FCC Test Report

FCC ID	:	**ZQ6-AP6234A**
Equipment	:	**Wifi Dual Band + BT combo module**
Model No.	:	**AP6234A**
Brand Name	:	**Ampak**
Applicant	:	**Ampak Technology Inc**
Address	:	**No.1 Jen Al Road, Hsinchu Industrial Park, Hukou, Hsinchu, Taiwan, 30352**
Standard	:	**47 CFR FCC Part 15.407**
Received Date	:	**Apr. 01, 2014**
Tested Date	:	**Apr. 22 ~ May 07, 2014**

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

Testing Laboratory
2732

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Release Record

Report No.	Version	Description	Issued Date
FR440102AN	Rev. 01	Initial issue	May 15, 2014

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.154MHz 46.45 (Margin -9.33dB) - AV	Pass
15.407(b) 15.209	Radiated Emissions	[dBuV/m at 3m]: 5150.00MHz 53.00 (Margin -1.00dB) - AV	Pass
15.407(a)	Emission Bandwidth	Meet the requirement of limit	Pass
15.407(a)	RF Output Power	Power [dBm]: 5150~5250 MHz:16.92 5250~5350 MHz:17.09 5470~5725 MHz:15.55	Pass
15.407(a)	Peak Power Spectral Density	Meet the requirement of limit	Pass
15.407(a)	Peak Excursion	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 5250-5350 5470-5725	a	5180-5240 5260-5320 5500-5700	36-48 [4] 52-64 [4] 100-140 [8]	1	6-54 Mbps
5150-5250 5250-5350 5470-5725	n (HT20)	5180-5240 5260-5320 5500-5700	36-48 [4] 52-64 [4] 100-140 [8]	1	MCS 0-7
5150-5250 5250-5350 5470-5725	n (HT40)	5190-5230 5270-5310 5510-5670	38-46 [2] 54-62 [2] 102-134 [3]	1	MCS 0-7
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**	**Operating Frequency (MHz) / Gain (dBi)**					**Connector**
		2400~2483.5	**5150~5250**	**5250~5350**	**5470~5725**	**5725~5850**	
1	Dipole	2	3	3	3	3	UFL

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	3.3Vdc from host.

1.1.4 Accessories

N/A

1.1.5 Channel List

Frequency band (MHz)		5150~5725	
802.11 a / n HT20		802.11n HT40	
Channel	Frequency(MHz)	Channel	Frequency(MHz)
36	5180	38	5190
40	5200	46	5230
44	5220	54	5270
48	5240	62	5310
52	5260	102	5510
56	5280	110	5550
60	5300	134	5670
64	5320	---	---
100	5500	---	---
104	5520	---	---
108	5540	---	---
112	5560	---	---
116	5580	---	---
132	5660	---	---
136	5680	---	---
140	5700	---	---

1.1.6 Test Tool and Duty Cycle

Test Tool	MP tool, V2.0.1.1		
Duty Cycle and Duty Factor	Mode	Duty cycle (%)	Duty factor (dB)
	11a	99.51%	0.02
	HT20	99.26%	0.03
	HT40	98.21%	0.08

1.1.7 Power Setting

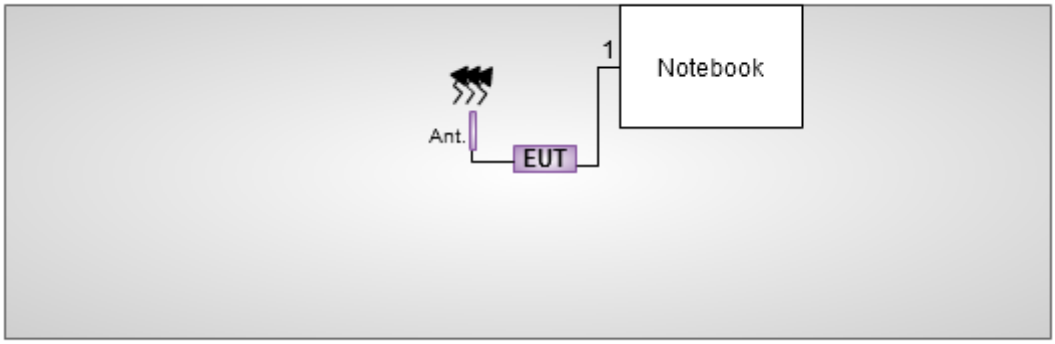
Channel	Frequency(MHz)	Modulation Mode		
		11a	HT20	HT40
CH 36	5180	60	60	---
CH 40	5200	62	62	---
CH 48	5240	62	62	---
CH 52	5260	92	92	---
CH 60	5300	92	92	---
CH 64	5320	58	58	---
CH 100	5500	60	60	---
CH 116	5580	92	92	---
CH 140	5700	60	60	---
CH 38	5190	---	---	58
CH 46	5230	---	---	92
CH 54	5270	---	---	92
CH 62	5310	---	---	54
CH 102	5510	---	---	58
CH 110	5550	---	---	92
CH 134	5670	---	---	92

1.2 Local Support Equipment List

Support Equipment List						
No.	**Equipment**	**Brand**	**Model**	**S/N**	**FCC ID**	**Signal cable / Length (m)**
1	Notebook	DELL	E6430	---	DoC	USB 1.0m shielded cable w/o core.

1.3 Test Setup Chart

Test Setup Diagram



1. USB, 1.0m shielded w/o core

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. 15, 2013	Oct. 14, 2014
LISN	SCHWARZBECK	Schwarzbeck 8127	8127-667	Nov. 23, 2013	Nov. 22, 2014
LISN (Support Unit)	SCHWARZBECK	Schwarzbeck 8127	8127-666	Dec. 04, 2013	Dec. 03, 2014
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Apr. 23, 2014	Apr. 22, 2015
50 ohm terminal (Support Unit)	NA	50	04	Apr. 18, 2014	Apr. 17, 2015
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101498	Jan. 25, 2014	Jan. 24, 2015
Receiver	R&S	ESR3	101658	Jan. 10, 2014	Jan. 09, 2015
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Jan. 02, 2014	Jan. 01, 2015
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Feb. 13, 2014	Feb. 12, 2015
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Dec. 27, 2013	Dec. 26, 2014
Preamplifier	Burgeon	BPA-530	SN:100219	Nov. 28, 2013	Nov. 27, 2014
Preamplifier	Agilent	83017A	MY39501308	Dec. 16, 2013	Dec. 15, 2014
Preamplifier	EM	EM18G40G	060572	Jun. 20, 2013	Jun. 19, 2014
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Dec. 16, 2013	Dec. 15, 2014
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Dec. 16, 2013	Dec. 15, 2014
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16139/4	Dec. 16, 2013	Dec. 15, 2014
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Dec. 16, 2013	Dec. 15, 2014
LF cable 10M	Woken	CFD400NL-LW	CFD400NL-002	Dec. 16, 2013	Dec. 15, 2014
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 15, 2012	Nov. 14, 2014
Note: Calibration Interval of instruments listed above is two 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, 2014	Feb. 16, 2015
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Dec. 11, 2013	Dec. 10, 2014
Power Meter	Anritsu	ML2495A	1241002	Oct. 24, 2013	Oct. 23, 2014
Power Sensor	Anritsu	MA2411B	1207366	Oct. 24, 2013	Oct. 23, 2014
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 C63.10-2009
FCC KDB 789033 D01 General UNII Test procedures v01r03

Note: The EUT has been tested and complied with FCC part 15B requirement. FCC Part 15B test results are issued to another report.

1.6 Measurement Uncertainty

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

Measurement Uncertainty	
Parameters	Uncertainty
Bandwidth	±34.134 Hz
Conducted power	±0.808 dB
Frequency error	±34.134 Hz
Power density	±0.463 dB
Conducted emission	±2.670 dB
AC conducted emission	±2.92 dB
Radiated emission < 1GHz	±3.26 dB
Radiated emission > 1GHz	±4.94 dB
Time	±0.1%

2 Test Configuration

2.1 Testing Condition

Test Item	Test Site	Ambient Condition	Tested By
AC Conduction	CO01-WS	22°C / 68%	Skys Huang
Radiated Emissions	03CH01-WS	23-24°C / 63-65%	Haru Yang Brad Wu
RF Conducted	TH01-WS	24°C / 62%	Mark Liao

- FCC site registration No.: 657002
- IC site registration No.: 10807A-1

2.2 The Worst Test Modes and Channel Details

Test item	Modulation Mode	Test Frequency (MHz)	Data rate (Mbps) / MCS	Test Configuration
Conducted Emissions	HT40	5270	MCS 0	---
Radiated Emissions ≤1GHz	HT40	5270	MCS 0	---
Radiated Emissions >1GHz RF Output Power Emission Bandwidth Peak Power Spectral Density	11a	5180 / 5200 / 5240 / 5260 / 5300 5320 / 5500 / 5580 / 5700	6 Mbps	---
	HT20	5180 / 5200 / 5240 / 5260 / 5300 5320 / 5500 / 5580 / 5700	MCS 0	---
	HT40	5190 / 5230/ 5270 / 5310 / 5510 5550 / 5670	MCS 0	---
Peak Excursion	11a	5180 / 5300 / 5580	6 Mbps	---
	HT20	5240 / 5300 / 5500	MCS 0	---
	HT40	5190 / 5310 / 5550	MCS 0	---
Frequency Stability	Un-modulation	5320	---	---

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

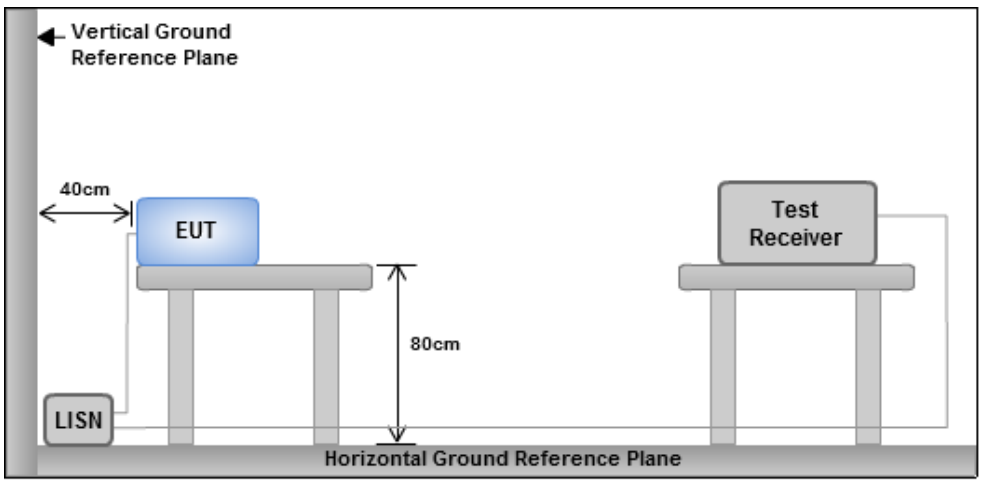
3.1.1 Limit of Conducted Emissions

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

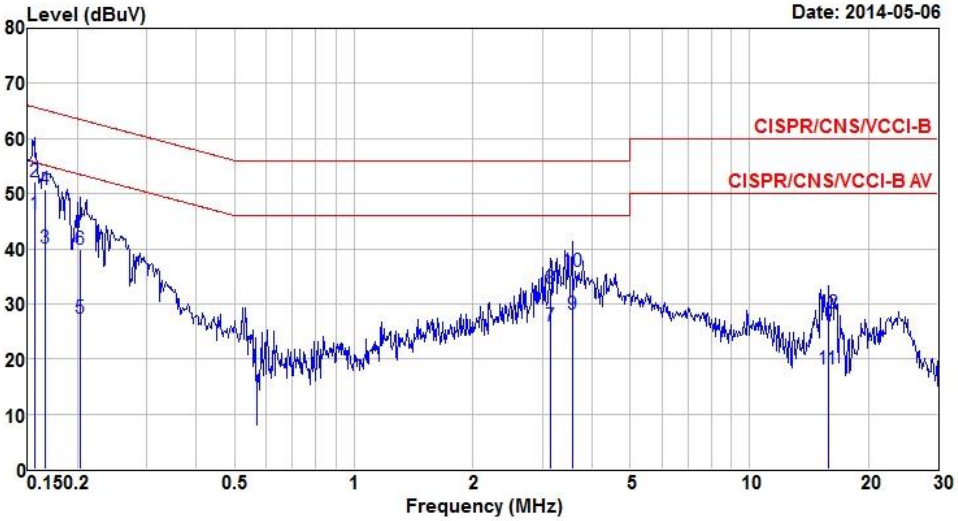


Note: 1. Support units were connected to second LISN.

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

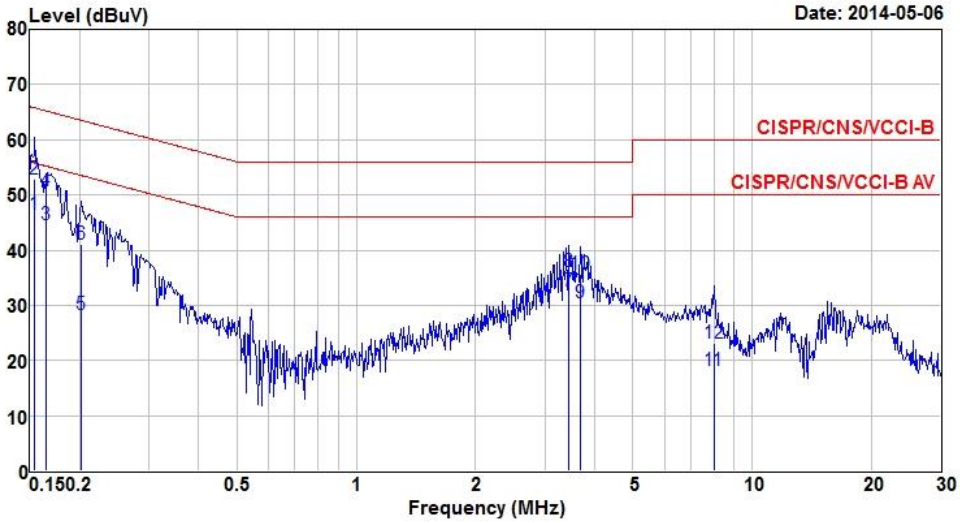
Modulation Mode	HT40	Test Freq. (MHz)	5270
Power Phase	Line		



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1*	0.156	46.25	55.69	-9.44	45.83	0.40	0.02	Average
2	0.156	52.14	65.69	-13.55	51.72	0.40	0.02	QP
3	0.166	40.24	55.16	-14.92	39.82	0.40	0.02	Average
4	0.166	50.78	65.16	-14.38	50.36	0.40	0.02	QP
5	0.204	27.39	53.45	-26.06	26.99	0.39	0.01	Average
6	0.204	39.88	63.45	-23.57	39.48	0.39	0.01	QP
7	3.140	25.92	46.00	-20.08	25.37	0.45	0.10	Average
8	3.140	32.78	56.00	-23.22	32.23	0.45	0.10	QP
9	3.565	28.03	46.00	-17.97	27.45	0.45	0.13	Average
10	3.565	35.87	56.00	-20.13	35.29	0.45	0.13	QP
11	15.801	18.13	50.00	-31.87	17.25	0.55	0.33	Average
12	15.801	28.40	60.00	-31.60	27.52	0.55	0.33	QP

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

Modulation Mode	HT40	Test Freq. (MHz)	5270
Power Phase	Neutral		



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1*	0.154	46.45	55.78	-9.33	45.95	0.48	0.02	Average
2	0.154	52.99	65.78	-12.79	52.49	0.48	0.02	QP
3	0.165	44.54	55.21	-10.67	44.04	0.48	0.02	Average
4	0.165	50.68	65.21	-14.53	50.18	0.48	0.02	QP
5	0.202	28.39	53.54	-25.15	27.90	0.48	0.01	Average
6	0.202	41.16	63.54	-22.38	40.67	0.48	0.01	QP
7	3.454	32.60	46.00	-13.40	31.96	0.52	0.12	Average
8	3.454	36.04	56.00	-19.96	35.40	0.52	0.12	QP
9	3.681	30.43	46.00	-15.57	29.78	0.52	0.13	Average
10	3.681	35.62	56.00	-20.38	34.97	0.52	0.13	QP
11	8.020	18.20	50.00	-31.80	17.42	0.55	0.23	Average
12	8.020	23.12	60.00	-36.88	22.34	0.55	0.23	QP

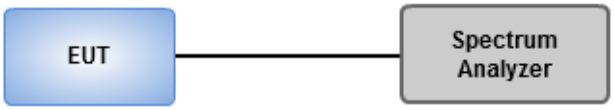
Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).
2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

3.2 Emission Bandwidth

3.2.1 Test Procedures

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.

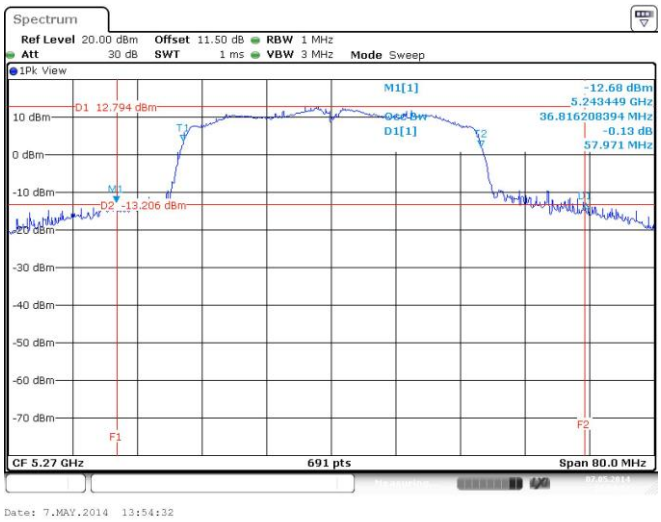
3.2.2 Test Setup



3.2.3 Test Result of Emission Bandwidth

Emission Bandwidth												
Mode	N_{TX}	Freq. (MHz)	26dB Bandwidth (MHz)				99% Bandwidth (MHz)				Power Limit (dBm)	
			Chain 0	Chain 1	Chain 2	Chain 3	Chain 0	Chain 1	Chain 2	Chain 3	26dB BW	99% OBW
11a	1	5180	20.12	-	-	-	16.53	-	-	-	17.00	16.18
11a	1	5200	21.57	-	-	-	16.61	-	-	-	17.00	16.20
11a	1	5240	19.83	-	-	-	16.61	-	-	-	16.97	16.20
HT20	1	5180	19.48	-	-	-	17.51	-	-	-	16.90	16.43
HT20	1	5200	22.32	-	-	-	17.55	-	-	-	17.00	16.44
HT20	1	5240	22.38	-	-	-	17.55	-	-	-	17.00	16.44
HT40	1	5190	44.99	-	-	-	36.27	-	-	-	17.00	17.00
HT40	1	5230	56.58	-	-	-	36.34	-	-	-	17.00	17.00
11a	1	5260	28.23	-	-	-	16.64	-	-	-	24.00	23.21
11a	1	5300	25.57	-	-	-	16.68	-	-	-	24.00	23.22
11a	1	5320	22.03	-	-	-	16.61	-	-	-	24.00	23.20
HT20	1	5260	28.52	-	-	-	17.55	-	-	-	24.00	23.44
HT20	1	5300	31.13	-	-	-	17.58	-	-	-	24.00	23.45
HT20	1	5320	21.68	-	-	-	17.55	-	-	-	24.00	23.44
HT40	1	5270	57.97	-	-	-	36.27	-	-	-	24.00	24.00
HT40	1	5310	40.35	-	-	-	36.34	-	-	-	24.00	24.00
11a	1	5500	20.29	-	-	-	16.61	-	-	-	24.00	23.20
11a	1	5580	21.62	-	-	-	16.64	-	-	-	24.00	23.21
11a	1	5700	23.71	-	-	-	16.64	-	-	-	24.00	23.21
HT20	1	5500	19.48	-	-	-	17.55	-	-	-	23.90	23.44
HT20	1	5580	23.77	-	-	-	17.58	-	-	-	24.00	23.45
HT20	1	5700	26.78	-	-	-	17.51	-	-	-	24.00	23.43
HT40	1	5510	47.30	-	-	-	36.34	-	-	-	24.00	24.00
HT40	1	5550	57.16	-	-	-	36.40	-	-	-	24.00	24.00
HT40	1	5670	54.49	-	-	-	36.34	-	-	-	24.00	24.00

Worst Plots


Spectrum
Ref Level 20.00 dBm Offset 11.50 dB RBW 1 MHz
Att 30 dB SWT 1 ms VBW 3 MHz Mode Sweep
1Pk View
M1[1] -12.68 dBm
5.243449 GHz
D1[1] 36.816208394 MHz
-0.13 dB
57.971 MHz
D1 12.794 dBm
D2 -13.206 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 5.27 GHz
691 pts
Span 80.0 MHz
Date: 7.MAY.2014 13:54:32

3.3 RF Output Power

3.3.1 Limit of RF Output Power

Frequency Band (GHz)		Limit for FCC 15.407
☒	5.15~5.25	50mW or 4dBm+10 log B
☒	5.25~5.35	250mW or 11dBm+10 log B
☒	5.47~5.725	250mW or 11dBm+10 log B
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

Modulation Mode	N_{TX}	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)
			Chain 0	Chain 1	Chain 2	Chain 3			
11a	1	5180	15.04	-	-	-	31.915	15.04	17.00
11a	1	5200	15.45	-	-	-	35.075	15.45	17.00
11a	1	5240	15.48	-	-	-	35.318	15.48	17.00
HT20	1	5180	14.91	-	-	-	30.974	14.91	17.00
HT20	1	5200	15.26	-	-	-	33.574	15.26	17.00
HT20	1	5240	15.37	-	-	-	34.435	15.37	17.00
HT40	1	5190	14.63	-	-	-	29.040	14.63	17.00
HT40	1	5230	16.92	-	-	-	49.204	16.92	17.00
11a	1	5260	16.78	-	-	-	47.643	16.78	24.00
11a	1	5300	16.73	-	-	-	47.098	16.73	24.00
11a	1	5320	14.23	-	-	-	26.485	14.23	24.00
HT20	1	5260	16.71	-	-	-	46.881	16.71	24.00
HT20	1	5300	16.64	-	-	-	46.132	16.64	24.00
HT20	1	5320	14.07	-	-	-	25.527	14.07	24.00
HT40	1	5270	17.09	-	-	-	51.168	17.09	24.00
HT40	1	5310	13.48	-	-	-	22.284	13.48	24.00
11a	1	5500	13.81	-	-	-	24.044	13.81	24.00
11a	1	5580	15.22	-	-	-	33.266	15.22	24.00
11a	1	5700	13.09	-	-	-	20.370	13.09	24.00
HT20	1	5500	13.59	-	-	-	22.856	13.59	24.00
HT20	1	5580	15.05	-	-	-	31.989	15.05	24.00
HT20	1	5700	13.02	-	-	-	20.045	13.02	24.00
HT40	1	5510	13.55	-	-	-	22.646	13.55	24.00
HT40	1	5550	15.55	-	-	-	35.892	15.55	24.00
HT40	1	5670	15.24	-	-	-	33.420	15.24	24.00

3.4 Peak Power Spectral Density

3.4.1 Limit of Peak Power Spectral Density

Frequency Band (GHz)		Limit (dBm) for FCC 15.407
☒	5.15~5.25	4
☒	5.25~5.35	11
☒	5.47~5.725	11

3.4.2 Test Procedures

☒ Method SA-1

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

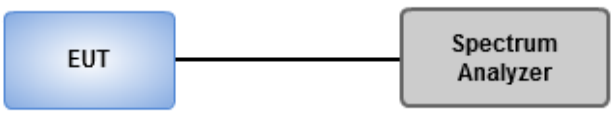
☐ Method SA-2

1. Set RBW = 1 MHz, VBW = 3 MHz, Sweep time = auto, Detector = RMS.
2. Trace average at 100 traces
3. Use the peak marker function to determine the maximum amplitude level.
4. Add 10 log(1/x), where x is the duty cycle

☐ Method SA-2 Alternative

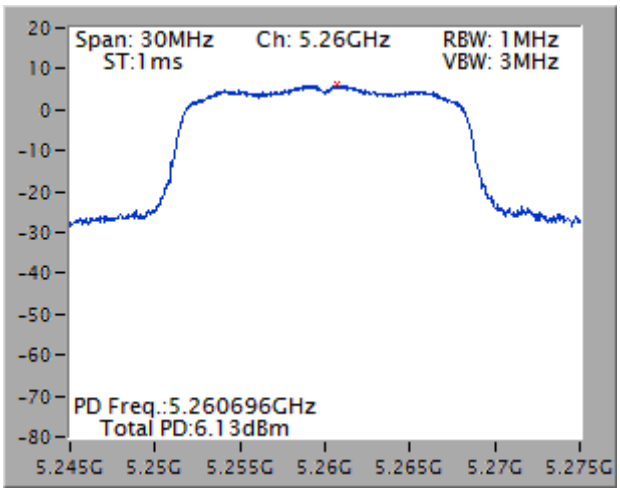
1. Set RBW = 1 MHz, VBW = 3 MHz, Detector = RMS.
2. Set sweep time ≥ 10 * (number of points in sweep) * (total on/off period of the transmitted signal).
3. Perform a single sweep.
4. Use the peak marker function to determine the maximum amplitude level.
5. Add 10 log(1/x), where x is the duty cycle.

3.4.3 Test Setup



3.4.4 Test Result of Peak Power Spectral Density

Condition			Peak Power Spectral Density (dBm)						
Modulation Mode	N_{TX}	Freq. (MHz)	PPSD w/o D.F (dBm)	Duty factor (dB)	PPSD with D.F (dBm)	PPSD Limit (dBm)	Antenna Gain (dBi)	E.I.R.P PSD (dBm/MHz)	E.I.R.P PSD Limit (dBm/MHz)
11a	1	5180	3.27	0.00	3.27	4	3.00	6.27	10
11a	1	5200	3.89	0.00	3.89	4	3.00	6.89	10
11a	1	5240	3.90	0.00	3.90	4	3.00	6.90	10
HT20	1	5180	3.07	0.00	3.07	4	3.00	6.07	10
HT20	1	5200	3.51	0.00	3.51	4	3.00	6.51	10
HT20	1	5240	3.55	0.00	3.55	4	3.00	6.55	10
HT40	1	5190	0.72	0.00	0.72	4	3.00	3.72	10
HT40	1	5230	2.71	0.00	2.71	4	3.00	5.71	10
11a	1	5260	6.13	0.00	6.13	11	3.00	9.13	17
11a	1	5300	5.89	0.00	5.89	11	3.00	8.89	17
11a	1	5320	3.28	0.00	3.28	11	3.00	6.28	17
HT20	1	5260	5.87	0.00	5.87	11	3.00	8.87	17
HT20	1	5300	5.57	0.00	5.57	11	3.00	8.57	17
HT20	1	5320	2.97	0.00	2.97	11	3.00	5.97	17
HT40	1	5190	2.86	0.00	2.86	11	3.00	5.86	17
HT40	1	5230	-0.54	0.00	-0.54	11	3.00	2.46	17
11a	1	5500	2.77	0.00	2.77	11	3.00	5.77	17
11a	1	5580	4.09	0.00	4.09	11	3.00	7.09	17
11a	1	5700	2.14	0.00	2.14	11	3.00	5.14	17
HT20	1	5500	2.35	0.00	2.35	11	3.00	5.35	17
HT20	1	5580	3.79	0.00	3.79	11	3.00	6.79	17
HT20	1	5700	1.61	0.00	1.61	11	3.00	4.61	17
HT40	1	5510	-0.54	0.00	-0.54	11	3.00	2.46	17
HT40	1	5550	1.47	0.00	1.47	11	3.00	4.47	17
HT40	1	5670	1.19	0.00	1.19	11	3.00	4.19	17

Worst Plots


Span: 30MHz
ST:1ms
Ch: 5.26GHz
RBW: 1MHz
VBW: 3MHz
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
PD Freq.:5.260696GHz
Total PD:6.13dBm
5.245G
5.25G
5.255G
5.26G
5.265G
5.27G
5.275G

3.5 Peak Excursion

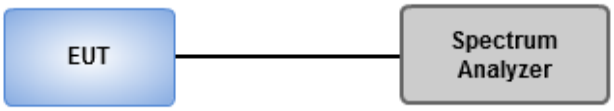
3.5.1 Peak Excursion Limit

Peak excursion of the modulation envelope shall not exceed 13 dB across any 1 MHz bandwidth.

3.5.2 Test Procedures

1. Set RBW = 1 MHz, VBW = 3 MHz, Detector = peak.
2. Trace mode = max-hold. Allow the sweeps to continue until the trace stabilizes.
3. Use the peak search function to find the peak of the spectrum.
4. Use the procedure of section 3.4.2 to measure the PPSD.
5. Compute the ratio of the maximum of the peak-max-hold spectrum to the PPSD

3.5.3 Test Setup



3.5.4 Test Result of Peak Excursion

Mode	Modulation Mode	N_{TX}	Freq. (MHz)	Measured value(dB)	Duty factor (dB)	Peak Excursion (dB)	Limit
11a	BPSK	1	5240	8.16	0.00	8.16	13
11a	QPSK	1	5240	9.57	0.00	9.57	13
11a	16QAM	1	5240	9.57	0.16	9.41	13
11a	64QAM	1	5240	9.48	0.34	9.14	13
HT20	BPSK	1	5240	8.86	0.00	8.86	13
HT20	QPSK	1	5240	8.35	0.00	8.35	13
HT20	16QAM	1	5240	10.71	0.15	10.56	13
HT20	64QAM	1	5240	9.72	0.35	9.37	13
HT40	BPSK	1	5230	8.42	0.00	8.42	13
HT40	QPSK	1	5230	8.74	0.19	8.55	13
HT40	16QAM	1	5230	9.13	0.36	8.77	13
HT40	64QAM	1	5230	10.47	0.64	9.83	13

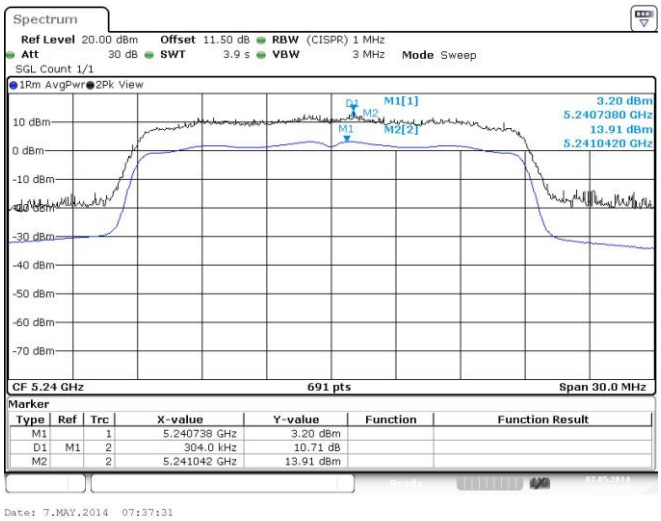
Mode	Modulation Mode	N_{TX}	Freq. (MHz)	Measured value(dB)	Duty factor (dB)	Peak Excursion (dB)	Limit
11a	BPSK	1	5260	7.53	0.00	7.53	13
11a	QPSK	1	5260	9.14	0.00	9.14	13
11a	16QAM	1	5260	9.64	0.16	9.48	13
11a	64QAM	1	5260	9.97	0.34	9.63	13
HT20	BPSK	1	5260	7.59	0.00	7.59	13
HT20	QPSK	1	5260	9.2	0.00	9.20	13
HT20	16QAM	1	5260	9.81	0.15	9.66	13
HT20	64QAM	1	5260	9.17	0.35	8.82	13
HT40	BPSK	1	5270	8.19	0.00	8.19	13
HT40	QPSK	1	5270	10.4	0.19	10.21	13
HT40	16QAM	1	5270	9.13	0.36	8.77	13
HT40	64QAM	1	5270	10.4	0.64	9.76	13

Note: Measured value = Peak-max-hold spectrum to the maximum of the average spectrum for continuous transmission. Since the duty cycle is < 98 %, duty factor is required to average spectrum
Peak exclusion = Measured value – duty factor

Mode	Modulation Mode	N_{TX}	Freq. (MHz)	Measured value(dB)	Duty factor (dB)	Peak Excursion (dB)	Limit
11a	BPSK	1	5580	8.17	0.00	8.17	13
11a	QPSK	1	5580	9.05	0.00	9.05	13
11a	16QAM	1	5580	9.55	0.16	9.39	13
11a	64QAM	1	5580	9.93	0.34	9.59	13
HT20	BPSK	1	5580	7.72	0.00	7.72	13
HT20	QPSK	1	5580	8.96	0.00	8.96	13
HT20	16QAM	1	5580	9.15	0.15	9.00	13
HT20	64QAM	1	5580	9.67	0.35	9.32	13
HT40	BPSK	1	5550	7.95	0.00	7.95	13
HT40	QPSK	1	5550	9.28	0.19	9.09	13
HT40	16QAM	1	5550	9.18	0.36	8.82	13
HT40	64QAM	1	5550	10.83	0.64	10.19	13

Note: Measured value = Peak-max-hold spectrum to the maximum of the average spectrum for continuous transmission. Since the duty cycle is < 98 %, duty factor is required to average spectrum
Peak exclusion = Measured value – duty factor

Worst Plots



Note: Measured value
= Peak-max-hold spectrum to the maximum of the average spectrum for continuous transmission
= Mark 2 – Mark 1

3.6 Transmitter Radiated and Band Edge Emissions

3.6.1 Limit of Transmitter Radiated and Band Edge Emissions

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

Note 1:
Qusai-Peak value is measured for frequency below 1GHz except for 9–90 kHz, 110–490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit
Note 2:
Measurements may be performed at a distance other than what is specified provided. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor as below, Frequency at or above 30 MHz: 20 dB/decade Frequency below 30 MHz: 40 dB/decade.

Un-restricted band emissions above 1GHz Limit	
Operating Band	**Limit**
5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.25 - 5.35 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.47 - 5.725 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.725 - 5.825 GHz	5.715 5.725 GHz: e.i.r.p. -17 dBm [78.2 dBuV/m@3m] 5.825 5.835 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).

3.6.2 Test Procedures

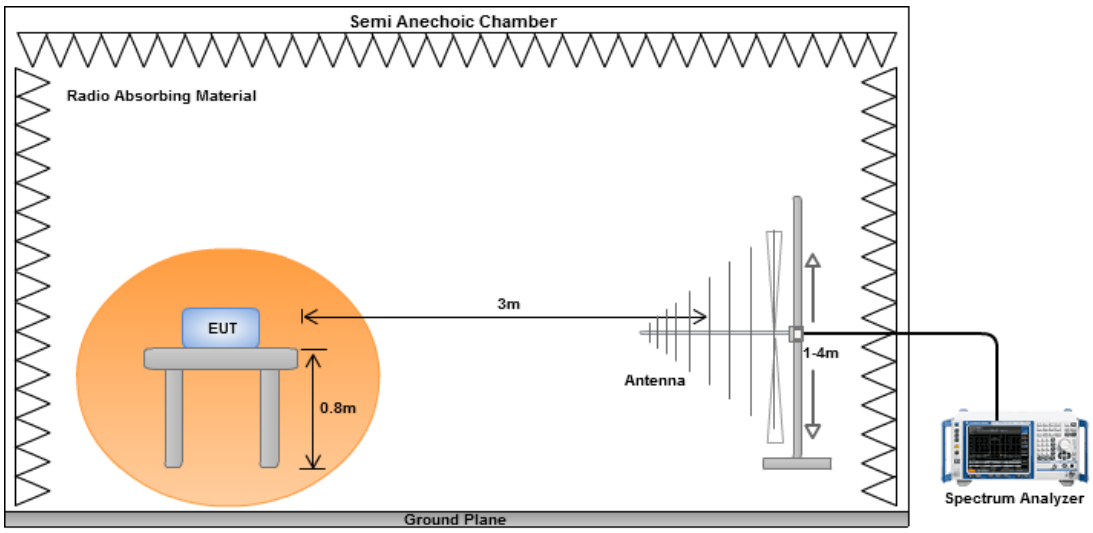
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at a height of 0.8 m test table above the ground plane.
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:

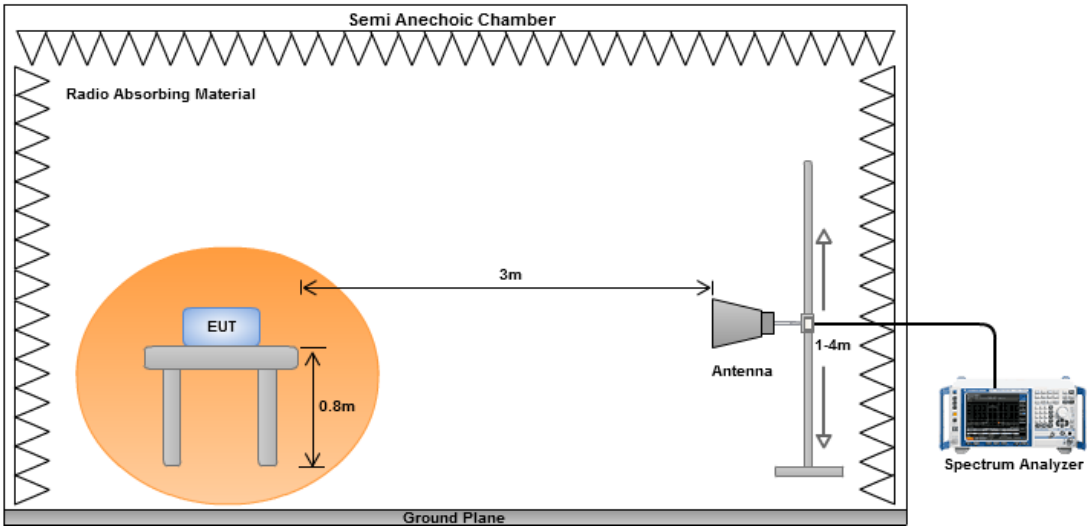
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

3.6.3 Test Setup

Radiated Emissions below 1 GHz

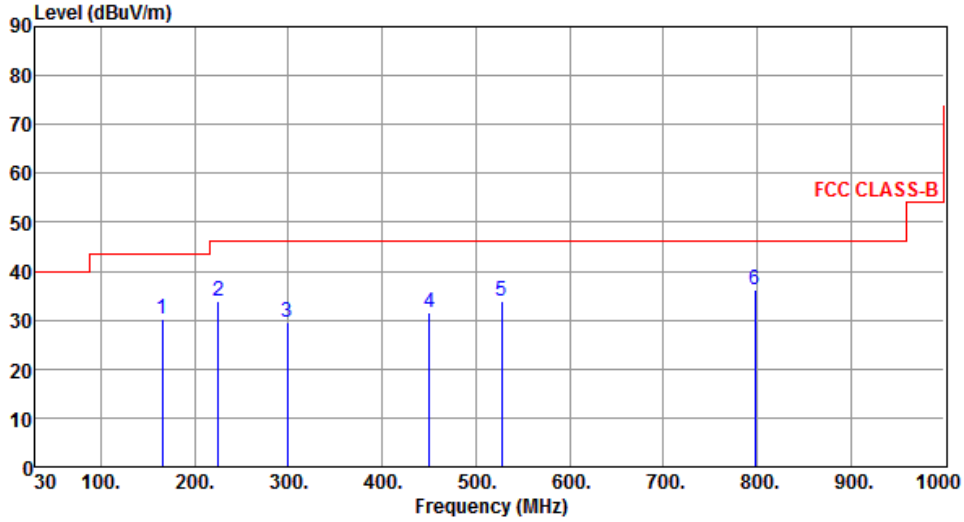


Radiated Emissions above 1 GHz



3.6.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

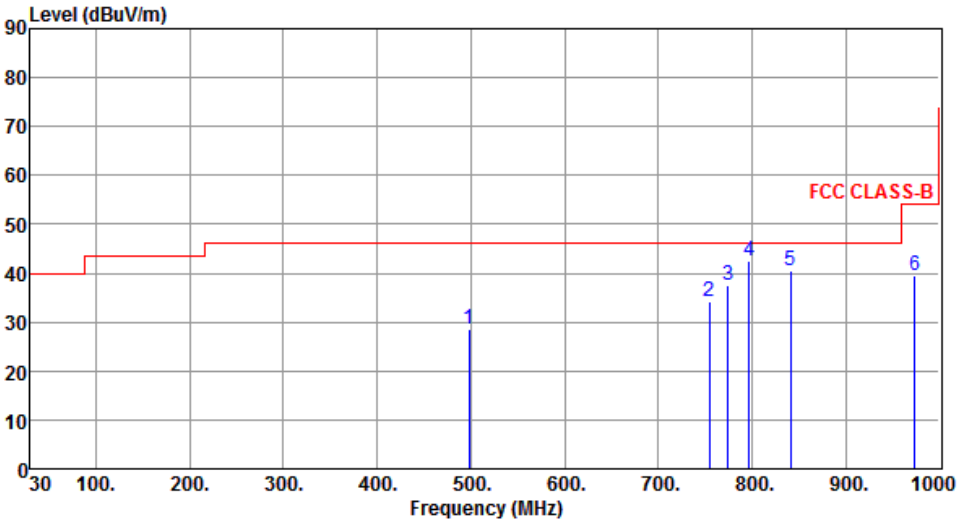
Modulation	HT40	**Test Freq. (MHz)**	5270
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	165.18	30.14	43.50	-13.36	47.27	-17.13	Peak	---	---
2	225.24	34.01	46.00	-11.99	52.85	-18.84	Peak	---	---
3	298.45	29.56	46.00	-16.44	45.76	-16.20	Peak	---	---
4	450.47	31.63	46.00	-14.37	44.14	-12.51	Peak	---	---
5	527.96	33.84	46.00	-12.16	44.91	-11.07	Peak	---	---
6	797.64	36.18	46.00	-9.82	42.98	-6.80	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	HT40	Test Freq. (MHz)	5270
Polarization	Vertical		

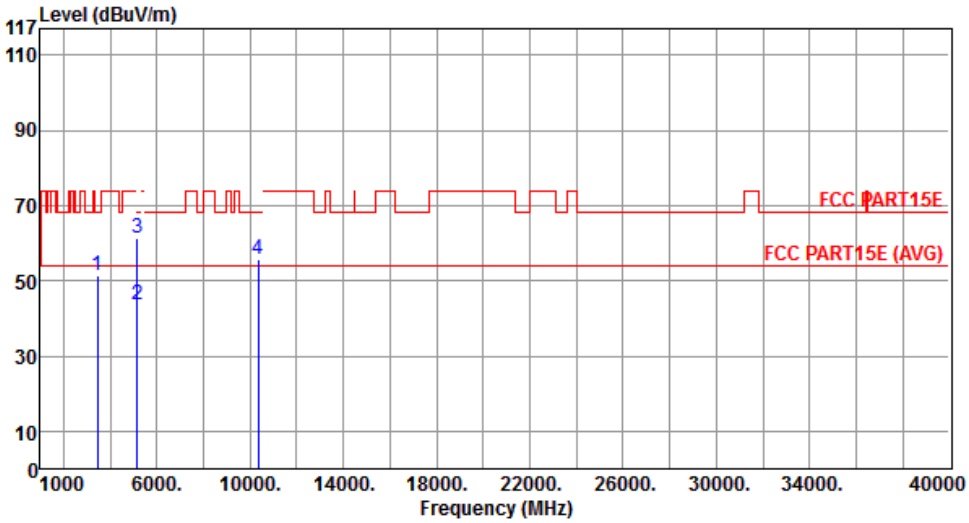


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	498.16	28.68	46.00	-17.32	40.27	-11.59	Peak	---	---
2	754.48	34.22	46.00	-11.78	41.41	-7.19	Peak	---	---
3	774.35	37.51	46.00	-8.49	44.52	-7.01	Peak	---	---
4	797.38	42.55	46.00	-3.45	49.35	-6.80	Peak	---	---
5	841.47	40.68	46.00	-5.32	46.93	-6.25	Peak	---	---
6	973.45	39.52	54.00	-14.48	44.08	-4.56	Peak	---	---

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

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

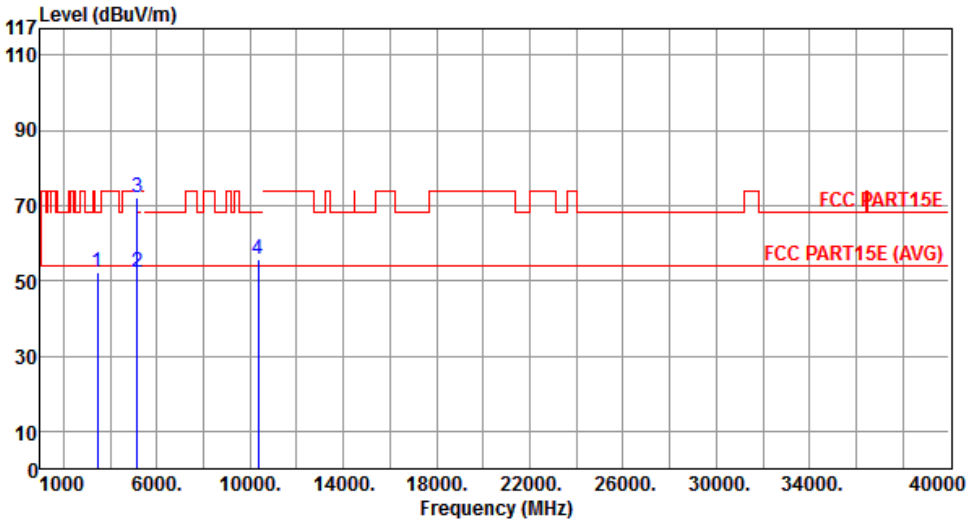
Modulation	11a	Test Freq. (MHz)	5180
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3453.00	51.53	68.20	-16.67	51.89	-0.36	Peak	---	---
2	5150.00	43.41	54.00	-10.59	37.85	5.56	Average	---	---
3	5150.00	61.18	74.00	-12.82	55.62	5.56	Peak	---	---
4	10360.00	55.49	68.20	-12.71	40.42	15.07	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).

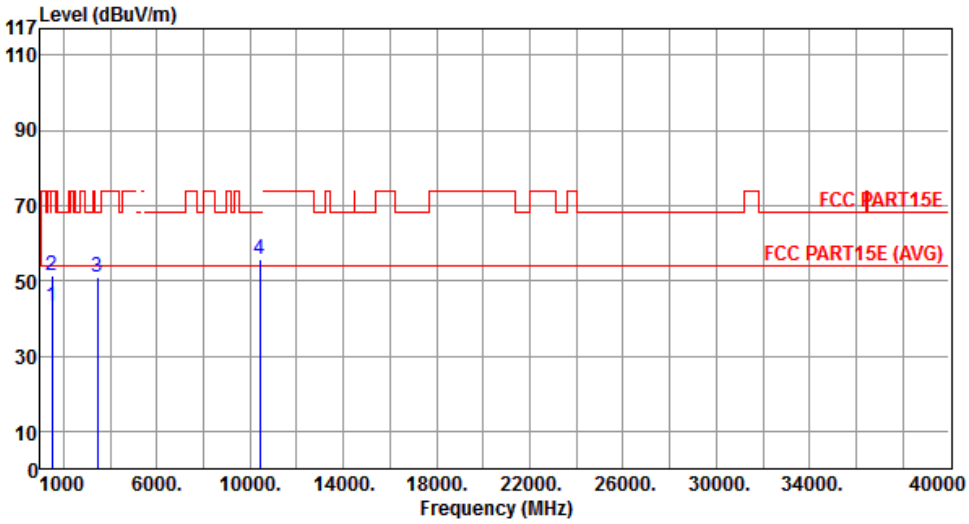
Modulation	11a	Test Freq. (MHz)	5180
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3453.00	52.06	68.20	-16.14	52.42	-0.36	Peak	---	---
2	5150.00	52.19	54.00	-1.81	46.63	5.56	Average	---	---
3	5150.00	71.95	74.00	-2.05	66.39	5.56	Peak	---	---
4	10360.00	55.82	68.20	-12.38	40.75	15.07	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).

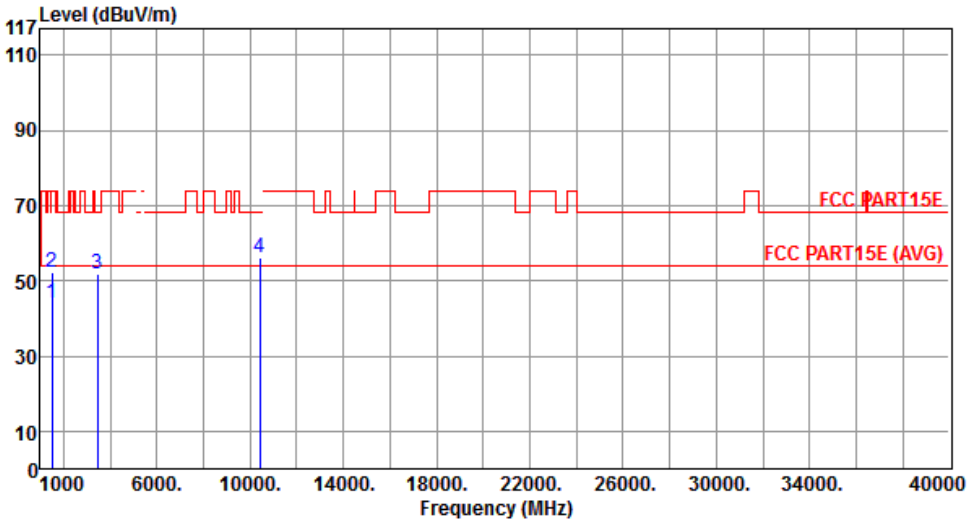
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	1500.00	43.12	54.00	-10.88	50.25	-7.13	Average	---	---
2	1500.00	51.28	74.00	-22.72	58.41	-7.13	Peak	---	---
3	3467.00	51.09	68.20	-17.11	51.42	-0.33	Peak	---	---
4	10400.00	55.68	68.20	-12.52	40.55	15.13	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).

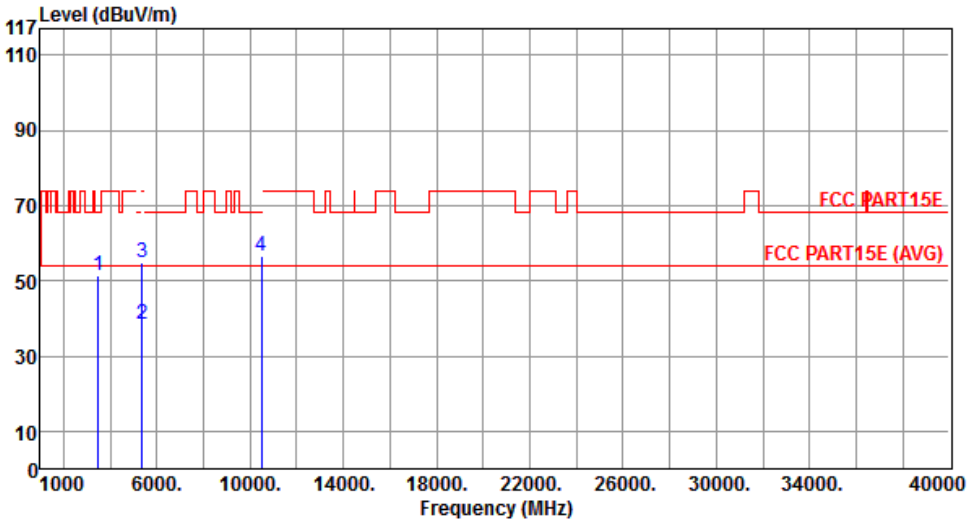
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	1500.00	44.18	54.00	-9.82	51.31	-7.13	Average	---	---
2	1500.00	52.43	74.00	-21.57	59.56	-7.13	Peak	---	---
3	3467.00	51.72	68.20	-16.48	52.05	-0.33	Peak	---	---
4	10400.00	56.07	68.20	-12.13	40.94	15.13	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).

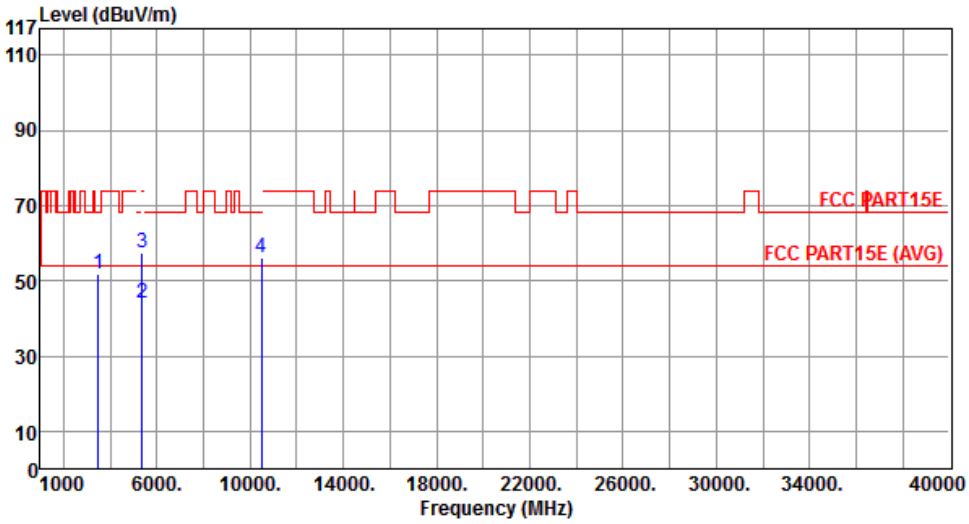
Modulation	11a	Test Freq. (MHz)	5240
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3493.00	51.29	68.20	-16.91	51.57	-0.28	Peak	---	---
2	5350.00	38.27	54.00	-15.73	32.56	5.71	Average	---	---
3	5350.00	54.82	74.00	-19.18	49.11	5.71	Peak	---	---
4	10480.00	56.39	68.20	-11.81	41.15	15.24	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).

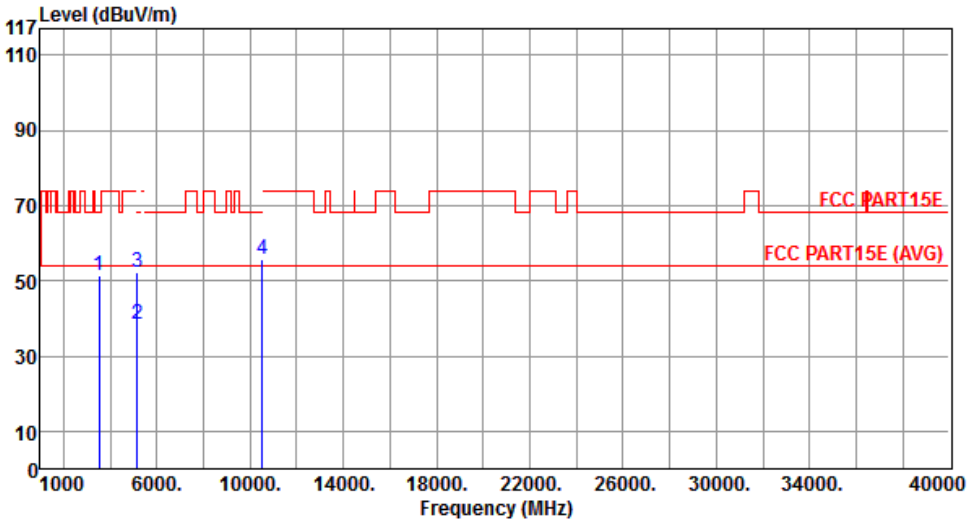
Modulation	11a	Test Freq. (MHz)	5240
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3493.00	51.95	68.20	-16.25	52.23	-0.28	Peak	---	---
2	5350.00	44.02	54.00	-9.98	38.31	5.71	Average	---	---
3	5350.00	57.61	74.00	-16.39	51.90	5.71	Peak	---	---
4	10480.00	56.13	68.20	-12.07	40.89	15.24	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).

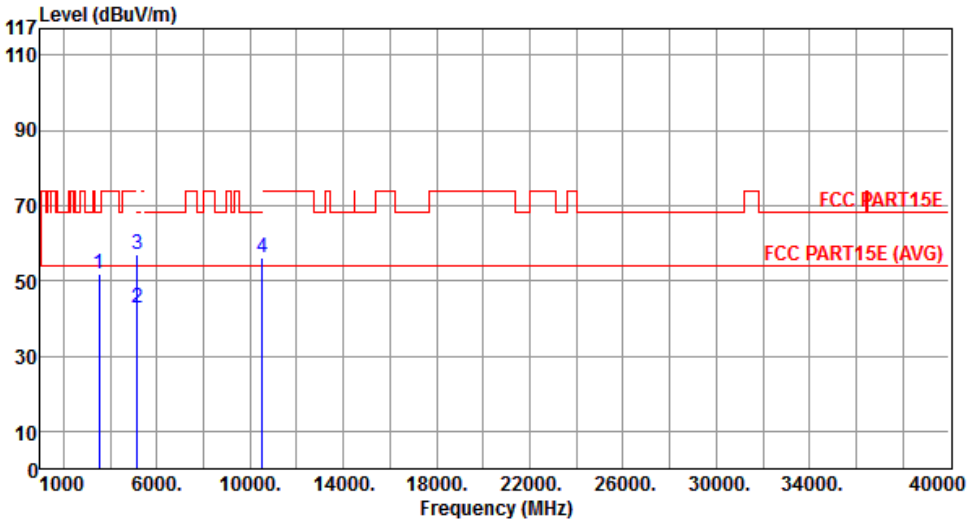
Modulation	11a	Test Freq. (MHz)	5260
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3507.00	51.39	68.20	-16.81	51.63	-0.24	Peak	---	---
2	5150.00	38.49	54.00	-15.51	32.93	5.56	Average	---	---
3	5150.00	52.28	74.00	-21.72	46.72	5.56	Peak	---	---
4	10520.00	55.78	68.20	-12.42	40.51	15.27	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).

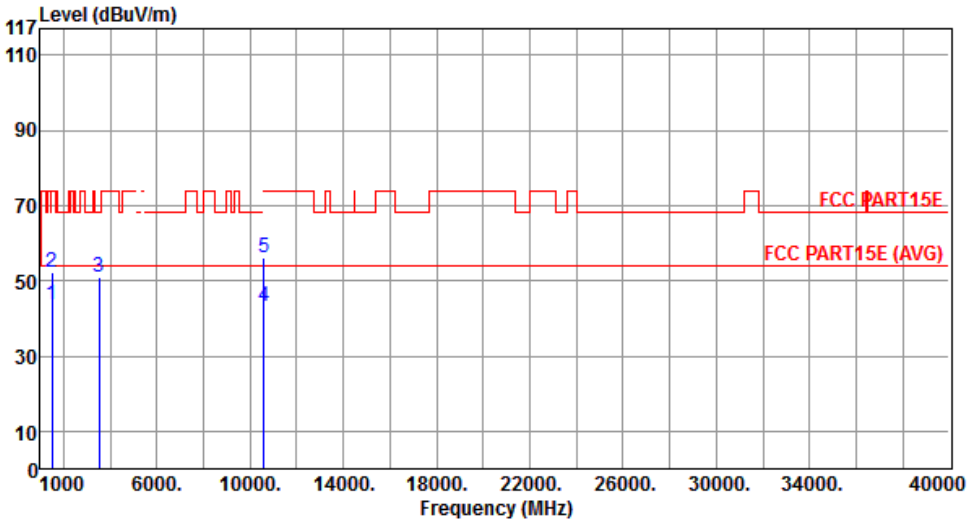
Modulation	11a	**Test Freq. (MHz)**	5260
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3507.00	51.97	68.20	-16.23	52.21	-0.24	Peak	---	---
2	5150.00	42.81	54.00	-11.19	37.25	5.56	Average	---	---
3	5150.00	56.82	74.00	-17.18	51.26	5.56	Peak	---	---
4	10520.00	56.08	68.20	-12.12	40.81	15.27	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).

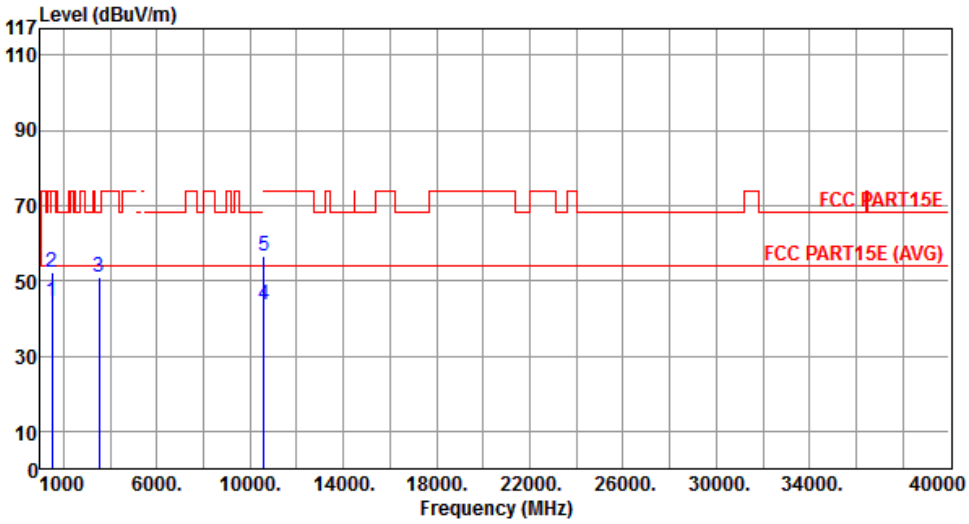
Modulation	11a	Test Freq. (MHz)	5300
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	1500.00	43.67	54.00	-10.33	50.80	-7.13	Average	---	---
2	1500.00	52.14	74.00	-21.86	59.27	-7.13	Peak	---	---
3	3533.00	50.82	68.20	-17.38	50.97	-0.15	Peak	---	---
4	10600.00	43.17	54.00	-10.83	27.87	15.30	Average	---	---
5	10600.00	56.09	74.00	-17.91	40.79	15.30	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).

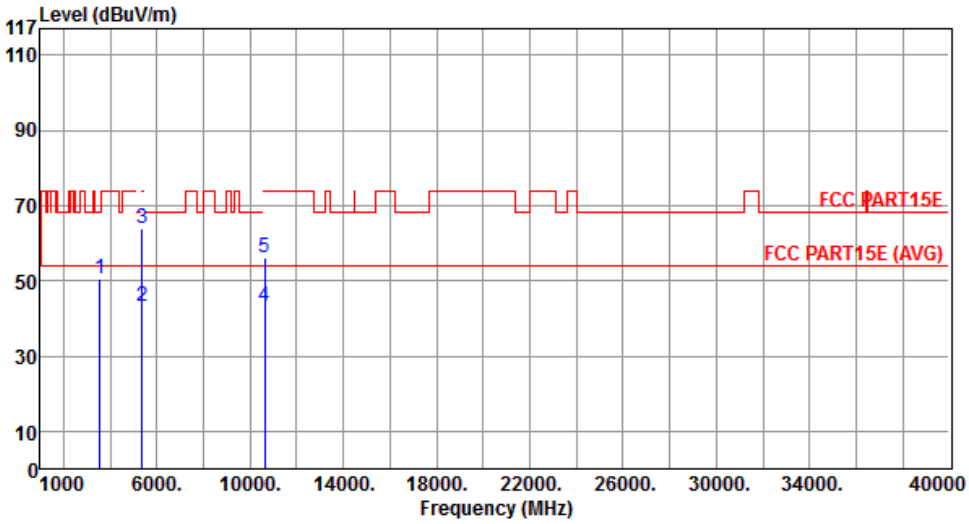
Modulation	11a	Test Freq. (MHz)	5300
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	1500.00	44.26	54.00	-9.74	51.39	-7.13	Average	---	---
2	1500.00	52.31	74.00	-21.69	59.44	-7.13	Peak	---	---
3	3533.00	51.11	68.20	-17.09	51.26	-0.15	Peak	---	---
4	10600.00	43.41	54.00	-10.59	28.11	15.30	Average	---	---
5	10600.00	56.37	74.00	-17.63	41.07	15.30	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).

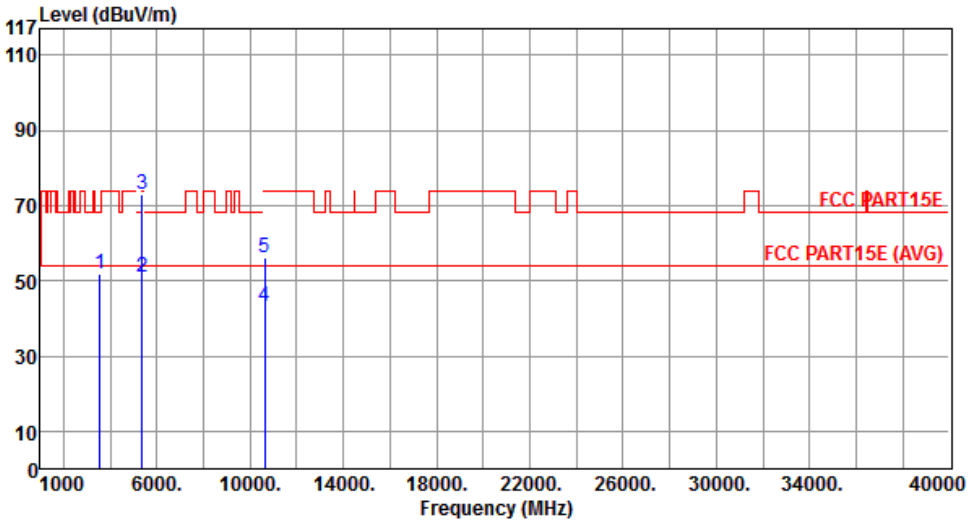
Modulation	11a	**Test Freq. (MHz)**	5320
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3547.00	50.72	68.20	-17.48	50.82	-0.10	Peak	---	---
2	5350.00	43.38	54.00	-10.62	37.67	5.71	Average	---	---
3	5350.00	64.06	74.00	-9.94	58.35	5.71	Peak	---	---
4	10640.00	43.12	54.00	-10.88	27.80	15.32	Average	---	---
5	10640.00	56.19	74.00	-17.81	40.87	15.32	Peak	---	---

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

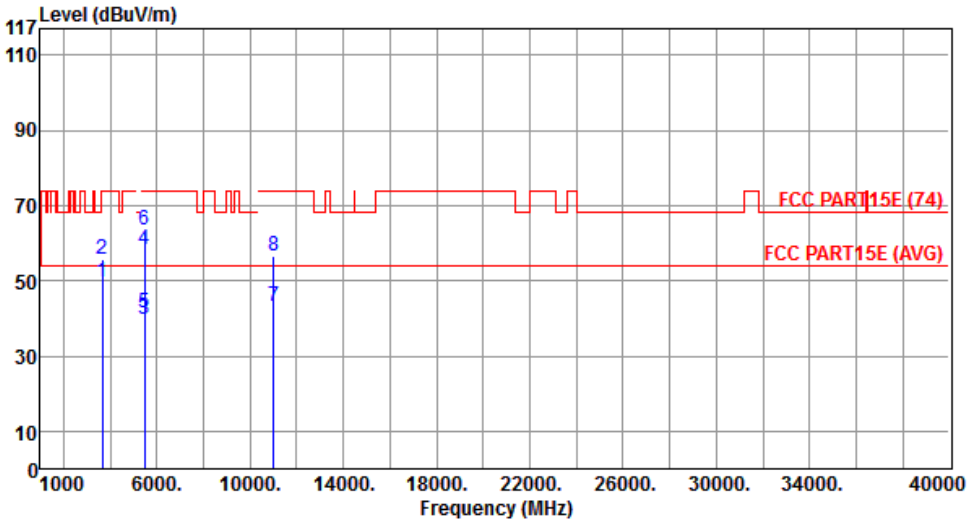
Modulation	11a	**Test Freq. (MHz)**	5320
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3547.00	51.68	68.20	-16.52	51.78	-0.10	Peak	---	---
2	5350.00	51.03	54.00	-2.97	45.32	5.71	Average	---	---
3	5350.00	72.88	74.00	-1.12	67.17	5.71	Peak	---	---
4	10640.00	43.13	54.00	-10.87	27.81	15.32	Average	---	---
5	10640.00	56.18	74.00	-17.82	40.86	15.32	Peak	---	---

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

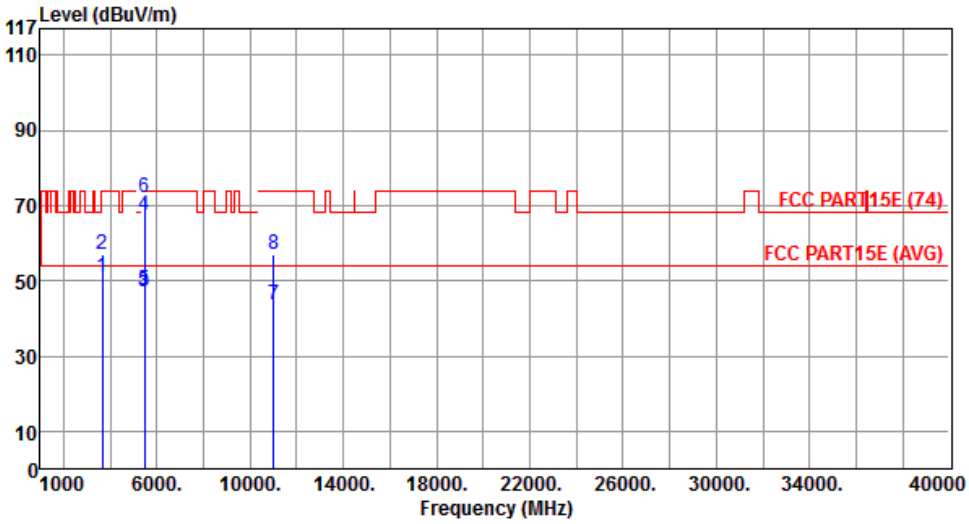
Modulation	11a	**Test Freq. (MHz)**	5500
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3667.00	49.45	54.00	-4.55	49.13	0.32	Average	---	---
2	3667.00	55.76	74.00	-18.24	55.44	0.32	Peak	---	---
3	5460.00	39.58	54.00	-14.42	33.90	5.68	Average	---	---
4	5460.00	58.36	74.00	-15.64	52.68	5.68	Peak	---	---
5	5470.00	41.29	54.00	-12.71	35.63	5.66	Average	---	---
6	5470.00	63.48	74.00	-10.52	57.82	5.66	Peak	---	---
7	11000.00	43.16	54.00	-10.84	27.71	15.45	Average	---	---
8	11000.00	56.38	74.00	-17.62	40.93	15.45	Peak	---	---

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

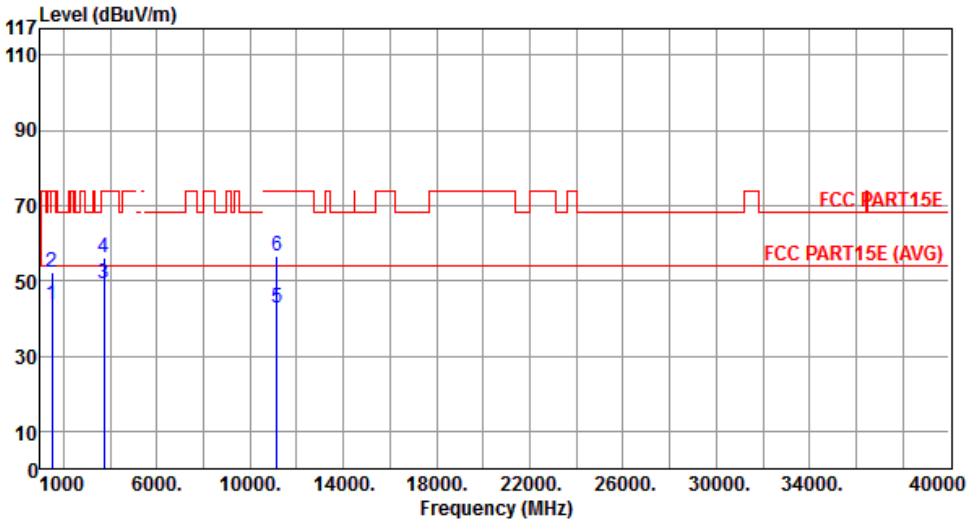
Modulation	11a	Test Freq. (MHz)	5500
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3667.00	50.84	54.00	-3.16	50.52	0.32	Average	---	---
2	3667.00	56.82	74.00	-17.18	56.50	0.32	Peak	---	---
3	5460.00	46.87	54.00	-7.13	41.19	5.68	Average	---	---
4	5460.00	67.28	74.00	-6.72	61.60	5.68	Peak	---	---
5	5470.00	47.51	54.00	-6.49	41.85	5.66	Average	---	---
6	5470.00	72.14	74.00	-1.86	66.48	5.66	Peak	---	---
7	11000.00	43.81	54.00	-10.19	28.36	15.45	Average	---	---
8	11000.00	56.94	74.00	-17.06	41.49	15.45	Peak	---	---

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

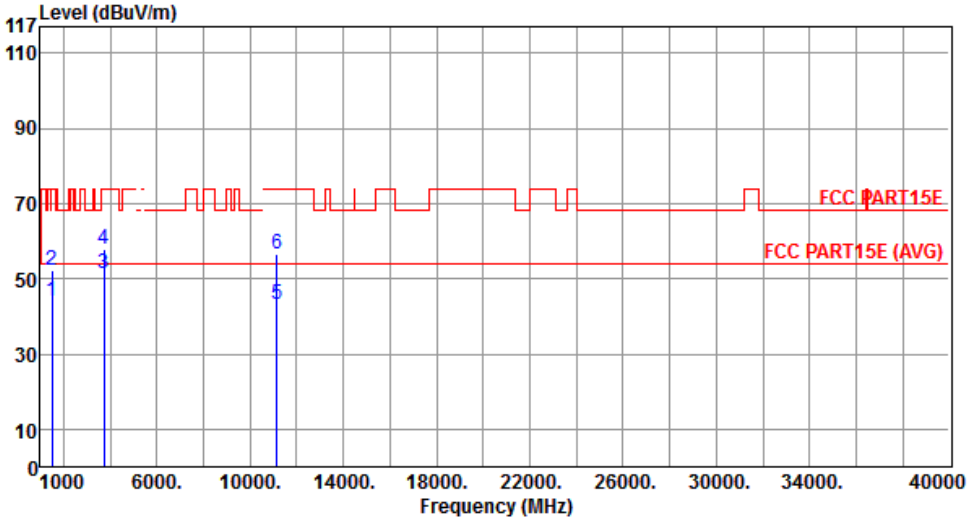
Modulation	11a	**Test Freq. (MHz)**	5580
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	1500.00	43.78	54.00	-10.22	50.91	-7.13	Average	---	---
2	1500.00	52.06	74.00	-21.94	59.19	-7.13	Peak	---	---
3	3720.00	49.41	54.00	-4.59	48.89	0.52	Average	---	---
4	3720.00	56.08	74.00	-17.92	55.56	0.52	Peak	---	---
5	11160.00	42.87	54.00	-11.13	27.70	15.17	Average	---	---
6	11160.00	56.39	74.00	-17.61	41.22	15.17	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).

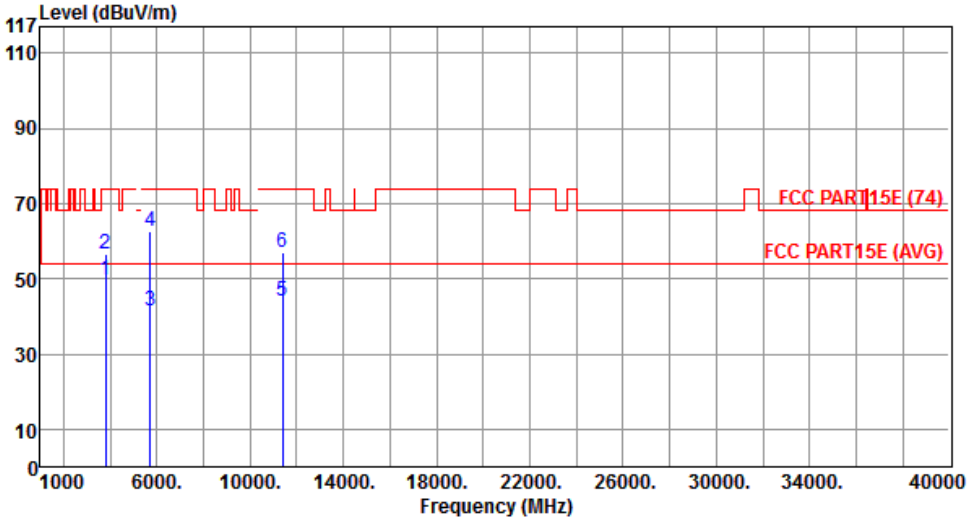
Modulation	11a	Test Freq. (MHz)	5580
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	1500.00	44.15	54.00	-9.85	51.28	-7.13	Average	---	---
2	1500.00	52.36	74.00	-21.64	59.49	-7.13	Peak	---	---
3	3720.00	51.49	54.00	-2.51	50.97	0.52	Average	---	---
4	3720.00	57.86	74.00	-16.14	57.34	0.52	Peak	---	---
5	11160.00	43.18	54.00	-10.82	28.01	15.17	Average	---	---
6	11160.00	56.72	74.00	-17.28	41.55	15.17	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).

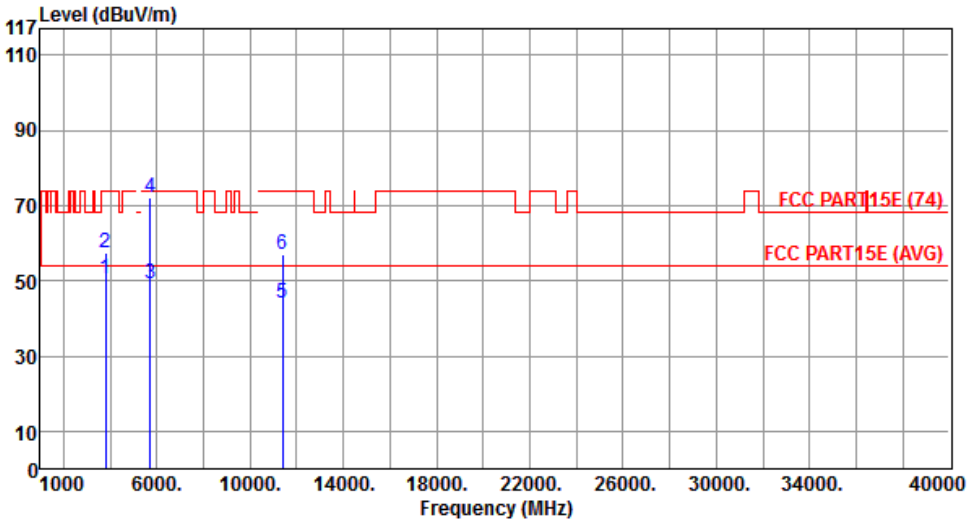
Modulation	11a	Test Freq. (MHz)	5700
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3800.00	49.53	54.00	-4.47	48.71	0.82	Average	---	---
2	3800.00	56.39	74.00	-17.61	55.57	0.82	Peak	---	---
3	5725.00	41.32	54.00	-12.68	35.74	5.58	Average	---	---
4	5725.00	62.43	74.00	-11.57	56.85	5.58	Peak	---	---
5	11400.00	44.02	54.00	-9.98	29.28	14.74	Average	---	---
6	11400.00	57.09	74.00	-16.91	42.35	14.74	Peak	---	---

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

Modulation	11a	**Test Freq. (MHz)**	5700
Polarization	Vertical		

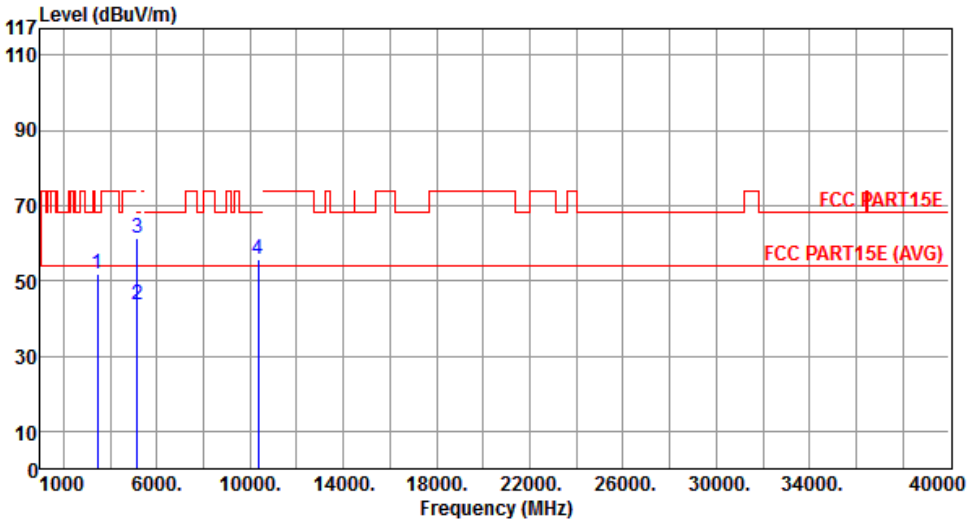


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3800.00	50.72	54.00	-3.28	49.90	0.82	Average	---	---
2	3800.00	57.48	74.00	-16.52	56.66	0.82	Peak	---	---
3	5725.00	49.28	54.00	-4.72	43.70	5.58	Average	---	---
4	5725.00	72.10	74.00	-1.90	66.52	5.58	Peak	---	---
5	11400.00	44.18	54.00	-9.82	29.44	14.74	Average	---	---
6	11400.00	57.04	74.00	-16.96	42.30	14.74	Peak	---	---

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

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

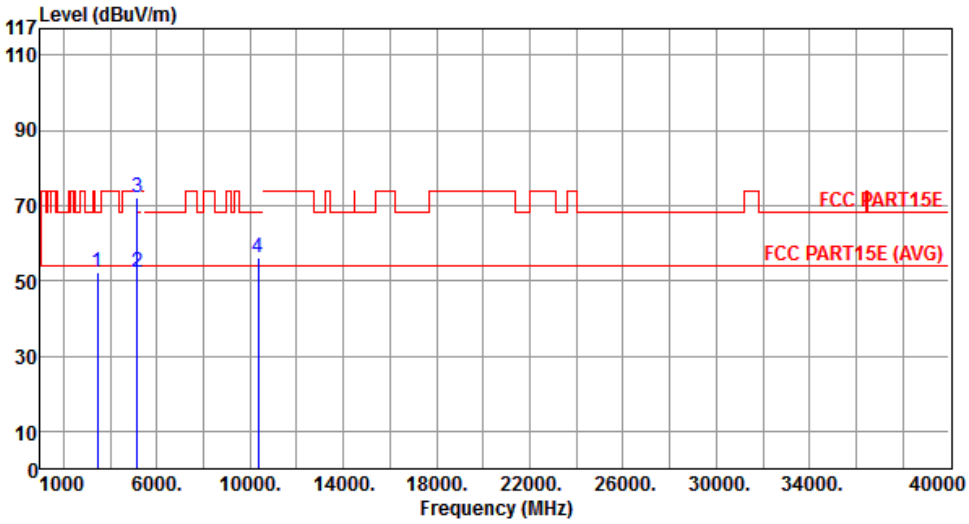
Modulation	HT20	Test Freq. (MHz)	5180
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3453.00	51.68	68.20	-16.52	52.04	-0.36	Peak	---	---
2	5150.00	43.52	54.00	-10.48	37.96	5.56	Average	---	---
3	5150.00	61.25	74.00	-12.75	55.69	5.56	Peak	---	---
4	10360.00	55.63	68.20	-12.57	40.56	15.07	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).

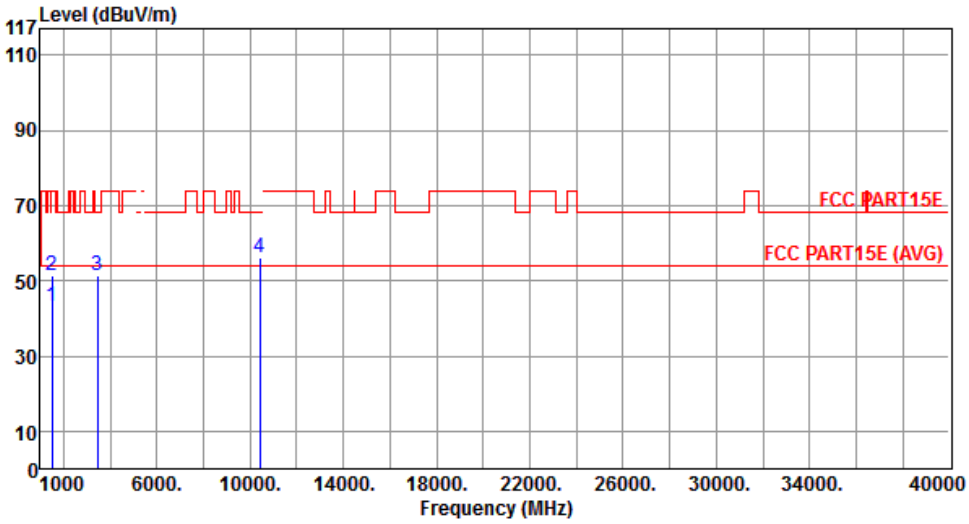
Modulation	HT20	Test Freq. (MHz)	5180
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3453.00	52.19	68.20	-16.01	52.55	-0.36	Peak	---	---
2	5150.00	52.25	54.00	-1.75	46.69	5.56	Average	---	---
3	5150.00	72.06	74.00	-1.94	66.50	5.56	Peak	---	---
4	10360.00	55.94	68.20	-12.26	40.87	15.07	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).

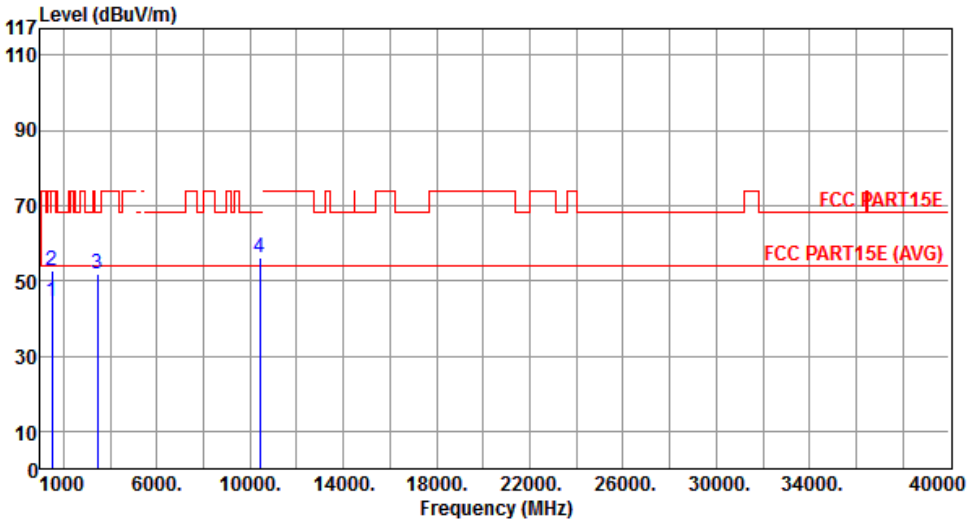
Modulation	HT20	Test Freq. (MHz)	5200
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	1500.00	43.24	54.00	-10.76	50.37	-7.13	Average	---	---
2	1500.00	51.49	74.00	-22.51	58.62	-7.13	Peak	---	---
3	3467.00	51.28	68.20	-16.92	51.61	-0.33	Peak	---	---
4	10400.00	55.94	68.20	-12.26	40.81	15.13	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).

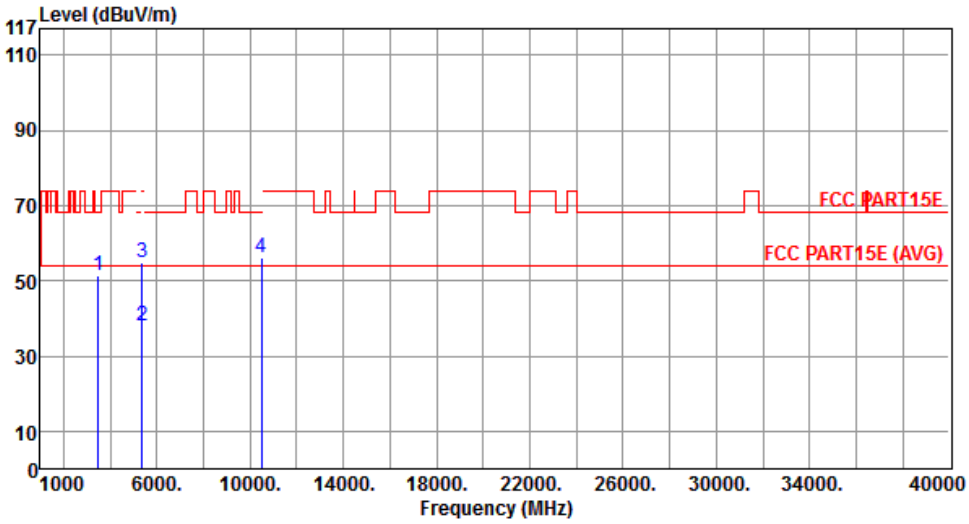
Modulation	HT20	**Test Freq. (MHz)**	5200
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	1500.00	44.36	54.00	-9.64	51.49	-7.13	Average	---	---
2	1500.00	52.68	74.00	-21.32	59.81	-7.13	Peak	---	---
3	3467.00	51.96	68.20	-16.24	52.29	-0.33	Peak	---	---
4	10400.00	56.18	68.20	-12.02	41.05	15.13	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).

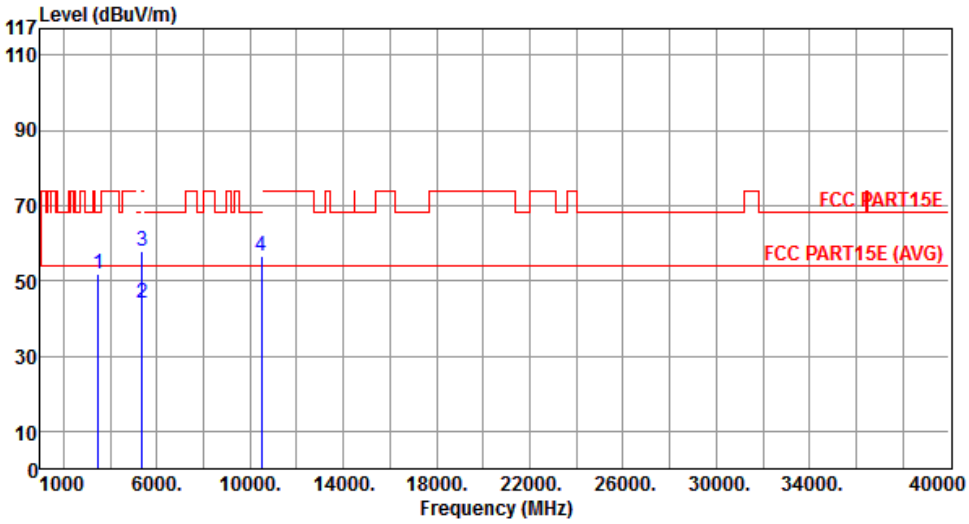
Modulation	HT20	**Test Freq. (MHz)**	5240
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3493.00	51.42	68.20	-16.78	51.70	-0.28	Peak	---	---
2	5350.00	38.14	54.00	-15.86	32.43	5.71	Average	---	---
3	5350.00	54.65	74.00	-19.35	48.94	5.71	Peak	---	---
4	10480.00	56.21	68.20	-11.99	40.97	15.24	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).

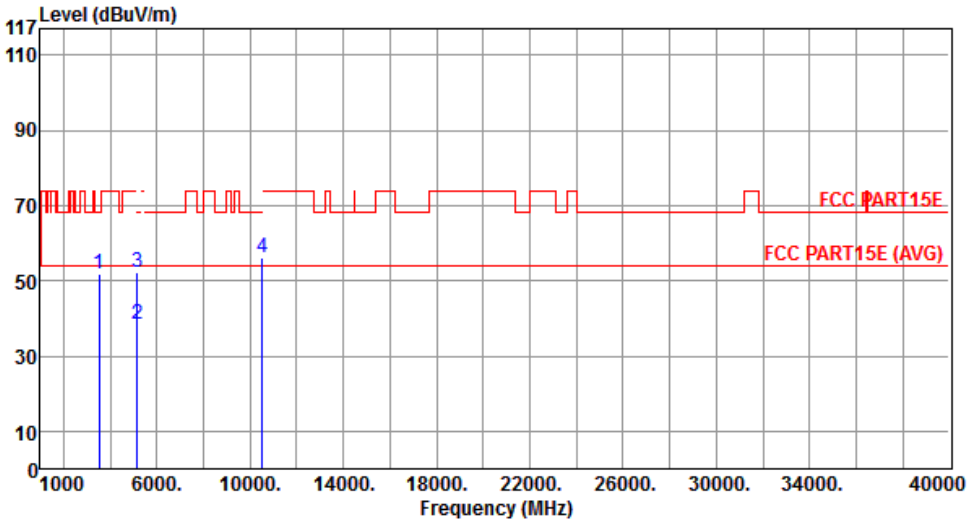
Modulation	HT20	Test Freq. (MHz)	5240
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3493.00	51.85	68.20	-16.35	52.13	-0.28	Peak	---	---
2	5350.00	44.17	54.00	-9.83	38.46	5.71	Average	---	---
3	5350.00	57.76	74.00	-16.24	52.05	5.71	Peak	---	---
4	10480.00	56.38	68.20	-11.82	41.14	15.24	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).

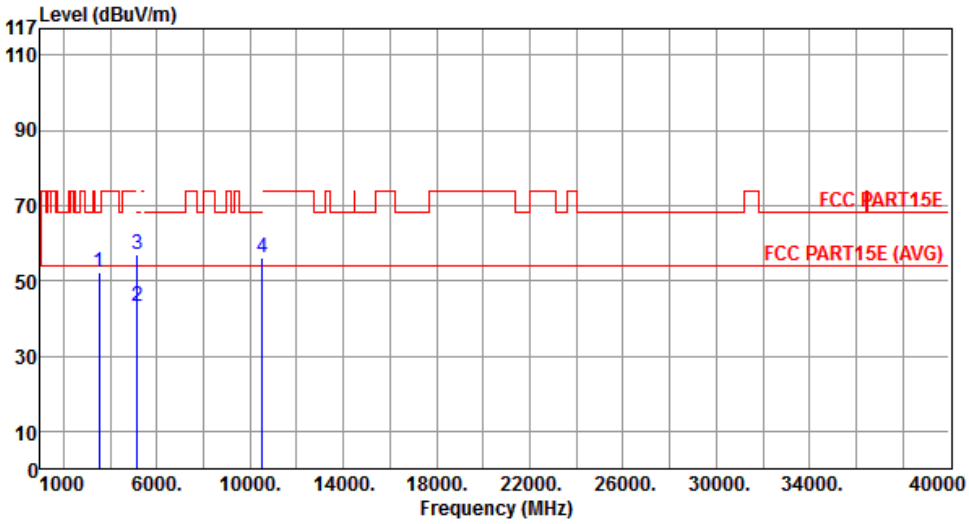
Modulation	HT20	Test Freq. (MHz)	5260
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3507.00	51.64	68.20	-16.56	51.88	-0.24	Peak	---	---
2	5150.00	38.62	54.00	-15.38	33.06	5.56	Average	---	---
3	5150.00	52.39	74.00	-21.61	46.83	5.56	Peak	---	---
4	10520.00	55.92	68.20	-12.28	40.65	15.27	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).

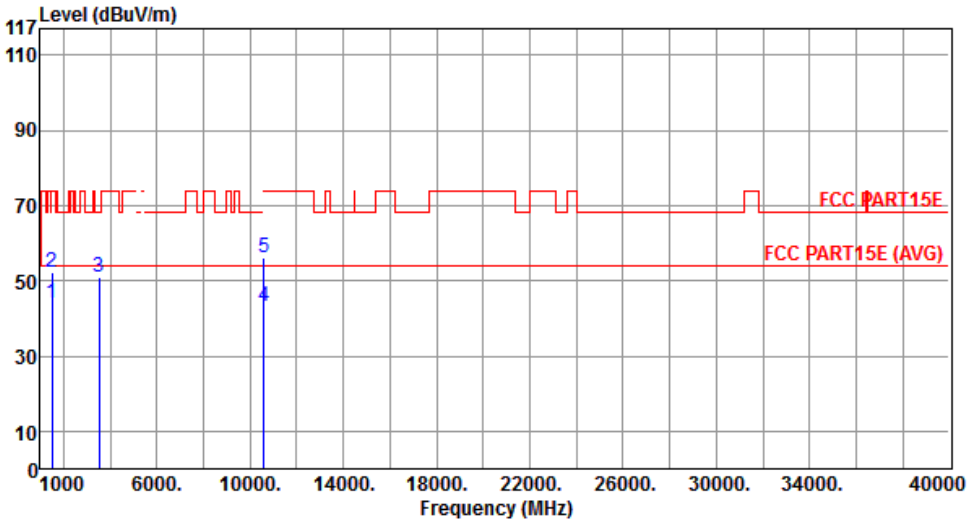
Modulation	HT20	**Test Freq. (MHz)**	5260
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3507.00	52.14	68.20	-16.06	52.38	-0.24	Peak	---	---
2	5150.00	43.04	54.00	-10.96	37.48	5.56	Average	---	---
3	5150.00	56.98	74.00	-17.02	51.42	5.56	Peak	---	---
4	10520.00	56.19	68.20	-12.01	40.92	15.27	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).

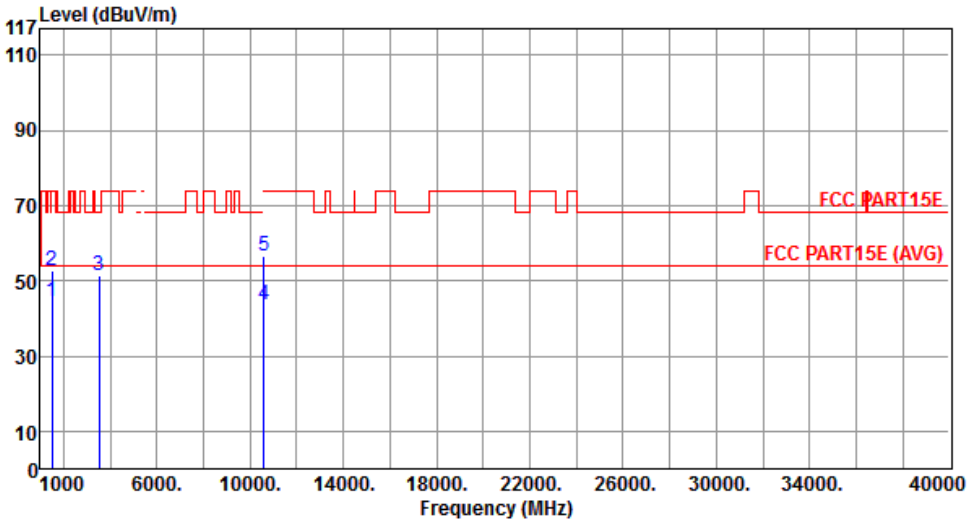
Modulation	HT20	**Test Freq. (MHz)**	5300
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	1500.00	43.91	54.00	-10.09	51.04	-7.13	Average	---	---
2	1500.00	52.33	74.00	-21.67	59.46	-7.13	Peak	---	---
3	3533.00	50.95	68.20	-17.25	51.10	-0.15	Peak	---	---
4	10600.00	43.28	54.00	-10.72	27.98	15.30	Average	---	---
5	10600.00	56.21	74.00	-17.79	40.91	15.30	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).

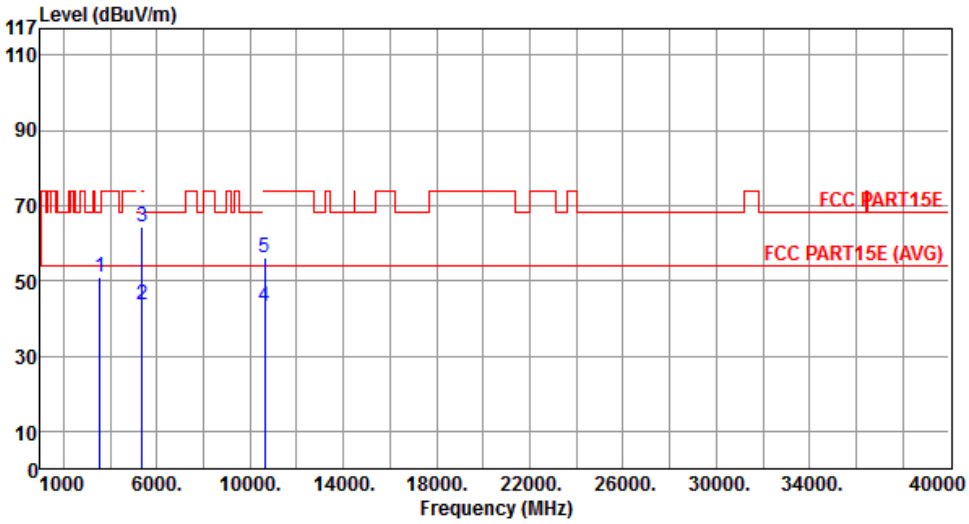
Modulation	HT20	**Test Freq. (MHz)**	5300
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	1500.00	44.39	54.00	-9.61	51.52	-7.13	Average	---	---
2	1500.00	52.48	74.00	-21.52	59.61	-7.13	Peak	---	---
3	3533.00	51.24	68.20	-16.96	51.39	-0.15	Peak	---	---
4	10600.00	43.57	54.00	-10.43	28.27	15.30	Average	---	---
5	10600.00	56.49	74.00	-17.51	41.19	15.30	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).

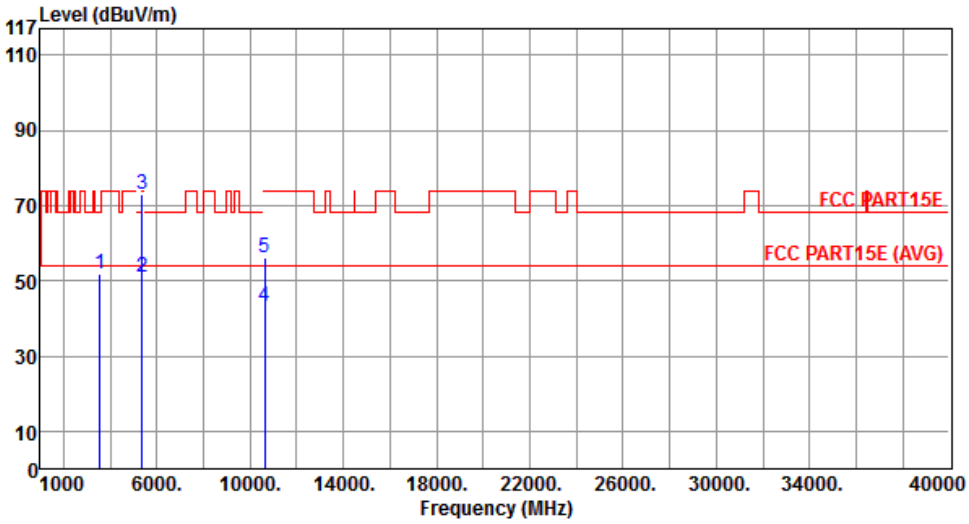
Modulation	HT20	**Test Freq. (MHz)**	5320
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3547.00	50.86	68.20	-17.34	50.96	-0.10	Peak	---	---
2	5350.00	43.56	54.00	-10.44	37.85	5.71	Average	---	---
3	5350.00	64.25	74.00	-9.75	58.54	5.71	Peak	---	---
4	10640.00	43.03	54.00	-10.97	27.71	15.32	Average	---	---
5	10640.00	56.12	74.00	-17.88	40.80	15.32	Peak	---	---

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

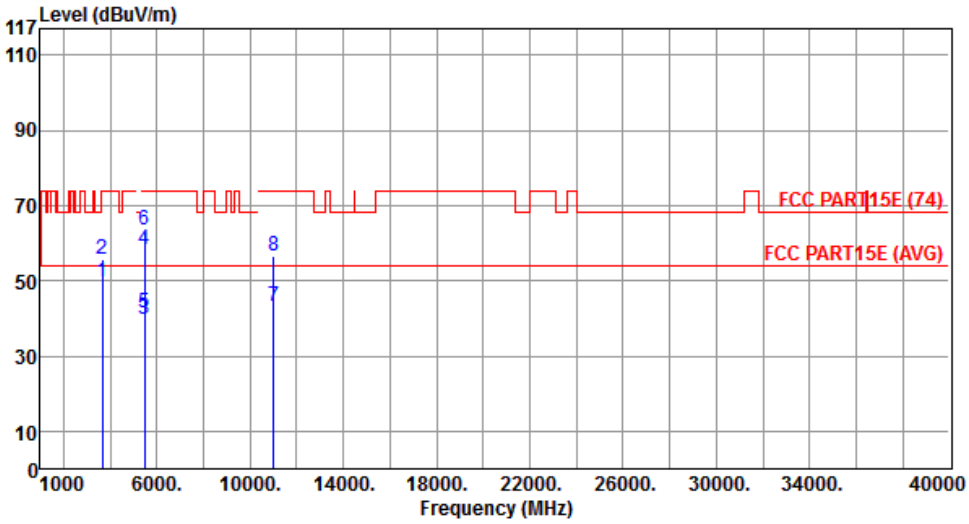
Modulation	HT20	**Test Freq. (MHz)**	5320
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3547.00	51.82	68.20	-16.38	51.92	-0.10	Peak	---	---
2	5350.00	51.14	54.00	-2.86	45.43	5.71	Average	---	---
3	5350.00	72.95	74.00	-1.05	67.24	5.71	Peak	---	---
4	10640.00	43.19	54.00	-10.81	27.87	15.32	Average	---	---
5	10640.00	56.21	74.00	-17.79	40.89	15.32	Peak	---	---

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

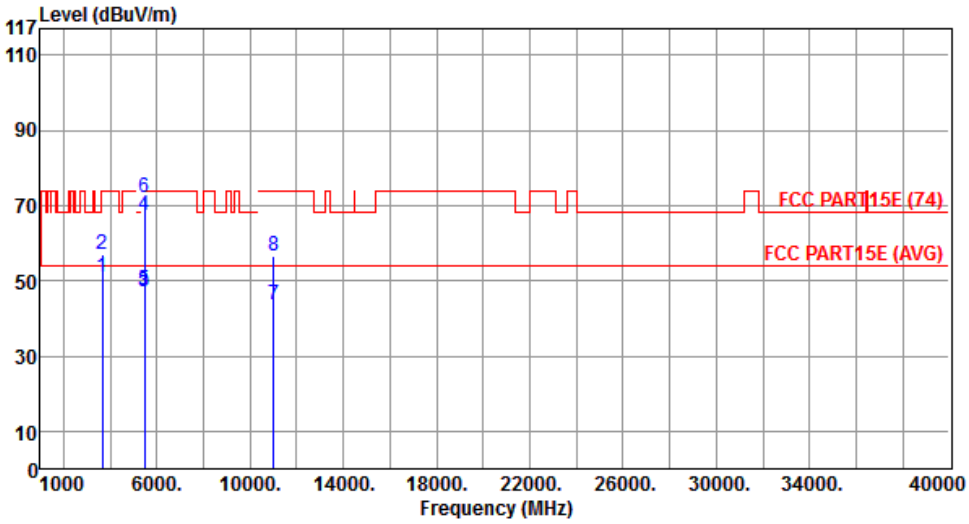
Modulation	HT20	**Test Freq. (MHz)**	5500
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3667.00	49.52	54.00	-4.48	49.20	0.32	Average	---	---
2	3667.00	55.84	74.00	-18.16	55.52	0.32	Peak	---	---
3	5460.00	39.65	54.00	-14.35	33.97	5.68	Average	---	---
4	5460.00	58.44	74.00	-15.56	52.76	5.68	Peak	---	---
5	5470.00	41.35	54.00	-12.65	35.69	5.66	Average	---	---
6	5470.00	63.54	74.00	-10.46	57.88	5.66	Peak	---	---
7	11000.00	43.24	54.00	-10.76	27.79	15.45	Average	---	---
8	11000.00	56.49	74.00	-17.51	41.04	15.45	Peak	---	---

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

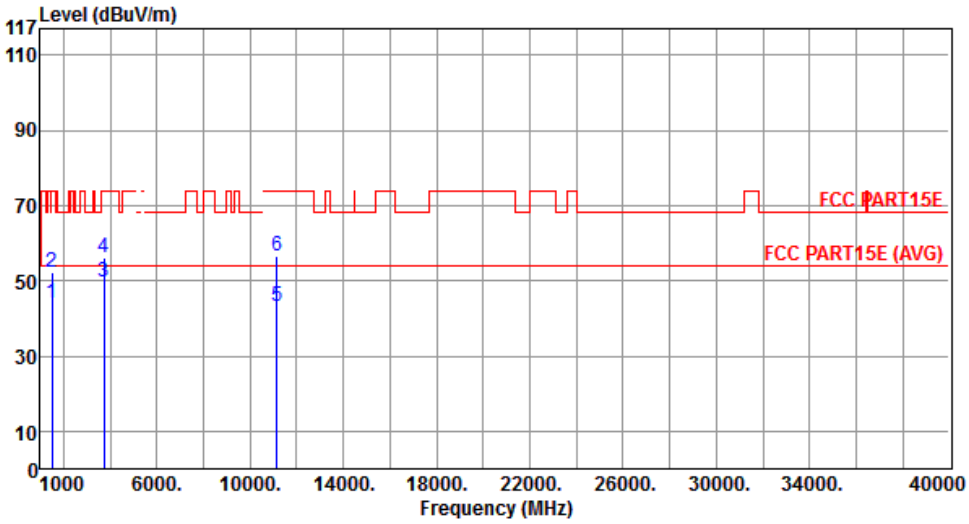
Modulation	HT20	Test Freq. (MHz)	5500
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3667.00	50.95	54.00	-3.05	50.63	0.32	Average	---	---
2	3667.00	57.04	74.00	-16.96	56.72	0.32	Peak	---	---
3	5460.00	46.99	54.00	-7.01	41.31	5.68	Average	---	---
4	5460.00	67.35	74.00	-6.65	61.67	5.68	Peak	---	---
5	5470.00	47.62	54.00	-6.38	41.96	5.66	Average	---	---
6	5470.00	72.28	74.00	-1.72	66.62	5.66	Peak	---	---
7	11000.00	43.65	54.00	-10.35	28.20	15.45	Average	---	---
8	11000.00	56.72	74.00	-17.28	41.27	15.45	Peak	---	---

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

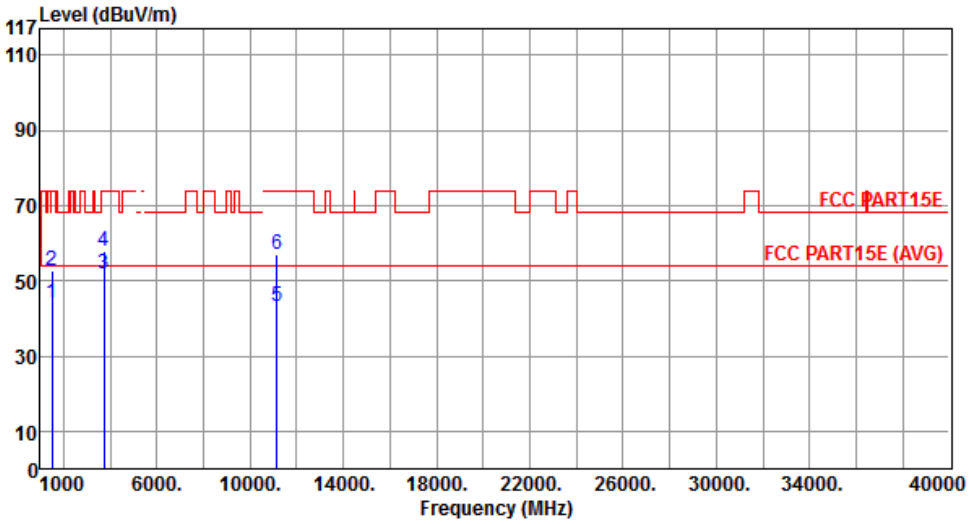
Modulation	HT20	**Test Freq. (MHz)**	5580
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	1500.00	43.89	54.00	-10.11	51.02	-7.13	Average	---	---
2	1500.00	52.14	74.00	-21.86	59.27	-7.13	Peak	---	---
3	3720.00	49.53	54.00	-4.47	49.01	0.52	Average	---	---
4	3720.00	56.22	74.00	-17.78	55.70	0.52	Peak	---	---
5	11160.00	43.06	54.00	-10.94	27.89	15.17	Average	---	---
6	11160.00	56.54	74.00	-17.46	41.37	15.17	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).

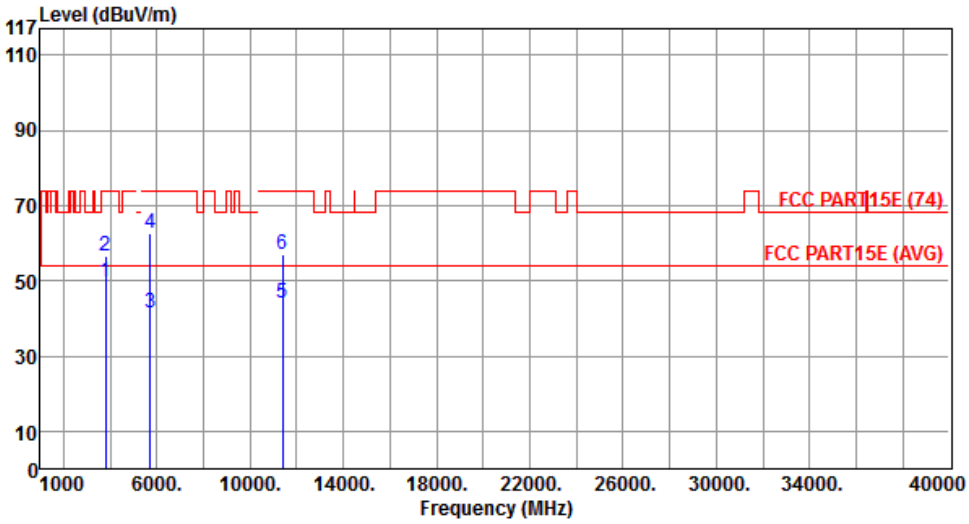
Modulation	HT20	Test Freq. (MHz)	5580
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	1500.00	44.23	54.00	-9.77	51.36	-7.13	Average	---	---
2	1500.00	52.47	74.00	-21.53	59.60	-7.13	Peak	---	---
3	3720.00	51.62	54.00	-2.38	51.10	0.52	Average	---	---
4	3720.00	58.04	74.00	-15.96	57.52	0.52	Peak	---	---
5	11160.00	43.21	54.00	-10.79	28.04	15.17	Average	---	---
6	11160.00	56.78	74.00	-17.22	41.61	15.17	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).

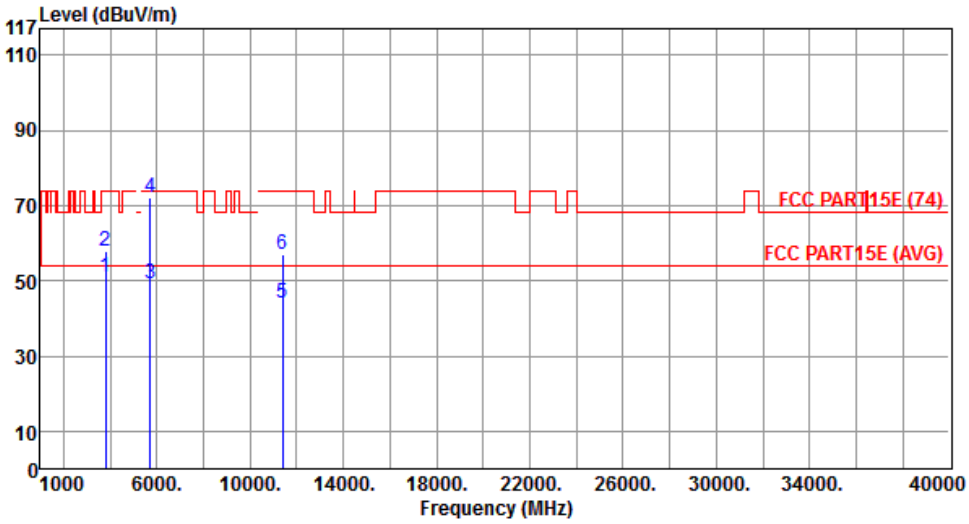
Modulation	HT20	Test Freq. (MHz)	5700
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3800.00	49.64	54.00	-4.36	48.82	0.82	Average	---	---
2	3800.00	56.48	74.00	-17.52	55.66	0.82	Peak	---	---
3	5725.00	41.46	54.00	-12.54	35.88	5.58	Average	---	---
4	5725.00	62.58	74.00	-11.42	57.00	5.58	Peak	---	---
5	11400.00	44.16	54.00	-9.84	29.42	14.74	Average	---	---
6	11400.00	57.13	74.00	-16.87	42.39	14.74	Peak	---	---

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

Modulation	HT20	**Test Freq. (MHz)**	5700
Polarization	Vertical		

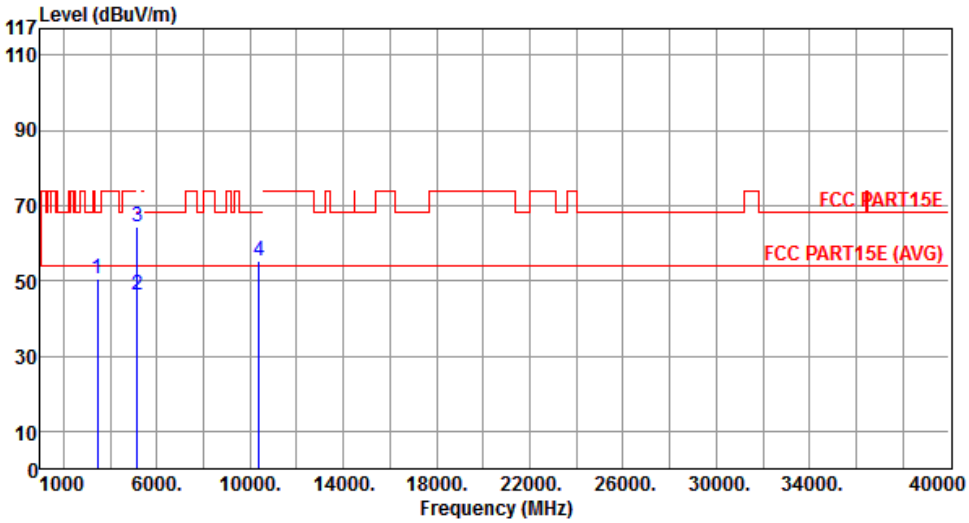


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3800.00	50.85	54.00	-3.15	50.03	0.82	Average	---	---
2	3800.00	57.69	74.00	-16.31	56.87	0.82	Peak	---	---
3	5725.00	49.35	54.00	-4.65	43.77	5.58	Average	---	---
4	5725.00	72.14	74.00	-1.86	66.56	5.58	Peak	---	---
5	11400.00	44.07	54.00	-9.93	29.33	14.74	Average	---	---
6	11400.00	56.92	74.00	-17.08	42.18	14.74	Peak	---	---

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

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

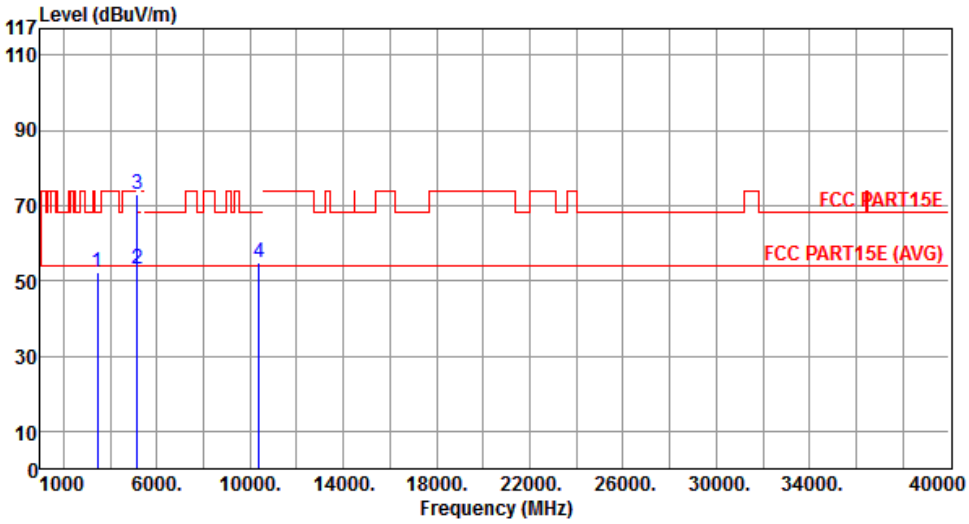
Modulation	HT40	Test Freq. (MHz)	5190
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3460.00	50.48	68.20	-17.72	50.82	-0.34	Peak	---	---
2	5150.00	46.21	54.00	-7.79	40.65	5.56	Average	---	---
3	5150.00	64.14	74.00	-9.86	58.58	5.56	Peak	---	---
4	10380.00	55.33	68.20	-12.87	40.22	15.11	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).

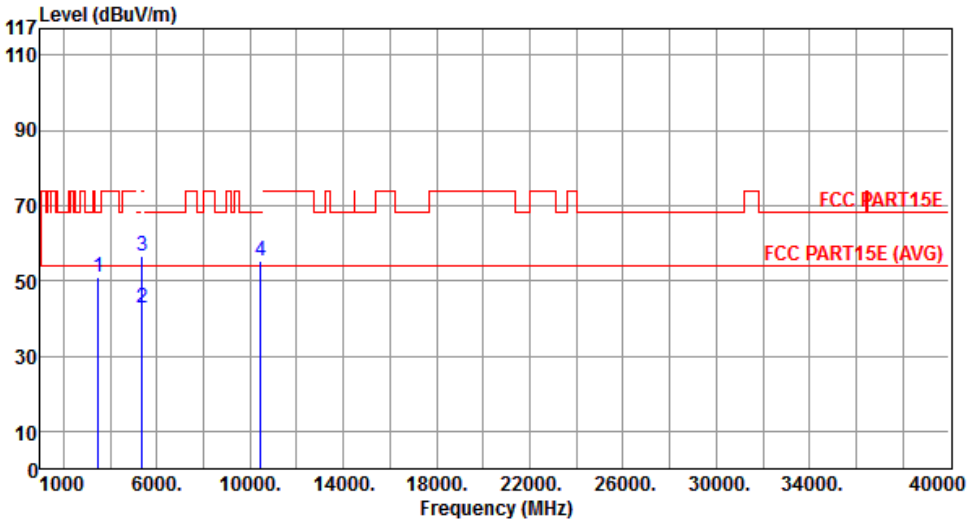
Modulation	HT40	Test Freq. (MHz)	5190
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3460.00	52.06	68.20	-16.14	52.40	-0.34	Peak	---	---
2	5150.00	53.00	54.00	-1.00	47.44	5.56	Average	---	---
3	5150.00	72.97	74.00	-1.03	67.41	5.56	Peak	---	---
4	10380.00	54.96	68.20	-13.24	39.85	15.11	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).

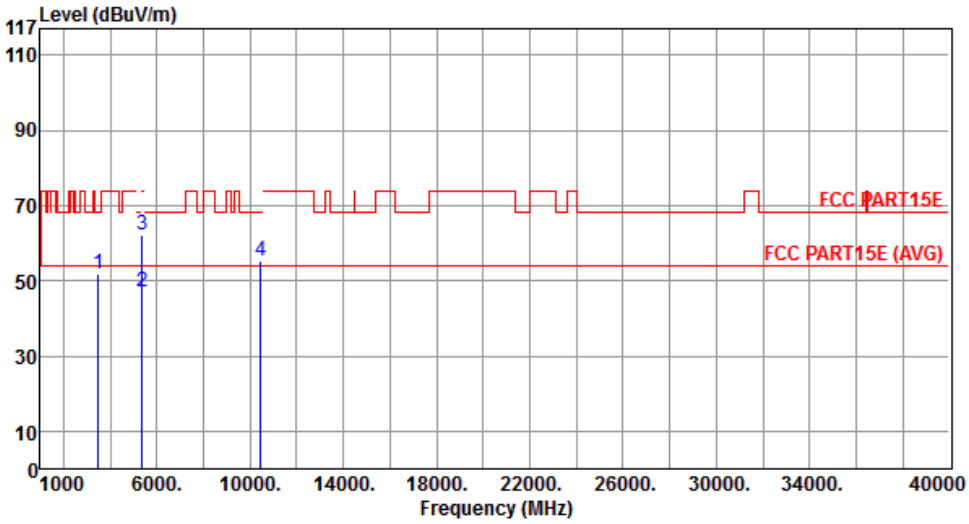
Modulation	HT40	Test Freq. (MHz)	5230
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3487.00	50.84	68.20	-17.36	51.12	-0.28	Peak	---	---
2	5350.00	42.66	54.00	-11.34	36.95	5.71	Average	---	---
3	5350.00	56.37	74.00	-17.63	50.66	5.71	Peak	---	---
4	10460.00	55.13	68.20	-13.07	39.92	15.21	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).

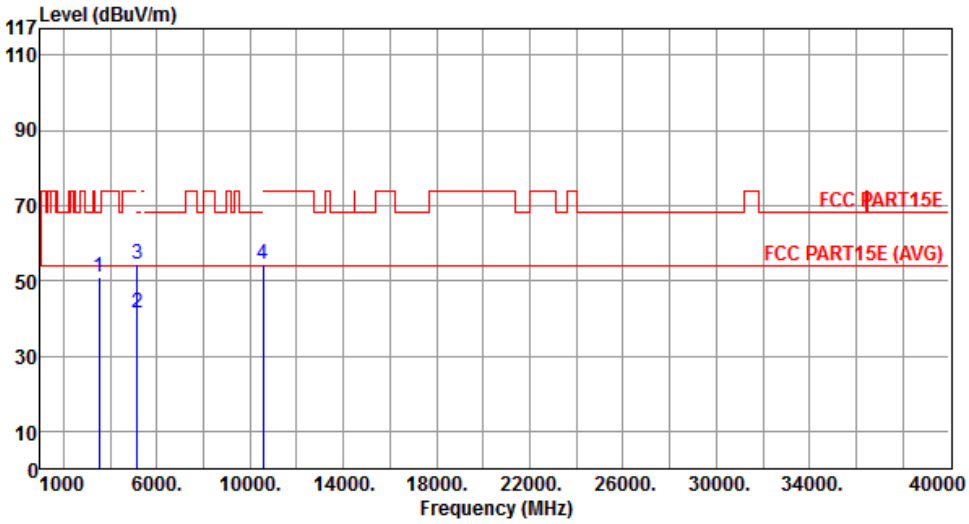
Modulation	HT40	Test Freq. (MHz)	5230
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3487.00	51.95	68.20	-16.25	52.23	-0.28	Peak	---	---
2	5350.00	46.86	54.00	-7.14	41.15	5.71	Average	---	---
3	5350.00	62.33	74.00	-11.67	56.62	5.71	Peak	---	---
4	10460.00	55.36	68.20	-12.84	40.15	15.21	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).

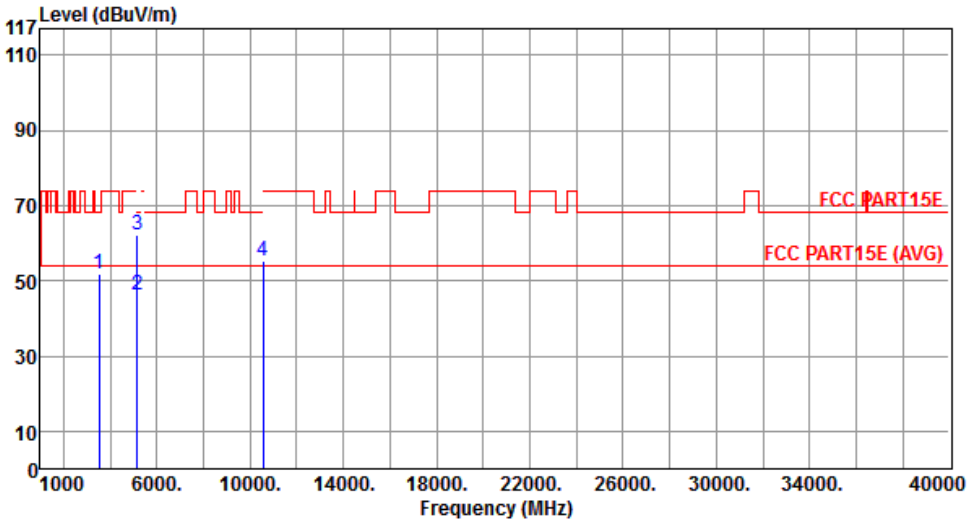
Modulation	HT40	Test Freq. (MHz)	5270
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3513.00	51.06	68.20	-17.14	51.29	-0.23	Peak	---	---
2	5150.00	41.26	54.00	-12.74	35.70	5.56	Average	---	---
3	5150.00	54.48	74.00	-19.52	48.92	5.56	Peak	---	---
4	10540.00	54.36	68.20	-13.84	39.08	15.28	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).

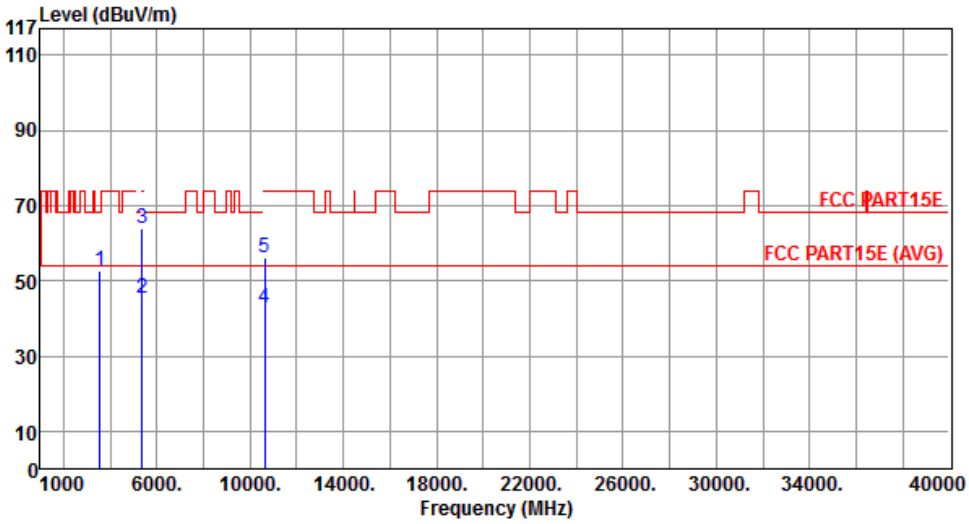
Modulation	HT40	**Test Freq. (MHz)**	5270
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3513.00	51.88	68.20	-16.32	52.11	-0.23	Peak	---	---
2	5150.00	46.08	54.00	-7.92	40.52	5.56	Average	---	---
3	5150.00	62.30	74.00	-11.70	56.74	5.56	Peak	---	---
4	10540.00	55.16	68.20	-13.04	39.88	15.28	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).

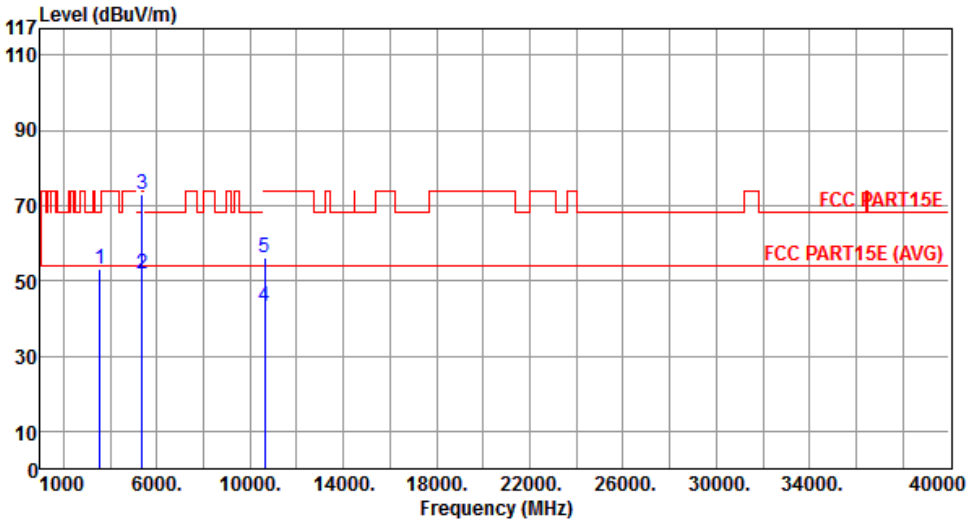
Modulation	HT40	**Test Freq. (MHz)**	5310
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3540.00	52.61	68.20	-15.59	52.73	-0.12	Peak	---	---
2	5350.00	45.49	54.00	-8.51	39.78	5.71	Average	---	---
3	5350.00	63.90	74.00	-10.10	58.19	5.71	Peak	---	---
4	10620.00	42.68	54.00	-11.32	27.37	15.31	Average	---	---
5	10620.00	55.94	74.00	-18.06	40.63	15.31	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).

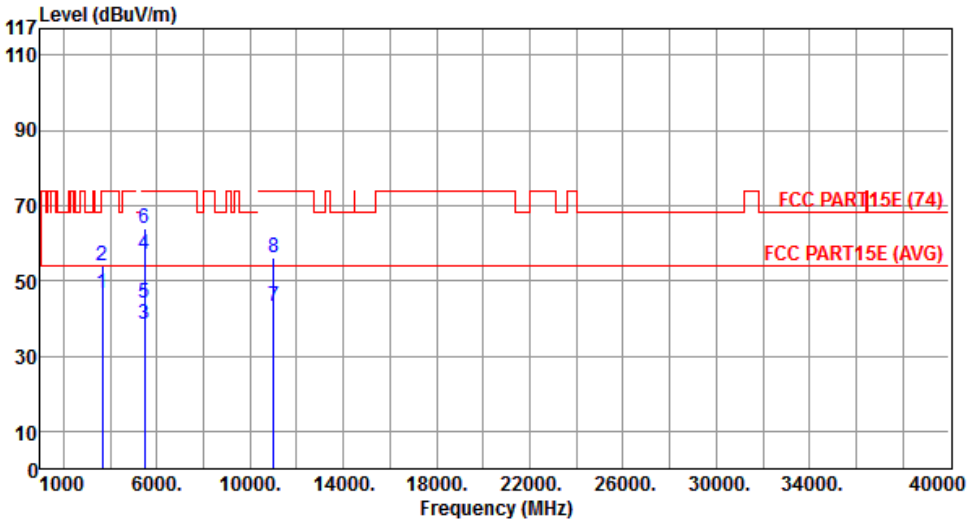
Modulation	HT40	Test Freq. (MHz)	5310
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3540.00	53.11	68.20	-15.09	53.23	-0.12	Peak	---	---
2	5350.00	51.79	54.00	-2.21	46.08	5.71	Average	---	---
3	5350.00	72.96	74.00	-1.04	67.25	5.71	Peak	---	---
4	10620.00	43.02	54.00	-10.98	27.71	15.31	Average	---	---
5	10620.00	56.18	74.00	-17.82	40.87	15.31	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).

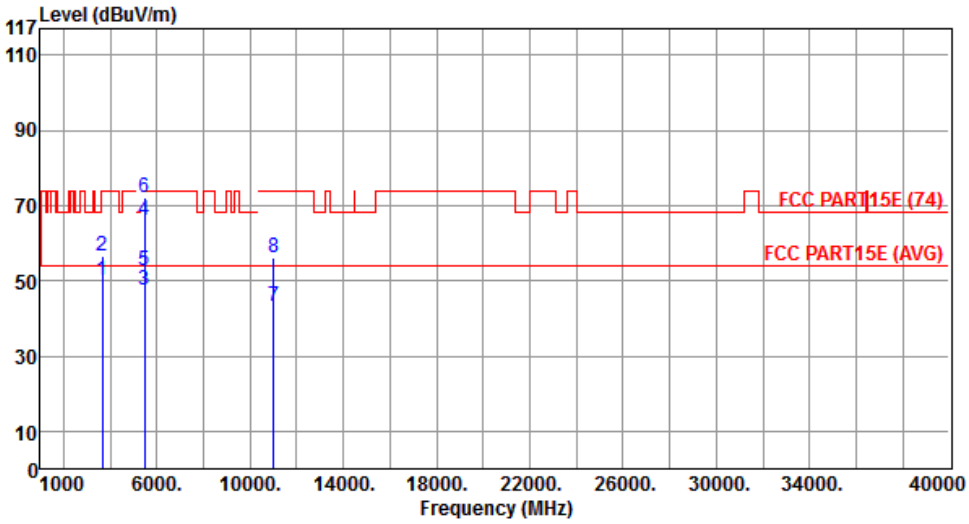
Modulation	HT40	Test Freq. (MHz)	5510
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3673.00	46.81	54.00	-7.19	46.45	0.36	Average	---	---
2	3673.00	53.95	74.00	-20.05	53.59	0.36	Peak	---	---
3	5460.00	38.45	54.00	-15.55	32.77	5.68	Average	---	---
4	5460.00	57.14	74.00	-16.86	51.46	5.68	Peak	---	---
5	5470.00	44.25	54.00	-9.75	38.59	5.66	Average	---	---
6	5470.00	63.84	74.00	-10.16	58.18	5.66	Peak	---	---
7	11020.00	43.06	54.00	-10.94	27.64	15.42	Average	---	---
8	11020.00	56.17	74.00	-17.83	40.75	15.42	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).

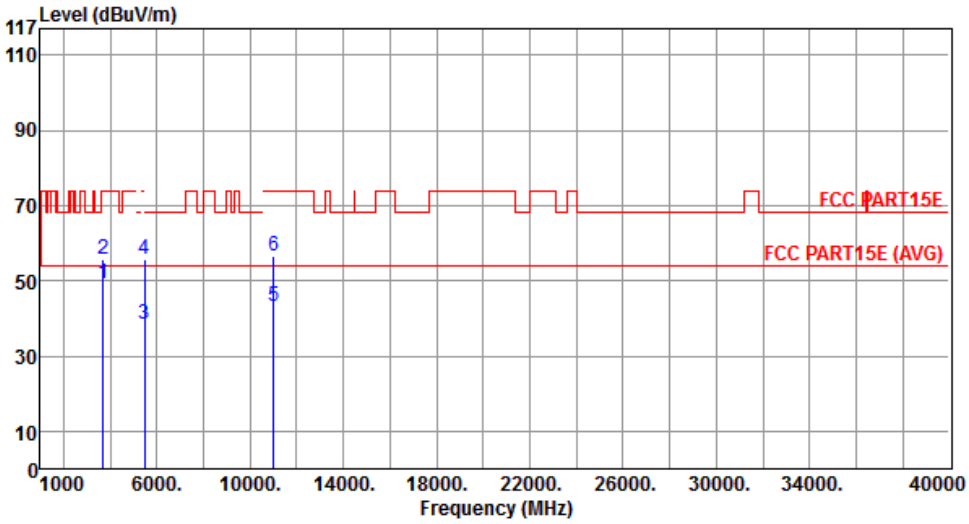
Modulation	HT40	Test Freq. (MHz)	5510
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3673.00	49.97	54.00	-4.03	49.61	0.36	Average	---	---
2	3673.00	56.75	74.00	-17.25	56.39	0.36	Peak	---	---
3	5460.00	47.32	54.00	-6.68	41.64	5.68	Average	---	---
4	5460.00	66.02	74.00	-7.98	60.34	5.68	Peak	---	---
5	5470.00	52.86	54.00	-1.14	47.20	5.66	Average	---	---
6	5470.00	72.00	74.00	-2.00	66.34	5.66	Peak	---	---
7	11020.00	43.15	54.00	-10.85	27.73	15.42	Average	---	---
8	11020.00	56.24	74.00	-17.76	40.82	15.42	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).

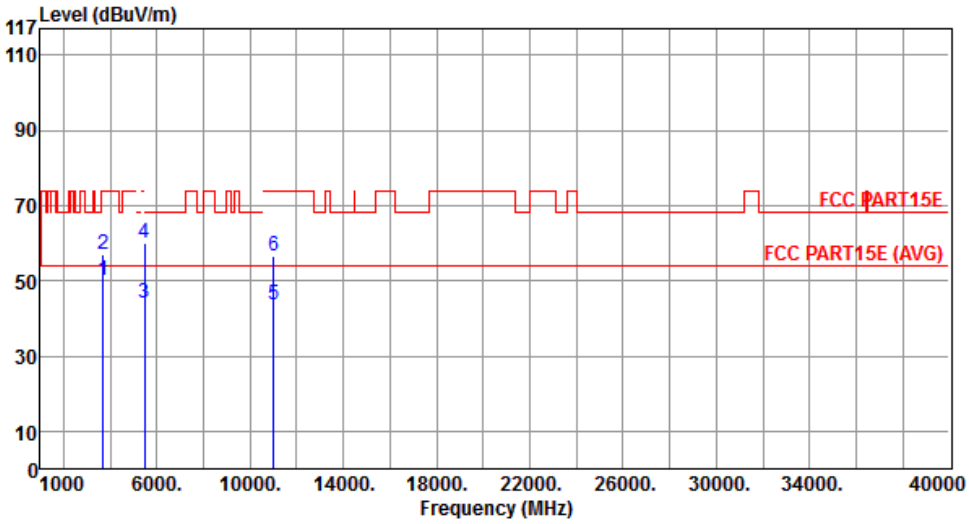
Modulation	HT40	**Test Freq. (MHz)**	5550
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3700.00	49.02	54.00	-4.98	48.57	0.45	Average	---	---
2	3700.00	55.83	74.00	-18.17	55.38	0.45	Peak	---	---
3	5460.00	38.45	54.00	-15.55	32.77	5.68	Average	---	---
4	5460.00	55.86	74.00	-18.14	50.18	5.68	Peak	---	---
5	11000.00	43.24	54.00	-10.76	27.79	15.45	Average	---	---
6	11000.00	56.58	74.00	-17.42	41.13	15.45	Peak	---	---

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

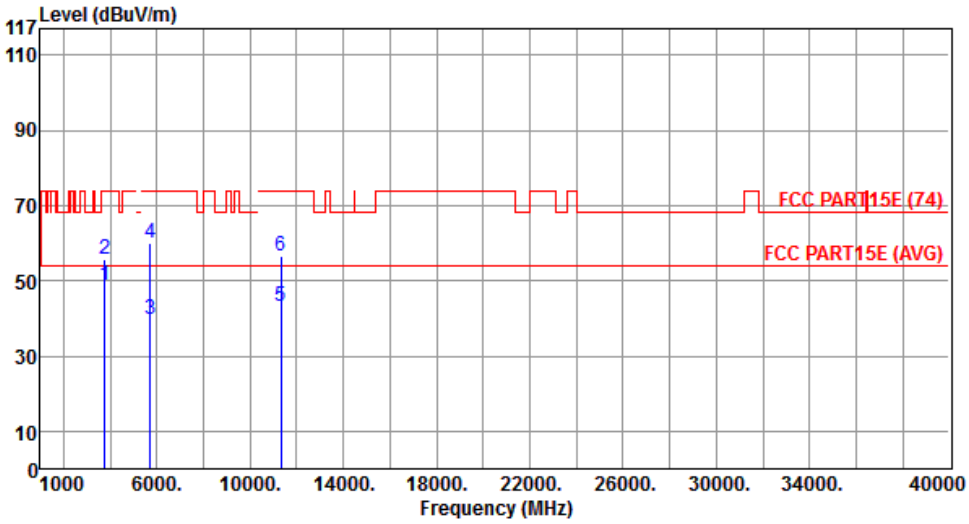
Modulation	HT40	**Test Freq. (MHz)**	5550
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3700.00	50.25	54.00	-3.75	49.80	0.45	Average	---	---
2	3700.00	57.04	74.00	-16.96	56.59	0.45	Peak	---	---
3	5460.00	44.23	54.00	-9.77	38.55	5.68	Average	---	---
4	5460.00	59.91	74.00	-14.09	54.23	5.68	Peak	---	---
5	11000.00	43.45	54.00	-10.55	28.00	15.45	Average	---	---
6	11000.00	56.72	74.00	-17.28	41.27	15.45	Peak	---	---

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

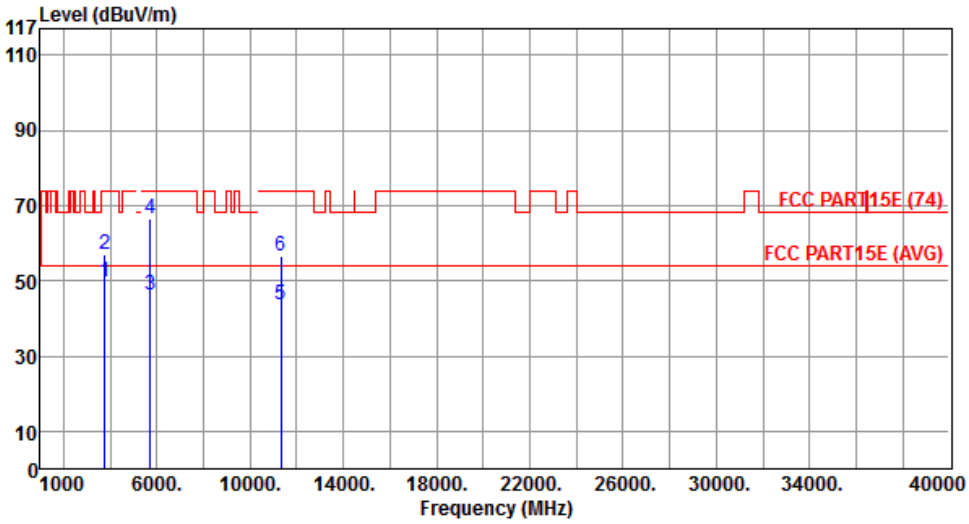
Modulation	HT40	Test Freq. (MHz)	5670
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3780.00	48.65	54.00	-5.35	47.90	0.75	Average	---	---
2	3780.00	55.64	74.00	-18.36	54.89	0.75	Peak	---	---
3	5725.00	39.88	54.00	-14.12	34.30	5.58	Average	---	---
4	5725.00	59.82	74.00	-14.18	54.24	5.58	Peak	---	---
5	11340.00	43.15	54.00	-10.85	28.31	14.84	Average	---	---
6	11340.00	56.49	74.00	-17.51	41.65	14.84	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).

Modulation	HT40	Test Freq. (MHz)	5670
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	3780.00	49.86	54.00	-4.14	49.11	0.75	Average	---	---
2	3780.00	56.94	74.00	-17.06	56.19	0.75	Peak	---	---
3	5725.00	46.15	54.00	-7.85	40.57	5.58	Average	---	---
4	5725.00	66.28	74.00	-7.72	60.70	5.58	Peak	---	---
5	11340.00	43.56	54.00	-10.44	28.72	14.84	Average	---	---
6	11340.00	56.72	74.00	-17.28	41.88	14.84	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).

3.7 Frequency Stability

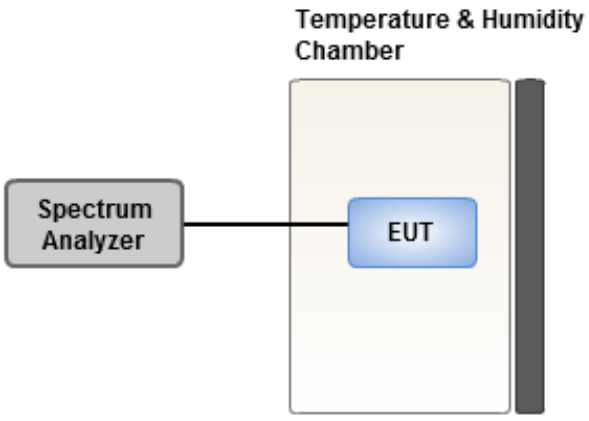
3.7.1 Limit of Frequency Stability

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.

3.7.2 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 85 centigrade and 85 to 115 percent of the nominal voltage. Change setting of chamber and external power source to complete all conditions.

3.7.3 Test Setup



3.7.4 Test Result of Frequency Stability

Frequency: 5320 MHz	Frequency Drift (ppm)			
Temperature (°C)	0 minute	2 minutes	5 minutes	10 minutes
T20°CVmax	-5.53	-5.45	-5.51	-5.49
T20°CVmin	-4.78	-4.68	-4.71	-4.81
T85°CVnom	2.38	2.45	2.37	2.39
T80°CVnom	1.52	1.53	1.60	1.53
T70°CVnom	0.29	0.31	0.37	0.30
T60°CVnom	-0.14	-0.07	-0.12	-0.13
T50°CVnom	-2.72	-2.64	-2.68	-2.76
T40°CVnom	-3.71	-3.62	-3.67	-3.71
T30°CVnom	-4.30	-4.28	-4.32	-4.23
T20°CVnom	-3.26	-3.27	-3.27	-3.30
T10°CVnom	-0.59	-0.62	-0.50	-0.53
T0°CVnom	-1.19	-1.22	-1.23	-1.17
T-10°CVnom	0.85	0.89	0.87	0.91
T-20°CVnom	0.41	0.40	0.45	0.42
T-30°CVnom	-1.10	-1.13	-1.00	-1.09
Vnom [V]: 110		Vmax [V]: 126.5		Vmin [V]: 93.5
Tnom [°C]: 20		Tmax [°C]: 85		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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Kwei Shan

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

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

==END==