Modulation	11a	**Test Freq. (MHz)**	5200
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	64.92	25.64	40.00	-14.36	35.17	-9.53	Peak	---	---
2	107.60	27.31	43.50	-16.19	39.25	-11.94	Peak	---	---
3	125.06	35.81	43.50	-7.69	46.02	-10.21	Peak	---	---
4	149.31	28.99	43.50	-14.51	37.14	-8.15	Peak	---	---
5	216.24	31.63	46.00	-14.37	42.45	-10.82	Peak	---	---
6	250.19	36.55	46.00	-9.45	45.87	-9.32	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.

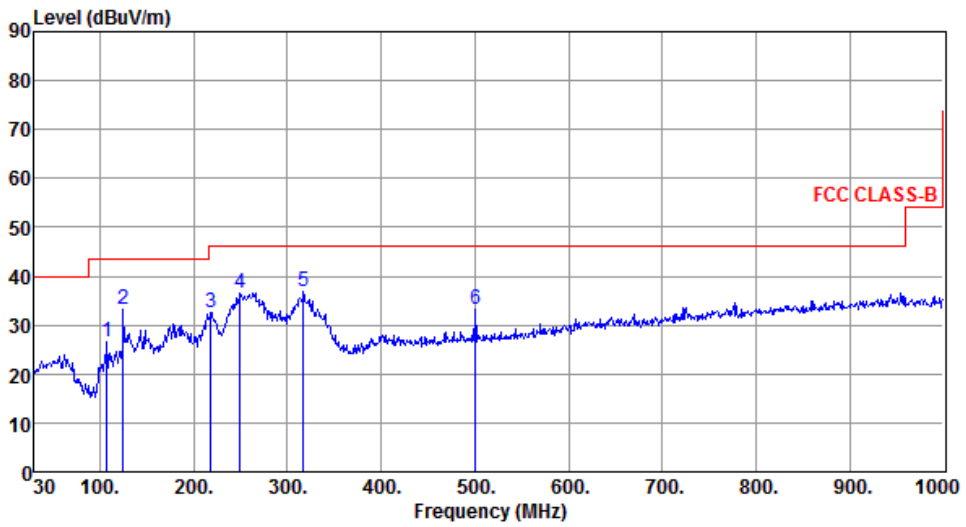
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	39.70	32.20	40.00	-7.80	40.55	-8.35	Peak	---	---
2	56.19	33.51	40.00	-6.49	41.76	-8.25	Peak	---	---
3	63.95	32.24	40.00	-7.76	41.57	-9.33	Peak	---	---
4	68.80	31.39	40.00	-8.61	41.68	-10.29	Peak	---	---
5	250.19	34.38	46.00	-11.62	43.70	-9.32	Peak	---	---
6	263.77	34.47	46.00	-11.53	43.37	-8.90	Peak	---	---

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

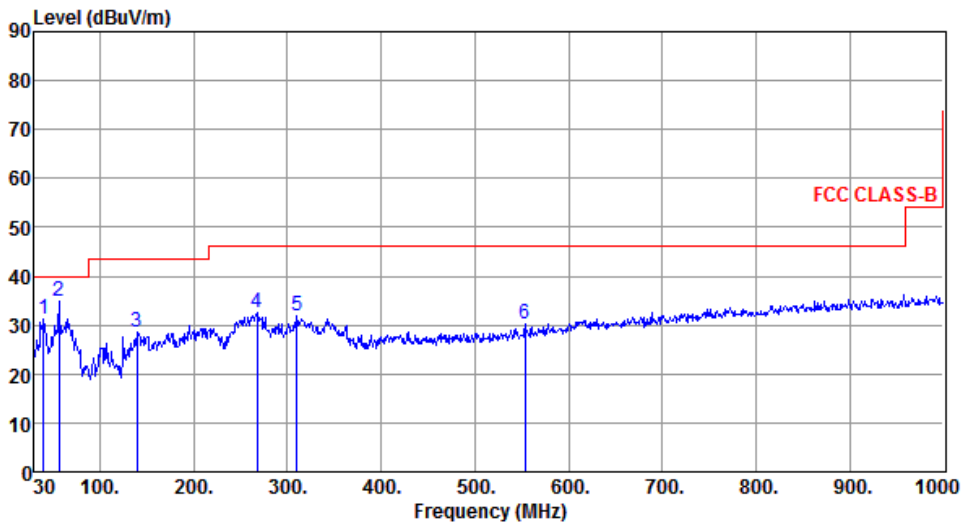
Modulation	11a	Test Freq. (MHz)	5745
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	107.60	26.63	43.50	-16.87	38.57	-11.94	Peak	---	---
2	125.06	33.31	43.50	-10.19	43.52	-10.21	Peak	---	---
3	218.18	32.69	46.00	-13.31	43.48	-10.79	Peak	---	---
4	249.22	36.68	46.00	-9.32	46.02	-9.34	Peak	---	---
5	317.12	36.85	46.00	-9.15	44.11	-7.26	Peak	---	---
6	500.45	33.20	46.00	-12.80	36.09	-2.89	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)	5745
Polarization	Vertical		

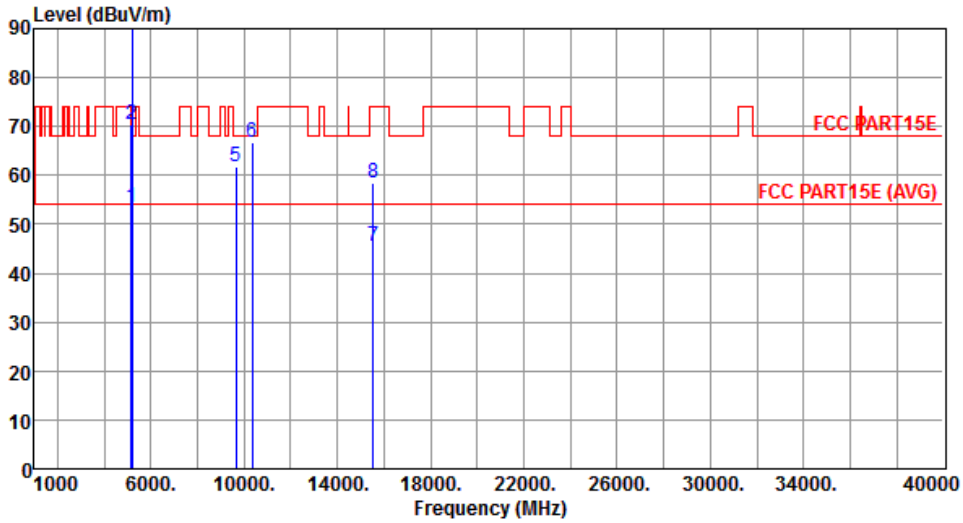


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	39.70	31.35	40.00	-8.65	39.70	-8.35	Peak	---	---
2	56.19	34.72	40.00	-5.28	42.97	-8.25	Peak	---	---
3	139.61	28.48	43.50	-15.02	37.00	-8.52	Peak	---	---
4	267.65	32.42	46.00	-13.58	41.12	-8.70	Peak	---	---
5	310.33	31.90	46.00	-14.10	39.35	-7.45	Peak	---	---
6	553.80	30.26	46.00	-15.74	32.16	-1.90	Peak	---	---

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

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

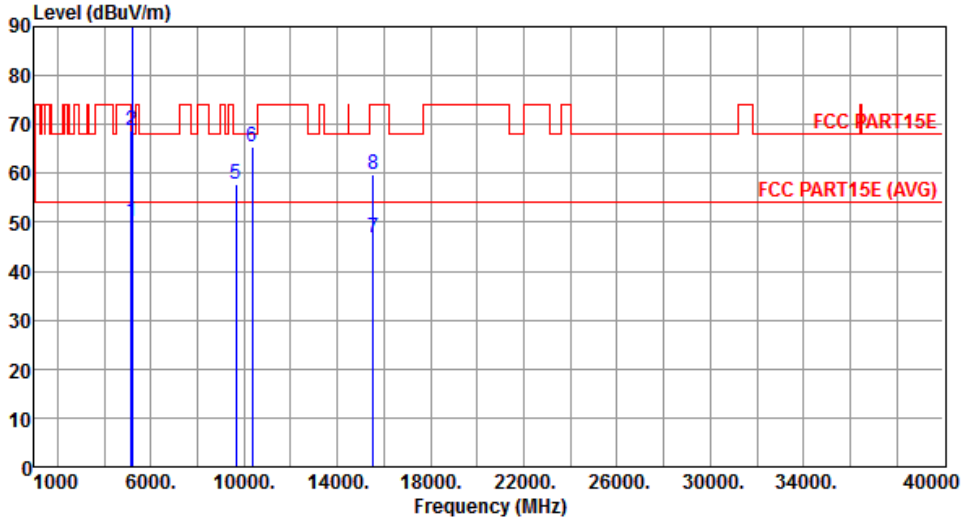
Modulation	11a	**Test Freq. (MHz)**	5180
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5150.00	53.57	54.00	-0.43	47.71	5.86	Average	218	20
2		5150.00	70.54	74.00	-3.46	64.68	5.86	Peak	218	20
3	*	5180.00	100.04			94.15	5.89	Average	218	20
4	*	5180.00	109.64			103.75	5.89	Peak	218	20
5		9648.00	61.87	68.20	-6.33	47.50	14.37	Peak	182	54
6		10360.00	66.68	68.20	-1.52	51.45	15.23	Peak	182	337
7		15540.00	45.55	54.00	-8.45	29.48	16.07	Average	213	151
8		15540.00	58.40	74.00	-15.60	42.33	16.07	Peak	213	151

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

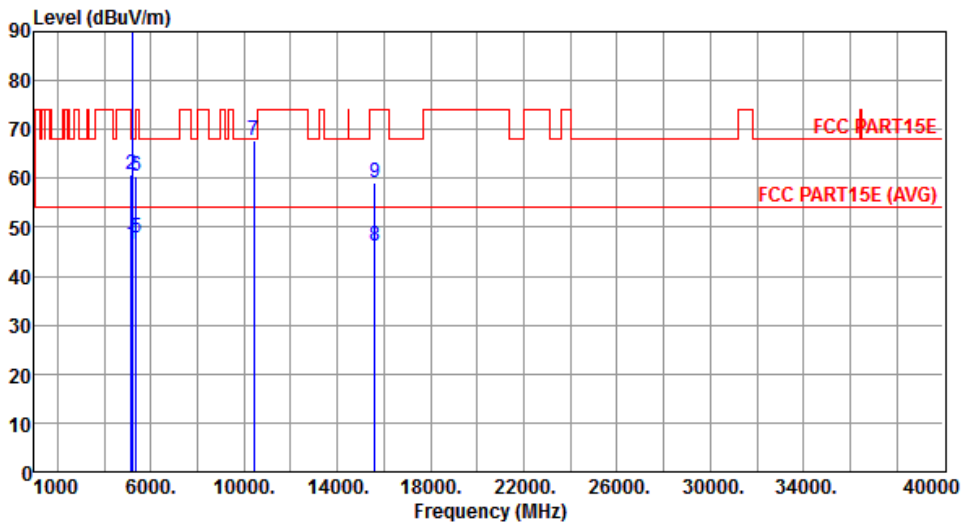
Modulation	11a	Test Freq. (MHz)	5180
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5150.00	50.11	54.00	-3.89	44.25	5.86	Average	198	162
2		5150.00	68.65	74.00	-5.35	62.79	5.86	Peak	198	162
3	*	5180.00	96.64			90.75	5.89	Average	198	162
4	*	5180.00	105.94			100.05	5.89	Peak	198	162
5		9648.00	57.63	68.20	-10.57	43.26	14.37	Peak	178	194
6		10360.00	65.45	68.20	-2.75	50.22	15.23	Peak	204	157
7		15540.00	46.83	54.00	-7.17	30.76	16.07	Average	230	120
8		15540.00	59.63	74.00	-14.37	43.56	16.07	Peak	230	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

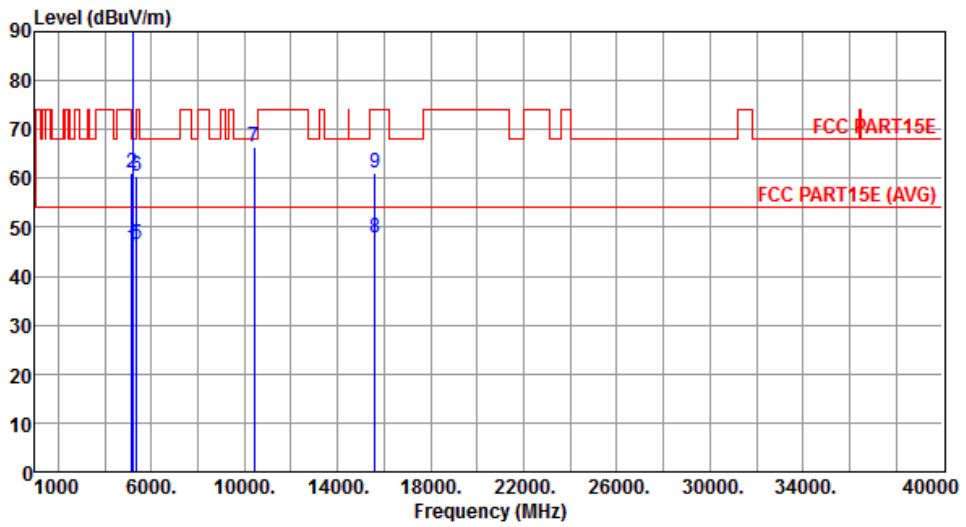
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5150.00	46.40	54.00	-7.60	40.54	5.86	Average	199	18
2		5150.00	60.91	74.00	-13.09	55.05	5.86	Peak	199	18
3	*	5200.00	100.66			94.75	5.91	Average	199	18
4	*	5200.00	110.56			104.65	5.91	Peak	199	18
5		5350.00	47.76	54.00	-6.24	41.55	6.21	Average	199	18
6		5350.00	60.40	74.00	-13.60	54.19	6.21	Peak	199	18
7		10400.00	67.83	68.20	-0.37	52.55	15.28	Peak	181	338
8		15600.00	46.28	54.00	-7.72	30.28	16.00	Average	239	156
9		15600.00	59.05	74.00	-14.95	43.05	16.00	Peak	239	156

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

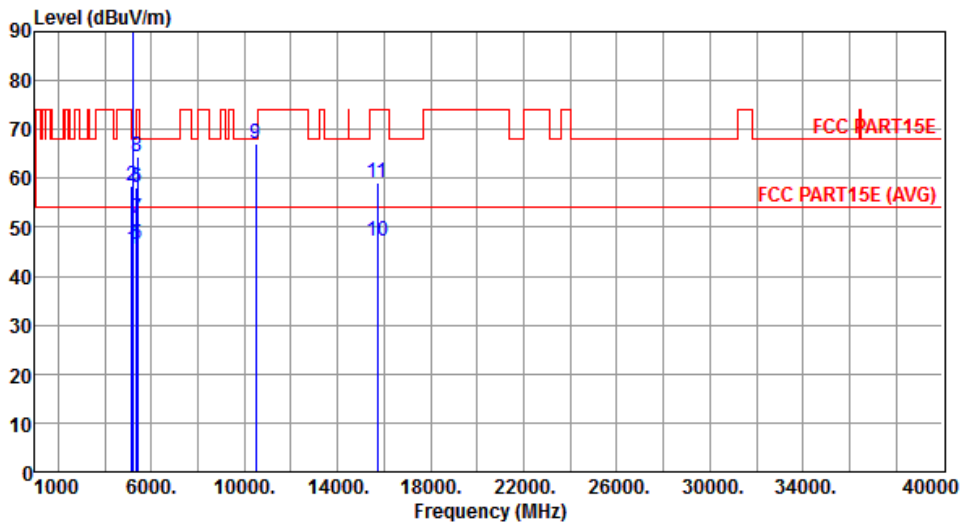
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5150.00	45.92	54.00	-8.08	40.06	5.86	Average	204	166
2		5150.00	61.16	74.00	-12.84	55.30	5.86	Peak	204	166
3	*	5200.00	97.23			91.32	5.91	Average	204	166
4	*	5200.00	107.76			101.85	5.91	Peak	204	166
5		5350.00	46.48	54.00	-7.52	40.27	6.21	Average	204	166
6		5350.00	60.42	74.00	-13.58	54.21	6.21	Peak	204	166
7		10400.00	66.41	68.20	-1.79	51.13	15.28	Peak	239	157
8		15600.00	47.85	54.00	-6.15	31.85	16.00	Average	207	125
9		15600.00	61.25	74.00	-12.75	45.25	16.00	Peak	207	125

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

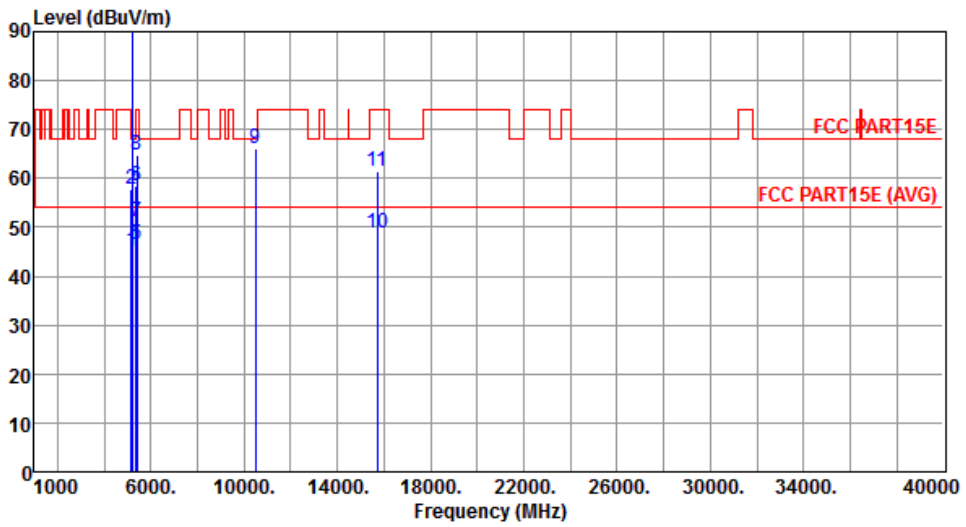
Modulation	11a	Test Freq. (MHz)	5240
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5150.00	45.52	54.00	-8.48	39.66	5.86	Average	203	18
2		5150.00	58.41	74.00	-15.59	52.55	5.86	Peak	203	18
3	*	5240.00	99.78			93.79	5.99	Average	203	18
4	*	5240.00	109.67			103.68	5.99	Peak	203	18
5		5350.00	46.35	54.00	-7.65	40.14	6.21	Average	203	18
6		5350.00	58.25	74.00	-15.75	52.04	6.21	Peak	203	18
7		5400.00	51.79	54.00	-2.21	45.47	6.32	Average	202	25
8		5400.00	64.42	74.00	-9.58	58.10	6.32	Peak	202	25
9		10480.00	67.24	68.20	-0.96	51.88	15.36	Peak	182	337
10		15720.00	47.10	54.00	-6.90	31.26	15.84	Average	225	140
11		15720.00	59.10	74.00	-14.90	43.26	15.84	Peak	225	140

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

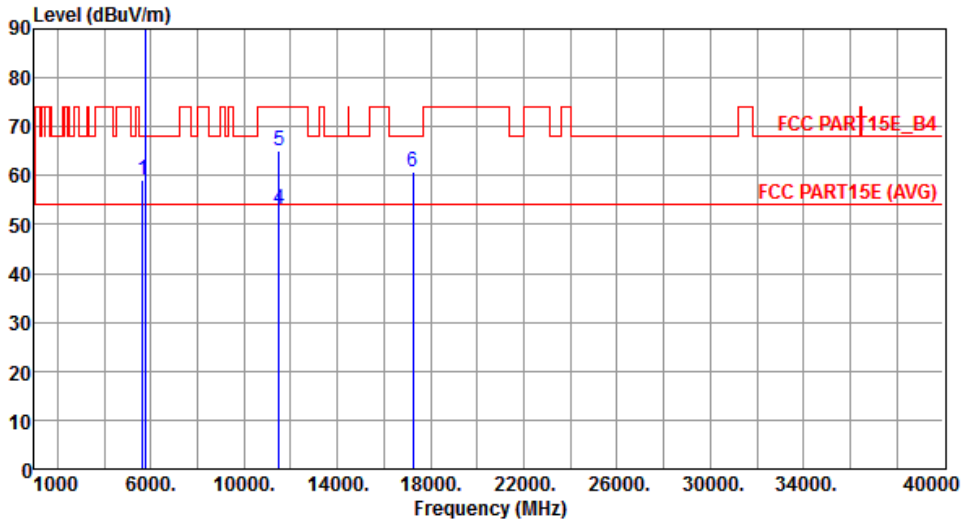
Modulation	11a	Test Freq. (MHz)	5240
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5150.00	45.12	54.00	-8.88	39.26	5.86	Average	214	166
2		5150.00	57.89	74.00	-16.11	52.03	5.86	Peak	214	166
3	*	5240.00	96.31			90.32	5.99	Average	214	166
4	*	5240.00	106.29			100.30	5.99	Peak	214	166
5		5350.00	46.52	54.00	-7.48	40.31	6.21	Average	214	166
6		5350.00	58.30	74.00	-15.70	52.09	6.21	Peak	214	166
7		5400.00	51.07	54.00	-2.93	44.75	6.32	Average	200	166
8		5400.00	64.62	74.00	-9.38	58.30	6.32	Peak	200	166
9		10480.00	66.05	68.20	-2.15	50.69	15.36	Peak	220	154
10		15720.00	48.66	54.00	-5.34	32.82	15.84	Average	229	120
11		15720.00	61.57	74.00	-12.43	45.73	15.84	Peak	229	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

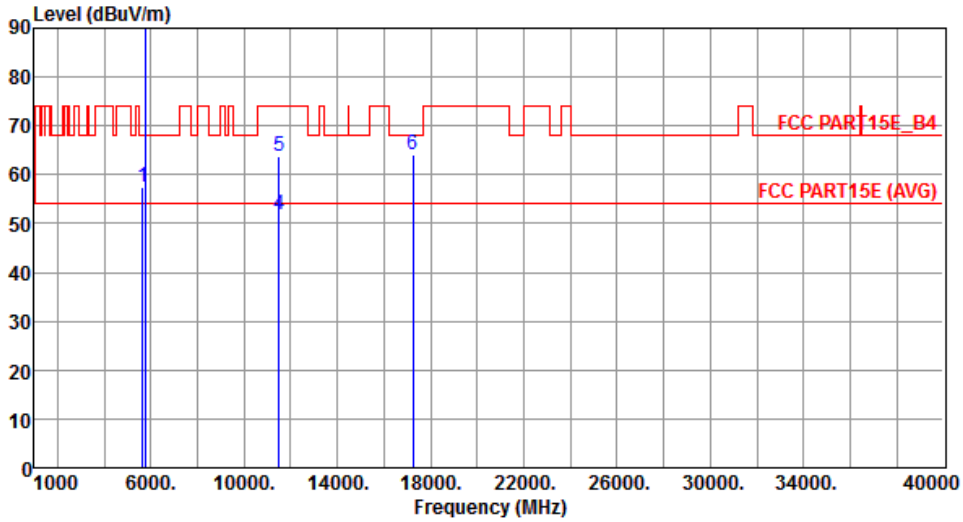
Modulation	11a	Test Freq. (MHz)	5745
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5649.90	59.04	68.20	-9.16	52.40	6.64	Peak	195	41
2	*	5745.00	100.51			93.61	6.90	Average	195	41
3	*	5745.00	110.19			103.29	6.90	Peak	195	41
4		11490.00	53.19	54.00	-0.81	37.17	16.02	Average	148	205
5		11490.00	65.20	74.00	-8.80	49.18	16.02	Peak	148	205
6		17235.00	60.62	68.20	-7.58	42.18	18.44	Peak	158	216

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

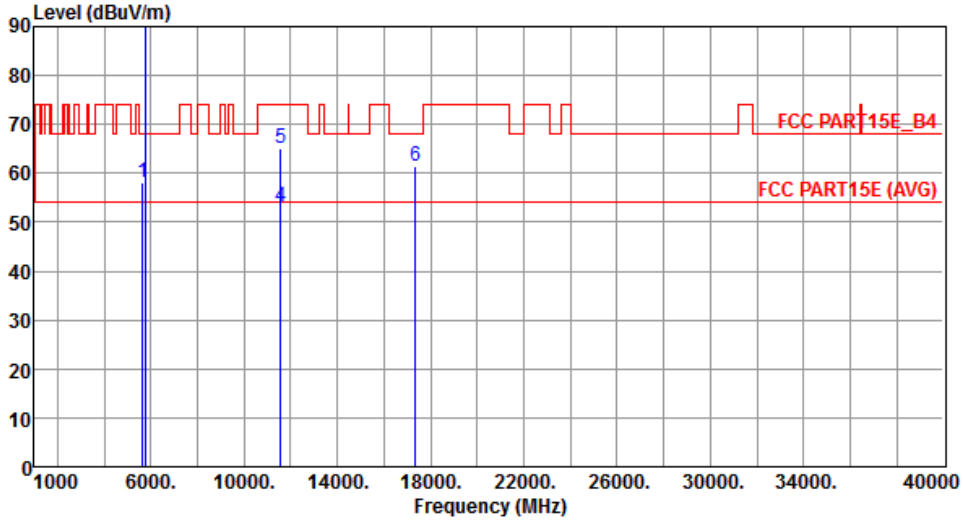
Modulation	11a	Test Freq. (MHz)	5745
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5649.90	57.31	68.20	-10.89	50.67	6.64	Peak	223	170
2	*	5745.00	97.53			90.63	6.90	Average	223	170
3	*	5745.00	107.00			100.10	6.90	Peak	223	170
4		11490.00	51.81	54.00	-2.19	35.79	16.02	Average	158	99
5		11490.00	63.86	74.00	-10.14	47.84	16.02	Peak	158	99
6		17235.00	64.02	68.20	-4.18	45.58	18.44	Peak	158	129

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

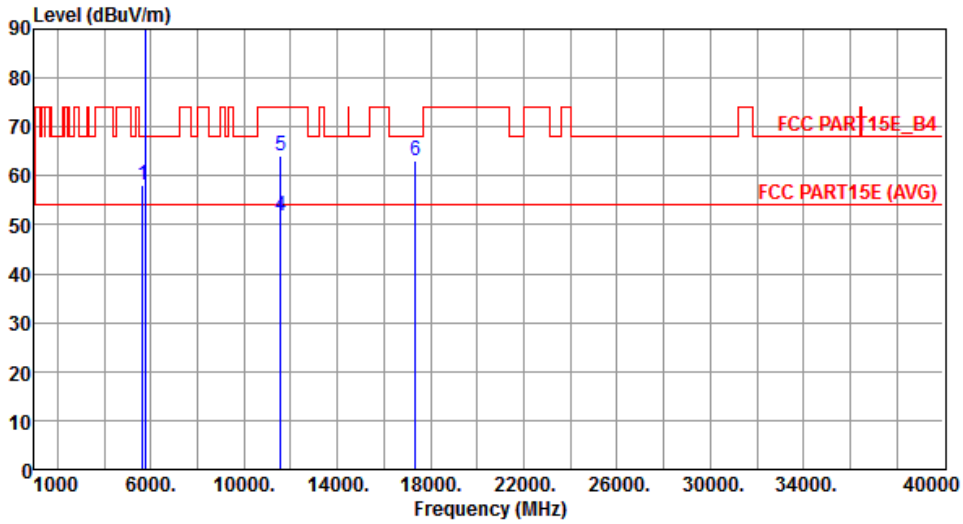
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5649.90	58.20	68.20	-10.00	51.56	6.64	Peak	195	42
2	*	5785.00	100.67			93.66	7.01	Average	195	42
3	*	5785.00	110.43			103.42	7.01	Peak	195	42
4		11570.00	53.19	54.00	-0.81	37.29	15.90	Average	147	203
5		11570.00	65.24	74.00	-8.76	49.34	15.90	Peak	147	203
6		17355.00	61.32	68.20	-6.88	42.48	18.84	Peak	160	215

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

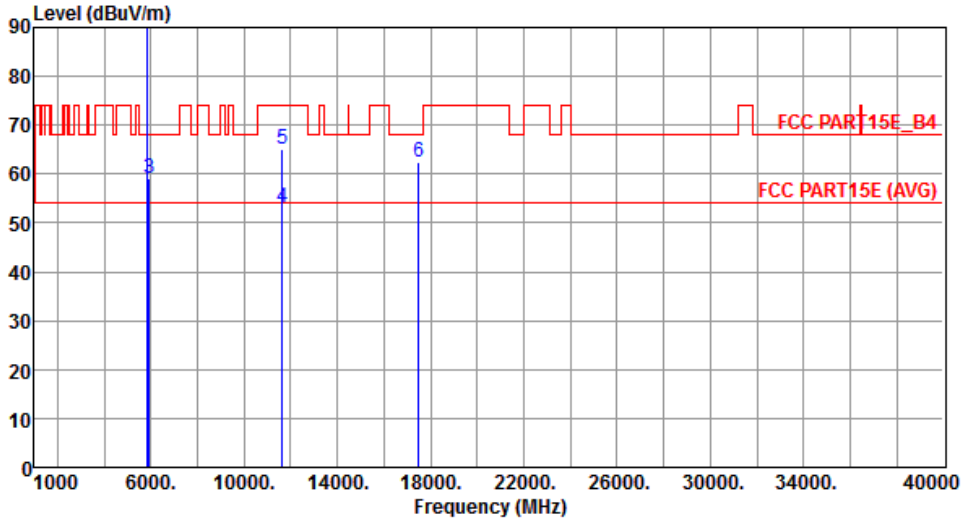
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5649.90	58.24	68.20	-9.96	51.60	6.64	Peak	223	170
2	*	5785.00	97.89			90.88	7.01	Average	223	170
3	*	5785.00	107.74			100.73	7.01	Peak	223	170
4		11570.00	51.96	54.00	-2.04	36.06	15.90	Average	158	99
5		11570.00	64.02	74.00	-9.98	48.12	15.90	Peak	158	99
6		17355.00	63.21	68.20	-4.99	44.37	18.84	Peak	152	128

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

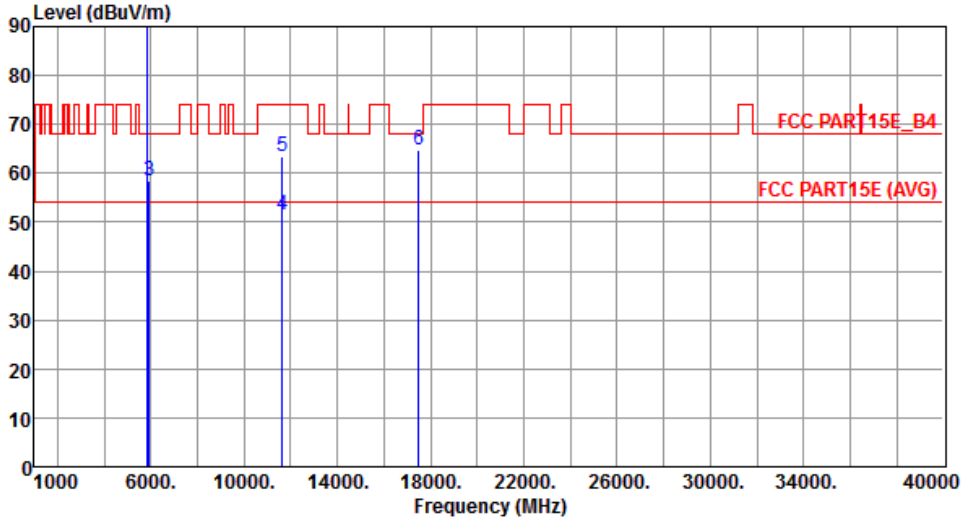
Modulation	11a	Test Freq. (MHz)	5825
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	*	5825.00	101.09			93.98	7.11	Average	195	42
2	*	5825.00	110.84			103.73	7.11	Peak	195	42
3		5925.10	59.13	68.20	-9.07	51.78	7.35	Peak	195	42
4		11650.00	53.08	54.00	-0.92	37.33	15.75	Average	147	200
5		11650.00	64.95	74.00	-9.05	49.20	15.75	Peak	147	200
6		17475.00	62.41	68.20	-5.79	43.16	19.25	Peak	160	215

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		

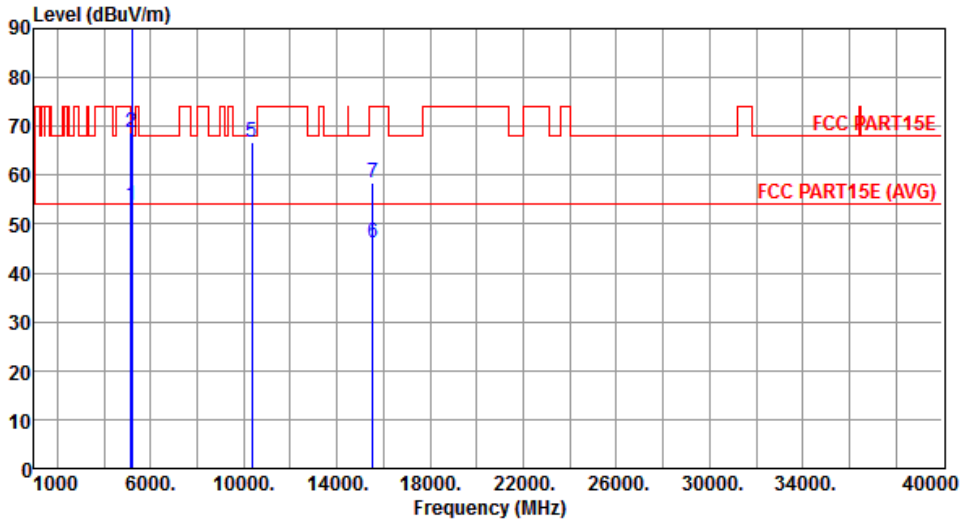


		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	*	5825.00	98.45			91.34	7.11	Average	223	170
2	*	5825.00	108.43			101.32	7.11	Peak	223	170
3		5925.10	58.35	68.20	-9.85	51.00	7.35	Peak	223	170
4		11650.00	51.54	54.00	-2.46	35.79	15.75	Average	158	99
5		11650.00	63.42	74.00	-10.58	47.67	15.75	Peak	158	99
6		17475.00	64.70	68.20	-3.50	45.45	19.25	Peak	150	129

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

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

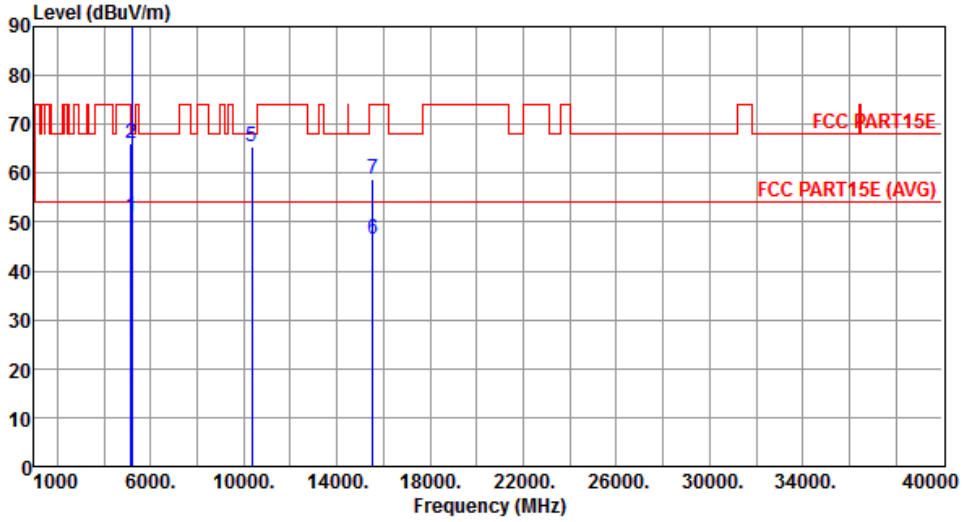
Modulation	VHT20	**Test Freq. (MHz)**	5180
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5150.00	53.68	54.00	-0.32	47.82	5.86	Average	213	22
2		5150.00	68.75	74.00	-5.25	62.89	5.86	Peak	213	22
3	*	5180.00	99.35			93.46	5.89	Average	213	22
4	*	5180.00	109.35			103.46	5.89	Peak	213	22
5		10360.00	66.62	68.20	-1.58	51.39	15.23	Peak	187	331
6		15540.00	46.20	54.00	-7.80	30.13	16.07	Average	222	139
7		15540.00	58.33	74.00	-15.67	42.26	16.07	Peak	222	139

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

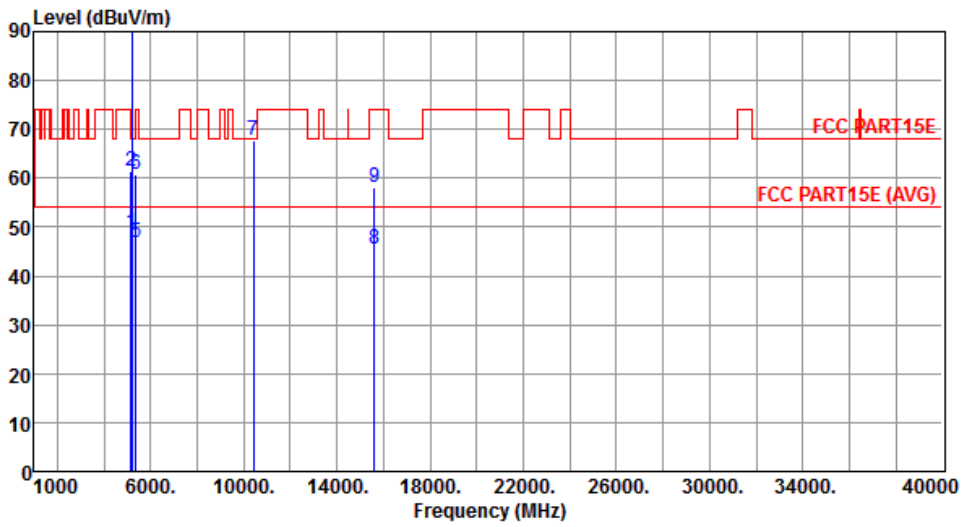
Modulation	VHT20	Test Freq. (MHz)	5180
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5150.00	51.01	54.00	-2.99	45.15	5.86	Average	195	162
2		5150.00	66.05	74.00	-7.95	60.19	5.86	Peak	195	162
3	*	5180.00	95.83			89.94	5.89	Average	195	162
4	*	5180.00	105.85			99.96	5.89	Peak	195	162
5		10360.00	65.31	68.20	-2.89	50.08	15.23	Peak	215	157
6		15540.00	46.33	54.00	-7.67	30.26	16.07	Average	218	135
7		15540.00	58.67	74.00	-15.33	42.60	16.07	Peak	218	135

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

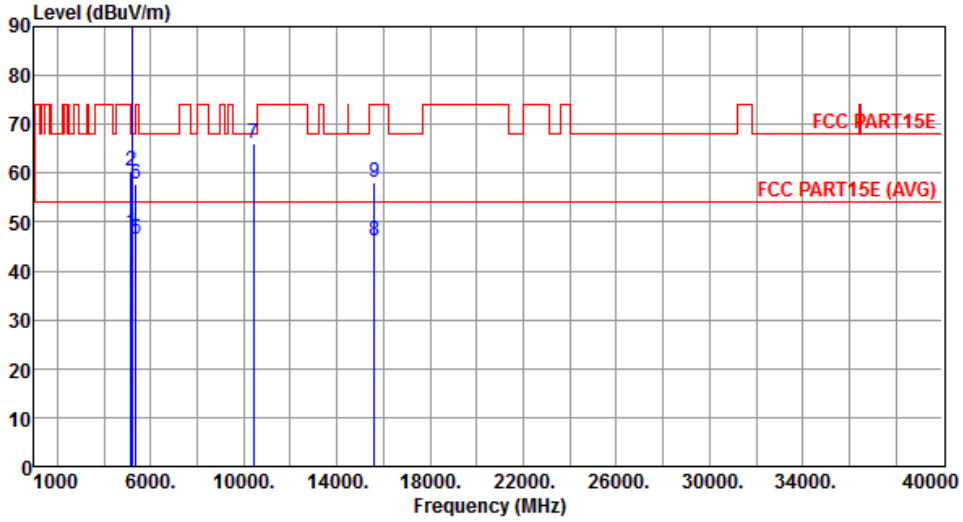
Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5150.00	48.74	54.00	-5.26	42.88	5.86	Average	207	19
2		5150.00	61.52	74.00	-12.48	55.66	5.86	Peak	207	19
3	*	5200.00	100.04			94.13	5.91	Average	207	19
4	*	5200.00	109.76			103.85	5.91	Peak	207	19
5		5350.00	46.97	54.00	-7.03	40.76	6.21	Average	207	19
6		5350.00	60.88	74.00	-13.12	54.67	6.21	Peak	207	19
7		10400.00	67.68	68.20	-0.52	52.40	15.28	Peak	188	336
8		15600.00	45.34	54.00	-8.66	29.34	16.00	Average	174	7
9		15600.00	58.25	74.00	-15.75	42.25	16.00	Peak	174	7

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

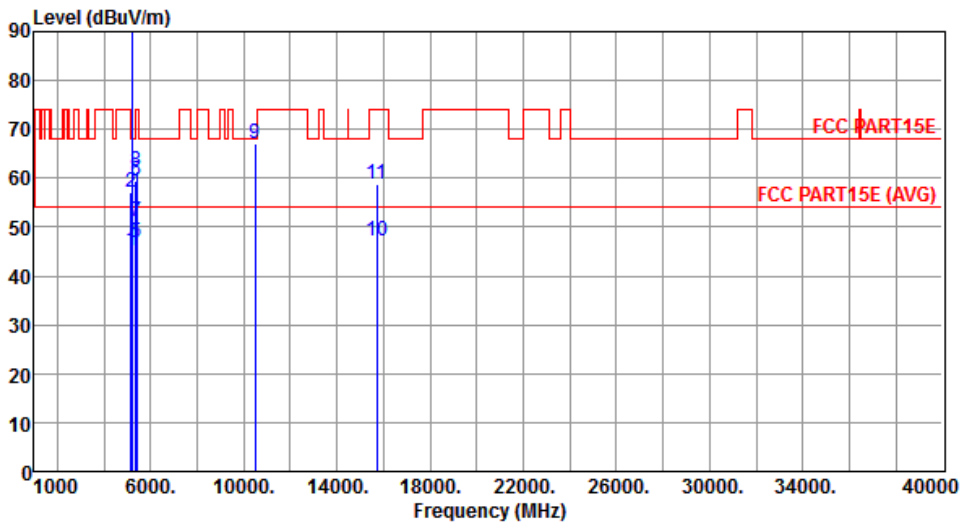
Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5150.00	47.69	54.00	-6.31	41.83	5.86	Average	207	168
2		5150.00	60.59	74.00	-13.41	54.73	5.86	Peak	207	168
3	*	5200.00	97.71			91.80	5.91	Average	207	168
4	*	5200.00	107.36			101.45	5.91	Peak	207	168
5		5350.00	46.35	54.00	-7.65	40.14	6.21	Average	207	168
6		5350.00	57.78	74.00	-16.22	51.57	6.21	Peak	207	168
7		10400.00	66.25	68.20	-1.95	50.97	15.28	Peak	227	155
8		15600.00	46.11	54.00	-7.89	30.11	16.00	Average	189	148
9		15600.00	58.18	74.00	-15.82	42.18	16.00	Peak	189	148

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

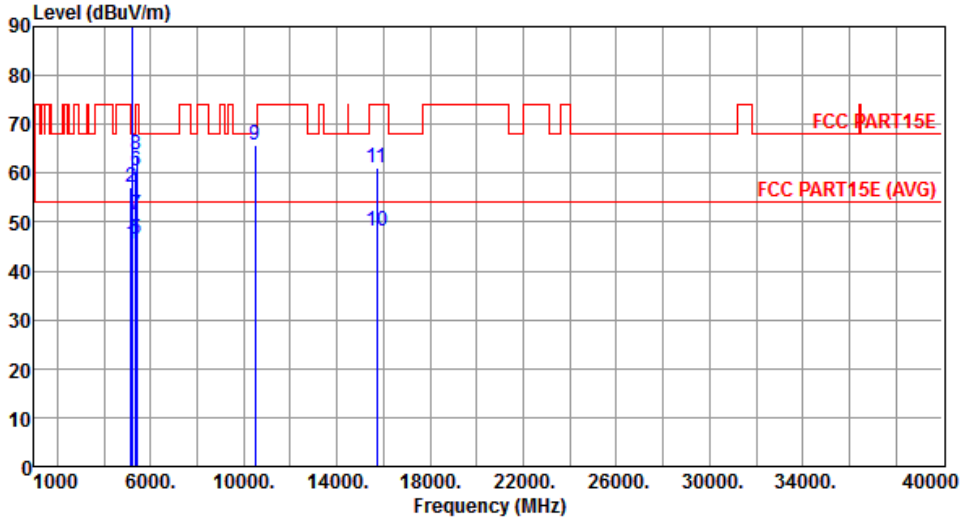
Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5150.00	45.04	54.00	-8.96	39.18	5.86	Average	219	18
2		5150.00	57.18	74.00	-16.82	51.32	5.86	Peak	219	18
3	*	5240.00	99.97			93.98	5.99	Average	219	18
4	*	5240.00	110.01			104.02	5.99	Peak	219	18
5		5350.00	46.88	54.00	-7.12	40.67	6.21	Average	219	18
6		5350.00	59.51	74.00	-14.49	53.30	6.21	Peak	219	18
7		5400.00	50.99	54.00	-3.01	44.67	6.32	Average	219	18
8		5400.00	61.38	74.00	-12.62	55.06	6.32	Peak	219	18
9		10480.00	67.05	68.20	-1.15	51.69	15.36	Peak	188	339
10		15720.00	47.07	54.00	-6.93	31.23	15.84	Average	235	143
11		15720.00	58.73	74.00	-15.27	42.89	15.84	Peak	235	143

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

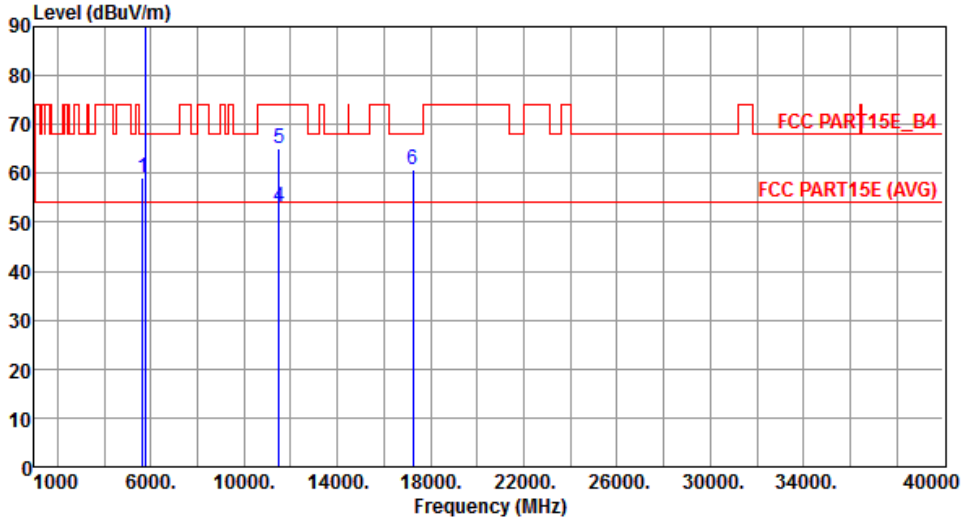
Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5150.00	45.45	54.00	-8.55	39.59	5.86	Average	178	162
2		5150.00	57.12	74.00	-16.88	51.26	5.86	Peak	178	162
3	*	5240.00	96.95			90.96	5.99	Average	178	162
4	*	5240.00	106.45			100.46	5.99	Peak	178	162
5		5350.00	46.45	54.00	-7.55	40.24	6.21	Average	178	162
6		5350.00	60.42	74.00	-13.58	54.21	6.21	Peak	178	162
7		5400.00	51.42	54.00	-2.58	45.10	6.32	Average	193	162
8		5400.00	63.85	74.00	-10.15	57.53	6.32	Peak	193	162
9		10480.00	65.87	68.20	-2.33	50.51	15.36	Peak	270	151
10		15720.00	48.20	54.00	-5.80	32.36	15.84	Average	225	118
11		15720.00	60.94	74.00	-13.06	45.10	15.84	Peak	225	118

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

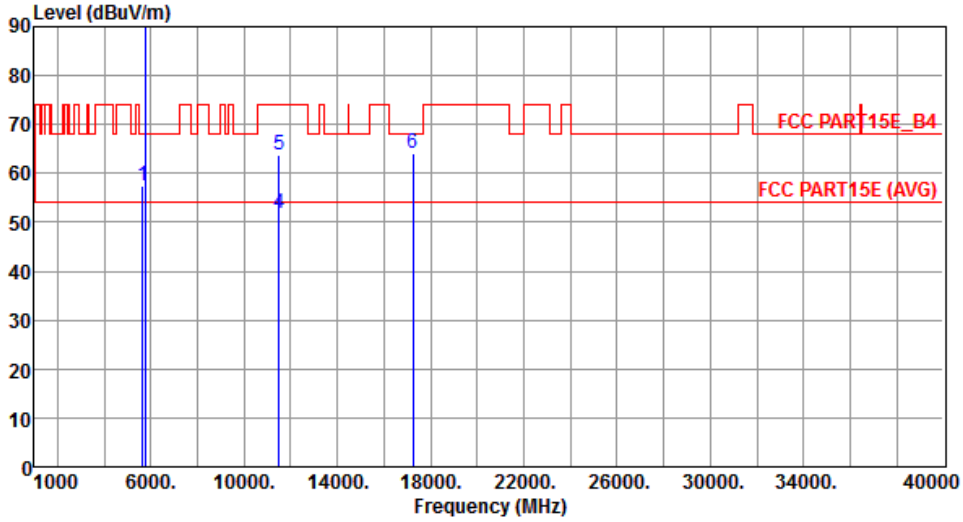
Modulation	VHT20	Test Freq. (MHz)	5745
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5649.90	59.04	68.20	-9.16	52.40	6.64	Peak	195	41
2	*	5745.00	100.51			93.61	6.90	Average	195	41
3	*	5745.00	110.19			103.29	6.90	Peak	195	41
4		11490.00	53.19	54.00	-0.81	37.17	16.02	Average	148	205
5		11490.00	65.20	74.00	-8.80	49.18	16.02	Peak	148	205
6		17235.00	60.62	68.20	-7.58	42.18	18.44	Peak	158	216

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

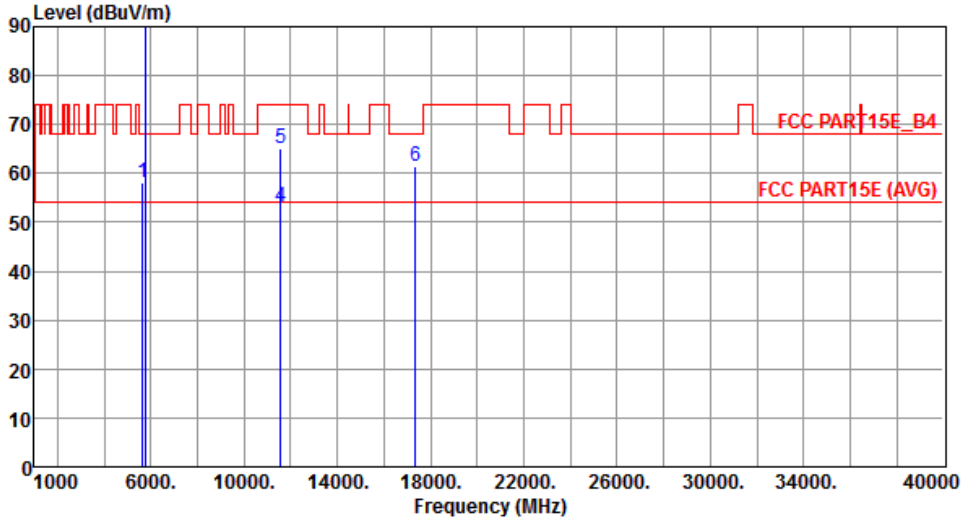
Modulation	VHT20	Test Freq. (MHz)	5745
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5649.90	57.31	68.20	-10.89	50.67	6.64	Peak	223	170
2	*	5745.00	97.53			90.63	6.90	Average	223	170
3	*	5745.00	107.00			100.10	6.90	Peak	223	170
4		11490.00	51.81	54.00	-2.19	35.79	16.02	Average	158	99
5		11490.00	63.86	74.00	-10.14	47.84	16.02	Peak	158	99
6		17235.00	64.02	68.20	-4.18	45.58	18.44	Peak	158	129

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

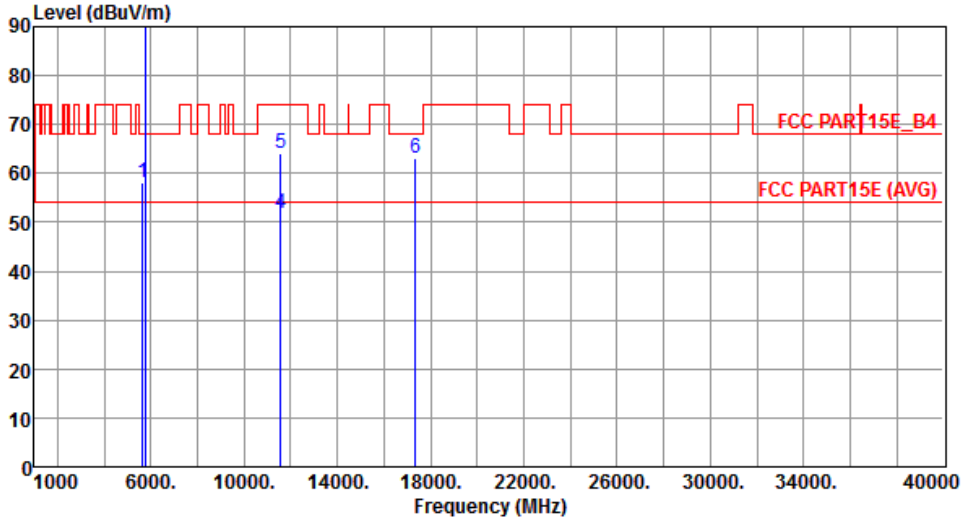
Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5649.90	58.20	68.20	-10.00	51.56	6.64	Peak	195	42
2	*	5785.00	100.67			93.66	7.01	Average	195	42
3	*	5785.00	110.43			103.42	7.01	Peak	195	42
4		11570.00	53.19	54.00	-0.81	37.29	15.90	Average	147	203
5		11570.00	65.24	74.00	-8.76	49.34	15.90	Peak	147	203
6		17355.00	61.32	68.20	-6.88	42.48	18.84	Peak	160	215

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

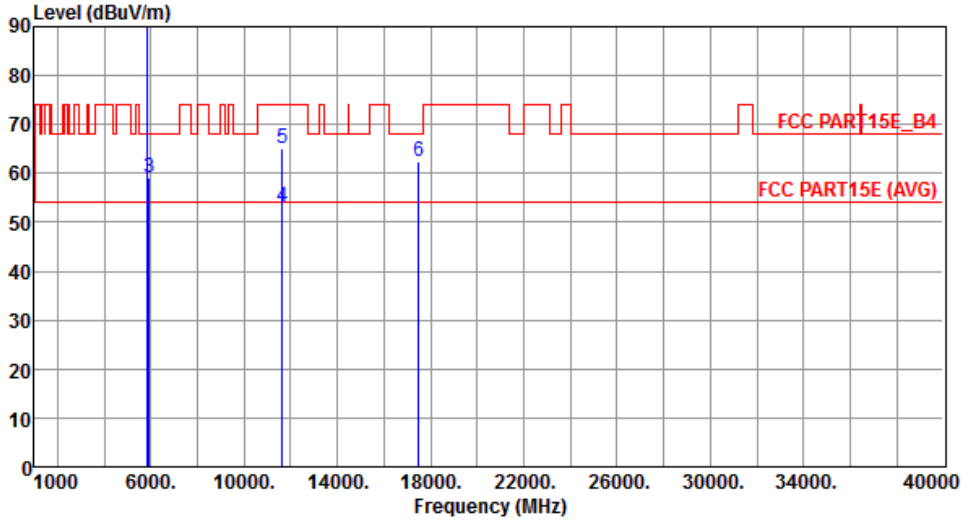
Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5649.90	58.24	68.20	-9.96	51.60	6.64	Peak	223	170
2	*	5785.00	97.89			90.88	7.01	Average	223	170
3	*	5785.00	107.74			100.73	7.01	Peak	223	170
4		11570.00	51.96	54.00	-2.04	36.06	15.90	Average	158	99
5		11570.00	64.02	74.00	-9.98	48.12	15.90	Peak	158	99
6		17355.00	63.21	68.20	-4.99	44.37	18.84	Peak	152	128

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

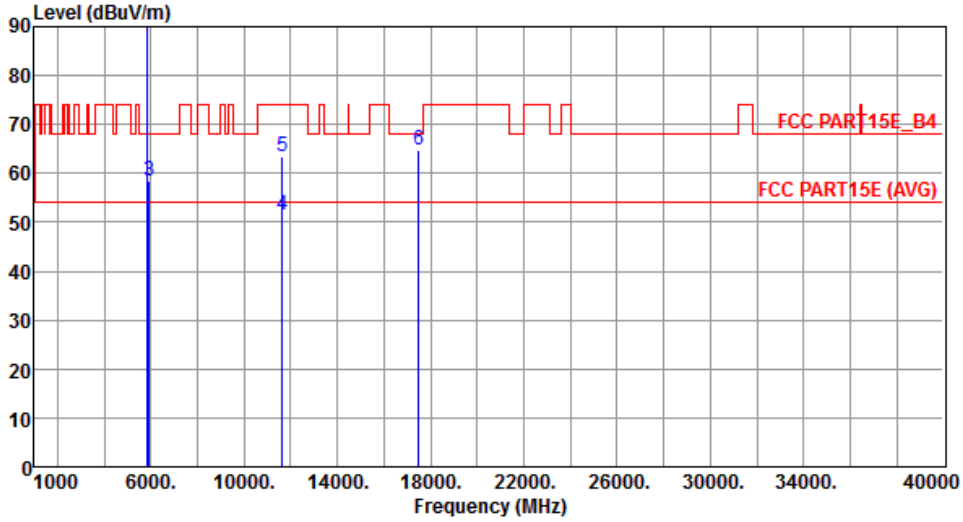
Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	*	5825.00	101.09			93.98	7.11	Average	195	42
2	*	5825.00	110.84			103.73	7.11	Peak	195	42
3		5925.10	59.13	68.20	-9.07	51.78	7.35	Peak	195	42
4		11650.00	53.08	54.00	-0.92	37.33	15.75	Average	147	200
5		11650.00	64.95	74.00	-9.05	49.20	15.75	Peak	147	200
6		17475.00	62.41	68.20	-5.79	43.16	19.25	Peak	160	215

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		

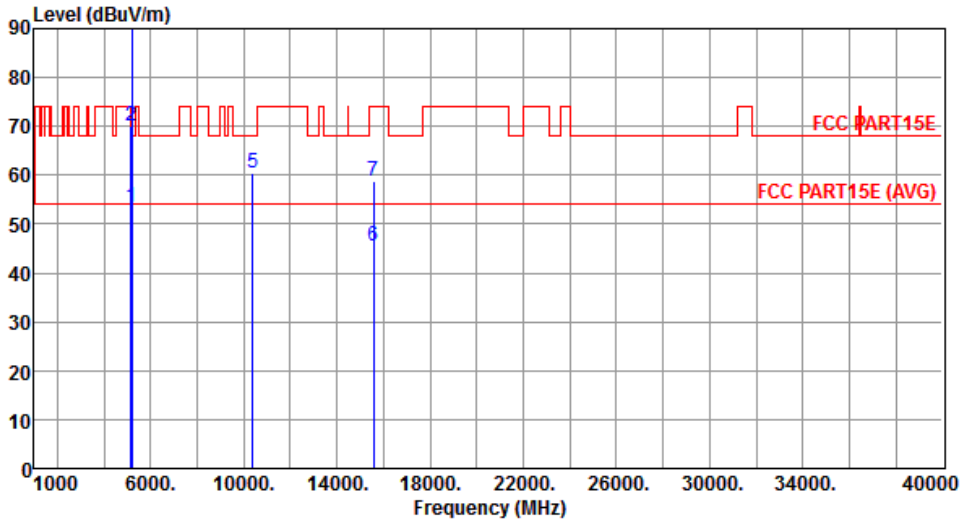


		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	*	5825.00	98.45			91.34	7.11	Average	223	170
2	*	5825.00	108.43			101.32	7.11	Peak	223	170
3		5925.10	58.35	68.20	-9.85	51.00	7.35	Peak	223	170
4		11650.00	51.54	54.00	-2.46	35.79	15.75	Average	158	99
5		11650.00	63.42	74.00	-10.58	47.67	15.75	Peak	158	99
6		17475.00	64.70	68.20	-3.50	45.45	19.25	Peak	150	129

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

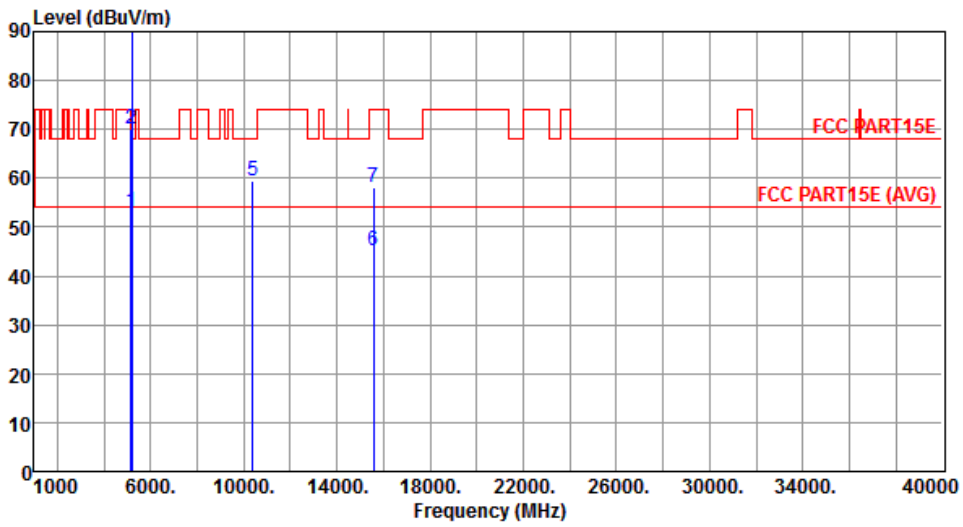
Modulation	VHT40	**Test Freq. (MHz)**	5190
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5150.00	53.61	54.00	-0.39	47.75	5.86	Average	206	24
2		5150.00	69.98	74.00	-4.02	64.12	5.86	Peak	206	24
3	*	5190.00	94.28			88.38	5.90	Average	206	24
4	*	5190.00	104.48			98.58	5.90	Peak	206	24
5		10380.00	60.38	68.20	-7.82	45.12	15.26	Peak	187	331
6		15570.00	45.39	54.00	-8.61	29.36	16.03	Average	221	132
7		15570.00	58.62	74.00	-15.38	42.59	16.03	Peak	221	132

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

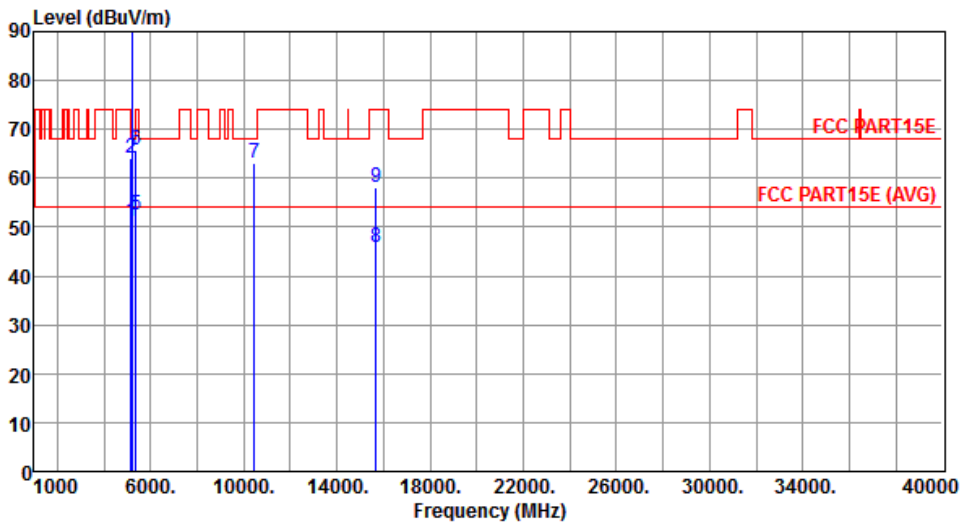
Modulation	VHT40	Test Freq. (MHz)	5190
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5150.00	52.98	54.00	-1.02	47.12	5.86	Average	198	169
2		5150.00	69.97	74.00	-4.03	64.11	5.86	Peak	198	169
3	*	5190.00	91.79			85.89	5.90	Average	198	169
4	*	5190.00	101.92			96.02	5.90	Peak	198	169
5		10380.00	59.37	68.20	-8.83	44.11	15.26	Peak	259	154
6		15570.00	45.11	54.00	-8.89	29.08	16.03	Average	228	103
7		15570.00	58.14	74.00	-15.86	42.11	16.03	Peak	228	103

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

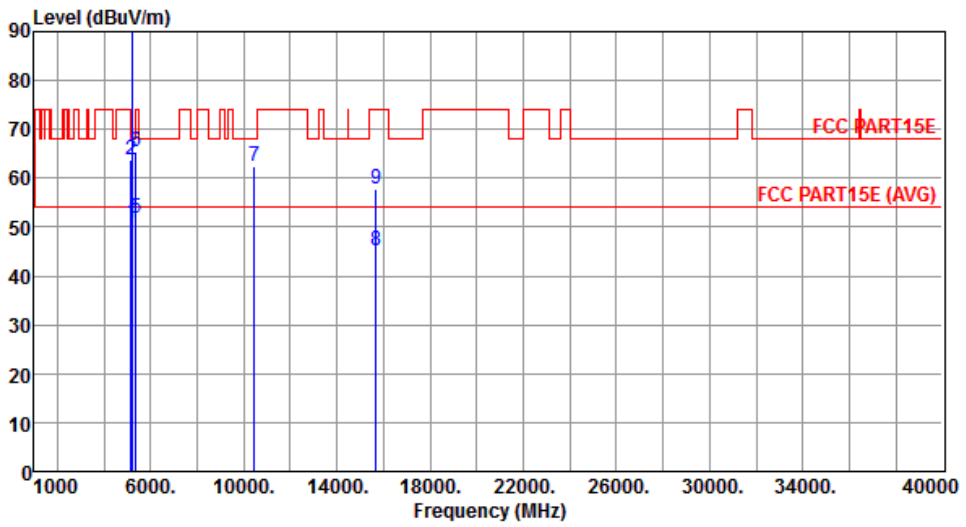
Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5150.00	51.16	54.00	-2.84	45.30	5.86	Average	215	22
2		5150.00	64.22	74.00	-9.78	58.36	5.86	Peak	215	22
3	*	5230.00	97.78			91.81	5.97	Average	215	22
4	*	5230.00	107.20			101.23	5.97	Peak	215	22
5		5350.00	52.37	54.00	-1.63	46.16	6.21	Average	215	22
6		5350.00	65.83	74.00	-8.17	59.62	6.21	Peak	215	22
7		10460.00	63.11	68.20	-5.09	47.76	15.35	Peak	182	337
8		15690.00	45.78	54.00	-8.22	29.90	15.88	Average	218	140
9		15690.00	58.06	74.00	-15.94	42.18	15.88	Peak	218	140

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

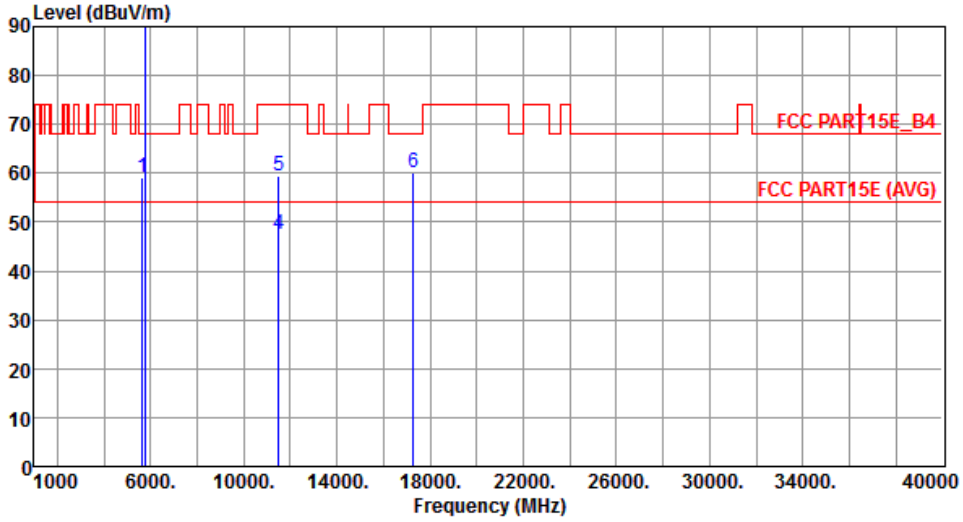
Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5150.00	50.79	54.00	-3.21	44.93	5.86	Average	210	164
2		5150.00	63.75	74.00	-10.25	57.89	5.86	Peak	210	164
3	*	5230.00	95.62			89.65	5.97	Average	210	164
4	*	5230.00	104.79			98.82	5.97	Peak	210	164
5		5350.00	51.92	54.00	-2.08	45.71	6.21	Average	210	164
6		5350.00	65.55	74.00	-8.45	59.34	6.21	Peak	210	164
7		10460.00	62.37	68.20	-5.83	47.02	15.35	Peak	231	100
8		15690.00	45.02	54.00	-8.98	29.14	15.88	Average	231	100
9		15690.00	57.89	74.00	-16.11	42.01	15.88	Peak	231	100

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

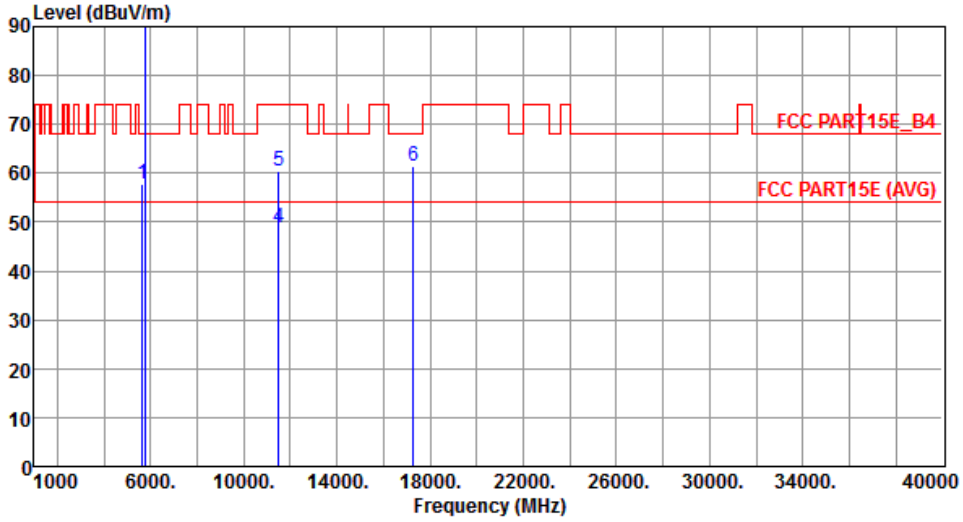
Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5649.90	59.14	68.20	-9.06	52.50	6.64	Peak	195	42
2	*	5755.00	98.13			91.20	6.93	Average	195	42
3	*	5755.00	107.68			100.75	6.93	Peak	195	42
4		11510.00	47.43	54.00	-6.57	31.42	16.01	Average	148	213
5		11510.00	59.33	74.00	-14.67	43.32	16.01	Peak	148	213
6		17265.00	60.01	68.20	-8.19	41.49	18.52	Peak	158	216

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

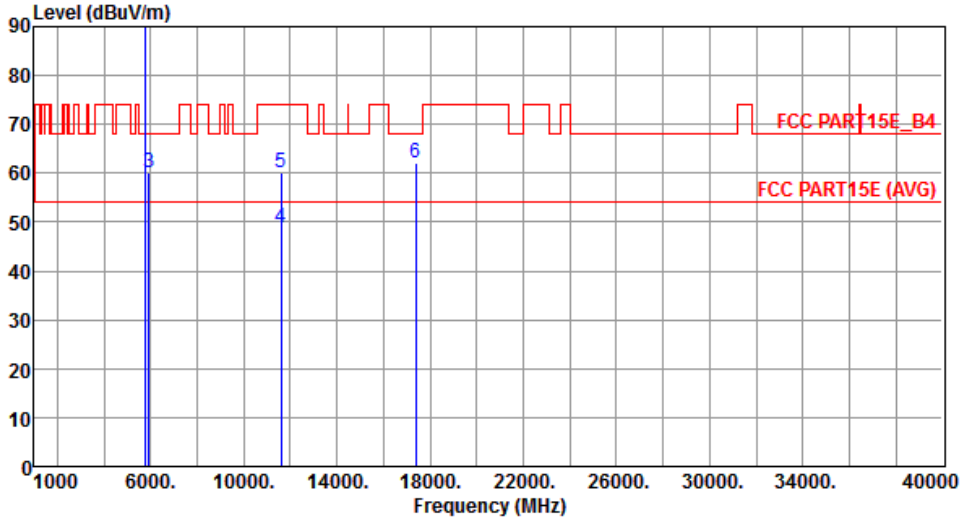
Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5649.90	57.77	68.20	-10.43	51.13	6.64	Peak	223	170
2	*	5755.00	95.57			88.64	6.93	Average	223	170
3	*	5755.00	105.13			98.20	6.93	Peak	223	170
4		11510.00	48.87	54.00	-5.13	32.86	16.01	Average	158	99
5		11510.00	60.47	74.00	-13.53	44.46	16.01	Peak	158	99
6		17265.00	61.32	68.20	-6.88	42.80	18.52	Peak	158	129

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

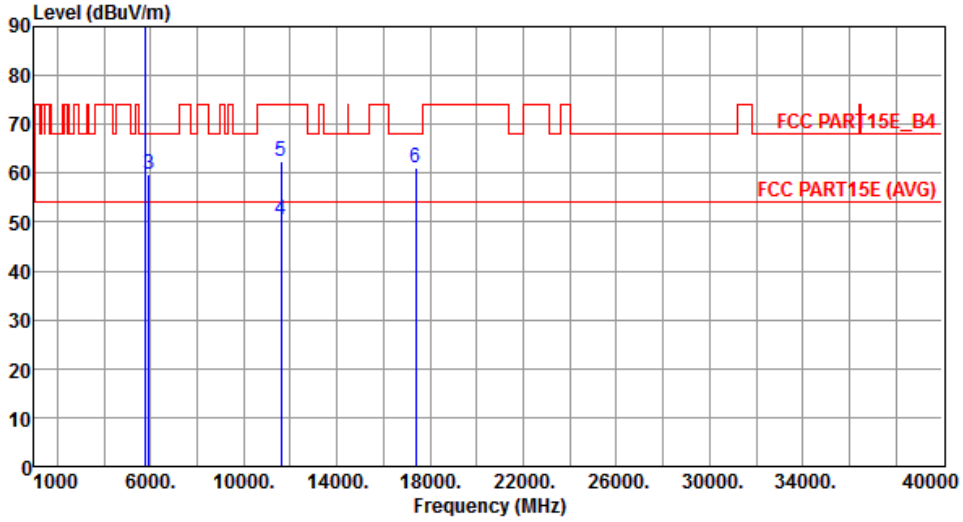
Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	*	5795.00	99.13			92.10	7.03	Average	195	46
2	*	5795.00	108.20			101.17	7.03	Peak	195	46
3		5925.10	60.21	68.20	-7.99	52.86	7.35	Peak	195	46
4		11590.00	48.93	54.00	-5.07	33.07	15.86	Average	148	206
5		11590.00	60.12	74.00	-13.88	44.26	15.86	Peak	148	206
6		17385.00	62.03	68.20	-6.17	43.08	18.95	Peak	158	216

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

Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Vertical		

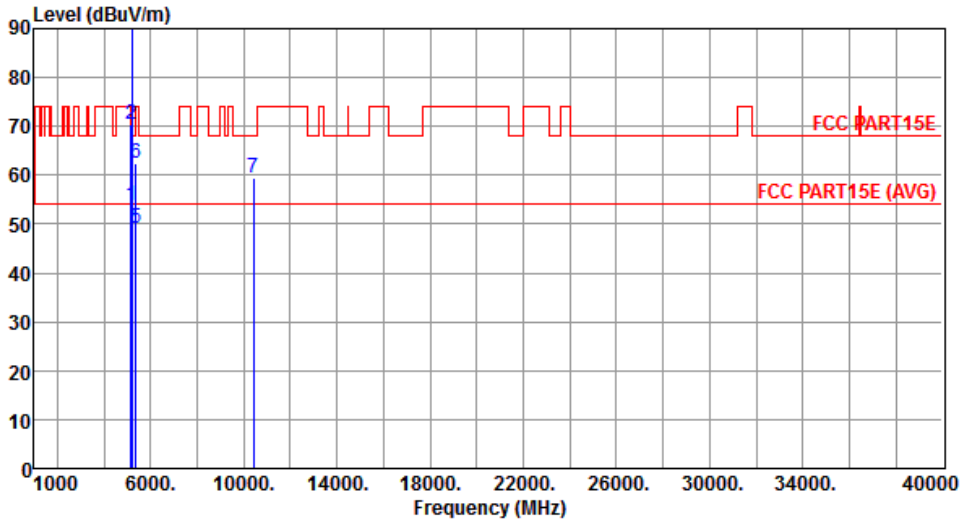


		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	*	5795.00	95.40			88.37	7.03	Average	223	170
2	*	5795.00	105.37			98.34	7.03	Peak	223	170
3		5925.10	59.78	68.20	-8.42	52.43	7.35	Peak	223	170
4		11590.00	50.39	54.00	-3.61	34.53	15.86	Average	158	99
5		11590.00	62.37	74.00	-11.63	46.51	15.86	Peak	158	99
6		17385.00	61.03	68.20	-7.17	42.08	18.95	Peak	158	129

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

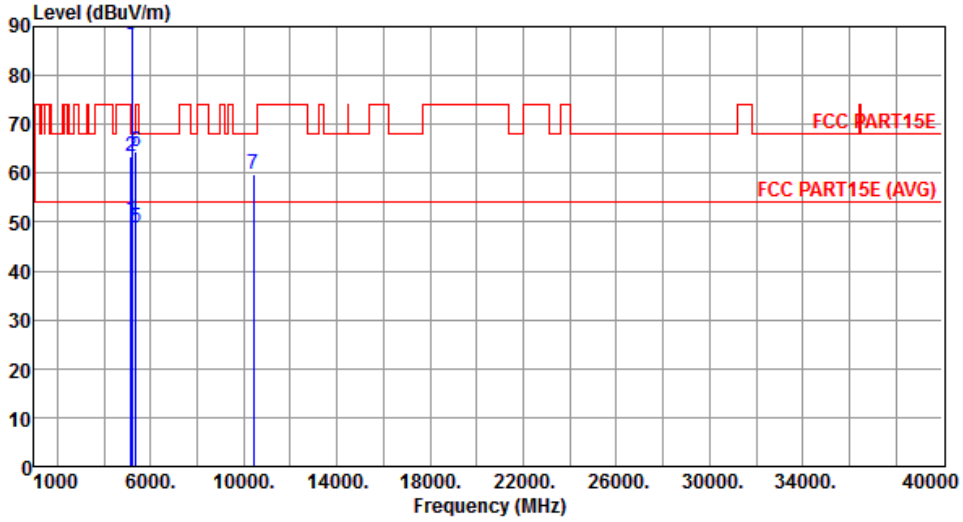
Modulation	VHT80	**Test Freq. (MHz)**	5210
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5150.00	53.75	54.00	-0.25	47.89	5.86	Average	215	23
2		5150.00	70.35	74.00	-3.65	64.49	5.86	Peak	215	23
3	*	5210.00	91.01			85.08	5.93	Average	215	23
4	*	5210.00	101.23			95.30	5.93	Peak	215	23
5		5350.00	49.07	54.00	-4.93	42.86	6.21	Average	215	23
6		5350.00	62.58	74.00	-11.42	56.37	6.21	Peak	215	23
7		10420.00	59.41	68.20	-8.79	44.11	15.30	Peak	215	111

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

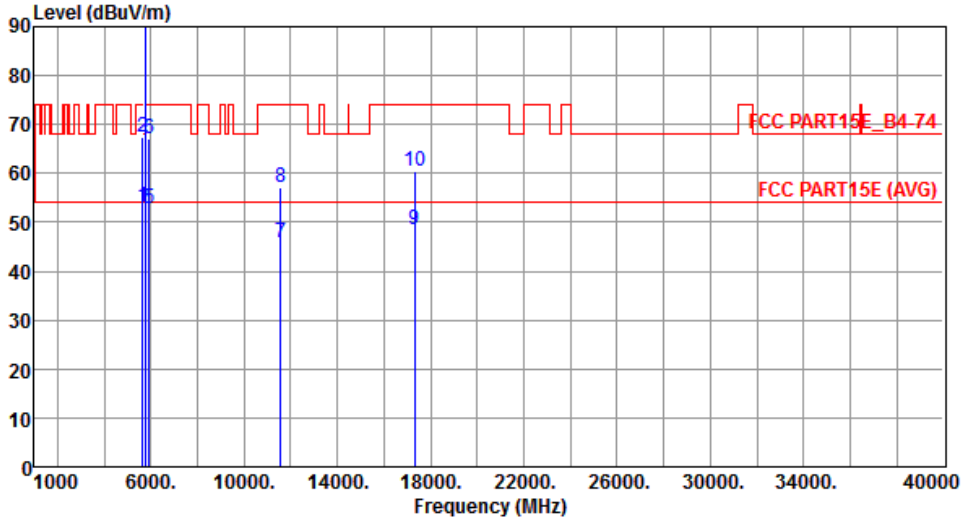
Modulation	VHT80	Test Freq. (MHz)	5210
Polarization	Vertical		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5150.00	50.51	54.00	-3.49	44.65	5.86	Average	215	170
2		5150.00	63.50	74.00	-10.50	57.64	5.86	Peak	215	170
3	*	5210.00	88.41			82.48	5.93	Average	303	183
4	*	5210.00	98.35			92.42	5.93	Peak	303	183
5		5350.00	48.98	54.00	-5.02	42.77	6.21	Average	215	170
6		5350.00	64.52	74.00	-9.48	58.31	6.21	Peak	215	170
7		10420.00	59.69	68.20	-8.51	44.39	15.30	Peak	168	221

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

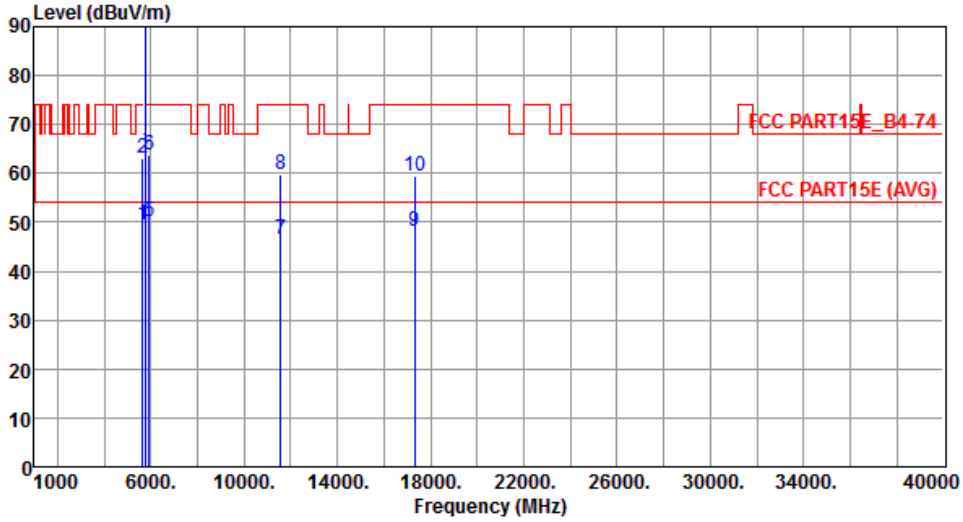
Modulation	VHT80	Test Freq. (MHz)	5775
Polarization	Horizontal		



		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5649.90	53.18	54.00	-0.82	46.54	6.64	Average	195	46
2		5649.90	67.27	74.00	-6.73	60.63	6.64	Peak	195	46
3	*	5775.00	96.47			89.49	6.98	Average	195	46
4	*	5775.00	106.32			99.34	6.98	Peak	195	46
5		5925.10	52.73	54.00	-1.27	45.38	7.35	Average	195	46
6		5925.10	67.21	74.00	-6.79	59.86	7.35	Peak	195	46
7		11550.00	45.83	54.00	-8.17	29.89	15.94	Average	148	206
8		11550.00	57.27	74.00	-16.73	41.33	15.94	Peak	148	206
9		17325.00	48.43	54.00	-5.57	29.70	18.73	Average	158	216
10		17325.00	60.60	74.00	-13.40	41.87	18.73	Peak	158	216

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

Modulation	VHT80	Test Freq. (MHz)	5775
Polarization	Vertical		



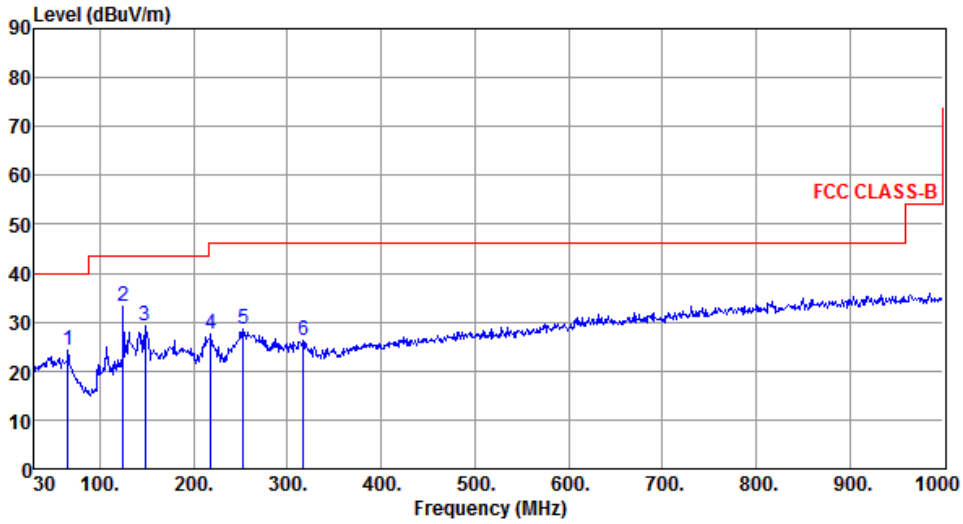
		Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1		5649.90	49.44	54.00	-4.56	42.80	6.64	Average	223	170
2		5649.90	62.94	74.00	-11.06	56.30	6.64	Peak	223	170
3	*	5775.00	92.73			85.75	6.98	Average	223	170
4	*	5775.00	102.76			95.78	6.98	Peak	223	170
5		5925.10	50.21	54.00	-3.79	42.86	7.35	Average	223	170
6		5925.10	63.89	74.00	-10.11	56.54	7.35	Peak	223	170
7		11550.00	46.62	54.00	-7.38	30.68	15.94	Average	158	99
8		11550.00	59.65	74.00	-14.35	43.71	15.94	Peak	158	99
9		17325.00	48.04	54.00	-5.96	29.31	18.73	Average	158	129
10		17325.00	59.44	74.00	-14.56	40.71	18.73	Peak	158	129

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

Configuration 2 : Sample 2: VE4

3.5.13 Transmitter Radiated Unwanted Emissions (Below 1GHz)

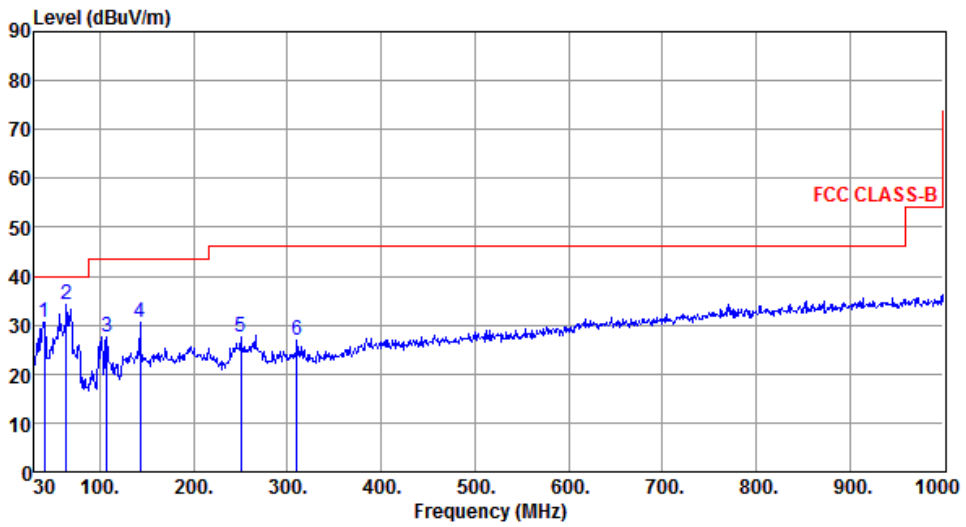
Modulation	11a	**Test Freq. (MHz)**	5200
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	65.89	24.13	40.00	-15.87	33.86	-9.73	Peak	---	---
2	125.06	33.34	43.50	-10.16	43.55	-10.21	Peak	---	---
3	148.34	29.20	43.50	-14.30	37.38	-8.18	Peak	---	---
4	218.18	27.47	46.00	-18.53	38.26	-10.79	Peak	---	---
5	253.10	28.54	46.00	-17.46	37.79	-9.25	Peak	---	---
6	317.12	26.34	46.00	-19.66	33.60	-7.26	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.

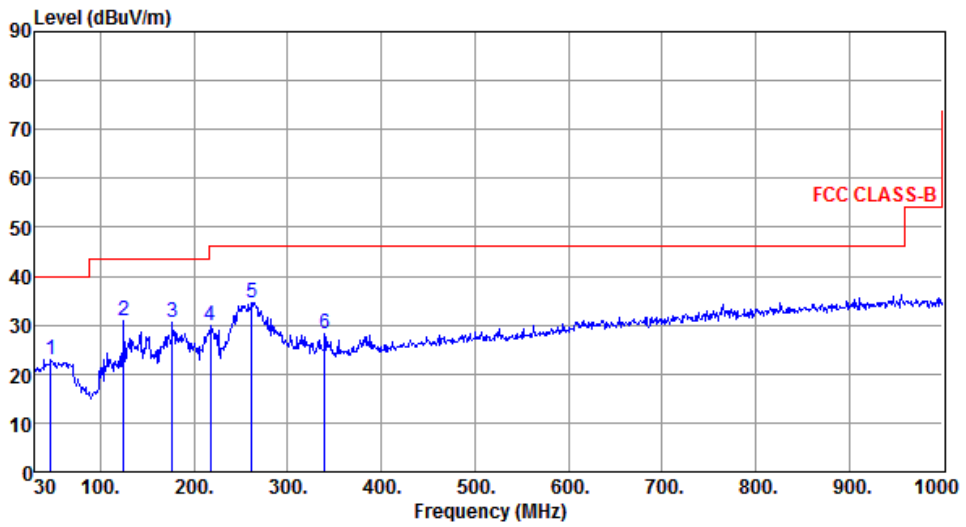
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	40.67	30.63	40.00	-9.37	38.89	-8.26	Peak	---	---
2	63.95	34.10	40.00	-5.90	43.43	-9.33	Peak	---	---
3	107.60	27.59	43.50	-15.91	39.53	-11.94	Peak	---	---
4	142.52	30.67	43.50	-12.83	39.05	-8.38	Peak	---	---
5	250.19	27.52	46.00	-18.48	36.84	-9.32	Peak	---	---
6	310.33	26.91	46.00	-19.09	34.36	-7.45	Peak	---	---

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

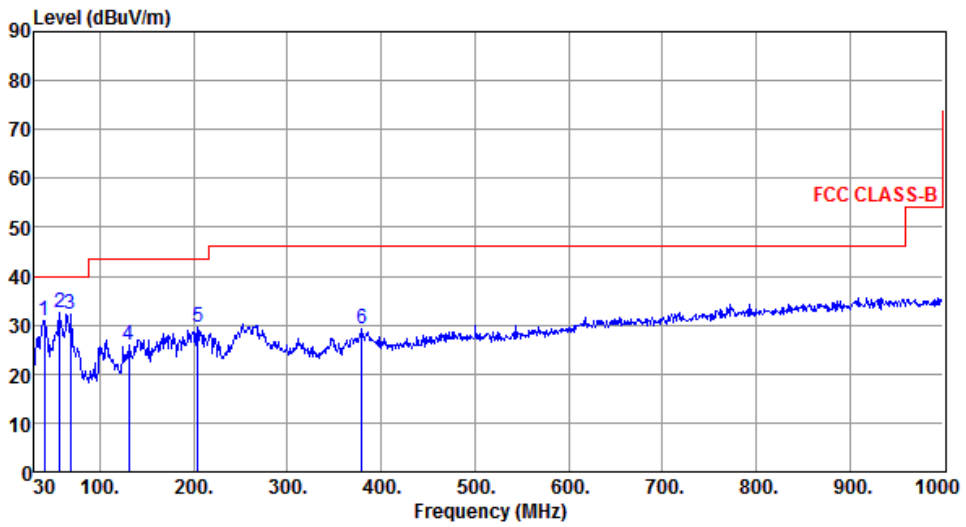
Modulation	11a	Test Freq. (MHz)	5745
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	46.49	22.78	40.00	-17.22	30.66	-7.88	Peak	---	---
2	125.06	30.83	43.50	-12.67	41.04	-10.21	Peak	---	---
3	176.47	30.67	43.50	-12.83	39.85	-9.18	Peak	---	---
4	217.21	29.76	46.00	-16.24	40.57	-10.81	Peak	---	---
5	261.83	34.67	46.00	-11.33	43.68	-9.01	Peak	---	---
6	339.43	28.38	46.00	-17.62	35.03	-6.65	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)	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	40.67	30.98	40.00	-9.02	39.24	-8.26	Peak	---	---
2	57.16	32.63	40.00	-7.37	40.94	-8.31	Peak	---	---
3	68.80	32.12	40.00	-7.88	42.41	-10.29	Peak	---	---
4	130.88	25.81	43.50	-17.69	35.44	-9.63	Peak	---	---
5	204.60	29.43	43.50	-14.07	40.33	-10.90	Peak	---	---
6	379.20	29.16	46.00	-16.84	34.71	-5.55	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.

3.6 Frequency Stability

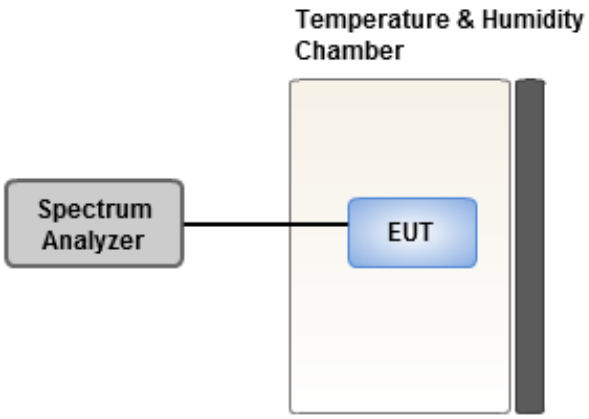
3.6.1 Limit of Frequency Stability

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	0.93	1.22	1.69	1.26
T20°CVmin	0.07	0.73	-0.35	0.63
T50°CVnom	2.18	2.35	2.24	1.96
T40°CVnom	1.19	1.36	0.97	1.13
T30°CVnom	2.24	2.41	2.29	2.21
T20°CVnom	3.43	4.09	2.87	3.30
T10°CVnom	2.80	3.27	3.54	2.92
T0°CVnom	0.89	1.18	1.72	1.24
T-10°CVnom	2.87	3.35	3.32	3.35
T-20°CVnom	1.88	2.03	2.31	2.07
T-30°CVnom	1.32	1.79	1.20	1.71
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	1.55	0.92	1.40	1.62
T20°CVmin	4.00	3.75	3.45	3.74
T50°CVnom	3.94	3.55	3.52	3.98
T40°CVnom	1.18	1.61	1.59	1.64
T30°CVnom	3.30	2.66	3.23	2.78
T20°CVnom	3.36	3.63	3.46	3.38
T10°CVnom	3.58	3.19	3.64	3.07
T0°CVnom	2.10	2.53	1.96	2.34
T-10°CVnom	3.73	3.70	3.69	3.86
T-20°CVnom	1.79	2.51	2.12	1.92
T-30°CVnom	1.52	1.24	1.15	1.70
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

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