

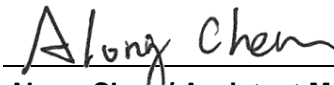
FCC Test Report

FCC ID : SWX-AFT
Equipment : AMPLIFI Teleport
Model No. : AFi-T
Brand Name : ULABS
Applicant : Ubiquiti Networks, Inc.
Address : 685 Third Avenue, 27th Floor New York, New York 10017 USA
Standard : 47 CFR FCC Part 15.407
Received Date : Jun. 19, 2017
Tested Date : Jul. 11 ~ Aug. 15, 2017

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

Reviewed by:

Approved by:


Along Chen / Assistant Manager


Gary Chang / Manager



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Release Record

Report No.	Version	Description	Issued Date
FR761901AN	Rev. 01	Initial issue	Oct. 27, 2017

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.496MHz 22.91 (Margin -23.15dB) - AV	Pass
15.407(b) 15.209	Radiated Emissions	[dBuV/m at 3m]: 49.40MHz 38.66 (Margin -1.34dB) - QP	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: 19.73 5725-5850MHz: 19.61	Pass
15.407(a)	Peak Power Spectral Density	Meet the requirement of limit	Pass
15.407(g)	Frequency Stability	Meet the requirement of limit	Pass
15.203	Antenna Requirement	Meet the requirement of limit	Pass

1 General Description

1.1 Information

1.1.1 Specification of the Equipment under Test (EUT)

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N _{TX})	Data Rate / MCS
5150-5250	a	5180-5240	36-48 [4]	2	6-54 Mbps
5150-5250	n (HT20)	5180-5240	36-48 [4]	2	MCS 0-15
5150-5250	n (HT40)	5190-5230	38-46 [2]	2	MCS 0-15

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

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N _{TX})	Data Rate / MCS
5725-5850	a	5745-5825	149-165 [5]	2	6-54 Mbps
5725-5850	n (HT20)	5745-5825	149-165 [5]	2	MCS 0-15
5725-5850	n (HT40)	5755-5795	151-159 [2]	2	MCS 0-15

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

1.1.2 Antenna Details

Ant. No.	Type	Connector	Operating Frequencies (MHz) / Antenna Gain (dBi)		
			2400~2483.5	5150~5250	5725~5850
1	internal	N/A	1	2	2

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	100 ~ 240 Vac
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1.1.4 Accessories

N/A

1.1.5 Channel List

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

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

1.1.6 Test Tool and Duty Cycle

Test Tool	Putty, Version: 0.6		
Duty Cycle and Duty Factor	Mode	Duty cycle (%)	Duty factor (dB)
	11a	98.35%	0.07
	HT20	98.24%	0.08
	HT40	96.09%	0.17

1.1.7 Power Setting

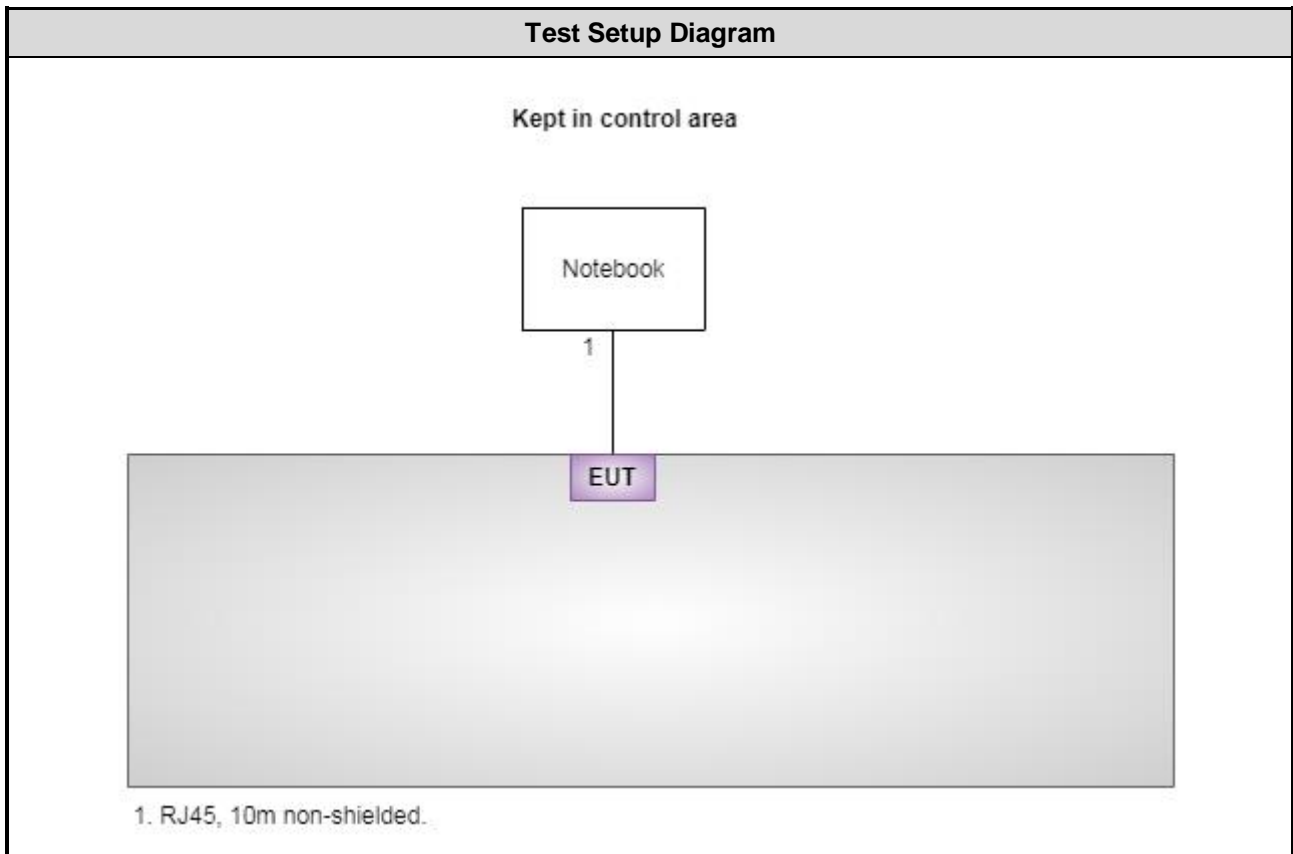
For Frequency band 5150-5250 MHz		
Modulation Mode	Test Frequency (MHz)	Power Set
11a	5180	15.00
11a	5200	15.00
11a	5240	15.00
HT20	5180	15.00
HT20	5200	15.00
HT20	5240	15.00
HT40	5190	9.00
HT40	5230	15.00

For Frequency band 5725~5850 MHz		
Modulation Mode	Test Frequency (MHz)	Power Set
11a	5745	11.00
11a	5785	11.00
11a	5825	11.00
HT20	5745	11.00
HT20	5785	11.00
HT20	5825	11.00
HT40	5755	12.00
HT40	5795	12.00

1.2 Local Support Equipment List

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

1.3 Test Setup Chart



1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Tested Date	Aug. 15, 2017				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Receiver	R&S	ESR3	101657	Dec. 21, 2016	Dec. 20, 2017
LISN	SCHWARZBECK	Schwarzbeck 8127	8127-667	Nov. 08, 2016	Nov. 07, 2017
RF Cable-CON	EMC	EMCCFD300-BM-B M-6000	50821	Dec. 20, 2016	Dec. 19, 2017
Measurement Software	AUDIX	e3	6.120210k	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Tested Date	Aug. 11, 2017				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101498	Nov. 25, 2016	Nov. 24, 2017
Receiver	R&S	ESR3	101658	Nov. 24, 2016	Nov. 23, 2017
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Jul. 25, 2017	Jul. 24, 2018
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 21, 2016	Dec. 20, 2017
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Oct. 25, 2016	Oct. 24, 2017
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 10, 2016	Nov. 09, 2017
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Dec. 09, 2016	Dec. 08, 2017
Preamplifier	EMC	EMC02325	980225	Jul. 28, 2017	Jul. 27, 2018
Preamplifier	Agilent	83017A	MY39501308	Oct. 06, 2016	Oct. 05, 2017
Preamplifier	EMC	EMC184045B	980192	Aug. 24, 2016	Aug. 23, 2017
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Dec. 09, 2016	Dec. 08, 2017
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Dec. 09, 2016	Dec. 08, 2017
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16139/4	Dec. 09, 2016	Dec. 08, 2017
LF cable 1M	EMC	EMCCFD400-NM-N M-1000	16052	Dec. 09, 2016	Dec. 08, 2017
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Dec. 09, 2016	Dec. 08, 2017
LF cable 10M	Woken	CFD400NL-LW	CFD400NL-002	Dec. 09, 2016	Dec. 08, 2017
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Tested Date	Jul. 11, 2017				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101498	Nov. 25, 2016	Nov. 24, 2017
Receiver	R&S	ESR3	101658	Nov. 24, 2016	Nov. 23, 2017
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Aug. 04, 2016	Aug. 03, 2017
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 21, 2016	Dec. 20, 2017
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Oct. 25, 2016	Oct. 24, 2017
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 10, 2016	Nov. 09, 2017
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Dec. 09, 2016	Dec. 08, 2017
Preamplifier	EMC	EMC02325	980225	Aug. 05, 2016	Aug. 04, 2017
Preamplifier	Agilent	83017A	MY39501308	Oct. 06, 2016	Oct. 05, 2017
Preamplifier	EMC	EMC184045B	980192	Aug. 24, 2016	Aug. 23, 2017
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Dec. 09, 2016	Dec. 08, 2017
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Dec. 09, 2016	Dec. 08, 2017
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16139/4	Dec. 09, 2016	Dec. 08, 2017
LF cable 1M	EMC	EMCCFD400-NM-N M-1000	16052	Dec. 09, 2016	Dec. 08, 2017
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Dec. 09, 2016	Dec. 08, 2017
LF cable 10M	Woken	CFD400NL-LW	CFD400NL-002	Dec. 09, 2016	Dec. 08, 2017
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Tested Date	Aug. 07 ~ Aug. 09, 2017				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101063	Mar. 15, 2017	Mar. 14, 2018
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Nov. 21, 2016	Nov. 20, 2017
Power Meter	Anritsu	ML2495A	1241002	Oct. 06, 2016	Oct. 05, 2017
Power Sensor	Anritsu	MA2411B	1207366	Oct. 06, 2016	Oct. 05, 2017
DC POWER SOURCE	GW INSTEK	GPC-6030D	EM892433	Oct. 20, 2016	Oct. 19, 2017
Measurement Software	Sporton	Sporton_1	1.3.30	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

1.5 Testing Applied Standards

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

47 CFR FCC Part 15.407

ANSI C63.10-2013

FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

FCC KDB 412172 D01 Determining ERP and EIRP v01r01

1.6 Measurement Uncertainty

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

Measurement Uncertainty	
Parameters	Uncertainty
Bandwidth	± 34.134 Hz
Conducted power	± 0.808 dB
Frequency error	± 34.134 Hz
Power density	± 0.463 dB
Conducted emission	± 2.670 dB
AC conducted emission	± 2.90 dB
Radiated emission ≤ 1 GHz	± 3.66 dB
Radiated emission > 1 GHz	± 5.63 dB
Time	$\pm 0.1\%$
Temperature	± 0.6 °C

2 Test Configuration

2.1 Testing Condition

Test Item	Test Site	Ambient Condition	Tested By
AC Conduction	CO01-WS	24°C / 57%	Alex Tsai
Radiated Emissions	03CH01-WS	23-24°C / 62-63%	Vicent Yeh Kevin Lee
RF Conducted	TH01-WS	22°C / 63%	Felix Sung

➤ FCC site registration No.: 181692

➤ IC site registration No.: 10807A-1

2.2 The Worst Test Modes and Channel Details

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

NOTE:

- The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **Y-plane** results were found as the worst case and were shown in this report.

For Frequency band 5725-5850 MHz				
Test item	Modulation Mode	Test Frequency (MHz)	Data Rate (Mbps) / MCS	Test Configuration
Conducted Emissions	HT20	5785	MCS 0	---
Radiated Emissions ≤1GHz	HT20	5785	MCS 0	---
RF Output Power	11a	5745 / 5785 / 5825	6 Mbps	---
	HT20	5745 / 5785 / 5825	MCS 0	
	HT40	5755 / 5795	MCS 0	
Radiated Emissions >1GHz Emission Bandwidth 6dB bandwidth Peak Power Spectral Density	11a	5745 / 5785 / 5825	6 Mbps	---
	HT20	5745 / 5785 / 5825	MCS 0	
	HT40	5755 / 5795	MCS 0	
Frequency Stability	Un-modulation	5785	---	---
Note: 1) The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The Y-plane results were found as the worst case and were shown in this report.				

3 Transmitter Test Results

3.1 Conducted Emissions

3.1.1 Limit of Conducted Emissions

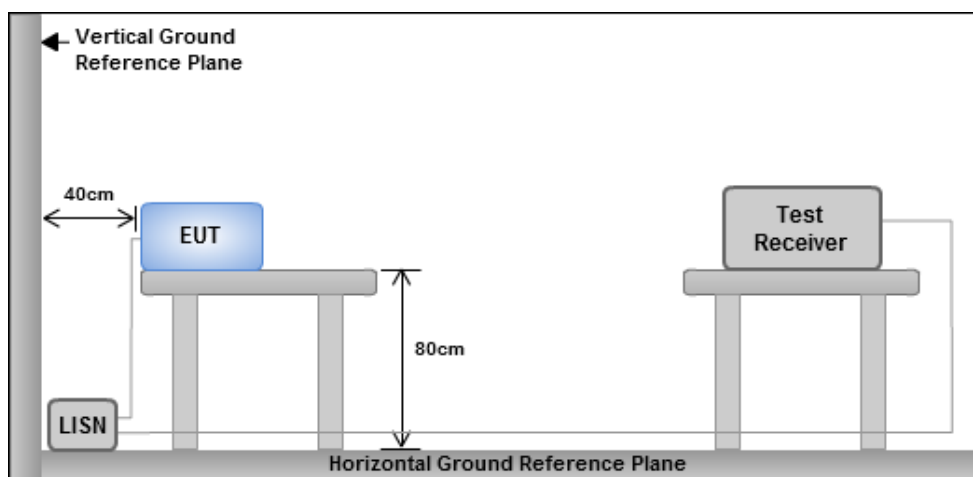
Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

Note 1: * Decreases with the logarithm of the frequency.

3.1.2 Test Procedures

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

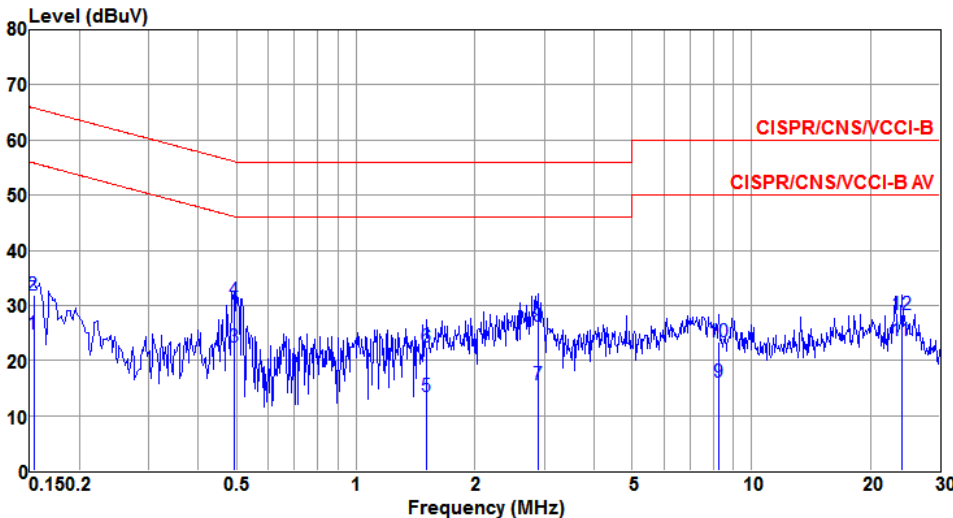
3.1.3 Test Setup



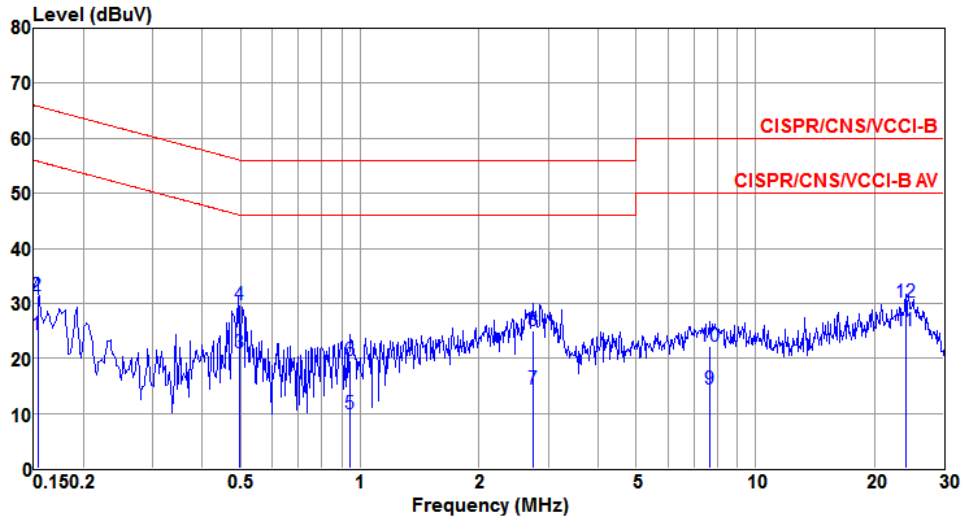
Note: 1. Support units were connected to second LISN.

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

3.1.4 Test Result of Conducted Emissions

Modulation	11a	Test Freq. (MHz)	5180																																																																																																																																							
Power Phase	Line																																																																																																																																									
																																																																																																																																										
<table border="1"> <thead> <tr> <th></th> <th>Freq</th> <th>Level</th> <th>Limit</th> <th>Over</th> <th>Read</th> <th>LISN</th> <th>cable</th> <th>Remark</th> </tr> <tr> <th></th> <th>MHz</th> <th>dBuV</th> <th>Line</th> <th>Limit</th> <th>Level</th> <th>factor</th> <th>loss</th> <th>Remark</th> </tr> <tr> <th></th> <th></th> <th></th> <th>dBuV</th> <th>dB</th> <th>dBuV</th> <th>dB</th> <th>dB</th> <th></th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.153</td> <td>24.69</td> <td>55.82</td> <td>-31.13</td> <td>24.27</td> <td>0.38</td> <td>0.04</td> <td>Average</td> </tr> <tr> <td>2</td> <td>0.153</td> <td>31.90</td> <td>65.82</td> <td>-33.92</td> <td>31.48</td> <td>0.38</td> <td>0.04</td> <td>QP</td> </tr> <tr> <td>3</td> <td>0.493</td> <td>22.35</td> <td>46.12</td> <td>-23.77</td> <td>21.97</td> <td>0.34</td> <td>0.04</td> <td>Average</td> </tr> <tr> <td>4</td> <td>0.493</td> <td>30.84</td> <td>56.12</td> <td>-25.28</td> <td>30.46</td> <td>0.34</td> <td>0.04</td> <td>QP</td> </tr> <tr> <td>5</td> <td>1.511</td> <td>13.56</td> <td>46.00</td> <td>-32.44</td> <td>13.12</td> <td>0.40</td> <td>0.04</td> <td>Average</td> </tr> <tr> <td>6</td> <td>1.511</td> <td>22.44</td> <td>56.00</td> <td>-33.56</td> <td>22.00</td> <td>0.40</td> <td>0.04</td> <td>QP</td> </tr> <tr> <td>7</td> <td>2.895</td> <td>15.66</td> <td>46.00</td> <td>-30.34</td> <td>15.03</td> <td>0.53</td> <td>0.10</td> <td>Average</td> </tr> <tr> <td>8</td> <td>2.895</td> <td>26.14</td> <td>56.00</td> <td>-29.86</td> <td>25.51</td> <td>0.53</td> <td>0.10</td> <td>QP</td> </tr> <tr> <td>9</td> <td>8.279</td> <td>16.09</td> <td>50.00</td> <td>-33.91</td> <td>14.92</td> <td>0.96</td> <td>0.21</td> <td>Average</td> </tr> <tr> <td>10</td> <td>8.279</td> <td>23.44</td> <td>60.00</td> <td>-36.56</td> <td>22.27</td> <td>0.96</td> <td>0.21</td> <td>QP</td> </tr> <tr> <td>11</td> <td>24.000</td> <td>23.69</td> <td>50.00</td> <td>-26.31</td> <td>23.15</td> <td>0.26</td> <td>0.28</td> <td>Average</td> </tr> <tr> <td>12</td> <td>24.000</td> <td>28.35</td> <td>60.00</td> <td>-31.65</td> <td>27.81</td> <td>0.26</td> <td>0.28</td> <td>QP</td> </tr> </tbody> </table>					Freq	Level	Limit	Over	Read	LISN	cable	Remark		MHz	dBuV	Line	Limit	Level	factor	loss	Remark				dBuV	dB	dBuV	dB	dB		1	0.153	24.69	55.82	-31.13	24.27	0.38	0.04	Average	2	0.153	31.90	65.82	-33.92	31.48	0.38	0.04	QP	3	0.493	22.35	46.12	-23.77	21.97	0.34	0.04	Average	4	0.493	30.84	56.12	-25.28	30.46	0.34	0.04	QP	5	1.511	13.56	46.00	-32.44	13.12	0.40	0.04	Average	6	1.511	22.44	56.00	-33.56	22.00	0.40	0.04	QP	7	2.895	15.66	46.00	-30.34	15.03	0.53	0.10	Average	8	2.895	26.14	56.00	-29.86	25.51	0.53	0.10	QP	9	8.279	16.09	50.00	-33.91	14.92	0.96	0.21	Average	10	8.279	23.44	60.00	-36.56	22.27	0.96	0.21	QP	11	24.000	23.69	50.00	-26.31	23.15	0.26	0.28	Average	12	24.000	28.35	60.00	-31.65	27.81	0.26	0.28	QP
	Freq	Level	Limit	Over	Read	LISN	cable	Remark																																																																																																																																		
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11	24.000	23.69	50.00	-26.31	23.15	0.26	0.28	Average																																																																																																																																		
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<p>Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB). Note 2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).</p>																																																																																																																																										

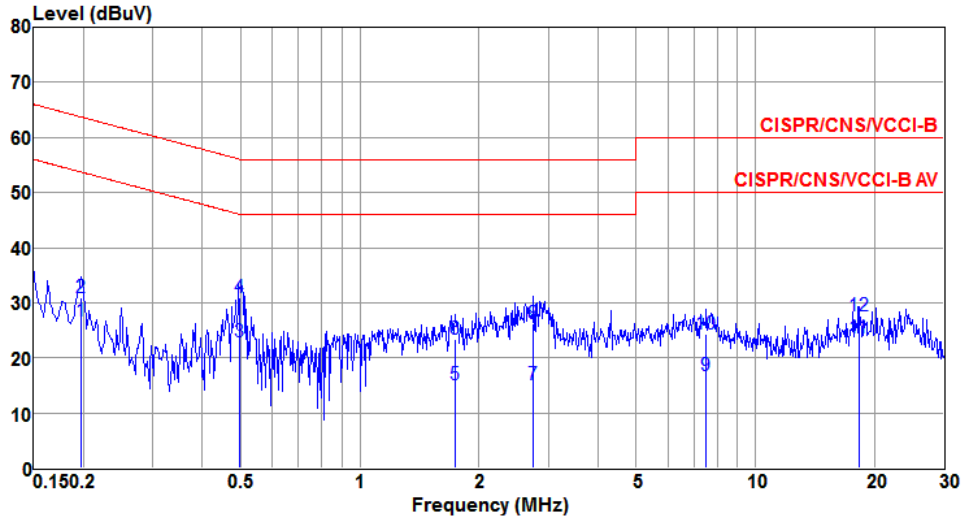
Modulation	11a	Test Freq. (MHz)	5180
Power Phase	Neutral		



	Freq	Level	Limit	Over	Read	LISN	cable	
	MHz	dBuV	Line	Limit	Level	factor	loss	Remark
			dBuV	dB	dBuV	dB	dB	
1	0.153	24.25	55.82	-31.57	23.87	0.34	0.04	Average
2	0.153	31.48	65.82	-34.34	31.10	0.34	0.04	QP
3	0.498	20.96	46.04	-25.08	20.54	0.38	0.04	Average
4	0.498	29.75	56.04	-26.29	29.33	0.38	0.04	QP
5	0.943	9.92	46.00	-36.08	9.52	0.36	0.04	Average
6	0.943	19.65	56.00	-36.35	19.25	0.36	0.04	QP
7	2.736	14.29	46.00	-31.71	13.69	0.51	0.09	Average
8	2.736	25.05	56.00	-30.95	24.45	0.51	0.09	QP
9	7.646	14.44	50.00	-35.56	13.60	0.64	0.20	Average
10	7.646	22.30	60.00	-37.70	21.46	0.64	0.20	QP
11@	24.000	25.07	50.00	-24.93	24.48	0.31	0.28	Average
12	24.000	30.10	60.00	-29.90	29.51	0.31	0.28	QP

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

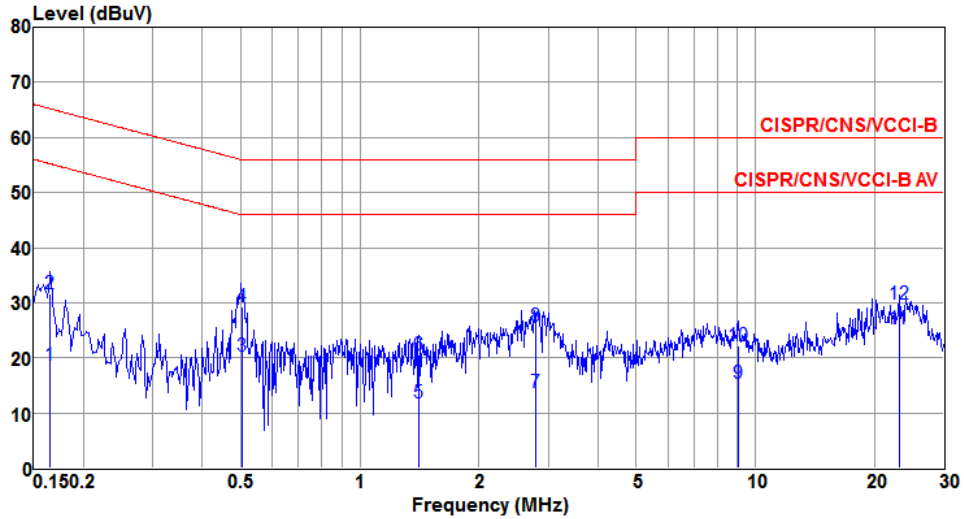
Modulation	HT20	Test Freq. (MHz)	5785
Power Phase	Line		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.198	26.57	53.71	-27.14	26.14	0.39	0.04	Average
2	0.198	30.83	63.71	-32.88	30.40	0.39	0.04	QP
3	0.496	22.91	46.06	-23.15	22.53	0.34	0.04	Average
4	0.496	30.97	56.06	-25.09	30.59	0.34	0.04	QP
5	1.744	15.04	46.00	-30.96	14.57	0.43	0.04	Average
6	1.744	23.41	56.00	-32.59	22.94	0.43	0.04	QP
7	2.750	15.18	46.00	-30.82	14.57	0.52	0.09	Average
8	2.750	26.18	56.00	-29.82	25.57	0.52	0.09	QP
9	7.526	16.85	50.00	-33.15	15.73	0.92	0.20	Average
10	7.526	24.22	60.00	-35.78	23.10	0.92	0.20	QP
11	18.243	23.67	50.00	-26.33	22.95	0.47	0.25	Average
12	18.243	27.57	60.00	-32.43	26.85	0.47	0.25	QP

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

Modulation	HT20	Test Freq. (MHz)	5785
Power Phase	Neutral		



	Freq	Level	Limit	Over	Read	LISN	cable	
	MHz	dBuV	Line	Limit	Level	factor	loss	Remark
			dBuV	dB	dBuV	dB	dB	
1	0.165	18.69	55.21	-36.52	18.31	0.34	0.04	Average
2	0.165	31.55	65.21	-33.66	31.17	0.34	0.04	QP
3	0.505	20.31	46.00	-25.69	19.90	0.37	0.04	Average
4	0.505	29.31	56.00	-26.69	28.90	0.37	0.04	QP
5	1.411	11.71	46.00	-34.29	11.26	0.41	0.04	Average
6	1.411	20.45	56.00	-35.55	20.00	0.41	0.04	QP
7	2.792	13.74	46.00	-32.26	13.13	0.51	0.10	Average
8	2.792	25.74	56.00	-30.26	25.13	0.51	0.10	QP
9	9.059	15.36	50.00	-34.64	14.49	0.66	0.21	Average
10	9.059	22.08	60.00	-37.92	21.21	0.66	0.21	QP
11	23.130	25.24	50.00	-24.76	24.61	0.35	0.28	Average
12	23.130	29.75	60.00	-30.25	29.12	0.35	0.28	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.

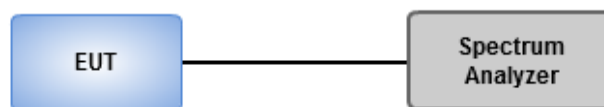
Occupied Bandwidth

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

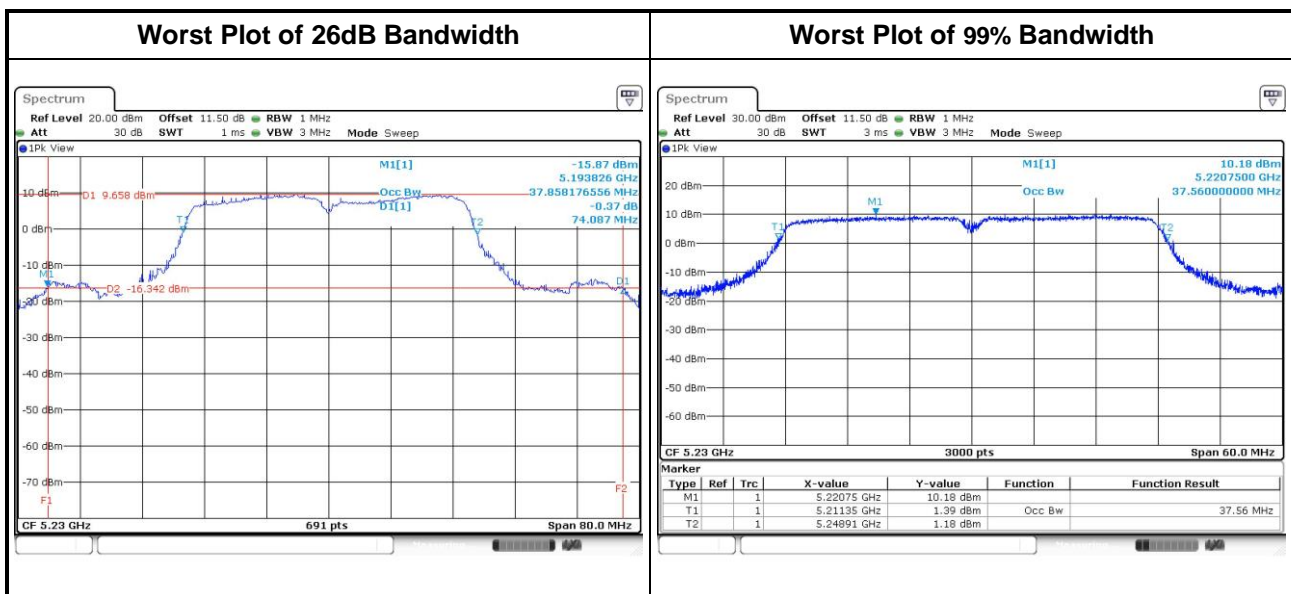
1. Set RBW = 100kHz, VBW = 300kHz
2. Detector = Peak, Trace mode = max hold.
3. Allow the trace to stabilize.
4. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB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

3.2.3 Test Setup

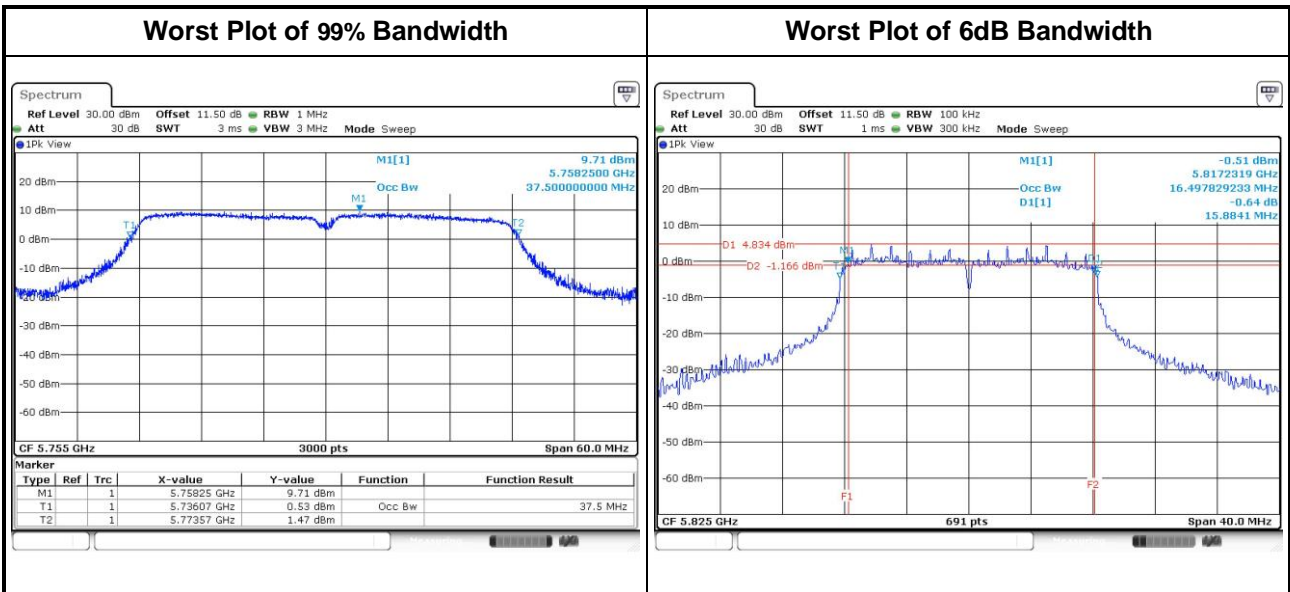


3.2.4 Test Result of Emission Bandwidth

For Frequency band 5150-5250 MHz										
Emission Bandwidth										
Mode	N _{TX}	Freq. (MHz)	26dB Bandwidth (MHz)				99% Bandwidth (MHz)			
			Chain 0	Chain 1	Chain 2	Chain 3	Chain 0	Chain 1	Chain 2	Chain 3
11a	2	5180	25.39	25.45	---	---	16.95	16.83	---	---
11a	2	5200	27.77	23.94	---	---	16.96	16.75	---	---
11a	2	5240	24.93	24.35	---	---	16.92	16.74	---	---
HT20	2	5180	26.55	24.87	---	---	17.98	17.95	---	---
HT20	2	5200	28.12	24.29	---	---	17.95	17.97	---	---
HT20	2	5240	25.97	24.41	---	---	17.97	17.90	---	---
HT40	2	5190	50.90	47.88	---	---	37.40	37.20	---	---
HT40	2	5230	73.62	74.09	---	---	37.56	37.20	---	---



For Frequency band 5725-5850 MHz											
Emission Bandwidth											
Mode	N _{TX}	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	16.87	16.78	---	---	16.12	16.29	---	---	0.5
11a	2	5785	16.91	16.78	---	---	16.00	16.35	---	---	0.5
11a	2	5825	16.87	16.81	---	---	15.88	15.94	---	---	0.5
HT20	2	5745	17.90	17.90	---	---	16.87	16.99	---	---	0.5
HT20	2	5785	17.92	17.91	---	---	16.70	16.29	---	---	0.5
HT20	2	5825	17.90	17.94	---	---	16.12	16.64	---	---	0.5
HT40	2	5755	37.50	37.28	---	---	35.36	35.48	---	---	0.5
HT40	2	5795	37.40	37.48	---	---	35.36	35.48	---	---	0.5



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 type="checkbox"/> Indoor access point	Conducted Power: 1 W
<input type="checkbox"/> Fixed point-to-point access points	Conducted Power: 1 W
<input checked="" type="checkbox"/> 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 _{TX}	Freq. (MHz)	Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)
			Chain 0	Chain 1	Chain 2	Chain 3			
11a	2	5180	16.83	16.61	---	---	94.009	19.73	24.00
11a	2	5200	16.71	16.58	---	---	92.380	19.66	24.00
11a	2	5240	16.58	16.41	---	---	89.251	19.51	24.00
HT20	2	5180	16.81	16.60	---	---	93.682	19.72	24.00
HT20	2	5200	16.68	16.59	---	---	92.162	19.65	24.00
HT20	2	5240	16.58	16.44	---	---	89.554	19.52	24.00
HT40	2	5190	12.10	11.65	---	---	30.840	14.89	24.00
HT40	2	5230	16.62	16.48	---	---	90.383	19.56	24.00

For Frequency band 5725-5850 MHz									
Mode	N _{TX}	Freq. (MHz)	Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)
			Chain 0	Chain 1	Chain 2	Chain 3			
11a	2	5745	16.56	16.57	---	---	90.684	19.58	30.00
11a	2	5785	16.51	16.59	---	---	90.375	19.56	30.00
11a	2	5825	16.53	16.61	---	---	90.792	19.58	30.00
HT20	2	5745	16.51	16.56	---	---	90.061	19.55	30.00
HT20	2	5785	16.56	16.63	---	---	91.315	19.61	30.00
HT20	2	5825	16.52	16.58	---	---	90.373	19.56	30.00
HT40	2	5755	16.52	16.56	---	---	90.164	19.55	30.00
HT40	2	5795	16.41	16.73	---	---	90.850	19.58	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 type="checkbox"/>	Indoor access point	17 dBm / MHz
<input type="checkbox"/>	Fixed point-to-point access points	17 dBm / MHz
<input checked="" type="checkbox"/>	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

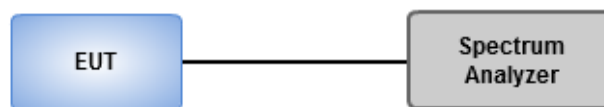
For 5150 ~ 5250 MHz

- Method SA-1 (11a, 11n HT20)
 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 (11n HT40)
 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 (11a, 11n HT20)
 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 (11n HT40)
 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.

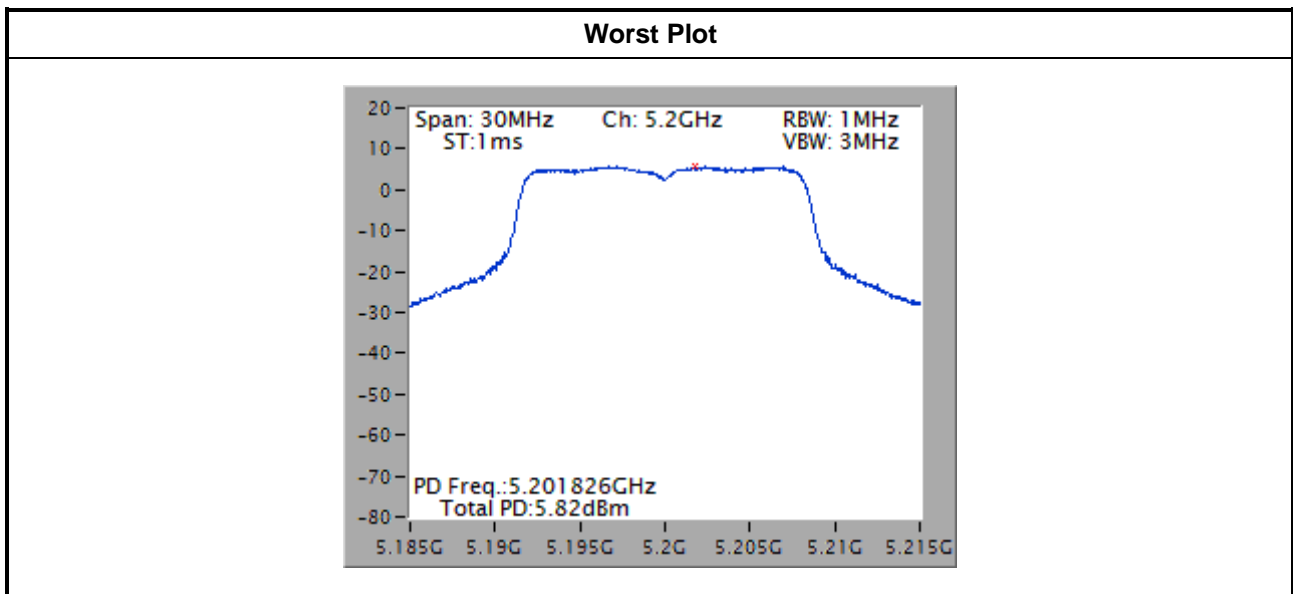
3.4.3 Test Setup



3.4.4 Test Result of Peak Power Spectral Density

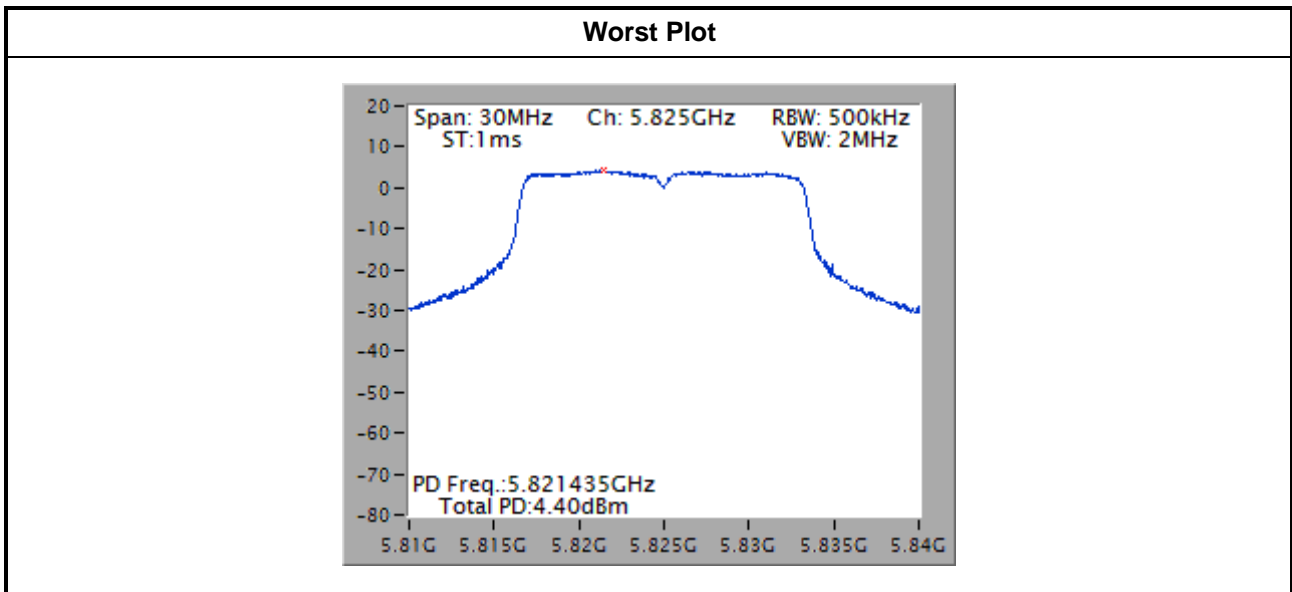
For Frequency band 5150-5250 MHz						
Condition			Peak Power Spectral Density (dBm/MHz)			
Modulation Mode	N _{TX}	Freq. (MHz)	PPSD w/o D.F (dBm/MHz)	Duty Factor (dB)	PPSD with D.F (dBm/MHz)	PPSD Limit (dBm/MHz)
11a	2	5180	5.40	0.00	5.40	11
11a	2	5200	5.82	0.00	5.82	11
11a	2	5240	5.61	0.00	5.61	11
HT20	2	5180	5.20	0.00	5.20	11
HT20	2	5200	5.69	0.00	5.69	11
HT20	2	5240	5.60	0.00	5.60	11
HT40	2	5190	-3.18	0.17	-3.01	11
HT40	2	5230	2.25	0.17	2.42	11

Note: Test result is bin-by-bin summing measured value of each TX port.



For Frequency band 5725-5850 MHz						
Condition			Peak Power Spectral Density (dBm/500kHz)			
Modulation Mode	N _{TX}	Freq. (MHz)	PPSD w/o D.F (dBm/500kHz)	Duty Factor (dB)	PPSD with D.F (dBm/500kHz)	PPSD Limit (dBm/500kHz)
11a	2	5745	3.31	0.00	3.31	30.00
11a	2	5785	4.07	0.00	4.07	30.00
11a	2	5825	4.40	0.00	4.40	30.00
HT20	2	5745	3.06	0.00	3.06	30.00
HT20	2	5785	3.87	0.00	3.87	30.00
HT20	2	5825	3.54	0.00	3.54	30.00
HT40	2	5755	0.48	0.17	0.65	30.00
HT40	2	5795	1.27	0.17	1.44	30.00

Note: Test result is bin-by-bin summing measured value of each TX port.



3.5 Transmitter Radiated and Band Edge Emissions

3.5.1 Limit of Transmitter Radiated and Band Edge Emissions

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

Note 1:
Qusai-Peak value is measured for frequency below 1GHz except for 9–90 kHz, 110–490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit

Note 2:
Measurements may be performed at a distance other than what is specified provided. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor as below, Frequency at or above 30 MHz: 20 dB/decade Frequency below 30 MHz: 40 dB/decade.

Un-restricted band emissions above 1GHz Limit	
Operating Band	Limit
5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.725 - 5.850 GHz	<input checked="" type="checkbox"/> 15.407(b)(4)(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
	<input type="checkbox"/> 15.407(b)(4)(ii) ,compliance with the emission limits in § 15.247(d) Shall be at least 30dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power,. Attenuation below the general limits specified in §15.209(a) is not required. In addition,radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see § 15.205(c))

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

3.5.2 Test Procedures

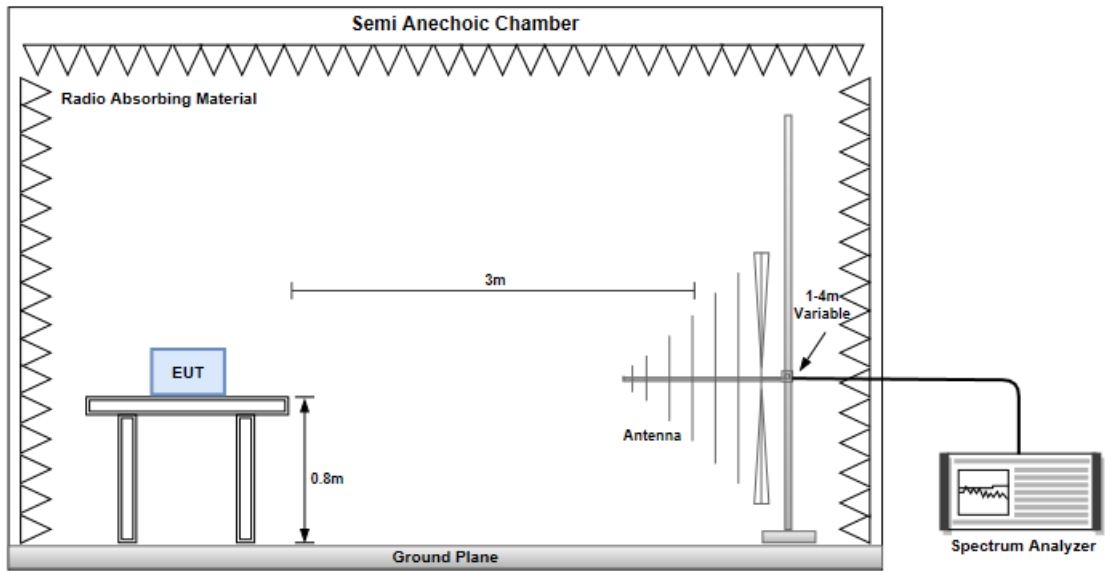
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission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

Note:

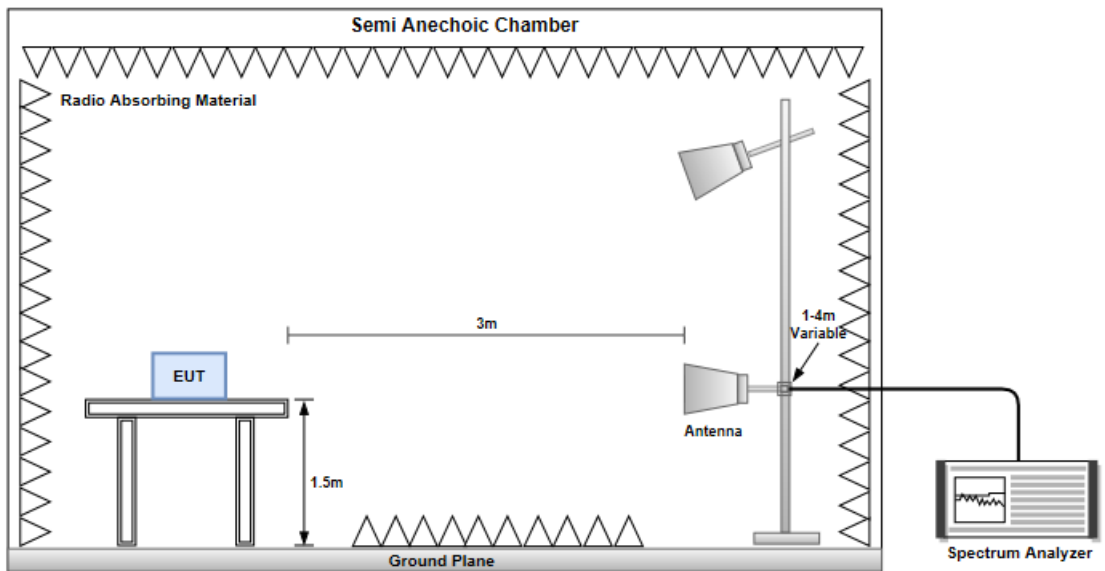
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

3.5.3 Test Setup

Radiated Emissions below 1 GHz

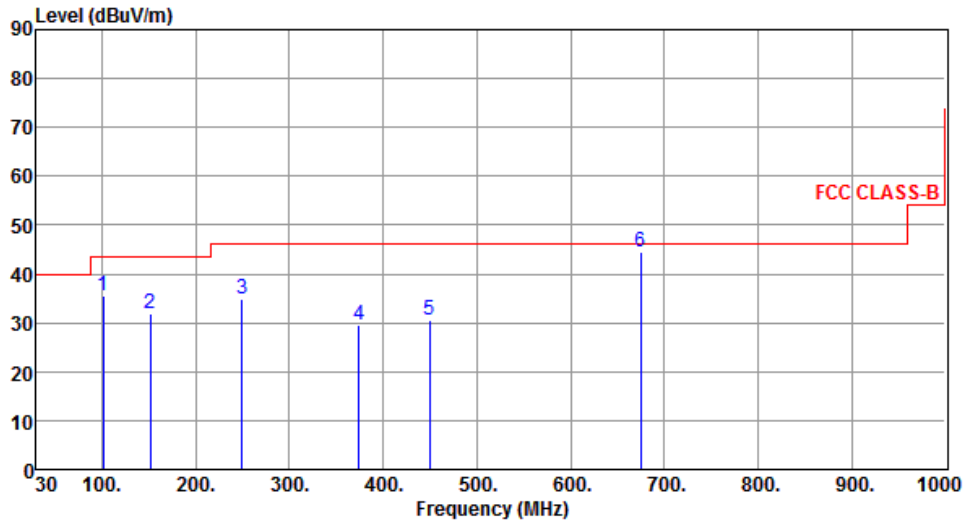


Radiated Emissions above 1 GHz



3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

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



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	101.78	35.50	43.50	-8.00	48.19	-12.69	Peak	---	---
2	151.25	31.80	43.50	-11.70	40.13	-8.33	Peak	---	---
3	249.22	34.78	46.00	-11.22	44.16	-9.38	Peak	---	---
4	374.35	29.62	46.00	-16.38	35.32	-5.70	Peak	---	---
5	450.01	30.67	46.00	-15.33	34.45	-3.78	Peak	---	---
6	675.05	44.56	46.00	-1.44	44.33	0.23	QP	121	113

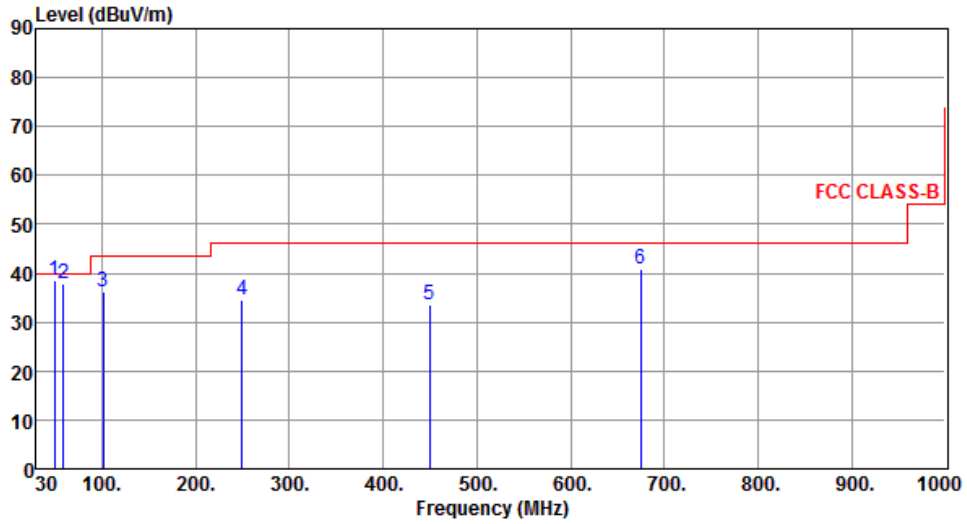
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor, cable loss and amplifier gain

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

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

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



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	49.40	38.66	40.00	-1.34	46.39	-7.73	QP	100	388
2	59.10	37.88	40.00	-2.12	46.31	-8.43	QP	100	75
3	101.78	36.28	43.50	-7.22	48.97	-12.69	Peak	---	---
4	249.22	34.45	46.00	-11.55	43.83	-9.38	Peak	---	---
5	450.01	33.60	46.00	-12.40	37.38	-3.78	Peak	---	---
6	675.05	40.76	46.00	-5.24	40.53	0.23	Peak	---	---

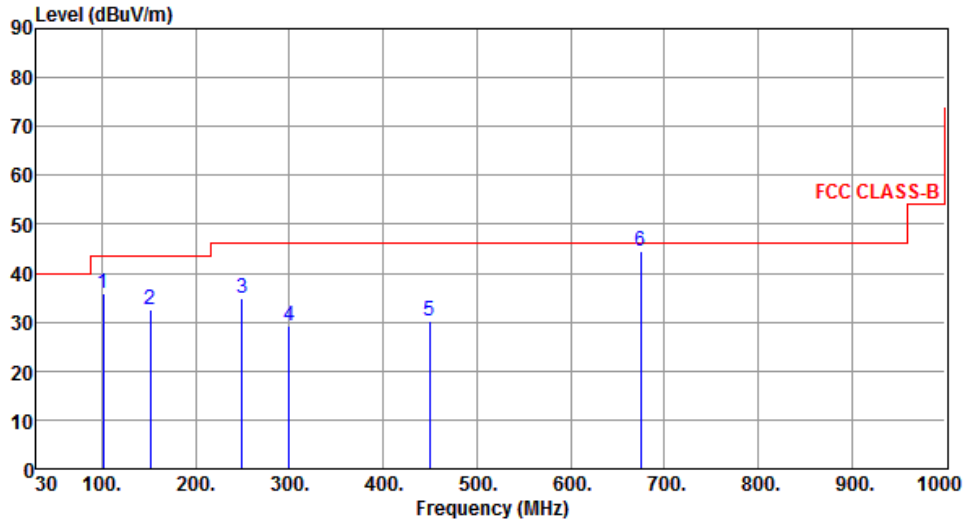
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

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

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

Modulation	HT20	Test Freq. (MHz)	5785
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	101.78	35.88	43.50	-7.62	48.57	-12.69	Peak	---	---
2	151.25	32.53	43.50	-10.97	40.86	-8.33	Peak	---	---
3	249.22	34.86	46.00	-11.14	44.24	-9.38	Peak	---	---
4	299.66	29.26	46.00	-16.74	36.94	-7.68	Peak	---	---
5	450.01	30.11	46.00	-15.89	33.89	-3.78	Peak	---	---
6	675.05	44.40	46.00	-1.60	44.17	0.23	QP	117	118

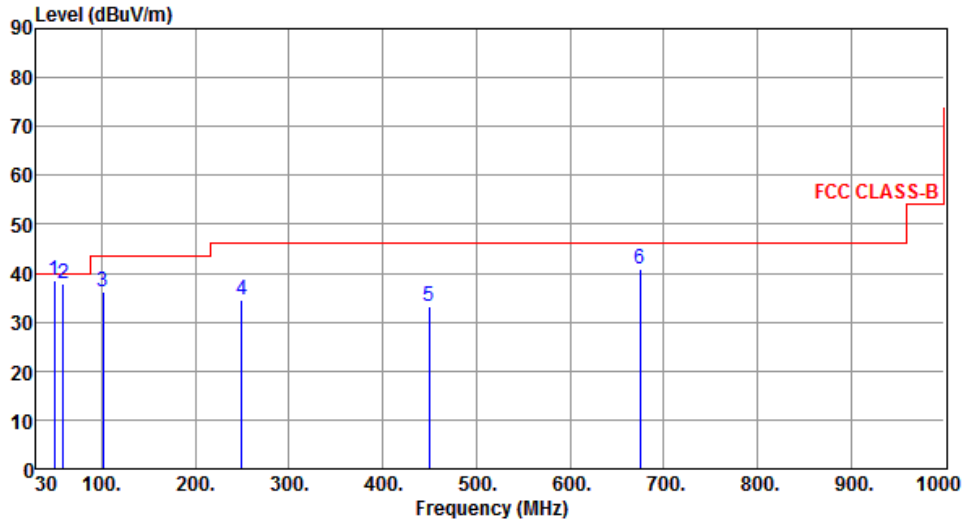
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

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

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

Modulation	HT20	Test Freq. (MHz)	5785
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	49.40	38.61	40.00	-1.39	46.34	-7.73	QP	100	332
2	58.97	37.71	40.00	-2.29	46.13	-8.42	QP	100	83
3	101.78	36.20	43.50	-7.30	48.89	-12.69	Peak	---	---
4	249.22	34.69	46.00	-11.31	44.07	-9.38	Peak	---	---
5	450.01	33.11	46.00	-12.89	36.89	-3.78	Peak	---	---
6	675.05	40.69	46.00	-5.31	40.46	0.23	Peak	---	---

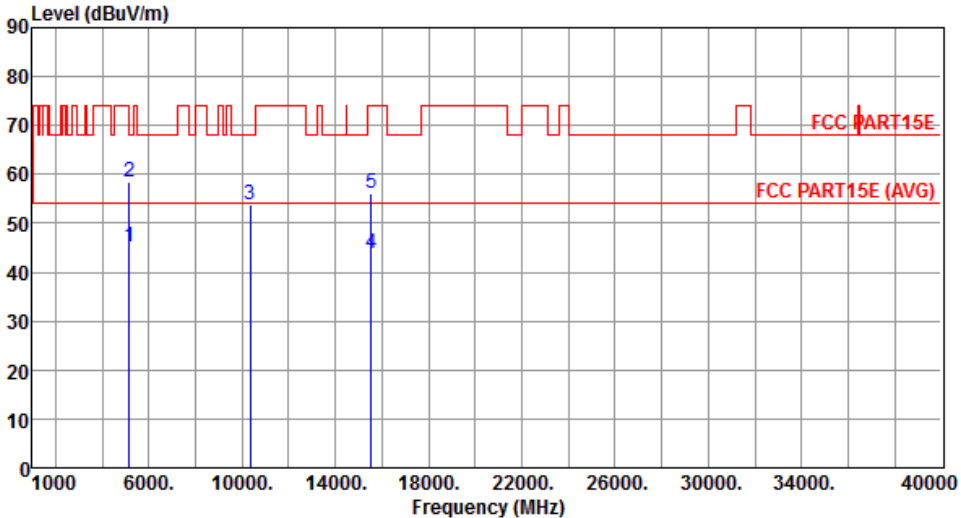
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

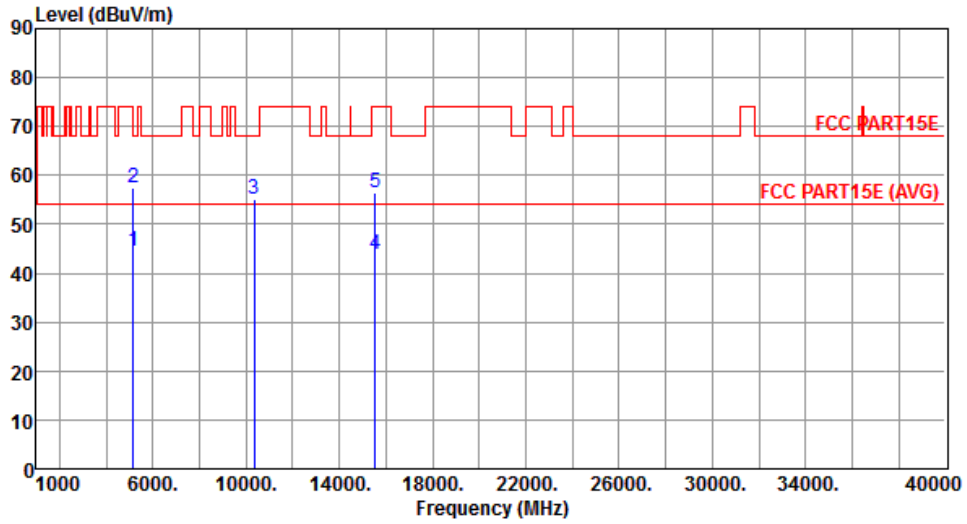
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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

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

Modulation	11a	Test Freq. (MHz)	5180						
Polarization	Horizontal								
									
	Freq.	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	45.26	54.00	-8.74	40.78	4.48	Average	274	317
2	5150.00	58.39	74.00	-15.61	53.91	4.48	Peak	274	317
3	10360.00	53.83	68.20	-14.37	40.05	13.78	Peak	100	128
4	15540.00	43.72	54.00	-10.28	29.33	14.39	Average	100	304
5	15540.00	56.19	74.00	-17.81	41.80	14.39	Peak	100	304
<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).</p>									

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



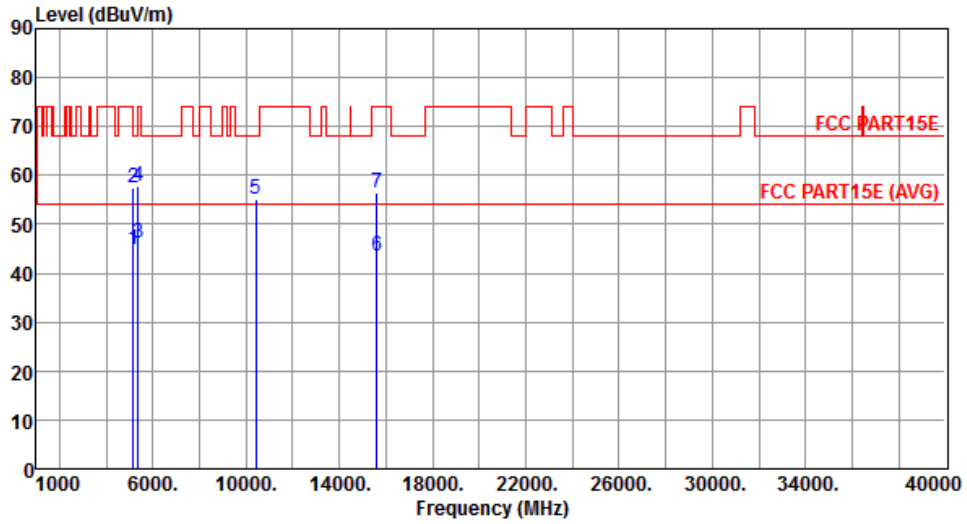
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	44.66	54.00	-9.34	40.18	4.48	Average	217	280
2	5150.00	57.44	74.00	-16.56	52.96	4.48	Peak	217	280
3	10360.00	55.03	68.20	-13.17	41.25	13.78	Peak	100	13
4	15540.00	43.88	54.00	-10.12	29.49	14.39	Average	100	142
5	15540.00	56.41	74.00	-17.59	42.02	14.39	Peak	100	142

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

*Factor includes antenna factor , cable loss and amplifier gain

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

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



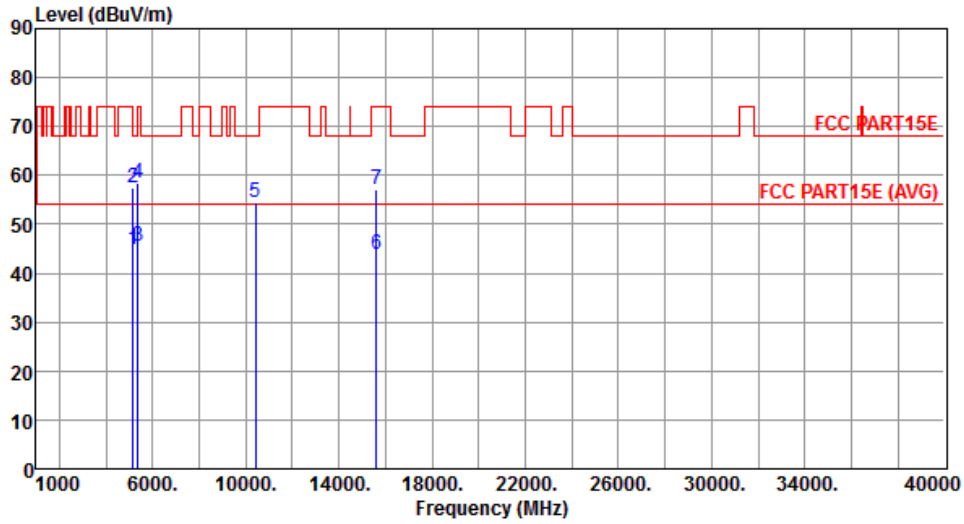
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	44.83	54.00	-9.17	40.35	4.48	Average	278	317
2	5150.00	57.60	74.00	-16.40	53.12	4.48	Peak	278	317
3	5350.00	46.08	54.00	-7.92	41.34	4.74	Average	278	317
4	5350.00	57.92	74.00	-16.08	53.18	4.74	Peak	278	317
5	10400.00	55.02	68.20	-13.18	41.17	13.85	Peak	100	218
6	15600.00	43.64	54.00	-10.36	29.34	14.30	Average	100	186
7	15600.00	56.34	74.00	-17.66	42.04	14.30	Peak	100	186

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

*Factor includes antenna factor , cable loss and amplifier gain

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

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



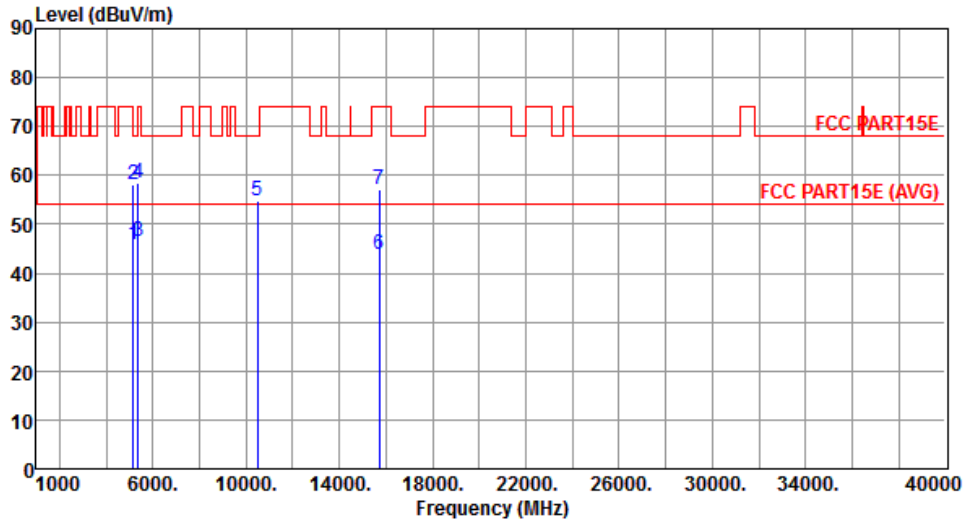
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	44.70	54.00	-9.30	40.22	4.48	Average	100	203
2	5150.00	57.29	74.00	-16.71	52.81	4.48	Peak	100	203
3	5350.00	45.50	54.00	-8.50	40.76	4.74	Average	100	203
4	5350.00	58.34	74.00	-15.66	53.60	4.74	Peak	100	203
5	10400.00	54.55	68.20	-13.65	40.70	13.85	Peak	100	328
6	15600.00	43.78	54.00	-10.22	29.48	14.30	Average	100	127
7	15600.00	57.08	74.00	-16.92	42.78	14.30	Peak	100	127

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

*Factor includes antenna factor , cable loss and amplifier gain

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

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



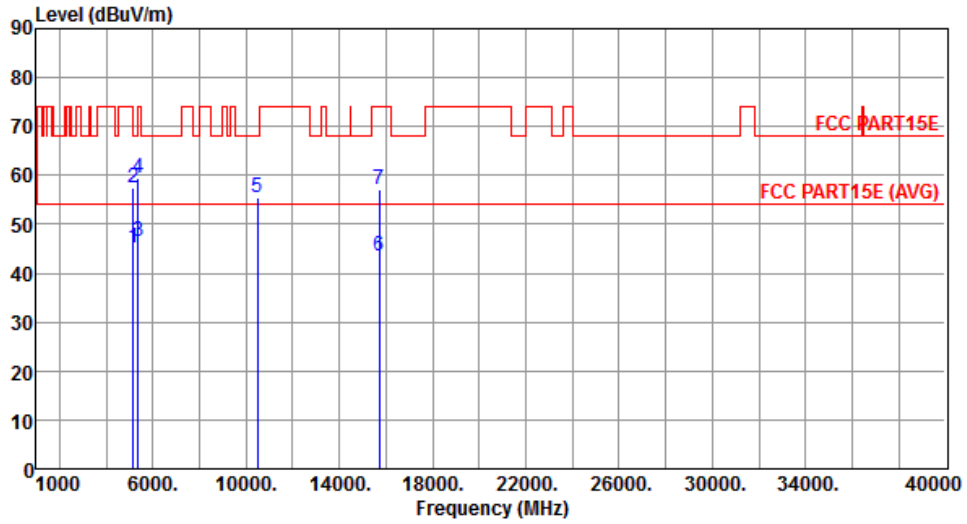
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	45.73	54.00	-8.27	41.25	4.48	Average	292	311
2	5150.00	58.10	74.00	-15.90	53.62	4.48	Peak	292	311
3	5350.00	46.56	54.00	-7.44	41.82	4.74	Average	292	311
4	5350.00	58.29	74.00	-15.71	53.55	4.74	Peak	292	311
5	10480.00	54.78	68.20	-13.42	40.83	13.95	Peak	100	223
6	15720.00	43.69	54.00	-10.31	29.58	14.11	Average	100	159
7	15720.00	57.00	74.00	-17.00	42.89	14.11	Peak	100	159

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

*Factor includes antenna factor , cable loss and amplifier gain

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

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



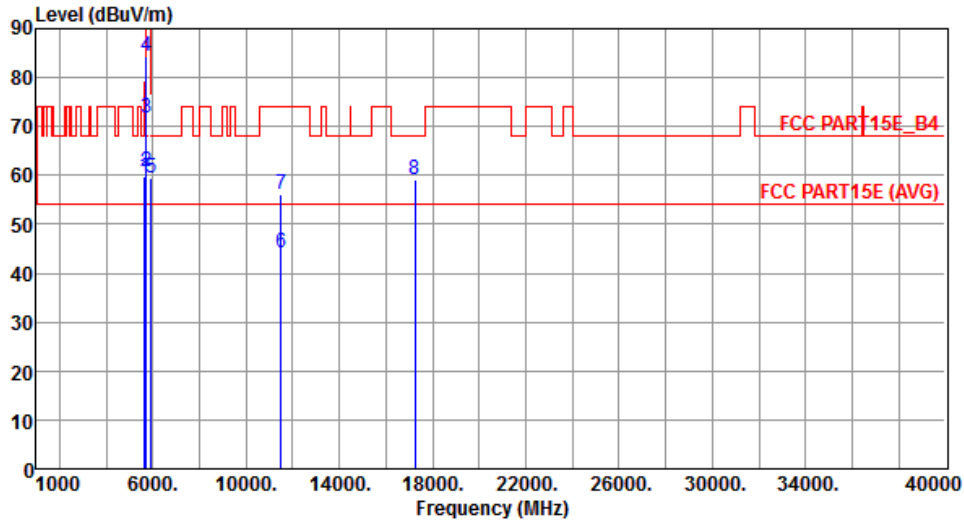
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	45.13	54.00	-8.87	40.65	4.48	Average	100	202
2	5150.00	57.39	74.00	-16.61	52.91	4.48	Peak	100	202
3	5350.00	46.38	54.00	-7.62	41.64	4.74	Average	100	202
4	5350.00	59.45	74.00	-14.55	54.71	4.74	Peak	100	202
5	10480.00	55.59	68.20	-12.61	41.64	13.95	Peak	100	173
6	15720.00	43.37	54.00	-10.63	29.26	14.11	Average	100	115
7	15720.00	57.02	74.00	-16.98	42.91	14.11	Peak	100	115

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

*Factor includes antenna factor , cable loss and amplifier gain

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

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



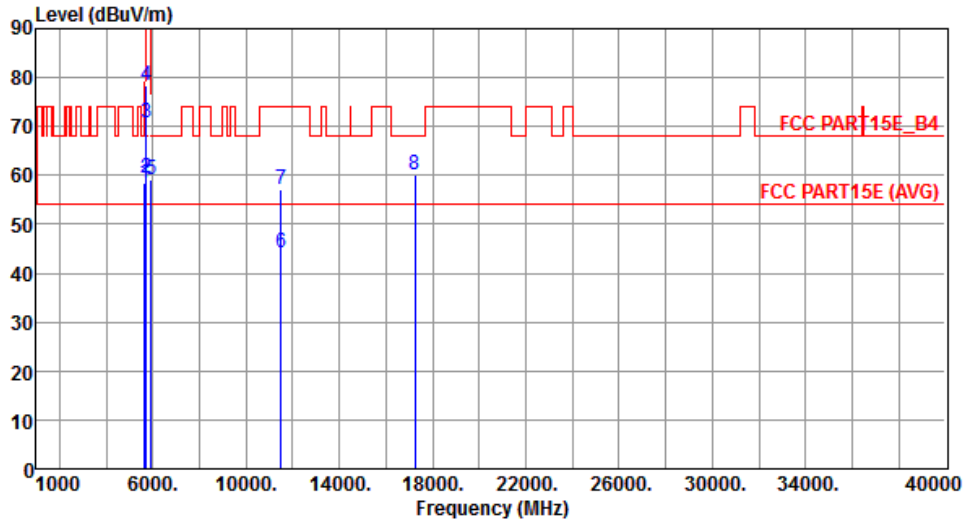
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	59.92	68.20	-8.28	54.73	5.19	Peak	208	313
2	5700.00	60.68	105.20	-44.52	55.40	5.28	Peak	208	313
3	5720.00	71.81	110.80	-38.99	66.50	5.31	Peak	208	313
4	5725.00	84.23	122.20	-37.97	78.91	5.32	Peak	208	313
5	5925.00	59.34	68.20	-8.86	53.70	5.64	Peak	208	313
6	11490.00	44.08	54.00	-9.92	29.26	14.82	Average	100	244
7	11490.00	55.97	74.00	-18.03	41.15	14.82	Peak	100	244
8	17235.00	59.22	68.20	-8.98	41.51	17.71	Peak	100	94

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

*Factor includes antenna factor , cable loss and amplifier gain

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

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



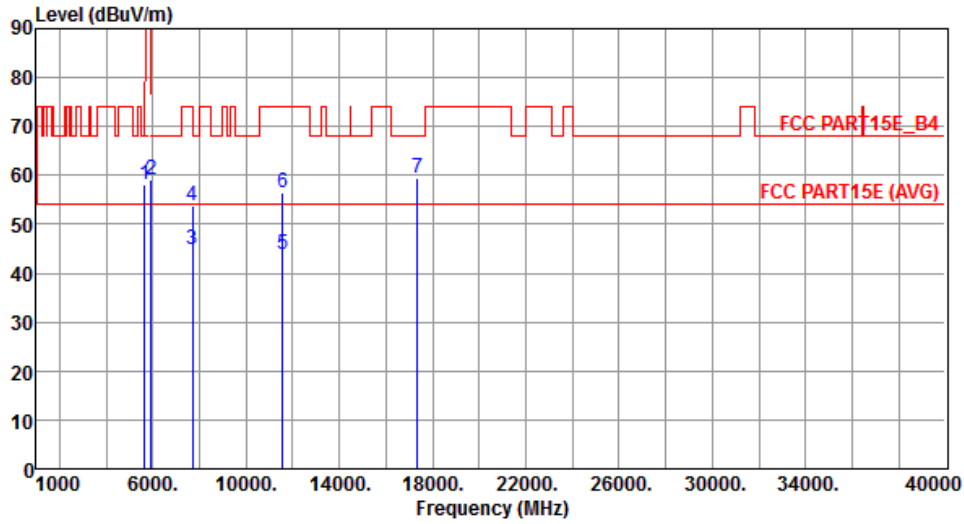
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.50	68.20	-9.70	53.31	5.19	Peak	176	22
2	5700.00	59.38	105.20	-45.82	54.10	5.28	Peak	176	22
3	5720.00	70.77	110.80	-40.03	65.46	5.31	Peak	176	22
4	5725.00	78.48	122.20	-43.72	73.16	5.32	Peak	176	22
5	5925.00	59.12	68.20	-9.08	53.48	5.64	Peak	176	22
6	11490.00	44.03	54.00	-9.97	29.21	14.82	Average	141	0
7	11490.00	57.05	74.00	-16.95	42.23	14.82	Peak	141	0
8	17235.00	60.08	68.20	-8.12	42.37	17.71	Peak	100	244

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

*Factor includes antenna factor , cable loss and amplifier gain

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

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



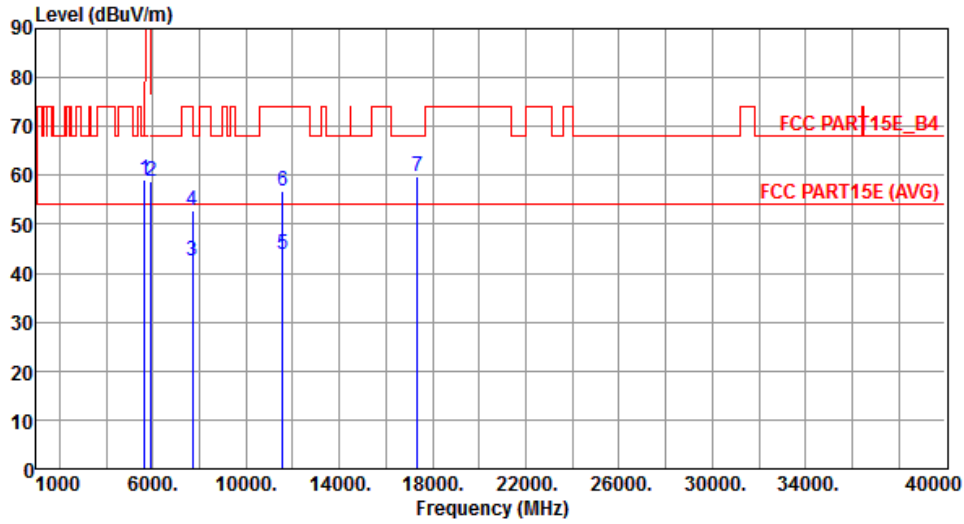
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.24	68.20	-9.96	53.05	5.19	Peak	194	314
2	5925.00	59.05	68.20	-9.15	53.41	5.64	Peak	194	314
3	7713.00	44.98	54.00	-9.02	36.21	8.77	Average	209	79
4	7713.00	53.86	74.00	-20.14	45.09	8.77	Peak	209	79
5	11570.00	43.70	54.00	-10.30	29.06	14.64	Average	100	241
6	11570.00	56.41	74.00	-17.59	41.77	14.64	Peak	100	241
7	17355.00	59.33	68.20	-8.87	41.32	18.01	Peak	100	89

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

*Factor includes antenna factor , cable loss and amplifier gain

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

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



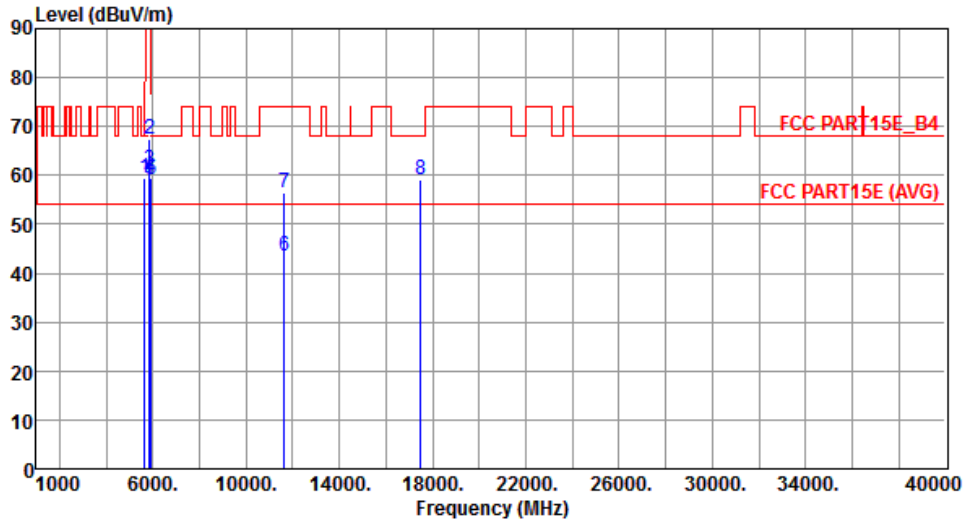
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	59.06	68.20	-9.14	53.87	5.19	Peak	170	24
2	5925.00	58.90	68.20	-9.30	53.26	5.64	Peak	170	24
3	7713.00	42.62	54.00	-11.38	33.85	8.77	Average	100	342
4	7713.00	52.88	74.00	-21.12	44.11	8.77	Peak	100	342
5	11570.00	43.71	54.00	-10.29	29.07	14.64	Average	145	0
6	11570.00	56.65	74.00	-17.35	42.01	14.64	Peak	145	0
7	17355.00	59.71	68.20	-8.49	41.70	18.01	Peak	100	258

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

*Factor includes antenna factor , cable loss and amplifier gain

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

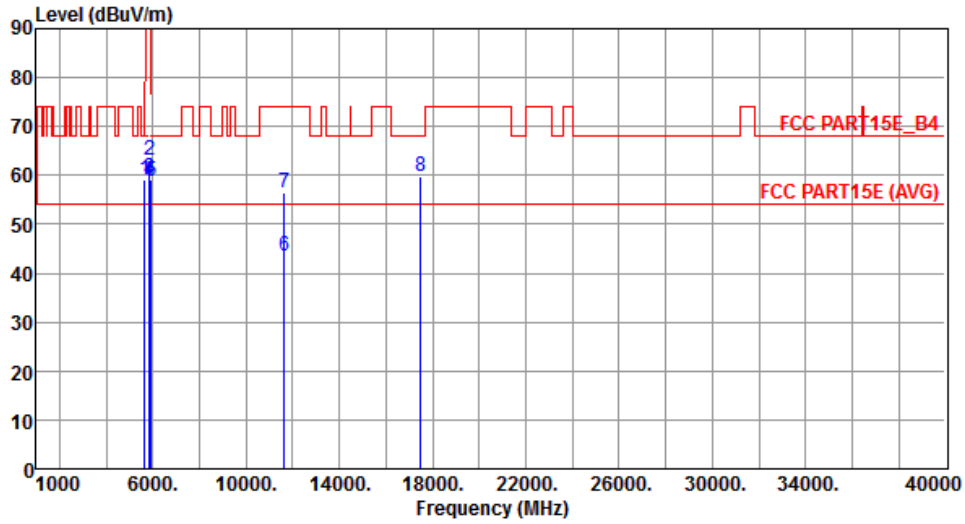
Modulation	11a	Test Freq. (MHz)	5825
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	59.32	68.20	-8.88	54.13	5.19	Peak	198	319
2	5850.00	67.36	122.20	-54.84	61.84	5.52	Peak	198	319
3	5855.00	61.05	110.80	-49.75	55.52	5.53	Peak	198	319
4	5875.00	59.50	105.20	-45.70	53.94	5.56	Peak	198	319
5	5925.00	59.17	68.20	-9.03	53.53	5.64	Peak	198	319
6	11650.00	43.62	54.00	-10.38	29.18	14.44	Average	100	248
7	11650.00	56.57	74.00	-17.43	42.13	14.44	Peak	100	248
8	17475.00	59.26	68.20	-8.94	40.97	18.29	Peak	100	95

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

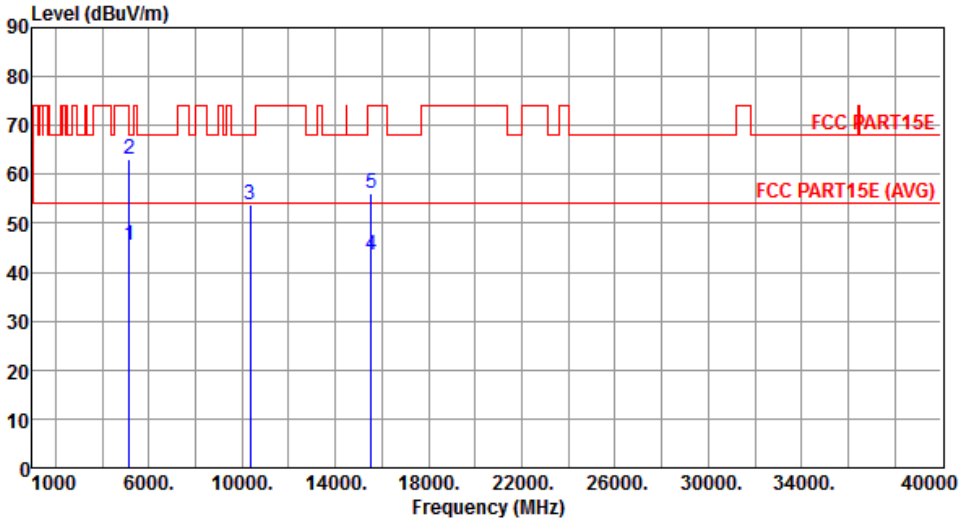
Modulation	11a	Test Freq. (MHz)	5825
Polarization	Vertical		



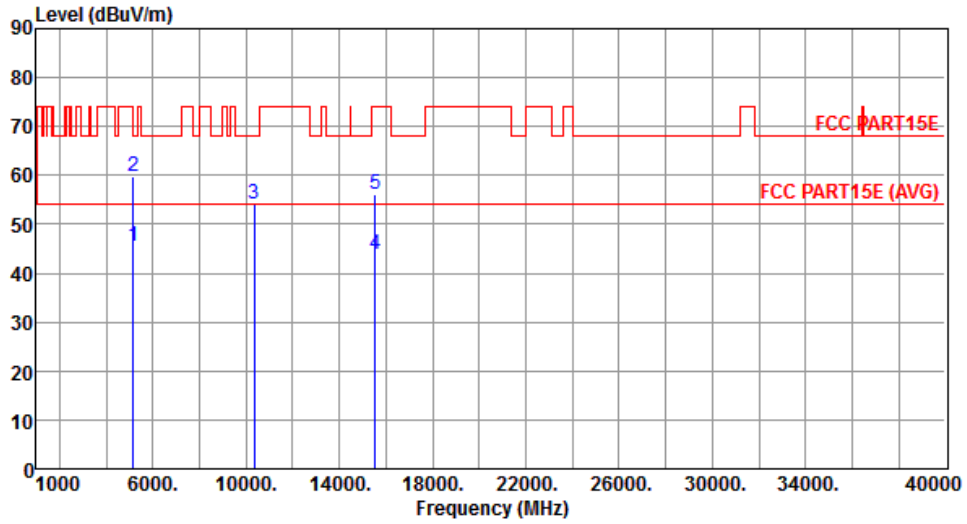
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.96	68.20	-9.24	53.77	5.19	Peak	174	23
2	5850.00	63.03	122.20	-59.17	57.51	5.52	Peak	174	23
3	5855.00	59.41	110.80	-51.39	53.88	5.53	Peak	174	23
4	5875.00	59.01	105.20	-46.19	53.45	5.56	Peak	174	23
5	5925.00	58.77	68.20	-9.43	53.13	5.64	Peak	174	23
6	11650.00	43.59	54.00	-10.41	29.15	14.44	Average	138	8
7	11650.00	56.49	74.00	-17.51	42.05	14.44	Peak	138	8
8	17475.00	59.85	68.20	-8.35	41.56	18.29	Peak	100	250

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

3.5.6 Transmitter Radiated Unwanted Emissions (Above 1GHz) for HT20

Modulation	HT20	Test Freq. (MHz)	5180						
Polarization	Horizontal								
									
	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	45.49	54.00	-8.51	41.01	4.48	Average	276	318
2	5150.00	63.02	74.00	-10.98	58.54	4.48	Peak	276	318
3	10360.00	53.88	68.20	-14.32	40.10	13.78	Peak	100	124
4	15540.00	43.66	54.00	-10.34	29.27	14.39	Average	100	309
5	15540.00	56.00	74.00	-18.00	41.61	14.39	Peak	100	309
<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).</p>									

Modulation	HT20	Test Freq. (MHz)	5180
Polarization	Vertical		



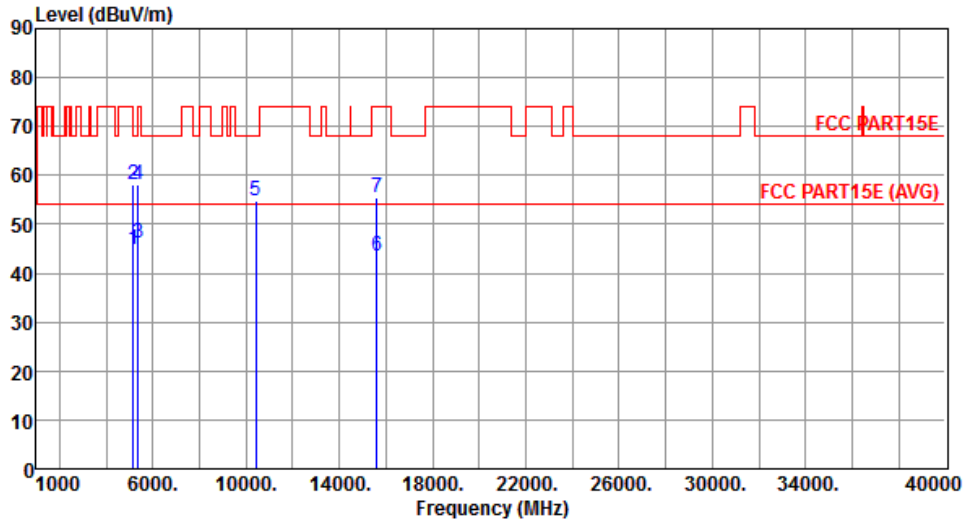
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	45.47	54.00	-8.53	40.99	4.48	Average	103	168
2	5150.00	59.87	74.00	-14.13	55.39	4.48	Peak	103	168
3	10360.00	54.01	68.20	-14.19	40.23	13.78	Peak	100	9
4	15540.00	43.91	54.00	-10.09	29.52	14.39	Average	100	147
5	15540.00	56.23	74.00	-17.77	41.84	14.39	Peak	100	147

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

*Factor includes antenna factor , cable loss and amplifier gain

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

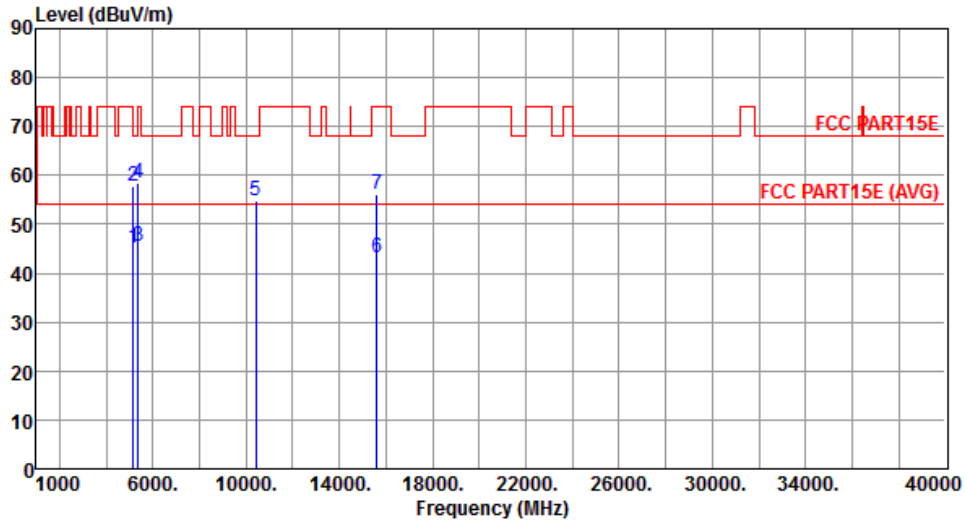
Modulation	HT20	Test Freq. (MHz)	5200
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	44.77	54.00	-9.23	40.29	4.48	Average	276	321
2	5150.00	58.26	74.00	-15.74	53.78	4.48	Peak	276	321
3	5350.00	46.24	54.00	-7.76	41.50	4.74	Average	276	321
4	5350.00	58.19	74.00	-15.81	53.45	4.74	Peak	276	321
5	10400.00	54.80	68.20	-13.40	40.95	13.85	Peak	100	148
6	15600.00	43.60	54.00	-10.40	29.30	14.30	Average	100	173
7	15600.00	55.38	74.00	-18.62	41.08	14.30	Peak	100	173

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

Modulation	HT20	Test Freq. (MHz)	5200
Polarization	Vertical		



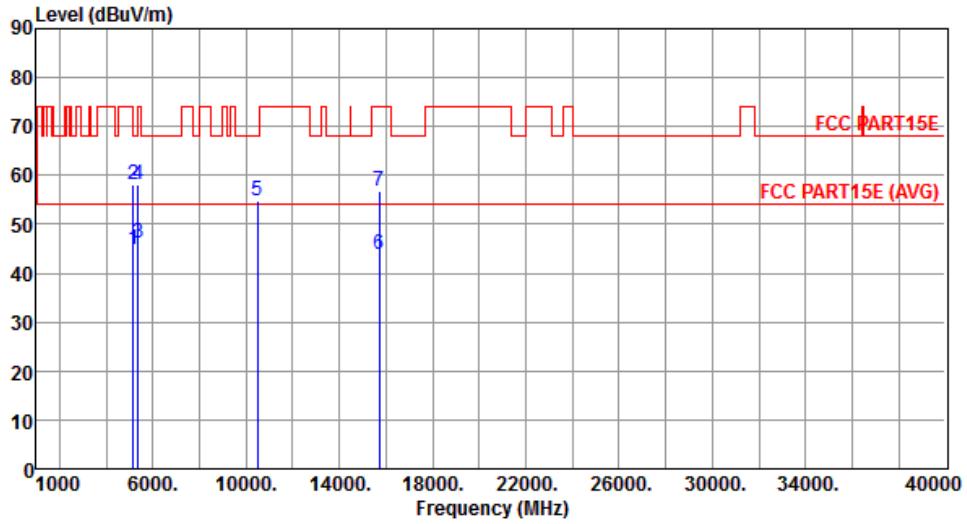
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	45.23	54.00	-8.77	40.75	4.48	Average	100	203
2	5150.00	57.77	74.00	-16.23	53.29	4.48	Peak	100	203
3	5350.00	45.64	54.00	-8.36	40.90	4.74	Average	100	203
4	5350.00	58.37	74.00	-15.63	53.63	4.74	Peak	100	203
5	10400.00	54.76	68.20	-13.44	40.91	13.85	Peak	100	165
6	15600.00	43.11	54.00	-10.89	28.81	14.30	Average	100	127
7	15600.00	55.97	74.00	-18.03	41.67	14.30	Peak	100	127

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

*Factor includes antenna factor , cable loss and amplifier gain

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

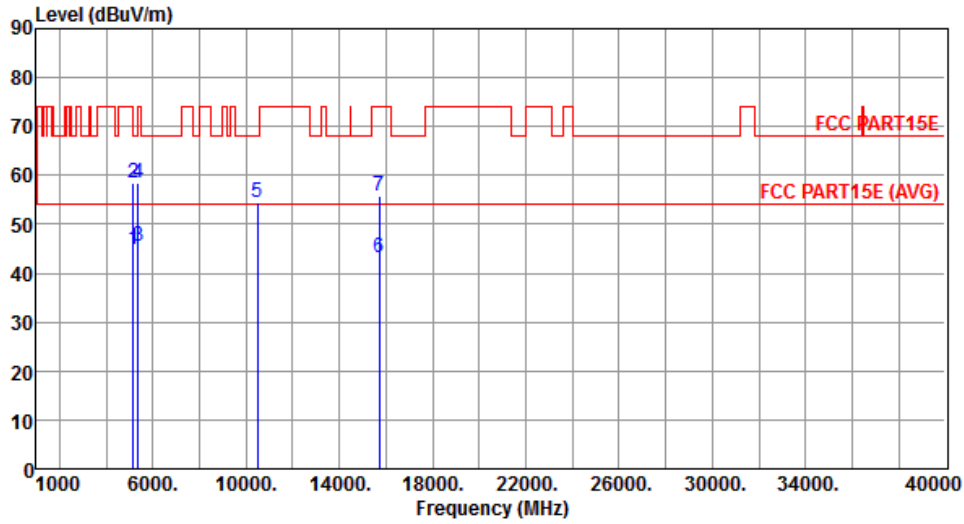
Modulation	HT20	Test Freq. (MHz)	5240
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	44.90	54.00	-9.10	40.42	4.48	Average	282	308
2	5150.00	57.97	74.00	-16.03	53.49	4.48	Peak	282	308
3	5350.00	46.16	54.00	-7.84	41.42	4.74	Average	282	308
4	5350.00	58.14	74.00	-15.86	53.40	4.74	Peak	282	308
5	10480.00	54.80	68.20	-13.40	40.85	13.95	Peak	100	235
6	15720.00	43.70	54.00	-10.30	29.59	14.11	Average	100	161
7	15720.00	56.68	74.00	-17.32	42.57	14.11	Peak	100	161

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

Modulation	HT20	Test Freq. (MHz)	5240
Polarization	Vertical		



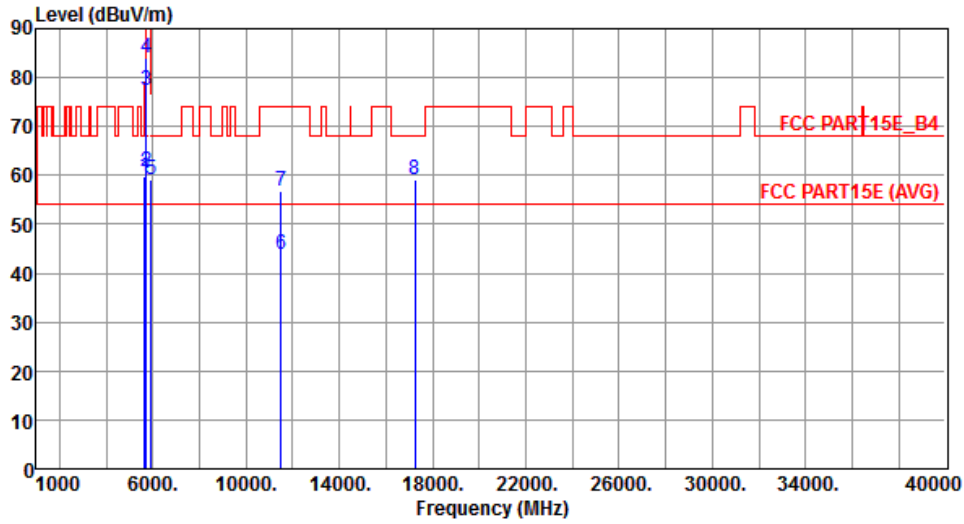
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	44.84	54.00	-9.16	40.36	4.48	Average	209	296
2	5150.00	58.44	74.00	-15.56	53.96	4.48	Peak	209	296
3	5350.00	45.58	54.00	-8.42	40.84	4.74	Average	209	296
4	5350.00	58.52	74.00	-15.48	53.78	4.74	Peak	209	296
5	10480.00	54.42	68.20	-13.78	40.47	13.95	Peak	100	179
6	15720.00	43.24	54.00	-10.76	29.13	14.11	Average	100	122
7	15720.00	55.94	74.00	-18.06	41.83	14.11	Peak	100	122

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

*Factor includes antenna factor , cable loss and amplifier gain

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

Modulation	HT20	Test Freq. (MHz)	5745
Polarization	Horizontal		



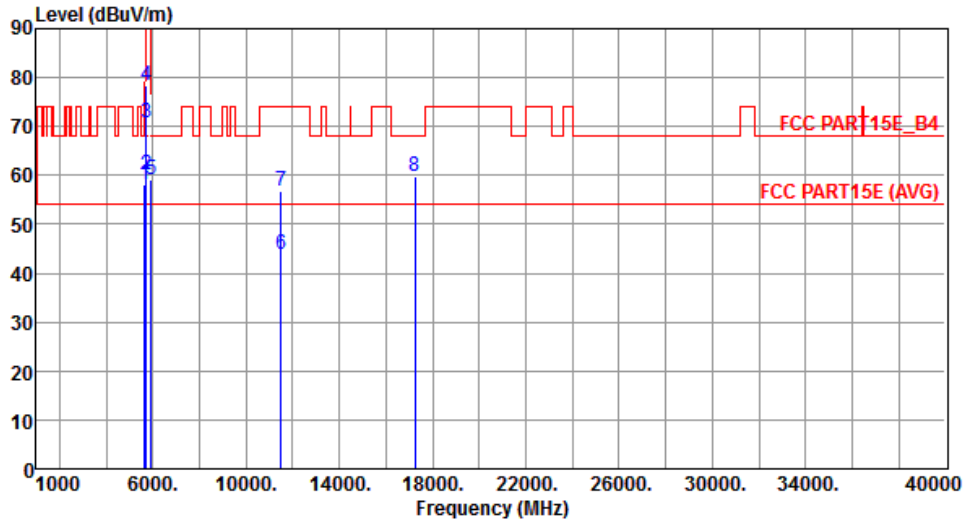
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	59.81	68.20	-8.39	54.62	5.19	Peak	203	311
2	5700.00	60.62	105.20	-44.58	55.34	5.28	Peak	203	311
3	5720.00	77.43	110.80	-33.37	72.12	5.31	Peak	203	311
4	5725.00	84.06	122.20	-38.14	78.74	5.32	Peak	203	311
5	5925.00	59.11	68.20	-9.09	53.47	5.64	Peak	203	311
6	11490.00	44.00	54.00	-10.00	29.18	14.82	Average	100	239
7	11490.00	56.77	74.00	-17.23	41.95	14.82	Peak	100	239
8	17235.00	59.17	68.20	-9.03	41.46	17.71	Peak	100	103

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

*Factor includes antenna factor , cable loss and amplifier gain

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

Modulation	HT20	Test Freq. (MHz)	5745
Polarization	Vertical		



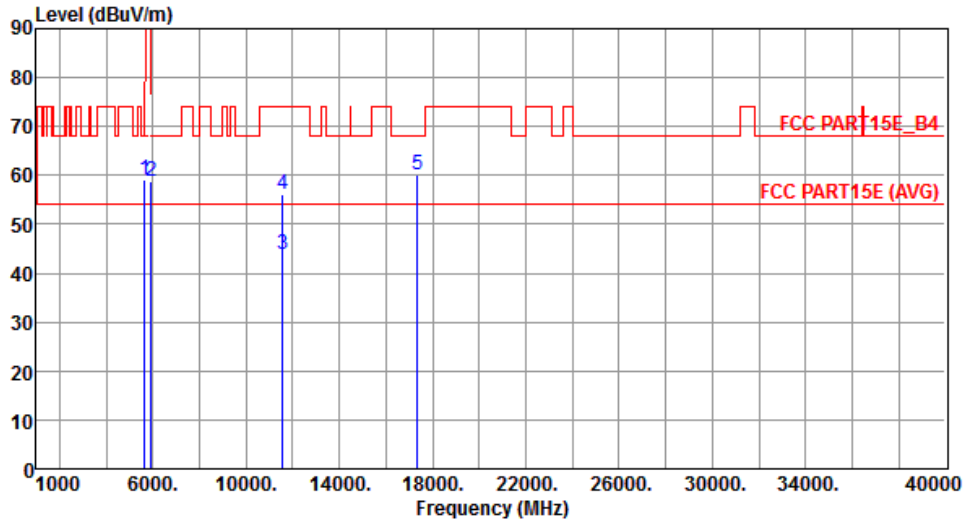
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.28	68.20	-9.92	53.09	5.19	Peak	175	32
2	5700.00	60.12	105.20	-45.08	54.84	5.28	Peak	175	32
3	5720.00	70.59	110.80	-40.21	65.28	5.31	Peak	175	32
4	5725.00	78.29	122.20	-43.91	72.97	5.32	Peak	175	32
5	5925.00	59.05	68.20	-9.15	53.41	5.64	Peak	175	32
6	11490.00	43.95	54.00	-10.05	29.13	14.82	Average	139	2
7	11490.00	56.68	74.00	-17.32	41.86	14.82	Peak	139	2
8	17235.00	59.84	68.20	-8.36	42.13	17.71	Peak	100	251

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

*Factor includes antenna factor , cable loss and amplifier gain

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

Modulation	HT20	Test Freq. (MHz)	5785
Polarization	Horizontal		



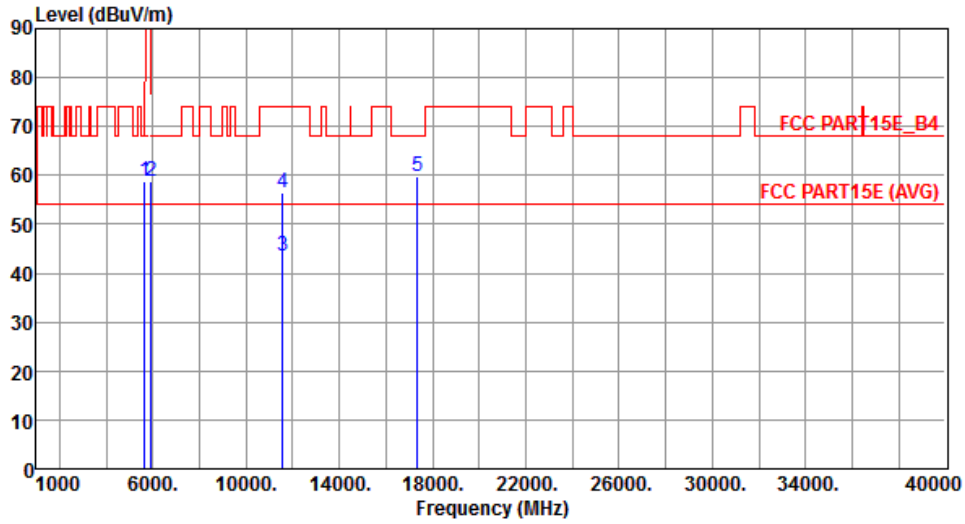
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	59.17	68.20	-9.03	53.98	5.19	Peak	198	315
2	5925.00	58.83	68.20	-9.37	53.19	5.64	Peak	198	315
3	11570.00	43.82	54.00	-10.18	29.18	14.64	Average	100	237
4	11570.00	56.22	74.00	-17.78	41.58	14.64	Peak	100	237
5	17355.00	60.23	68.20	-7.97	42.22	18.01	Peak	100	88

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

*Factor includes antenna factor , cable loss and amplifier gain

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

Modulation	HT20	Test Freq. (MHz)	5785
Polarization	Vertical		



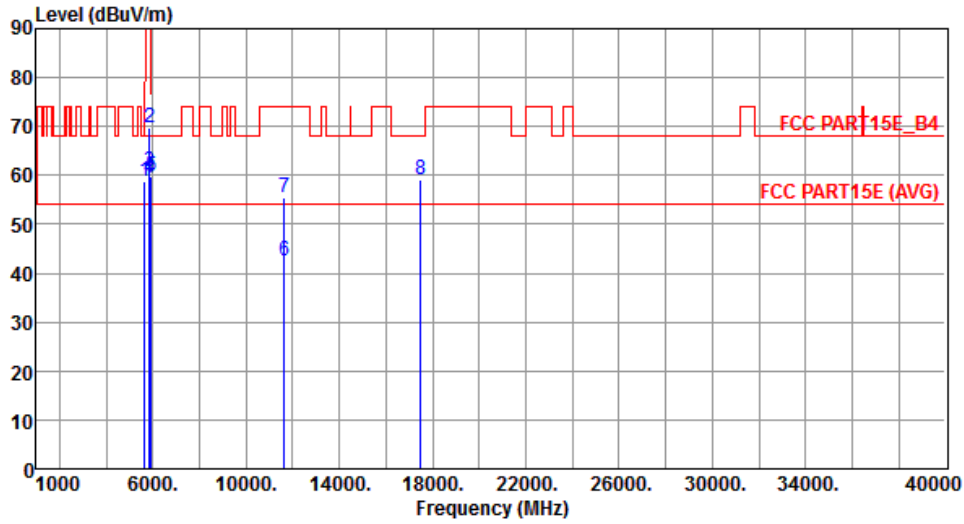
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.81	68.20	-9.39	53.62	5.19	Peak	174	33
2	5925.00	58.71	68.20	-9.49	53.07	5.64	Peak	174	33
3	11570.00	43.63	54.00	-10.37	28.99	14.64	Average	141	3
4	11570.00	56.55	74.00	-17.45	41.91	14.64	Peak	141	3
5	17355.00	59.78	68.20	-8.42	41.77	18.01	Peak	100	248

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

*Factor includes antenna factor , cable loss and amplifier gain

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

Modulation	HT20	Test Freq. (MHz)	5825
Polarization	Horizontal		



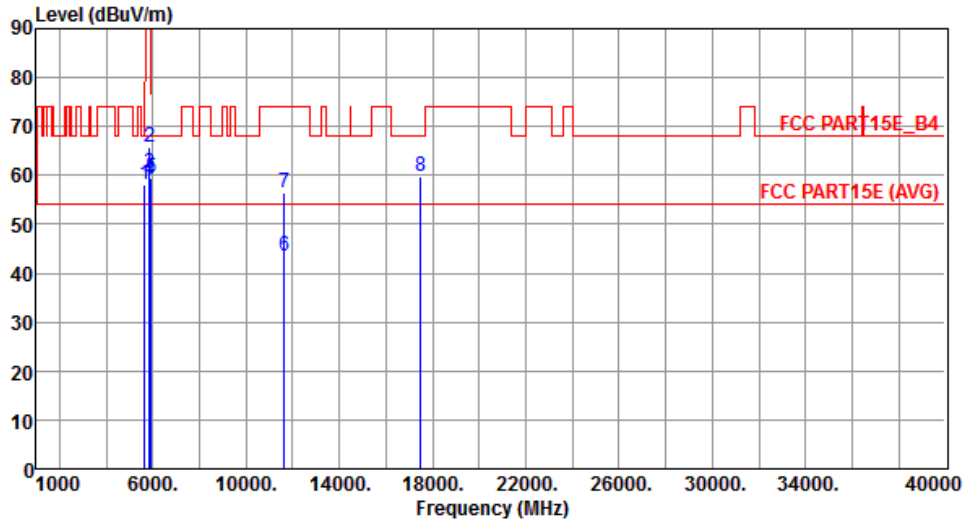
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.91	68.20	-9.29	53.72	5.19	Peak	191	314
2	5850.00	69.80	122.20	-52.40	64.28	5.52	Peak	191	314
3	5855.00	60.63	110.80	-50.17	55.10	5.53	Peak	191	314
4	5875.00	59.53	105.20	-45.67	53.97	5.56	Peak	191	314
5	5925.00	59.75	68.20	-8.45	54.11	5.64	Peak	191	314
6	11650.00	42.56	54.00	-11.44	28.12	14.44	Average	100	235
7	11650.00	55.48	74.00	-18.52	41.04	14.44	Peak	100	235
8	17475.00	59.16	68.20	-9.04	40.87	18.29	Peak	100	101

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

*Factor includes antenna factor , cable loss and amplifier gain

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

Modulation	HT20	Test Freq. (MHz)	5825
Polarization	Vertical		



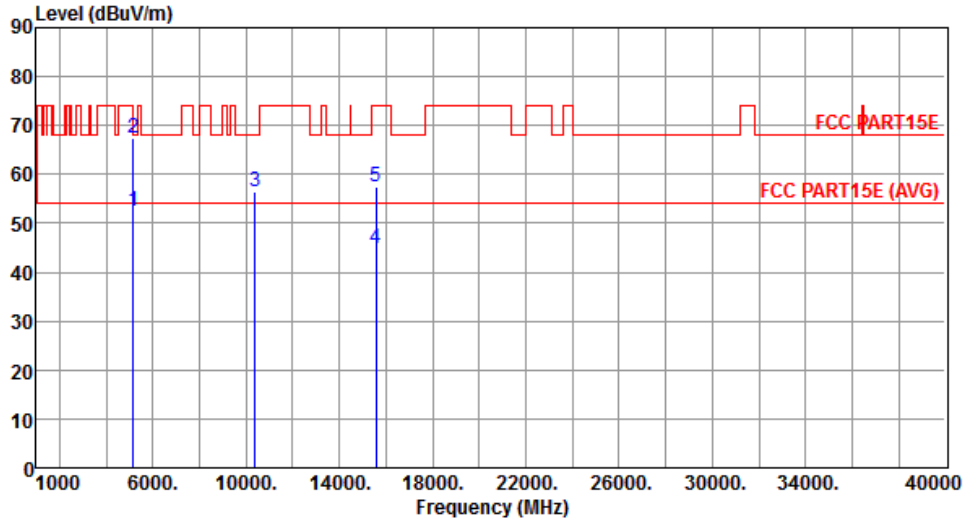
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.27	68.20	-9.93	53.08	5.19	Peak	189	314
2	5850.00	65.75	122.20	-56.45	60.23	5.52	Peak	189	314
3	5855.00	60.44	110.80	-50.36	54.91	5.53	Peak	189	314
4	5875.00	59.11	105.20	-46.09	53.55	5.56	Peak	189	314
5	5925.00	59.53	68.20	-8.67	53.89	5.64	Peak	189	314
6	11650.00	43.45	54.00	-10.55	29.01	14.44	Average	142	5
7	11650.00	56.62	74.00	-17.38	42.18	14.44	Peak	142	5
8	17475.00	59.66	68.20	-8.54	41.37	18.29	Peak	100	236

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

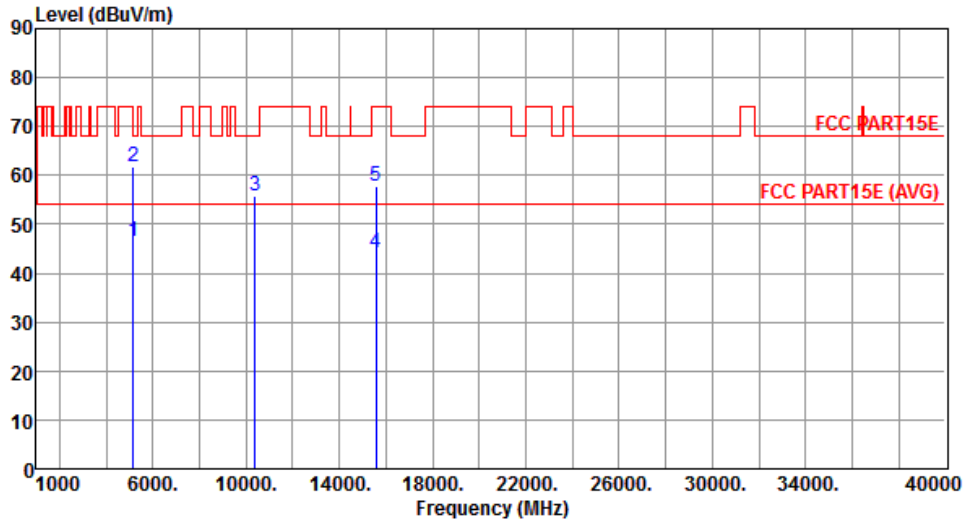
*Factor includes antenna factor , cable loss and amplifier gain

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

3.5.7 Transmitter Radiated Unwanted Emissions (Above 1GHz) for HT40

Modulation	HT40	Test Freq. (MHz)	5190						
Polarization	Horizontal								
									
	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	52.50	54.00	-1.50	48.02	4.48	Average	204	315
2	5150.00	67.33	74.00	-6.67	62.85	4.48	Peak	204	315
3	10380.00	56.50	68.20	-11.70	42.68	13.82	Peak	100	163
4	15570.00	44.75	54.00	-9.25	30.41	14.34	Average	100	174
5	15570.00	57.55	74.00	-16.45	43.21	14.34	Peak	100	174
<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).</p>									

Modulation	HT40	Test Freq. (MHz)	5190
Polarization	Vertical		



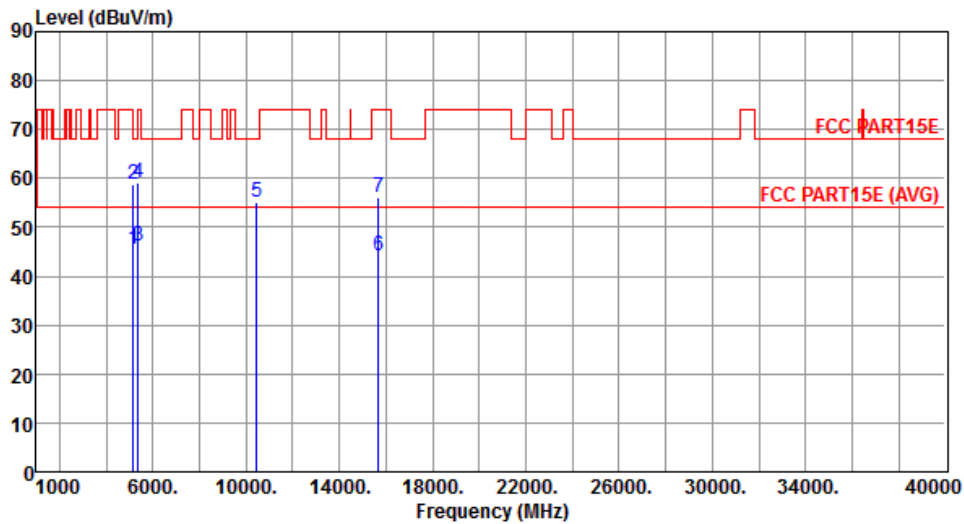
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.37	54.00	-7.63	41.89	4.48	Average	100	202
2	5150.00	61.73	74.00	-12.27	57.25	4.48	Peak	100	202
3	10380.00	55.76	68.20	-12.44	41.94	13.82	Peak	100	131
4	15570.00	44.03	54.00	-9.97	29.69	14.34	Average	100	174
5	15570.00	57.69	74.00	-16.31	43.35	14.34	Peak	100	174

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

*Factor includes antenna factor , cable loss and amplifier gain

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

Modulation	HT40	Test Freq. (MHz)	5230
Polarization	Horizontal		



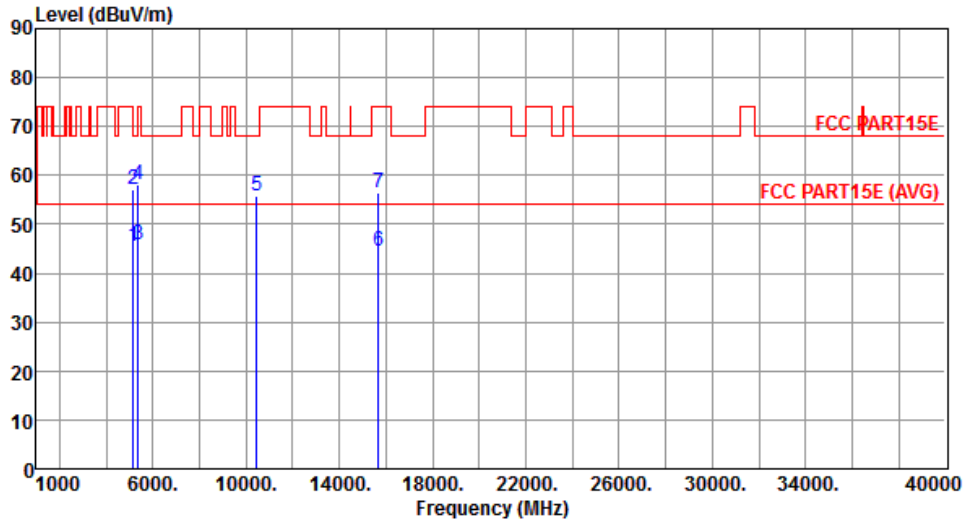
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	45.43	54.00	-8.57	40.95	4.48	Average	290	313
2	5150.00	58.89	74.00	-15.11	54.41	4.48	Peak	290	313
3	5350.00	46.12	54.00	-7.88	41.38	4.74	Average	290	313
4	5350.00	59.16	74.00	-14.84	54.42	4.74	Peak	290	313
5	10460.00	55.02	68.20	-13.18	41.09	13.93	Peak	100	109
6	15690.00	44.22	54.00	-9.78	30.07	14.15	Average	100	174
7	15690.00	56.01	74.00	-17.99	41.86	14.15	Peak	100	174

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

*Factor includes antenna factor , cable loss and amplifier gain

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

Modulation	HT40	Test Freq. (MHz)	5230
Polarization	Vertical		



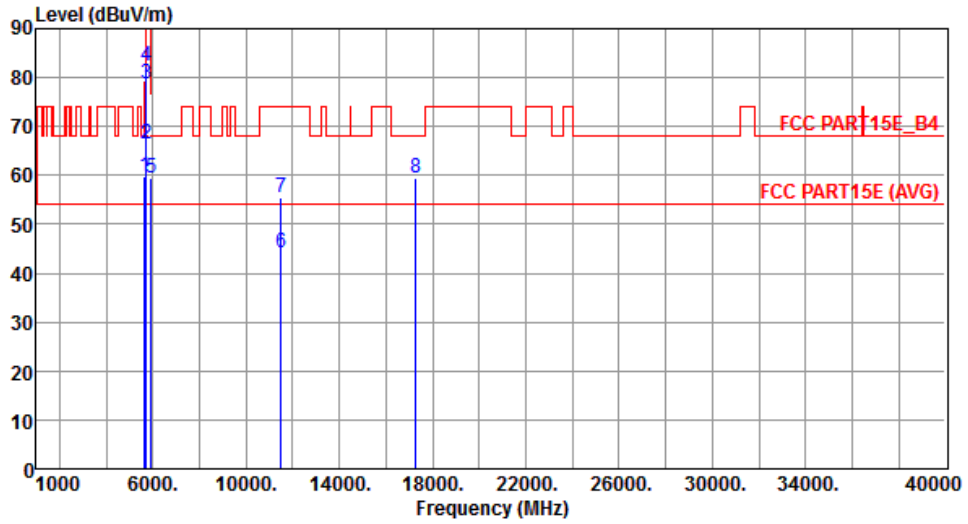
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	45.33	54.00	-8.67	40.85	4.48	Average	217	279
2	5150.00	57.16	74.00	-16.84	52.68	4.48	Peak	217	279
3	5350.00	45.94	54.00	-8.06	41.20	4.74	Average	217	279
4	5350.00	58.12	74.00	-15.88	53.38	4.74	Peak	217	279
5	10460.00	55.69	68.20	-12.51	41.76	13.93	Peak	100	166
6	15690.00	44.43	54.00	-9.57	30.28	14.15	Average	100	183
7	15690.00	56.51	74.00	-17.49	42.36	14.15	Peak	100	183

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

*Factor includes antenna factor , cable loss and amplifier gain

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

Modulation	HT40	Test Freq. (MHz)	5755
Polarization	Horizontal		



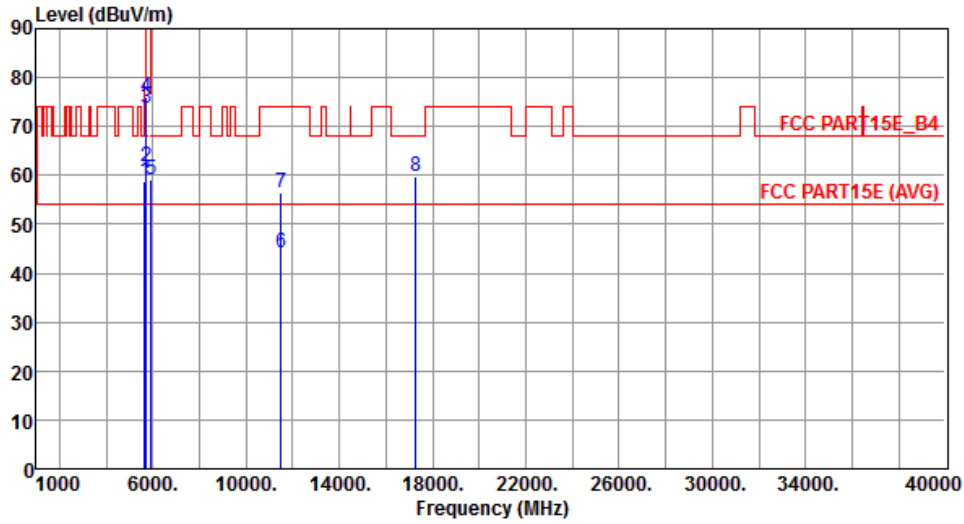
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	59.71	68.20	-8.49	54.52	5.19	Peak	200	315
2	5700.00	66.53	105.20	-38.67	61.25	5.28	Peak	200	315
3	5720.00	78.55	110.80	-32.25	73.24	5.31	Peak	200	315
4	5725.00	82.46	122.20	-39.74	77.14	5.32	Peak	200	315
5	5925.00	59.39	68.20	-8.81	53.75	5.64	Peak	200	315
6	11510.00	44.16	54.00	-9.84	29.36	14.80	Average	100	221
7	11510.00	55.40	74.00	-18.60	40.60	14.80	Peak	100	221
8	17265.00	59.49	68.20	-8.71	41.71	17.78	Peak	100	99

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

*Factor includes antenna factor , cable loss and amplifier gain

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

Modulation	HT40	Test Freq. (MHz)	5755
Polarization	Vertical		



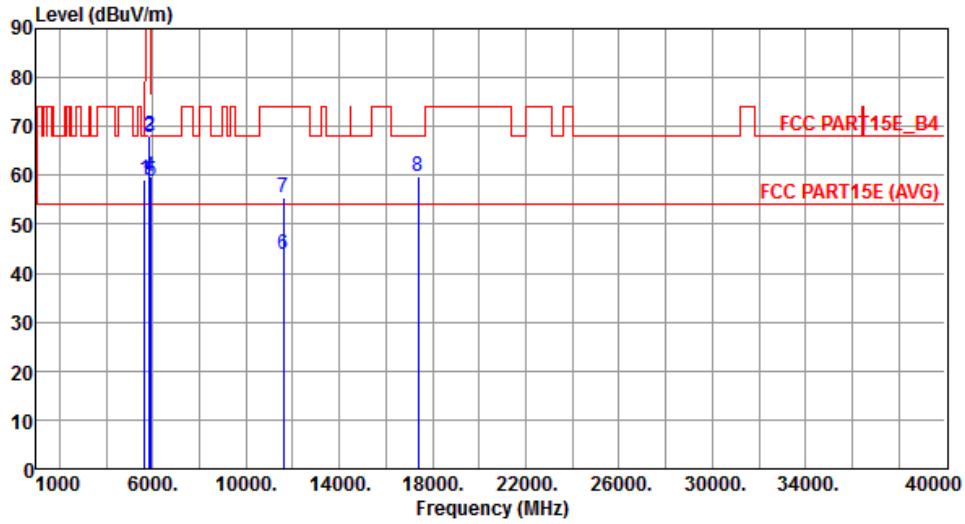
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.67	68.20	-9.53	53.48	5.19	Peak	148	20
2	5700.00	61.94	105.20	-43.26	56.66	5.28	Peak	148	20
3	5720.00	73.79	110.80	-37.01	68.48	5.31	Peak	148	20
4	5725.00	76.12	122.20	-46.08	70.80	5.32	Peak	148	20
5	5925.00	59.00	68.20	-9.20	53.36	5.64	Peak	148	20
6	11510.00	44.31	54.00	-9.69	29.51	14.80	Average	140	2
7	11510.00	56.33	74.00	-17.67	41.53	14.80	Peak	140	2
8	17265.00	59.67	68.20	-8.53	41.89	17.78	Peak	100	249

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

*Factor includes antenna factor , cable loss and amplifier gain

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

Modulation	HT40	Test Freq. (MHz)	5795
Polarization	Horizontal		



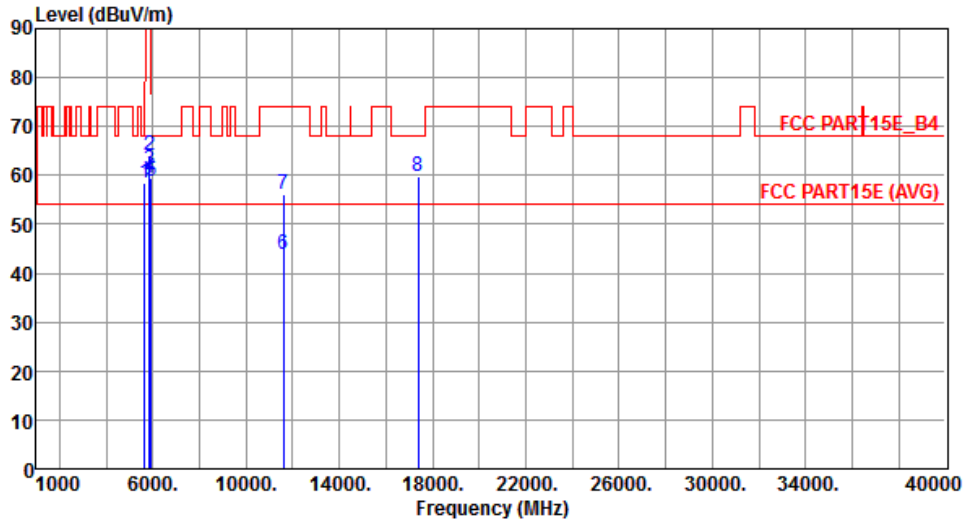
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	59.12	68.20	-9.08	53.93	5.19	Peak	200	312
2	5850.00	68.09	122.20	-54.11	62.57	5.52	Peak	200	312
3	5855.00	67.87	110.80	-42.93	62.34	5.53	Peak	200	312
4	5875.00	59.91	105.20	-45.29	54.35	5.56	Peak	200	312
5	5925.00	58.76	68.20	-9.44	53.12	5.64	Peak	200	312
6	11590.00	44.00	54.00	-10.00	29.41	14.59	Average	100	226
7	11590.00	55.34	74.00	-18.66	40.75	14.59	Peak	100	226
8	17385.00	59.71	68.20	-8.49	41.64	18.07	Peak	100	93

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

*Factor includes antenna factor , cable loss and amplifier gain

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

Modulation	HT40	Test Freq. (MHz)	5795
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	58.52	68.20	-9.68	53.33	5.19	Peak	173	32
2	5850.00	63.99	122.20	-58.21	58.47	5.52	Peak	173	32
3	5855.00	60.98	110.80	-49.82	55.45	5.53	Peak	173	32
4	5875.00	59.32	105.20	-45.88	53.76	5.56	Peak	173	32
5	5925.00	58.94	68.20	-9.26	53.30	5.64	Peak	173	32
6	11590.00	43.97	54.00	-10.03	29.38	14.59	Average	134	0
7	11590.00	55.98	74.00	-18.02	41.39	14.59	Peak	134	0
8	17385.00	59.71	68.20	-8.49	41.64	18.07	Peak	100	252

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

*Factor includes antenna factor , cable loss and amplifier gain

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

3.6 Frequency Stability

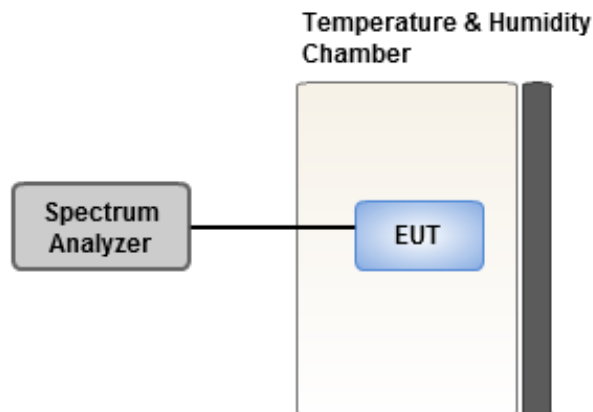
3.6.1 Limit of Frequency Stability

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

3.6.2 Test Procedures

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

3.6.3 Test Setup



3.6.4 Test Result of Frequency Stability

Frequency: 5200 MHz	Frequency Drift (ppm)			
Temperature (°C)	0 minute	2 minutes	5 minutes	10 minutes
T20°C Vmax	10.15	10.52	10.07	10.27
T20°C Vmin	9.90	9.81	9.55	9.91
T50°C Vnom	9.39	9.37	9.61	9.29
T40°C Vnom	9.53	9.38	9.85	9.80
T30°C Vnom	8.98	9.30	8.94	9.82
T20°C Vnom	9.85	9.48	9.24	9.61
T10°C Vnom	12.22	11.35	12.44	11.22
T0°C Vnom	9.55	9.15	9.49	9.85
T-10°C Vnom	9.55	9.10	9.24	9.50
T-20°C Vnom	9.71	9.45	9.25	10.06
T-30°C Vnom	7.94	8.25	7.54	8.29
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	9.81	9.65	9.62	9.45
T20°C Vmin	8.33	9.17	8.14	8.53
T50°C Vnom	8.45	8.61	8.43	8.44
T40°C Vnom	9.08	9.83	9.08	9.35
T30°C Vnom	9.09	8.47	8.23	8.85
T20°C Vnom	9.54	9.57	9.36	8.95
T10°C Vnom	10.90	10.31	10.62	10.70
T0°C Vnom	9.03	8.45	8.77	9.18
T-10°C Vnom	8.53	9.03	9.04	8.84
T-20°C Vnom	8.91	9.64	9.56	8.63
T-30°C Vnom	7.11	7.33	7.33	7.47
Vnom [Vac]: 120		Vmax [Vac]: 138		Vmin [Vac]: 102
Tnom [°C]: 20		Tmax [°C]: 50		Tmin [°C]: -30

4 Test laboratory information

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

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

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

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