

FCC C2PC Test Report

FCC ID : KA2AP1520A1
Equipment : Wireless AC750 Dual Band Range Extender
Model No. : DAP-1520
Brand Name : D-Link
Applicant : D-Link Corporation
Address : 17595 Mt. Herrmann, Fountain Valley, CA
92708 U.S.A
Standard : 47 CFR FCC Part 15.407
Received Date : Mar. 16, 2016
Tested Date : Mar. 16 ~ Apr. 15, 2016

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

Approved & Reviewed by:



Gary Chang / Manager



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Release Record

Report No.	Version	Description	Issued Date
FR392401-01AN	Rev. 01	Initial issue	Apr. 28, 2016

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.153MHz 42.34 (Margin -13.48dB) - AV	Pass
15.407(b) 15.209	Radiated Emissions	[dBuV/m at 3m]: 17475.00MHz 53.00 (Margin -1.00dB) – AV [dBuV/m at 3m]: 5725.00MHz 77.20 (Margin -1.00dB) – PK [dBuV/m at 3m]: 5715.00MHz 73.00 (Margin -1.00dB) – PK	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: 23.04 5725-5850MHz: 19.70	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

This report is prepared for FCC class II Permissive change.

This report is issued as a supplementary report. The modification is concerned with complying with New U-NII rule requirement. Therefore, related test items had been performed and presented in the following sections.

1.1.1 Specification of the Equipment under Test (EUT)

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N _{TX})	Data Rate / MCS
5150-5250	a	5180-5240	36-48 [4]	1	6-54 Mbps
5150-5250	n (HT20)	5180-5240	36-48 [4]	1	MCS 0-7
5150-5250	n (HT40)	5190-5230	38-46 [2]	1	MCS 0-7
5150-5250	ac (VHT20)	5180-5240	36-48 [4]	1	MCS 0-8
5150-5250	ac (VHT40)	5190-5230	38-46 [2]	1	MCS 0-9
5150-5250	ac (VHT80)	5210	42 [1]	1	MCS 0-9

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

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N _{TX})	Data Rate / MCS
5725-5850	a	5745-5825	149-165 [5]	1	6-54 Mbps
5725-5850	n (HT20)	5745-5825	149-165 [5]	1	MCS 0-7
5725-5850	n (HT40)	5755-5795	151-159 [2]	1	MCS 0-7
5725-5850	ac (VHT20)	5745-5825	149-165 [5]	1	MCS 0-8
5725-5850	ac (VHT40)	5755-5795	151-159 [2]	1	MCS 0-9
5725-5850	ac (VHT80)	5775	155 [1]	1	MCS 0-9

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

1.1.2 Antenna Details

Ant. No.	Type	Operating Frequency (MHz) / Gain (dBi)		Connector
		2.4G	5G	
1	PIFA	2	---	U.FL
2	PIFA	1	1	U.FL

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	100-240Vac, 50-60Hz, 0.3A
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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 / VHT20		HT40 / VHT40	
Channel	Frequency(MHz)	Channel	Frequency(MHz)
36	5180	38	5190
40	5200	46	5230
44	5220	VHT80	
48	5240	42	5210

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

1.1.6 Test Tool and Duty Cycle

Test Tool	MT76xxE QA, version 2.0.3.0		
Duty Cycle and Duty Factor	Mode	Duty cycle (%)	Duty factor (dB)
	11a	99.39%	0.03
	VHT20	99.35%	0.03
	VHT40	98.08%	0.08
	VHT80	95.73%	0.19

1.1.7 Power Setting

For Frequency band 5150-5250 MHz		
Modulation Mode	Test Frequency (MHz)	Power Set
11a	5180	19
11a	5200	21
11a	5240	1A
HT20	5180	17
HT20	5200	21
HT20	5240	19
HT40	5190	0C
HT40	5230	1A
VHT20	5180	17
VHT20	5200	21
VHT20	5240	19
VHT40	5190	0C
VHT40	5230	1A
VHT80	5210	07

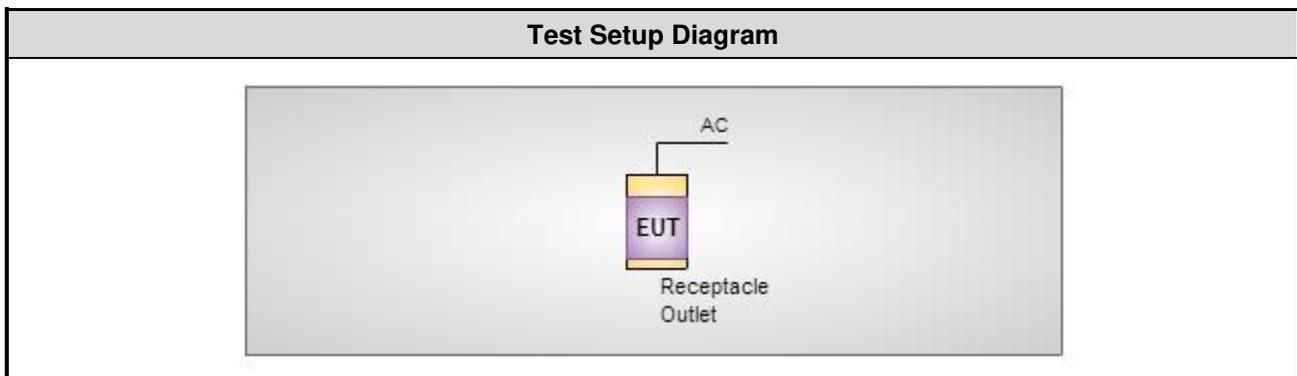
For Frequency band 5725~5850 MHz		
Modulation Mode	Test Frequency (MHz)	Power Set
11a	5745	12
11a	5785	1B
11a	5825	1A
HT20	5745	10
HT20	5785	1B
HT20	5825	19
HT40	5755	0E
HT40	5795	19
VHT20	5745	10
VHT20	5785	1B
VHT20	5825	19
VHT40	5755	0E
VHT40	5795	19
VHT80	5775	0A

1.2 Local Support Equipment List

Support Equipment List					
No.	Equipment	Brand	Model	FCC ID	Signal cable / Length (m)
1	Notebook	DELL	Latitude E6440	JMXMD12	---
2	Fixture	---	---	---	---

Note: The fixture was supplied by applicant.

1.3 Test Setup Chart



Note: The fixture is used for sending command from notebook to control EUT to transmit continuously. Notebook and fixture were disconnected from EUT and removed from test table when EUT is set to transmit continuously

1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
EMC Receiver	R&S	ESCS 30	100169	Oct. 21, 2015	Oct. 20, 2016
LISN	SCHWARZBECK	Schwarzbeck 8127	8127-667	Nov. 13, 2015	Nov. 12, 2016
RF Cable-CON	EMC	EMCCFD300-BM-BM-6000	50821	Dec. 21, 2015	Dec. 20, 2016
Measurement Software	AUDIX	e3	6.120210k	NA	NA

Note: Calibration Interval of instruments listed above is one year.

Test Item	Radiated Emission				
Test Site	966 chamber 2 / (03CH02-WS)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101499	Dec. 17, 2015	Dec. 16, 2016
Receiver	R&S	ESR3	101657	Jan. 12, 2016	Jan. 11, 2017
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-523	Nov. 09, 2015	Nov. 08, 2016
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1095	Oct. 07, 2015	Oct. 06, 2016
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 04, 2015	Nov. 03, 2016
Preamplifier	Burgeon	BPA-530	100218	Nov. 03, 2015	Nov. 02, 2016
Preamplifier	Agilent	83017A	MY39501309	Sep. 22, 2015	Sep. 21, 2016
Preamplifier	EMC	EMC184045B	980192	Sep. 01, 2015	Aug. 31, 2016
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16140/4	Dec. 10, 2015	Dec. 09, 2016
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16018/4	Dec. 10, 2015	Dec. 09, 2016
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16015/4	Dec. 10, 2015	Dec. 09, 2016
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-003	Dec. 10, 2015	Dec. 09, 2016
LF cable 10M	EMCC	CFD400-E	CFD400-001	Dec. 10, 2015	Dec. 09, 2016
Measurement Software	AUDIX	e3	6.120210g	NA	NA

Note: Calibration Interval of instruments listed above is one year.

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101063	Feb. 17, 2016	Feb. 16, 2017
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Nov. 27, 2015	Nov. 26, 2016
Power Meter	Anritsu	ML2495A	1241002	Sep. 21, 2015	Sep. 20, 2016
Power Sensor	Anritsu	MA2411B	1207366	Sep. 21, 2015	Sep. 20, 2016
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 v01r02

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

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

FCC KDB 412172 D01 Determining ERP and EIRP v01r01

1.6 Measurement Uncertainty

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

Measurement Uncertainty	
Parameters	Uncertainty
Bandwidth	± 34.134 Hz
Conducted power	± 0.808 dB
Frequency error	± 34.134 Hz
Power density	± 0.463 dB
Conducted emission	± 2.670 dB
AC conducted emission	± 2.90 dB
Radiated emission ≤ 1 GHz	± 3.87 dB
Radiated emission > 1 GHz	± 5.60 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	21°C / 62%	Howard Huang
Radiated Emissions	03CH02-WS	21-23°C / 61-62%	Aska Huang Felix Sung Vincent Yeh
RF Conducted	TH01-WS	23°C / 61%	Anderson Hung

➤ FCC site registration No.: 181692

➤ IC site registration No.: 10807A-2

2.2 The Worst Test Modes and Channel Details

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

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.

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

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.

3 Transmitter Test Results

3.1 Conducted Emissions

3.1.1 Limit of Conducted Emissions

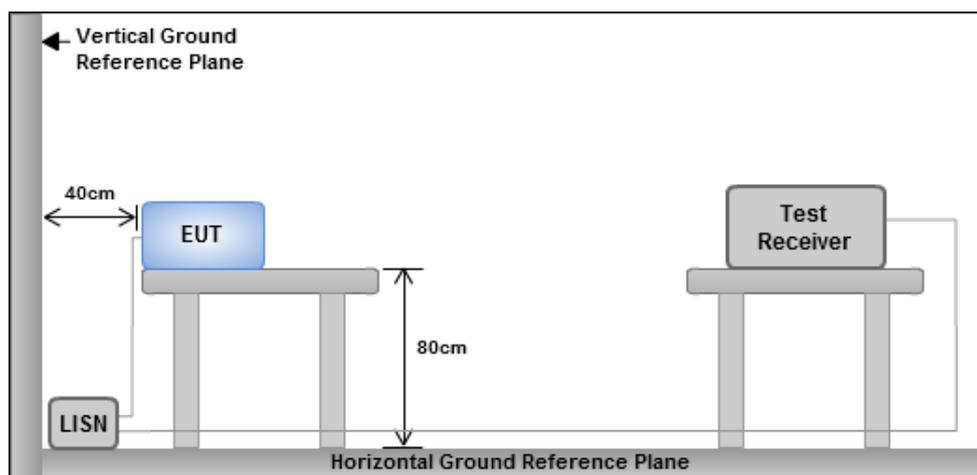
Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

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

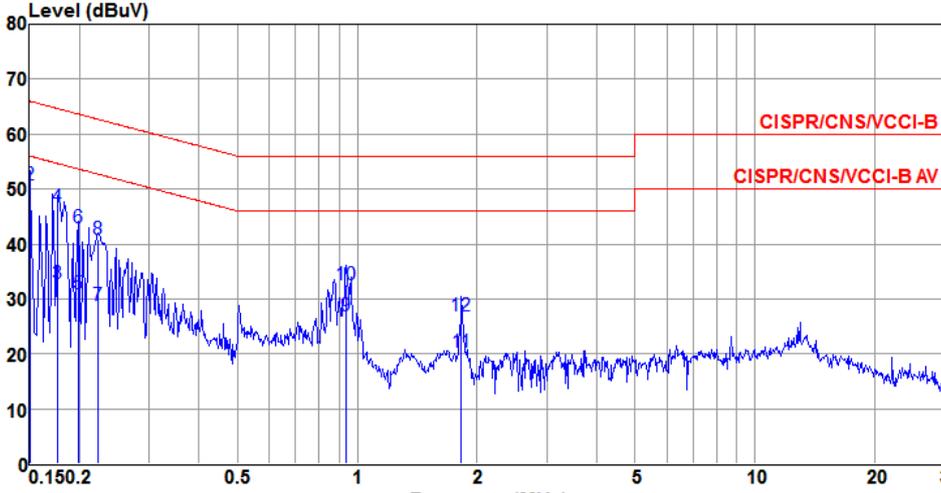


Note: 1. Support units were connected to second LISN.

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

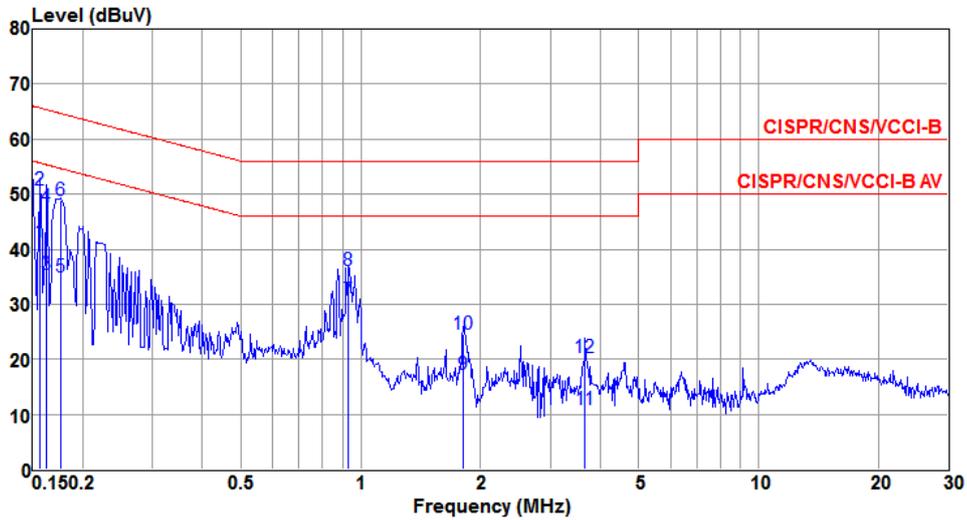
Modulation	11a	Test Freq. (MHz)	5200
Power Phase	Line		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1@	0.150	42.36	56.00	-13.64	41.42	0.92	0.02	Average
2	0.150	50.75	66.00	-15.25	49.81	0.92	0.02	QP
3	0.177	32.79	54.64	-21.85	32.23	0.54	0.02	Average
4	0.177	46.67	64.64	-17.97	46.11	0.54	0.02	QP
5	0.199	30.96	53.67	-22.71	30.67	0.27	0.02	Average
6	0.199	42.98	63.67	-20.69	42.69	0.27	0.02	QP
7	0.222	28.91	52.74	-23.83	28.65	0.24	0.02	Average
8	0.222	40.74	62.74	-22.00	40.48	0.24	0.02	QP
9	0.938	27.02	46.00	-18.98	26.86	0.10	0.06	Average
10	0.938	32.53	56.00	-23.47	32.37	0.10	0.06	QP
11	1.829	20.29	46.00	-25.71	19.65	0.56	0.08	Average
12	1.829	26.91	56.00	-29.09	26.27	0.56	0.08	QP

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

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

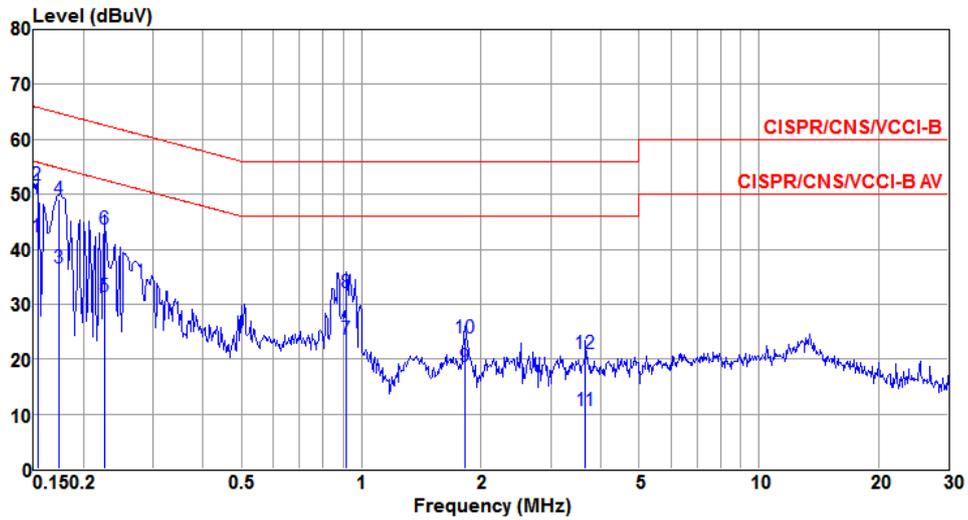


	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1@	0.156	41.30	55.65	-14.35	40.52	0.76	0.02	Average
2	0.156	50.68	65.65	-14.97	49.90	0.76	0.02	QP
3	0.162	35.34	55.34	-20.00	34.64	0.68	0.02	Average
4	0.162	47.63	65.34	-17.71	46.93	0.68	0.02	QP
5	0.177	34.96	54.64	-19.68	34.44	0.50	0.02	Average
6	0.177	48.77	64.64	-15.87	48.25	0.50	0.02	QP
7	0.933	30.77	46.00	-15.23	30.45	0.26	0.06	Average
8	0.933	36.16	56.00	-19.84	35.84	0.26	0.06	QP
9	1.810	17.14	46.00	-28.86	16.83	0.23	0.08	Average
10	1.810	24.55	56.00	-31.45	24.24	0.23	0.08	QP
11	3.661	10.95	46.00	-35.05	10.17	0.67	0.11	Average
12	3.661	20.30	56.00	-35.70	19.52	0.67	0.11	QP

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

Modulation	VHT20	Test Freq. (MHz)	5785
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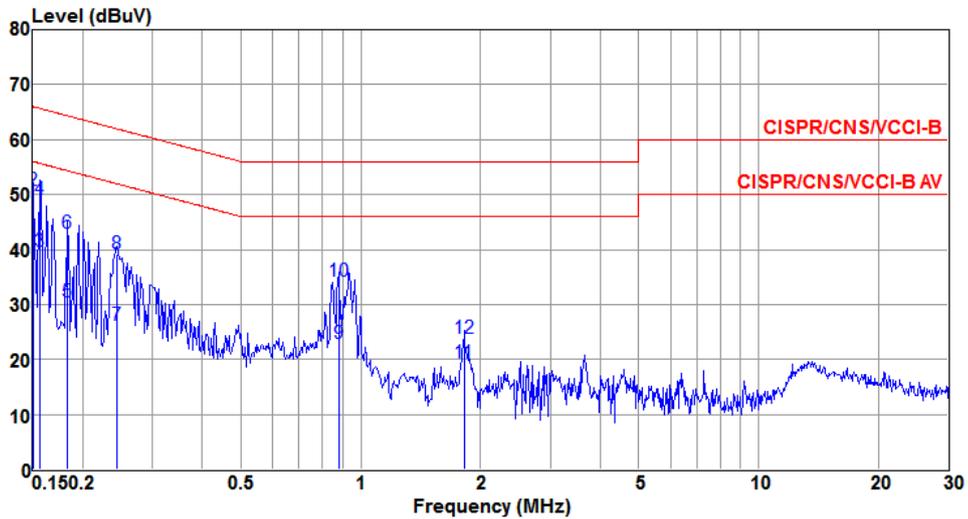
Power Phase	Line
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	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
10	0.153	42.34	55.82	-13.48	41.44	0.88	0.02	Average
2	0.153	51.73	65.82	-14.09	50.83	0.88	0.02	QP
3	0.174	36.63	54.77	-18.14	36.03	0.58	0.02	Average
4	0.174	49.18	64.77	-15.59	48.58	0.58	0.02	QP
5	0.226	31.50	52.61	-21.11	31.24	0.24	0.02	Average
6	0.226	43.74	62.61	-18.87	43.48	0.24	0.02	QP
7	0.918	23.63	46.00	-22.37	23.47	0.10	0.06	Average
8	0.918	32.08	56.00	-23.92	31.92	0.10	0.06	QP
9	1.819	18.74	46.00	-27.26	18.11	0.55	0.08	Average
10	1.819	23.86	56.00	-32.14	23.23	0.55	0.08	QP
11	3.661	10.67	46.00	-35.33	10.25	0.31	0.11	Average
12	3.661	20.91	56.00	-35.09	20.49	0.31	0.11	QP

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

Modulation	VHT20	Test Freq. (MHz)	5785
Power Phase	Neutral		



	Freq	Level	Limit	Over	Read	LISN	cable	Remark
	MHz	dBuV	Line	Limit	Level	factor	loss	
			dBuV	dB	dBuV	dB	dB	
10	0.150	41.97	56.00	-14.03	41.10	0.85	0.02	Average
2	0.150	50.79	66.00	-15.21	49.92	0.85	0.02	QP
3	0.156	39.56	55.65	-16.09	38.78	0.76	0.02	Average
4	0.156	49.20	65.65	-16.45	48.42	0.76	0.02	QP
5	0.183	30.56	54.33	-23.77	30.13	0.41	0.02	Average
6	0.183	42.94	64.33	-21.39	42.51	0.41	0.02	QP
7	0.244	26.09	51.95	-25.86	25.86	0.21	0.02	Average
8	0.244	39.13	61.95	-22.82	38.90	0.21	0.02	QP
9	0.880	22.99	46.00	-23.01	22.68	0.25	0.06	Average
10	0.880	34.29	56.00	-21.71	33.98	0.25	0.06	QP
11	1.819	19.46	46.00	-26.54	19.15	0.23	0.08	Average
12	1.819	23.77	56.00	-32.23	23.46	0.23	0.08	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.

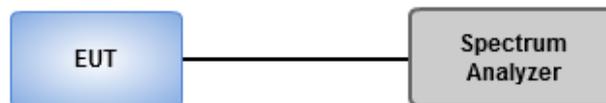
Occupied Bandwidth

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

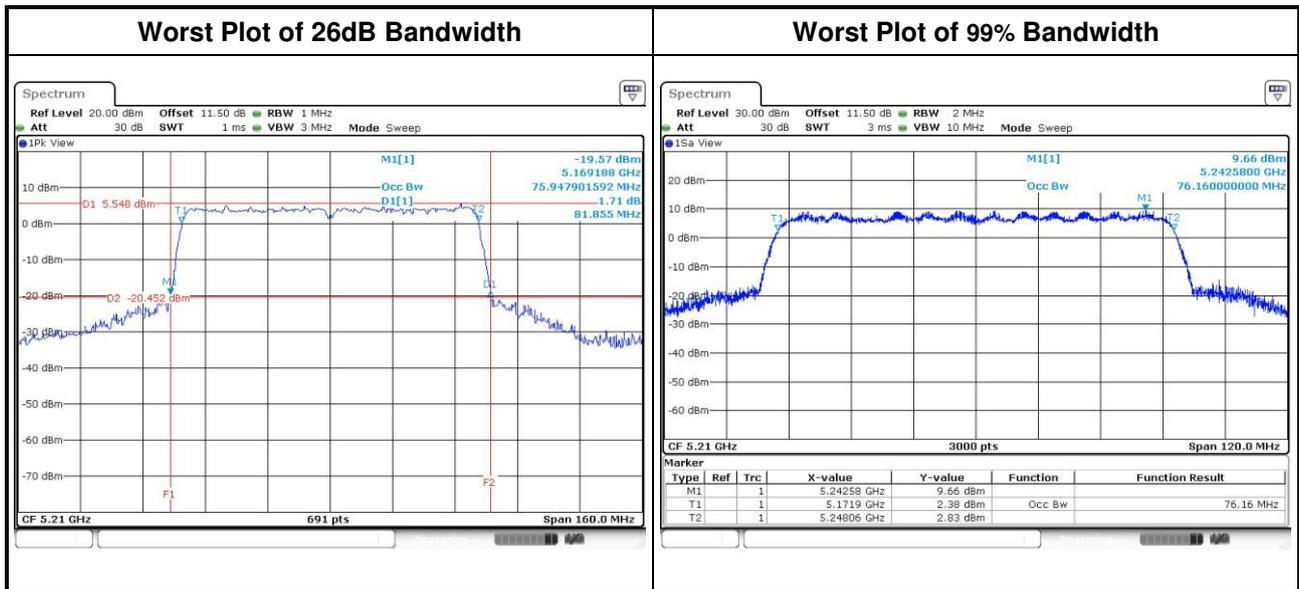
1. Set RBW = 100kHz, VBW = 300kHz
2. Detector = Peak, Trace mode = max hold.
3. Allow the trace to stabilize.
4. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB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

3.2.3 Test Setup

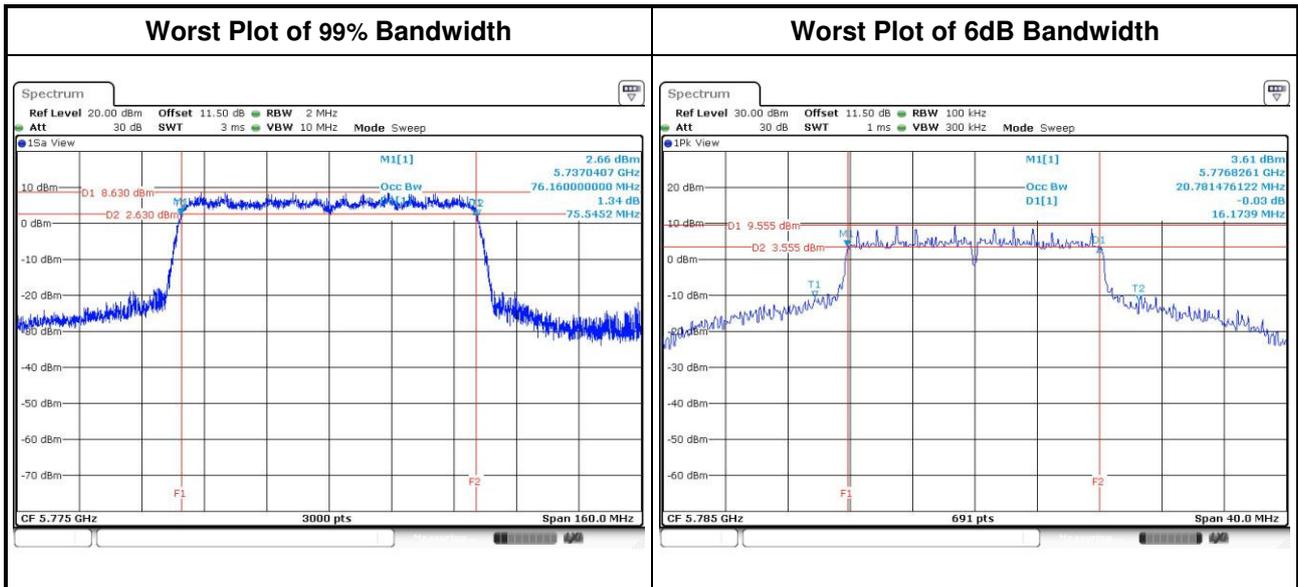


3.2.4 Test Result of Emission Bandwidth

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	1	5180	32.17	---	---	---	17.89	---	---	---
11a	1	5200	37.65	---	---	---	24.39	---	---	---
11a	1	5240	38.62	---	---	---	19.22	---	---	---
VHT20	1	5180	33.48	---	---	---	18.19	---	---	---
VHT20	1	5200	38.78	---	---	---	24.48	---	---	---
VHT20	1	5240	39.93	---	---	---	19.39	---	---	---
VHT40	1	5190	41.51	---	---	---	36.38	---	---	---
VHT40	1	5230	67.39	---	---	---	38.58	---	---	---
VHT80	1	5210	81.86	---	---	---	76.16	---	---	---



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	1	5745	16.91	---	---	---	16.29	---	---	---	0.5
11a	1	5785	22.27	---	---	---	16.17	---	---	---	0.5
11a	1	5825	20.91	---	---	---	16.35	---	---	---	0.5
VHT20	1	5745	17.64	---	---	---	16.87	---	---	---	0.5
VHT20	1	5785	24.05	---	---	---	16.58	---	---	---	0.5
VHT20	1	5825	22.03	---	---	---	16.81	---	---	---	0.5
VHT40	1	5755	36.40	---	---	---	35.48	---	---	---	0.5
VHT40	1	5795	40.72	---	---	---	35.71	---	---	---	0.5
VHT80	1	5775	76.16	---	---	---	75.13	---	---	---	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 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 _{TX}	Freq. (MHz)	Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)
			Chain 0	Chain 1	Chain 2	Chain 3			
11a	1	5180	20.94	---	---	---	124.165	20.94	30.00
11a	1	5200	23.04	---	---	---	201.372	23.04	30.00
11a	1	5240	21.43	---	---	---	138.995	21.43	30.00
HT20	1	5180	20.13	---	---	---	103.039	20.13	30.00
HT20	1	5200	22.95	---	---	---	197.242	22.95	30.00
HT20	1	5240	21.82	---	---	---	152.055	21.82	30.00
HT40	1	5190	15.53	---	---	---	35.727	15.53	30.00
HT40	1	5230	21.24	---	---	---	133.045	21.24	30.00
VHT20	1	5180	20.21	---	---	---	104.954	20.21	30.00
VHT20	1	5200	23.01	---	---	---	199.986	23.01	30.00
VHT20	1	5240	21.98	---	---	---	157.761	21.98	30.00
VHT40	1	5190	15.68	---	---	---	36.983	15.68	30.00
VHT40	1	5230	21.35	---	---	---	136.458	21.35	30.00
VHT80	1	5210	13.52	---	---	---	22.491	13.52	30.00

For Frequency band 5725-5850 MHz									
Mode	N _{TX}	Freq. (MHz)	Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)
			Chain 0	Chain 1	Chain 2	Chain 3			
11a	1	5745	17.02	---	---	---	50.350	17.02	30.00
11a	1	5785	19.68	---	---	---	92.897	19.68	30.00
11a	1	5825	19.34	---	---	---	85.901	19.34	30.00
HT20	1	5745	15.88	---	---	---	38.726	15.88	30.00
HT20	1	5785	19.56	---	---	---	90.365	19.56	30.00
HT20	1	5825	18.89	---	---	---	77.446	18.89	30.00
HT40	1	5755	14.94	---	---	---	31.189	14.94	30.00
HT40	1	5795	19.02	---	---	---	79.799	19.02	30.00
VHT20	1	5745	15.93	---	---	---	39.174	15.93	30.00
VHT20	1	5785	19.70	---	---	---	93.325	19.70	30.00
VHT20	1	5825	19.02	---	---	---	79.799	19.02	30.00
VHT40	1	5755	15.02	---	---	---	31.769	15.02	30.00
VHT40	1	5795	19.15	---	---	---	82.224	19.15	30.00
VHT80	1	5775	12.71	---	---	---	18.664	12.71	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

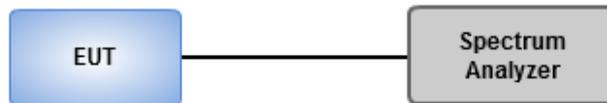
For 5150 ~ 5250 MHz

- Method SA-1 (For 802.11a / 802.11ac VHT20 / VHT40)
 1. Set RBW = 1 MHz, VBW = 3 MHz, Sweep time = auto, Detector = RMS.
 2. Trace average 100 traces.
 3. Use the peak marker function to determine the maximum amplitude level.
- Method SA-2 Alternative (For 802.11ac 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 802.11a / 802.11ac VHT20 / VHT40)
 1. Set RBW = 500 kHz, VBW = 2 MHz, Sweep time = auto, Detector = RMS.
 2. Trace average 100 traces.
 3. Use the peak marker function to determine the maximum amplitude level.
- Method SA-2 Alternative (For 802.11ac 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.

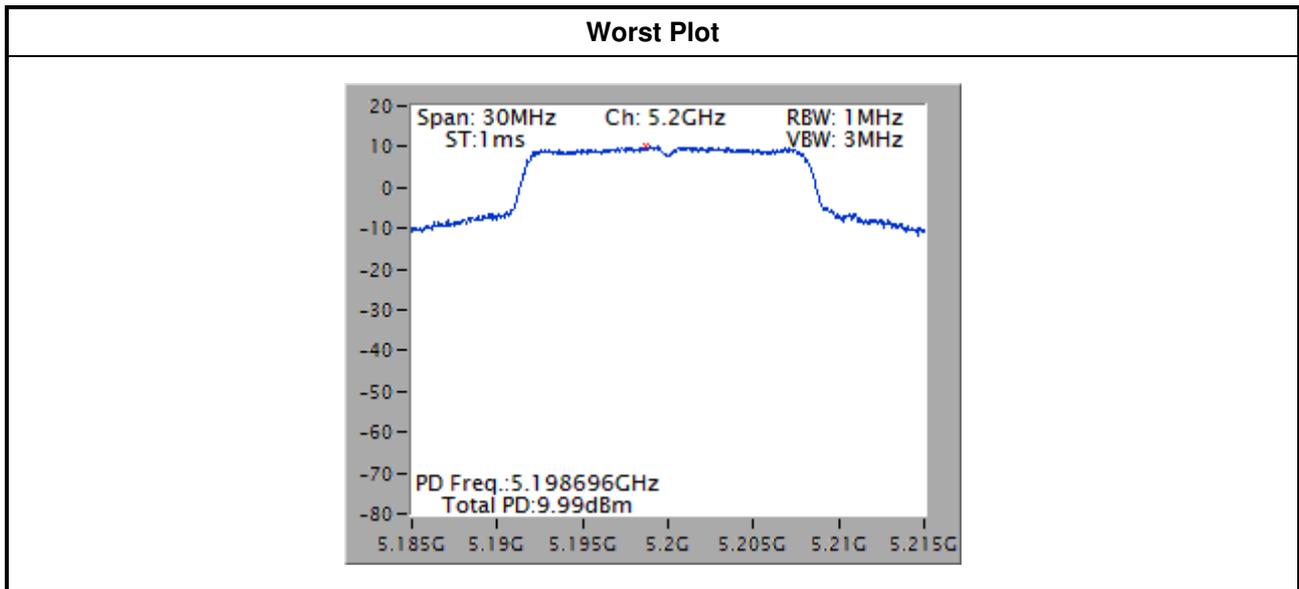
3.4.3 Test Setup



3.4.4 Test Result of Peak Power Spectral Density

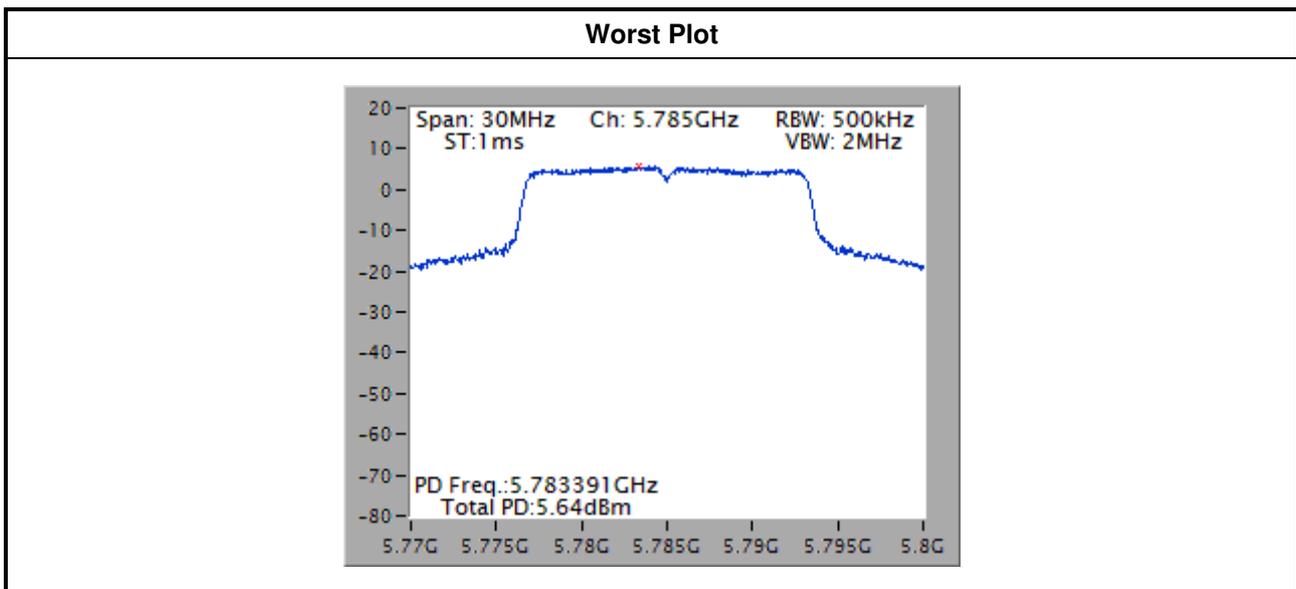
For Frequency band 5150-5250 MHz						
Condition			Peak Power Spectral Density (dBm/MHz)			
Modulation Mode	N _{TX}	Freq. (MHz)	PPSD w/o D.F (dBm/MHz)	Duty Factor (dB)	PPSD with D.F (dBm/MHz)	PPSD Limit (dBm/MHz)
11a	1	5180	8.41	0.00	8.41	17
11a	1	5200	9.99	0.00	9.99	17
11a	1	5240	8.56	0.00	8.56	17
VHT20	1	5180	7.67	0.00	7.67	17
VHT20	1	5200	9.97	0.00	9.97	17
VHT20	1	5240	8.18	0.00	8.18	17
VHT40	1	5190	-0.46	0.00	-0.46	17
VHT40	1	5230	4.26	0.00	4.26	17
VHT80	1	5210	-6.92	0.19	-6.73	17

Note: D.F is duty factor.



For Frequency band 5725-5850 MHz						
Condition			Peak Power Spectral Density (dBm/500kHz)			
Modulation Mode	N _{TX}	Freq. (MHz)	PPSD w/o D.F (dBm/500kHz)	Duty Factor (dB)	PPSD with D.F (dBm/500kHz)	PPSD Limit (dBm/500kHz)
11a	1	5745	2.49	0.00	2.49	30.00
11a	1	5785	5.64	0.00	5.64	30.00
11a	1	5825	5.07	0.00	5.07	30.00
VHT20	1	5745	1.30	0.00	1.30	30.00
VHT20	1	5785	5.37	0.00	5.37	30.00
VHT20	1	5825	4.44	0.00	4.44	30.00
VHT40	1	5755	-2.90	0.00	-2.90	30.00
VHT40	1	5795	1.10	0.00	1.10	30.00
VHT80	1	5775	-8.98	0.19	-8.79	30.00

Note: D.F is duty factor.



3.5 Transmitter Radiated and Band Edge Emissions

3.5.1 Limit of Transmitter Radiated and Band Edge Emissions

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

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

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

Un-restricted band emissions above 1GHz Limit	
Operating Band	Limit
5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.725 - 5.850 GHz	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

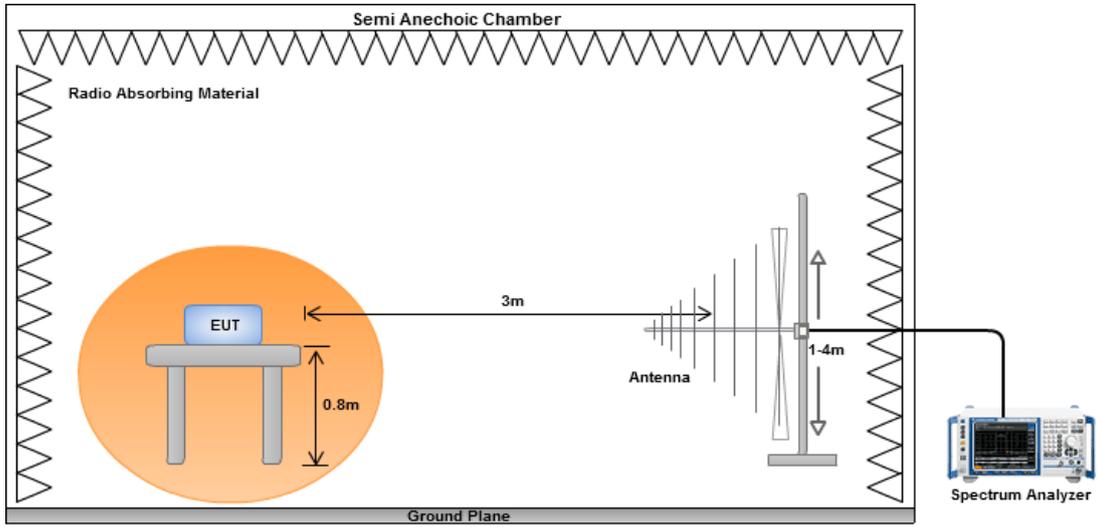
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission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

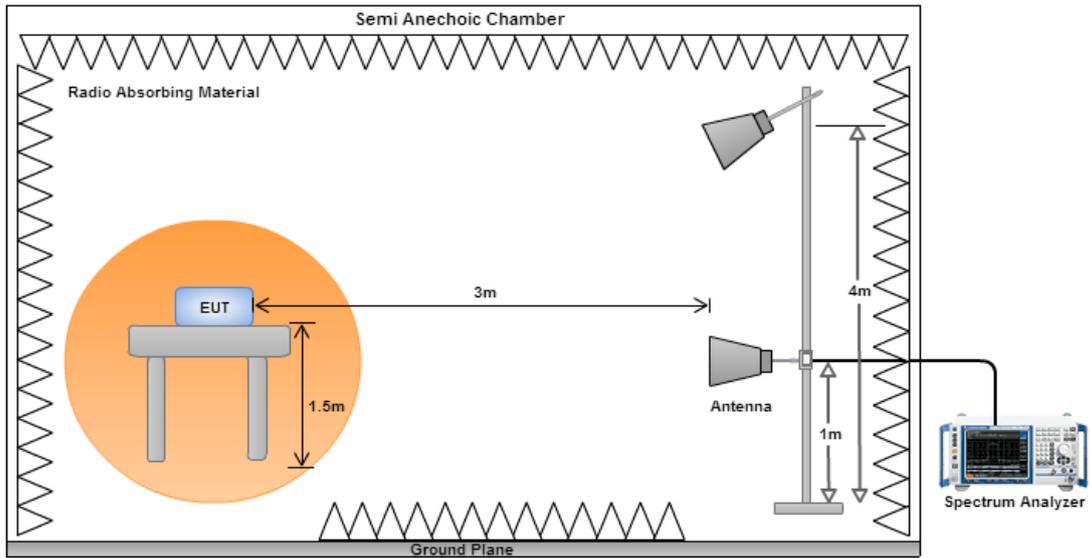
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

3.5.3 Test Setup

Radiated Emissions below 1 GHz

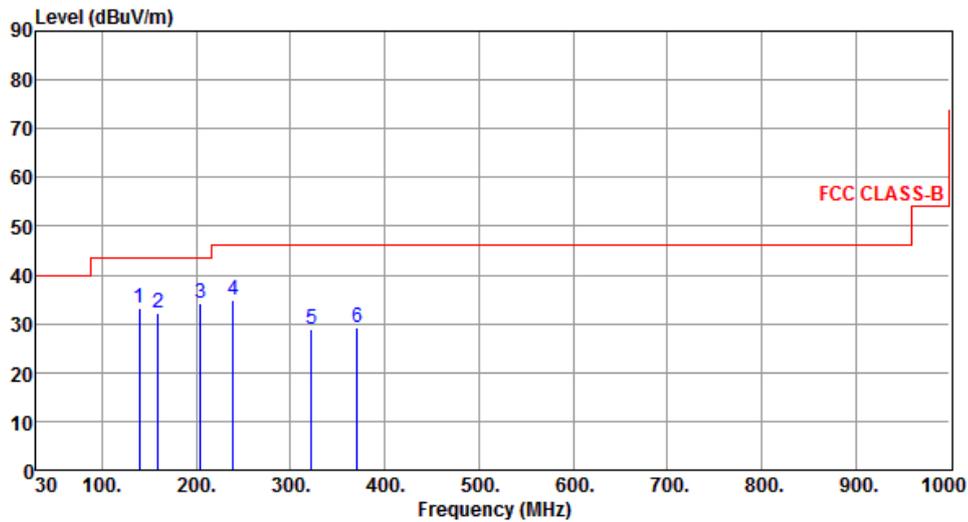


Radiated Emissions above 1 GHz



3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

Modulation	11a	Test Freq. (MHz)	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	139.61	33.20	43.50	-10.30	45.50	-12.30	Peak	---	---
2	159.01	32.34	43.50	-11.16	44.06	-11.72	Peak	---	---
3	204.60	34.16	43.50	-9.34	48.71	-14.55	Peak	---	---
4	239.52	34.78	46.00	-11.22	47.83	-13.05	Peak	---	---
5	321.97	28.92	46.00	-17.08	39.55	-10.63	Peak	---	---
6	370.47	29.33	46.00	-16.67	38.79	-9.46	Peak	---	---

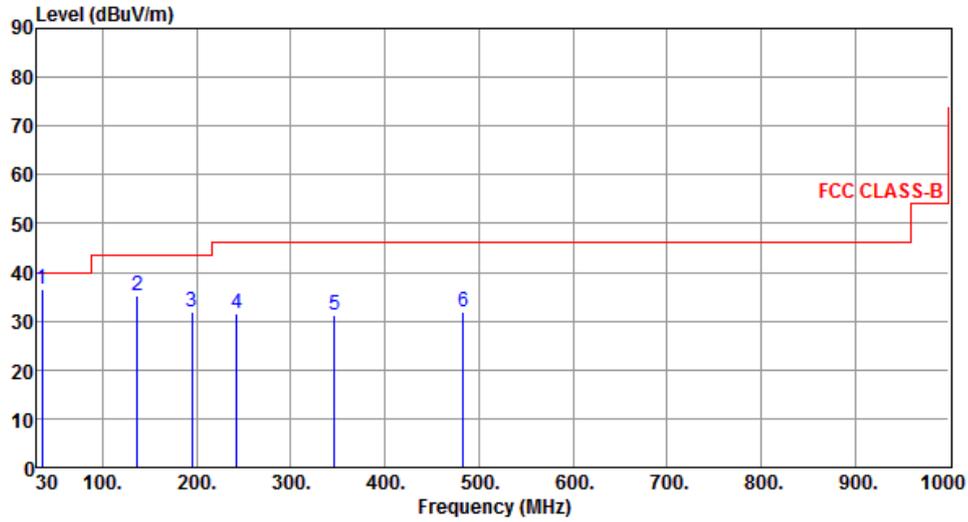
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor, cable loss and amplifier gain

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

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

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



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	35.82	36.41	40.00	-3.59	48.70	-12.29	Peak	---	---
2	136.70	35.14	43.50	-8.36	47.65	-12.51	Peak	---	---
3	194.90	31.97	43.50	-11.53	46.50	-14.53	Peak	---	---
4	242.43	31.68	46.00	-14.32	44.63	-12.95	Peak	---	---
5	346.22	31.10	46.00	-14.90	41.21	-10.11	Peak	---	---
6	482.99	31.86	46.00	-14.14	38.72	-6.86	Peak	---	---

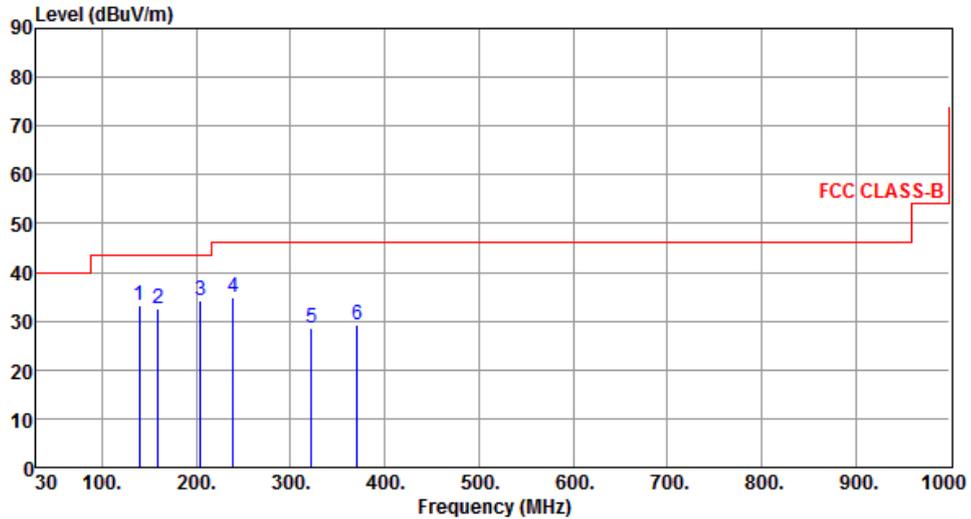
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*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.

Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	139.61	33.17	43.50	-10.33	45.47	-12.30	Peak	---	---
2	159.15	32.69	43.50	-10.81	44.41	-11.72	Peak	---	---
3	204.61	34.16	43.50	-9.34	48.71	-14.55	Peak	---	---
4	239.52	34.84	46.00	-11.16	47.89	-13.05	Peak	---	---
5	321.97	28.67	46.00	-17.33	39.30	-10.63	Peak	---	---
6	370.47	29.23	46.00	-16.77	38.69	-9.46	Peak	---	---

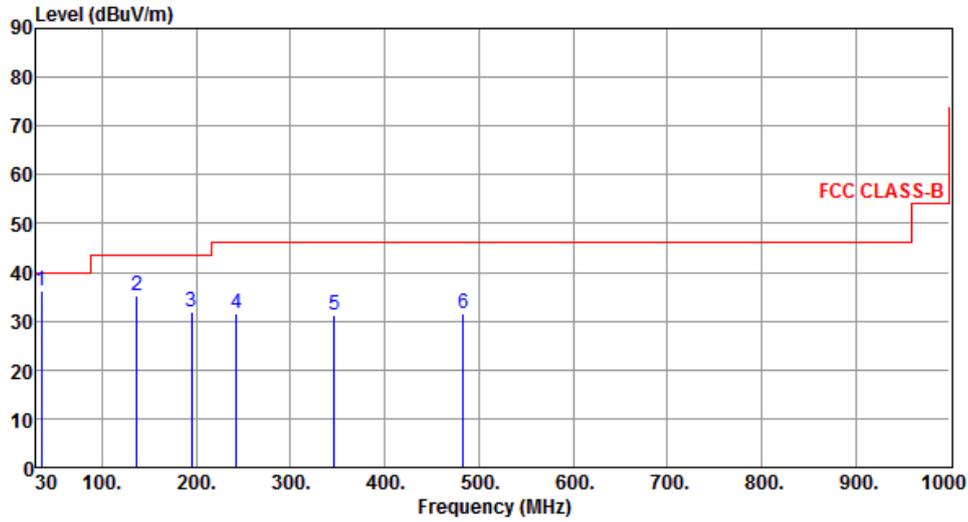
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*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	VHT20	Test Freq. (MHz)	5785
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	35.81	36.28	40.00	-3.72	48.57	-12.29	Peak	---	---
2	136.70	35.23	43.50	-8.27	47.74	-12.51	Peak	---	---
3	194.90	31.73	43.50	-11.77	46.26	-14.53	Peak	---	---
4	242.40	31.43	46.00	-14.57	44.38	-12.95	Peak	---	---
5	346.20	31.13	46.00	-14.87	41.24	-10.11	Peak	---	---
6	482.99	31.58	46.00	-14.42	38.44	-6.86	Peak	---	---

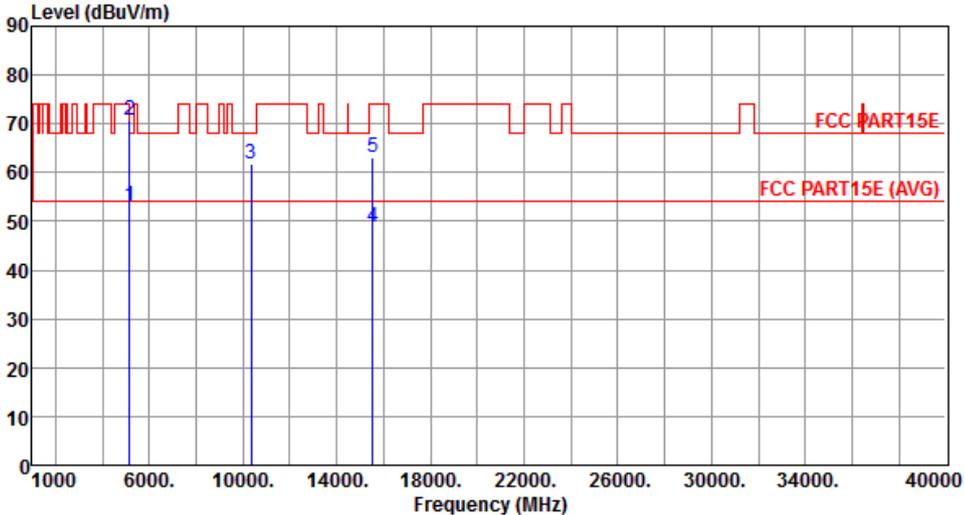
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

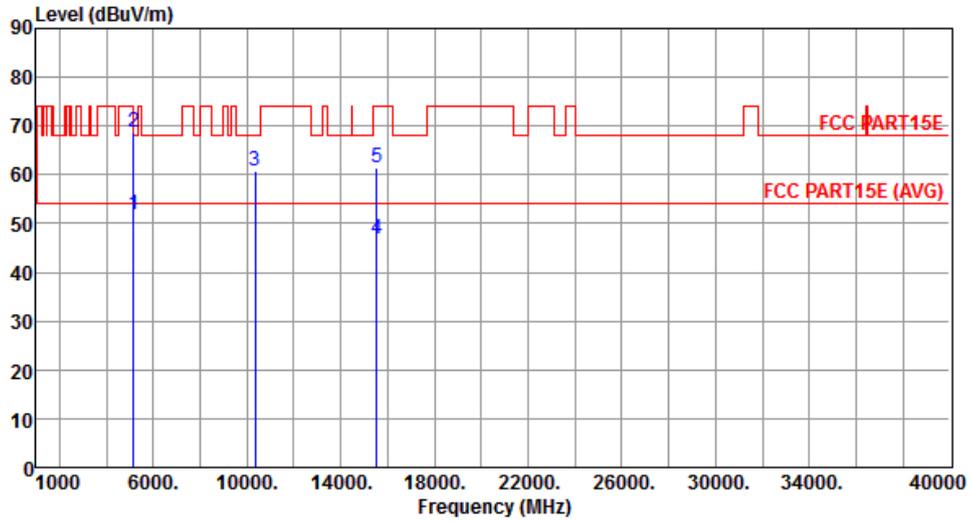
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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																																																																				
																																																																					
	<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>52.97</td> <td>54.00</td> <td>-1.03</td> <td>48.07</td> <td>4.90</td> <td>Average</td> <td>245</td> <td>304</td> </tr> <tr> <td>2</td> <td>5150.00</td> <td>70.60</td> <td>74.00</td> <td>-3.40</td> <td>65.70</td> <td>4.90</td> <td>Peak</td> <td>245</td> <td>304</td> </tr> <tr> <td>3</td> <td>10360.00</td> <td>61.78</td> <td>68.20</td> <td>-6.42</td> <td>48.11</td> <td>13.67</td> <td>Peak</td> <td>359</td> <td>51</td> </tr> <tr> <td>4</td> <td>15540.00</td> <td>48.70</td> <td>54.00</td> <td>-5.30</td> <td>32.98</td> <td>15.72</td> <td>Average</td> <td>217</td> <td>338</td> </tr> <tr> <td>5</td> <td>15540.00</td> <td>63.25</td> <td>74.00</td> <td>-10.75</td> <td>47.53</td> <td>15.72</td> <td>Peak</td> <td>217</td> <td>338</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	52.97	54.00	-1.03	48.07	4.90	Average	245	304	2	5150.00	70.60	74.00	-3.40	65.70	4.90	Peak	245	304	3	10360.00	61.78	68.20	-6.42	48.11	13.67	Peak	359	51	4	15540.00	48.70	54.00	-5.30	32.98	15.72	Average	217	338	5	15540.00	63.25	74.00	-10.75	47.53	15.72	Peak	217	338
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	52.97	54.00	-1.03	48.07	4.90	Average	245	304																																																												
2	5150.00	70.60	74.00	-3.40	65.70	4.90	Peak	245	304																																																												
3	10360.00	61.78	68.20	-6.42	48.11	13.67	Peak	359	51																																																												
4	15540.00	48.70	54.00	-5.30	32.98	15.72	Average	217	338																																																												
5	15540.00	63.25	74.00	-10.75	47.53	15.72	Peak	217	338																																																												
<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		



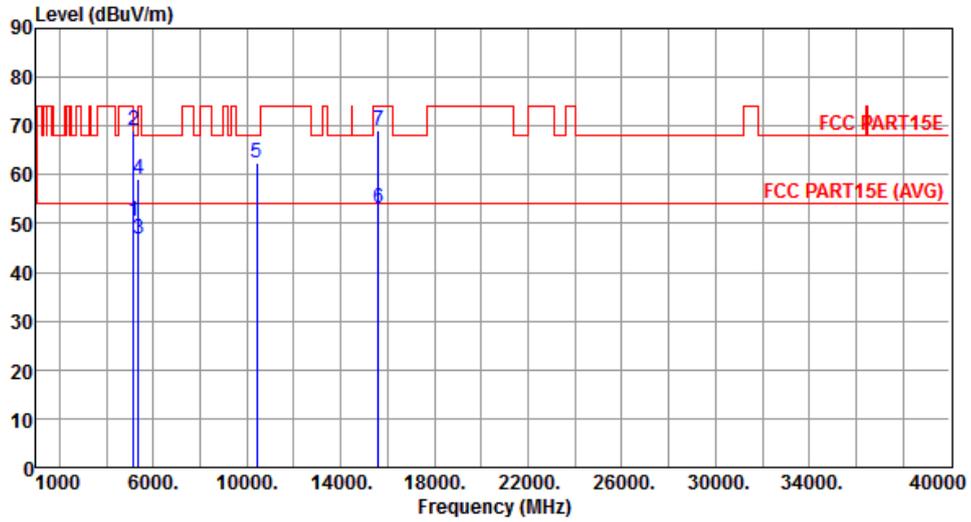
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	51.72	54.00	-2.28	46.82	4.90	Average	310	338
2	5150.00	68.74	74.00	-5.26	63.84	4.90	Peak	310	338
3	10360.00	60.67	68.20	-7.53	47.00	13.67	Peak	284	306
4	15540.00	46.95	54.00	-7.05	31.23	15.72	Average	106	131
5	15540.00	61.45	74.00	-12.55	45.73	15.72	Peak	106	131

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		



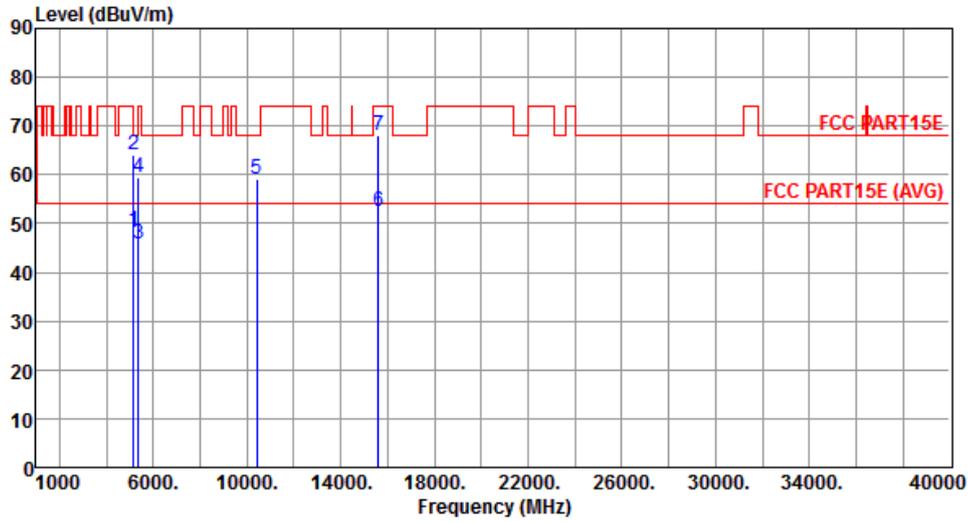
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	50.36	54.00	-3.64	45.46	4.90	Average	235	302
2	5150.00	69.14	74.00	-4.86	64.24	4.90	Peak	235	302
3	5350.00	46.68	54.00	-7.32	41.55	5.13	Average	235	302
4	5350.00	59.25	74.00	-14.75	54.12	5.13	Peak	235	302
5	10400.00	62.28	68.20	-5.92	48.53	13.75	Peak	250	25
6	15600.00	52.99	54.00	-1.01	37.38	15.61	Average	211	335
7	15600.00	69.10	74.00	-4.90	53.49	15.61	Peak	211	335

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		



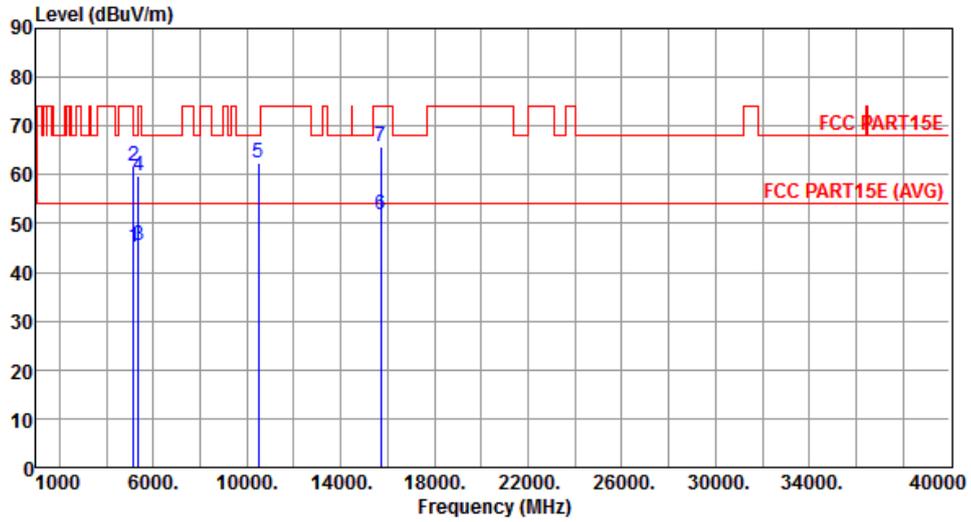
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	48.40	54.00	-5.60	43.50	4.90	Average	288	326
2	5150.00	64.20	74.00	-9.80	59.30	4.90	Peak	288	326
3	5350.00	45.73	54.00	-8.27	40.60	5.13	Average	288	338
4	5350.00	59.31	74.00	-14.69	54.18	5.13	Peak	288	338
5	10400.00	59.14	68.20	-9.06	45.39	13.75	Peak	282	308
6	15600.00	52.54	54.00	-1.46	36.93	15.61	Average	163	326
7	15600.00	68.23	74.00	-5.77	52.62	15.61	Peak	163	326

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		



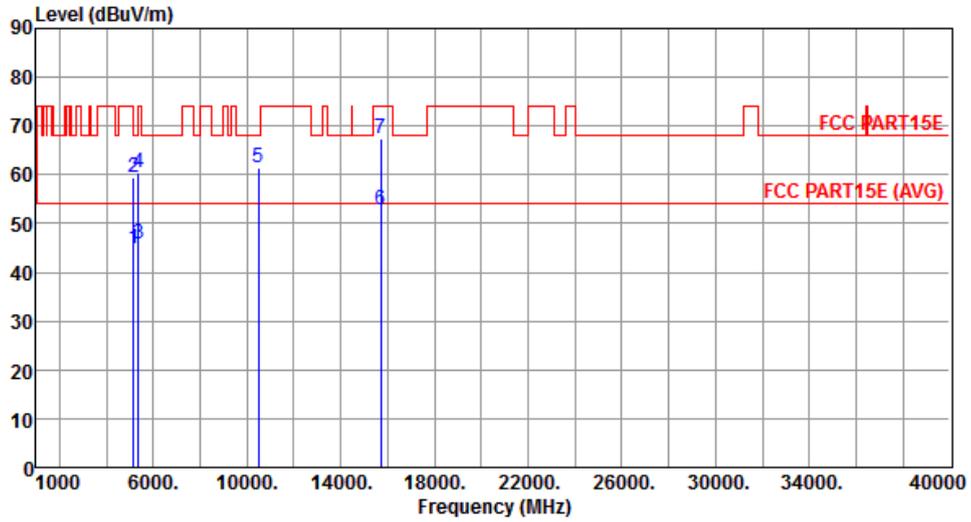
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	45.08	54.00	-8.92	40.18	4.90	Average	250	338
2	5150.00	61.90	74.00	-12.10	57.00	4.90	Peak	250	338
3	5350.00	45.66	54.00	-8.34	40.53	5.13	Average	250	338
4	5350.00	59.73	74.00	-14.27	54.60	5.13	Peak	250	338
5	10480.00	62.45	68.20	-5.75	48.55	13.90	Peak	186	310
6	15720.00	51.72	54.00	-2.28	36.33	15.39	Average	216	335
7	15720.00	65.79	74.00	-8.21	50.40	15.39	Peak	250	338

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		



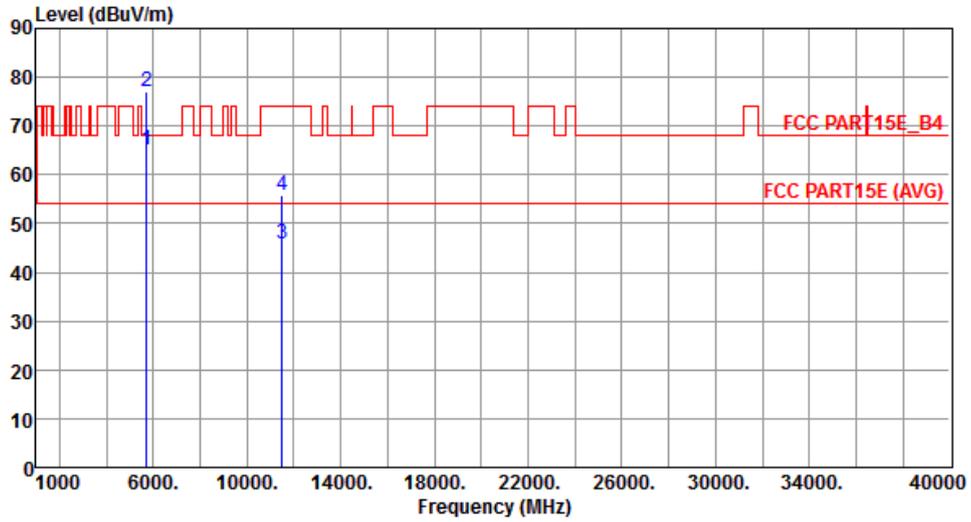
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	44.84	54.00	-9.16	39.94	4.90	Average	334	345
2	5150.00	59.47	74.00	-14.53	54.57	4.90	Peak	334	345
3	5350.00	45.79	54.00	-8.21	40.66	5.13	Average	334	345
4	5350.00	60.37	74.00	-13.63	55.24	5.13	Peak	334	345
5	10480.00	61.40	68.20	-6.80	47.50	13.90	Peak	183	313
6	15720.00	52.90	54.00	-1.10	37.51	15.39	Average	170	322
7	15720.00	67.48	74.00	-6.52	52.09	15.39	Peak	170	322

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

*Factor includes antenna factor , cable loss and amplifier gain

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

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



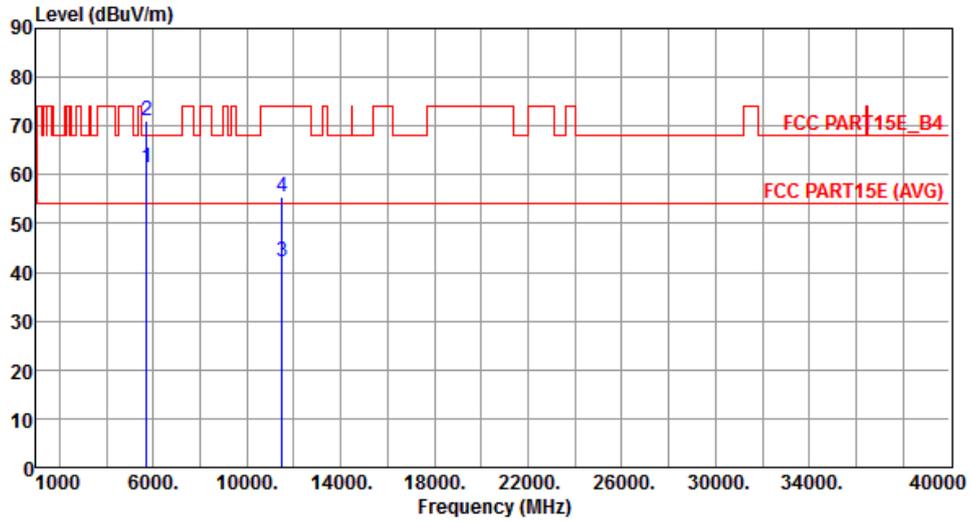
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5715.00	65.12	68.20	-3.08	59.42	5.70	Peak	221	29
2	5725.00	77.09	78.20	-1.11	71.38	5.71	Peak	221	29
3	11490.00	45.77	54.00	-8.23	31.15	14.62	Average	181	13
4	11490.00	55.77	74.00	-18.23	41.15	14.62	Peak	181	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).

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



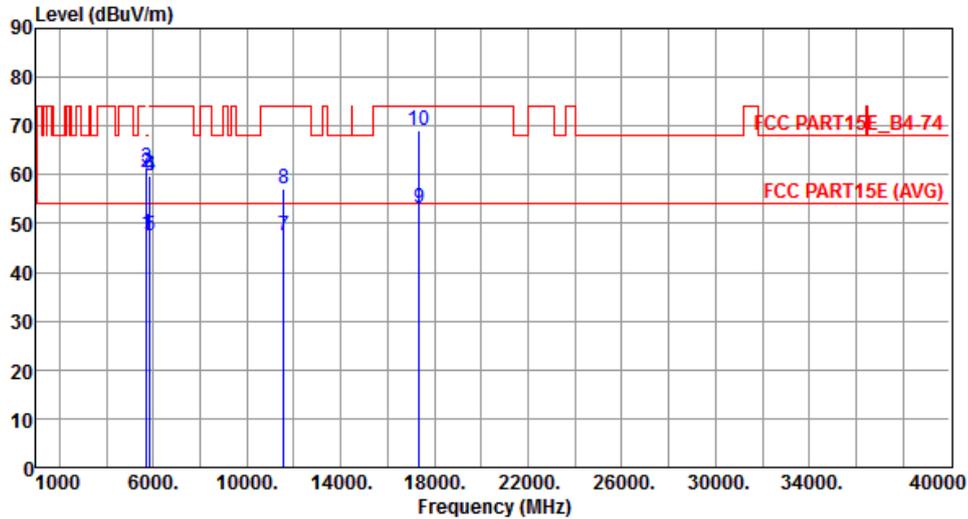
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5715.00	61.55	68.20	-6.65	55.85	5.70	Peak	207	83
2	5725.00	70.91	78.20	-7.29	65.20	5.71	Peak	207	83
3	11490.00	42.24	54.00	-11.76	27.62	14.62	Average	155	213
4	11490.00	55.41	74.00	-18.59	40.79	14.62	Peak	155	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).

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



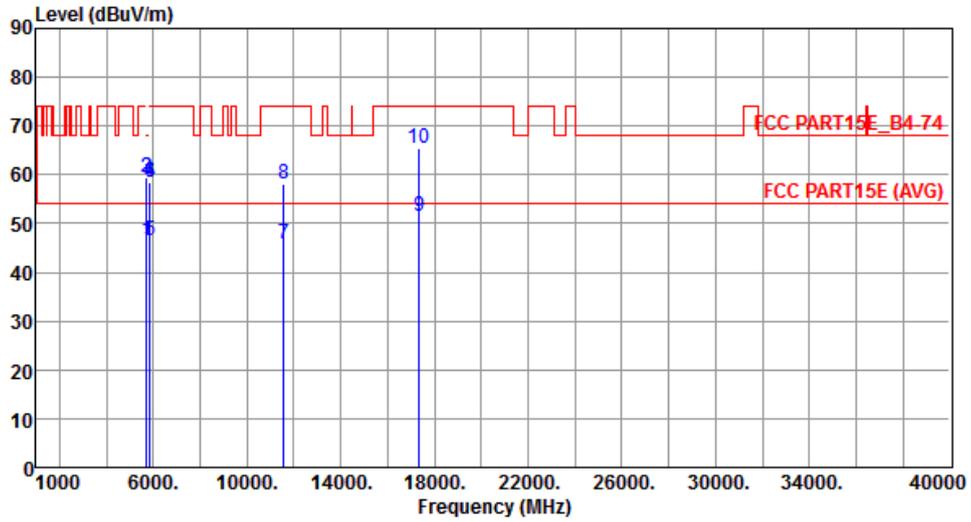
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5715.00	47.81	54.00	-6.19	42.11	5.70	Average	219	30
2	5715.00	60.40	74.00	-13.60	54.70	5.70	Peak	219	30
3	5725.00	61.38	78.20	-16.82	55.67	5.71	Peak	219	30
4	5850.00	59.81	78.20	-18.39	53.84	5.97	Peak	219	30
5	5860.00	47.33	54.00	-6.67	41.35	5.98	Average	219	30
6	5860.00	59.69	74.00	-14.31	53.71	5.98	Peak	219	30
7	11570.00	47.65	54.00	-6.35	33.13	14.52	Average	185	11
8	11570.00	57.03	74.00	-16.97	42.51	14.52	Peak	185	11
9	17355.00	52.99	54.00	-1.01	31.70	21.29	Average	217	338
10	17355.00	68.98	74.00	-5.02	47.69	21.29	Peak	217	338

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		



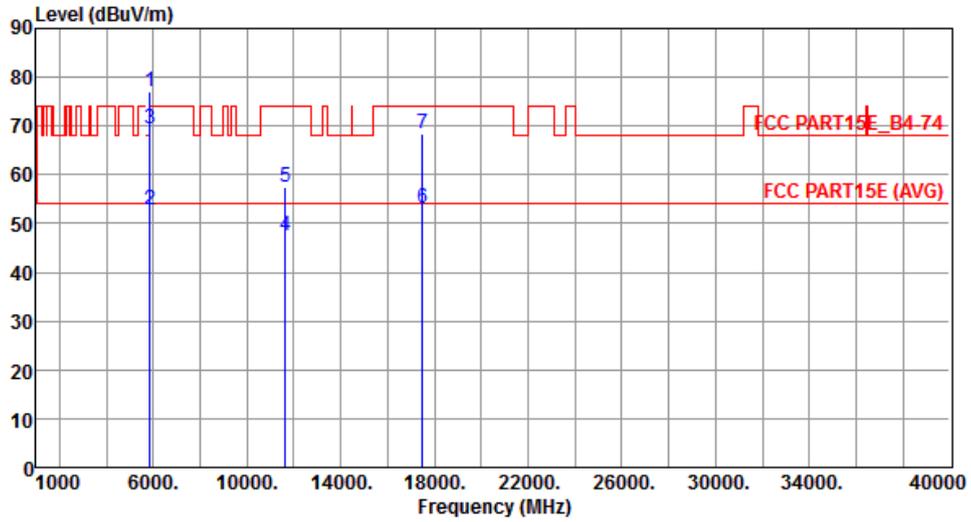
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5715.00	46.35	54.00	-7.65	40.65	5.70	Average	218	130
2	5715.00	59.32	74.00	-14.68	53.62	5.70	Peak	218	130
3	5725.00	59.60	78.20	-18.60	53.89	5.71	Peak	218	130
4	5850.00	58.58	78.20	-19.62	52.61	5.97	Peak	218	130
5	5860.00	46.51	54.00	-7.49	40.53	5.98	Average	218	130
6	5860.00	58.42	74.00	-15.58	52.44	5.98	Peak	218	130
7	11570.00	45.83	54.00	-8.17	31.31	14.52	Average	100	89
8	11570.00	58.24	74.00	-15.76	43.72	14.52	Peak	100	89
9	17355.00	51.52	54.00	-2.48	30.23	21.29	Average	255	329
10	17355.00	65.31	74.00	-8.69	44.02	21.29	Peak	255	329

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		



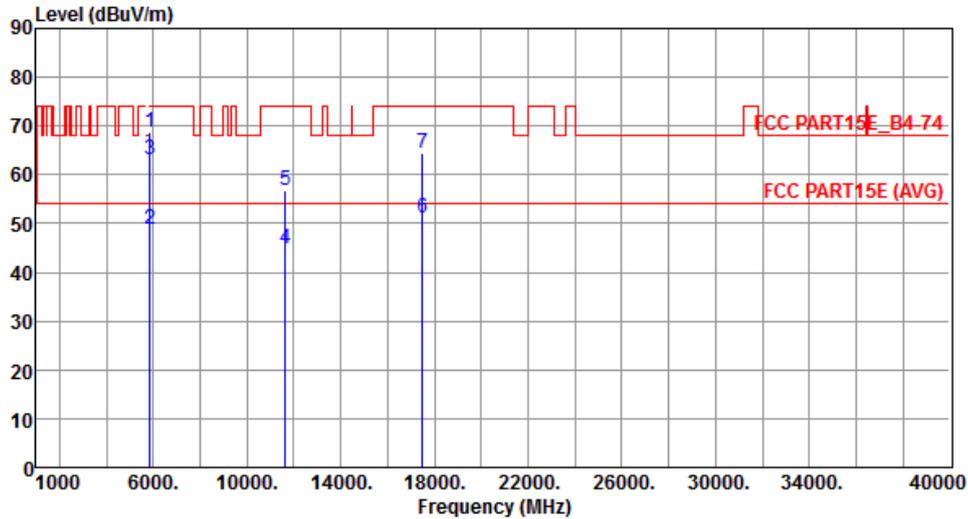
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5850.00	77.09	78.20	-1.11	71.12	5.97	Peak	212	29
2	5860.00	52.72	54.00	-1.28	46.74	5.98	Average	212	29
3	5860.00	69.29	74.00	-4.71	63.31	5.98	Peak	212	29
4	11650.00	47.37	54.00	-6.63	32.97	14.40	Average	214	14
5	11650.00	57.31	74.00	-16.69	42.91	14.40	Peak	214	14
6	17475.00	53.00	54.00	-1.00	31.06	21.94	Average	214	335
7	17475.00	68.42	74.00	-5.58	46.48	21.94	Peak	214	335

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		



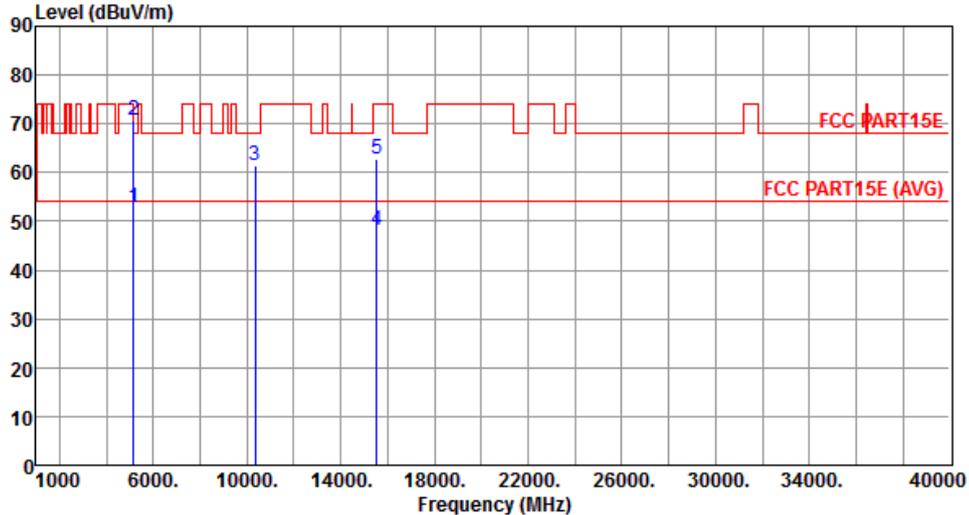
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5850.00	68.83	78.20	-9.37	62.86	5.97	Peak	201	84
2	5860.00	48.84	54.00	-5.16	42.86	5.98	Average	201	84
3	5860.00	62.99	74.00	-11.01	57.01	5.98	Peak	201	84
4	11650.00	44.87	54.00	-9.13	30.47	14.40	Average	188	123
5	11650.00	56.65	74.00	-17.35	42.25	14.40	Peak	188	123
6	17475.00	51.17	54.00	-2.83	29.23	21.94	Average	255	340
7	17475.00	64.40	74.00	-9.60	42.46	21.94	Peak	255	340

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

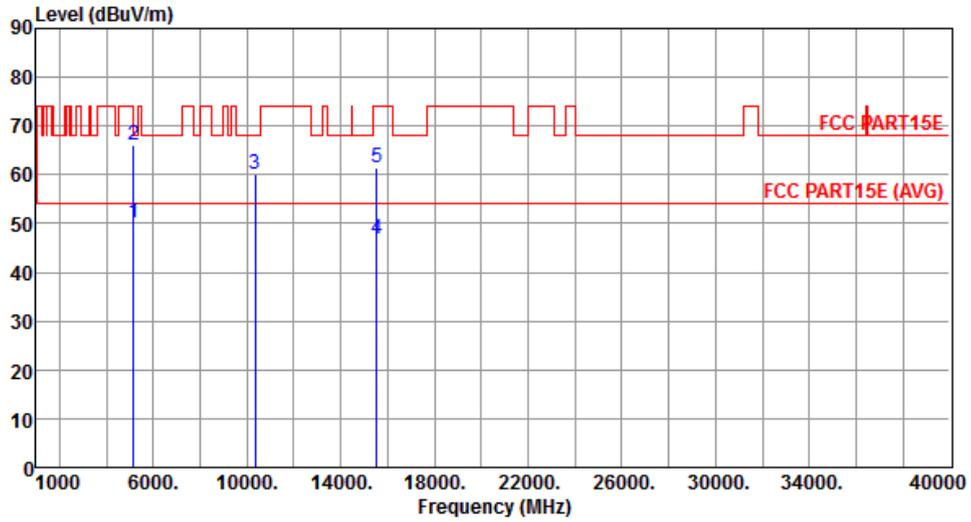
*Factor includes antenna factor , cable loss and amplifier gain

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

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

Modulation	VHT20	Test Freq. (MHz)	5180																																																																		
Polarization	Horizontal																																																																				
																																																																					
	<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>52.95</td> <td>54.00</td> <td>-1.05</td> <td>48.05</td> <td>4.90</td> <td>Average</td> <td>206</td> <td>39</td> </tr> <tr> <td>2</td> <td>5150.00</td> <td>70.61</td> <td>74.00</td> <td>-3.39</td> <td>65.71</td> <td>4.90</td> <td>Peak</td> <td>206</td> <td>39</td> </tr> <tr> <td>3</td> <td>10360.00</td> <td>61.36</td> <td>68.20</td> <td>-6.84</td> <td>47.69</td> <td>13.67</td> <td>Peak</td> <td>221</td> <td>338</td> </tr> <tr> <td>4</td> <td>15540.00</td> <td>48.27</td> <td>54.00</td> <td>-5.73</td> <td>32.55</td> <td>15.72</td> <td>Average</td> <td>222</td> <td>165</td> </tr> <tr> <td>5</td> <td>15540.00</td> <td>62.61</td> <td>74.00</td> <td>-11.39</td> <td>46.89</td> <td>15.72</td> <td>Peak</td> <td>222</td> <td>165</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	52.95	54.00	-1.05	48.05	4.90	Average	206	39	2	5150.00	70.61	74.00	-3.39	65.71	4.90	Peak	206	39	3	10360.00	61.36	68.20	-6.84	47.69	13.67	Peak	221	338	4	15540.00	48.27	54.00	-5.73	32.55	15.72	Average	222	165	5	15540.00	62.61	74.00	-11.39	46.89	15.72	Peak	222	165
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	52.95	54.00	-1.05	48.05	4.90	Average	206	39																																																												
2	5150.00	70.61	74.00	-3.39	65.71	4.90	Peak	206	39																																																												
3	10360.00	61.36	68.20	-6.84	47.69	13.67	Peak	221	338																																																												
4	15540.00	48.27	54.00	-5.73	32.55	15.72	Average	222	165																																																												
5	15540.00	62.61	74.00	-11.39	46.89	15.72	Peak	222	165																																																												
<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	VHT20	Test Freq. (MHz)	5180
Polarization	Vertical		



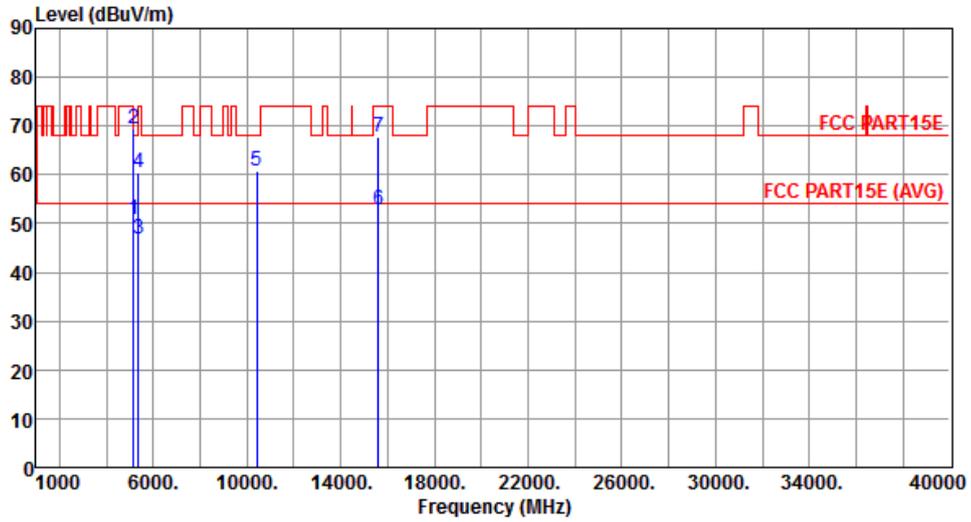
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	50.11	54.00	-3.89	45.21	4.90	Average	215	70
2	5150.00	66.15	74.00	-7.85	61.25	4.90	Peak	215	70
3	10360.00	60.19	68.20	-8.01	46.52	13.67	Peak	284	300
4	15540.00	46.74	54.00	-7.26	31.02	15.72	Average	100	130
5	15540.00	61.40	74.00	-12.60	45.68	15.72	Peak	100	130

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

*Factor includes antenna factor , cable loss and amplifier gain

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

Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Horizontal		



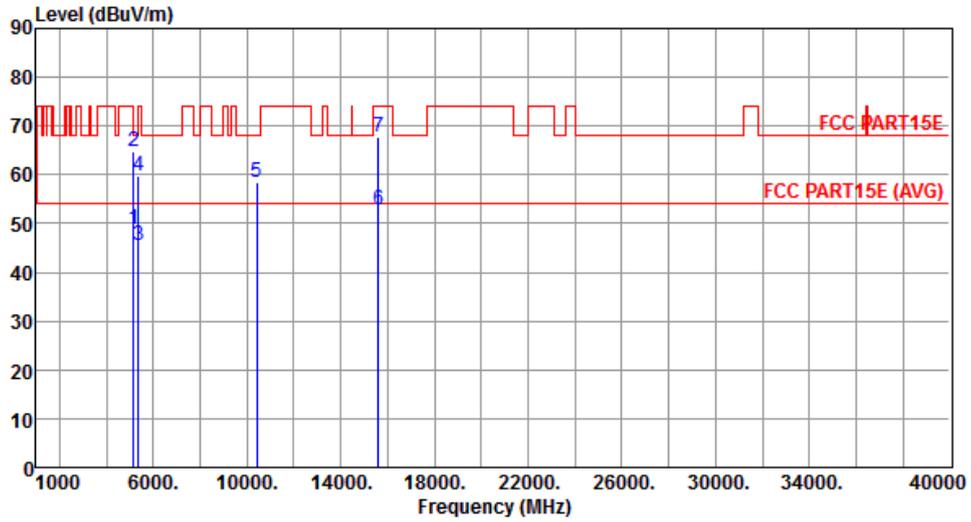
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	50.86	54.00	-3.14	45.96	4.90	Average	232	302
2	5150.00	69.37	74.00	-4.63	64.47	4.90	Peak	232	302
3	5350.00	46.81	54.00	-7.19	41.68	5.13	Average	232	302
4	5350.00	60.37	74.00	-13.63	55.24	5.13	Peak	232	302
5	10400.00	60.86	68.20	-7.34	47.11	13.75	Peak	188	340
6	15600.00	52.76	54.00	-1.24	37.15	15.61	Average	142	332
7	15600.00	67.89	74.00	-6.11	52.28	15.61	Peak	142	332

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

*Factor includes antenna factor , cable loss and amplifier gain

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

Modulation	VHT20	Test Freq. (MHz)	5200
Polarization	Vertical		



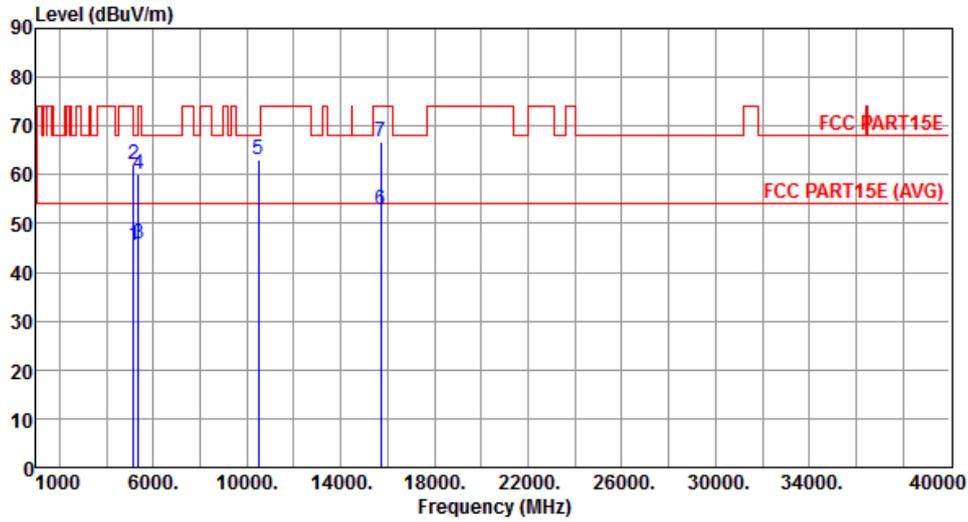
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	48.76	54.00	-5.24	43.86	4.90	Average	288	325
2	5150.00	64.76	74.00	-9.24	59.86	4.90	Peak	288	325
3	5350.00	45.66	54.00	-8.34	40.53	5.13	Average	288	325
4	5350.00	59.66	74.00	-14.34	54.53	5.13	Peak	288	325
5	10400.00	58.33	68.20	-9.87	44.58	13.75	Peak	191	40
6	15600.00	52.84	54.00	-1.16	37.23	15.61	Average	174	24
7	15600.00	67.68	74.00	-6.32	52.07	15.61	Peak	174	24

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

*Factor includes antenna factor , cable loss and amplifier gain

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

Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Horizontal		



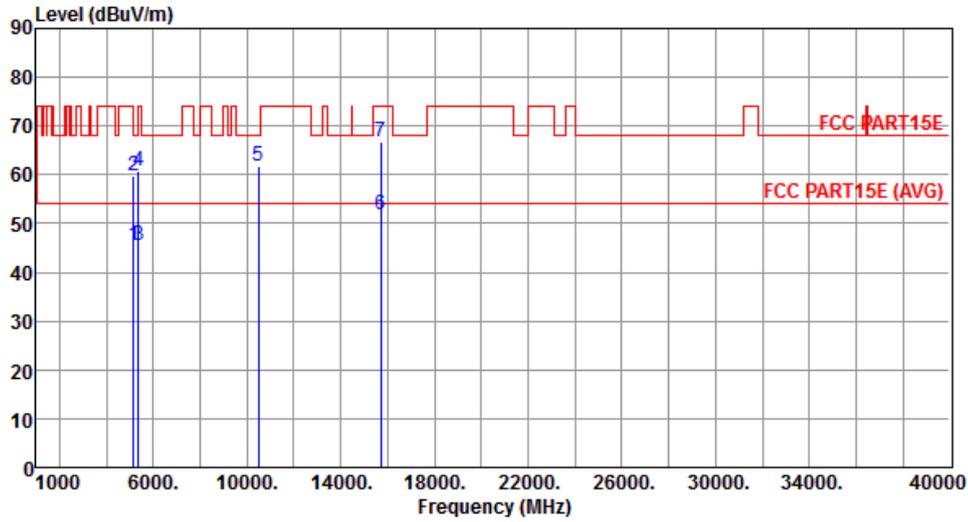
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	45.52	54.00	-8.48	40.62	4.90	Average	242	320
2	5150.00	62.13	74.00	-11.87	57.23	4.90	Peak	242	320
3	5350.00	45.85	54.00	-8.15	40.72	5.13	Average	242	320
4	5350.00	59.96	74.00	-14.04	54.83	5.13	Peak	240	320
5	10480.00	63.12	68.20	-5.08	49.22	13.90	Peak	182	305
6	15720.00	52.91	54.00	-1.09	37.52	15.39	Average	142	331
7	15720.00	66.63	74.00	-7.37	51.24	15.39	Peak	142	331

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

*Factor includes antenna factor , cable loss and amplifier gain

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

Modulation	VHT20	Test Freq. (MHz)	5240
Polarization	Vertical		



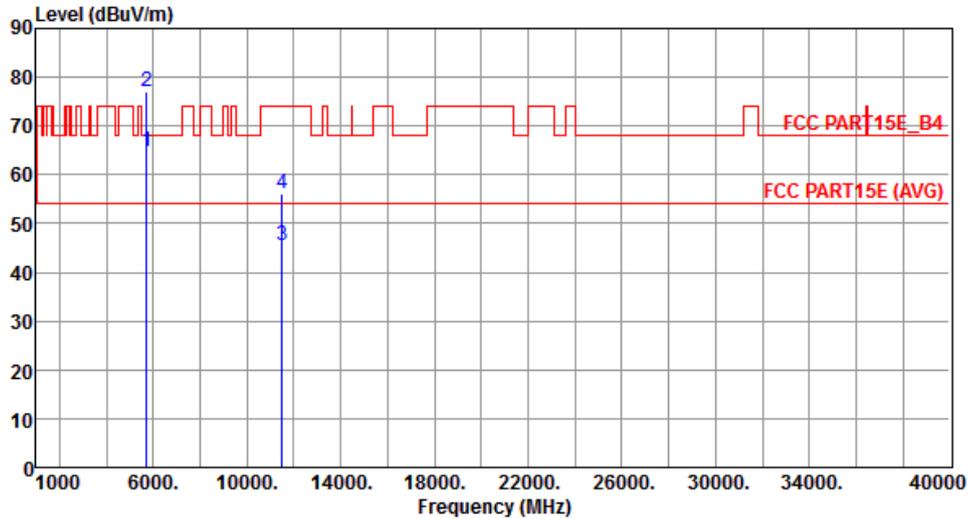
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	45.43	54.00	-8.57	40.53	4.90	Average	330	342
2	5150.00	59.76	74.00	-14.24	54.86	4.90	Peak	330	342
3	5350.00	45.48	54.00	-8.52	40.35	5.13	Average	330	342
4	5350.00	60.75	74.00	-13.25	55.62	5.13	Peak	330	342
5	10480.00	61.75	68.20	-6.45	47.85	13.90	Peak	180	300
6	15720.00	51.94	54.00	-2.06	36.55	15.39	Average	174	24
7	15720.00	66.73	74.00	-7.27	51.34	15.39	Peak	174	24

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

*Factor includes antenna factor , cable loss and amplifier gain

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

Modulation	VHT20	Test Freq. (MHz)	5745
Polarization	Horizontal		



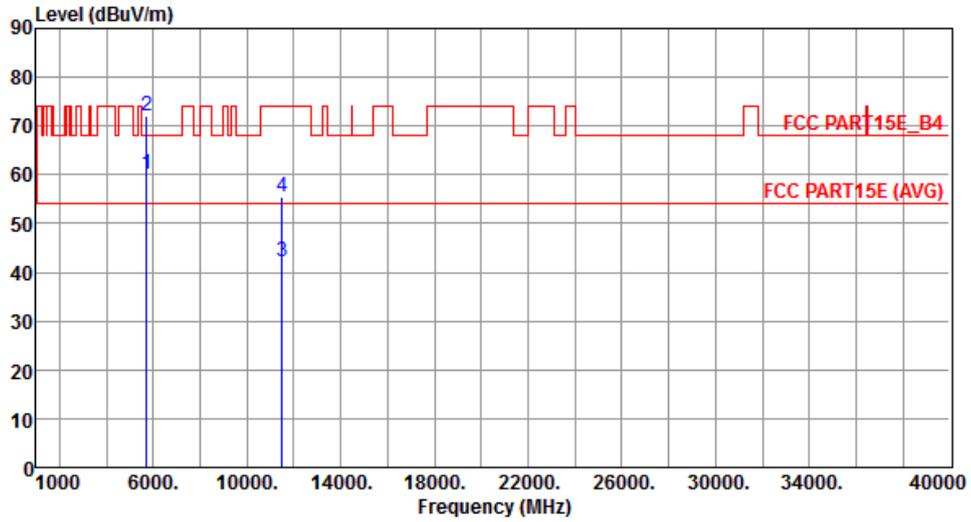
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5715.00	64.81	68.20	-3.39	59.11	5.70	Peak	220	32
2	5725.00	77.20	78.20	-1.00	71.49	5.71	Peak	220	32
3	11490.00	45.65	54.00	-8.35	31.03	14.62	Average	180	10
4	11490.00	55.98	74.00	-18.02	41.36	14.62	Peak	180	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).

Modulation	VHT20	Test Freq. (MHz)	5745
Polarization	Vertical		



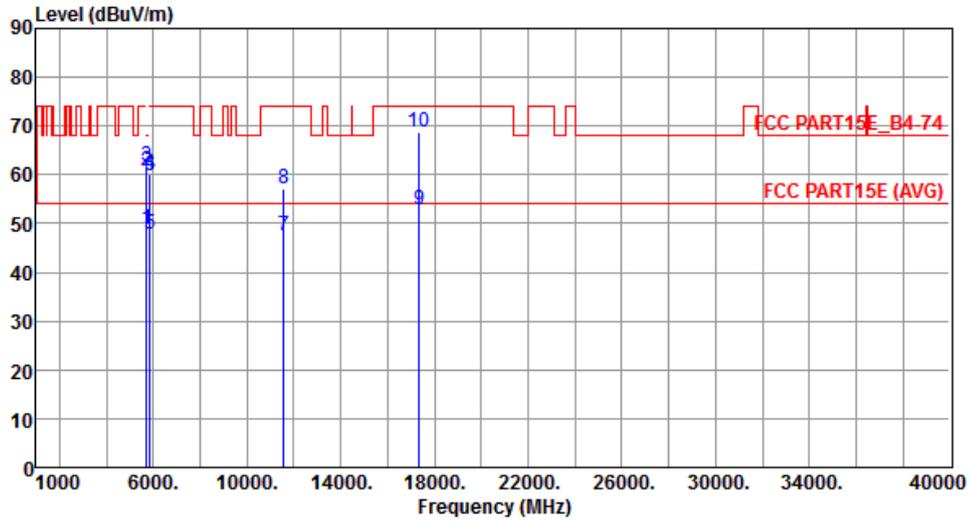
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5715.00	60.27	68.20	-7.93	54.57	5.70	Peak	211	82
2	5725.00	72.01	78.20	-6.19	66.30	5.71	Peak	211	82
3	11490.00	42.16	54.00	-11.84	27.54	14.62	Average	155	166
4	11490.00	55.35	74.00	-18.65	40.73	14.62	Peak	155	166

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

*Factor includes antenna factor , cable loss and amplifier gain

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

Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Horizontal		



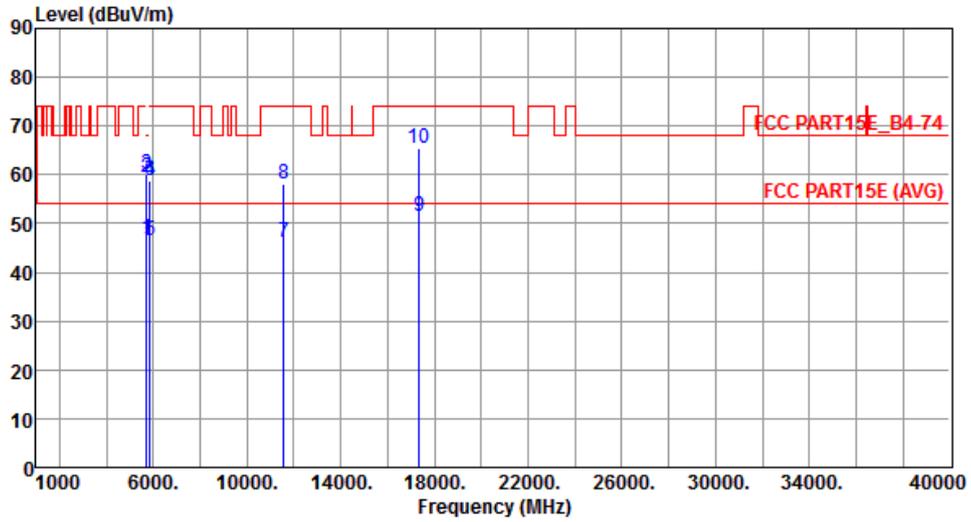
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5715.00	48.95	54.00	-5.05	43.25	5.70	Average	218	30
2	5715.00	60.66	74.00	-13.34	54.96	5.70	Peak	218	30
3	5725.00	61.93	78.20	-16.27	56.22	5.71	Peak	218	30
4	5850.00	60.08	78.20	-18.12	54.11	5.97	Peak	218	30
5	5860.00	47.94	54.00	-6.06	41.96	5.98	Average	218	30
6	5860.00	59.86	74.00	-14.14	53.88	5.98	Peak	218	30
7	11570.00	47.58	54.00	-6.42	33.06	14.52	Average	182	12
8	11570.00	56.99	74.00	-17.01	42.47	14.52	Peak	182	12
9	17355.00	52.96	54.00	-1.04	31.67	21.29	Average	215	340
10	17355.00	68.73	74.00	-5.27	47.44	21.29	Peak	215	340

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

*Factor includes antenna factor , cable loss and amplifier gain

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

Modulation	VHT20	Test Freq. (MHz)	5785
Polarization	Vertical		



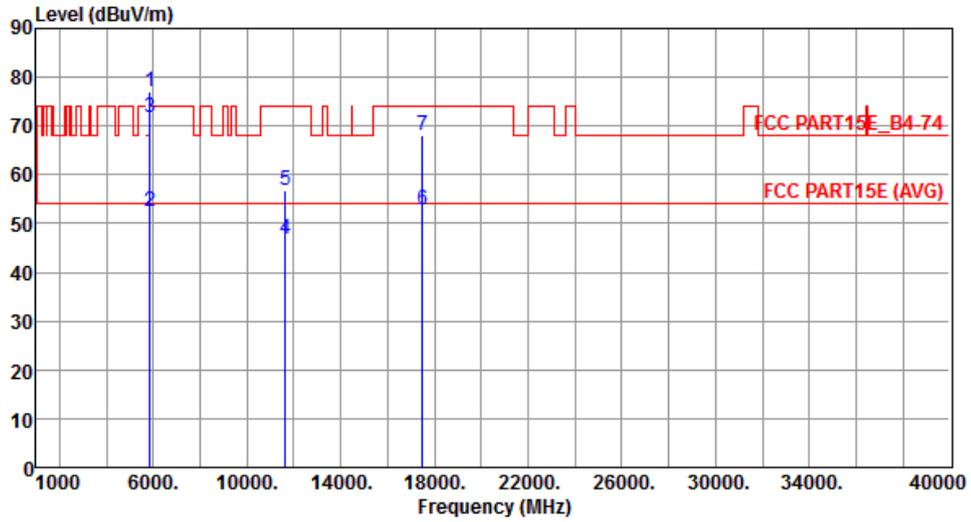
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5715.00	46.91	54.00	-7.09	41.21	5.70	Average	217	89
2	5715.00	59.47	74.00	-14.53	53.77	5.70	Peak	217	89
3	5725.00	59.97	78.20	-18.23	54.26	5.71	Peak	217	89
4	5850.00	58.74	78.20	-19.46	52.77	5.97	Peak	217	89
5	5860.00	46.60	54.00	-7.40	40.62	5.98	Average	217	89
6	5860.00	58.84	74.00	-15.16	52.86	5.98	Peak	217	89
7	11570.00	46.06	54.00	-7.94	31.54	14.52	Average	100	88
8	11570.00	57.97	74.00	-16.03	43.45	14.52	Peak	100	88
9	17355.00	51.45	54.00	-2.55	30.16	21.29	Average	254	328
10	17355.00	65.27	74.00	-8.73	43.98	21.29	Peak	254	328

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

*Factor includes antenna factor , cable loss and amplifier gain

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

Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Horizontal		



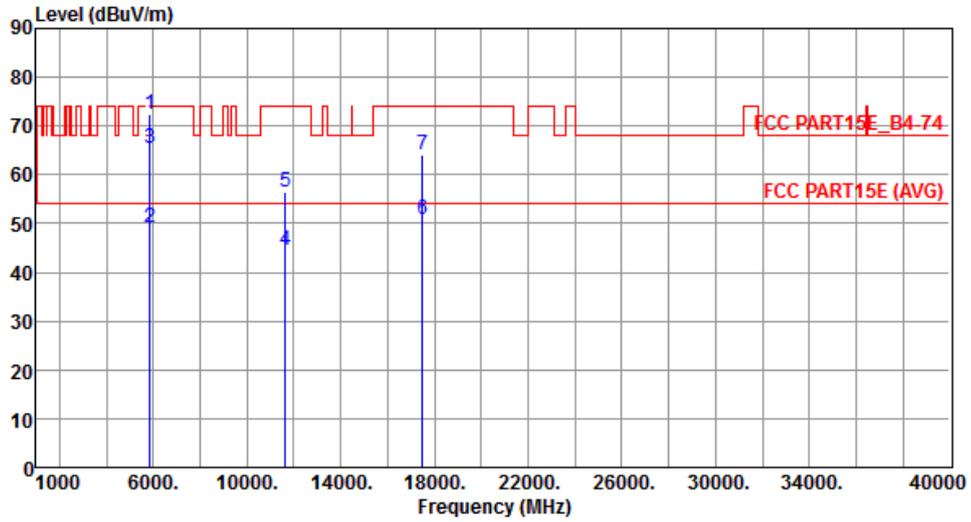
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5850.00	77.19	78.20	-1.01	71.22	5.97	Peak	211	28
2	5860.00	52.48	54.00	-1.52	46.50	5.98	Average	211	28
3	5860.00	71.69	74.00	-2.31	65.71	5.98	Peak	211	28
4	11650.00	46.97	54.00	-7.03	32.57	14.40	Average	188	10
5	11650.00	56.94	74.00	-17.06	42.54	14.40	Peak	188	10
6	17475.00	52.76	54.00	-1.24	30.82	21.94	Average	213	335
7	17475.00	67.96	74.00	-6.04	46.02	21.94	Peak	213	335

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

*Factor includes antenna factor , cable loss and amplifier gain

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

Modulation	VHT20	Test Freq. (MHz)	5825
Polarization	Vertical		



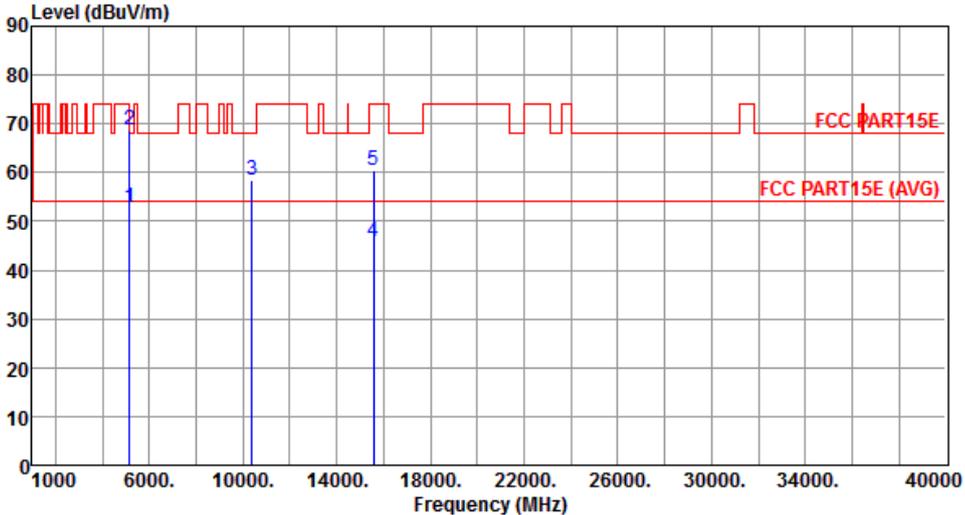
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5850.00	72.51	78.20	-5.69	66.54	5.97	Peak	203	84
2	5860.00	49.18	54.00	-4.82	43.20	5.98	Average	203	84
3	5860.00	65.26	74.00	-8.74	59.28	5.98	Peak	203	84
4	11650.00	44.53	54.00	-9.47	30.13	14.40	Average	188	142
5	11650.00	56.38	74.00	-17.62	41.98	14.40	Peak	188	142
6	17475.00	50.96	54.00	-3.04	29.02	21.94	Average	251	339
7	17475.00	64.26	74.00	-9.74	42.32	21.94	Peak	251	339

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

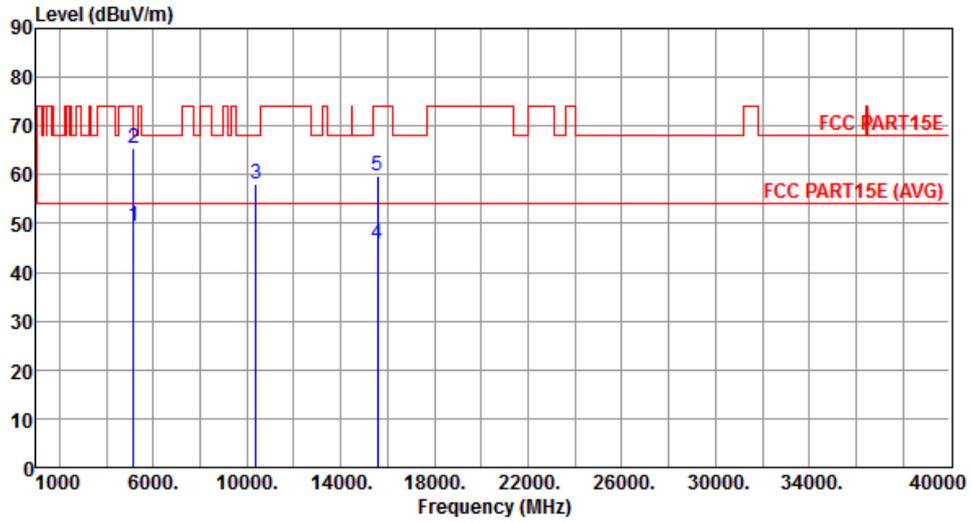
*Factor includes antenna factor , cable loss and amplifier gain

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

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

Modulation	VHT40	Test Freq. (MHz)	5190																																																																		
Polarization	Horizontal																																																																				
																																																																					
	<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>52.93</td> <td>54.00</td> <td>-1.07</td> <td>48.03</td> <td>4.90</td> <td>Average</td> <td>226</td> <td>46</td> </tr> <tr> <td>2</td> <td>5150.00</td> <td>68.69</td> <td>74.00</td> <td>-5.31</td> <td>63.79</td> <td>4.90</td> <td>Peak</td> <td>226</td> <td>46</td> </tr> <tr> <td>3</td> <td>10380.00</td> <td>58.52</td> <td>68.20</td> <td>-9.68</td> <td>44.81</td> <td>13.71</td> <td>Peak</td> <td>203</td> <td>316</td> </tr> <tr> <td>4</td> <td>15570.00</td> <td>45.82</td> <td>54.00</td> <td>-8.18</td> <td>30.15</td> <td>15.67</td> <td>Average</td> <td>166</td> <td>211</td> </tr> <tr> <td>5</td> <td>15570.00</td> <td>60.45</td> <td>74.00</td> <td>-13.55</td> <td>44.78</td> <td>15.67</td> <td>Peak</td> <td>166</td> <td>211</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	52.93	54.00	-1.07	48.03	4.90	Average	226	46	2	5150.00	68.69	74.00	-5.31	63.79	4.90	Peak	226	46	3	10380.00	58.52	68.20	-9.68	44.81	13.71	Peak	203	316	4	15570.00	45.82	54.00	-8.18	30.15	15.67	Average	166	211	5	15570.00	60.45	74.00	-13.55	44.78	15.67	Peak	166	211
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	52.93	54.00	-1.07	48.03	4.90	Average	226	46																																																												
2	5150.00	68.69	74.00	-5.31	63.79	4.90	Peak	226	46																																																												
3	10380.00	58.52	68.20	-9.68	44.81	13.71	Peak	203	316																																																												
4	15570.00	45.82	54.00	-8.18	30.15	15.67	Average	166	211																																																												
5	15570.00	60.45	74.00	-13.55	44.78	15.67	Peak	166	211																																																												
<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	VHT40	Test Freq. (MHz)	5190
Polarization	Vertical		



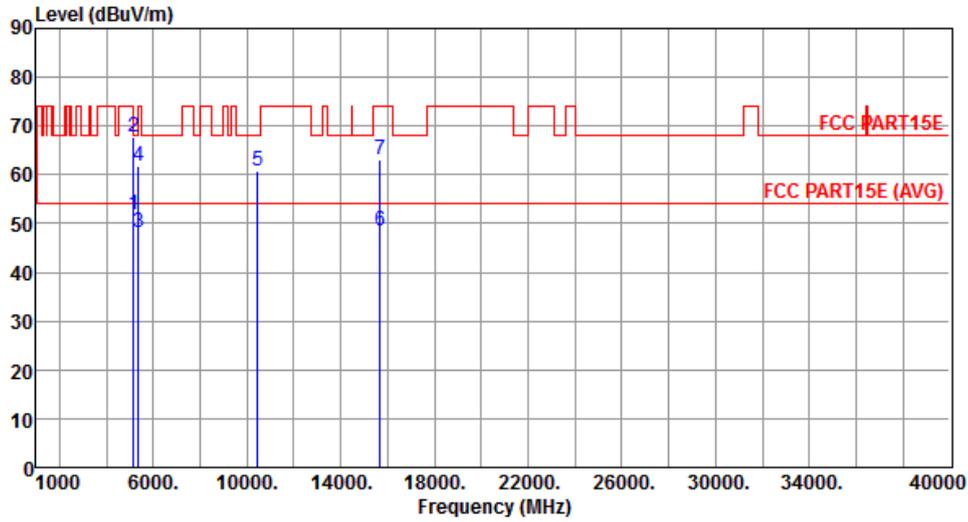
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	49.54	54.00	-4.46	44.64	4.90	Average	204	70
2	5150.00	65.48	74.00	-8.52	60.58	4.90	Peak	204	70
3	10380.00	58.24	68.20	-9.96	44.53	13.71	Peak	133	211
4	15570.00	45.96	54.00	-8.04	30.29	15.67	Average	155	298
5	15570.00	59.66	74.00	-14.34	43.99	15.67	Peak	155	298

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

*Factor includes antenna factor , cable loss and amplifier gain

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

Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Horizontal		



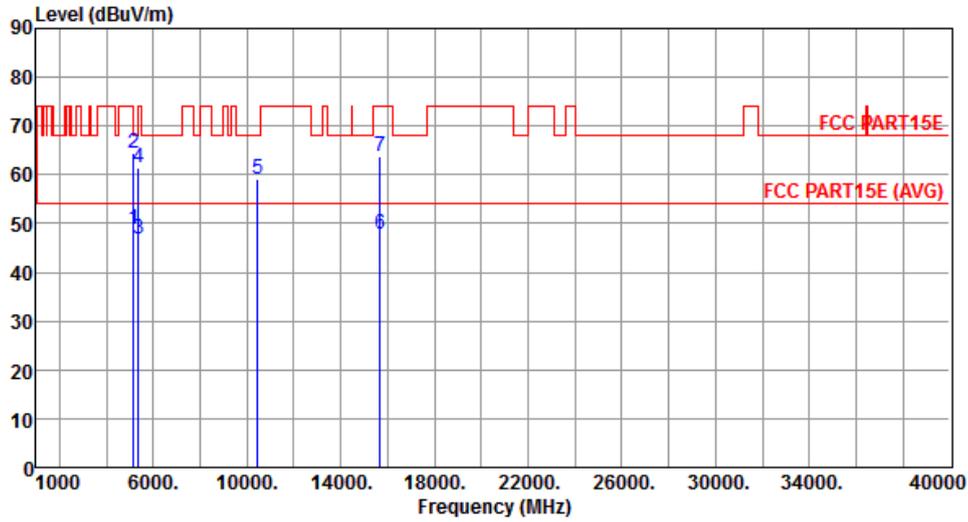
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	51.95	54.00	-2.05	47.05	4.90	Average	226	43
2	5150.00	67.68	74.00	-6.32	62.78	4.90	Peak	226	43
3	5350.00	48.32	54.00	-5.68	43.19	5.13	Average	226	43
4	5350.00	61.91	74.00	-12.09	56.78	5.13	Peak	226	43
5	10460.00	60.85	68.20	-7.35	46.99	13.86	Peak	192	66
6	15690.00	48.65	54.00	-5.35	33.22	15.43	Average	295	16
7	15690.00	63.05	74.00	-10.95	47.62	15.43	Peak	295	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).

Modulation	VHT40	Test Freq. (MHz)	5230
Polarization	Vertical		



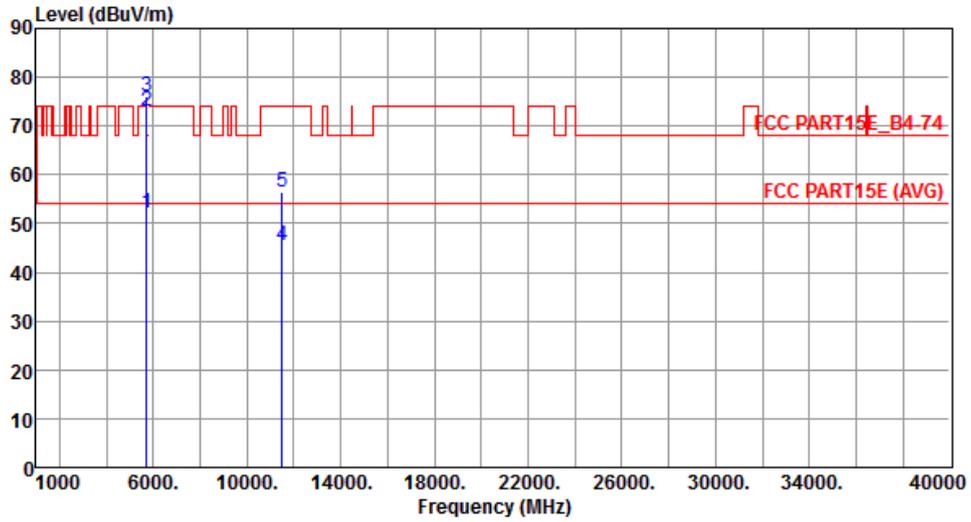
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	48.72	54.00	-5.28	43.82	4.90	Average	245	67
2	5150.00	64.56	74.00	-9.44	59.66	4.90	Peak	245	67
3	5350.00	46.79	54.00	-7.21	41.66	5.13	Average	245	67
4	5350.00	61.30	74.00	-12.70	56.17	5.13	Peak	245	67
5	10460.00	59.04	68.20	-9.16	45.18	13.86	Peak	211	166
6	15690.00	47.71	54.00	-6.29	32.28	15.43	Average	168	26
7	15690.00	63.78	74.00	-10.22	48.35	15.43	Peak	168	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).

Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Horizontal		



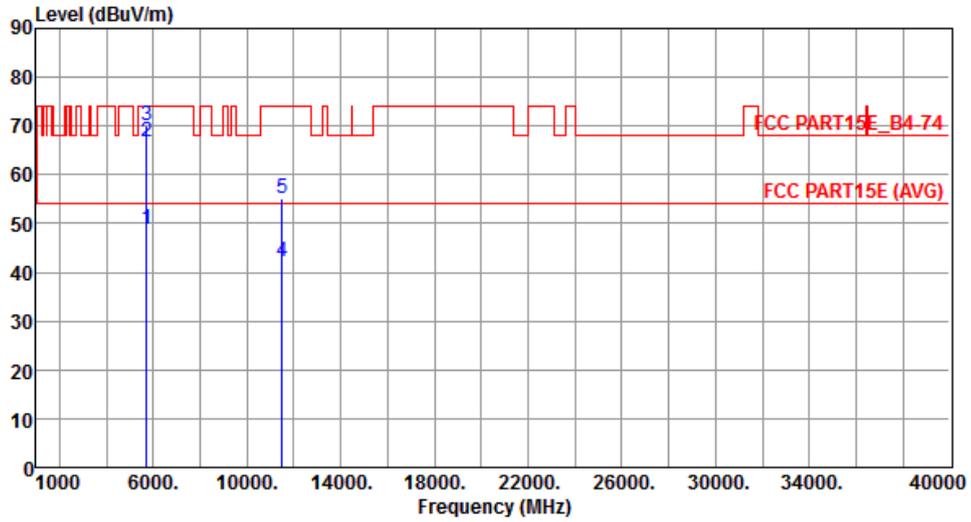
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5715.00	52.01	54.00	-1.99	46.31	5.70	Average	220	30
2	5715.00	73.00	74.00	-1.00	67.30	5.70	Peak	220	30
3	5725.00	76.08	78.20	-2.12	70.37	5.71	Peak	220	30
4	11510.00	45.47	54.00	-8.53	30.85	14.62	Average	180	12
5	11510.00	56.30	74.00	-17.70	41.68	14.62	Peak	180	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).

Modulation	VHT40	Test Freq. (MHz)	5755
Polarization	Vertical		



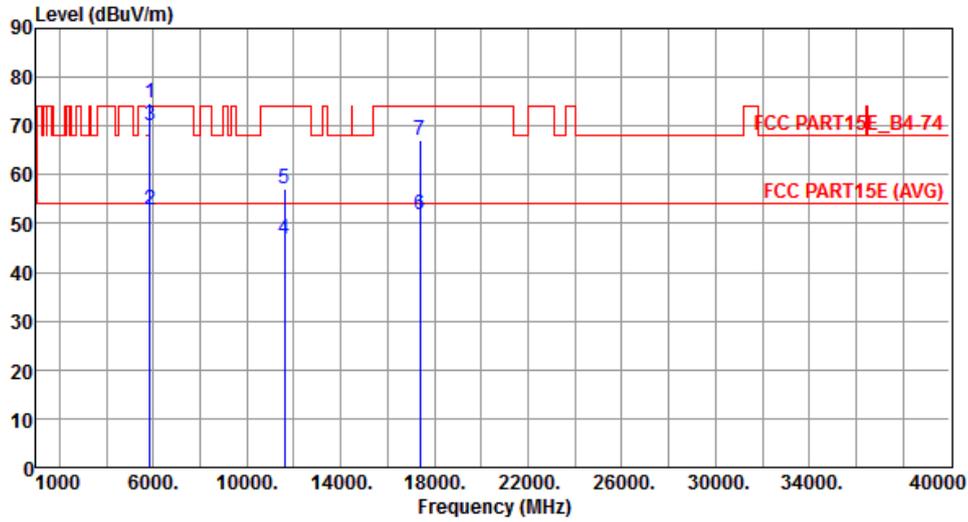
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5715.00	48.86	54.00	-5.14	43.16	5.70	Average	210	83
2	5715.00	66.65	74.00	-7.35	60.95	5.70	Peak	210	83
3	5725.00	70.14	78.20	-8.06	64.43	5.71	Peak	210	83
4	11510.00	42.15	54.00	-11.85	27.53	14.62	Average	155	143
5	11510.00	55.24	74.00	-18.76	40.62	14.62	Peak	155	143

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

*Factor includes antenna factor , cable loss and amplifier gain

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

Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Horizontal		



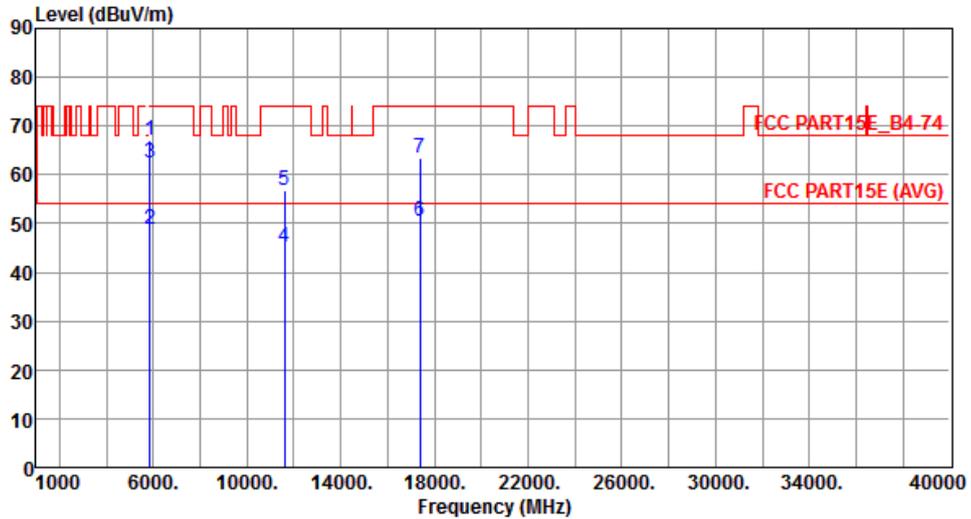
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5850.00	74.84	78.20	-3.36	68.87	5.97	Peak	218	30
2	5860.00	52.70	54.00	-1.30	46.72	5.98	Average	218	30
3	5860.00	70.05	74.00	-3.95	64.07	5.98	Peak	218	30
4	11590.00	46.90	54.00	-7.10	32.40	14.50	Average	215	12
5	11590.00	57.22	74.00	-16.78	42.72	14.50	Peak	215	12
6	17385.00	51.80	54.00	-2.20	30.34	21.46	Average	213	332
7	17385.00	67.22	74.00	-6.78	45.76	21.46	Peak	213	332

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

*Factor includes antenna factor , cable loss and amplifier gain

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

Modulation	VHT40	Test Freq. (MHz)	5795
Polarization	Vertical		



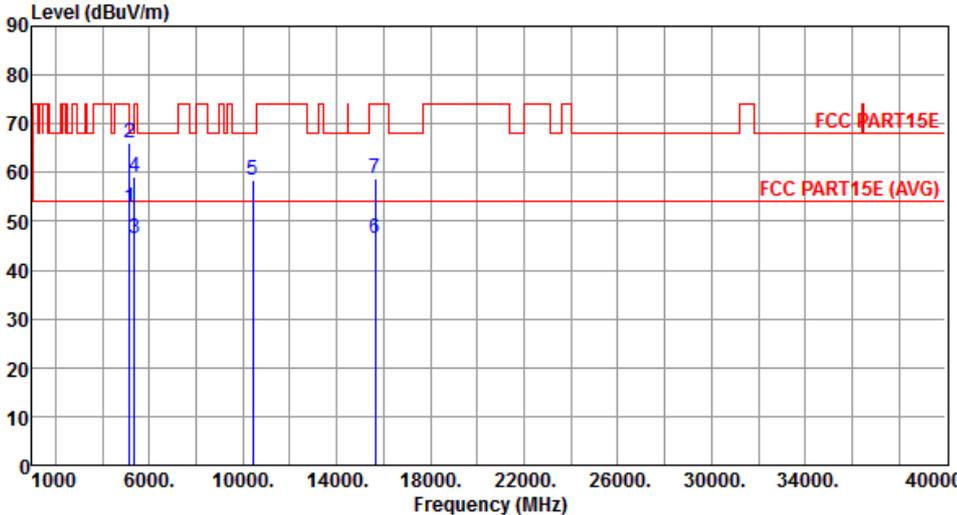
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5850.00	67.23	78.20	-10.97	61.26	5.97	Peak	231	83
2	5860.00	48.84	54.00	-5.16	42.86	5.98	Average	231	83
3	5860.00	62.37	74.00	-11.63	56.39	5.98	Peak	231	83
4	11590.00	45.03	54.00	-8.97	30.53	14.50	Average	188	120
5	11590.00	56.65	74.00	-17.35	42.15	14.50	Peak	188	120
6	17385.00	50.61	54.00	-3.39	29.15	21.46	Average	250	340
7	17385.00	63.31	74.00	-10.69	41.85	21.46	Peak	250	340

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

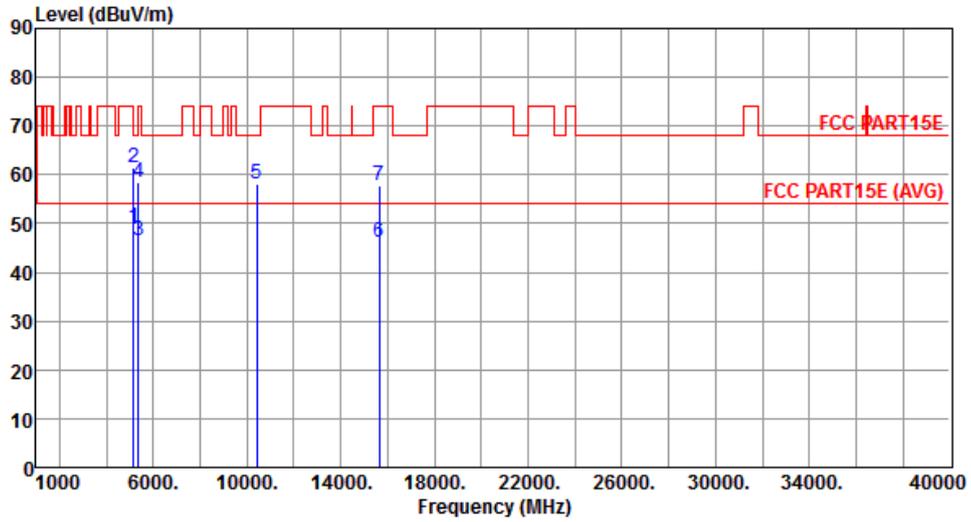
*Factor includes antenna factor , cable loss and amplifier gain

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

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

Modulation	VHT80	Test Freq. (MHz)	5210																																																																						
Polarization	Horizontal																																																																								
																																																																									
	<table border="1"> <thead> <tr> <th>Freq. MHz</th> <th>Emission level dBuV/m</th> <th>Limit dBuV/m</th> <th>Margin dB</th> <th>SA reading dBuV</th> <th>Factor dB</th> <th>Remark</th> <th>ANT High cm</th> <th>Turn Table deg</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>52.92</td> <td>54.00</td> <td>-1.08</td> <td>48.02</td> <td>4.90</td> <td>Average</td> <td>224</td> <td>40</td> </tr> <tr> <td>2</td> <td>66.02</td> <td>74.00</td> <td>-7.98</td> <td>61.12</td> <td>4.90</td> <td>Peak</td> <td>224</td> <td>40</td> </tr> <tr> <td>3</td> <td>46.65</td> <td>54.00</td> <td>-7.35</td> <td>41.52</td> <td>5.13</td> <td>Average</td> <td>224</td> <td>40</td> </tr> <tr> <td>4</td> <td>59.09</td> <td>74.00</td> <td>-14.91</td> <td>53.96</td> <td>5.13</td> <td>Peak</td> <td>224</td> <td>40</td> </tr> <tr> <td>5</td> <td>58.37</td> <td>68.20</td> <td>-9.83</td> <td>44.59</td> <td>13.78</td> <td>Peak</td> <td>216</td> <td>228</td> </tr> <tr> <td>6</td> <td>46.41</td> <td>54.00</td> <td>-7.59</td> <td>30.86</td> <td>15.55</td> <td>Average</td> <td>188</td> <td>231</td> </tr> <tr> <td>7</td> <td>58.80</td> <td>74.00</td> <td>-15.20</td> <td>43.25</td> <td>15.55</td> <td>Peak</td> <td>188</td> <td>231</td> </tr> </tbody> </table>	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg	1	52.92	54.00	-1.08	48.02	4.90	Average	224	40	2	66.02	74.00	-7.98	61.12	4.90	Peak	224	40	3	46.65	54.00	-7.35	41.52	5.13	Average	224	40	4	59.09	74.00	-14.91	53.96	5.13	Peak	224	40	5	58.37	68.20	-9.83	44.59	13.78	Peak	216	228	6	46.41	54.00	-7.59	30.86	15.55	Average	188	231	7	58.80	74.00	-15.20	43.25	15.55	Peak	188	231
Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg																																																																	
1	52.92	54.00	-1.08	48.02	4.90	Average	224	40																																																																	
2	66.02	74.00	-7.98	61.12	4.90	Peak	224	40																																																																	
3	46.65	54.00	-7.35	41.52	5.13	Average	224	40																																																																	
4	59.09	74.00	-14.91	53.96	5.13	Peak	224	40																																																																	
5	58.37	68.20	-9.83	44.59	13.78	Peak	216	228																																																																	
6	46.41	54.00	-7.59	30.86	15.55	Average	188	231																																																																	
7	58.80	74.00	-15.20	43.25	15.55	Peak	188	231																																																																	
<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	VHT80	Test Freq. (MHz)	5210
Polarization	Vertical		



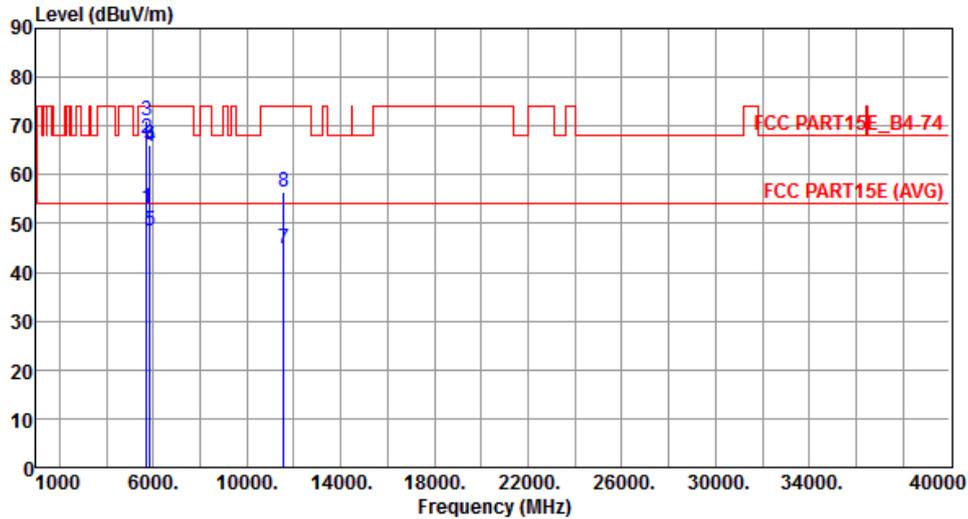
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	49.11	54.00	-4.89	44.21	4.90	Average	240	69
2	5150.00	61.37	74.00	-12.63	56.47	4.90	Peak	240	69
3	5350.00	46.63	54.00	-7.37	41.50	5.13	Average	240	69
4	5350.00	58.44	74.00	-15.56	53.31	5.13	Peak	240	69
5	10420.00	58.09	68.20	-10.11	44.31	13.78	Peak	243	331
6	15630.00	46.31	54.00	-7.69	30.76	15.55	Average	188	215
7	15630.00	57.77	74.00	-16.23	42.22	15.55	Peak	188	215

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

*Factor includes antenna factor , cable loss and amplifier gain

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

Modulation	VHT80	Test Freq. (MHz)	5775
Polarization	Horizontal		



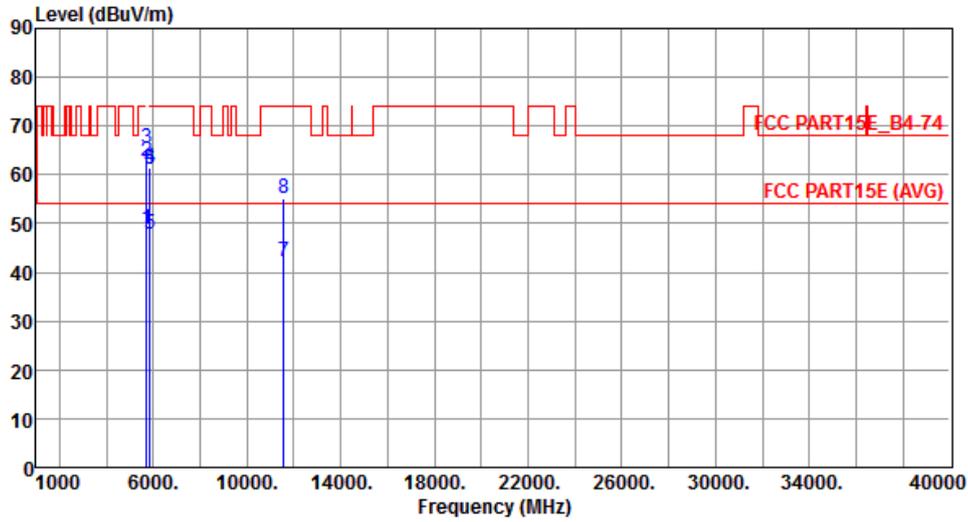
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5715.00	52.98	54.00	-1.02	47.28	5.70	Average	218	28
2	5715.00	67.53	74.00	-6.47	61.83	5.70	Peak	218	28
3	5725.00	70.91	78.20	-7.29	65.20	5.71	Peak	218	28
4	5850.00	65.69	78.20	-12.51	59.72	5.97	Peak	218	28
5	5860.00	48.35	54.00	-5.65	42.37	5.98	Average	218	28
6	5860.00	66.03	74.00	-7.97	60.05	5.98	Peak	218	28
7	11550.00	44.67	54.00	-9.33	30.12	14.55	Average	186	12
8	11550.00	56.51	74.00	-17.49	41.96	14.55	Peak	186	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).

Modulation	VHT80	Test Freq. (MHz)	5775
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5715.00	48.81	54.00	-5.19	43.11	5.70	Average	209	82
2	5715.00	62.79	74.00	-11.21	57.09	5.70	Peak	209	82
3	5725.00	65.47	78.20	-12.73	59.76	5.71	Peak	209	82
4	5850.00	61.36	78.20	-16.84	55.39	5.97	Peak	209	82
5	5860.00	47.94	54.00	-6.06	41.96	5.98	Average	209	82
6	5860.00	60.97	74.00	-13.03	54.99	5.98	Peak	209	82
7	11550.00	42.12	54.00	-11.88	27.57	14.55	Average	188	147
8	11550.00	55.24	74.00	-18.76	40.69	14.55	Peak	188	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).

3.6 Frequency Stability

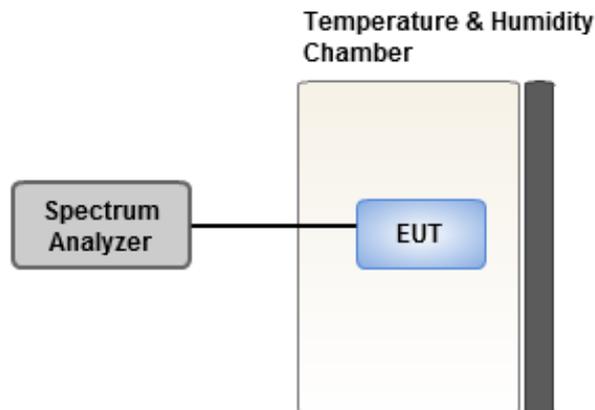
3.6.1 Limit of Frequency Stability

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}	-0.07	0.39	0.75	0.68
T20°C _{Vmin}	0.90	1.12	1.43	0.56
T50°C _{Vnom}	2.51	2.90	2.40	2.23
T40°C _{Vnom}	0.89	0.09	0.76	0.40
T30°C _{Vnom}	1.15	1.59	2.11	1.41
T20°C _{Vnom}	0.96	0.71	0.89	0.21
T10°C _{Vnom}	0.79	0.46	0.45	-0.19
T0°C _{Vnom}	0.82	0.39	0.47	0.48
T-10°C _{Vnom}	0.70	1.22	1.15	1.26
T-20°C _{Vnom}	1.59	2.44	1.56	1.94
T-30°C _{Vnom}	1.62	1.92	1.63	1.72
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}	-0.03	0.41	-0.44	0.12
T20°C _{Vmin}	0.06	-0.17	-0.14	0.07
T50°C _{Vnom}	1.16	1.08	1.37	0.96
T40°C _{Vnom}	-0.57	-0.70	-0.19	-0.87
T30°C _{Vnom}	0.54	0.52	0.74	-0.06
T20°C _{Vnom}	0.14	0.28	0.74	0.40
T10°C _{Vnom}	0.14	0.06	0.02	0.13
T0°C _{Vnom}	-0.51	-0.27	-0.43	-0.33
T-10°C _{Vnom}	-0.31	0.04	0.48	-0.14
T-20°C _{Vnom}	0.67	0.98	1.11	0.97
T-30°C _{Vnom}	0.86	0.61	0.29	0.17
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>.

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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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