

# FCC Test Report

**FCC ID** : I88NWA5123-AC  
**Equipment** : 802.11 a/b/g/n/ac Dual-Radio Managed Access Point  
**Model No.** : NWA5123-AC  
**Brand Name** : ZyXEL  
**Applicant** : ZyXEL Communications Corporation  
**Address** : No. 2, Gongye E. 9th Road, Hsinchu Science Park, Hsinchu, Taiwan.  
**Standard** : 47 CFR FCC Part 15.407  
**Received Date** : Aug. 24, 2015  
**Tested Date** : Aug. 25 ~ Sep. 10, 2015

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

Approved & Reviewed by:

  
\_\_\_\_\_  
Gary Chang / Manager



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## Release Record

Report No.	Version	Description	Issued Date
FR590309AN	Rev. 01	Initial issue	Oct. 06, 2015

## Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.435MHz 37.39 (Margin -9.76dB) - AV	Pass
15.407(b) 15.209	Radiated Emissions	[dBuV/m at 3m]: 5150.00MHz 53.90 (Margin -0.10dB) - 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: 27.95 5725-5850MHz: 25.30	Pass
15.407(a)	Peak Power Spectral Density	Meet the requirement of limit	Pass
15.407(g)	Frequency Stability	Meet the requirement of limit	Pass
15.203	Antenna Requirement	Meet the requirement of limit	Pass

# 1 General Description

## 1.1 Information

### 1.1.1 Specification of the Equipment under Test (EUT)

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N <sub>TX</sub> )	Data Rate / MCS
5150-5250	a	5180-5240	36-48 [4]	2	6-54 Mbps
5150-5250	n (HT20)	5180-5240	36-48 [4]	2	MCS 0-15
5150-5250	n (HT40)	5190-5230	38-46 [2]	2	MCS 0-15
5150-5250	ac (VHT20)	5180-5240	36-48 [4]	2	MCS 0-9
5150-5250	ac (VHT40)	5190-5230	38-46 [2]	2	MCS 0-9
5150-5250	ac (VHT80)	5210	42 [1]	2	MCS 0-9
5725-5850	a	5745-5825	149-165 [5]	2	6-54 Mbps
5725-5850	n (HT20)	5745-5825	149-165 [5]	2	MCS 0-15
5725-5850	n (HT40)	5755-5795	151-159 [2]	2	MCS 0-15
5725-5850	ac (VHT20)	5745-5825	149-165 [5]	2	MCS 0-9
5725-5850	ac (VHT40)	5755-5795	151-159 [2]	2	MCS 0-9
5725-5850	ac (VHT80)	5775	155 [1]	2	MCS 0-9

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

### 1.1.2 Antenna Details

Ant. No.	Model	Type	Operating Frequency (MHz) / Gain (dBi)			Connector
			2400~2483.5	5150~5250	5725~5850	
1	2.4GHz Ant.1	PIFA	3.08	-	-	U.FL
2	2.4GHz Ant.2	PIFA	3.07	-	-	U.FL
3	5GHz Ant.3	PIFA	-	4.06	3.79	U.FL
4	5GHz Ant.4	PIFA	-	3.99	3.78	U.FL

### 1.1.3 Power Supply Type of Equipment under Test (EUT)

<b>Power Supply Type 1</b>	12Vdc from AC adapter
<b>Power Supply Type 2 (Support unit only)</b>	55Vdc from POE Brand: PowerDsine Model: PD-9001GR/AT/AC Power Rating: I/P: 100-240Vac, 50-60Hz, 0.67A O/P: 55Vdc, 0.6A

### 1.1.4 Accessories

Accessories		
No.	Equipment	Description
1	AC Adapter	Brand Name: DVE Model Name: DSA-12CB-12 Power Rating: I/P: 100-240Vac, 50-60Hz, 0.5A O/P: 12Vdc, 1A Power Line: 1.5m non-shielded cable w/o core

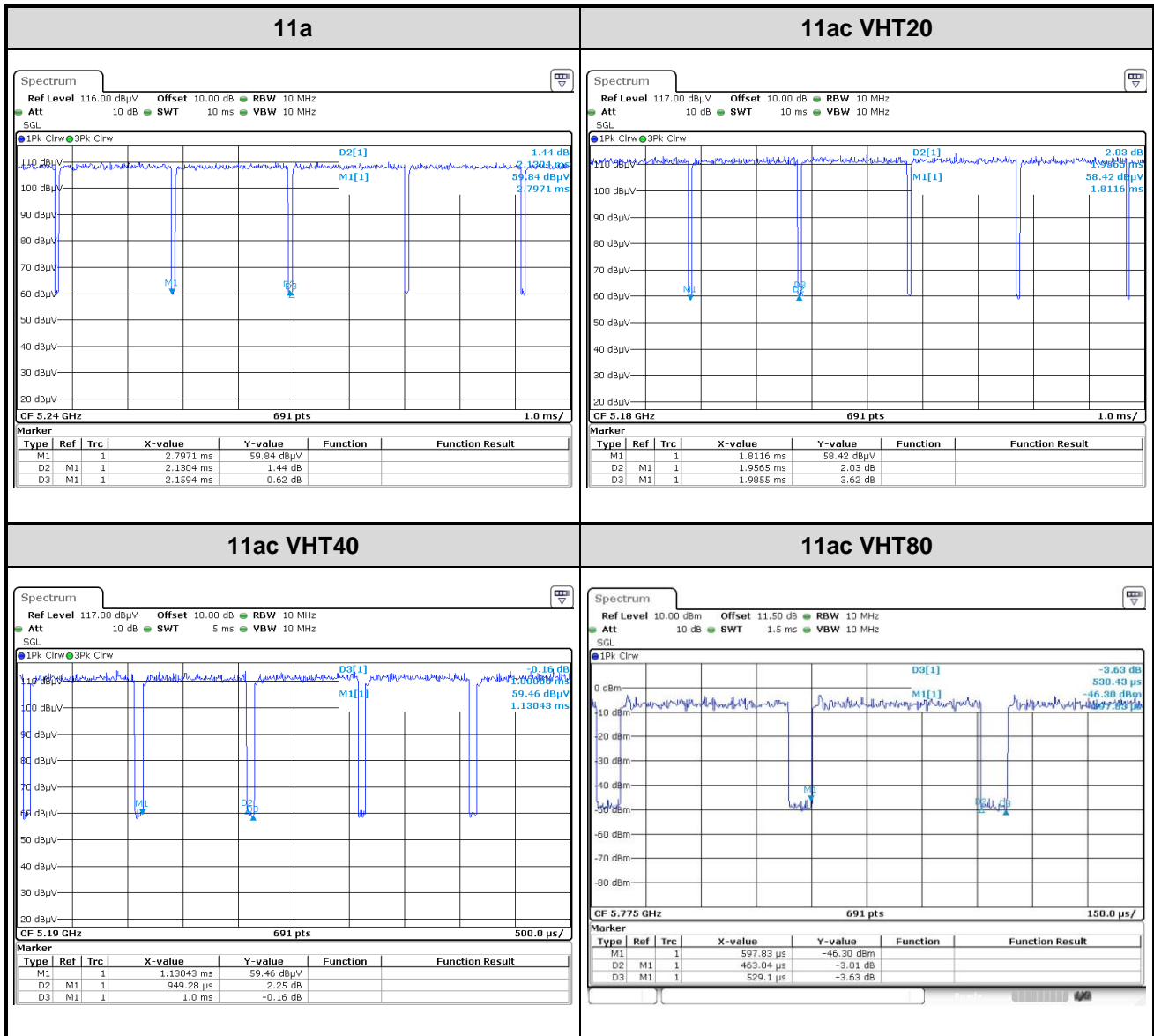
### 1.1.5 Channel List

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	<b>VHT 80</b>	
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	<b>VHT80</b>	
161	5805	155	5775
165	5825	---	---

## 1.1.6 Test Tool and Duty Cycle

Test Tool	ART2-GUI, V2.3		
Duty Cycle and Duty Factor	Mode	Duty cycle (%)	Duty factor (dB)
	11a	98.66%	0.06
	VHT20	98.54%	0.06
	VHT40	94.93%	0.23
	VHT80	87.51%	0.58



### 1.1.7 Power Setting

For Frequency band 5150-5250 MHz		
Modulation Mode	Test Frequency (MHz)	Power Set
11a	5180	21.5
11a	5200	25.5
11a	5240	25.5
HT20	5180	21
HT20	5200	25.5
HT20	5240	25.5
HT40	5190	16
HT40	5230	24.5
VHT20	5180	21
VHT20	5200	25.5
VHT20	5240	25.5
VHT40	5190	16
VHT40	5230	24.5
VHT80	5210	13.5

For Frequency band 5725~5850 MHz		
Modulation Mode	Test Frequency (MHz)	Power Set
11a	5745	21
11a	5785	20.5
11a	5825	20.5
HT20	5745	20.5
HT20	5785	21.5
HT20	5825	20
HT40	5755	16
HT40	5795	21
VHT20	5745	20.5
VHT20	5785	21.5
VHT20	5825	20
VHT40	5755	16
VHT40	5795	21
VHT80	5775	13

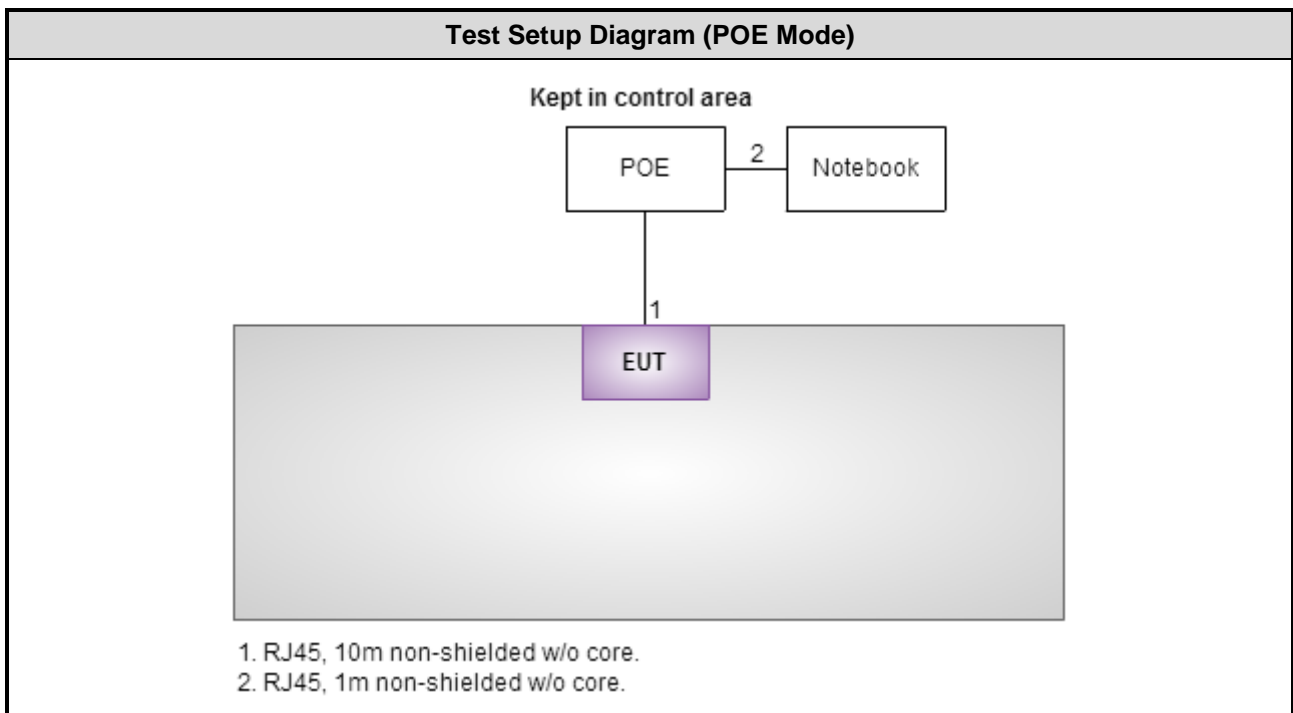
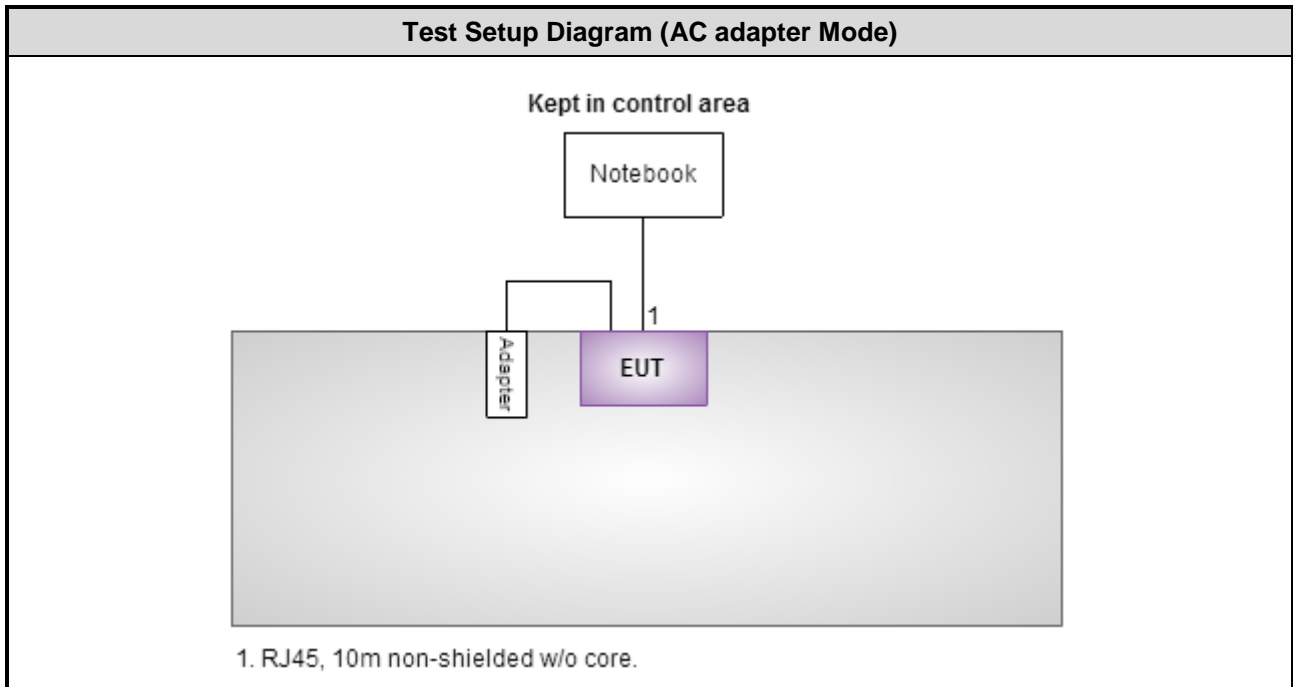


## 1.2 Local Support Equipment List

Support Equipment List					
No.	Equipment	Brand	Model	FCC ID	Signal cable / Length (m)
1	Notebook	DELL	Latitude E6430	DoC	Adapter Mode: RJ45, 10m non-shielded. POE Mode: RJ45, 1m non-shielded.
2	POE	PowerDsine	PD-9001GR/AT/ AC	---	RJ45, 10m non-shielded.

Note: No. 2 was provided by applicant.

### 1.3 Test Setup Chart



## 1.4 The Equipment List

<b>Test Item</b>	Conducted Emission				
<b>Test Site</b>	Conduction room 1 / (CO01-WS)				
<b>Tested Date</b>	Sep. 10, 2015				
<b>Instrument</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Calibration Date</b>	<b>Calibration Until</b>
EMC Receiver	R&S	ESCS 30	100169	Oct. 17, 2014	Oct. 16, 2015
LISN	SCHWARZBECK	Schwarzbeck 8127	8127-667	Nov. 17, 2014	Nov. 16, 2015
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Dec. 31, 2014	Dec. 30, 2015
Measurement Software	AUDIX	e3	6.120210k	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

<b>Test Item</b>	Radiated Emission				
<b>Test Site</b>	966 chamber1 / (03CH01-WS)				
<b>Tested Date</b>	Aug. 24 ~ Sep. 01, 2015				
<b>Instrument</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Calibration Date</b>	<b>Calibration Until</b>
Spectrum Analyzer	R&S	FSV40	101498	Dec. 09, 2014	Dec. 08, 2015
Receiver	R&S	ESR3	101658	Nov. 10, 2014	Nov. 09, 2015
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Aug. 20, 2015	Aug. 19, 2016
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 11, 2014	Dec. 10, 2015
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 10, 2014	Nov. 09, 2015
Loop Antenna	R&S	HFH2-Z2	11900	Nov. 10, 2014	Nov. 09, 2015
Preamplifier	Burgeon	BPA-530	SN:100219	Sep. 09, 2014	Sep. 08, 2015
Preamplifier	Agilent	83017A	MY39501308	Oct. 09, 2014	Oct. 08, 2015
Pre-Amplifier	WM	TF-130N-R1	923365	Feb. 10, 2015	Feb. 09, 2016
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Dec. 15, 2014	Dec. 14, 2015
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Dec. 15, 2014	Dec. 14, 2015
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16139/4	Dec. 15, 2014	Dec. 14, 2015
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Dec. 15, 2014	Dec. 14, 2015
LF cable 10M	Woken	CFD400NL-LW	CFD400NL-002	Dec. 15, 2014	Dec. 14, 2015
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

<b>Test Item</b>	RF Conducted				
<b>Test Site</b>	(TH01-WS)				
<b>Tested Date</b>	Sep. 04 ~ Sep. 09, 2015				
<b>Instrument</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Calibration Date</b>	<b>Calibration Until</b>
Spectrum Analyzer	R&S	FSV40	101063	Feb. 03, 2015	Feb. 02, 2016
Spectrum Analyzer	Agilent	N9010A	MY53400091	Sep. 16, 2014	Sep. 15, 2015
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Dec. 03, 2014	Dec. 02, 2015
Power Meter	Anritsu	ML2495A	1241002	Sep. 29, 2014	Sep. 28, 2015
Power Sensor	Anritsu	MA2411B	1207366	Sep. 29, 2014	Sep. 28, 2015
Measurement Software	Sporton	Sporton_1	1.3.30	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

## 1.5 Testing Applied Standards

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

47 CFR FCC Part 15.407

ANSI C63.10-2013

FCC KDB 789033 D02 General UNII Test Procedures New Rules v01

FCC KDB 644545 D03 Guidance for IEEE 802 11ac New Rules v01

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

FCC KDB 412172 D01 Determining ERP and EIRP v01r01

## 1.6 Measurement Uncertainty

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

Measurement Uncertainty	
Parameters	Uncertainty
Bandwidth	±34.134 Hz
Conducted power	±0.808 dB
Frequency error	±34.134 Hz
Power density	±0.463 dB
Conducted emission	±2.670 dB
AC conducted emission	±2.92 dB
Radiated emission ≤ 1GHz	±3.72 dB
Radiated emission > 1GHz	±5.65 dB
Time	±0.1%
Temperature	±0.6 °C

## 2 Test Configuration

### 2.1 Testing Condition

Test Item	Test Site	Ambient Condition	Tested By
AC Conduction	CO01-WS	23°C / 56%	Kevin Ma
Radiated Emissions	03CH01-WS	21-22°C / 61-68%	Anderson Hong Aska Huang
RF Conducted	TH01-WS	22°C / 61%	Felix Sung

➤ FCC site registration No.: 657002

➤ IC site registration No.: 10807A-1

### 2.2 The Worst Test Modes and Channel Details

For Frequency band 5150-5250 MHz				
Test item	Modulation Mode	Test Frequency (MHz)	Data Rate	Test Configuration
Conducted Emissions	VHT20	5200	MCS 0	1, 2
Radiated Emissions ≤1GHz	VHT20	5200	MCS 0	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:**

- The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **Z-plane** results were found as the worst case and were shown in this report.
- The EUT was pretested with 2 power supplies: AC adapter and POE. Both power supplies were selected for related test as below test configuration.
- Test configurations are listed as below:
  - Configuration 1: POE mode, Z-plane
  - Configuration 2: AC adapter mode, Z-plane

For Frequency band 5725-5850 MHz				
Test item	Modulation Mode	Test Frequency (MHz)	Data Rate	Test Configuration
Conducted Emissions	VHT20	5785	MCS 0	1, 2
Radiated Emissions $\leq 1$ GHz	VHT20	5785	MCS 0	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 $> 1$ GHz	11a	5745 / 5785 / 5825	6 Mbps	1
Emission Bandwidth	VHT20	5745 / 5785 / 5825	MCS 0	
6dB bandwidth	VHT40	5755 / 5795	MCS 0	
Peak Power Spectral Density	VHT80	5775	MCS 0	
Frequency Stability	Un-modulation	5785	---	1
<b>NOTE:</b>				
<ol style="list-style-type: none"> <li>The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The <b>Z-plane</b> results were found as the worst case and were shown in this report.</li> <li>The EUT was pretested with 2 power supplies: AC adapter and POE. Both power supplies were selected for related test as below test configuration.</li> <li>Test configurations are listed as below: <ol style="list-style-type: none"> <li>Configuration 1: POE mode, Z-plane</li> <li>Configuration 2: AC adapter mode, Z-plane</li> </ol> </li> </ol>				

## 3 Transmitter Test Results

### 3.1 Conducted Emissions

#### 3.1.1 Limit of Conducted Emissions

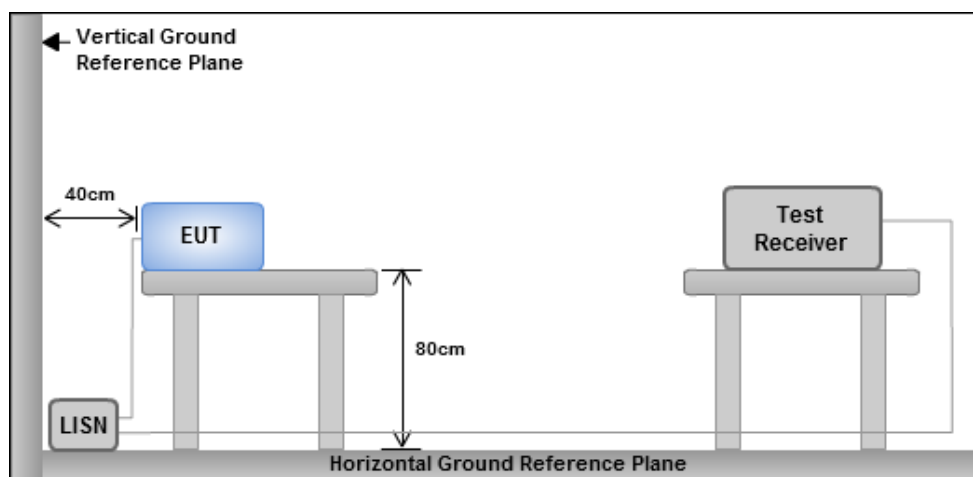
Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

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  $\Omega$  LISN port.
3. AC conducted emission measurements is made over frequency range from 150 kHz to 30 MHz.
4. This measurement was performed with AC 120V / 60Hz.

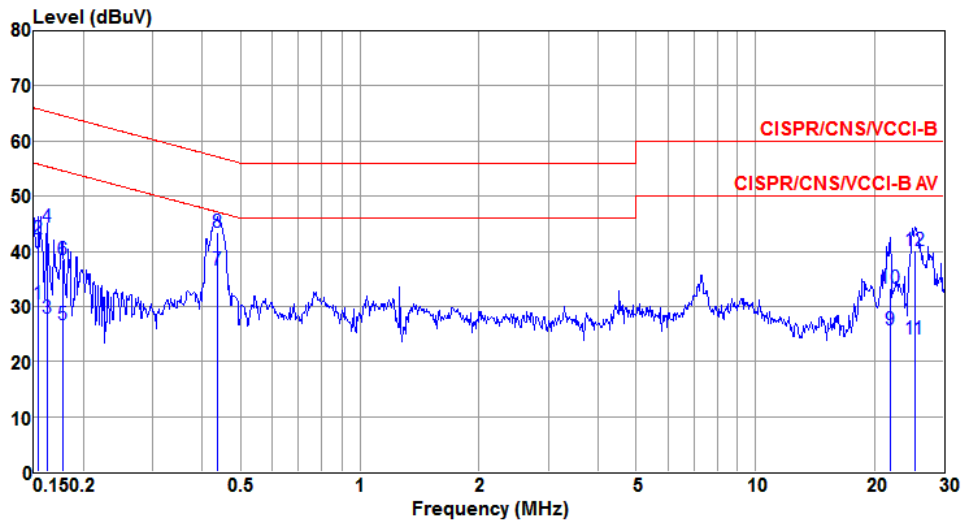
#### 3.1.3 Test Setup



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

### 3.1.4 Test Result of Conducted Emissions

Modulation	VHT20	Test Freq. (MHz)	5200
Power Phase	Line	Test Configuration	1

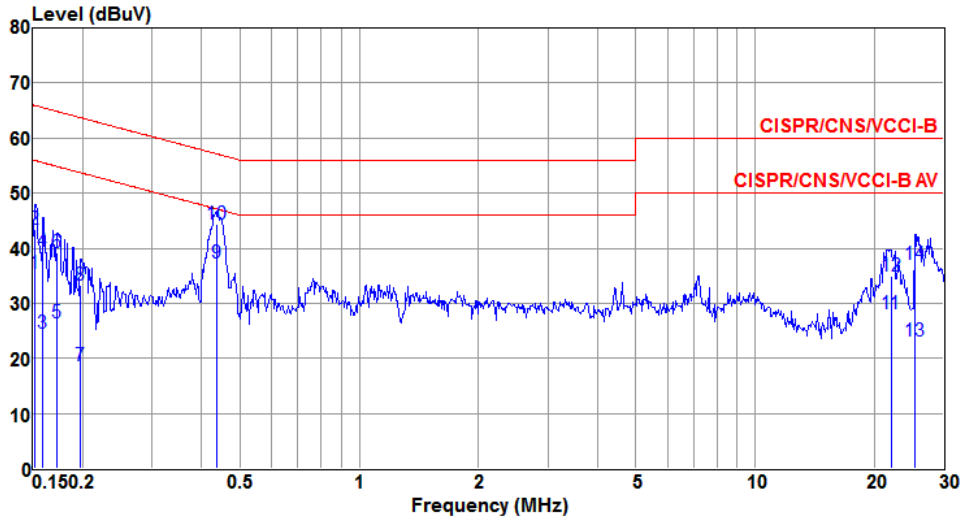


	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.154	30.41	55.78	-25.37	20.66	9.67	0.08	Average
2	0.154	42.31	65.78	-23.47	32.56	9.67	0.08	QP
3	0.162	27.75	55.38	-27.63	18.00	9.67	0.08	Average
4	0.162	44.44	65.38	-20.94	34.69	9.67	0.08	QP
5	0.178	26.57	54.59	-28.02	16.82	9.66	0.09	Average
6	0.178	38.36	64.59	-26.23	28.61	9.66	0.09	QP
7@	0.437	36.60	47.11	-10.51	26.83	9.66	0.11	Average
8	0.437	43.36	57.11	-13.75	33.59	9.66	0.11	QP
9	21.946	25.75	50.00	-24.25	16.01	9.69	0.05	Average
10	21.946	33.29	60.00	-26.71	23.55	9.69	0.05	QP
11	25.321	24.17	50.00	-25.83	14.43	9.65	0.09	Average
12	25.321	40.18	60.00	-19.82	30.44	9.65	0.09	QP

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



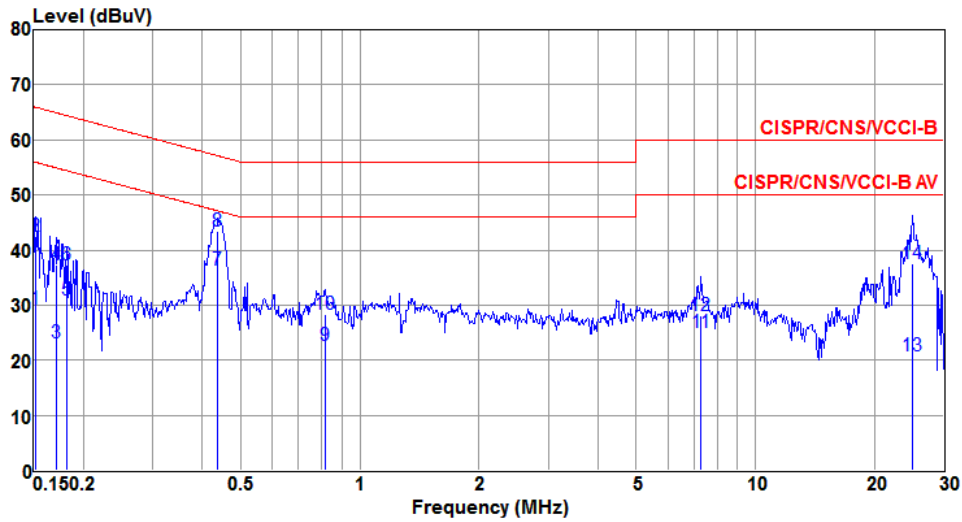
<b>Modulation</b>	VHT20	<b>Test Freq. (MHz)</b>	5200
<b>Power Phase</b>	Neutral	<b>Test Configuration</b>	1



	Freq	Level	Limit	Over	Read	LISN	cable	
	MHz	dBuV	Line	Limit	Level	factor	loss	Remark
			dBuV	dB	dBuV	dB	dB	
1	0.152	35.35	55.91	-20.56	25.60	9.67	0.08	Average
2	0.152	43.54	65.91	-22.37	33.79	9.67	0.08	QP
3	0.159	24.64	55.52	-30.88	14.89	9.67	0.08	Average
4	0.159	39.38	65.52	-26.14	29.63	9.67	0.08	QP
5	0.172	26.51	54.86	-28.35	16.76	9.67	0.08	Average
6	0.172	39.13	64.86	-25.73	29.38	9.67	0.08	QP
7	0.198	18.73	53.71	-34.98	8.98	9.66	0.09	Average
8	0.198	33.17	63.71	-30.54	23.42	9.66	0.09	QP
9	0.435	37.39	47.15	-9.76	27.62	9.66	0.11	Average
10	0.435	44.42	57.15	-12.73	34.65	9.66	0.11	QP
11	22.063	28.14	50.00	-21.86	18.30	9.79	0.05	Average
12	22.063	34.89	60.00	-25.11	25.05	9.79	0.05	QP
13	25.321	23.10	50.00	-26.90	13.24	9.77	0.09	Average
14	25.321	37.06	60.00	-22.94	27.20	9.77	0.09	QP

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

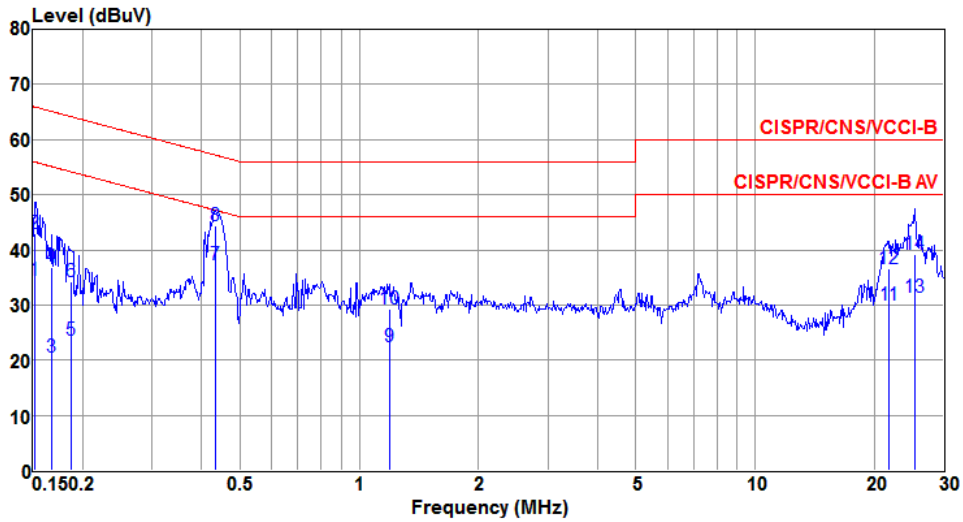
<b>Modulation</b>	VHT20	<b>Test Freq. (MHz)</b>	5785
<b>Power Phase</b>	Line	<b>Test Configuration</b>	1



	Freq MHz	Level dBUV	Limit Line dBUV	Over Limit dB	Read Level dBUV	LISN factor dB	cable loss dB	Remark
1	0.152	29.19	55.91	-26.72	19.44	9.67	0.08	Average
2	0.152	42.60	65.91	-23.31	32.85	9.67	0.08	QP
3	0.171	23.09	54.90	-31.81	13.34	9.67	0.08	Average
4	0.171	37.21	64.90	-27.69	27.46	9.67	0.08	QP
5	0.182	30.82	54.42	-23.60	21.07	9.66	0.09	Average
6	0.182	37.23	64.42	-27.19	27.48	9.66	0.09	QP
7@	0.435	36.34	47.15	-10.81	26.57	9.66	0.11	Average
8	0.435	43.45	57.15	-13.70	33.68	9.66	0.11	QP
9	0.817	22.57	46.00	-23.43	12.76	9.66	0.15	Average
10	0.817	28.38	56.00	-27.62	18.57	9.66	0.15	QP
11	7.290	25.05	50.00	-24.95	15.04	9.71	0.30	Average
12	7.290	28.01	60.00	-31.99	18.00	9.71	0.30	QP
13	24.922	20.77	50.00	-29.23	11.02	9.66	0.09	Average
14	24.922	37.58	60.00	-22.42	27.83	9.66	0.09	QP

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

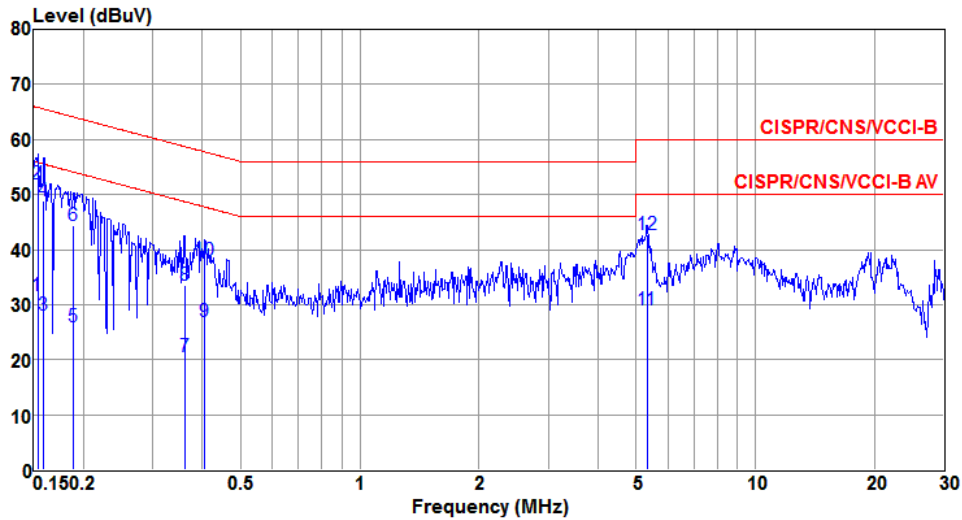
<b>Modulation</b>	VHT20	<b>Test Freq. (MHz)</b>	5785
<b>Power Phase</b>	Neutral	<b>Test Configuration</b>	1



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.152	34.57	55.91	-21.34	24.82	9.67	0.08	Average
2	0.152	43.01	65.91	-22.90	33.26	9.67	0.08	QP
3	0.167	20.57	55.12	-34.55	10.82	9.67	0.08	Average
4	0.167	36.93	65.12	-28.19	27.18	9.67	0.08	QP
5	0.187	23.54	54.15	-30.61	13.79	9.66	0.09	Average
6	0.187	34.19	64.15	-29.96	24.44	9.66	0.09	QP
7@	0.433	37.30	47.20	-9.90	27.53	9.66	0.11	Average
8	0.433	44.38	57.20	-12.82	34.61	9.66	0.11	QP
9	1.191	22.41	46.00	-23.59	12.57	9.66	0.18	Average
10	1.191	29.22	56.00	-26.78	19.38	9.66	0.18	QP
11	21.830	30.05	50.00	-19.95	20.21	9.79	0.05	Average
12	21.830	36.47	60.00	-23.53	26.63	9.79	0.05	QP
13	25.321	31.42	50.00	-18.58	21.56	9.77	0.09	Average
14	25.321	39.15	60.00	-20.85	29.29	9.77	0.09	QP

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

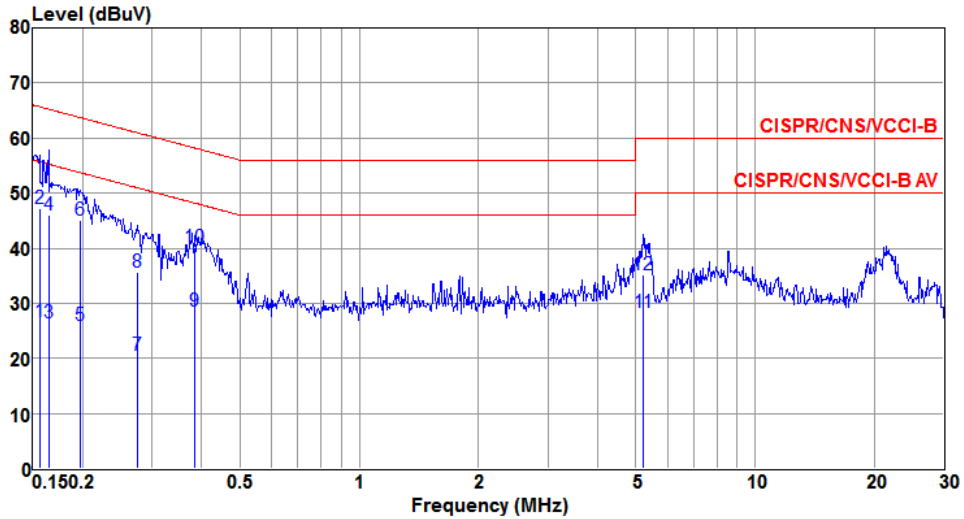
<b>Modulation</b>	VHT20	<b>Test Freq. (MHz)</b>	5200
<b>Power Phase</b>	Line	<b>Test Configuration</b>	2



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.153	31.61	55.82	-24.21	21.86	9.67	0.08	Average
2	0.153	52.03	65.82	-13.79	42.28	9.67	0.08	QP
3	0.159	28.11	55.52	-27.41	18.36	9.67	0.08	Average
4	0.159	48.96	65.52	-16.56	39.21	9.67	0.08	QP
5	0.188	26.02	54.11	-28.09	16.27	9.66	0.09	Average
6	0.188	44.31	64.11	-19.80	34.56	9.66	0.09	QP
7	0.361	20.52	48.69	-28.17	10.75	9.66	0.11	Average
8	0.361	33.61	58.69	-25.08	23.84	9.66	0.11	QP
9	0.406	26.90	47.73	-20.83	17.13	9.66	0.11	Average
10	0.406	38.11	57.73	-19.62	28.34	9.66	0.11	QP
11	5.333	28.98	50.00	-21.02	18.98	9.69	0.31	Average
12	5.333	42.83	60.00	-17.17	32.83	9.69	0.31	QP

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

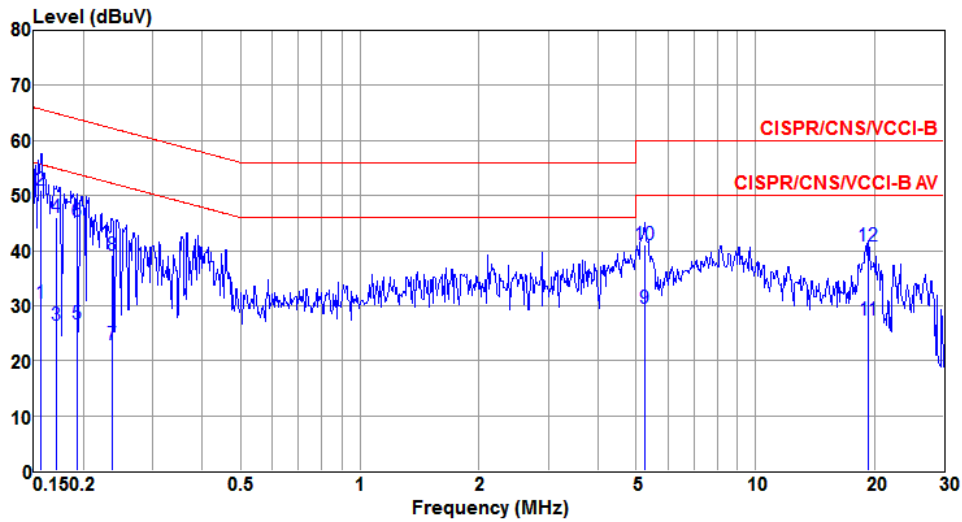
<b>Modulation</b>	VHT20	<b>Test Freq. (MHz)</b>	5200
<b>Power Phase</b>	Neutral	<b>Test Configuration</b>	2



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.156	26.71	55.69	-28.98	16.96	9.67	0.08	Average
2	0.156	47.18	65.69	-18.51	37.43	9.67	0.08	QP
3	0.164	26.47	55.25	-28.78	16.72	9.67	0.08	Average
4	0.164	46.01	65.25	-19.24	36.26	9.67	0.08	QP
5	0.198	26.00	53.71	-27.71	16.25	9.66	0.09	Average
6	0.198	45.07	63.71	-18.64	35.32	9.66	0.09	QP
7	0.274	20.64	50.98	-30.34	10.88	9.66	0.10	Average
8	0.274	35.55	60.98	-25.43	25.79	9.66	0.10	QP
9	0.385	28.58	48.17	-19.59	18.81	9.66	0.11	Average
10@	0.385	40.17	58.17	-18.00	30.40	9.66	0.11	QP
11	5.221	28.31	50.00	-21.69	18.31	9.69	0.31	Average
12	5.221	35.20	60.00	-24.80	25.20	9.69	0.31	QP

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

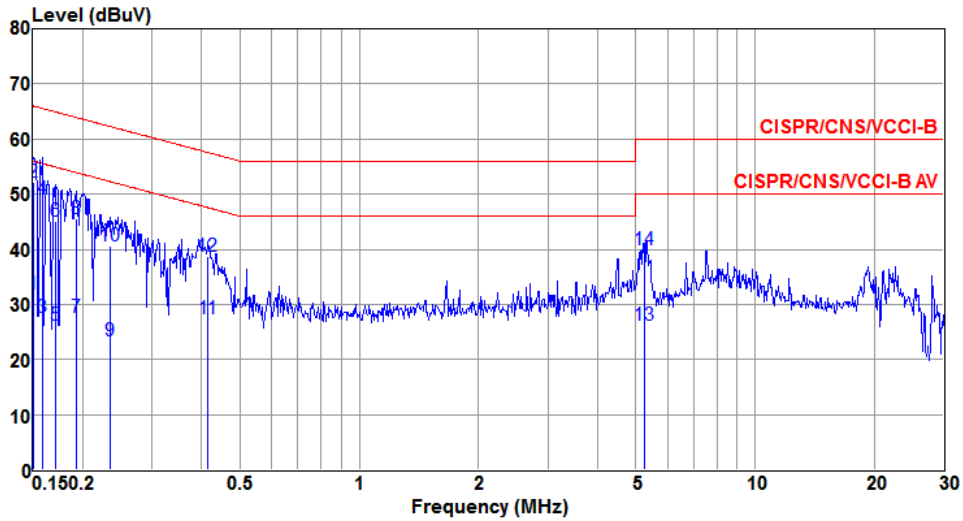
<b>Modulation</b>	VHT20	<b>Test Freq. (MHz)</b>	5785
<b>Power Phase</b>	Line	<b>Test Configuration</b>	2



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.156	30.46	55.65	-25.19	20.71	9.67	0.08	Average
2@	0.156	50.88	65.65	-14.77	41.13	9.67	0.08	QP
3	0.171	26.47	54.90	-28.43	16.72	9.67	0.08	Average
4	0.171	45.97	64.90	-18.93	36.22	9.67	0.08	QP
5	0.192	26.77	53.93	-27.16	17.02	9.66	0.09	Average
6	0.192	45.32	63.93	-18.61	35.57	9.66	0.09	QP
7	0.237	22.94	52.22	-29.28	13.19	9.66	0.09	Average
8	0.237	39.24	62.22	-22.98	29.49	9.66	0.09	QP
9	5.249	29.56	50.00	-20.44	19.56	9.69	0.31	Average
10	5.249	41.13	60.00	-18.87	31.13	9.69	0.31	QP
11	19.326	27.37	50.00	-22.63	17.62	9.71	0.04	Average
12	19.326	40.85	60.00	-19.15	31.10	9.71	0.04	QP

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

<b>Modulation</b>	VHT20	<b>Test Freq. (MHz)</b>	5785
<b>Power Phase</b>	Neutral	<b>Test Configuration</b>	2



	Freq	Level	Limit	Over	Read	LISN	cable	
	MHz	dBuV	Line	Limit	Level	factor	loss	Remark
			dBuV	dB	dBuV	dB	dB	
1	0.151	31.83	55.96	-24.13	22.08	9.67	0.08	Average
2@	0.151	52.10	65.96	-13.86	42.35	9.67	0.08	QP
3	0.158	27.63	55.56	-27.93	17.88	9.67	0.08	Average
4	0.158	49.15	65.56	-16.41	39.40	9.67	0.08	QP
5	0.171	26.30	54.90	-28.60	16.55	9.67	0.08	Average
6	0.171	45.20	64.90	-19.70	35.45	9.67	0.08	QP
7	0.192	27.69	53.93	-26.24	17.94	9.66	0.09	Average
8	0.192	45.51	63.93	-18.42	35.76	9.66	0.09	QP
9	0.235	23.26	52.26	-29.00	13.51	9.66	0.09	Average
10	0.235	40.53	62.26	-21.73	30.78	9.66	0.09	QP
11	0.415	27.42	47.55	-20.13	17.65	9.66	0.11	Average
12	0.415	38.69	57.55	-18.86	28.92	9.66	0.11	QP
13	5.249	26.27	50.00	-23.73	16.27	9.69	0.31	Average
14	5.249	39.84	60.00	-20.16	29.84	9.69	0.31	QP

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

## 3.2 Emission Bandwidth

### 3.2.1 Limit of Emission bandwidth

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

### 3.2.2 Test Procedures

#### 26dB Bandwidth

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

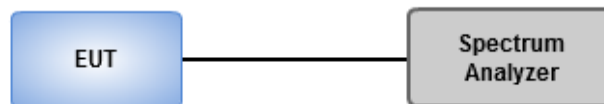
#### Occupied Bandwidth

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

#### 6dB Bandwidth

1. Set 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

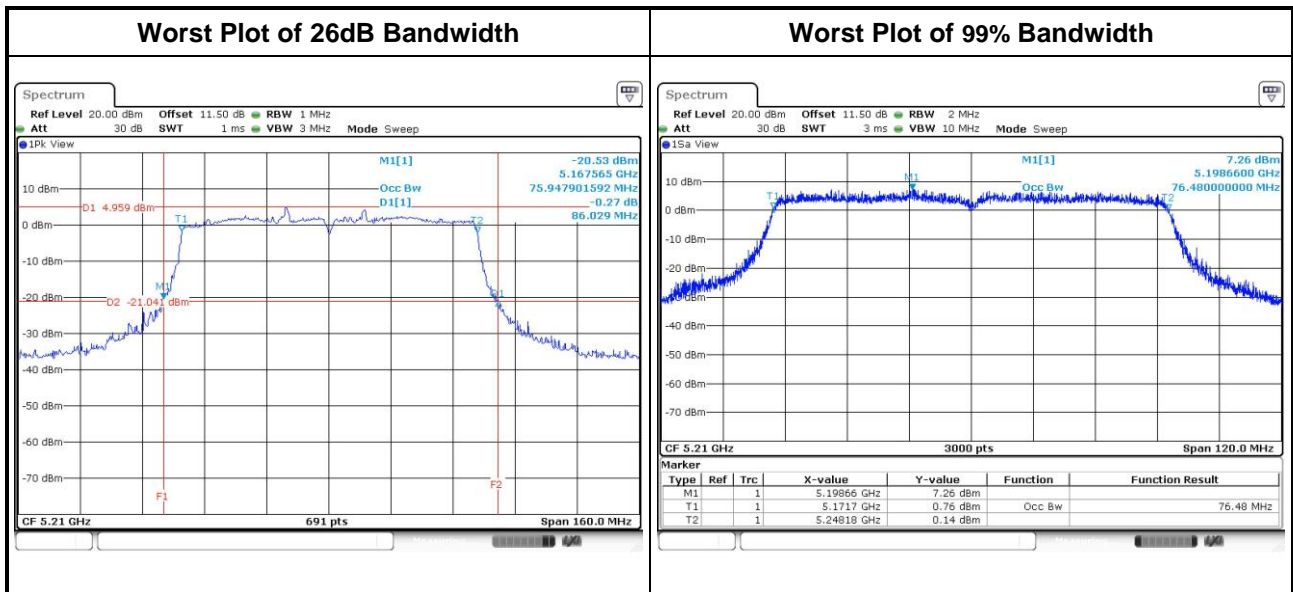
### 3.2.3 Test Setup





### 3.2.4 Test Result of Emission Bandwidth

For Frequency band 5150-5250 MHz										
Emission Bandwidth										
Mode	N <sub>TX</sub>	Freq. (MHz)	26dB Bandwidth (MHz)				99% Bandwidth (MHz)			
			Chain 0	Chain 1	Chain 2	Chain 3	Chain 0	Chain 1	Chain 2	Chain 3
11a	2	5180	22.84	22.90	---	---	16.68	16.71	---	---
11a	2	5200	37.03	39.78	---	---	17.09	17.68	---	---
11a	2	5240	35.51	36.01	---	---	17.23	17.05	---	---
VHT20	2	5180	23.01	24.41	---	---	17.83	17.84	---	---
VHT20	2	5200	40.07	35.22	---	---	18.50	18.17	---	---
VHT20	2	5240	34.13	37.68	---	---	18.35	18.22	---	---
VHT40	2	5190	46.49	46.49	---	---	36.80	36.78	---	---
VHT40	2	5230	50.55	50.90	---	---	36.96	36.90	---	---
VHT80	2	5210	86.03	85.10	---	---	76.48	76.16	---	---

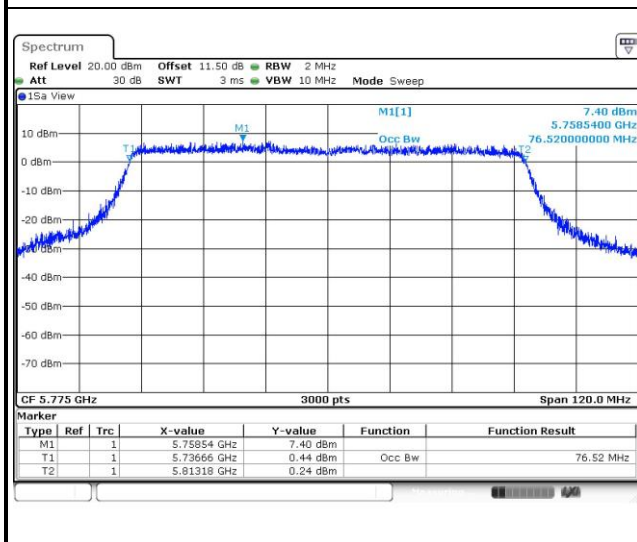


For Frequency band 5725-5850 MHz

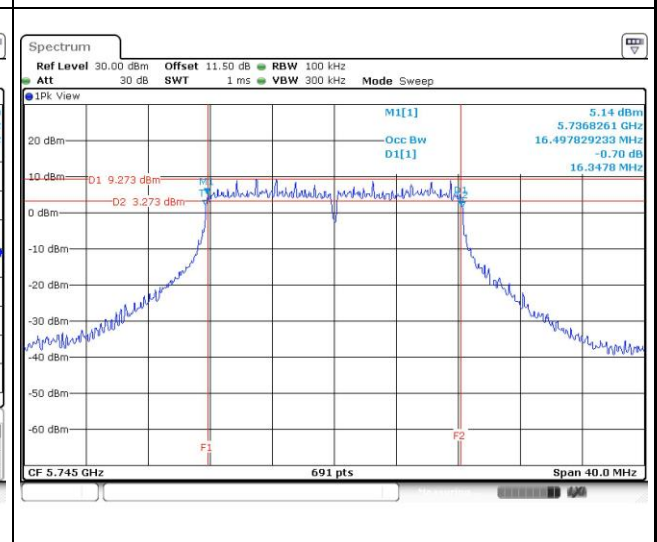
Emission Bandwidth

Mode	N <sub>TX</sub>	Freq. (MHz)	OBW Bandwidth (MHz)				6dB Bandwidth (MHz)				6dB BW Limit (MHz)
			Chain 0	Chain 1	Chain 2	Chain 3	Chain 0	Chain 1	Chain 2	Chain 3	
11a	2	5745	16.72	16.66	---	---	16.35	16.35	---	---	0.5
11a	2	5785	16.64	16.74	---	---	16.35	16.35	---	---	0.5
11a	2	5825	16.76	16.66	---	---	16.35	16.35	---	---	0.5
VHT20	2	5745	17.85	17.84	---	---	17.57	17.62	---	---	0.5
VHT20	2	5785	17.86	17.82	---	---	17.62	17.62	---	---	0.5
VHT20	2	5825	17.83	17.88	---	---	17.62	17.62	---	---	0.5
VHT40	2	5755	36.70	36.74	---	---	36.41	36.41	---	---	0.5
VHT40	2	5795	36.66	36.76	---	---	36.41	36.41	---	---	0.5
VHT80	2	5775	76.48	76.52	---	---	76.29	75.83	---	---	0.5

Worst Plot of 99% Bandwidth



Worst Plot of 6dB Bandwidth



### 3.3 RF Output Power

#### 3.3.1 Limit of RF Output Power

Frequency band 5150-5250 MHz	
Operating Mode	Limit
<input type="checkbox"/> 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)
<input checked="" type="checkbox"/> Indoor access point	Conducted Power: 1 W
<input type="checkbox"/> Fixed point-to-point access points	Conducted Power: 1 W
<input type="checkbox"/> Mobile and portable client devices	Conducted Power: 250 mW

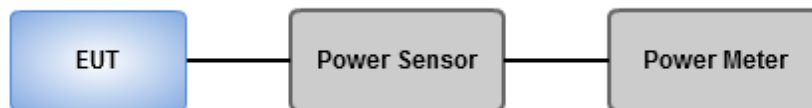
Frequency Band (MHz)	Limit
<input type="checkbox"/> 5250 ~ 5350	250mW or 11dBm+10 log B
<input type="checkbox"/> 5470 ~ 5725	250mW or 11dBm+10 log B
<input checked="" type="checkbox"/> 5725 ~ 5850	1 W

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 <sub>TX</sub>	Freq. (MHz)	Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)
			Chain 0	Chain 1	Chain 2	Chain 3			
11a	2	5180	21.32	21.54	---	---	278.080	24.44	30.00
11a	2	5200	25.01	24.78	---	---	617.564	27.91	30.00
11a	2	5240	25.06	24.67	---	---	613.716	27.88	30.00
HT20	2	5180	20.59	20.8	---	---	234.778	23.71	30.00
HT20	2	5200	24.96	24.73	---	---	610.495	27.86	30.00
HT20	2	5240	24.94	24.68	---	---	605.654	27.82	30.00
HT40	2	5190	14.78	15.29	---	---	63.867	18.05	30.00
HT40	2	5230	23.73	23.02	---	---	436.495	26.40	30.00
VHT20	2	5180	20.66	20.92	---	---	240.007	23.80	30.00
VHT20	2	5200	25.00	24.88	---	---	623.837	<b>27.95</b>	30.00
VHT20	2	5240	25.03	24.78	---	---	619.027	27.92	30.00
VHT40	2	5190	14.89	15.31	---	---	64.794	18.12	30.00
VHT40	2	5230	23.78	23.06	---	---	441.083	26.45	30.00
VHT80	2	5210	12.05	12.37	---	---	33.291	15.22	30.00

For Frequency band 5725-5850 MHz									
Mode	N <sub>TX</sub>	Freq. (MHz)	Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)
			Chain 0	Chain 1	Chain 2	Chain 3			
11a	2	5745	20.64	20.86	---	---	237.777	23.76	30.00
11a	2	5785	21.32	21.53	---	---	277.752	24.44	30.00
11a	2	5825	21.31	21.42	---	---	273.883	24.38	30.00
HT20	2	5745	20.15	20.48	---	---	215.201	23.33	30.00
HT20	2	5785	22.36	22.07	---	---	333.251	25.23	30.00
HT20	2	5825	20.98	20.91	---	---	248.625	23.96	30.00
HT40	2	5755	15.35	15.47	---	---	69.514	18.42	30.00
HT40	2	5795	21.42	21.24	---	---	271.721	24.34	30.00
VHT20	2	5745	20.41	20.78	---	---	229.575	23.61	30.00
VHT20	2	5785	22.43	22.15	---	---	339.044	<b>25.30</b>	30.00
VHT20	2	5825	21.31	21.26	---	---	268.867	24.30	30.00
VHT40	2	5755	15.86	15.95	---	---	77.903	18.92	30.00
VHT40	2	5795	21.66	21.48	---	---	287.160	24.58	30.00
VHT80	2	5775	12.33	12.41	---	---	34.518	15.38	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
<input type="checkbox"/>	Outdoor access point	17 dBm / MHz
<input checked="" type="checkbox"/>	Indoor access point	17 dBm / MHz
<input type="checkbox"/>	Fixed point-to-point access points	17 dBm / MHz
<input type="checkbox"/>	Mobile and portable client devices	11 dBm / MHz

Frequency Band (MHz)		Limit
<input type="checkbox"/>	5250 ~ 5350	11 dBm / MHz
<input type="checkbox"/>	5470 ~ 5725	11 dBm / MHz
<input checked="" type="checkbox"/>	5725 ~ 5850	30 dBm / 500 kHz

### 3.4.2 Test Procedures

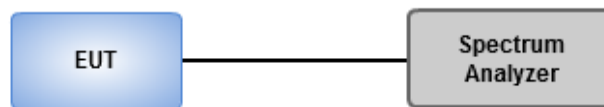
#### For 5150 ~ 5250 MHz

- Method SA-1 (For 11a / 11ac VHT20)
  1. Set RBW = 1 MHz, VBW = 3 MHz, Sweep time = auto, Detector = RMS.
  2. Trace average 100 traces.
  3. Use the peak marker function to determine the maximum amplitude level.
- Method SA-2 Alternative (For 11ac VHT40 / VHT80)
  1. Set RBW = 1 MHz, VBW = 3 MHz, Detector = RMS.
  2. Set sweep time  $\geq 10 * (\text{number of points in sweep}) * (\text{total on/off period of the transmitted signal})$ .
  3. Perform a single sweep.
  4. Use the peak marker function to determine the maximum amplitude level.
  5. Add  $10 \log(1/x)$ , where x is the duty cycle.

#### For 5725 ~ 5850 MHz

- Method SA-1 (For 11a / 11ac VHT20)
  1. Set RBW = 500 kHz, VBW = 2 MHz, Sweep time = auto, Detector = RMS.
  2. Trace average 100 traces.
  3. Use the peak marker function to determine the maximum amplitude level.
- Method SA-2 Alternative (For 11ac VHT40 / VHT80)
  1. Set RBW = 500 kHz, VBW = 2 MHz, Detector = RMS.
  2. Set sweep time  $\geq 10 * (\text{number of points in sweep}) * (\text{total on/off period of the transmitted signal})$ .
  3. Perform a single sweep.
  4. Use the peak marker function to determine the maximum amplitude level.
  5. Add  $10 \log(1/x)$ , where x is the duty cycle.

### 3.4.3 Test Setup

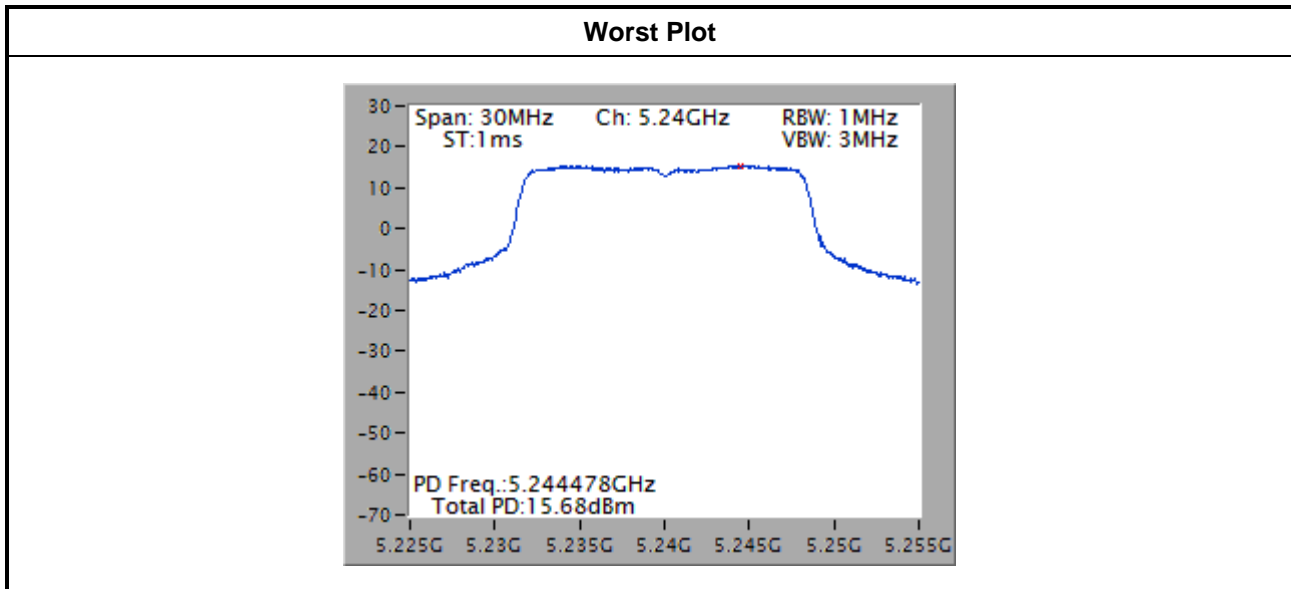


### 3.4.4 Test Result of Peak Power Spectral Density

For Frequency band 5150-5250 MHz						
Condition			Peak Power Spectral Density (dBm/MHz)			
Modulation Mode	N <sub>TX</sub>	Freq. (MHz)	PPSD w/o D.F (dBm/MHz)	Duty Factor (dB)	PPSD with D.F (dBm/MHz)	PPSD Limit (dBm/MHz)
11a	2	5180	11.27	0.00	11.27	15.96
11a	2	5200	15.63	0.00	15.63	15.96
11a	2	5240	15.68	0.00	15.68	15.96
VHT20	2	5180	10.30	0.00	10.30	15.96
VHT20	2	5200	15.64	0.00	15.64	15.96
VHT20	2	5240	15.64	0.00	15.64	15.96
VHT40	2	5190	0.95	0.23	1.18	15.96
VHT40	2	5230	9.63	0.23	9.86	15.96
VHT80	2	5210	-5.25	0.58	-4.67	15.96

**Note:**

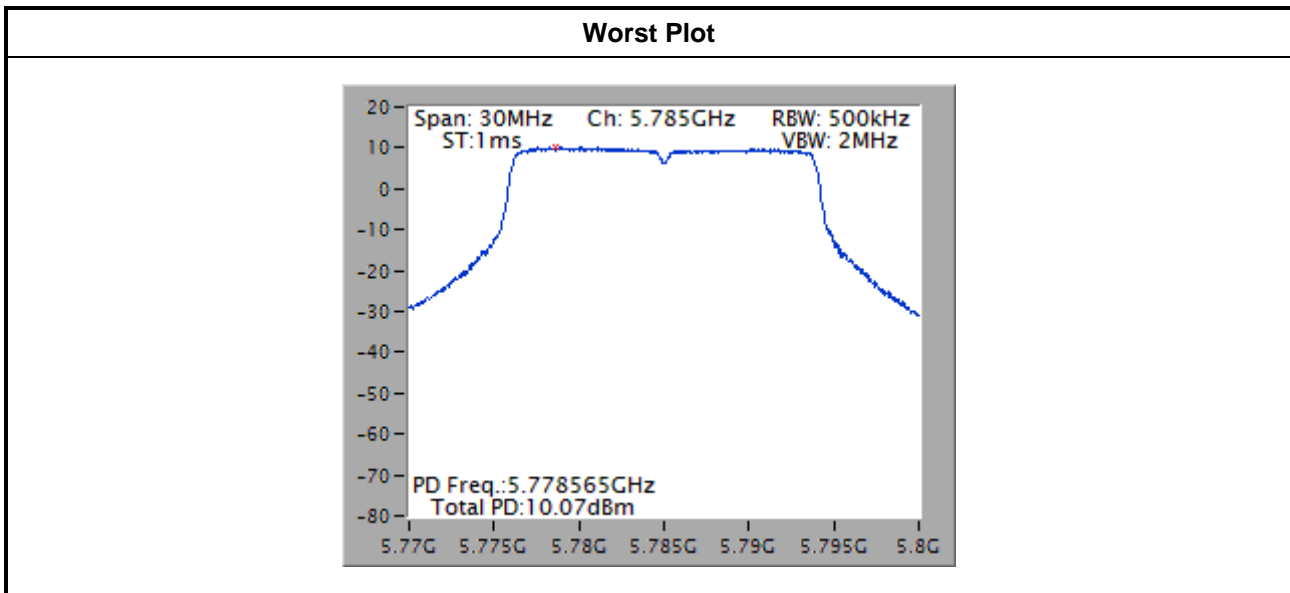
1. D.F is duty factor.
2. Test result is bin-by-bin summing measured value of each TX port.
3. Directional gain =  $10 * \log((10^{4.06/20} + 10^{3.99/20})^2 / 2) = 7.04 \text{ dBi} > 6 \text{ dBi}$ .  
Limit shall be reduced to  $17 \text{ dBm} - (7.04 \text{ dBi} - 6 \text{ dBi}) = 15.96 \text{ dBm}$ .



For Frequency band 5725-5850 MHz						
Condition			Peak Power Spectral Density (dBm/500kHz)			
Modulation Mode	N <sub>TX</sub>	Freq. (MHz)	PPSD w/o D.F (dBm/500kHz)	Duty Factor (dB)	PPSD with D.F (dBm/500kHz)	PPSD Limit (dBm/500kHz)
11a	2	5745	9.13	0.00	9.13	29.20
11a	2	5785	9.43	0.00	9.43	29.20
11a	2	5825	9.51	0.00	9.51	29.20
VHT20	2	5745	7.95	0.00	7.95	29.20
VHT20	2	5785	10.07	0.00	10.07	29.20
VHT20	2	5825	8.67	0.00	8.67	29.20
VHT40	2	5755	0.28	0.23	0.51	29.20
VHT40	2	5795	6.36	0.23	6.59	29.20
VHT80	2	5775	-6.59	0.58	-6.01	29.20

**Note:**

1. D.F is duty factor.
2. Test result is bin-by-bin summing measured value of each TX port.
3. Directional gain =  $10 * \log((10^{3.79/20} + 10^{3.78/20})^2 / 2) = 6.8 \text{ dBi} > 6 \text{ dBi}$ .  
Limit shall be reduced to  $30 \text{ dBm} - (6.8 \text{ dBi} - 6 \text{ dBi}) = 29.20 \text{ dBm}$ .





### 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]
5.25 - 5.35 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.47 - 5.725 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.725 - 5.850 GHz	5.715 5.725 GHz: e.i.r.p. -17 dBm [78.2 dBuV/m@3m] 5.85 5.86 GHz: e.i.r.p. -17 dBm [78.2 dBuV/m@3m] Other un-restricted band: e.i.r.p. -27 dBm [68.2 dBuV/m@3m]

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

### 3.5.2 Test Procedures

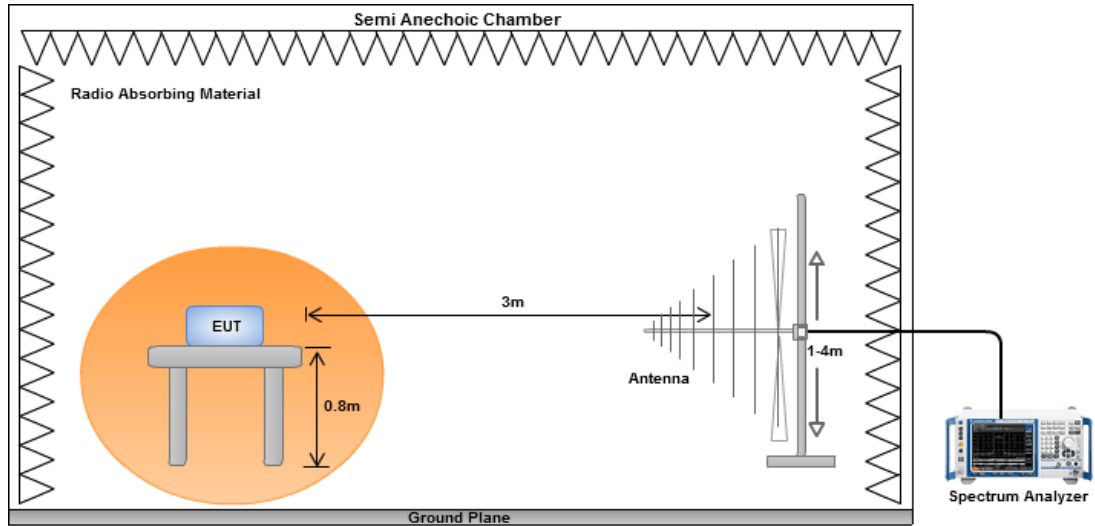
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission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

Note:

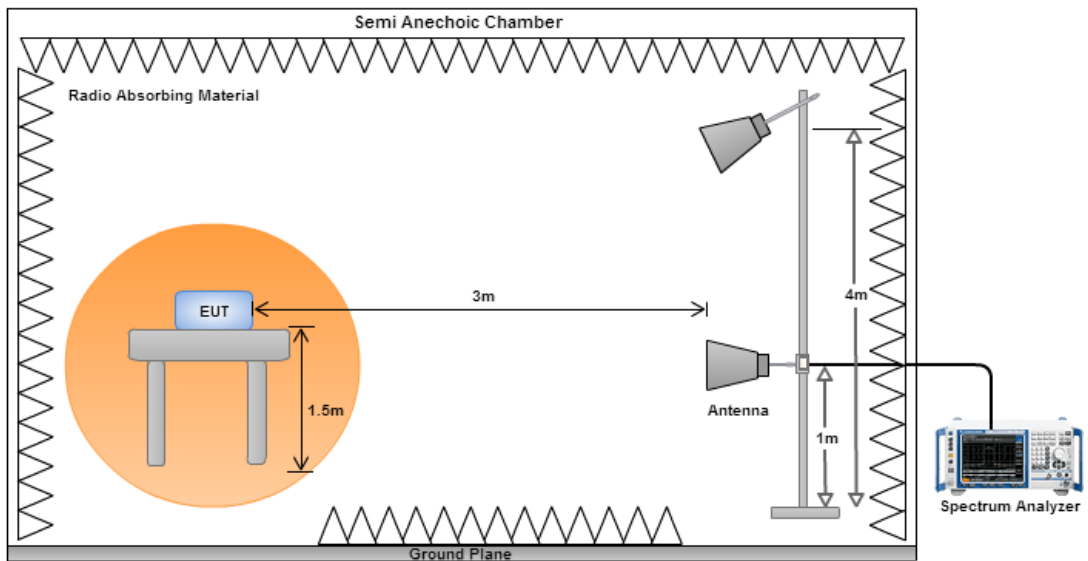
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

### 3.5.3 Test Setup

#### Radiated Emissions below 1 GHz

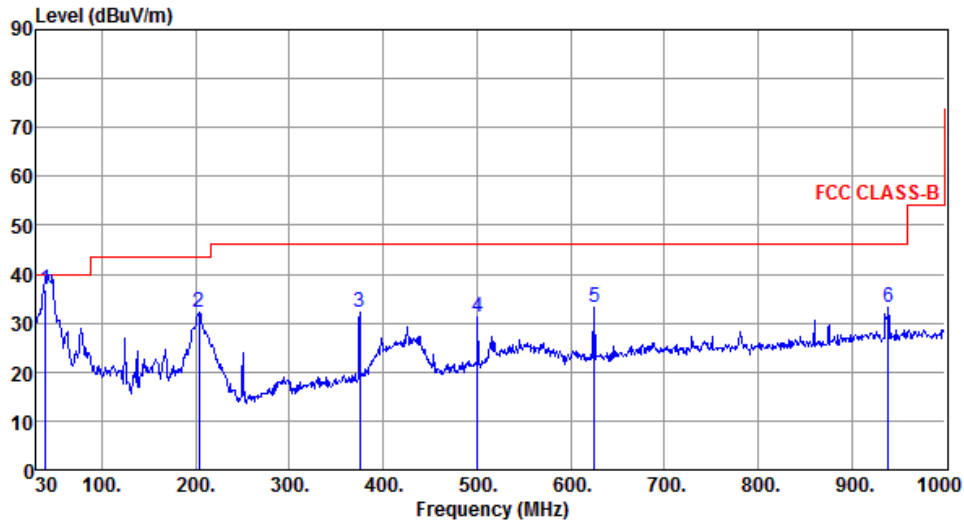


#### Radiated Emissions above 1 GHz



### 3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

<b>Modulation</b>	VHT20	<b>Test Freq. (MHz)</b>	5200
<b>Polarization</b>	Horizontal	<b>Test Configuration</b>	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	39.84	36.97	40.00	-3.03	53.71	-16.74	QP	100	242
2	203.63	32.11	43.50	-11.39	51.42	-19.31	Peak	---	---
3	375.32	32.09	46.00	-13.91	46.23	-14.14	Peak	---	---
4	500.45	31.13	46.00	-14.87	42.33	-11.20	Peak	---	---
5	625.58	33.09	46.00	-12.91	42.18	-9.09	Peak	---	---
6	938.89	33.16	46.00	-12.84	37.90	-4.74	Peak	---	---

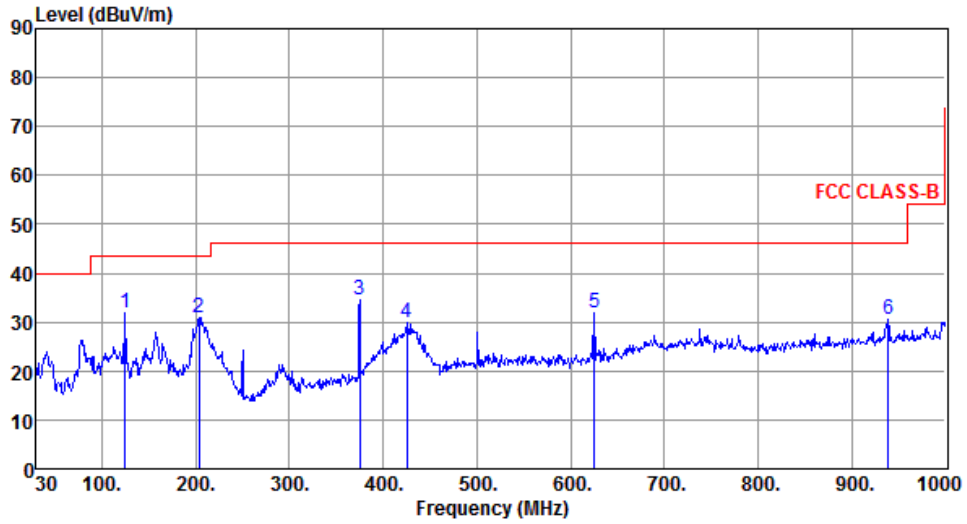
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*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.

<b>Modulation</b>	VHT20	<b>Test Freq. (MHz)</b>	5200
<b>Polarization</b>	Vertical	<b>Test Configuration</b>	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	125.06	32.02	43.50	-11.48	50.41	-18.39	Peak	---	---
2	203.63	30.93	43.50	-12.57	50.24	-19.31	Peak	---	---
3	375.32	34.54	46.00	-11.46	48.68	-14.14	Peak	---	---
4	425.76	29.73	46.00	-16.27	42.54	-12.81	Peak	---	---
5	625.58	31.89	46.00	-14.11	40.98	-9.09	Peak	---	---
6	938.89	30.69	46.00	-15.31	35.43	-4.74	Peak	---	---

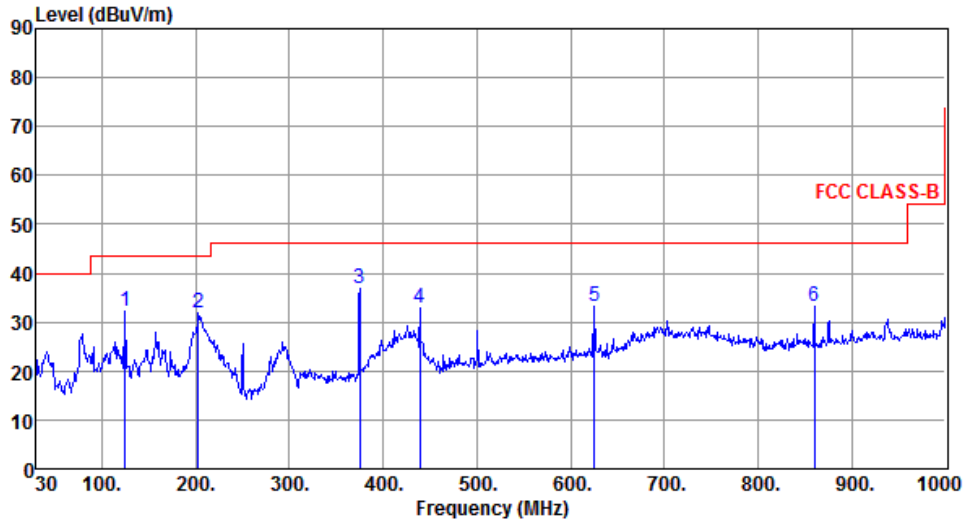
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*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.

<b>Modulation</b>	VHT20	<b>Test Freq. (MHz)</b>	5785
<b>Polarization</b>	Horizontal	<b>Test Configuration</b>	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	125.06	32.21	43.50	-11.29	50.60	-18.39	Peak	---	---
2	202.66	31.75	43.50	-11.75	51.06	-19.31	Peak	---	---
3	375.32	36.83	46.00	-9.17	50.97	-14.14	Peak	---	---
4	439.34	32.72	46.00	-13.28	45.20	-12.48	Peak	---	---
5	625.58	33.37	46.00	-12.63	42.46	-9.09	Peak	---	---
6	860.32	33.19	46.00	-12.81	39.05	-5.86	Peak	---	---

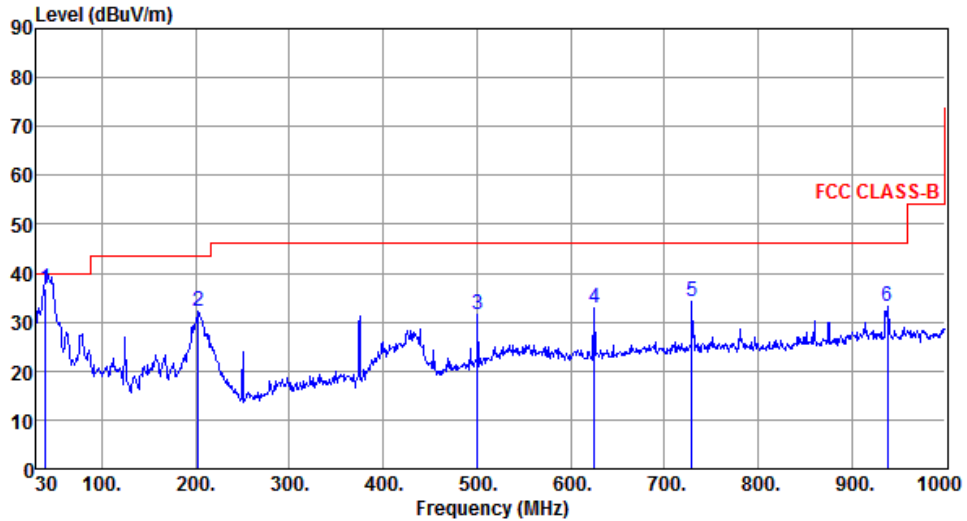
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*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.

<b>Modulation</b>	VHT20	<b>Test Freq. (MHz)</b>	5785
<b>Polarization</b>	Vertical	<b>Test Configuration</b>	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	40.23	36.99	40.00	-3.01	53.69	-16.70	QP	100	248
2	202.66	32.11	43.50	-11.39	51.42	-19.31	Peak	---	---
3	500.45	31.51	46.00	-14.49	42.71	-11.20	Peak	---	---
4	625.58	32.95	46.00	-13.05	42.04	-9.09	Peak	---	---
5	729.37	34.37	46.00	-11.63	41.79	-7.42	Peak	---	---
6	937.92	33.06	46.00	-12.94	37.81	-4.75	Peak	---	---

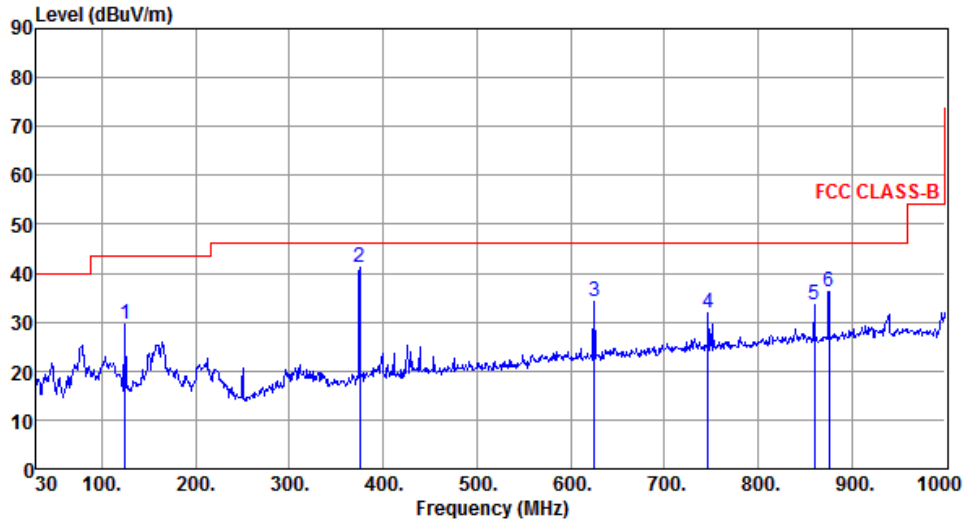
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*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.

<b>Modulation</b>	VHT20	<b>Test Freq. (MHz)</b>	5200
<b>Polarization</b>	Horizontal	<b>Test Configuration</b>	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	125.06	29.69	43.50	-13.81	48.08	-18.39	Peak	---	---
2	375.32	41.23	46.00	-4.77	55.37	-14.14	Peak	---	---
3	625.58	34.30	46.00	-11.70	43.39	-9.09	Peak	---	---
4	746.83	32.00	46.00	-14.00	39.06	-7.06	Peak	---	---
5	860.32	33.44	46.00	-12.56	39.30	-5.86	Peak	---	---
6	875.84	36.16	46.00	-9.84	41.81	-5.65	Peak	---	---

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

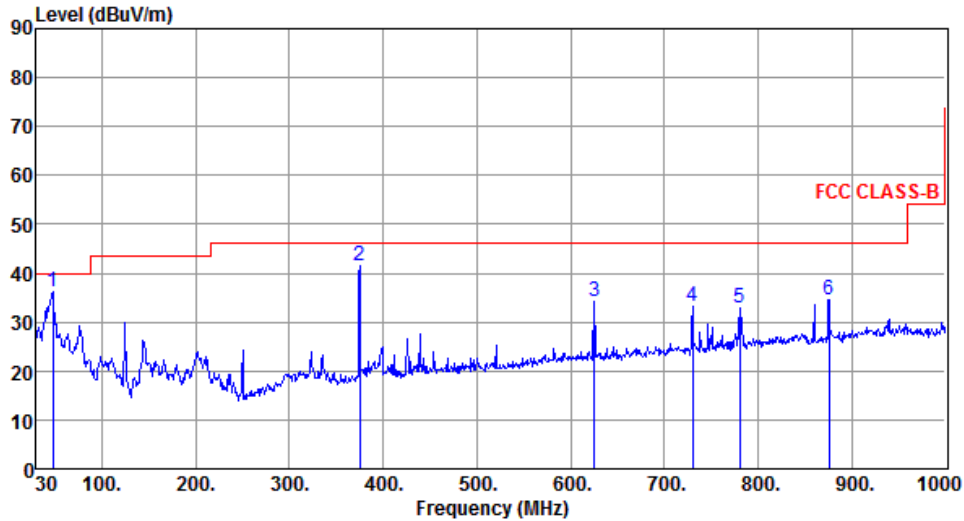
\*Factor includes antenna factor , cable loss and amplifier gain

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.



<b>Modulation</b>	VHT20	<b>Test Freq. (MHz)</b>	5200
<b>Polarization</b>	Vertical	<b>Test Configuration</b>	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	47.46	36.33	40.00	-3.67	52.59	-16.26	Peak	---	---
2	375.32	41.47	46.00	-4.53	55.61	-14.14	Peak	---	---
3	625.58	34.09	46.00	-11.91	43.18	-9.09	Peak	---	---
4	730.34	33.37	46.00	-12.63	40.77	-7.40	Peak	---	---
5	780.78	32.88	46.00	-13.12	39.63	-6.75	Peak	---	---
6	875.84	34.54	46.00	-11.46	40.19	-5.65	Peak	---	---

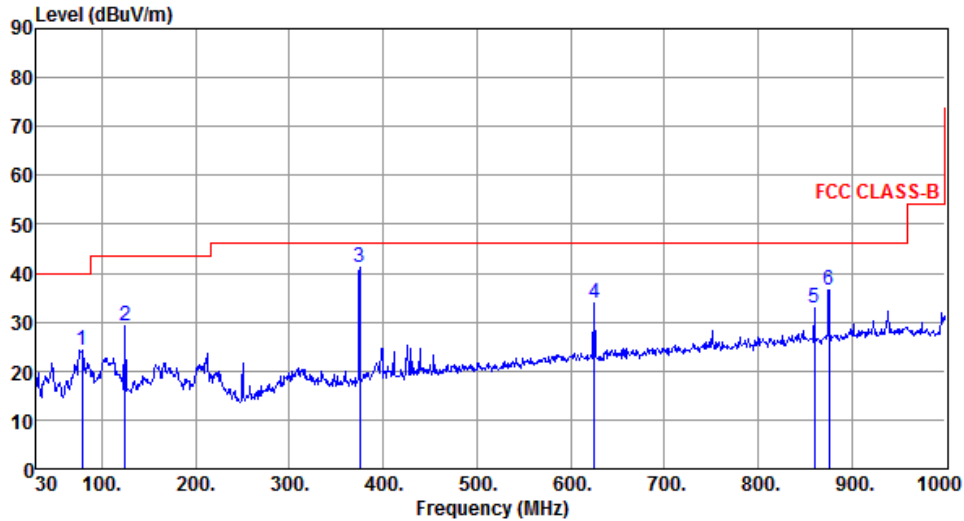
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*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.

<b>Modulation</b>	VHT20	<b>Test Freq. (MHz)</b>	5785
<b>Polarization</b>	Horizontal	<b>Test Configuration</b>	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	78.50	24.38	40.00	-15.62	45.31	-20.93	Peak	---	---
2	125.06	29.16	43.50	-14.34	47.55	-18.39	Peak	---	---
3	375.32	41.23	46.00	-4.77	55.37	-14.14	Peak	---	---
4	625.58	34.02	46.00	-11.98	43.11	-9.09	Peak	---	---
5	860.32	32.84	46.00	-13.16	38.70	-5.86	Peak	---	---
6	875.84	36.48	46.00	-9.52	42.13	-5.65	Peak	---	---

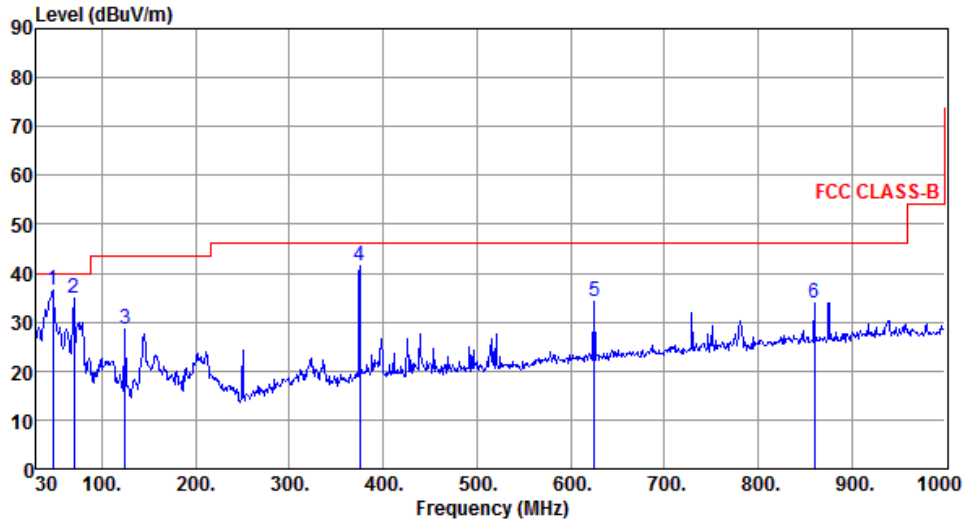
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*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.

<b>Modulation</b>	VHT20	<b>Test Freq. (MHz)</b>	5785
<b>Polarization</b>	Vertical	<b>Test Configuration</b>	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	47.46	36.67	40.00	-3.33	52.93	-16.26	Peak	---	---
2	69.77	34.74	40.00	-5.26	54.00	-19.26	Peak	---	---
3	125.06	28.57	43.50	-14.93	46.96	-18.39	Peak	---	---
4	375.32	41.41	46.00	-4.59	55.55	-14.14	Peak	---	---
5	625.58	34.17	46.00	-11.83	43.26	-9.09	Peak	---	---
6	860.32	33.79	46.00	-12.21	39.65	-5.86	Peak	---	---

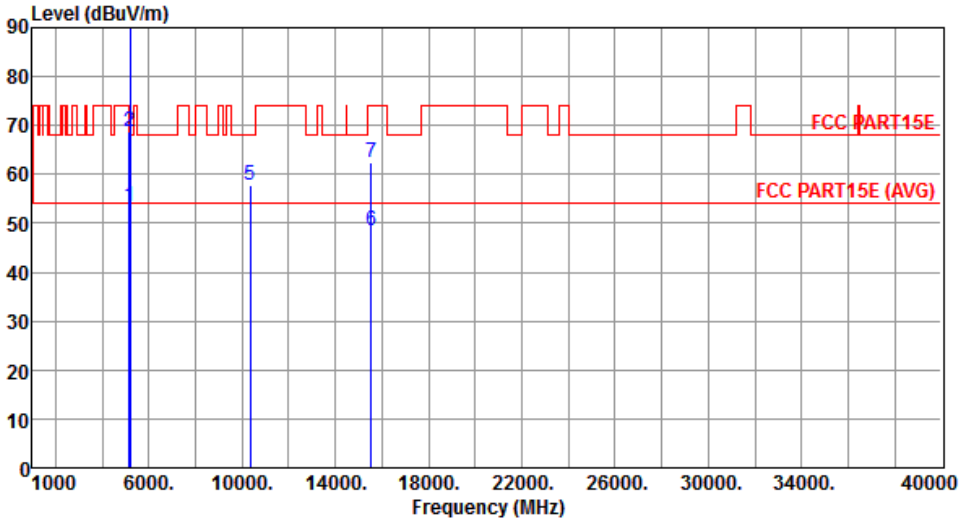
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*Factor includes antenna factor , cable loss and amplifier gain

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

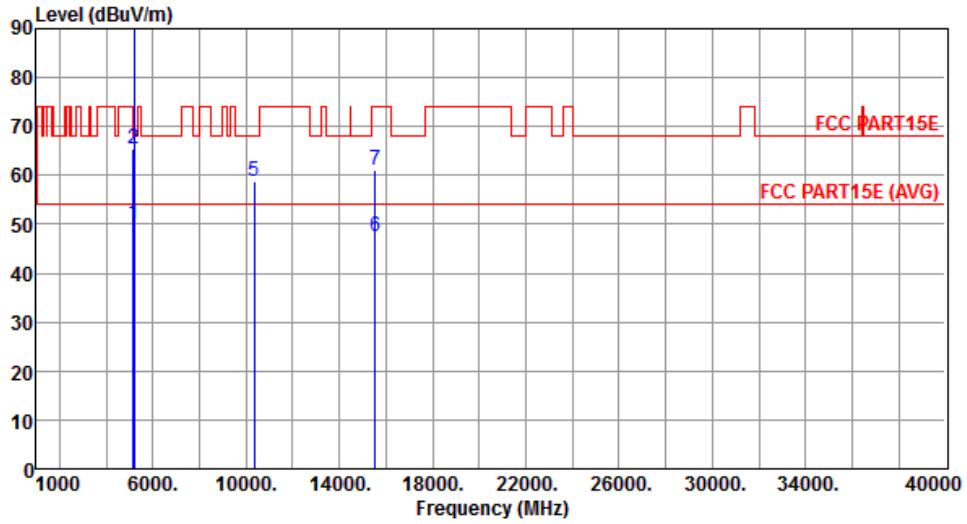
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

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

Modulation	11a	Test Freq. (MHz)	5180						
Polarization	Horizontal	Test Configuration	1						
									
	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	53.60	54.00	-0.40	48.14	5.46	Average	239	47
2	5150.00	68.59	74.00	-5.41	63.13	5.46	Peak	239	47
3 *	5180.00	107.56			102.07	5.49	Average	239	47
4 *	5180.00	119.80			114.31	5.49	Peak	239	47
5	10360.00	57.72	68.20	-10.48	42.31	15.41	Peak	230	78
6	15540.00	48.43	54.00	-5.57	32.63	15.80	Average	176	133
7	15540.00	62.28	74.00	-11.72	46.48	15.80	Peak	176	133

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

<b>Modulation</b>	11a	<b>Test Freq. (MHz)</b>	5180
<b>Polarization</b>	Vertical	<b>Test Configuration</b>	1



	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	50.26	54.00	-3.74	44.80	5.46	Average	231	52
2	5150.00	65.31	74.00	-8.69	59.85	5.46	Peak	231	52
3 *	5180.00	102.27			96.78	5.49	Average	231	52
4 *	5180.00	114.78			109.29	5.49	Peak	231	52
5	10360.00	58.68	68.20	-9.52	43.27	15.41	Peak	269	16
6	15540.00	47.43	54.00	-6.57	31.63	15.80	Average	205	11
7	15540.00	61.09	74.00	-12.91	45.29	15.80	Peak	205	11

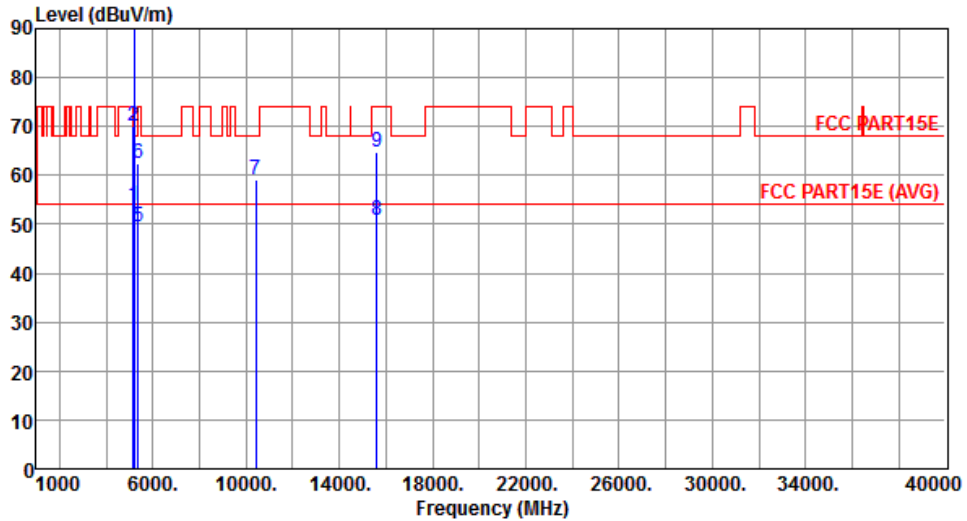
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*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

<b>Modulation</b>	11a	<b>Test Freq. (MHz)</b>	5200
<b>Polarization</b>	Horizontal	<b>Test Configuration</b>	1



	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	53.90	54.00	-0.10	48.44	5.46	Average	227	48
2	5150.00	70.15	74.00	-3.85	64.69	5.46	Peak	227	48
3 *	5200.00	110.37			104.86	5.51	Average	227	48
4 *	5200.00	122.98			117.47	5.51	Peak	227	48
5	5350.00	49.61	54.00	-4.39	44.05	5.56	Average	227	48
6	5350.00	62.40	74.00	-11.60	56.84	5.56	Peak	227	48
7	10400.00	59.02	68.20	-9.18	43.47	15.55	Peak	235	67
8	15600.00	50.73	54.00	-3.27	35.17	15.56	Average	179	139
9	15600.00	64.65	74.00	-9.35	49.09	15.56	Peak	179	139

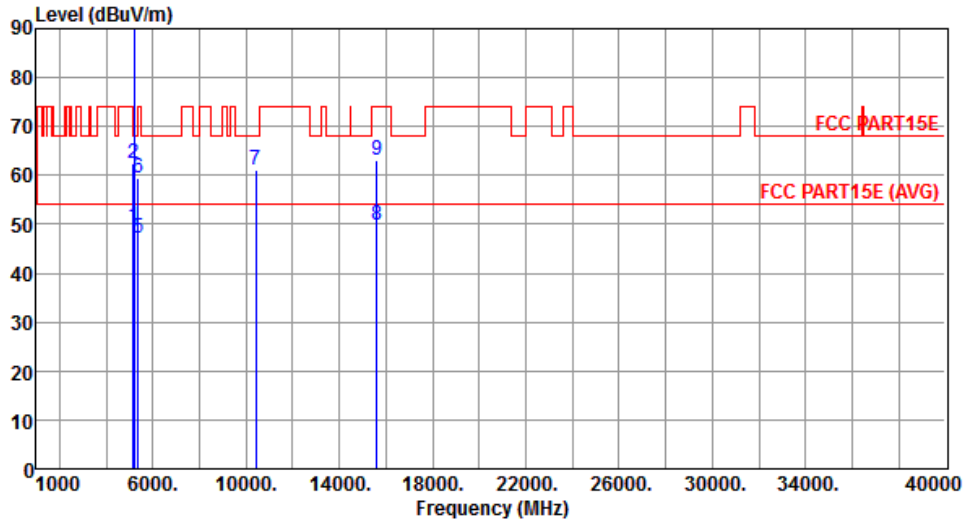
Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor\* (dB)

\*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

<b>Modulation</b>	11a	<b>Test Freq. (MHz)</b>	5200
<b>Polarization</b>	Vertical	<b>Test Configuration</b>	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	49.42	54.00	-4.58	43.96	5.46	Average	360	342
2	5150.00	62.47	74.00	-11.53	57.01	5.46	Peak	360	342
3 *	5200.00	105.00			99.49	5.51	Average	360	342
4 *	5200.00	117.59			112.08	5.51	Peak	360	342
5	5350.00	47.17	54.00	-6.83	41.61	5.56	Average	360	342
6	5350.00	59.60	74.00	-14.40	54.04	5.56	Peak	360	342
7	10400.00	60.94	68.20	-7.26	45.39	15.55	Peak	263	10
8	15600.00	49.80	54.00	-4.20	34.24	15.56	Average	201	9
9	15600.00	63.20	74.00	-10.80	47.64	15.56	Peak	201	9

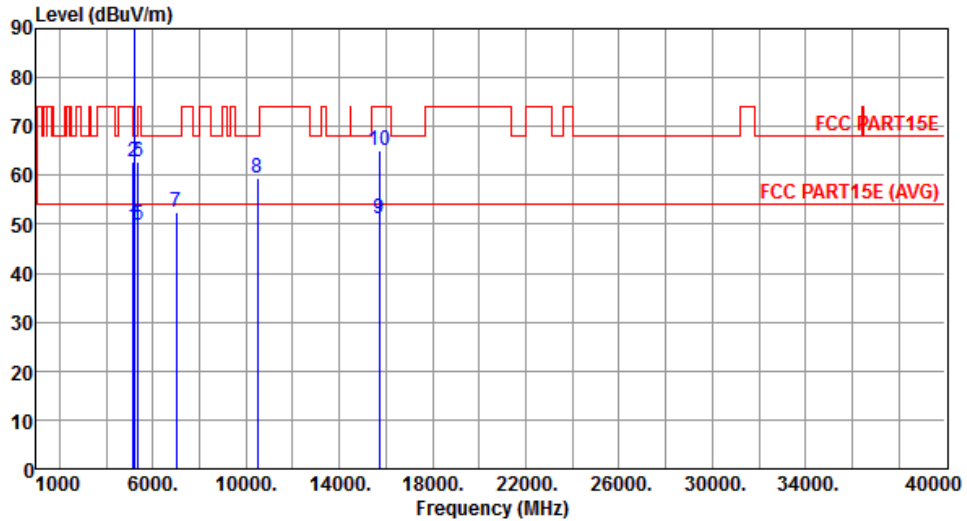
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*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

<b>Modulation</b>	11a	<b>Test Freq. (MHz)</b>	5240
<b>Polarization</b>	Horizontal	<b>Test Configuration</b>	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	49.41	54.00	-4.59	43.95	5.46	Average	237	55
2	5150.00	62.88	74.00	-11.12	57.42	5.46	Peak	237	55
3 *	5240.00	110.96			105.44	5.52	Average	237	55
4 *	5240.00	123.38			117.86	5.52	Peak	237	55
5	5350.00	49.95	54.00	-4.05	44.39	5.56	Average	237	55
6	5350.00	62.67	74.00	-11.33	57.11	5.56	Peak	237	55
7	6986.70	52.41	68.20	-15.79	43.90	8.51	Peak	267	53
8	10480.00	59.33	68.20	-8.87	43.47	15.86	Peak	238	71
9	15720.00	51.12	54.00	-2.88	36.03	15.09	Average	175	133
10	15720.00	64.93	74.00	-9.07	49.84	15.09	Peak	175	133

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

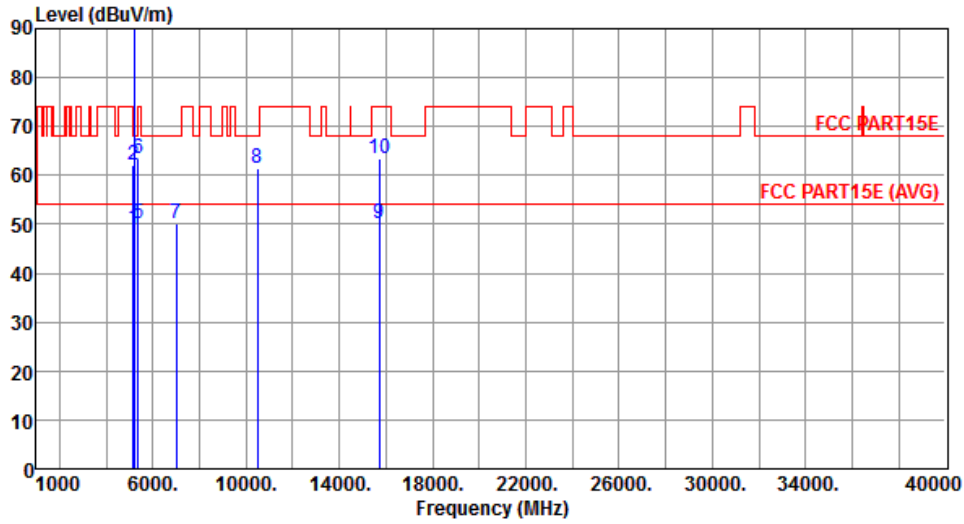
\*Factor includes antenna factor , cable loss and amplifier gain

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

Note 3: "\*" is Peak / Average value of fundamental frequency



<b>Modulation</b>	11a	<b>Test Freq. (MHz)</b>	5240
<b>Polarization</b>	Vertical	<b>Test Configuration</b>	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	49.27	54.00	-4.73	43.81	5.46	Average	356	341
2	5150.00	62.19	74.00	-11.81	56.73	5.46	Peak	356	341
3 *	5240.00	105.33			99.81	5.52	Average	356	341
4 *	5240.00	117.98			112.46	5.52	Peak	356	341
5	5350.00	50.02	54.00	-3.98	44.46	5.56	Average	356	341
6	5350.00	63.41	74.00	-10.59	57.85	5.56	Peak	356	341
7	6986.70	50.11	68.20	-18.09	41.60	8.51	Peak	228	156
8	10480.00	61.32	68.20	-6.88	45.46	15.86	Peak	268	13
9	15720.00	50.11	54.00	-3.89	35.02	15.09	Average	209	13
10	15720.00	63.57	74.00	-10.43	48.48	15.09	Peak	209	13

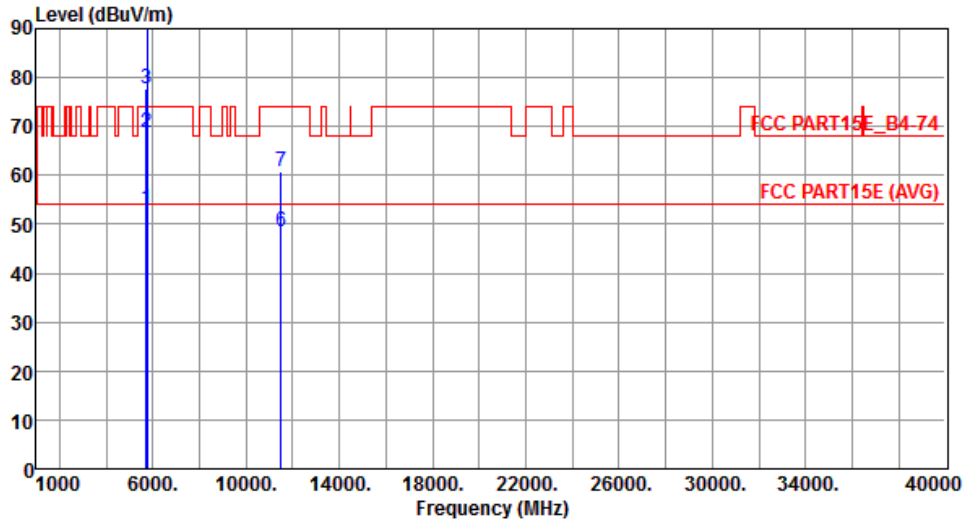
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*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

<b>Modulation</b>	11a	<b>Test Freq. (MHz)</b>	5745
<b>Polarization</b>	Horizontal	<b>Test Configuration</b>	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5715.00	53.19	54.00	-0.81	47.54	5.65	Average	214	311
2	5715.00	68.76	74.00	-5.24	63.11	5.65	Peak	214	311
3	5725.00	77.66	78.20	-0.54	72.02	5.64	Peak	214	311
4 *	5745.00	105.79			100.15	5.64	Average	214	311
5 *	5745.00	118.17			112.53	5.64	Peak	214	311
6	11490.00	48.58	54.00	-5.42	32.65	15.93	Average	208	21
7	11490.00	60.61	74.00	-13.39	44.68	15.93	Peak	208	21

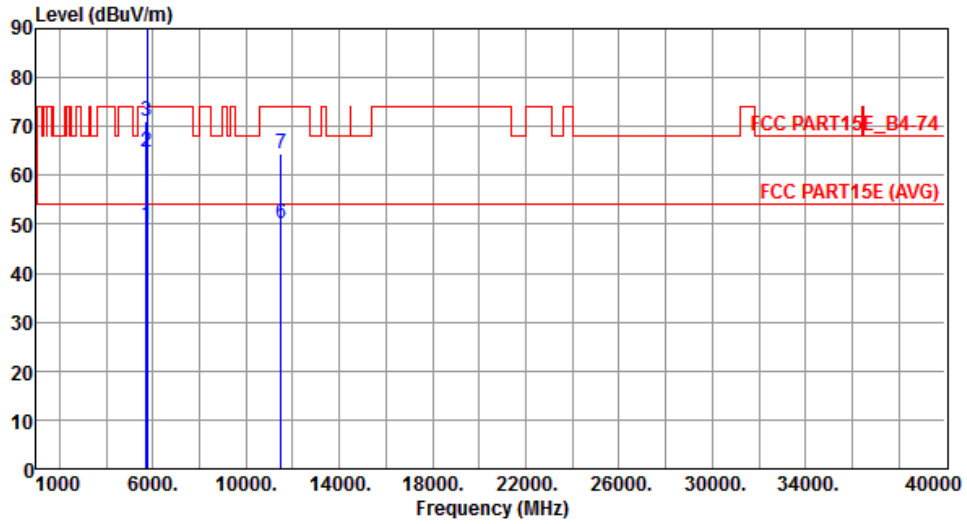
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*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

<b>Modulation</b>	11a	<b>Test Freq. (MHz)</b>	5745
<b>Polarization</b>	Vertical	<b>Test Configuration</b>	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5715.00	49.85	54.00	-4.15	44.20	5.65	Average	370	31
2	5715.00	64.60	74.00	-9.40	58.95	5.65	Peak	370	31
3	5725.00	71.09	78.20	-7.11	65.45	5.64	Peak	370	31
4 *	5745.00	103.76			98.12	5.64	Average	370	31
5 *	5745.00	115.76			110.12	5.64	Peak	370	31
6	11490.00	50.14	54.00	-3.86	34.21	15.93	Average	244	12
7	11490.00	64.45	74.00	-9.55	48.52	15.93	Peak	244	12

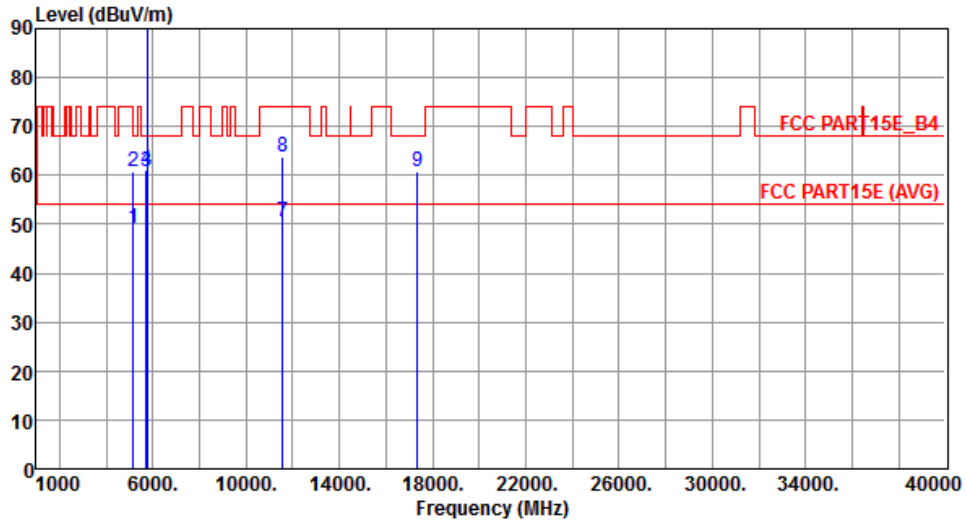
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*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

<b>Modulation</b>	11a	<b>Test Freq. (MHz)</b>	5785
<b>Polarization</b>	Horizontal	<b>Test Configuration</b>	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	49.06	54.00	-4.94	43.60	5.46	Average	222	46
2	5150.00	60.82	74.00	-13.18	55.36	5.46	Peak	222	46
3	5715.00	60.88	68.20	-7.32	55.23	5.65	Peak	165	213
4	5725.00	61.00	78.20	-17.20	55.36	5.64	Peak	165	213
5 *	5785.00	106.93			101.29	5.64	Average	236	53
6 *	5785.00	119.85			114.21	5.64	Peak	236	53
7	11570.00	50.54	54.00	-3.46	34.77	15.77	Average	225	2
8	11570.00	63.65	74.00	-10.35	47.88	15.77	Peak	225	2
9	17355.00	60.75	68.20	-7.45	41.02	19.73	Peak	165	213

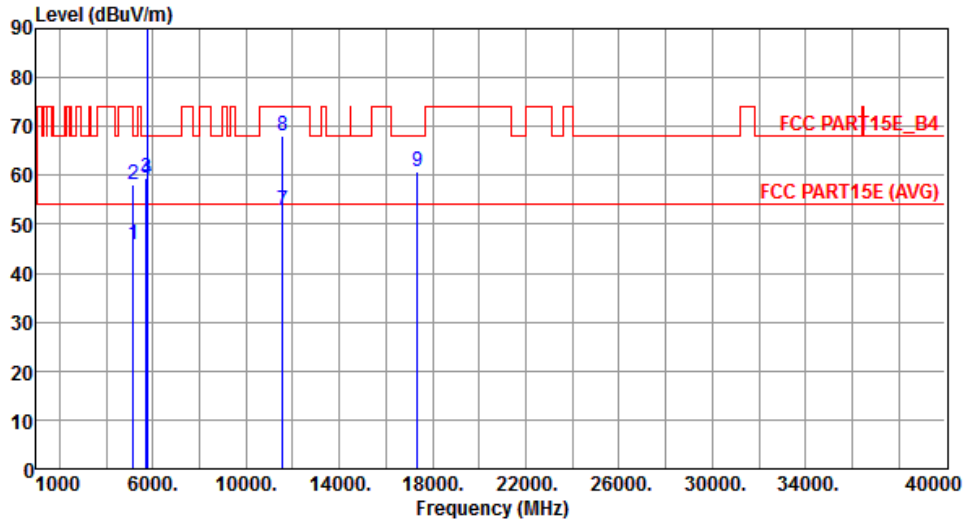
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*Factor includes antenna factor , cable loss and amplifier gain

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

Note 3: "\*" is Peak / Average value of fundamental frequency

<b>Modulation</b>	11a	<b>Test Freq. (MHz)</b>	5785
<b>Polarization</b>	Vertical	<b>Test Configuration</b>	1



	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	45.91	54.00	-8.09	40.45	5.46	Average	389	23
2	5150.00	58.27	74.00	-15.73	52.81	5.46	Peak	389	23
3	5715.00	59.29	68.20	-8.91	53.64	5.65	Peak	389	23
4	5725.00	59.03	78.20	-19.17	53.39	5.64	Peak	389	23
5 *	5785.00	104.63			98.99	5.64	Average	389	23
6 *	5785.00	116.82			111.18	5.64	Peak	389	23
7	11570.00	52.84	54.00	-1.16	37.07	15.77	Average	236	9
8	11570.00	67.99	74.00	-6.01	52.22	15.77	Peak	236	9
9	17355.00	60.76	68.20	-7.44	41.03	19.73	Peak	222	156

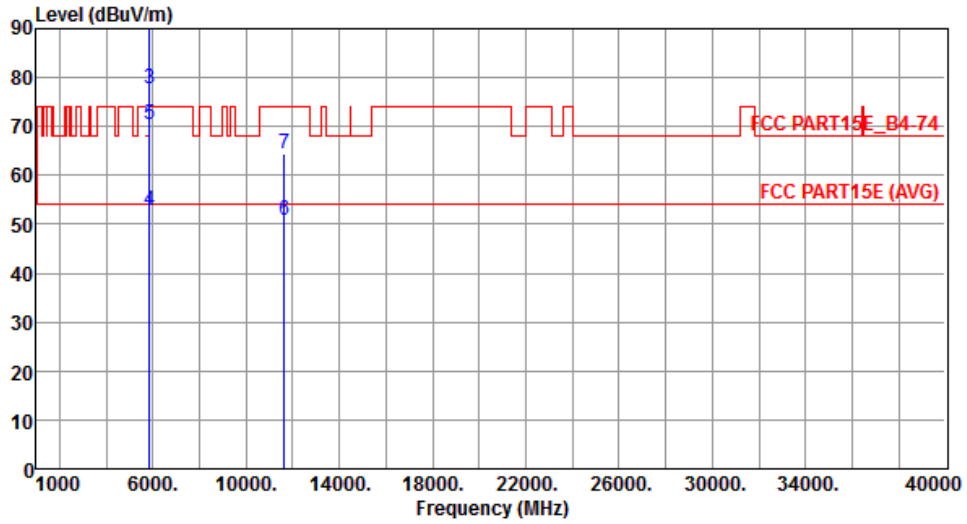
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*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

<b>Modulation</b>	11a	<b>Test Freq. (MHz)</b>	5825
<b>Polarization</b>	Horizontal	<b>Test Configuration</b>	1



		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	106.23			100.53	5.70	Average	257	311
2	*	5825.00	118.51			112.81	5.70	Peak	257	311
3		5850.00	77.71	78.20	-0.49	71.96	5.75	Peak	257	311
4		5860.00	52.76	54.00	-1.24	47.00	5.76	Average	257	311
5		5860.00	70.45	74.00	-3.55	64.69	5.76	Peak	257	311
6		11650.00	50.78	54.00	-3.22	35.22	15.56	Average	231	12
7		11650.00	64.53	74.00	-9.47	48.97	15.56	Peak	231	12

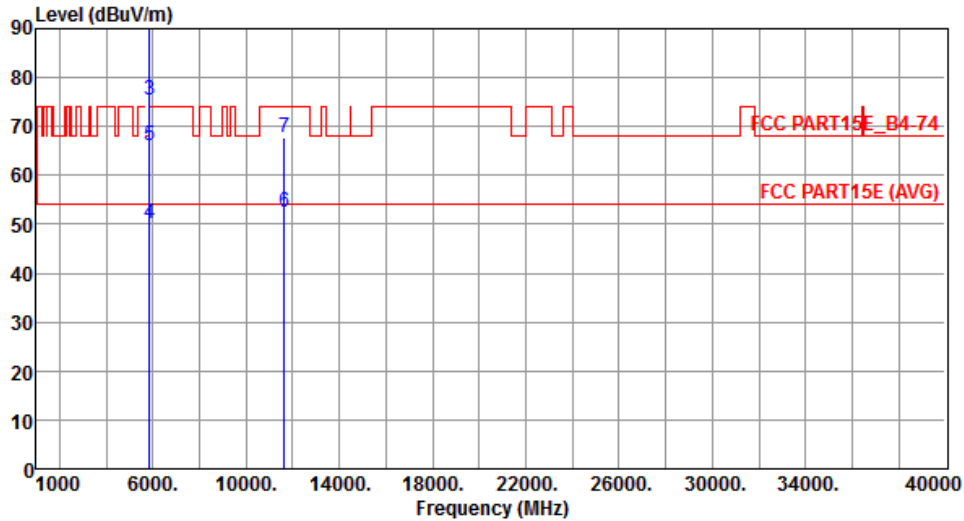
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*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

<b>Modulation</b>	11a	<b>Test Freq. (MHz)</b>	5825
<b>Polarization</b>	Vertical	<b>Test Configuration</b>	1



		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	102.90			97.20	5.70	Average	386	25
2	*	5825.00	114.94			109.24	5.70	Peak	386	25
3		5850.00	75.39	78.20	-2.81	69.64	5.75	Peak	386	25
4		5860.00	50.12	54.00	-3.88	44.36	5.76	Average	386	25
5		5860.00	65.98	74.00	-8.02	60.22	5.76	Peak	386	25
6		11650.00	52.42	54.00	-1.58	36.86	15.56	Average	228	15
7		11650.00	67.72	74.00	-6.28	52.16	15.56	Peak	228	15

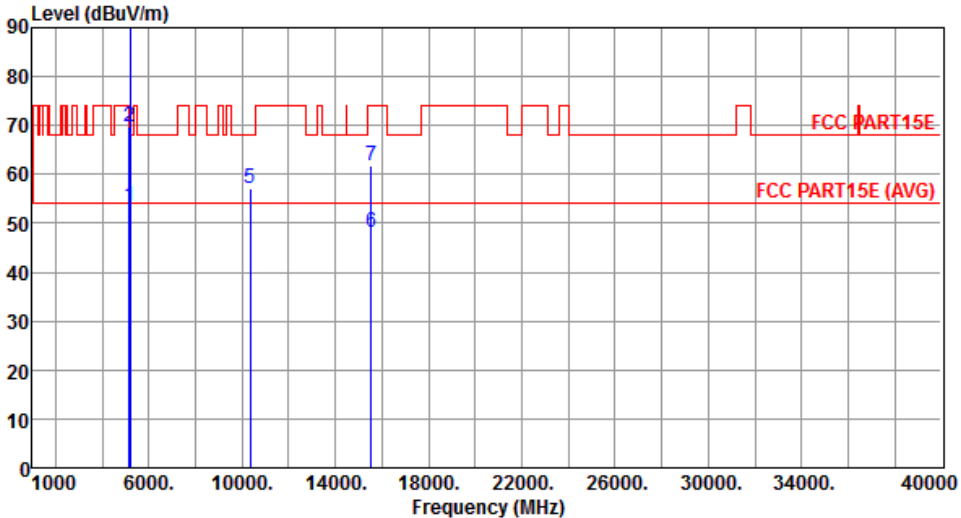
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*Factor includes antenna factor , cable loss and amplifier gain

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

Note 3: "\*" is Peak / Average value of fundamental frequency

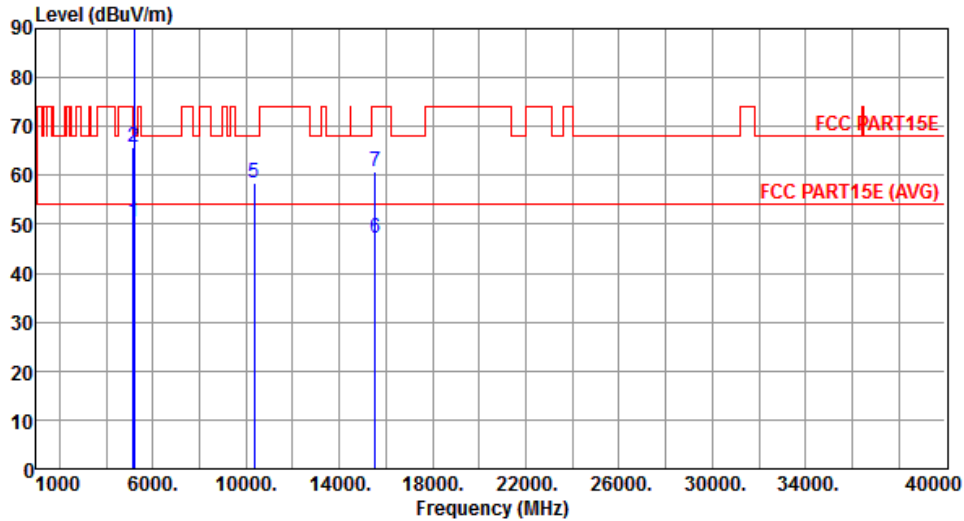
### 3.5.6 Transmitter Radiated Unwanted Emissions (Above 1GHz) for VHT20

Modulation	VHT20	Test Freq. (MHz)	5180						
Polarization	Horizontal	Test Configuration	1						
									
	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	53.63	54.00	-0.37	48.17	5.46	Average	255	44
2	5150.00	69.59	74.00	-4.41	64.13	5.46	Peak	255	44
3 *	5180.00	106.17			100.68	5.49	Average	255	44
4 *	5180.00	118.33			112.84	5.49	Peak	255	44
5	10360.00	57.27	68.20	-10.93	41.86	15.41	Peak	238	71
6	15540.00	48.02	54.00	-5.98	32.22	15.80	Average	175	136
7	15540.00	61.83	74.00	-12.17	46.03	15.80	Peak	175	136

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



<b>Modulation</b>	VHT20	<b>Test Freq. (MHz)</b>	5180
<b>Polarization</b>	Vertical	<b>Test Configuration</b>	1



	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	50.52	54.00	-3.48	45.06	5.46	Average	238	56
2	5150.00	65.90	74.00	-8.10	60.44	5.46	Peak	238	56
3 *	5180.00	100.73			95.24	5.49	Average	238	56
4 *	5180.00	113.25			107.76	5.49	Peak	238	56
5	10360.00	58.31	68.20	-9.89	42.90	15.41	Peak	265	1
6	15540.00	47.06	54.00	-6.94	31.26	15.80	Average	209	17
7	15540.00	60.78	74.00	-13.22	44.98	15.80	Peak	209	17

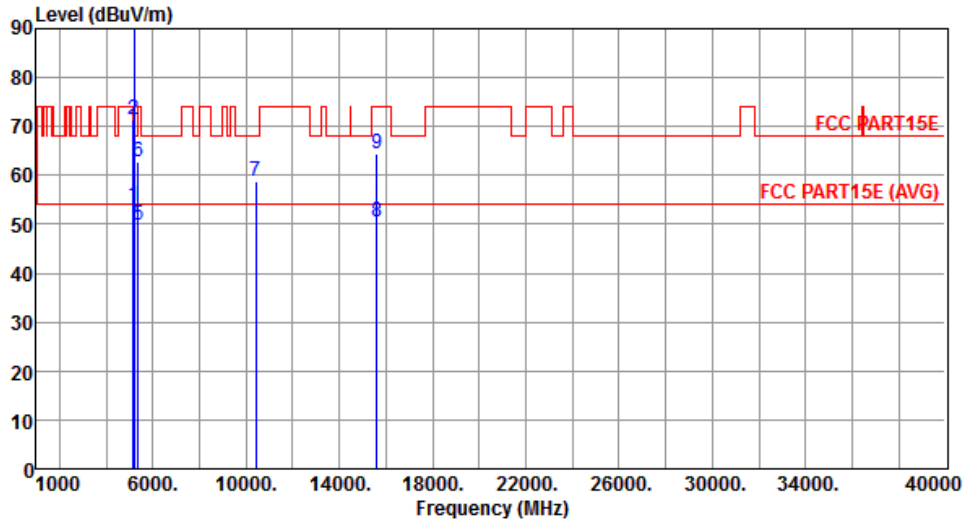
Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor\* (dB)

\*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

<b>Modulation</b>	VHT20	<b>Test Freq. (MHz)</b>	5200
<b>Polarization</b>	Horizontal	<b>Test Configuration</b>	1



	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	53.81	54.00	-0.19	48.35	5.46	Average	222	64
2	5150.00	71.40	74.00	-2.60	65.94	5.46	Peak	222	64
3 *	5200.00	110.41			104.90	5.51	Average	222	64
4 *	5200.00	123.18			117.67	5.51	Peak	222	64
5	5350.00	49.89	54.00	-4.11	44.33	5.56	Average	222	64
6	5350.00	62.83	74.00	-11.17	57.27	5.56	Peak	222	64
7	10400.00	58.83	68.20	-9.37	43.28	15.55	Peak	233	64
8	15600.00	50.42	54.00	-3.58	34.86	15.56	Average	176	133
9	15600.00	64.29	74.00	-9.71	48.73	15.56	Peak	176	133

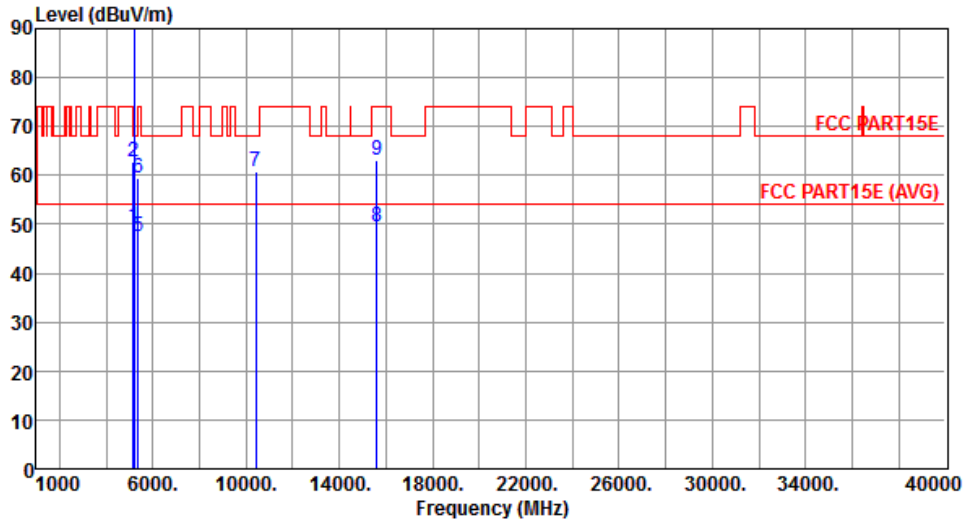
Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor\* (dB)

\*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

<b>Modulation</b>	VHT20	<b>Test Freq. (MHz)</b>	5200
<b>Polarization</b>	Vertical	<b>Test Configuration</b>	1



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	49.63	54.00	-4.37	44.17	5.46	Average	357	341
2	5150.00	62.75	74.00	-11.25	57.29	5.46	Peak	357	341
3 *	5200.00	104.87			99.36	5.51	Average	357	341
4 *	5200.00	117.29			111.78	5.51	Peak	357	341
5	5350.00	47.33	54.00	-6.67	41.77	5.56	Average	357	341
6	5350.00	59.48	74.00	-14.52	53.92	5.56	Peak	357	341
7	10400.00	60.78	68.20	-7.42	45.23	15.55	Peak	261	18
8	15600.00	49.46	54.00	-4.54	33.90	15.56	Average	205	13
9	15600.00	62.94	74.00	-11.06	47.38	15.56	Peak	205	13

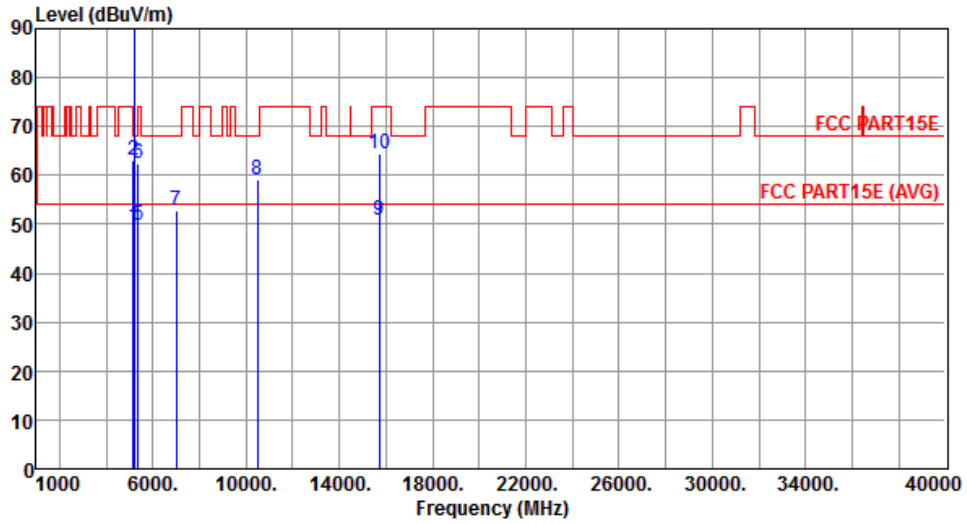
Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor\* (dB)

\*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

<b>Modulation</b>	VHT20	<b>Test Freq. (MHz)</b>	5240
<b>Polarization</b>	Horizontal	<b>Test Configuration</b>	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	49.53	54.00	-4.47	44.07	5.46	Average	231	48
2	5150.00	63.24	74.00	-10.76	57.78	5.46	Peak	231	48
3 *	5240.00	110.68			105.16	5.52	Average	231	48
4 *	5240.00	123.07			117.55	5.52	Peak	231	48
5	5350.00	49.75	54.00	-4.25	44.19	5.56	Average	231	48
6	5350.00	62.53	74.00	-11.47	56.97	5.56	Peak	231	48
7	6986.70	52.89	68.20	-15.31	44.38	8.51	Peak	262	59
8	10480.00	59.02	68.20	-9.18	43.16	15.86	Peak	233	75
9	15720.00	50.84	54.00	-3.16	35.75	15.09	Average	171	132
10	15720.00	64.57	74.00	-9.43	49.48	15.09	Peak	171	132

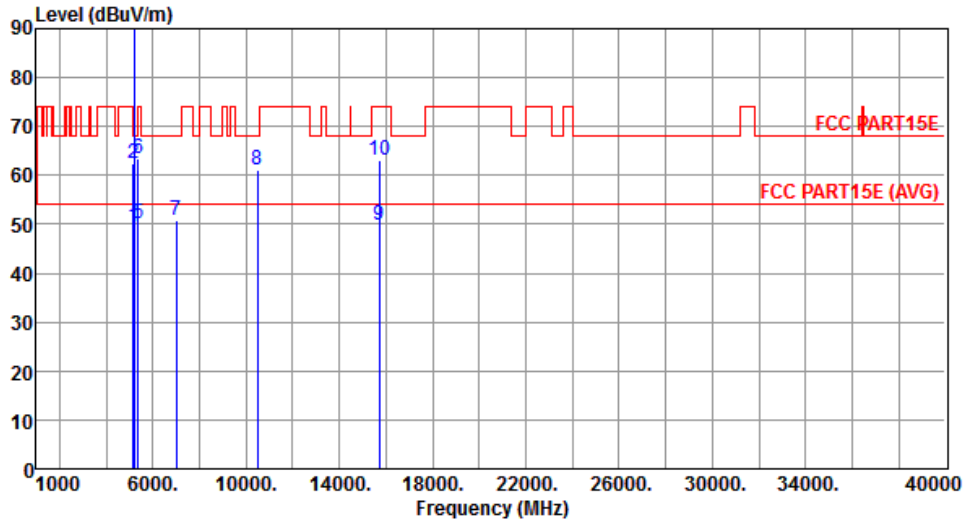
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*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

<b>Modulation</b>	VHT20	<b>Test Freq. (MHz)</b>	5240
<b>Polarization</b>	Vertical	<b>Test Configuration</b>	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	49.53	54.00	-4.47	44.07	5.46	Average	355	346
2	5150.00	62.50	74.00	-11.50	57.04	5.46	Peak	355	346
3 *	5240.00	105.09			99.57	5.52	Average	355	346
4 *	5240.00	117.65			112.13	5.52	Peak	355	346
5	5350.00	50.24	54.00	-3.76	44.68	5.56	Average	355	346
6	5350.00	63.29	74.00	-10.71	57.73	5.56	Peak	355	346
7	6986.70	50.78	68.20	-17.42	42.27	8.51	Peak	224	148
8	10480.00	60.99	68.20	-7.21	45.13	15.86	Peak	261	20
9	15720.00	49.82	54.00	-4.18	34.73	15.09	Average	203	19
10	15720.00	63.10	74.00	-10.90	48.01	15.09	Peak	203	19

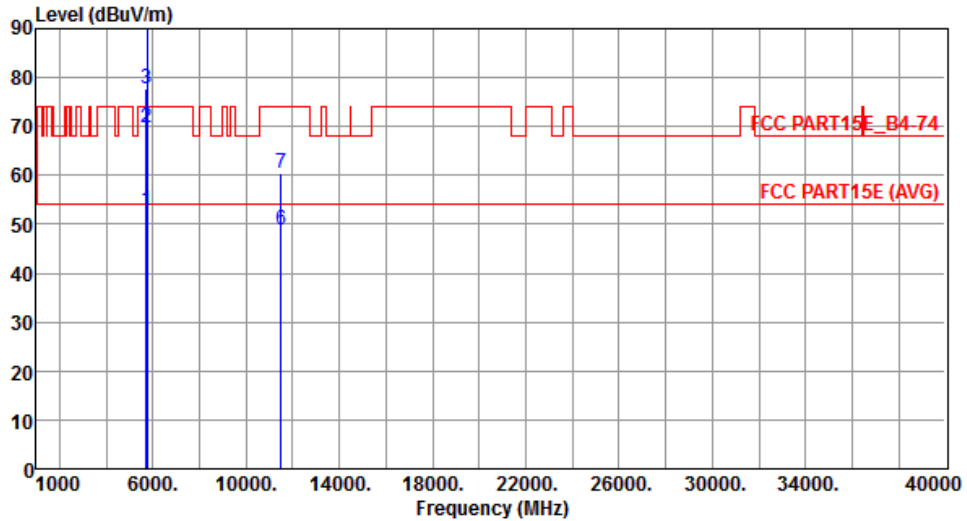
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*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

<b>Modulation</b>	VHT20	<b>Test Freq. (MHz)</b>	5745
<b>Polarization</b>	Horizontal	<b>Test Configuration</b>	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5715.00	52.95	54.00	-1.05	47.30	5.65	Average	300	305
2	5715.00	69.76	74.00	-4.24	64.11	5.65	Peak	300	305
3	5725.00	77.66	78.20	-0.54	72.02	5.64	Peak	300	305
4 *	5745.00	105.50			99.86	5.64	Average	300	305
5 *	5745.00	118.17			112.53	5.64	Peak	300	305
6	11490.00	48.89	54.00	-5.11	32.96	15.93	Average	212	12
7	11490.00	60.51	74.00	-13.49	44.58	15.93	Peak	212	12

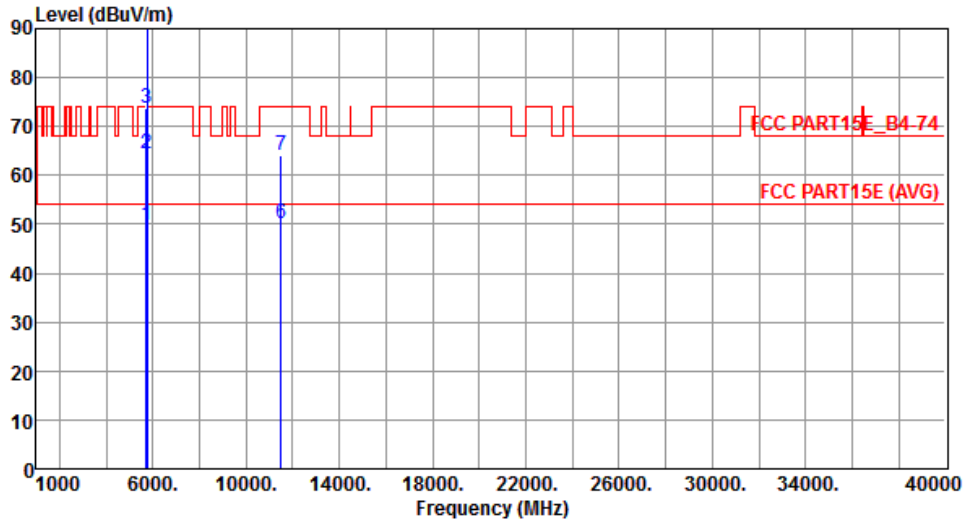
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*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

<b>Modulation</b>	VHT20	<b>Test Freq. (MHz)</b>	5745
<b>Polarization</b>	Vertical	<b>Test Configuration</b>	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5715.00	49.76	54.00	-4.24	44.11	5.65	Average	349	28
2	5715.00	64.30	74.00	-9.70	58.65	5.65	Peak	349	28
3	5725.00	73.87	78.20	-4.33	68.23	5.64	Peak	222	31
4 *	5745.00	103.32			97.68	5.64	Average	222	31
5 *	5745.00	115.49			109.85	5.64	Peak	222	31
6	11490.00	50.05	54.00	-3.95	34.12	15.93	Average	245	16
7	11490.00	64.18	74.00	-9.82	48.25	15.93	Peak	245	16

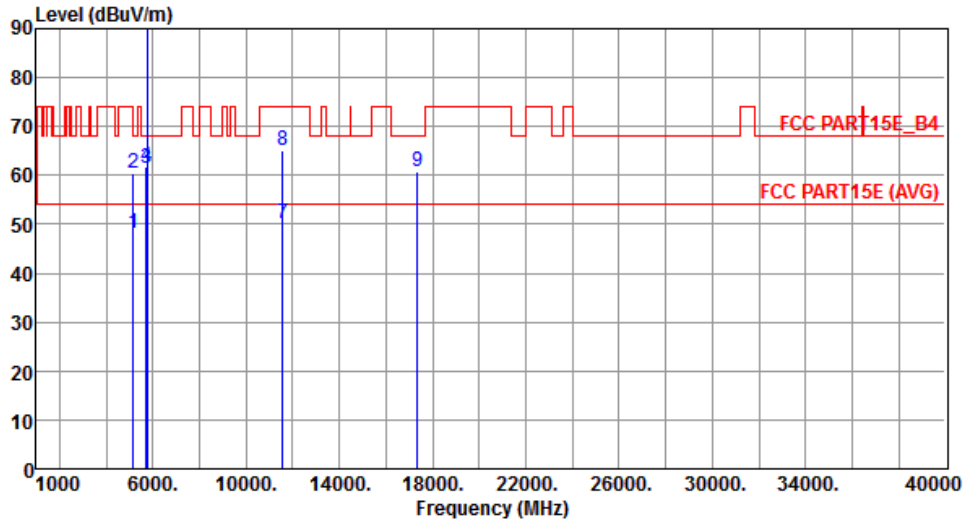
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*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

<b>Modulation</b>	VHT20	<b>Test Freq. (MHz)</b>	5785
<b>Polarization</b>	Horizontal	<b>Test Configuration</b>	1



	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	48.26	54.00	-5.74	42.80	5.46	Average	231	305
2	5150.00	60.35	74.00	-13.65	54.89	5.46	Peak	231	305
3	5715.00	61.44	68.20	-6.76	55.79	5.65	Peak	254	299
4	5725.00	61.71	78.20	-16.49	56.07	5.64	Peak	254	299
5 *	5785.00	106.85			101.21	5.64	Average	254	299
6 *	5785.00	119.52			113.88	5.64	Peak	254	299
7	11570.00	50.17	54.00	-3.83	34.40	15.77	Average	218	20
8	11570.00	65.26	74.00	-8.74	49.49	15.77	Peak	218	20
9	17355.00	60.75	68.20	-7.45	41.02	19.73	Peak	218	20

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

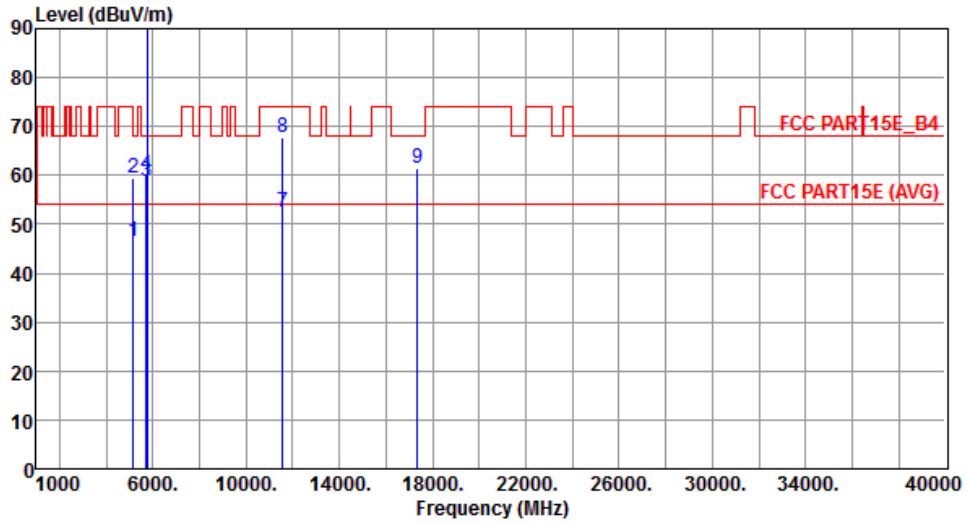
\*Factor includes antenna factor , cable loss and amplifier gain

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

Note 3: "\*" is Peak / Average value of fundamental frequency



<b>Modulation</b>	VHT20	<b>Test Freq. (MHz)</b>	5785
<b>Polarization</b>	Vertical	<b>Test Configuration</b>	1



	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	46.42	54.00	-7.58	40.96	5.46	Average	353	16
2	5150.00	59.30	74.00	-14.70	53.84	5.46	Peak	353	16
3	5715.00	58.86	68.20	-9.34	53.21	5.65	Peak	353	16
4	5725.00	60.27	78.20	-17.93	54.63	5.64	Peak	353	16
5 *	5785.00	103.35			97.71	5.64	Average	353	16
6 *	5785.00	116.10			110.46	5.64	Peak	353	16
7	11570.00	52.62	54.00	-1.38	36.85	15.77	Average	275	12
8	11570.00	67.61	74.00	-6.39	51.84	15.77	Peak	275	12
9	17355.00	61.33	68.20	-6.87	41.60	19.73	Peak	275	12

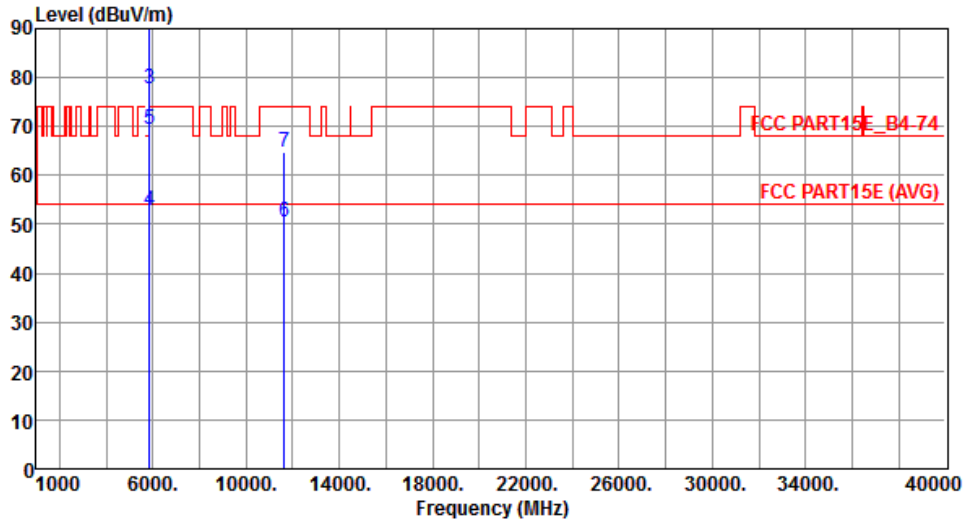
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*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

<b>Modulation</b>	VHT20	<b>Test Freq. (MHz)</b>	5825
<b>Polarization</b>	Horizontal	<b>Test Configuration</b>	1



		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	105.90			100.20	5.70	Average	253	300
2	*	5825.00	118.22			112.52	5.70	Peak	253	300
3		5850.00	77.61	78.20	-0.59	71.86	5.75	Peak	264	305
4		5860.00	52.89	54.00	-1.11	47.13	5.76	Average	262	305
5		5860.00	69.43	74.00	-4.57	63.67	5.76	Peak	262	305
6		11650.00	50.53	54.00	-3.47	34.97	15.56	Average	218	10
7		11650.00	64.69	74.00	-9.31	49.13	15.56	Peak	218	10

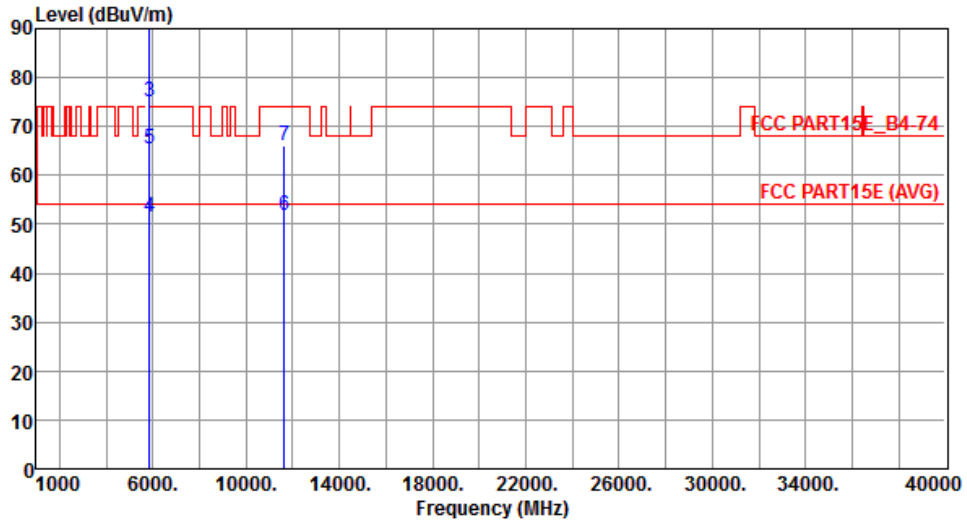
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*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

<b>Modulation</b>	VHT20	<b>Test Freq. (MHz)</b>	5825
<b>Polarization</b>	Vertical	<b>Test Configuration</b>	1



		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	102.04			96.34	5.70	Average	388	29
2	*	5825.00	113.90			108.20	5.70	Peak	388	29
3		5850.00	75.07	78.20	-3.13	69.32	5.75	Peak	388	29
4		5860.00	51.62	54.00	-2.38	45.86	5.76	Average	388	29
5		5860.00	65.52	74.00	-8.48	59.76	5.76	Peak	388	29
6		11650.00	51.78	54.00	-2.22	36.22	15.56	Average	222	15
7		11650.00	66.25	74.00	-7.75	50.69	15.56	Peak	222	15

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

\*Factor includes antenna factor , cable loss and amplifier gain

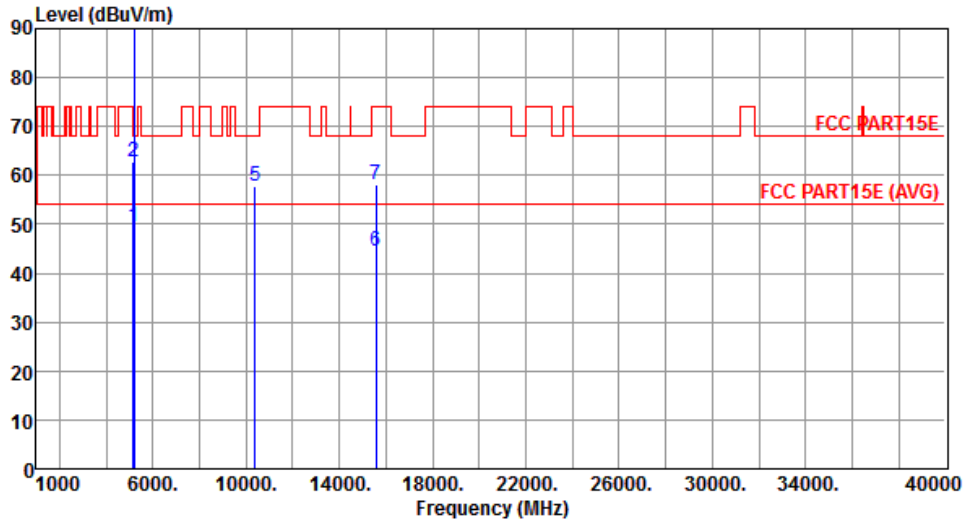
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: "\*" is Peak / Average value of fundamental frequency

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

Modulation	VHT40	Test Freq. (MHz)	5190																																																																																									
Polarization	Horizontal	Test Configuration	1																																																																																									
	<table border="1"> <thead> <tr> <th>Freq.</th> <th>Emission level</th> <th>Limit</th> <th>Margin</th> <th>SA reading</th> <th>Factor</th> <th>Remark</th> <th>ANT High</th> <th>Turn Table</th> </tr> <tr> <th>MHz</th> <th>dBuV/m</th> <th>dBuV/m</th> <th>dB</th> <th>dBuV</th> <th>dB</th> <th></th> <th>cm</th> <th>deg</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>5150.00</td> <td>53.52</td> <td>54.00</td> <td>-0.48</td> <td>48.06</td> <td>5.46</td> <td>Average</td> <td>240</td> <td>43</td> </tr> <tr> <td>2</td> <td>5150.00</td> <td>66.99</td> <td>74.00</td> <td>-7.01</td> <td>61.53</td> <td>5.46</td> <td>Peak</td> <td>240</td> <td>43</td> </tr> <tr> <td>3 *</td> <td>5190.00</td> <td>100.46</td> <td></td> <td></td> <td>94.96</td> <td>5.50</td> <td>Average</td> <td>240</td> <td>43</td> </tr> <tr> <td>4 *</td> <td>5190.00</td> <td>110.83</td> <td></td> <td></td> <td>105.33</td> <td>5.50</td> <td>Peak</td> <td>240</td> <td>43</td> </tr> <tr> <td>5</td> <td>10380.00</td> <td>57.13</td> <td>68.20</td> <td>-11.07</td> <td>41.65</td> <td>15.48</td> <td>Peak</td> <td>197</td> <td>225</td> </tr> <tr> <td>6</td> <td>15570.00</td> <td>44.35</td> <td>54.00</td> <td>-9.65</td> <td>28.67</td> <td>15.68</td> <td>Average</td> <td>261</td> <td>85</td> </tr> <tr> <td>7</td> <td>15570.00</td> <td>57.04</td> <td>74.00</td> <td>-16.96</td> <td>41.36</td> <td>15.68</td> <td>Peak</td> <td>261</td> <td>85</td> </tr> </tbody> </table>	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg	1	5150.00	53.52	54.00	-0.48	48.06	5.46	Average	240	43	2	5150.00	66.99	74.00	-7.01	61.53	5.46	Peak	240	43	3 *	5190.00	100.46			94.96	5.50	Average	240	43	4 *	5190.00	110.83			105.33	5.50	Peak	240	43	5	10380.00	57.13	68.20	-11.07	41.65	15.48	Peak	197	225	6	15570.00	44.35	54.00	-9.65	28.67	15.68	Average	261	85	7	15570.00	57.04	74.00	-16.96	41.36	15.68	Peak	261	85			
Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table																																																																																				
MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg																																																																																				
1	5150.00	53.52	54.00	-0.48	48.06	5.46	Average	240	43																																																																																			
2	5150.00	66.99	74.00	-7.01	61.53	5.46	Peak	240	43																																																																																			
3 *	5190.00	100.46			94.96	5.50	Average	240	43																																																																																			
4 *	5190.00	110.83			105.33	5.50	Peak	240	43																																																																																			
5	10380.00	57.13	68.20	-11.07	41.65	15.48	Peak	197	225																																																																																			
6	15570.00	44.35	54.00	-9.65	28.67	15.68	Average	261	85																																																																																			
7	15570.00	57.04	74.00	-16.96	41.36	15.68	Peak	261	85																																																																																			
<p>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</p>																																																																																												

<b>Modulation</b>	VHT40	<b>Test Freq. (MHz)</b>	5190
<b>Polarization</b>	Vertical	<b>Test Configuration</b>	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	49.48	54.00	-4.52	44.02	5.46	Average	291	316
2	5150.00	62.67	74.00	-11.33	57.21	5.46	Peak	291	316
3 *	5190.00	93.66			88.16	5.50	Average	291	316
4 *	5190.00	104.03			98.53	5.50	Peak	291	316
5	10380.00	57.71	68.20	-10.49	42.23	15.48	Peak	205	138
6	15570.00	44.65	54.00	-9.35	28.97	15.68	Average	162	276
7	15570.00	58.07	74.00	-15.93	42.39	15.68	Peak	162	276

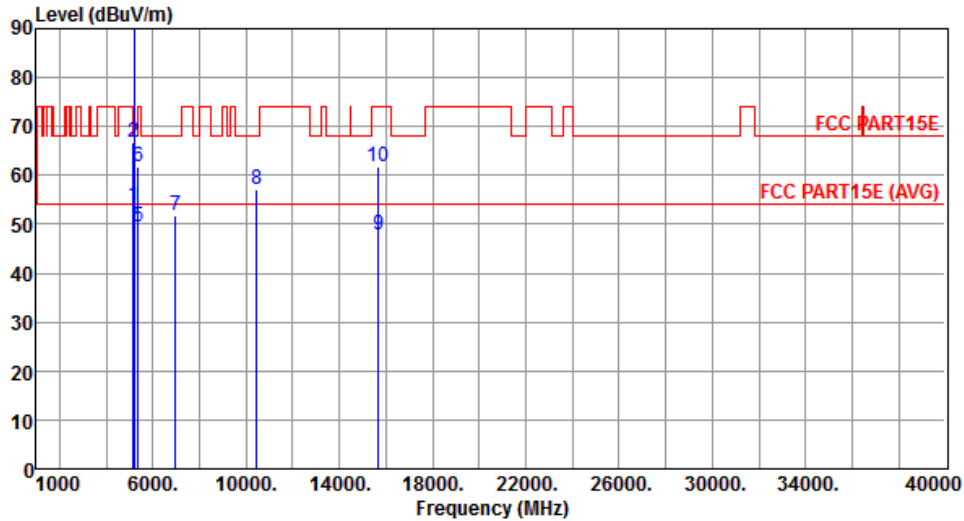
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*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

<b>Modulation</b>	VHT40	<b>Test Freq. (MHz)</b>	5230
<b>Polarization</b>	Horizontal	<b>Test Configuration</b>	1



	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	53.89	54.00	-0.11	48.43	5.46	Average	229	48
2	5150.00	66.76	74.00	-7.24	61.30	5.46	Peak	229	48
3 *	5230.00	109.19			103.67	5.52	Average	229	48
4 *	5230.00	119.13			113.61	5.52	Peak	229	48
5	5350.00	49.46	54.00	-4.54	43.90	5.56	Average	229	48
6	5350.00	61.66	74.00	-12.34	56.10	5.56	Peak	229	48
7	6973.30	51.81	68.20	-16.39	43.31	8.50	Peak	259	56
8	10460.00	57.06	68.20	-11.14	41.28	15.78	Peak	236	76
9	15690.00	47.93	54.00	-6.07	32.72	15.21	Average	171	139
10	15690.00	61.82	74.00	-12.18	46.61	15.21	Peak	171	139

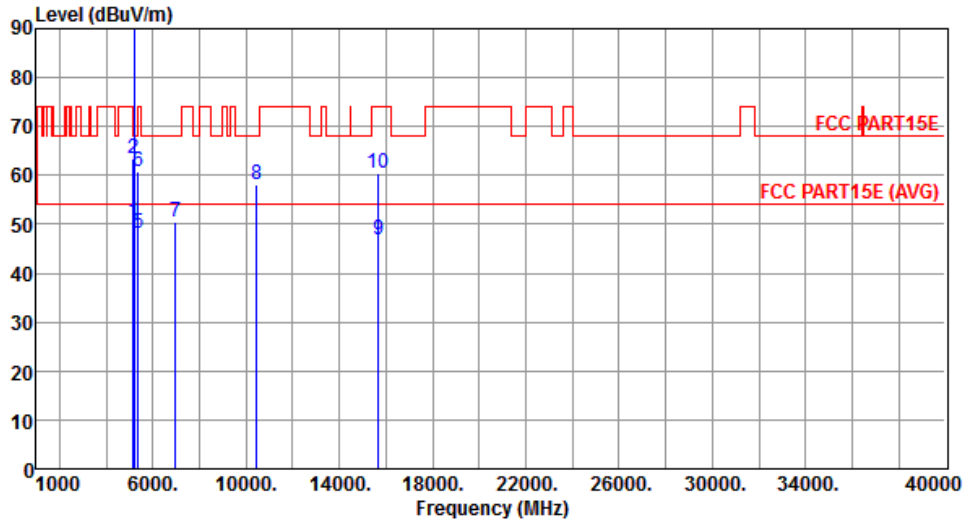
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*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

<b>Modulation</b>	VHT40	<b>Test Freq. (MHz)</b>	5230
<b>Polarization</b>	Vertical	<b>Test Configuration</b>	1



	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	50.44	54.00	-3.56	44.98	5.46	Average	355	336
2	5150.00	63.58	74.00	-10.42	58.12	5.46	Peak	355	336
3 *	5230.00	102.12			96.60	5.52	Average	355	336
4 *	5230.00	112.30			106.78	5.52	Peak	355	336
5	5350.00	48.21	54.00	-5.79	42.65	5.56	Average	355	336
6	5350.00	60.63	74.00	-13.37	55.07	5.56	Peak	355	336
7	6973.30	50.48	68.20	-17.72	41.98	8.50	Peak	221	159
8	10460.00	58.08	68.20	-10.12	42.30	15.78	Peak	265	20
9	15690.00	46.88	54.00	-7.12	31.67	15.21	Average	203	20
10	15690.00	60.31	74.00	-13.69	45.10	15.21	Peak	203	20

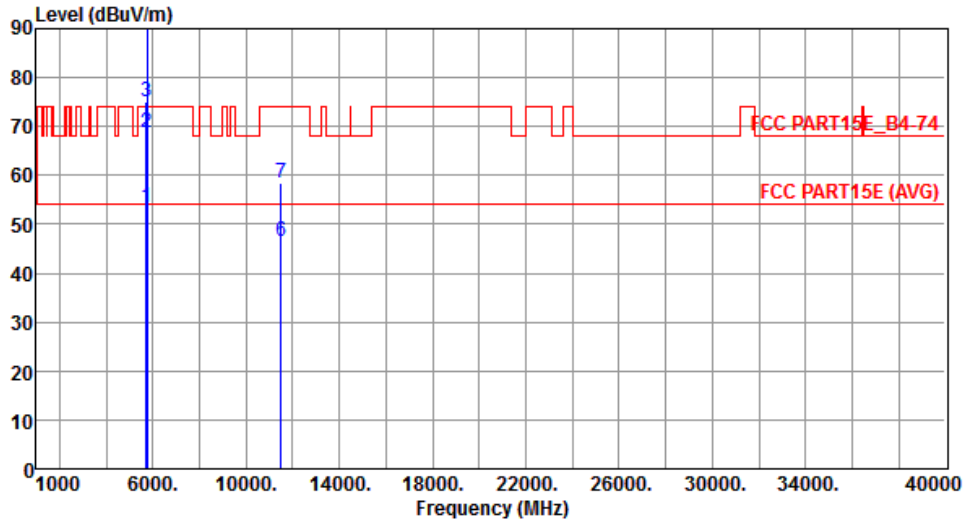
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*Factor includes antenna factor , cable loss and amplifier gain

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

Note 3: "\*" is Peak / Average value of fundamental frequency

<b>Modulation</b>	VHT40	<b>Test Freq. (MHz)</b>	5755
<b>Polarization</b>	Horizontal	<b>Test Configuration</b>	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5715.00	53.60	54.00	-0.40	47.95	5.65	Average	281	308
2	5715.00	68.76	74.00	-5.24	63.11	5.65	Peak	281	308
3	5725.00	74.97	78.20	-3.23	69.33	5.64	Peak	222	308
4 *	5755.00	100.30			94.65	5.65	Average	222	308
5 *	5755.00	110.32			104.67	5.65	Peak	222	308
6	11510.00	46.58	54.00	-7.42	30.66	15.92	Average	235	15
7	11510.00	58.37	74.00	-15.63	42.45	15.92	Peak	235	15

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

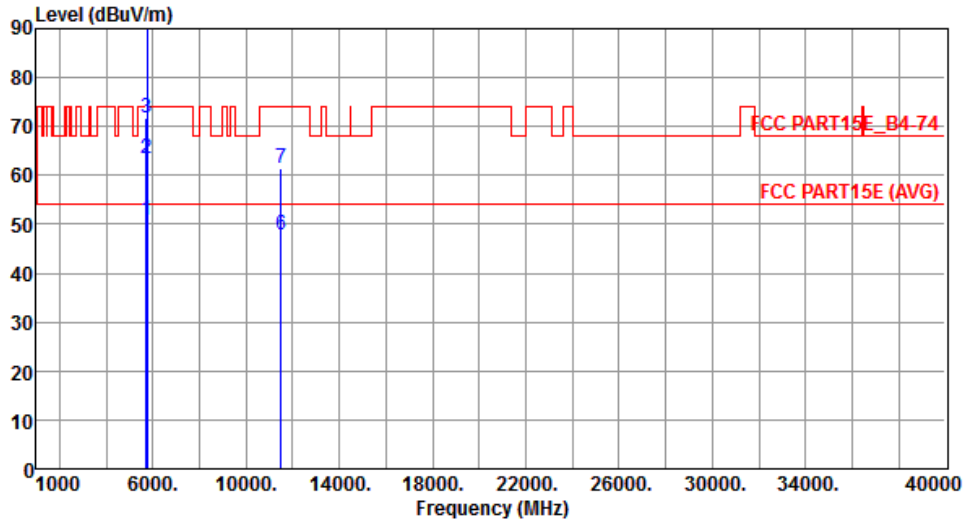
\*Factor includes antenna factor , cable loss and amplifier gain

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

Note 3: "\*" is Peak / Average value of fundamental frequency



<b>Modulation</b>	VHT40	<b>Test Freq. (MHz)</b>	5755
<b>Polarization</b>	Vertical	<b>Test Configuration</b>	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5715.00	50.76	54.00	-3.24	45.11	5.65	Average	216	25
2	5715.00	63.32	74.00	-10.68	57.67	5.65	Peak	216	25
3	5725.00	71.76	78.20	-6.44	66.12	5.64	Peak	216	25
4 *	5755.00	96.42			90.77	5.65	Average	216	25
5 *	5755.00	106.12			100.47	5.65	Peak	216	25
6	11510.00	47.67	54.00	-6.33	31.75	15.92	Average	241	10
7	11510.00	61.40	74.00	-12.60	45.48	15.92	Peak	241	10

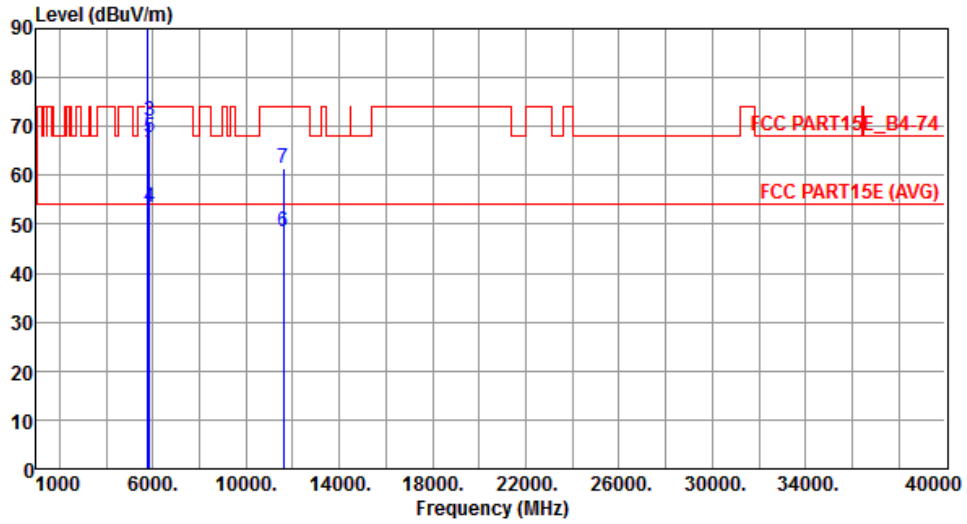
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*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

<b>Modulation</b>	VHT40	<b>Test Freq. (MHz)</b>	5795
<b>Polarization</b>	Horizontal	<b>Test Configuration</b>	1



		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	106.17			100.53	5.64	Average	241	300
2	*	5795.00	115.85			110.21	5.64	Peak	241	300
3		5850.00	70.96	78.20	-7.24	65.21	5.75	Peak	241	300
4		5860.00	53.63	54.00	-0.37	47.87	5.76	Average	241	300
5		5860.00	67.65	74.00	-6.35	61.89	5.76	Peak	241	300
6		11590.00	48.37	54.00	-5.63	32.66	15.71	Average	228	21
7		11590.00	61.48	74.00	-12.52	45.77	15.71	Peak	228	21

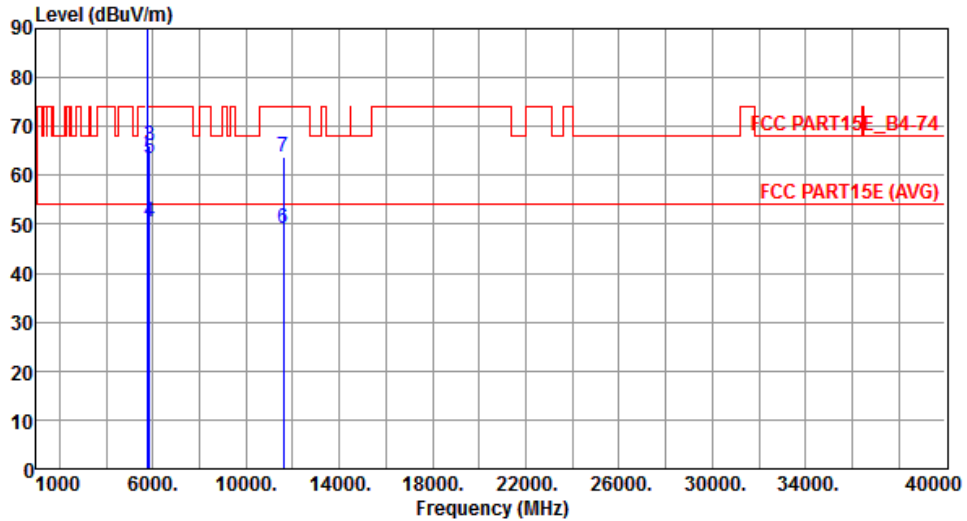
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*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

<b>Modulation</b>	VHT40	<b>Test Freq. (MHz)</b>	5795
<b>Polarization</b>	Vertical	<b>Test Configuration</b>	1



		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	101.39			95.75	5.64	Average	350	25
2	*	5795.00	112.06			106.42	5.64	Peak	350	25
3		5850.00	66.12	78.20	-12.08	60.37	5.75	Peak	350	25
4		5860.00	50.49	54.00	-3.51	44.73	5.76	Average	350	25
5		5860.00	63.33	74.00	-10.67	57.57	5.76	Peak	350	25
6		11590.00	49.26	54.00	-4.74	33.55	15.71	Average	221	26
7		11590.00	63.78	74.00	-10.22	48.07	15.71	Peak	221	26

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

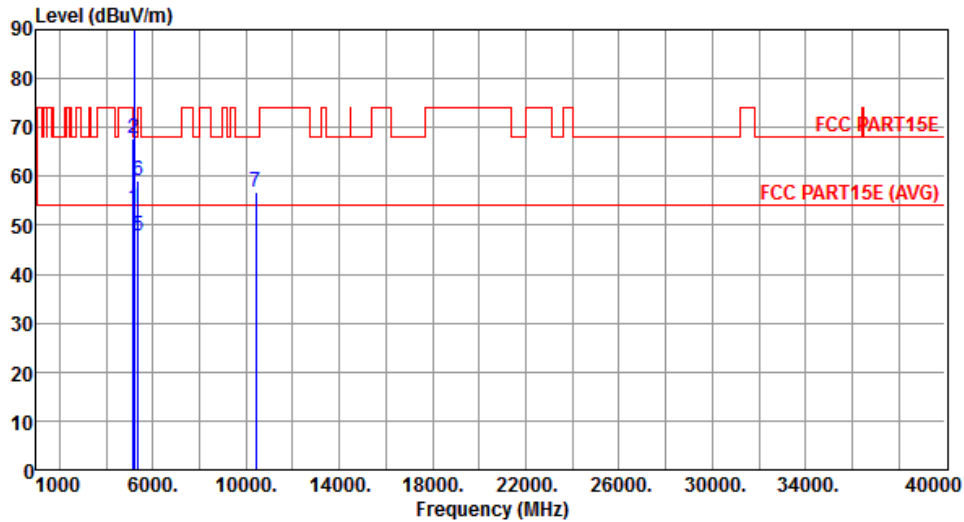
\*Factor includes antenna factor , cable loss and amplifier gain

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

Note 3: "\*" is Peak / Average value of fundamental frequency

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

<b>Modulation</b>	VHT80	<b>Test Freq. (MHz)</b>	5210
<b>Polarization</b>	Horizontal	<b>Test Configuration</b>	1



	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	53.58	54.00	-0.42	48.12	5.46	Average	241	52
2	5150.00	67.68	74.00	-6.32	62.22	5.46	Peak	241	52
3 *	5210.00	94.54			89.02	5.52	Average	241	52
4 *	5210.00	105.77			100.25	5.52	Peak	241	52
5	5350.00	47.89	54.00	-6.11	42.33	5.56	Average	241	52
6	5350.00	59.23	74.00	-14.77	53.67	5.56	Peak	241	52
7	10420.00	56.65	68.20	-11.55	41.02	15.63	Peak	188	216

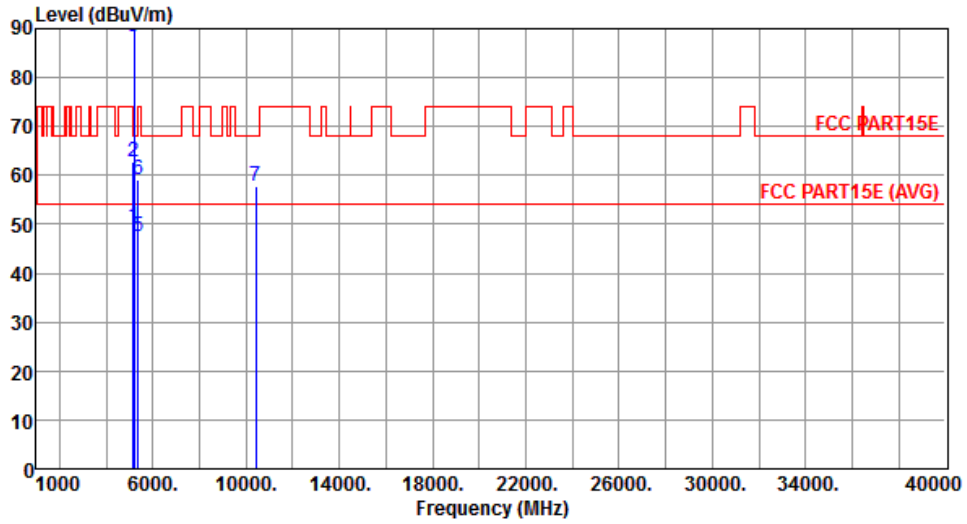
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*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

<b>Modulation</b>	VHT80	<b>Test Freq. (MHz)</b>	5210
<b>Polarization</b>	Vertical	<b>Test Configuration</b>	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	49.42	54.00	-4.58	43.96	5.46	Average	275	302
2	5150.00	62.61	74.00	-11.39	57.15	5.46	Peak	275	302
3 *	5210.00	88.20			82.68	5.52	Average	275	302
4 *	5210.00	98.48			92.96	5.52	Peak	275	302
5	5350.00	47.59	54.00	-6.41	42.03	5.56	Average	275	302
6	5350.00	59.13	74.00	-14.87	53.57	5.56	Peak	275	302
7	10420.00	57.65	68.20	-10.55	42.02	15.63	Peak	200	135

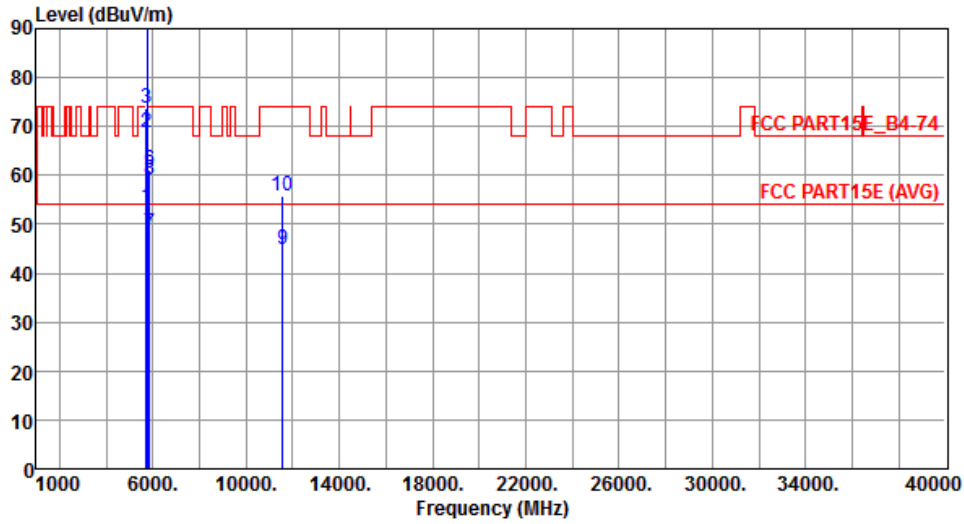
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*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

<b>Modulation</b>	VHT80	<b>Test Freq. (MHz)</b>	5775
<b>Polarization</b>	Horizontal	<b>Test Configuration</b>	1



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5715.00	53.60	54.00	-0.40	47.95	5.65	Average	221	305
2	5715.00	68.79	74.00	-5.21	63.14	5.65	Peak	221	305
3	5725.00	73.86	78.20	-4.34	68.22	5.64	Peak	221	305
4 *	5775.00	94.66			89.02	5.64	Average	221	305
5 *	5775.00	105.32			99.68	5.64	Peak	221	305
6	5850.00	61.22	78.20	-16.98	55.47	5.75	Peak	221	305
7	5860.00	48.24	54.00	-5.76	42.48	5.76	Average	221	305
8	5860.00	59.09	74.00	-14.91	53.33	5.76	Peak	221	305
9	11550.00	44.78	54.00	-9.22	28.97	15.81	Average	225	16
10	11550.00	55.94	74.00	-18.06	40.13	15.81	Peak	225	16

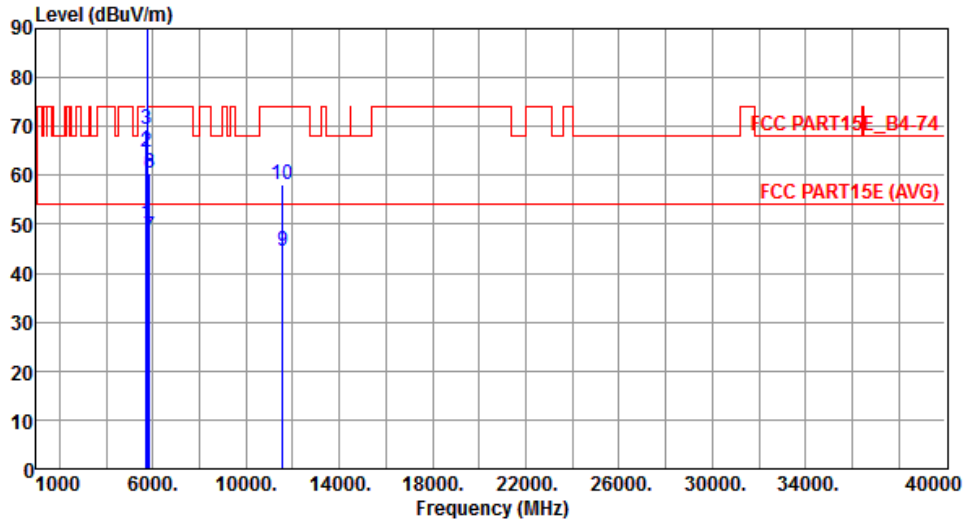
Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor\* (dB)

\*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

<b>Modulation</b>	VHT80	<b>Test Freq. (MHz)</b>	5775
<b>Polarization</b>	Vertical	<b>Test Configuration</b>	1



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5715.00	50.17	54.00	-3.83	44.52	5.65	Average	302	305
2	5715.00	64.60	74.00	-9.40	58.95	5.65	Peak	302	305
3	5725.00	69.26	78.20	-8.94	63.62	5.64	Peak	302	305
4 *	5775.00	90.32			84.68	5.64	Average	302	305
5 *	5775.00	101.49			95.85	5.64	Peak	302	305
6	5850.00	60.49	78.20	-17.71	54.74	5.75	Peak	302	305
7	5860.00	47.63	54.00	-6.37	41.87	5.76	Average	302	305
8	5860.00	60.45	74.00	-13.55	54.69	5.76	Peak	302	305
9	11550.00	44.58	54.00	-9.42	28.77	15.81	Average	241	15
10	11550.00	58.19	74.00	-15.81	42.38	15.81	Peak	241	15

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

\*Factor includes antenna factor , cable loss and amplifier gain

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

Note 3: "\*" is Peak / Average value of fundamental frequency

## 3.6 Frequency Stability

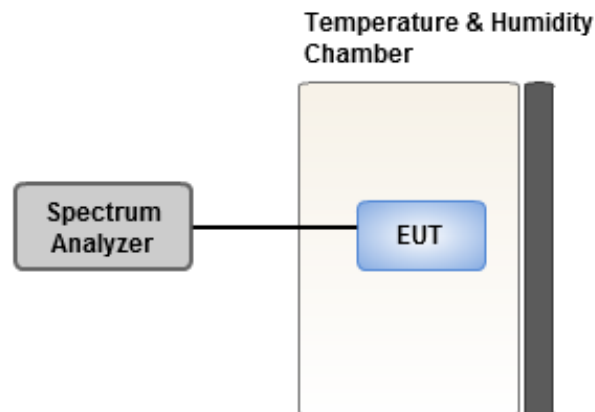
### 3.6.1 Limit of Frequency Stability

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

### 3.6.2 Test Procedures

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

### 3.6.3 Test Setup





### 3.6.4 Test Result of Frequency Stability

Frequency: 5200 MHz	Frequency Drift (ppm)			
Temperature (°C)	0 minute	2 minutes	5 minutes	10 minutes
T20°C Vmax	4.54	4.14	4.56	4.91
T20°C Vmin	4.19	4.36	4.80	4.13
T50°C Vnom	3.75	3.80	3.81	2.91
T40°C Vnom	4.36	4.18	3.81	4.31
T30°C Vnom	3.08	3.13	3.38	2.81
T20°C Vnom	2.82	3.23	3.15	3.23
T10°C Vnom	2.10	2.54	2.17	2.18
T0°C Vnom	3.48	3.39	3.23	3.39
T-10°C Vnom	2.85	2.29	2.45	2.33
T-20°C Vnom	1.88	2.13	2.46	1.77
T-30°C Vnom	1.40	1.62	1.07	1.91
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°C Vmax	5.74	5.77	6.28	6.25
T20°C Vmin	5.45	5.32	5.36	6.00
T50°C Vnom	4.36	4.75	4.31	4.46
T40°C Vnom	4.44	4.05	4.85	4.86
T30°C Vnom	4.53	4.64	5.03	4.86
T20°C Vnom	3.67	3.98	3.58	4.13
T10°C Vnom	3.62	4.05	4.40	3.82
T0°C Vnom	3.71	3.38	3.77	4.33
T-10°C Vnom	1.38	1.80	1.90	1.23
T-20°C Vnom	1.69	2.02	1.90	1.77
T-30°C Vnom	2.42	2.99	2.06	2.52
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, it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

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

### **Linkou**

Tel: 886-2-2601-1640

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

### **Kwei Shan**

Tel: 886-3-271-8666

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

### **Kwei Shan Site II**

Tel: 886-3-271-8640

No. 14-1, Lane 19, Wen San 3rd  
St., Kwei Shan Hsiang, Tao Yuan  
Hsien 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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