FCC C2PC Test Report

FCC ID	:	**ACQ-VAP2500**
Equipment	:	**802.11an Access Point**
Model No.	:	**VAP2500**
Brand Name	:	**ARRIS**
Applicant	:	**ARRIS Group, Inc.**
Address	:	**101 Tournament Drive, Horsham, Pennsylvania, United States, 19044**
Standard	:	**47 CFR FCC Part 15.407**
Received Date	:	**Mar. 31, 2016**
Tested Date	:	**Apr. 06 ~ Apr. 22, 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

Testing Laboratory
2732

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Release Record

Report No.	Version	Description	Issued Date
FR633103	Rev. 01	Initial issue	Jun. 13, 2016

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.367MHz 43.30 (Margin -5.26dB) - AV	Pass
15.407(b) 15.209	Radiated Emissions	[dBuV/m at 3m]: 5150.00MHz 72.99 (Margin -1.01dB) - 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: 26.56 5725-5850MHz: 23.60	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 issued as a FCC Class II Permissive Change .The modifications are concerned with following:

- ✧ Complying with New U-NII rule requirement for U-NII band -1 / -2A / -2C / -3 and increases output power of U-NII band 1 by software setting.
- ✧ Changing level 6 adapters.

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]	4	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]	4	MCS 0-31
5150-5250 5250-5350 5470-5725	n (HT40)	5190-5230 5270-5310 5510-5670	38-46 [2] 54-62 [2] 102-134 [3]	4	MCS 0-31
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. Note 3: The device has disabled the 5600-5650MHz band by S/W setting.					

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]	4	6-54 Mbps
5725-5850	n (HT20)	5745-5825	149-165 [5]	4	MCS 0-31
5725-5850	n (HT40)	5755-5795	151-159 [2]	4	MCS 0-31
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

Model	**Type**	**Connector**	**Operating Frequency (MHz) / Gain (dBi)**			
			5150~5250	**5250~5350**	**5470~5725**	**5725~5850**
Chain 1	Dipole	IPEX PLUG	-1	-1	-1.1	-0.7
Chain 2	Dipole	IPEX PLUG	-0.5	-0.5	1.6	1
Chain 3	Dipole	IPEX PLUG	-0.1	-0.1	-4.9	-3.6
Chain 4	Dipole	IPEX PLUG	1.3	1.3	3.3	1.6

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	12Vdc from AC adapter

1.1.4 Accessories

Accessories		
No.	**Equipment**	**Description**
1	AC adapter 1	Brand Name: NetBit Model Name: NBS12E120100VU Power Rating: I/P: 100-120Vac, 50/60Hz, 0.3A O/P: 12Vdc, 1A Power Line: DC 1.8m non-shielded without core
2	AC adapter 2	Brand Name: APD Model Name: WA-12M12FU Power Rating: I/P: 100-120Vac, 50-60Hz, 0.3A O/P: 12Vdc, 1A Power Line: DC 1.8m non-shielded with 1 core
3	RJ45 Cable	1m non-shielded cable without core.

1.1.5 Channel List

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

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

1.1.6 Test Tool and Duty Cycle

Test Tool	Telnet		
Duty Cycle and Duty Factor	Mode	Duty cycle (%)	Duty factor (dB)
	11a	99.47%	0.02
	HT20	99.43%	0.03
	HT40	98.24%	0.08

1.1.7 Power Setting

For Frequency band 5150-5250 MHz		
Modulation Mode	**Test Frequency (MHz)**	**Power Set**
11a	5180	17
11a	5200	21
11a	5240	20
HT20	5180	16
HT20	5200	21
HT20	5240	20
HT40	5190	13
HT40	5230	20

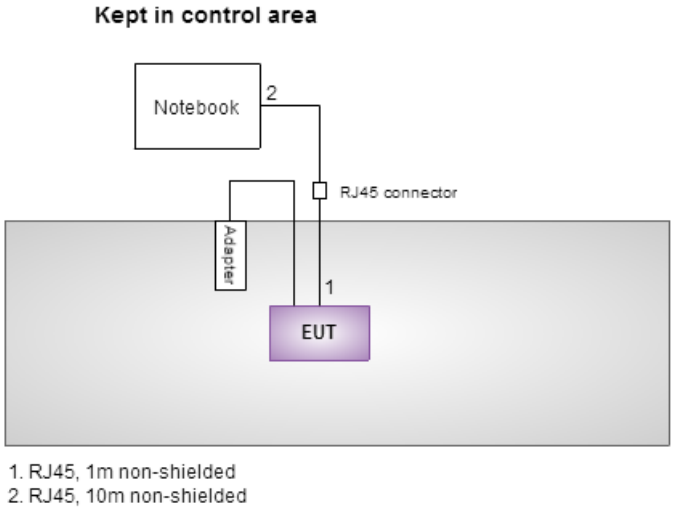
For Frequency band 5725~5850 MHz		
Modulation Mode	**Test Frequency (MHz)**	**Power Set**
11a	5745	17
11a	5785	17
11a	5825	17
HT20	5745	17
HT20	5785	17
HT20	5825	17
HT40	5755	17
HT40	5795	17

1.2 Local Support Equipment List

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

1.3 Test Setup Chart

Test Setup Diagram



1. RJ45, 1m non-shielded
2. RJ45, 10m non-shielded

1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
EMC Receiver	R&S	ESCS 30	100169	Oct. 21, 2015	Oct. 20, 2016
LISN	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 chamber1 / (03CH01-WS)				
Instrument	**Manufacturer**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV40	101498	Dec. 13, 2015	Dec. 12, 2016
Receiver	R&S	ESR3	101658	Nov. 04, 2015	Nov. 03, 2016
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Aug. 20, 2015	Aug. 19, 2016
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 16, 2015	Dec. 15, 2016
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 04, 2015	Nov. 03, 2016
Loop Antenna	R&S	HFH2-Z2	11900	Nov. 16, 2015	Nov. 15, 2016
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Dec. 10, 2015	Dec. 09, 2016
Preamplifier	Burgeon	BPA-530	SN:100219	Sep. 10, 2015	Sep. 09, 2016
Preamplifier	Agilent	83017A	MY39501308	Oct. 02, 2015	Oct. 01, 2016
Preamplifier	EMC	EMC184045B	980192	Sep. 01, 2015	Aug. 31, 2016
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Dec. 10, 2015	Dec. 09, 2016
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Dec. 10, 2015	Dec. 09, 2016
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16139/4	Dec. 10, 2015	Dec. 09, 2016
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Dec. 10, 2015	Dec. 09, 2016
LF cable 10M	Woken	CFD400NL-LW	CFD400NL-002	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 ≤ 1GHz	±3.66 dB
Radiated emission > 1GHz	±5.63 dB
Time	±0.1%
Temperature	±0.6 °C

2 Test Configuration

2.1 Testing Condition

Test Item	Test Site	Ambient Condition	Tested By
AC Conduction	CO01-WS	21°C / 57%	Howard Huang
Radiated Emissions	03CH01-WS	24-25°C / 61-62%	Vincent Yeh Felix Sung Aska Huang
RF Conducted	TH01-WS	21°C / 61%	Anderson Hung

- FCC site registration No.: 181692
- IC site registration No.: 10807A-1

2.2 The Worst Test Modes and Channel Details

For Frequency band 5150-5350, 5470-5725 MHz				
Test item	**Modulation Mode**	**Test Frequency (MHz)**	**Data Rate (Mbps) / MCS**	**Test Configuration**
Conducted Emissions	HT20 HT20	5200 5580	MCS 0 MCS 0	---
Radiated Emissions ≤1GHz	HT20 HT20	5200 5580	MCS 0 MCS 0	---
RF Output Power	11a HT20 HT40	5180 / 5200 / 5240 5180 / 5200 / 5240 5190 / 5230	6 Mbps MCS 0 MCS 0	---
Radiated Emissions >1GHz Emission Bandwidth Peak Power Spectral Density	11a HT20 HT40	5180 / 5200 / 5240 5180 / 5200 / 5240 5190 / 5230	6 Mbps MCS 0 MCS 0	---
Frequency Stability	Un-modulation	5200	---	---

Note:
1) Two adapters (NetBit & APD) had been covered during the pretest and found that **NetBit adapter** was the worst case and was selected for final test.
2) Test results of U-NII band 2C are for changing new adapters since requirement of both bands is not changed and device keeps all conditions of both bands as grant

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

Note:
1) Two adapters (NetBit & APD) had been covered during the pretest and found that **NetBit adapter** was the worst case and was selected for final test.

3 Transmitter Test Results

3.1 Conducted Emissions

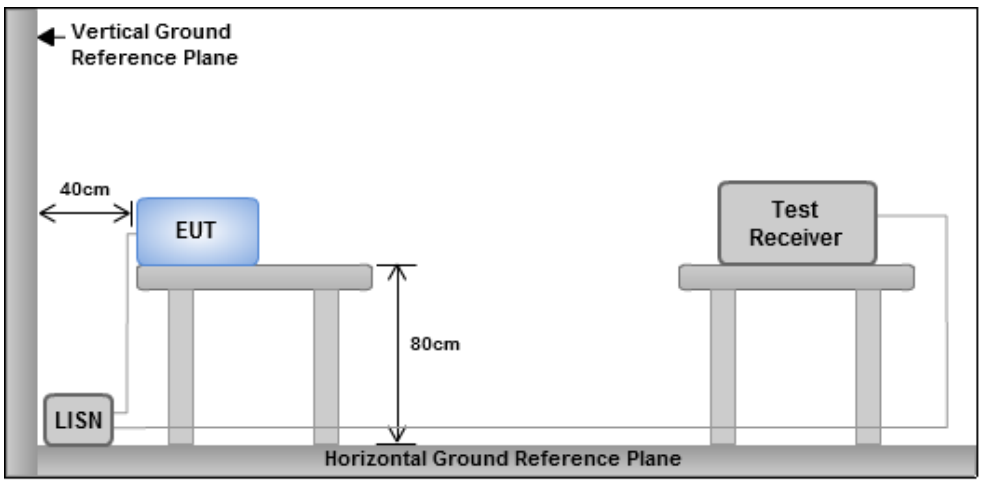
3.1.1 Limit of Conducted Emissions

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

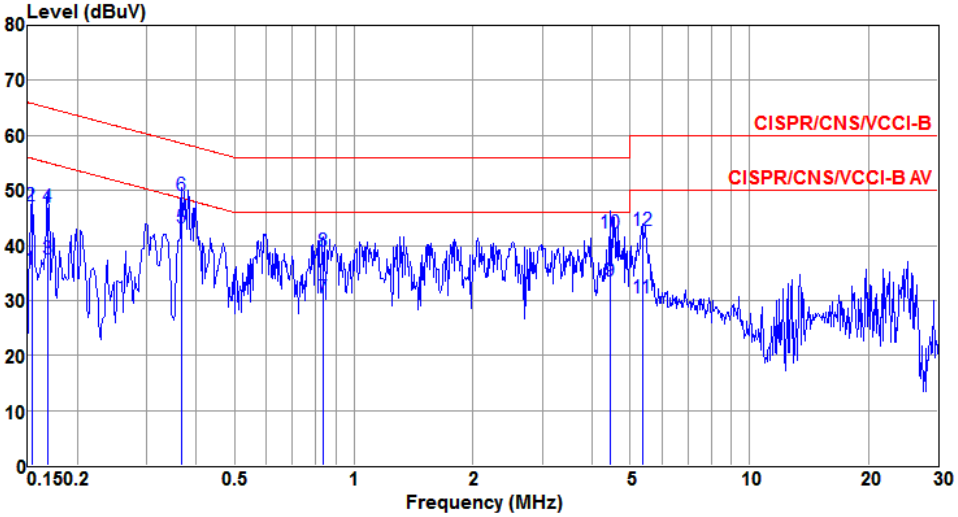


Note: 1. Support units were connected to second LISN.

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

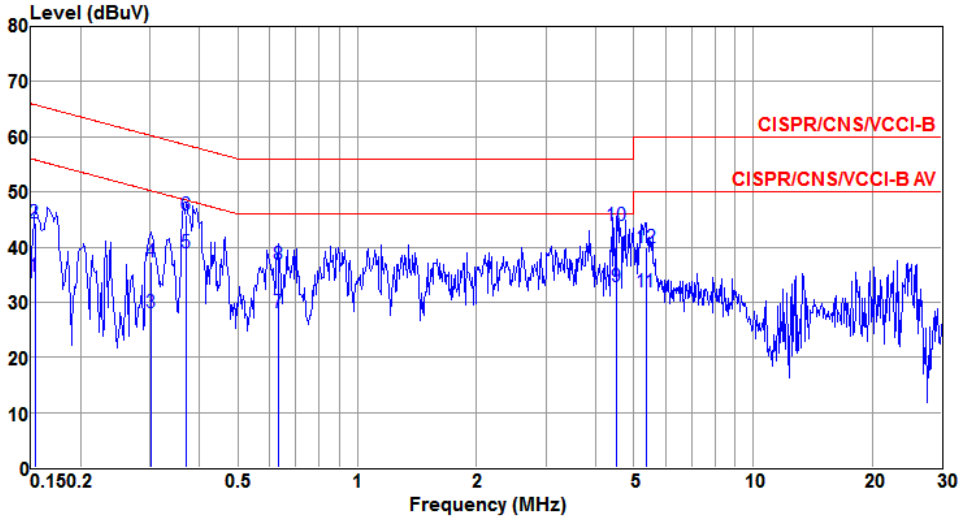
Modulation	HT20	Test Freq. (MHz)	5200
Power Phase	Line		



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.153	35.68	55.82	-20.14	34.78	0.88	0.02	Average
2	0.153	47.19	65.82	-18.63	46.29	0.88	0.02	QP
3	0.169	37.52	55.03	-17.51	36.85	0.65	0.02	Average
4	0.169	46.95	65.03	-18.08	46.28	0.65	0.02	QP
5@	0.367	43.30	48.56	-5.26	43.08	0.19	0.03	Average
6	0.367	49.15	58.56	-9.41	48.93	0.19	0.03	QP
7	0.839	30.51	46.00	-15.49	30.35	0.11	0.05	Average
8	0.839	38.99	56.00	-17.01	38.83	0.11	0.05	QP
9	4.454	33.54	46.00	-12.46	33.11	0.31	0.12	Average
10	4.454	42.34	56.00	-13.66	41.91	0.31	0.12	QP
11	5.362	30.48	50.00	-19.52	29.96	0.39	0.13	Average
12	5.362	42.79	60.00	-17.21	42.27	0.39	0.13	QP

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

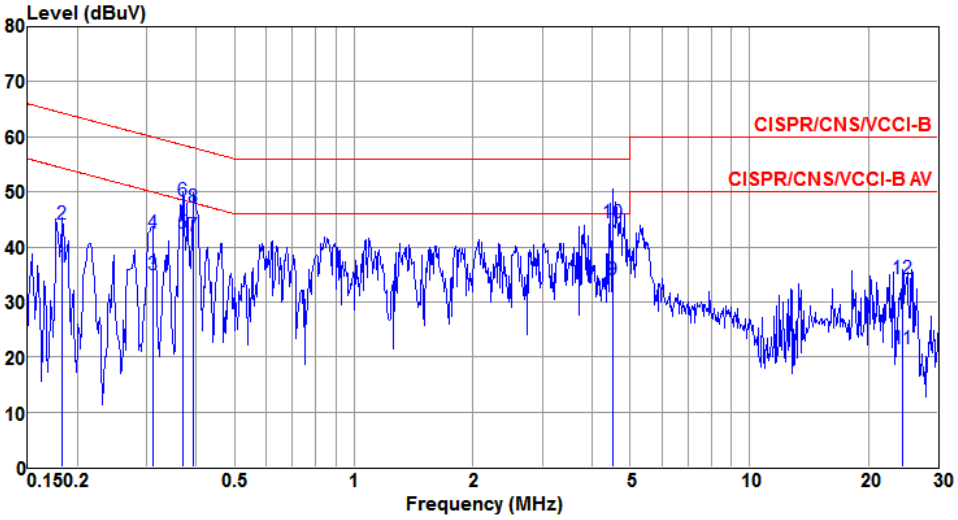
Modulation	HT20	Test Freq. (MHz)	5200
Power Phase	Neutral		



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.153	34.59	55.82	-21.23	33.75	0.82	0.02	Average
2	0.153	44.43	65.82	-21.39	43.59	0.82	0.02	QP
3	0.300	28.11	50.24	-22.13	27.90	0.18	0.03	Average
4	0.300	37.18	60.24	-23.06	36.97	0.18	0.03	QP
5@	0.369	38.93	48.52	-9.59	38.76	0.14	0.03	Average
6	0.369	45.81	58.52	-12.71	45.64	0.14	0.03	QP
7	0.634	28.05	46.00	-17.95	27.81	0.20	0.04	Average
8	0.634	36.74	56.00	-19.26	36.50	0.20	0.04	QP
9	4.525	32.80	46.00	-13.20	31.96	0.71	0.13	Average
10	4.525	43.80	56.00	-12.20	42.96	0.71	0.13	QP
11	5.362	31.75	50.00	-18.25	30.95	0.67	0.13	Average
12	5.362	39.89	60.00	-20.11	39.09	0.67	0.13	QP

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

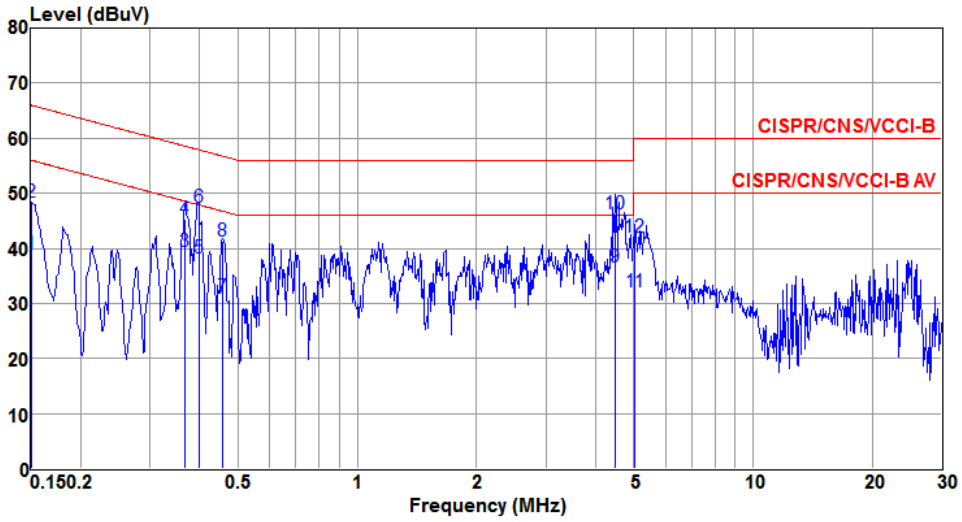
Modulation	HT20	Test Freq. (MHz)	5580
Power Phase	Line		



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.183	36.26	54.33	-18.07	35.80	0.44	0.02	Average
2	0.183	44.07	64.33	-20.26	43.61	0.44	0.02	QP
3	0.310	34.90	49.97	-15.07	34.66	0.21	0.03	Average
4	0.310	42.58	59.97	-17.39	42.34	0.21	0.03	QP
5@	0.369	42.57	48.52	-5.95	42.35	0.19	0.03	Average
6	0.369	48.43	58.52	-10.09	48.21	0.19	0.03	QP
7	0.393	41.99	47.99	-6.00	41.78	0.18	0.03	Average
8	0.393	47.17	57.99	-10.82	46.96	0.18	0.03	QP
9	4.501	33.94	46.00	-12.06	33.51	0.31	0.12	Average
10	4.501	44.46	56.00	-11.54	44.03	0.31	0.12	QP
11	24.400	21.47	50.00	-28.53	20.29	0.94	0.24	Average
12	24.400	34.14	60.00	-25.86	32.96	0.94	0.24	QP

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

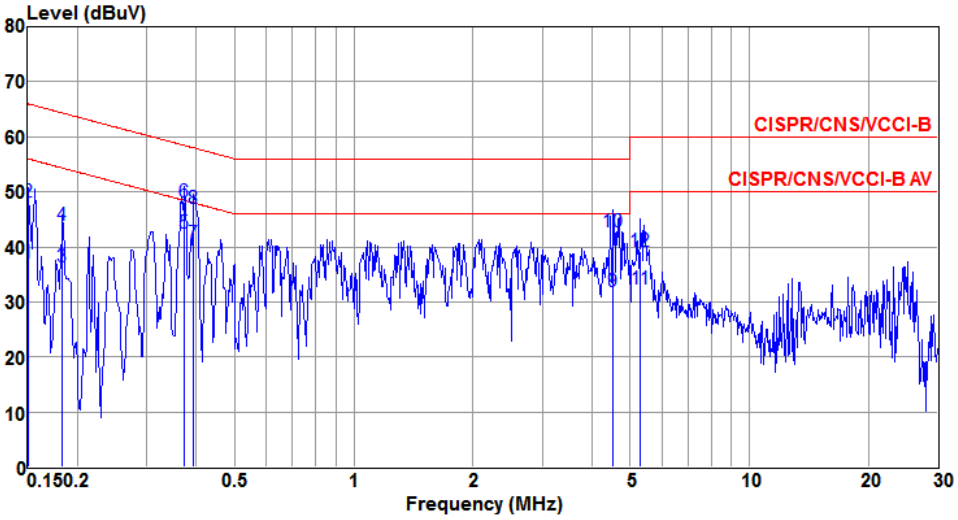
Modulation	HT20	Test Freq. (MHz)	5580
Power Phase	Neutral		



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.150	38.94	56.00	-17.06	38.07	0.85	0.02	Average
2	0.150	48.40	66.00	-17.60	47.53	0.85	0.02	QP
3@	0.367	39.40	48.56	-9.16	39.23	0.14	0.03	Average
4	0.367	45.28	58.56	-13.28	45.11	0.14	0.03	QP
5	0.398	38.23	47.90	-9.67	38.07	0.13	0.03	Average
6	0.398	47.47	57.90	-10.43	47.31	0.13	0.03	QP
7	0.456	31.12	46.76	-15.64	30.94	0.15	0.03	Average
8	0.456	41.31	56.76	-15.45	41.13	0.15	0.03	QP
9	4.478	36.62	46.00	-9.38	35.79	0.71	0.12	Average
10	4.478	46.37	56.00	-9.63	45.54	0.71	0.12	QP
11	5.031	32.12	50.00	-17.88	31.30	0.69	0.13	Average
12	5.031	41.96	60.00	-18.04	41.14	0.69	0.13	QP

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

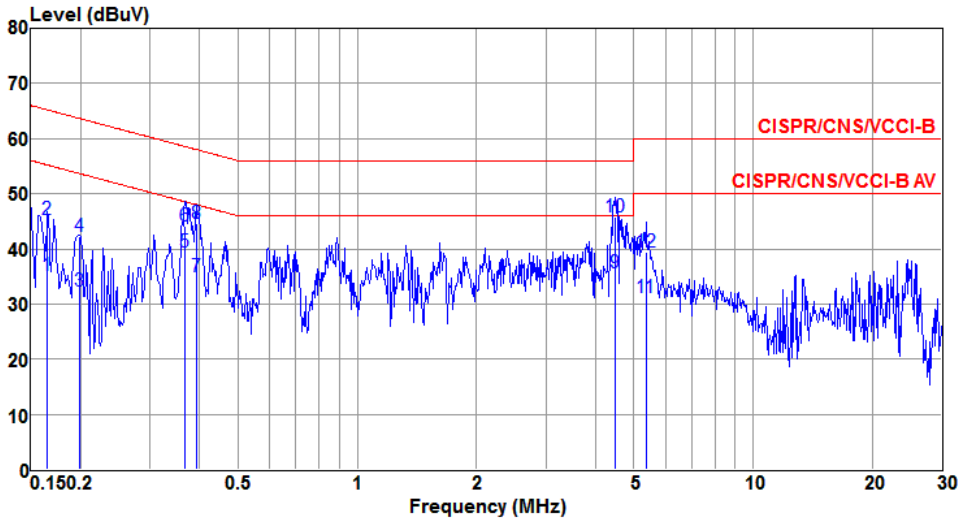
Modulation	HT20	Test Freq. (MHz)	5825
Power Phase	Line		



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.150	37.05	56.00	-18.95	36.11	0.92	0.02	Average
2	0.150	48.26	66.00	-17.74	47.32	0.92	0.02	QP
3	0.183	36.26	54.33	-18.07	35.80	0.44	0.02	Average
4	0.183	43.83	64.33	-20.50	43.37	0.44	0.02	QP
5@	0.373	42.47	48.43	-5.96	42.25	0.19	0.03	Average
6	0.373	48.14	58.43	-10.29	47.92	0.19	0.03	QP
7	0.393	40.62	47.99	-7.37	40.41	0.18	0.03	Average
8	0.393	47.05	57.99	-10.94	46.84	0.18	0.03	QP
9	4.525	31.82	46.00	-14.18	31.38	0.31	0.13	Average
10	4.525	42.68	56.00	-13.32	42.24	0.31	0.13	QP
11	5.305	32.28	50.00	-17.72	31.77	0.38	0.13	Average
12	5.305	39.19	60.00	-20.81	38.68	0.38	0.13	QP

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

Modulation	HT20	Test Freq. (MHz)	5825
Power Phase	Neutral		



	Freq	Level	Limit Line	Over Limit	Read Level	LISN factor	cable loss	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	
1	0.165	35.10	55.21	-20.11	34.44	0.64	0.02	Average
2	0.165	45.37	65.21	-19.84	44.71	0.64	0.02	QP
3	0.199	32.24	53.67	-21.43	31.96	0.26	0.02	Average
4	0.199	42.14	63.67	-21.53	41.86	0.26	0.02	QP
5@	0.367	39.34	48.56	-9.22	39.17	0.14	0.03	Average
6	0.367	44.03	58.56	-14.53	43.86	0.14	0.03	QP
7	0.391	34.84	48.03	-13.19	34.68	0.13	0.03	Average
8	0.391	44.65	58.03	-13.38	44.49	0.13	0.03	QP
9	4.478	35.57	46.00	-10.43	34.74	0.71	0.12	Average
10	4.478	45.89	56.00	-10.11	45.06	0.71	0.12	QP
11	5.362	31.09	50.00	-18.91	30.29	0.67	0.13	Average
12	5.362	39.40	60.00	-20.60	38.60	0.67	0.13	QP

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

3.2 Emission Bandwidth

3.2.1 Limit of Emission bandwidth

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

3.2.2 Test Procedures

26dB Bandwidth

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

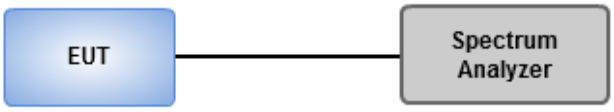
Occupied Bandwidth

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

6dB Bandwidth

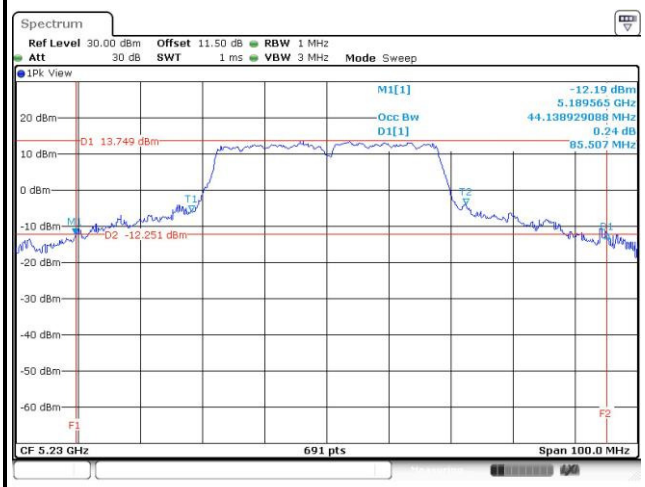
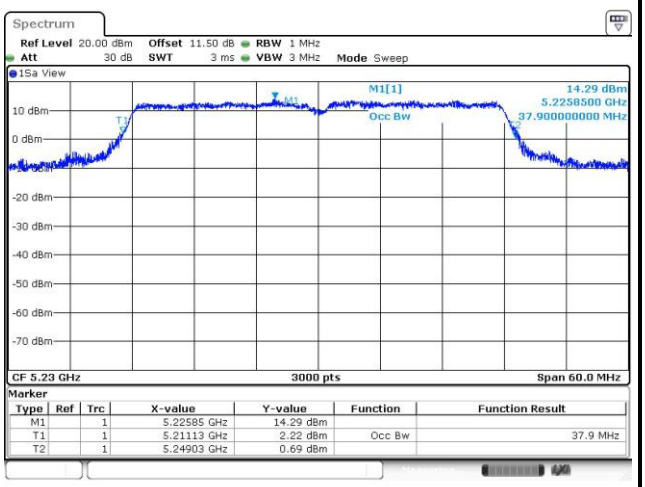
1. Set RBW = 100kHz, VBW = 300kHz
2. Detector = Peak,Trace mode = max hold.
3. Allow the trace to stabilize.
4. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB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

3.2.3 Test Setup

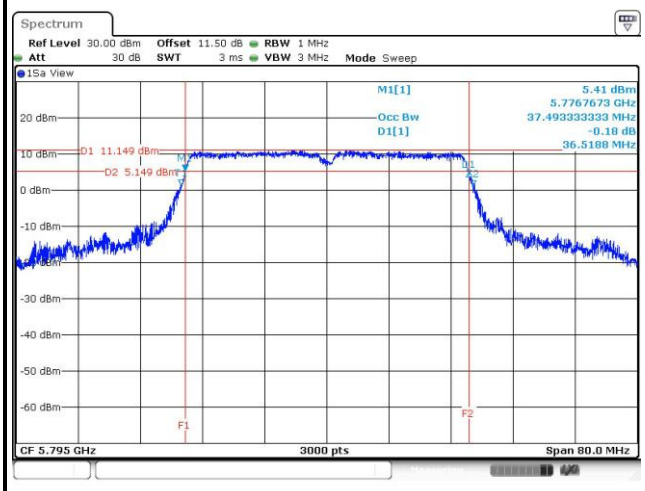
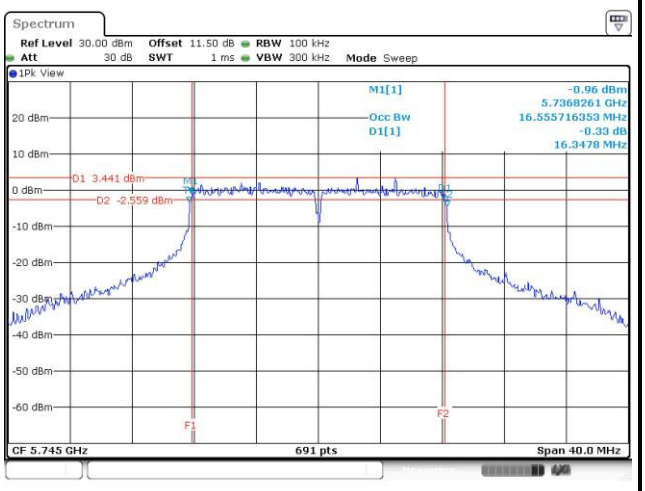


3.2.4 Test Result of Emission Bandwidth

For Frequency band 5150-5250 MHz										
Emission Bandwidth										
Mode	N_{TX}	Freq. (MHz)	26dB Bandwidth (MHz)				99% Bandwidth (MHz)			
			Chain 0	Chain 1	Chain 2	Chain 3	Chain 0	Chain 1	Chain 2	Chain 3
11a	4	5180	33.77	32.75	36.67	34.06	17.23	17.03	17.41	17.11
11a	4	5200	40.70	39.65	42.52	42.00	19.18	18.07	20.69	18.79
11a	4	5240	40.00	37.90	42.10	39.64	17.39	18.51	17.23	18.06
HT20	4	5180	33.62	32.90	34.49	31.74	18.25	18.31	18.15	18.13
HT20	4	5200	46.78	44.52	46.61	45.30	20.21	19.37	20.79	20.19
HT20	4	5240	45.29	43.70	45.29	43.91	18.64	18.93	18.48	18.91
HT40	4	5190	44.52	44.64	46.03	44.41	36.60	37.00	36.88	36.56
HT40	4	5230	84.93	75.51	85.51	84.64	37.18	37.90	37.48	37.26

Worst Plot of 26dB Bandwidth	Worst Plot of 99% Bandwidth
	

For Frequency band 5725-5850 MHz											
Emission Bandwidth											
Mode	N_{TX}	Freq. (MHz)	OBW Bandwidth (MHz)				6dB Bandwidth (MHz)				
			Chain 0	Chain 1	Chain 2	Chain 3	Chain 0	Chain 1	Chain 2	Chain 3	6dB BW Limit (MHz)
11a	4	5745	17.29	17.15	17.72	17.12	16.35	16.35	16.35	16.35	0.5
11a	4	5785	17.27	17.13	17.93	17.17	16.35	16.35	16.35	16.35	0.5
11a	4	5825	17.28	17.19	17.75	17.17	16.35	16.35	16.35	16.35	0.5
HT20	4	5745	18.29	18.47	18.37	18.27	17.57	17.57	17.62	17.62	0.5
HT20	4	5785	18.31	18.45	18.49	18.25	17.62	17.62	17.62	17.62	0.5
HT20	4	5825	18.32	18.51	18.47	18.31	17.62	17.57	17.57	17.62	0.5
HT40	4	5755	36.75	37.33	37.28	36.80	35.71	35.94	35.59	36.17	0.5
HT40	4	5795	36.80	37.28	37.49	36.80	36.17	35.94	35.59	36.17	0.5

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

3.3 RF Output Power

3.3.1 Limit of RF Output Power

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

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

3.3.2 Test Procedures

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

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

3.3.3 Test Setup

3.3.4 Test Result of Maximum Conducted Output Power

For Frequency band 5150-5250 MHz									
Mode	N_{TX}	Freq. (MHz)	Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)
			Chain 0	Chain 1	Chain 2	Chain 3			
11a	4	5180	17.34	17.03	18.22	17.52	227.534	23.57	30.00
11a	4	5200	20.29	19.95	20.87	20.77	447.340	26.51	30.00
11a	4	5240	19.37	19.05	20.11	19.96	368.498	25.66	30.00
HT20	4	5180	16.52	15.73	17.5	16.87	187.160	22.72	30.00
HT20	4	5200	20.55	20.01	20.79	20.77	453.080	**26.56**	30.00
HT20	4	5240	19.65	19.22	20.31	19.83	379.378	25.79	30.00
HT40	4	5190	13.36	12.53	14.41	13.74	90.848	19.58	30.00
HT40	4	5230	19.44	19.10	20.25	19.89	372.610	25.71	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	4	5745	16.66	17.33	17.94	17.33	216.726	23.36	30.00
11a	4	5785	16.59	16.95	17.95	17.67	216.001	23.34	30.00
11a	4	5825	16.65	17.17	18.08	17.66	220.971	23.44	30.00
HT20	4	5745	16.92	17.42	18.26	17.43	226.735	23.56	30.00
HT20	4	5785	17.09	17.45	18.22	17.28	226.589	23.55	30.00
HT20	4	5825	16.97	17.26	18.35	17.63	229.319	**23.60**	30.00
HT40	4	5755	16.46	16.88	17.82	17.09	204.714	23.11	30.00
HT40	4	5795	16.55	16.87	17.68	17.44	207.903	23.18	30.00

3.4 Peak Power Spectral Density

3.4.1 Limit of Peak Power Spectral Density

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

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

3.4.2 Test Procedures

For 5150 ~ 5250 MHz

☒ Method SA-1

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

☐ Method SA-2 Alternative

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

For 5725 ~ 5850 MHz

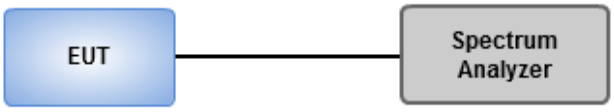
☒ Method SA-1

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

☐ Method SA-2 Alternative

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

3.4.3 Test Setup

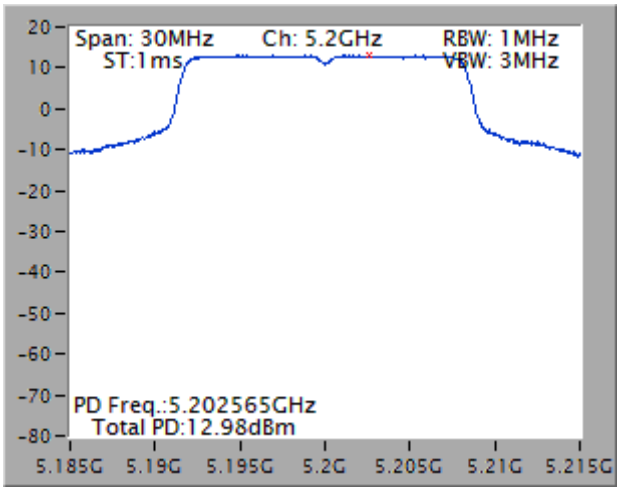


3.4.4 Test Result of Peak Power Spectral Density

For Frequency band 5150-5250 MHz						
Condition			Peak Power Spectral Density (dBm/MHz)			
Modulation Mode	N_{TX}	Freq. (MHz)	PPSD w/o D.F (dBm/MHz)	Duty Factor (dB)	PPSD with D.F (dBm/MHz)	PPSD Limit (dBm/MHz)
11a	4	5180	9.12	0.00	9.12	17
11a	4	5200	12.98	0.00	12.98	17
11a	4	5240	11.91	0.00	11.91	17
HT20	4	5180	8.24	0.00	8.24	17
HT20	4	5200	12.62	0.00	12.62	17
HT20	4	5240	11.66	0.00	11.66	17
HT40	4	5190	2.38	0.00	2.38	17
HT40	4	5230	8.94	0.00	8.94	17

Note:
1. D.F is duty factor.
2. Test results are bin-by-bin summing measured value of each TX port.

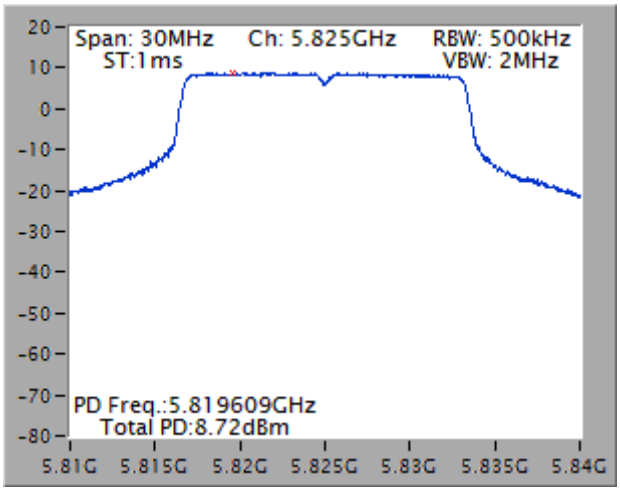
Worst Plot



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	4	5745	7.91	0.00	7.91	30.00
11a	4	5785	8.06	0.00	8.06	30.00
11a	4	5825	8.72	0.00	8.72	30.00
HT20	4	5745	7.79	0.00	7.79	30.00
HT20	4	5785	7.87	0.00	7.87	30.00
HT20	4	5825	8.46	0.00	8.46	30.00
HT40	4	5755	4.62	0.00	4.62	30.00
HT40	4	5795	5.21	0.00	5.21	30.00

Note:
1. D.F is duty factor.
2. Test results are bin-by-bin summing measured value of each TX port.

Worst Plots



3.5 Transmitter Radiated and Band Edge Emissions

3.5.1 Limit of Transmitter Radiated and Band Edge Emissions

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

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

Un-restricted band emissions above 1GHz Limit		
Operating Band	**Limit**	
5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]	
5.25 - 5.35 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]	
5.47 - 5.725 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]	
5.725 - 5.850 GHz	☒	15.407(b)(4)(i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
	☐	15.407(b)(4)(ii) ,compliance with the emission limits in § 15.247(d) Shall be at least 30dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power. In addition,radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see § 15.205(c))

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

3.5.2 Test Procedures

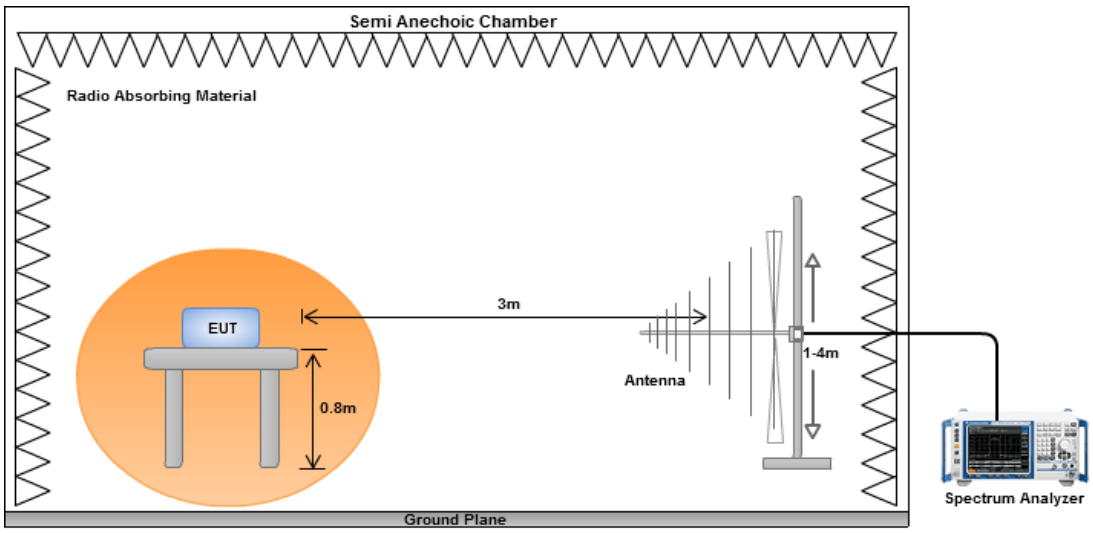
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission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

Note:

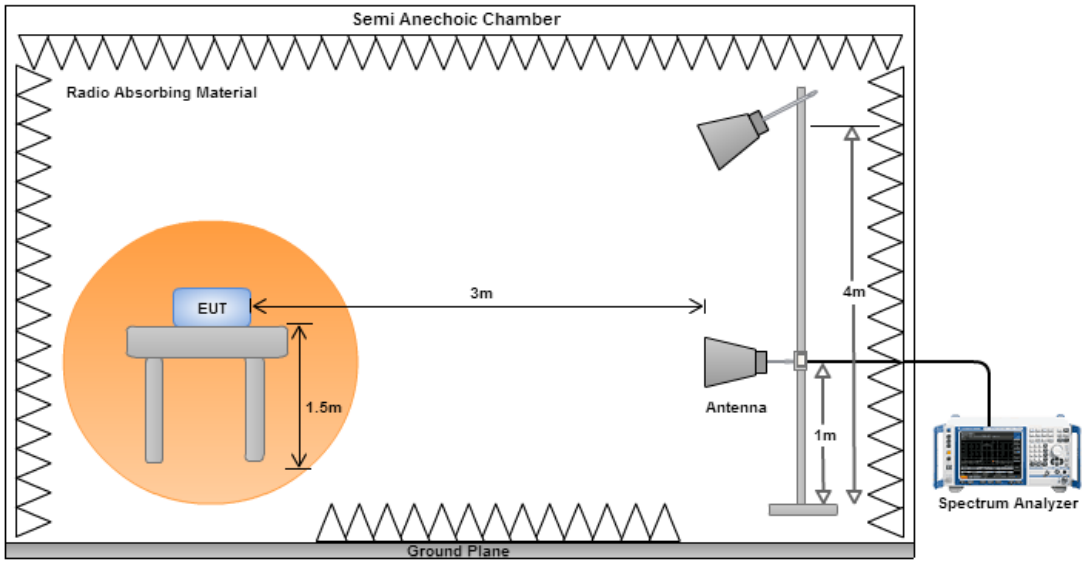
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

3.5.3 Test Setup

Radiated Emissions below 1 GHz

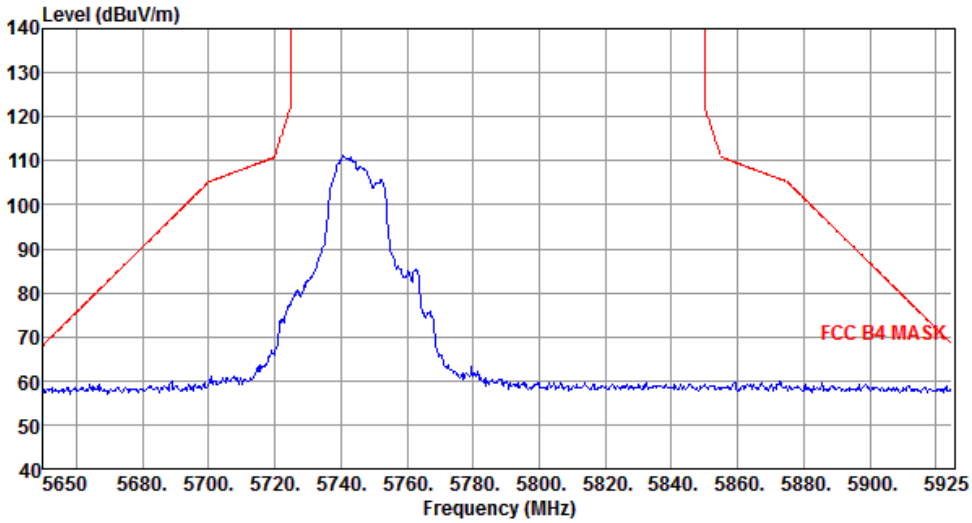


Radiated Emissions above 1 GHz

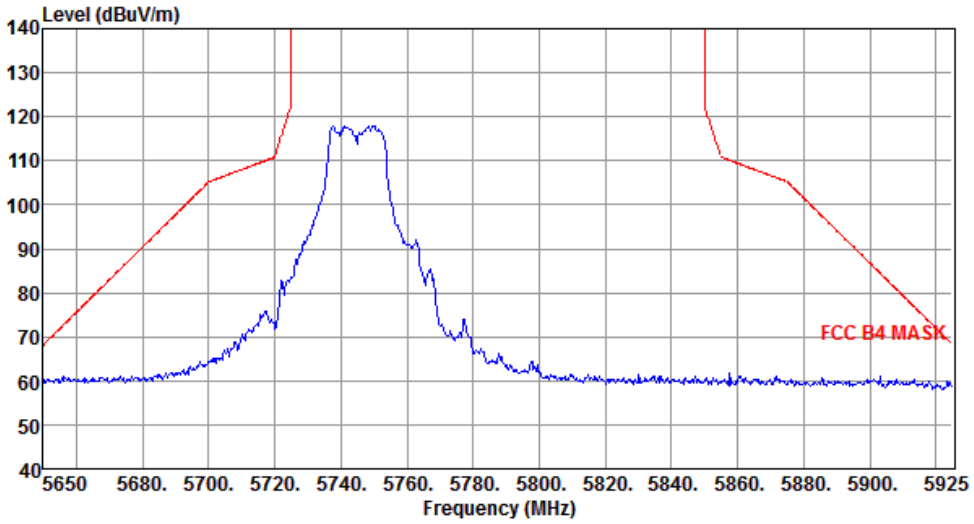


3.5.4 Transmitter Radiated Band Edge for 11a

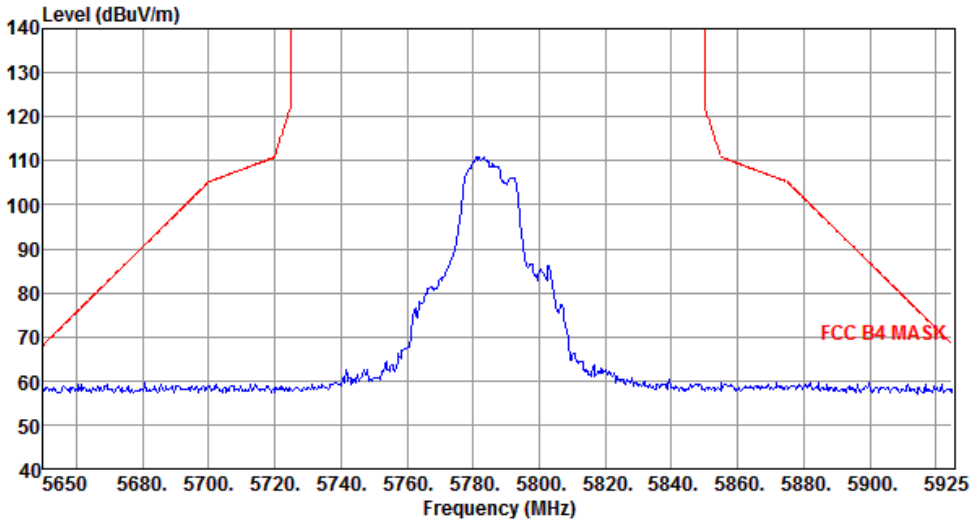
Modulation	11a	Test Freq. (MHz)	5745
Polarization	Horizontal		



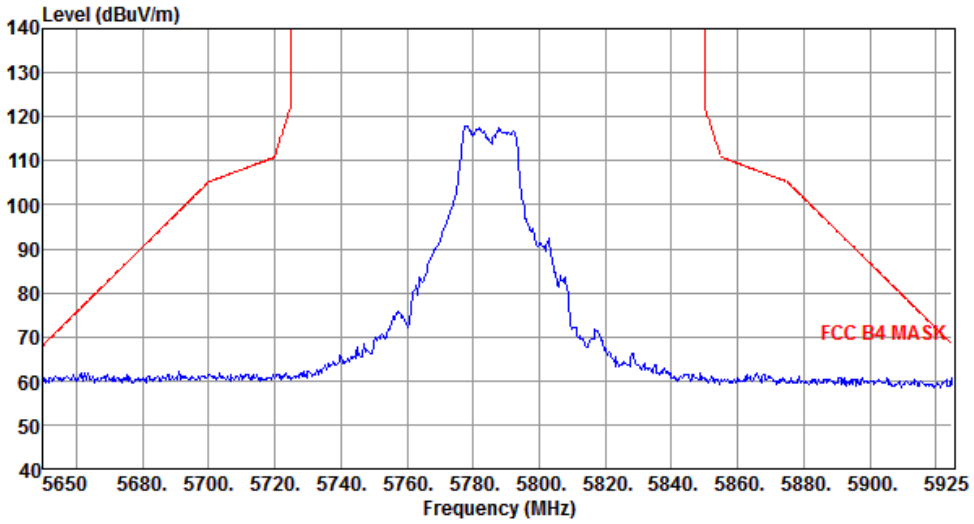
Modulation	11a	Test Freq. (MHz)	5745
Polarization	Vertical		



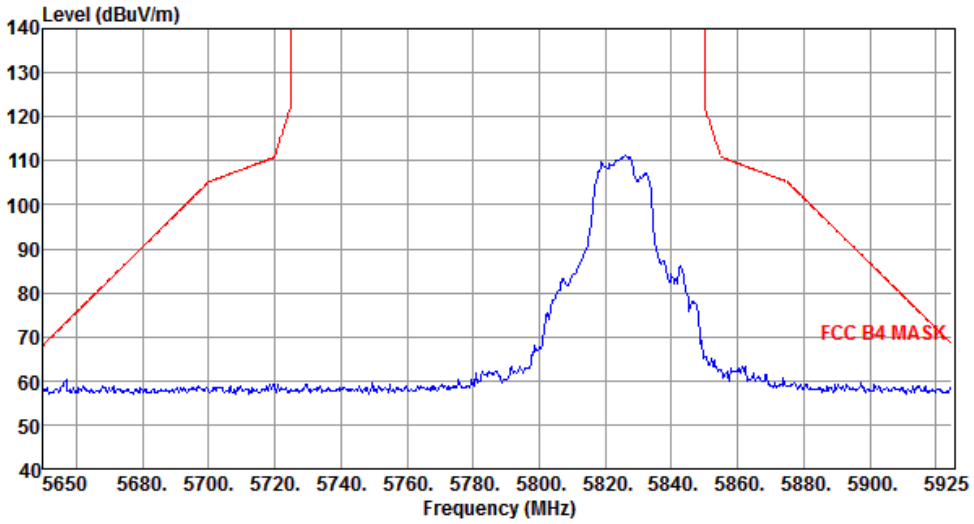
Modulation	11a	**Test Freq. (MHz)**	5785
Polarization	Horizontal		



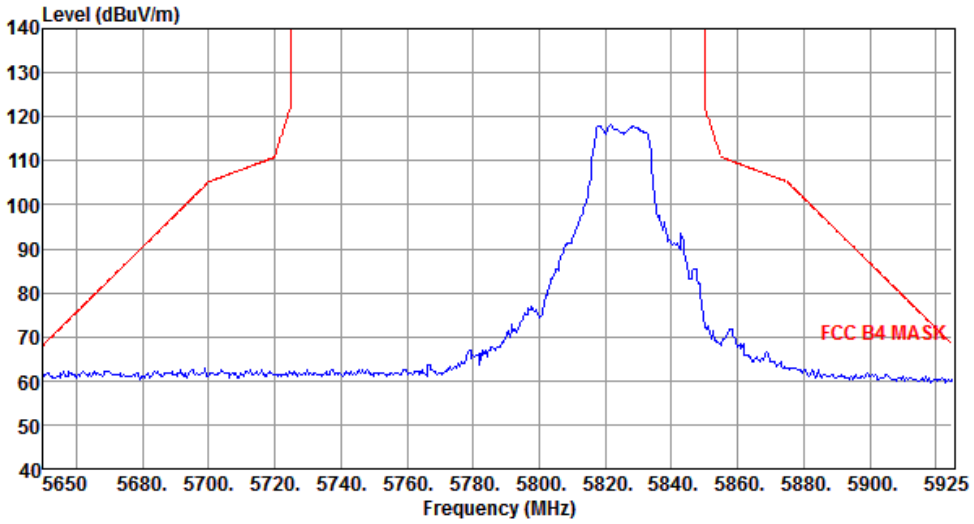
Modulation	11a	**Test Freq. (MHz)**	5785
Polarization	Vertical		



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

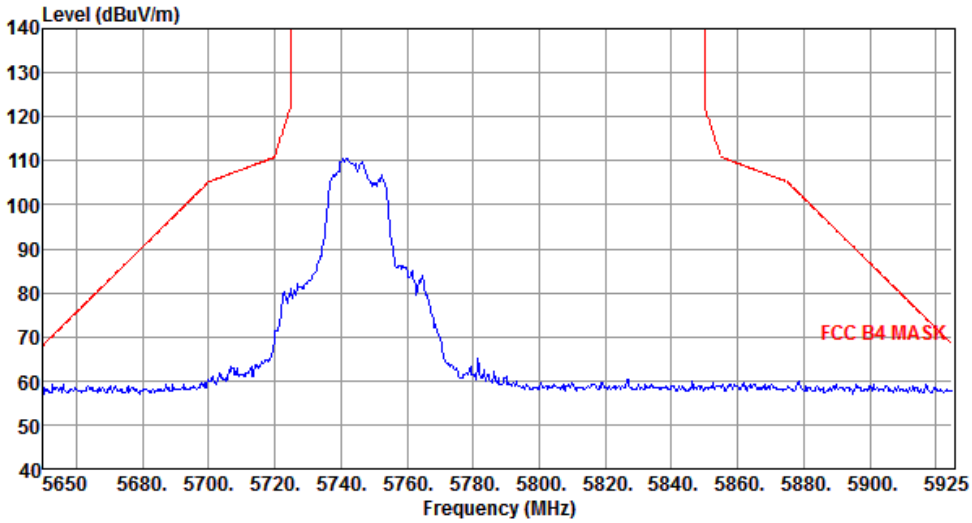


Modulation	11a	**Test Freq. (MHz)**	5825
Polarization	Vertical		

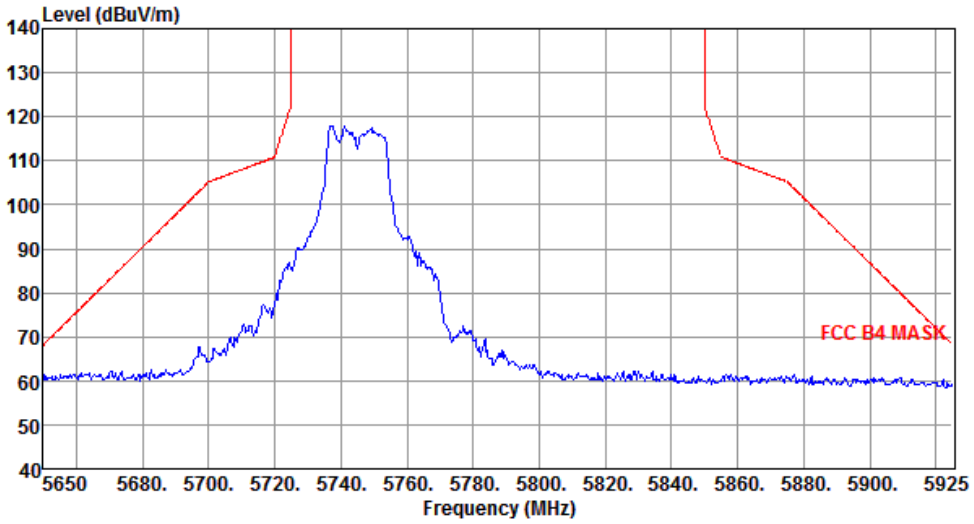


3.5.5 Transmitter Radiated Band Edge for HT20

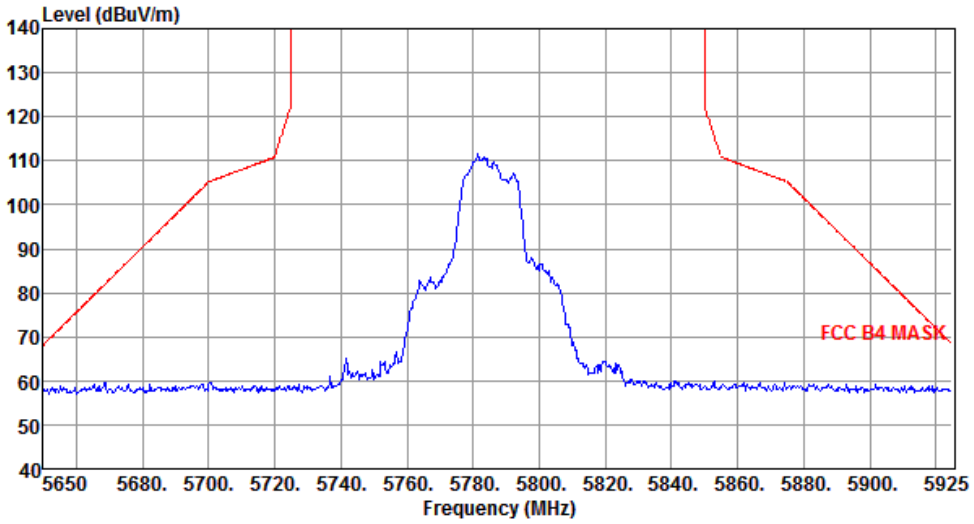
Modulation	HT20	Test Freq. (MHz)	5745
Polarization	Horizontal		



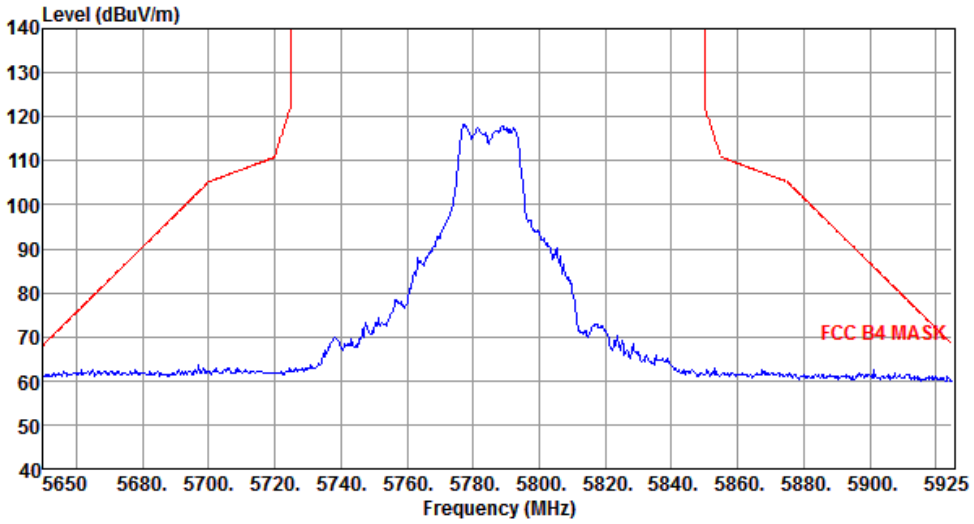
Modulation	HT20	**Test Freq. (MHz)**	5745
Polarization	Vertical		



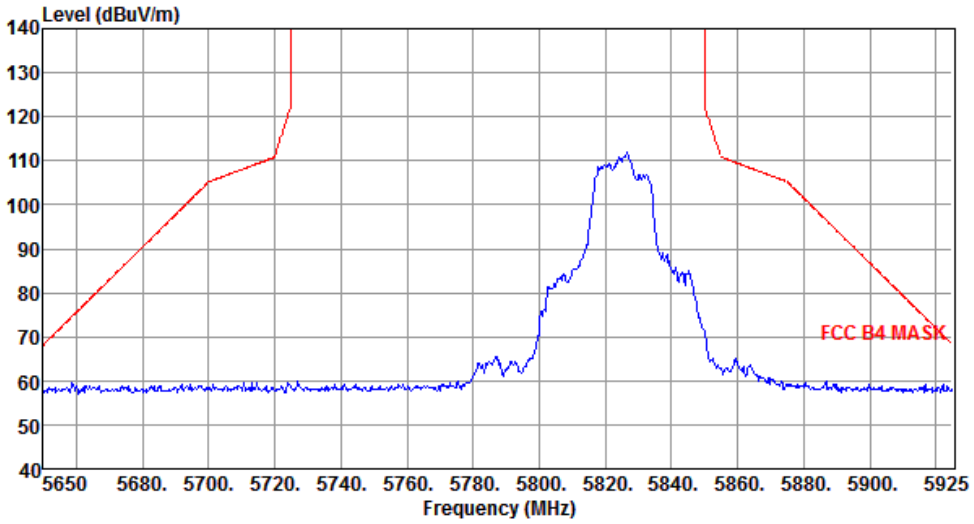
Modulation	HT20	Test Freq. (MHz)	5785
Polarization	Horizontal		



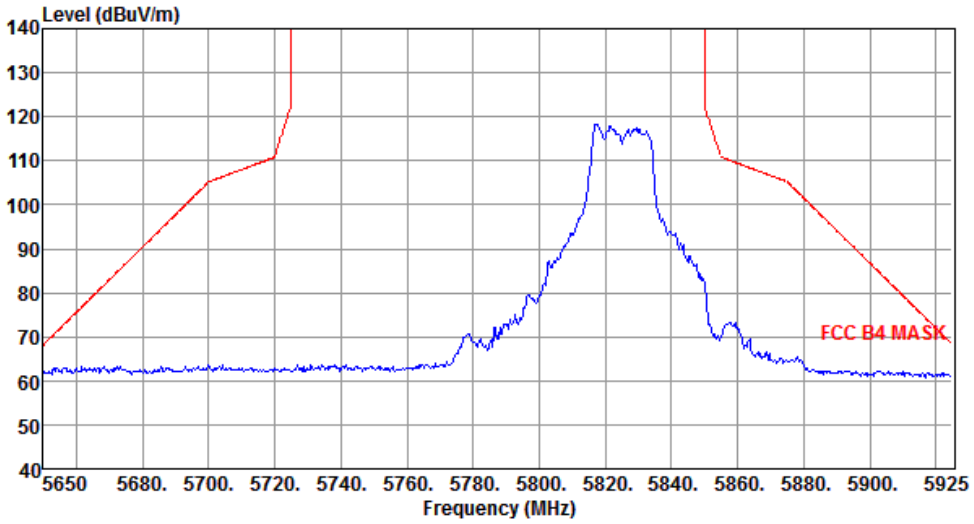
Modulation	HT20	**Test Freq. (MHz)**	5785
Polarization	Vertical		



Modulation	HT20	**Test Freq. (MHz)**	5825
Polarization	Horizontal		

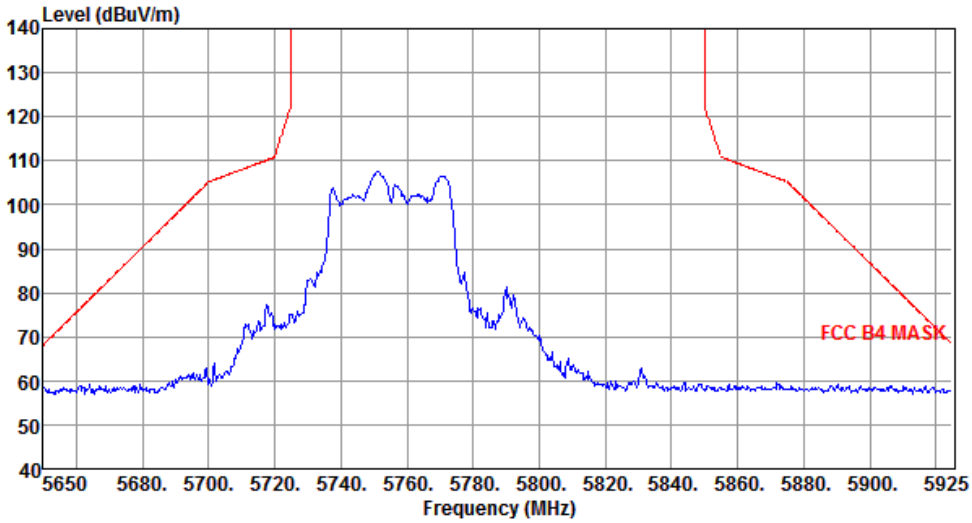


Modulation	HT20	Test Freq. (MHz)	5825
Polarization	Vertical		

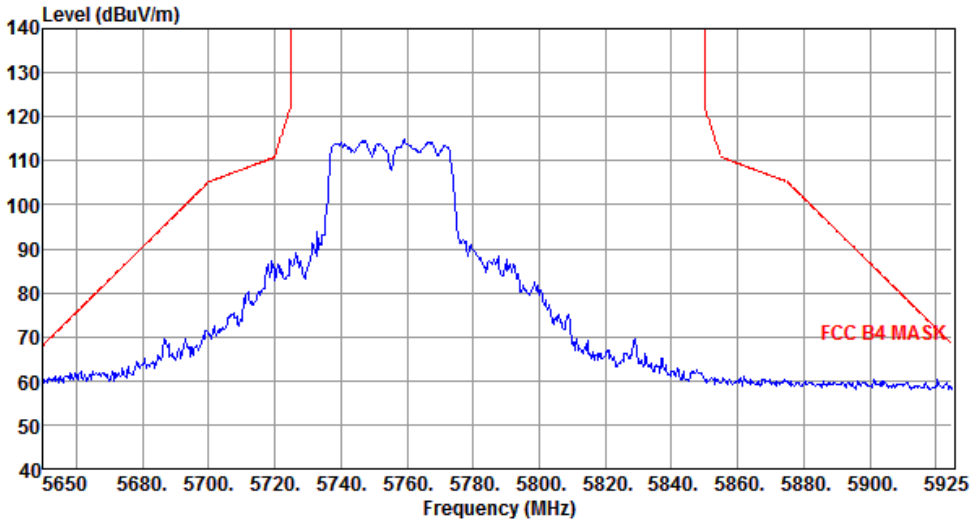


3.5.6 Transmitter Radiated Band Edge for HT40

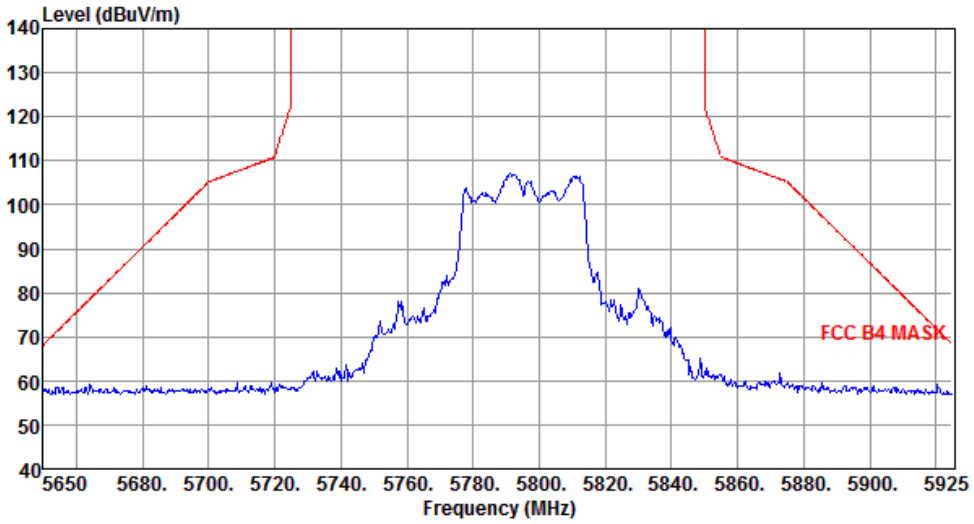
Modulation	HT40	Test Freq. (MHz)	5755
Polarization	Horizontal		



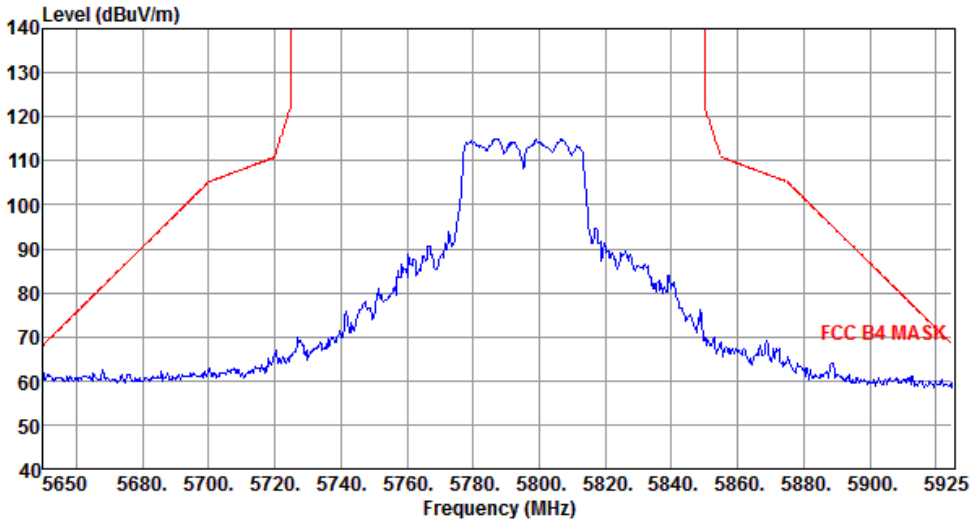
Modulation	HT40	**Test Freq. (MHz)**	5755
Polarization	Vertical		



Modulation	HT40	**Test Freq. (MHz)**	5795
Polarization	Horizontal		

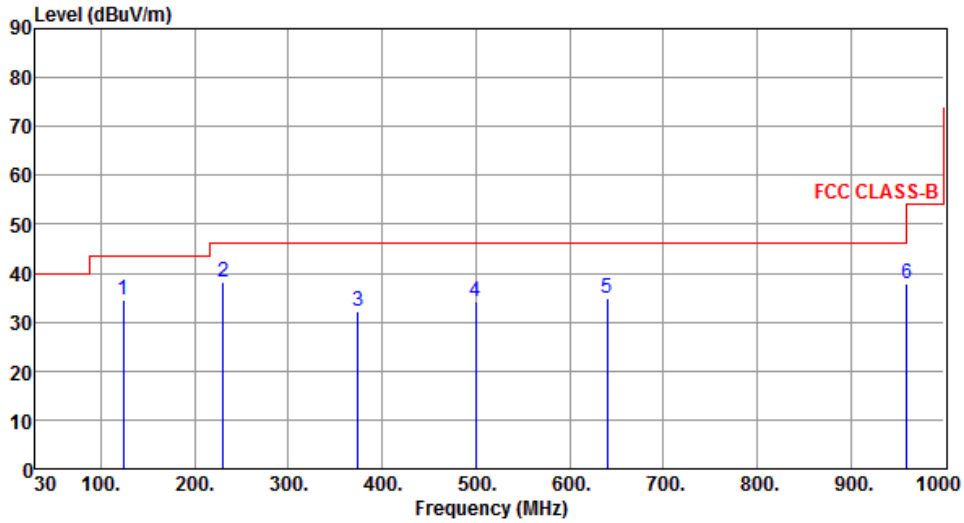


Modulation	HT40	**Test Freq. (MHz)**	5795
Polarization	Vertical		



3.5.7 Transmitter Radiated Unwanted Emissions (Below 1GHz)

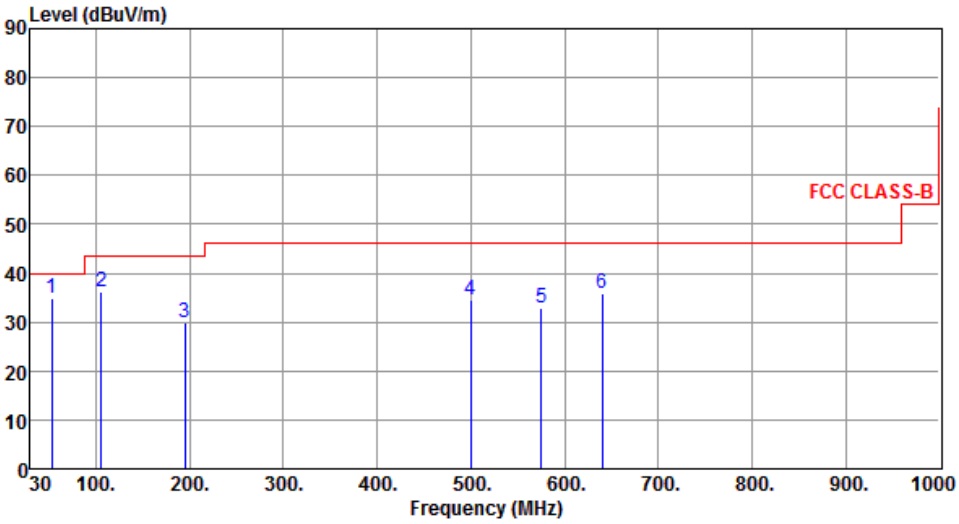
Modulation	HT20	Test Freq. (MHz)	5200
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	124.09	34.61	43.50	-8.89	53.11	-18.50	Peak	---	---
2	230.79	38.22	46.00	-7.78	56.75	-18.53	Peak	---	---
3	374.35	32.15	46.00	-13.85	46.28	-14.13	Peak	---	---
4	499.48	34.31	46.00	-11.69	45.44	-11.13	Peak	---	---
5	640.13	34.93	46.00	-11.07	43.77	-8.84	Peak	---	---
6	960.23	37.74	54.00	-16.26	42.15	-4.41	Peak	---	---

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

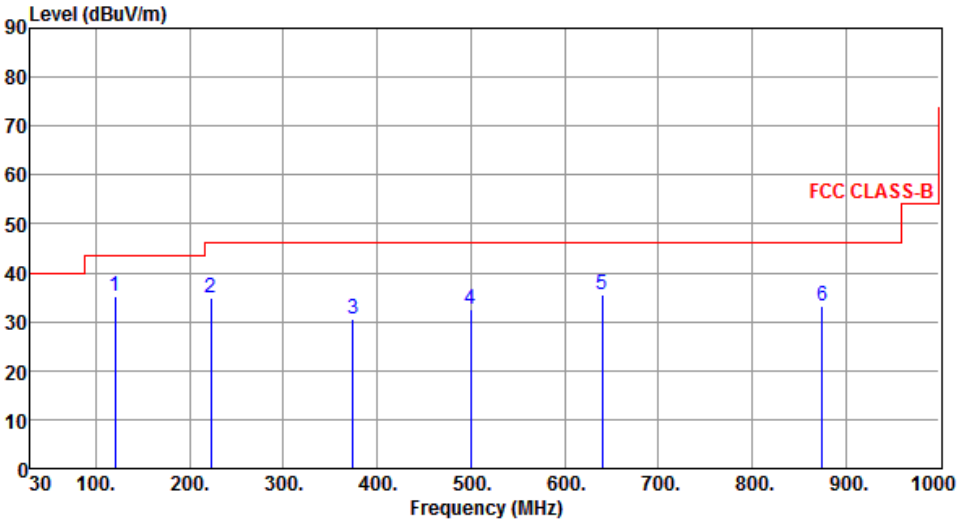
Modulation	HT20	Test Freq. (MHz)	5200
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	52.43	34.96	40.00	-5.04	51.60	-16.64	Peak	---	---
2	105.66	36.16	43.50	-7.34	56.49	-20.33	Peak	---	---
3	194.90	30.03	43.50	-13.47	49.22	-19.19	Peak	---	---
4	499.48	34.56	46.00	-11.44	45.69	-11.13	Peak	---	---
5	575.14	32.96	46.00	-13.04	42.95	-9.99	Peak	---	---
6	640.13	36.00	46.00	-10.00	44.84	-8.84	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).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

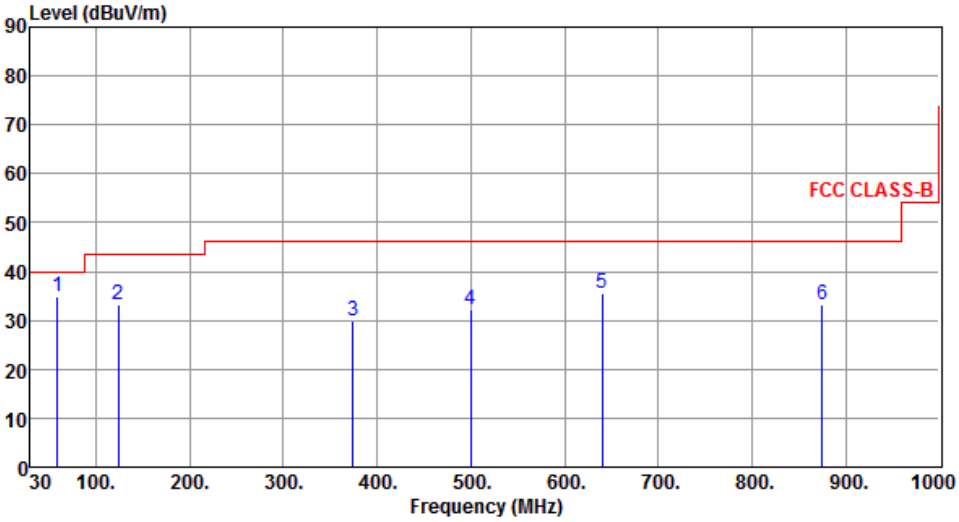
Modulation	HT20	Test Freq. (MHz)	5580
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	120.21	35.15	43.50	-8.35	53.97	-18.82	Peak	---	---
2	223.03	34.74	46.00	-11.26	53.63	-18.89	Peak	---	---
3	374.35	30.66	46.00	-15.34	44.79	-14.13	Peak	---	---
4	499.48	32.53	46.00	-13.47	43.66	-11.13	Peak	---	---
5	640.13	35.41	46.00	-10.59	44.25	-8.84	Peak	---	---
6	874.87	33.27	46.00	-12.73	38.83	-5.56	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.

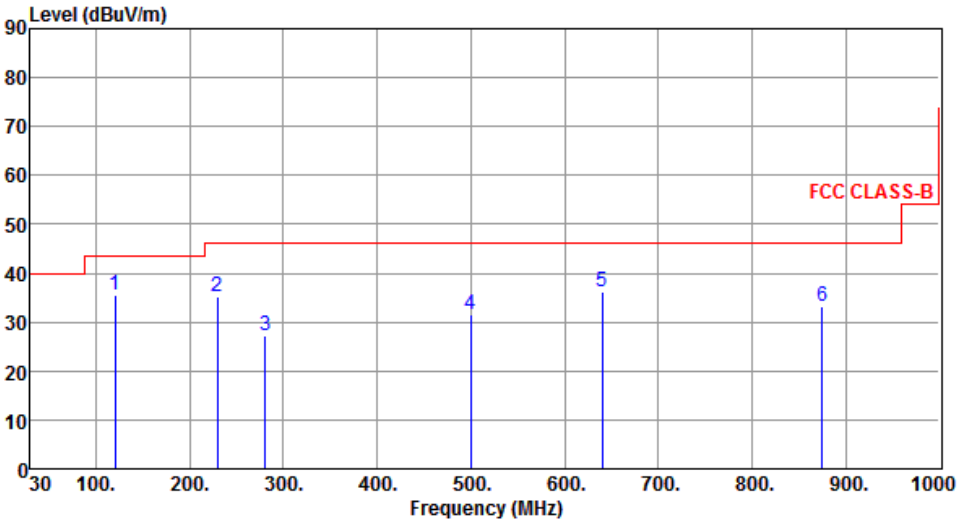
Modulation	HT20	Test Freq. (MHz)	5580
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	59.10	34.84	40.00	-5.16	52.24	-17.40	Peak	---	---
2	124.09	33.15	43.50	-10.35	51.65	-18.50	Peak	---	---
3	374.35	29.84	46.00	-16.16	43.97	-14.13	Peak	---	---
4	499.48	32.13	46.00	-13.87	43.26	-11.13	Peak	---	---
5	640.13	35.62	46.00	-10.38	44.46	-8.84	Peak	---	---
6	874.87	33.31	46.00	-12.69	38.87	-5.56	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.

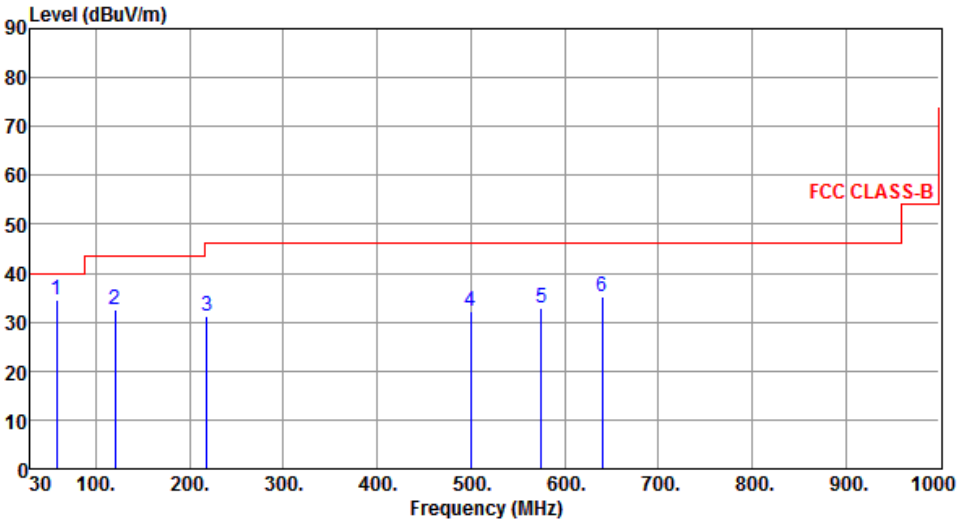
Modulation	HT20	Test Freq. (MHz)	5825
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	120.21	35.54	43.50	-7.96	54.36	-18.82	Peak	---	---
2	229.82	35.05	46.00	-10.95	53.64	-18.59	Peak	---	---
3	280.26	27.30	46.00	-18.70	43.73	-16.43	Peak	---	---
4	499.48	31.60	46.00	-14.40	42.73	-11.13	Peak	---	---
5	640.13	36.20	46.00	-9.80	45.04	-8.84	Peak	---	---
6	874.87	33.08	46.00	-12.92	38.64	-5.56	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.

Modulation	HT20	Test Freq. (MHz)	5825
Polarization	Vertical		

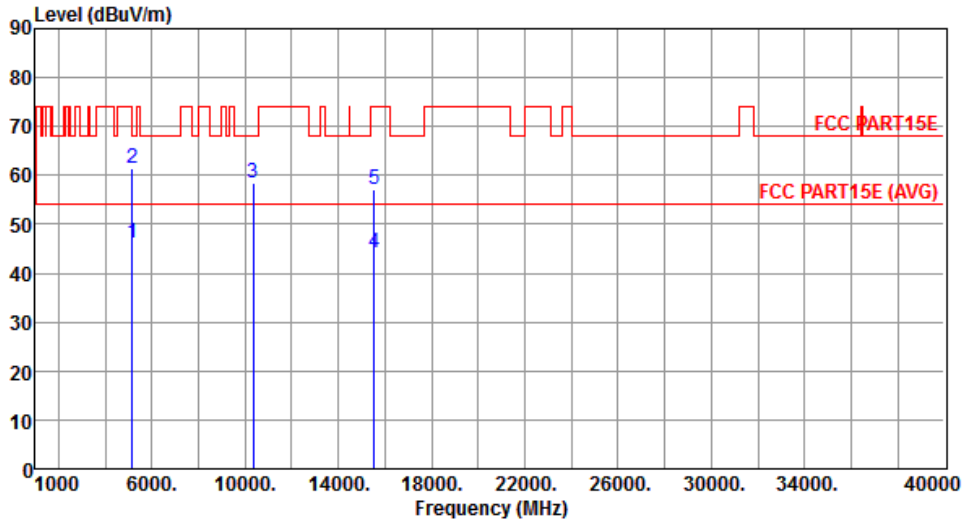


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	58.13	34.59	40.00	-5.41	51.88	-17.29	Peak	---	---
2	120.21	32.57	43.50	-10.93	51.39	-18.82	Peak	---	---
3	218.18	31.12	46.00	-14.88	50.19	-19.07	Peak	---	---
4	499.48	32.05	46.00	-13.95	43.18	-11.13	Peak	---	---
5	575.14	32.90	46.00	-13.10	42.89	-9.99	Peak	---	---
6	640.13	35.30	46.00	-10.70	44.14	-8.84	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).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

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

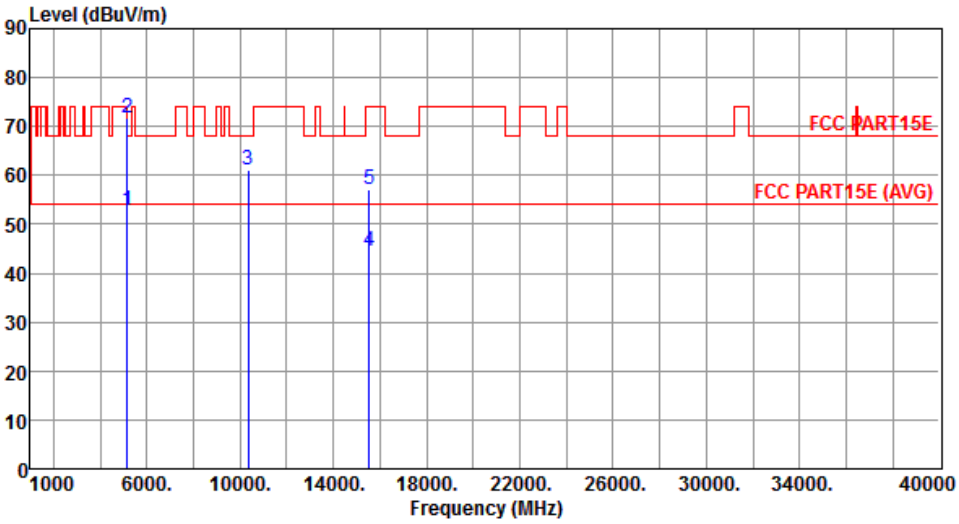
Modulation	11a	Test Freq. (MHz)	5180
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.29	54.00	-7.71	41.89	4.40	Average	180	251
2	5150.00	61.34	74.00	-12.66	56.94	4.40	Peak	180	251
3	10360.00	58.51	68.20	-9.69	44.31	14.20	Peak	155	226
4	15540.00	44.22	54.00	-9.78	29.11	15.11	Average	222	165
5	15540.00	57.27	74.00	-16.73	42.16	15.11	Peak	222	165

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).

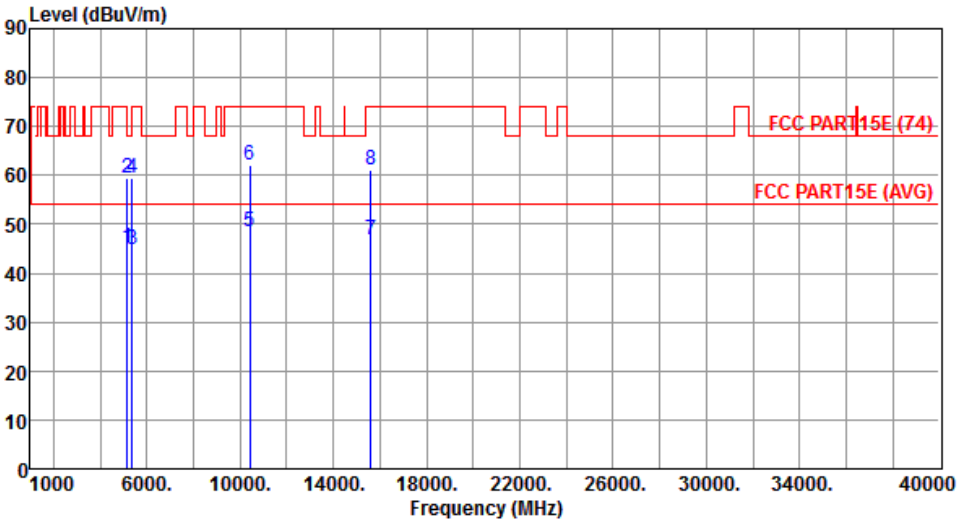
Modulation	11a	Test Freq. (MHz)	5180
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.72	54.00	-1.28	48.32	4.40	Average	186	22
2	5150.00	71.69	74.00	-2.31	67.29	4.40	Peak	186	22
3	10360.00	61.02	68.20	-7.18	46.82	14.20	Peak	246	94
4	15540.00	44.43	54.00	-9.57	29.32	15.11	Average	155	221
5	15540.00	57.22	74.00	-16.78	42.11	15.11	Peak	155	221

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

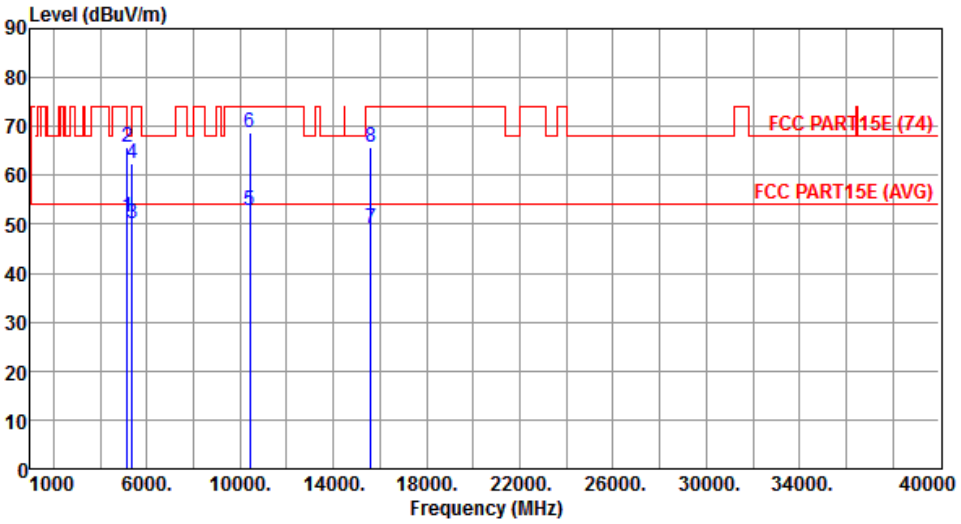
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Horizontal		



	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	45.09	54.00	-8.91	40.69	4.40	Average	191	97
2	5150.00	59.29	74.00	-14.71	54.89	4.40	Peak	191	97
3	5350.00	44.71	54.00	-9.29	40.07	4.64	Average	191	97
4	5350.00	59.61	74.00	-14.39	54.97	4.64	Peak	191	97
5	10400.00	48.45	54.00	-5.55	34.17	14.28	Average	219	153
6	10400.00	61.97	74.00	-12.03	47.69	14.28	Peak	219	153
7	15600.00	46.89	54.00	-7.11	31.87	15.02	Average	200	160
8	15600.00	61.24	74.00	-12.76	46.22	15.02	Peak	200	160

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).

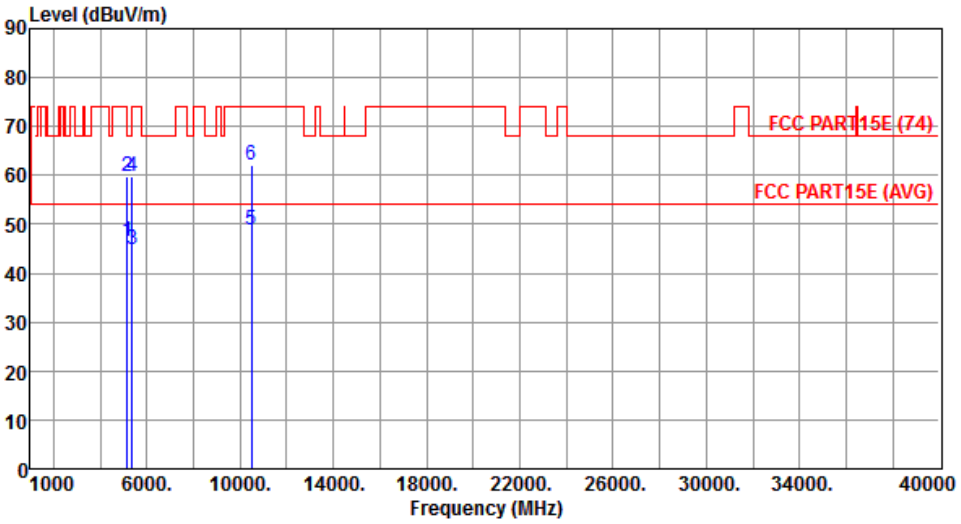
Modulation	11a	Test Freq. (MHz)	5200
Polarization	Vertical		



	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	51.53	54.00	-2.47	47.13	4.40	Average	187	22
2	5150.00	65.84	74.00	-8.16	61.44	4.40	Peak	187	22
3	5350.00	50.07	54.00	-3.93	45.43	4.64	Average	187	291
4	5350.00	62.34	74.00	-11.66	57.70	4.64	Peak	187	291
5	10400.00	52.70	54.00	-1.30	38.42	14.28	Average	156	97
6	10400.00	68.61	74.00	-5.39	54.33	14.28	Peak	156	97
7	15600.00	49.24	54.00	-4.76	34.22	15.02	Average	161	150
8	15600.00	65.65	74.00	-8.35	50.63	15.02	Peak	161	150

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).

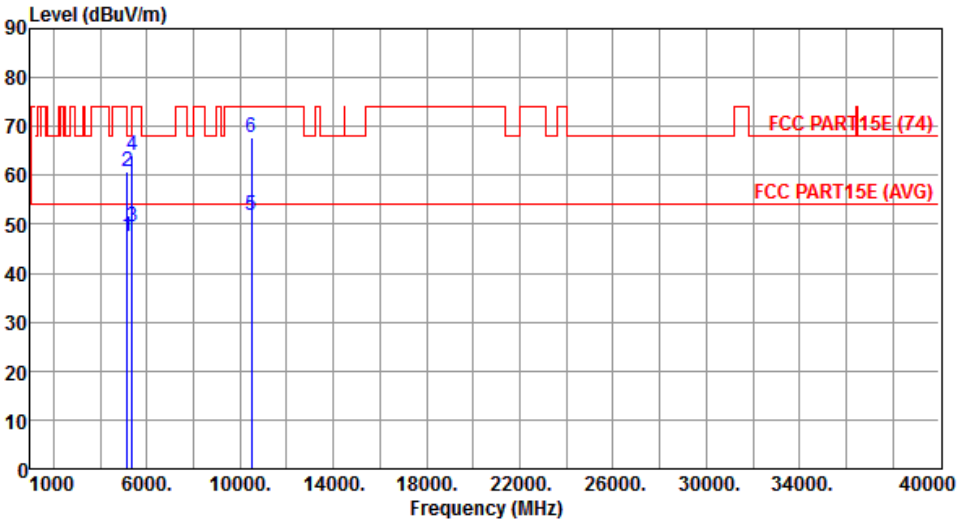
Modulation	11a	Test Freq. (MHz)	5240
Polarization	Horizontal		



	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	46.51	54.00	-7.49	42.11	4.40	Average	192	99
2	5150.00	59.72	74.00	-14.28	55.32	4.40	Peak	192	99
3	5350.00	45.00	54.00	-9.00	40.36	4.64	Average	192	99
4	5350.00	59.83	74.00	-14.17	55.19	4.64	Peak	192	99
5	10480.00	48.68	54.00	-5.32	34.25	14.43	Average	222	165
6	10480.00	62.26	74.00	-11.74	47.83	14.43	Peak	222	165

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).

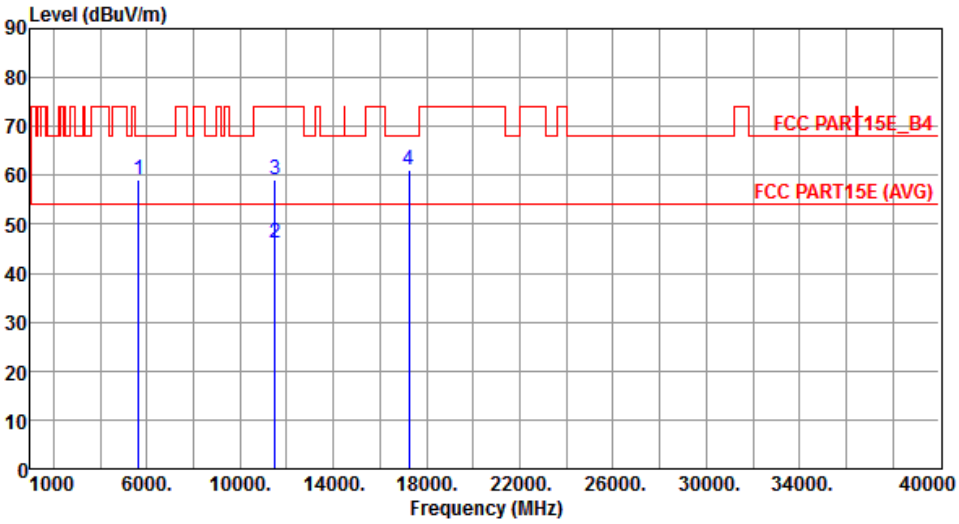
Modulation	11a	Test Freq. (MHz)	5240
Polarization	Vertical		



	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	47.60	54.00	-6.40	43.20	4.40	Average	182	296
2	5150.00	60.86	74.00	-13.14	56.46	4.40	Peak	182	296
3	5350.00	49.49	54.00	-4.51	44.85	4.64	Average	182	296
4	5350.00	64.20	74.00	-9.80	59.56	4.64	Peak	182	296
5	10480.00	51.65	54.00	-2.35	37.22	14.43	Average	174	98
6	10480.00	67.59	74.00	-6.41	53.16	14.43	Peak	174	98

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).

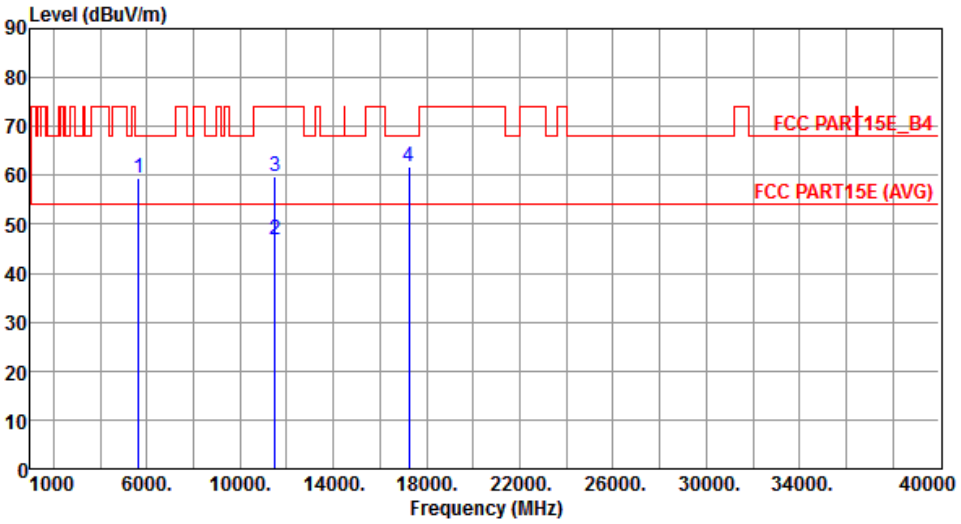
Modulation	11a	Test Freq. (MHz)	5745
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5649.90	59.20	68.20	-9.00	54.20	5.00	Peak	186	32
2	11490.00	46.03	54.00	-7.97	30.50	15.53	Average	100	19
3	11490.00	59.03	74.00	-14.97	43.50	15.53	Peak	100	19
4	17235.00	61.17	68.20	-7.03	42.30	18.87	Peak	100	231

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).

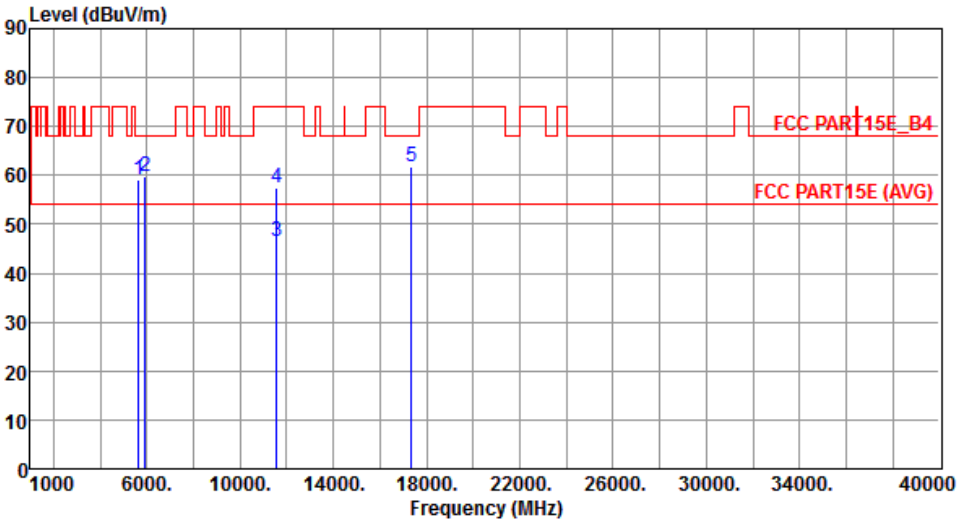
Modulation	11a	Test Freq. (MHz)	5745
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5649.90	59.32	68.20	-8.88	54.32	5.00	Peak	206	309
2	11490.00	46.91	54.00	-7.09	31.38	15.53	Average	100	3
3	11490.00	59.90	74.00	-14.10	44.37	15.53	Peak	100	3
4	17235.00	61.66	68.20	-6.54	42.79	18.87	Peak	100	135

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

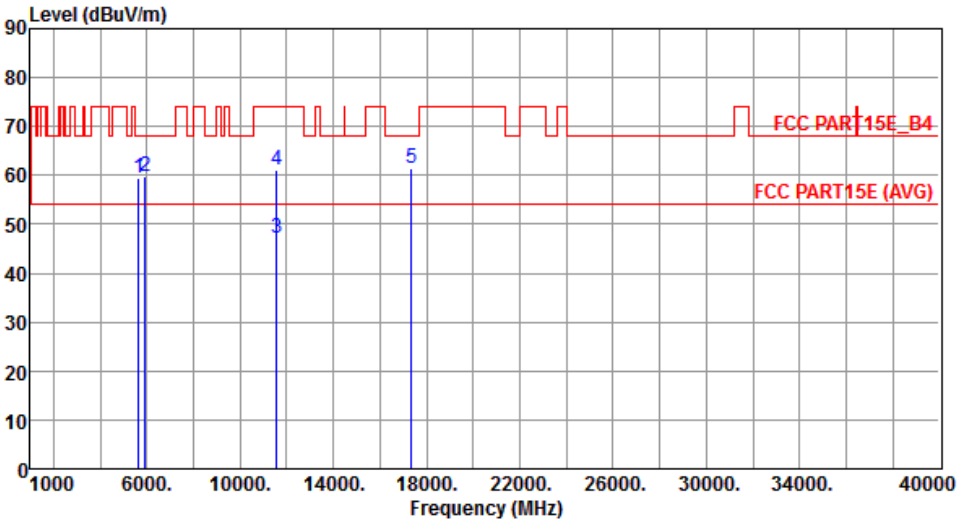
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5649.90	59.21	68.20	-8.99	54.21	5.00	Peak	132	197
2	5925.10	59.65	68.20	-8.55	54.31	5.34	Peak	132	197
3	11570.00	46.62	54.00	-7.38	31.29	15.33	Average	180	10
4	11570.00	57.60	74.00	-16.40	42.27	15.33	Peak	180	10
5	17355.00	61.64	68.20	-6.56	42.43	19.21	Peak	100	115

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

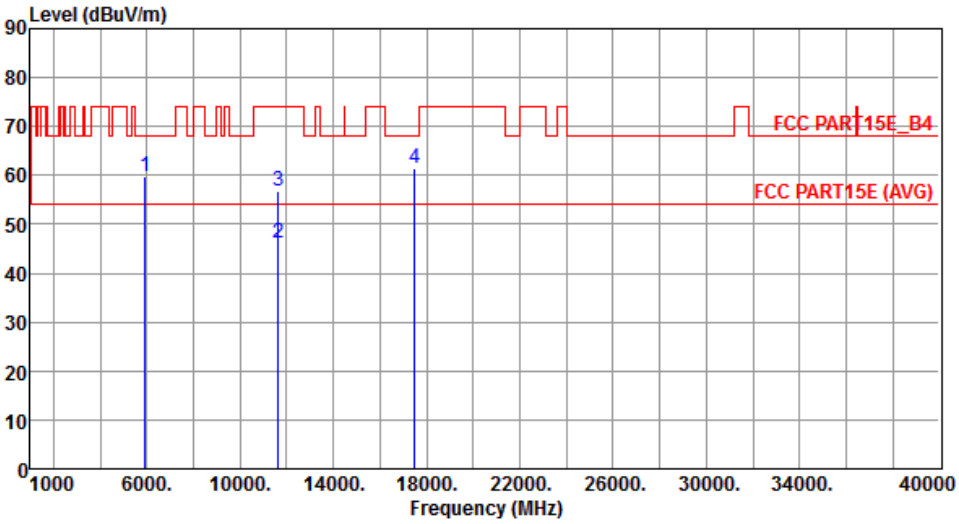
Modulation	11a	Test Freq. (MHz)	5785
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5649.90	59.33	68.20	-8.87	54.33	5.00	Peak	185	297
2	5925.10	59.62	68.20	-8.58	54.28	5.34	Peak	185	297
3	11570.00	47.12	54.00	-6.88	31.79	15.33	Average	145	4
4	11570.00	61.16	74.00	-12.84	45.83	15.33	Peak	145	4
5	17355.00	61.39	68.20	-6.81	42.18	19.21	Peak	100	242

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).

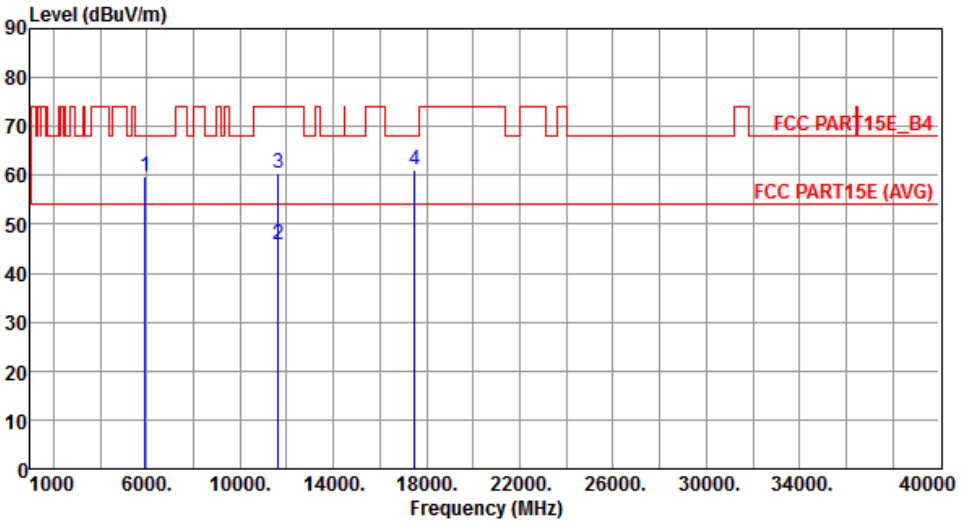
Modulation	11a	Test Freq. (MHz)	5825
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5925.10	59.66	68.20	-8.54	54.32	5.34	Peak	100	126
2	11650.00	46.03	54.00	-7.97	30.94	15.09	Average	237	26
3	11650.00	56.87	74.00	-17.13	41.78	15.09	Peak	237	26
4	17475.00	61.60	68.20	-6.60	42.05	19.55	Peak	100	126

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		

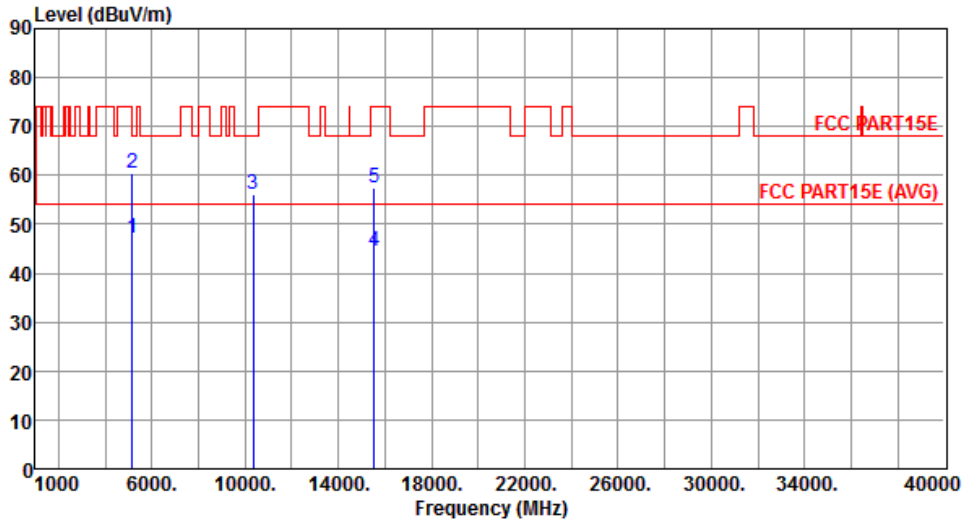


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5925.10	59.72	68.20	-8.48	54.38	5.34	Peak	255	175
2	11650.00	45.99	54.00	-8.01	30.90	15.09	Average	100	4
3	11650.00	60.58	74.00	-13.42	45.49	15.09	Peak	100	4
4	17475.00	61.20	68.20	-7.00	41.65	19.55	Peak	100	225

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).

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

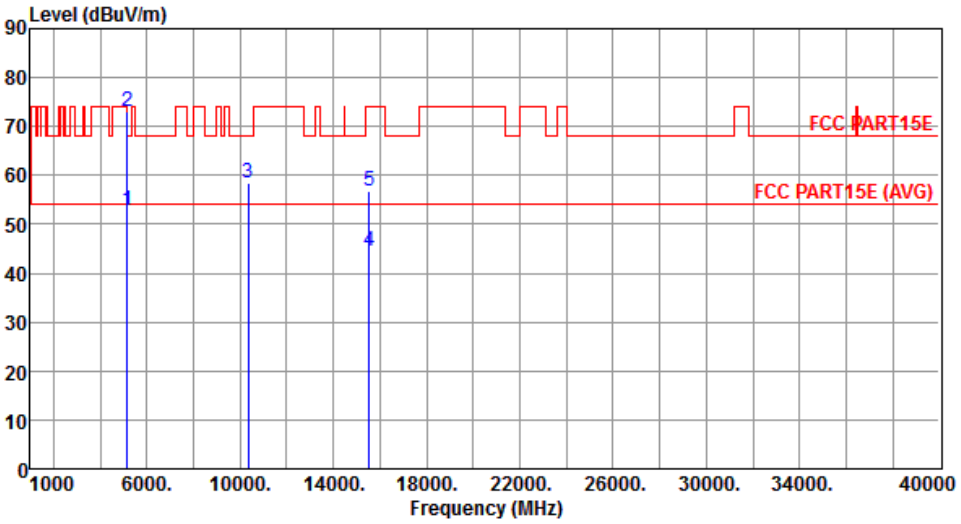
Modulation	HT20	**Test Freq. (MHz)**	5180
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	47.05	54.00	-6.95	42.65	4.40	Average	180	158
2	5150.00	60.51	74.00	-13.49	56.11	4.40	Peak	180	158
3	10360.00	56.13	68.20	-12.07	41.93	14.20	Peak	180	16
4	15540.00	44.45	54.00	-9.55	29.34	15.11	Average	150	158
5	15540.00	57.34	74.00	-16.66	42.23	15.11	Peak	150	158

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).

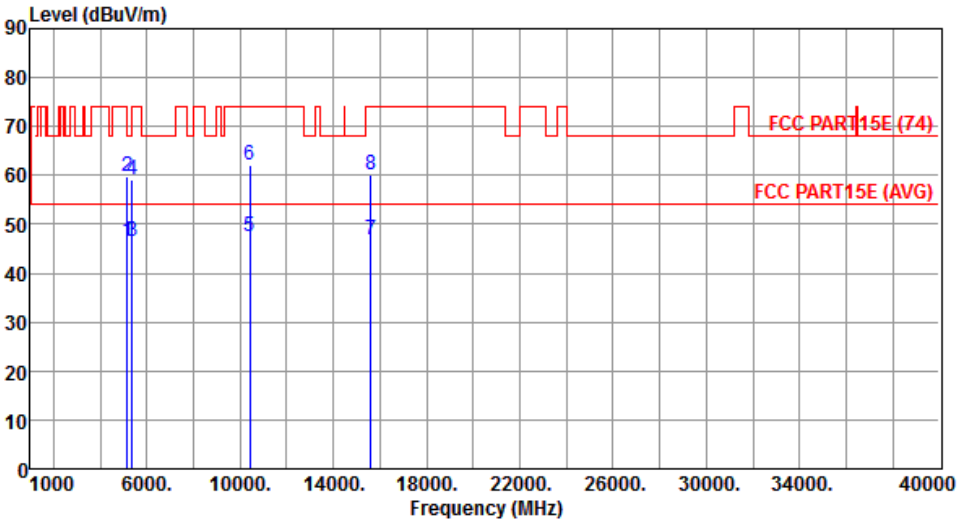
Modulation	HT20	Test Freq. (MHz)	5180
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.71	54.00	-1.29	48.31	4.40	Average	188	293
2	5150.00	72.99	74.00	-1.01	68.59	4.40	Peak	188	293
3	10360.00	58.46	68.20	-9.74	44.26	14.20	Peak	150	79
4	15540.00	44.35	54.00	-9.65	29.24	15.11	Average	150	104
5	15540.00	56.89	74.00	-17.11	41.78	15.11	Peak	150	104

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

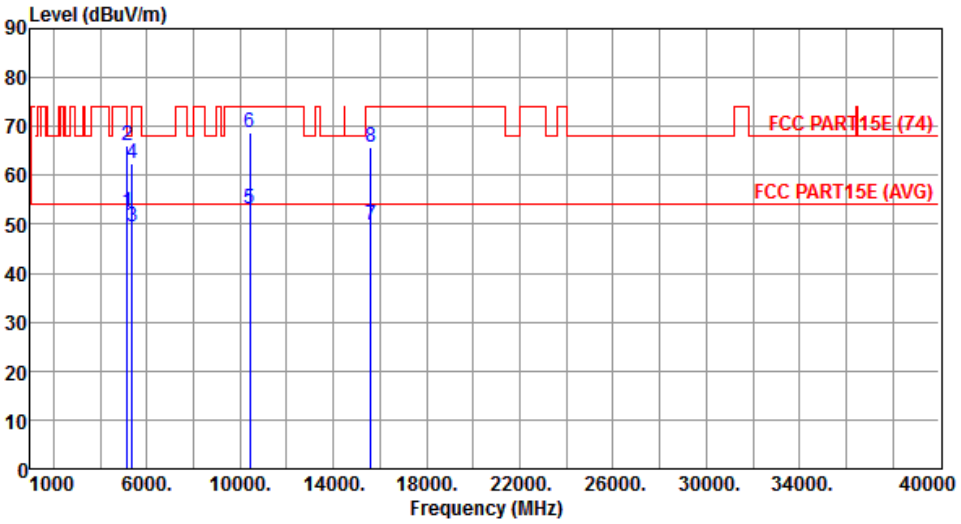
Modulation	HT20	Test Freq. (MHz)	5200
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.40	54.00	-7.60	42.00	4.40	Average	180	159
2	5150.00	59.65	74.00	-14.35	55.25	4.40	Peak	180	159
3	5350.00	46.34	54.00	-7.66	41.70	4.64	Average	180	159
4	5350.00	59.21	74.00	-14.79	54.57	4.64	Peak	180	159
5	10400.00	47.64	54.00	-6.36	33.36	14.28	Average	144	14
6	10400.00	62.04	74.00	-11.96	47.76	14.28	Peak	144	14
7	15600.00	46.92	54.00	-7.08	31.90	15.02	Average	153	155
8	15600.00	60.22	74.00	-13.78	45.20	15.02	Peak	153	155

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

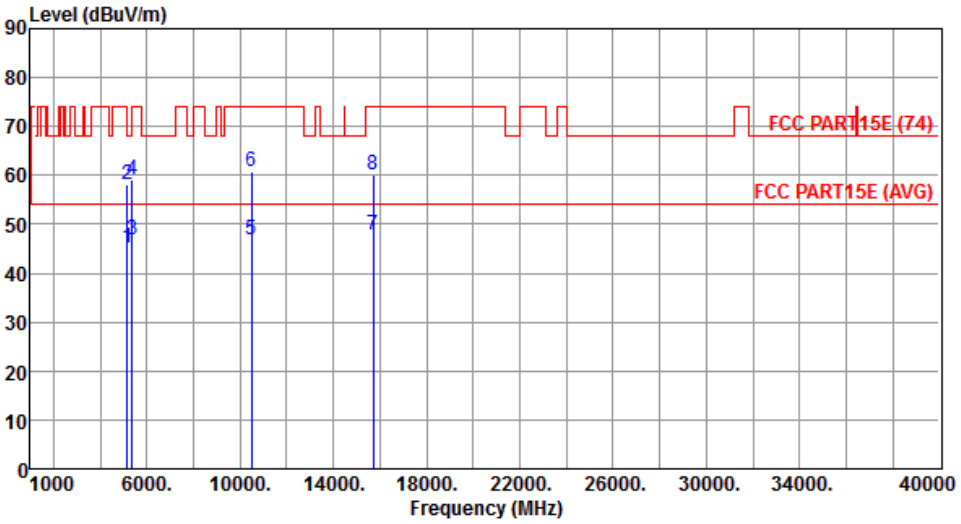
Modulation	HT20	Test Freq. (MHz)	5200
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.41	54.00	-1.59	48.01	4.40	Average	185	15
2	5150.00	66.18	74.00	-7.82	61.78	4.40	Peak	185	15
3	5350.00	49.63	54.00	-4.37	44.99	4.64	Average	175	291
4	5350.00	62.53	74.00	-11.47	57.89	4.64	Peak	175	291
5	10400.00	52.98	54.00	-1.02	38.70	14.28	Average	153	102
6	10400.00	68.74	74.00	-5.26	54.46	14.28	Peak	153	102
7	15600.00	49.81	54.00	-4.19	34.79	15.02	Average	152	101
8	15600.00	65.73	74.00	-8.27	50.71	15.02	Peak	152	101

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

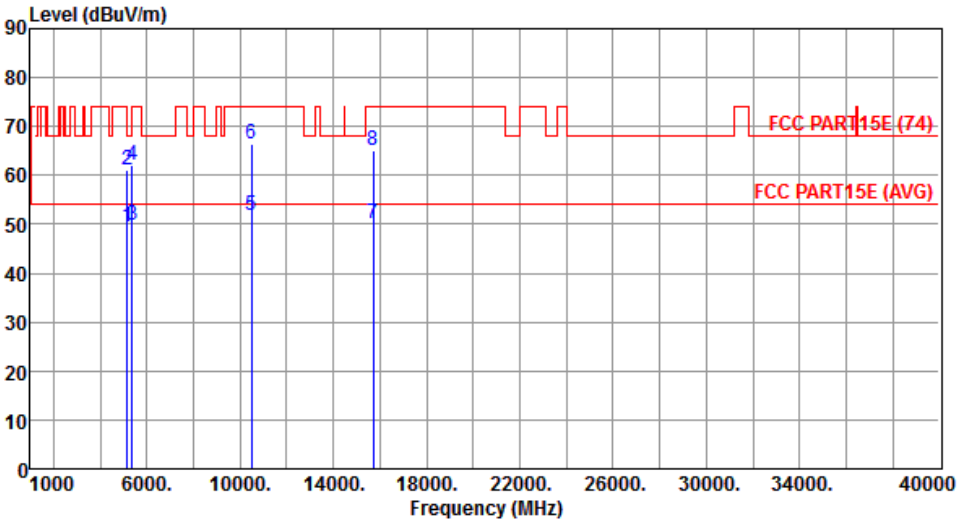
Modulation	HT20	Test Freq. (MHz)	5240
Polarization	Horizontal		



	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	45.23	54.00	-8.77	40.83	4.40	Average	158	157
2	5150.00	58.05	74.00	-15.95	53.65	4.40	Peak	158	157
3	5350.00	46.91	54.00	-7.09	42.27	4.64	Average	158	157
4	5350.00	59.28	74.00	-14.72	54.64	4.64	Peak	158	157
5	10480.00	46.78	54.00	-7.22	32.35	14.43	Average	159	16
6	10480.00	60.78	74.00	-13.22	46.35	14.43	Peak	159	16
7	15720.00	47.66	54.00	-6.34	32.79	14.87	Average	159	153
8	15720.00	60.08	74.00	-13.92	45.21	14.87	Peak	159	153

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

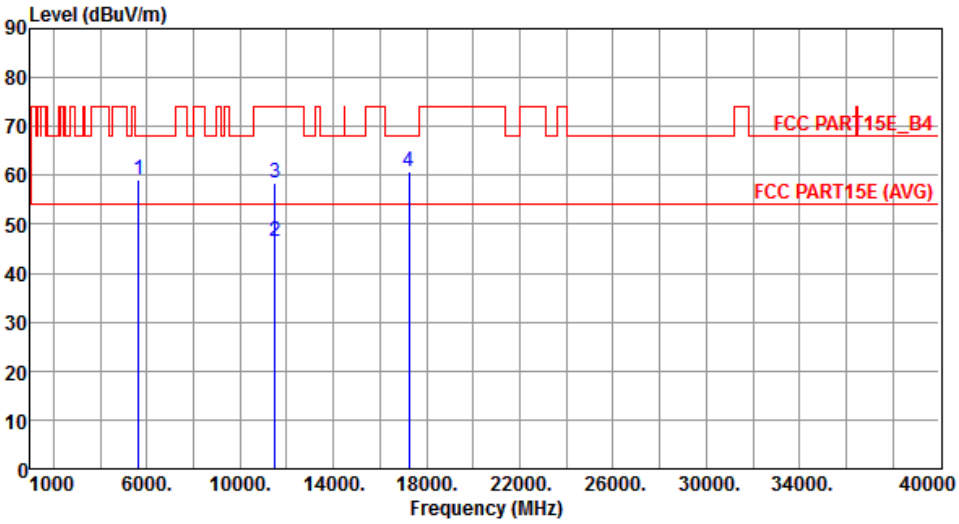
Modulation	HT20	Test Freq. (MHz)	5240
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	49.41	54.00	-4.59	45.01	4.40	Average	183	291
2	5150.00	61.25	74.00	-12.75	56.85	4.40	Peak	183	291
3	5350.00	49.87	54.00	-4.13	45.23	4.64	Average	183	291
4	5350.00	62.20	74.00	-11.80	57.56	4.64	Peak	183	291
5	10480.00	51.65	54.00	-2.35	37.22	14.43	Average	165	103
6	10480.00	66.29	74.00	-7.71	51.86	14.43	Peak	165	103
7	15720.00	50.13	54.00	-3.87	35.26	14.87	Average	144	102
8	15720.00	64.98	74.00	-9.02	50.11	14.87	Peak	144	102

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

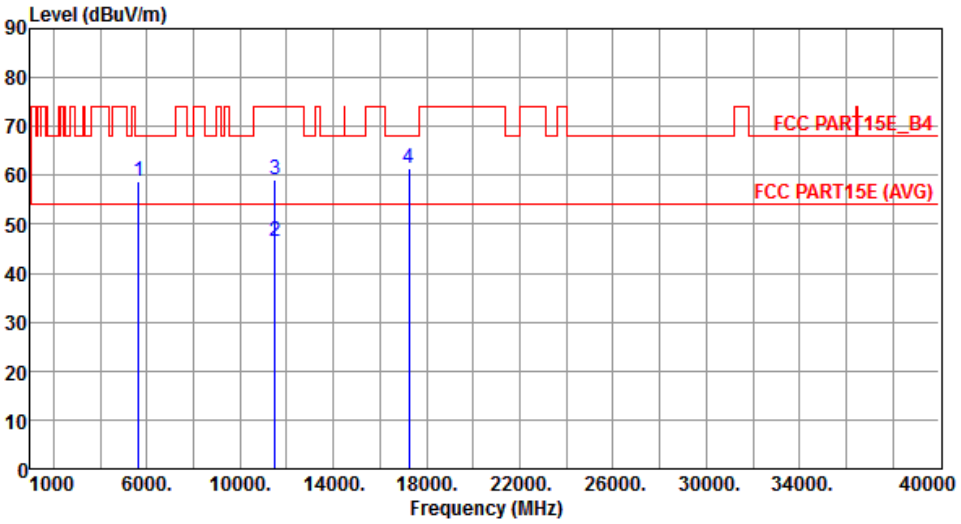
Modulation	HT20	Test Freq. (MHz)	5745
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5649.90	58.99	68.20	-9.21	53.99	5.00	Peak	193	29
2	11490.00	46.62	54.00	-7.38	31.09	15.53	Average	175	12
3	11490.00	58.31	74.00	-15.69	42.78	15.53	Peak	175	12
4	17235.00	60.70	68.20	-7.50	41.83	18.87	Peak	100	182

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

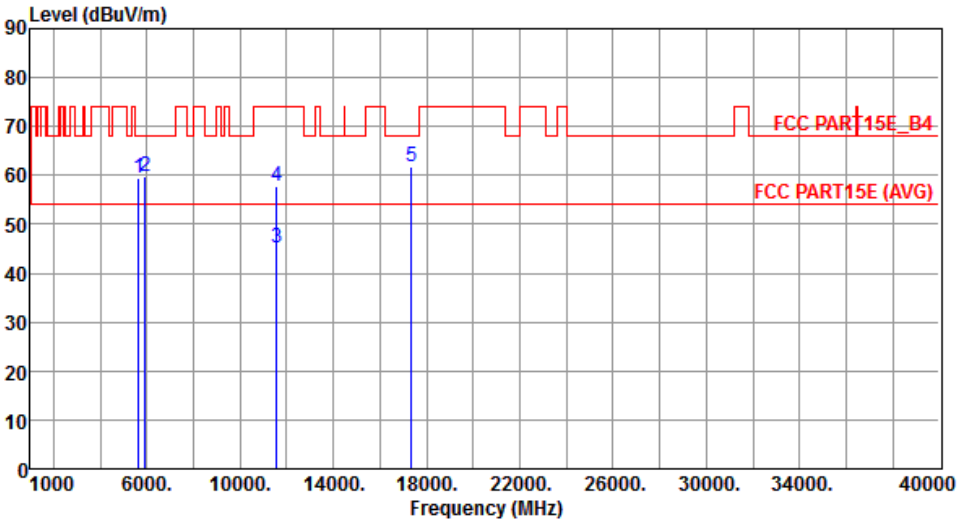
Modulation	HT20	Test Freq. (MHz)	5745
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5649.90	58.88	68.20	-9.32	53.88	5.00	Peak	219	297
2	11490.00	46.53	54.00	-7.47	31.00	15.53	Average	100	12
3	11490.00	59.02	74.00	-14.98	43.49	15.53	Peak	100	12
4	17235.00	61.29	68.20	-6.91	42.42	18.87	Peak	100	209

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

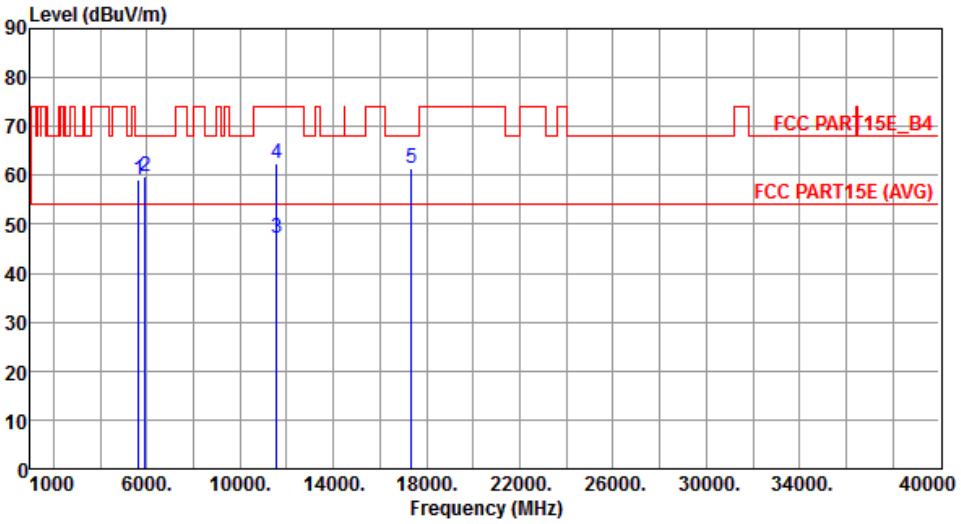
Modulation	HT20	Test Freq. (MHz)	5785
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5649.90	59.31	68.20	-8.89	54.31	5.00	Peak	286	31
2	5925.10	59.72	68.20	-8.48	54.38	5.34	Peak	286	31
3	11570.00	45.05	54.00	-8.95	29.72	15.33	Average	100	259
4	11570.00	57.88	74.00	-16.12	42.55	15.33	Peak	100	259
5	17355.00	61.74	68.20	-6.46	42.53	19.21	Peak	100	142

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

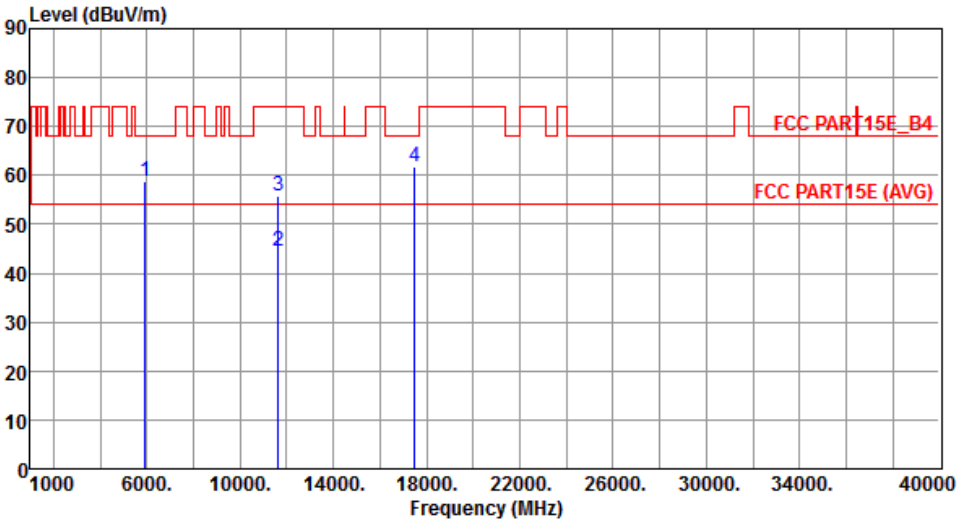
Modulation	HT20	Test Freq. (MHz)	5785
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5649.90	59.27	68.20	-8.93	54.27	5.00	Peak	187	0
2	5925.10	59.69	68.20	-8.51	54.35	5.34	Peak	187	0
3	11570.00	47.02	54.00	-6.98	31.69	15.33	Average	145	8
4	11570.00	62.45	74.00	-11.55	47.12	15.33	Peak	145	8
5	17355.00	61.39	68.20	-6.81	42.18	19.21	Peak	100	226

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

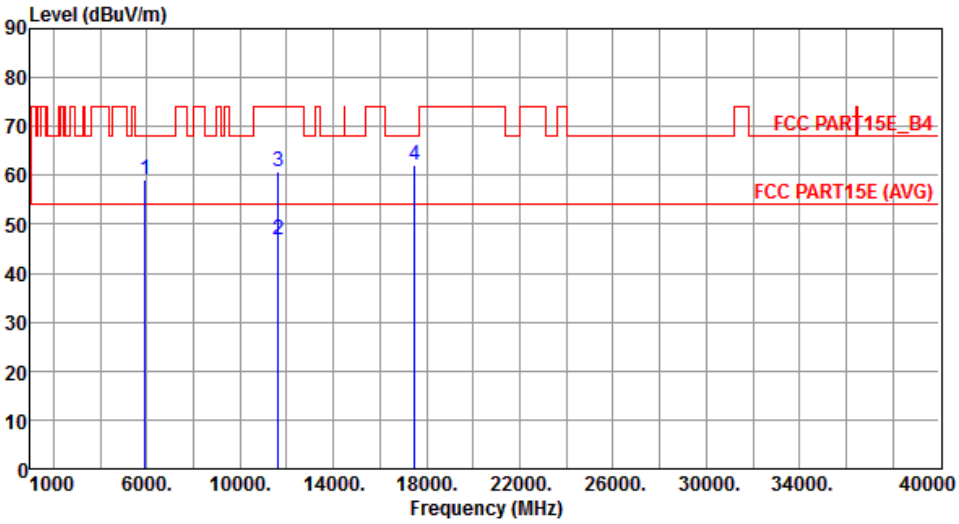
Modulation	HT20	Test Freq. (MHz)	5825
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5925.10	58.88	68.20	-9.32	53.54	5.34	Peak	269	28
2	11650.00	44.60	54.00	-9.40	29.51	15.09	Average	100	267
3	11650.00	55.88	74.00	-18.12	40.79	15.09	Peak	100	267
4	17475.00	61.80	68.20	-6.40	42.25	19.55	Peak	100	187

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

Modulation	HT20	Test Freq. (MHz)	5825
Polarization	Vertical		

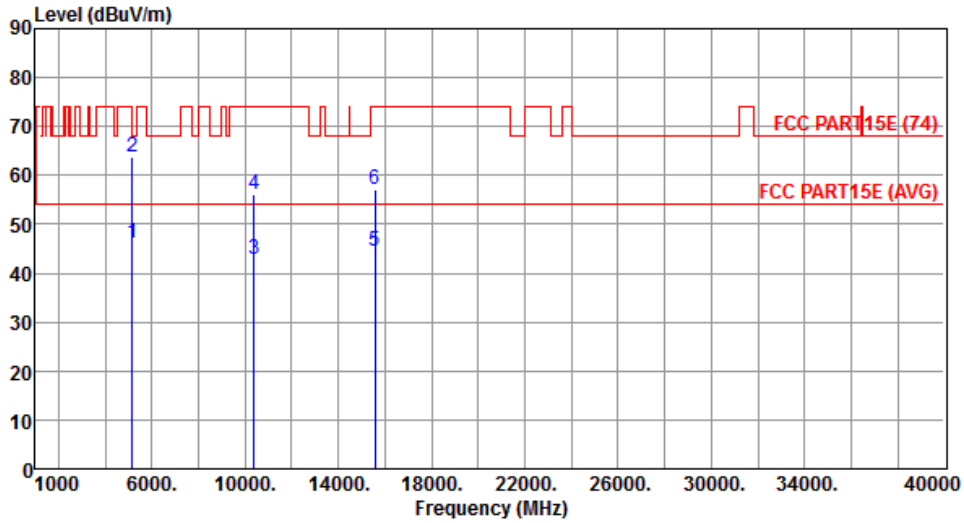


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5925.10	59.06	68.20	-9.14	53.72	5.34	Peak	162	3
2	11650.00	46.93	54.00	-7.07	31.84	15.09	Average	152	7
3	11650.00	60.91	74.00	-13.09	45.82	15.09	Peak	152	7
4	17475.00	62.15	68.20	-6.05	42.60	19.55	Peak	100	263

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).

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

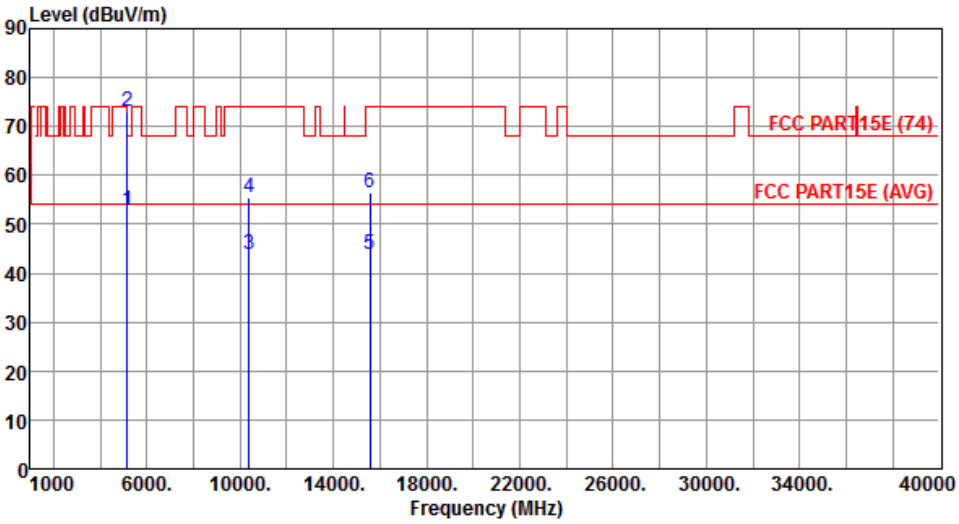
Modulation	HT40	Test Freq. (MHz)	5190
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.16	54.00	-7.84	41.76	4.40	Average	169	240
2	5150.00	63.86	74.00	-10.14	59.46	4.40	Peak	169	240
3	10380.00	42.99	54.00	-11.01	28.74	14.25	Average	100	116
4	10380.00	56.17	74.00	-17.83	41.92	14.25	Peak	100	116
5	15570.00	44.36	54.00	-9.64	29.30	15.06	Average	100	241
6	15570.00	57.12	74.00	-16.88	42.06	15.06	Peak	100	241

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).

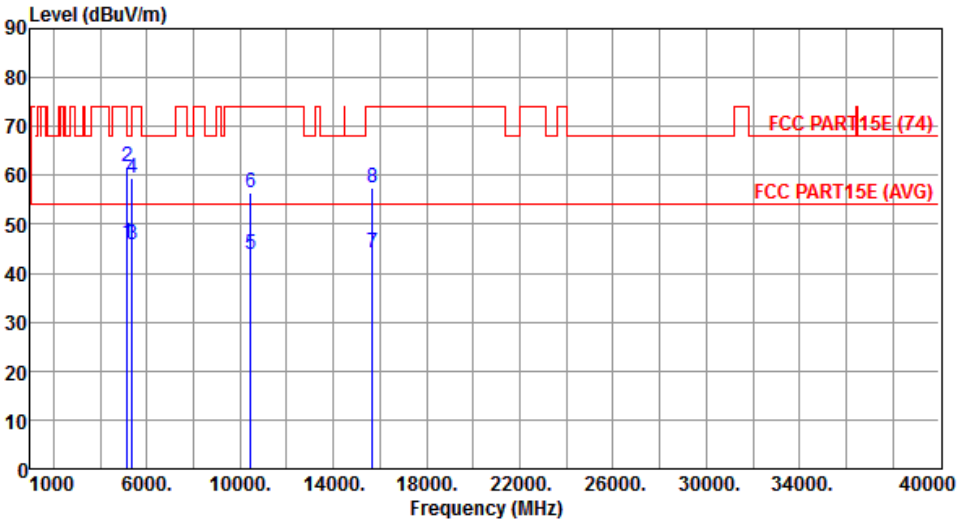
Modulation	HT40	Test Freq. (MHz)	5190
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.97	54.00	-1.03	48.57	4.40	Average	287	206
2	5150.00	72.98	74.00	-1.02	68.58	4.40	Peak	287	206
3	10380.00	43.82	54.00	-10.18	29.57	14.25	Average	100	259
4	10380.00	55.55	74.00	-18.45	41.30	14.25	Peak	100	259
5	15570.00	43.97	54.00	-10.03	28.91	15.06	Average	100	203
6	15570.00	56.36	74.00	-17.64	41.30	15.06	Peak	100	203

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

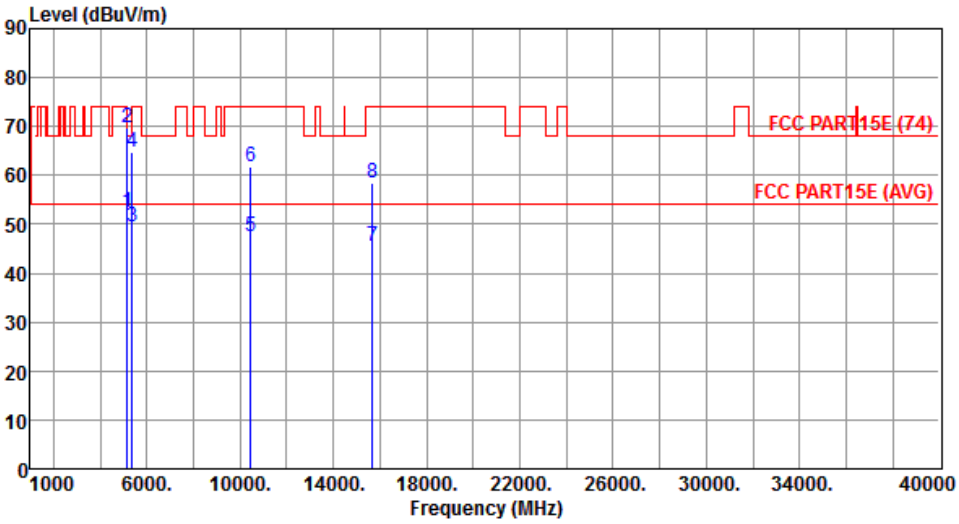
Modulation	HT40	Test Freq. (MHz)	5230
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	46.01	54.00	-7.99	41.61	4.40	Average	171	158
2	5150.00	61.65	74.00	-12.35	57.25	4.40	Peak	171	158
3	5350.00	45.84	54.00	-8.16	41.20	4.64	Average	171	158
4	5350.00	59.48	74.00	-14.52	54.84	4.64	Peak	171	158
5	10460.00	43.87	54.00	-10.13	29.47	14.40	Average	100	136
6	10460.00	56.35	74.00	-17.65	41.95	14.40	Peak	100	136
7	15690.00	44.33	54.00	-9.67	29.42	14.91	Average	100	274
8	15690.00	57.49	74.00	-16.51	42.58	14.91	Peak	100	274

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

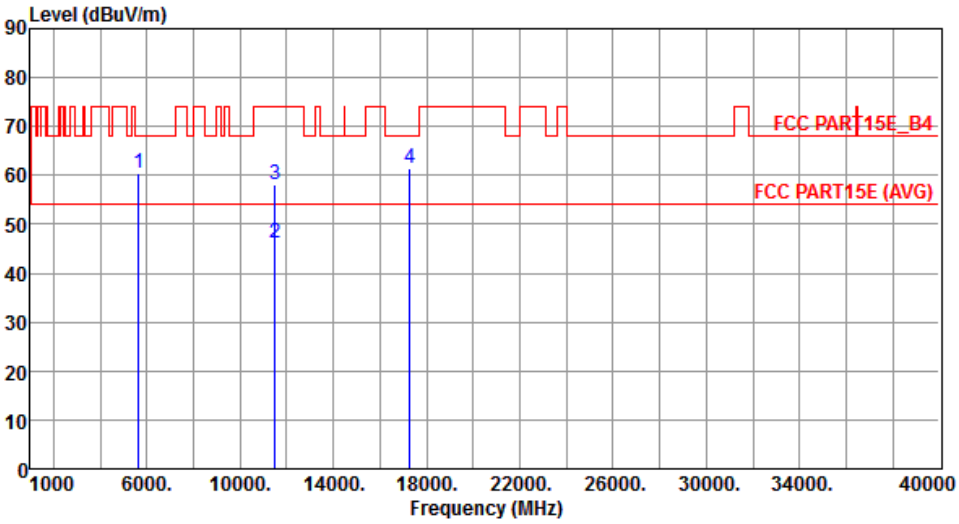
Modulation	HT40	Test Freq. (MHz)	5230
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	52.46	54.00	-1.54	48.06	4.40	Average	293	192
2	5150.00	69.66	74.00	-4.34	65.26	4.40	Peak	293	192
3	5350.00	49.58	54.00	-4.42	44.94	4.64	Average	207	225
4	5350.00	64.64	74.00	-9.36	60.00	4.64	Peak	207	225
5	10460.00	47.53	54.00	-6.47	33.13	14.40	Average	171	104
6	10460.00	61.90	74.00	-12.10	47.50	14.40	Peak	171	104
7	15690.00	45.46	54.00	-8.54	30.55	14.91	Average	100	138
8	15690.00	58.47	74.00	-15.53	43.56	14.91	Peak	100	138

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

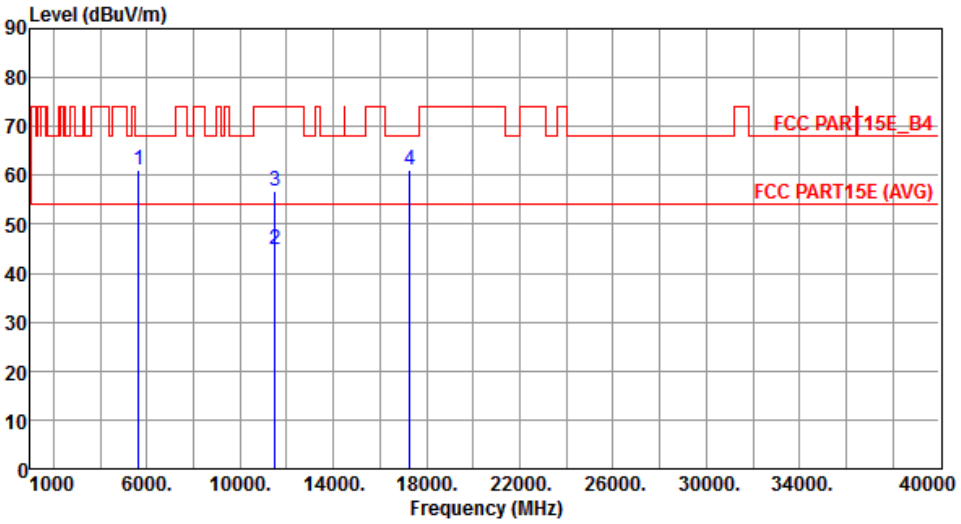
Modulation	HT40	Test Freq. (MHz)	5755
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5649.90	60.39	68.20	-7.81	55.39	5.00	Peak	100	98
2	11510.00	46.19	54.00	-7.81	30.68	15.51	Average	174	20
3	11510.00	58.25	74.00	-15.75	42.74	15.51	Peak	174	20
4	17265.00	61.41	68.20	-6.79	42.44	18.97	Peak	100	98

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

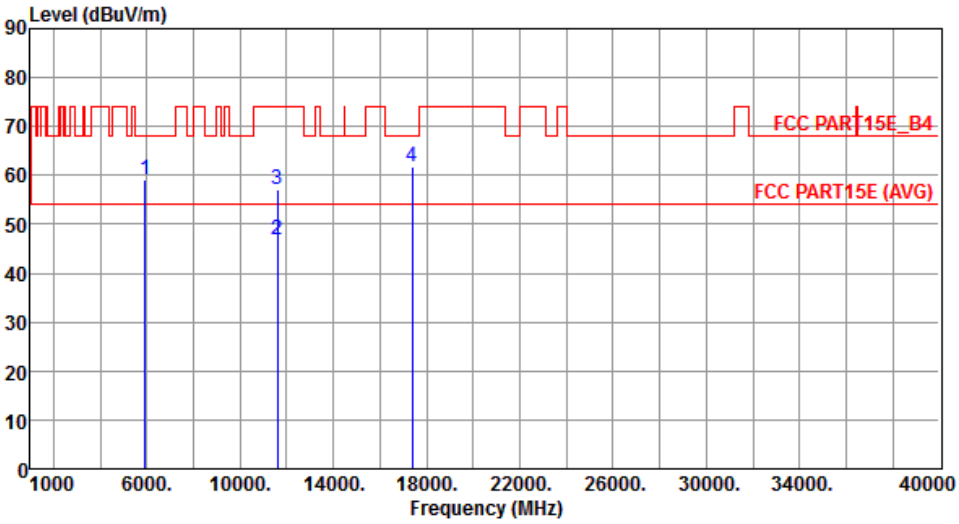
Modulation	HT40	Test Freq. (MHz)	5755
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5649.90	61.11	68.20	-7.09	56.11	5.00	Peak	100	239
2	11510.00	44.70	54.00	-9.30	29.19	15.51	Average	100	89
3	11510.00	56.89	74.00	-17.11	41.38	15.51	Peak	100	89
4	17265.00	61.01	68.20	-7.19	42.04	18.97	Peak	100	239

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

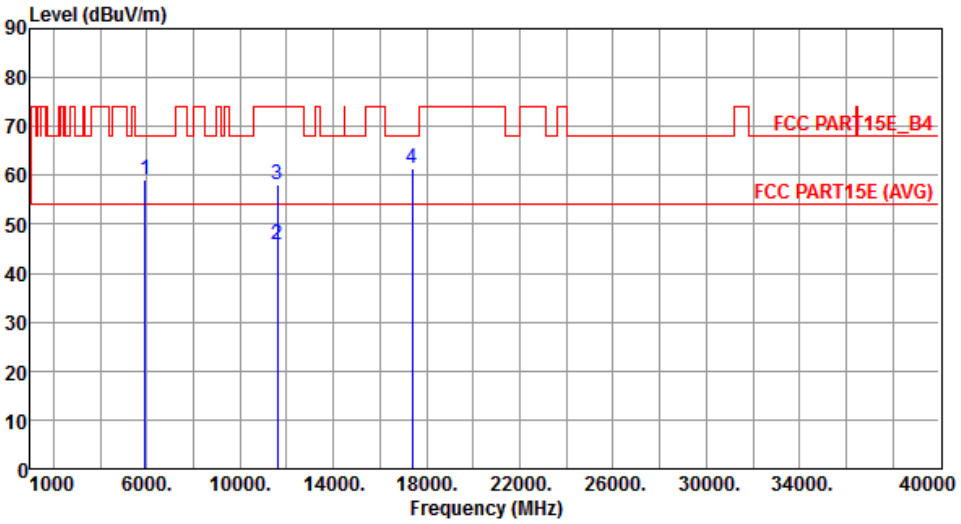
Modulation	HT40	Test Freq. (MHz)	5795
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5925.10	59.26	68.20	-8.94	53.92	5.34	Peak	261	26
2	11590.00	46.97	54.00	-7.03	31.70	15.27	Average	181	15
3	11590.00	57.06	74.00	-16.94	41.79	15.27	Peak	181	15
4	17385.00	61.62	68.20	-6.58	42.33	19.29	Peak	100	263

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

Modulation	HT40	Test Freq. (MHz)	5795
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5925.10	58.95	68.20	-9.25	53.61	5.34	Peak	146	4
2	11590.00	45.73	54.00	-8.27	30.46	15.27	Average	146	4
3	11590.00	58.24	74.00	-15.76	42.97	15.27	Peak	146	4
4	17385.00	61.42	68.20	-6.78	42.13	19.29	Peak	100	83

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

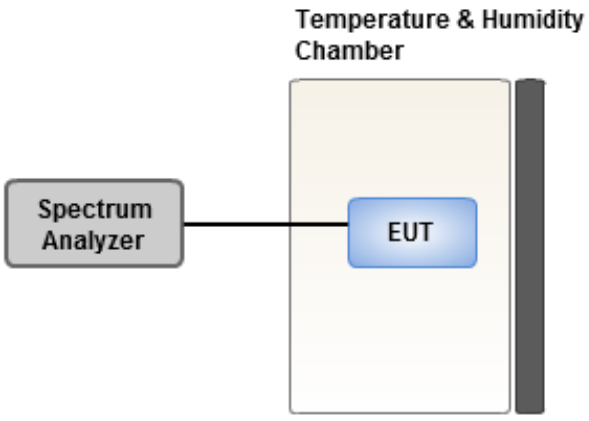
3.6.1 Limit of Frequency Stability

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°CVmax	5.63	5.49	5.98	5.88
T20°CVmin	4.48	4.15	4.55	5.05
T50°CVnom	4.38	4.67	4.78	5.28
T40°CVnom	3.56	3.52	3.57	3.05
T30°CVnom	3.20	3.03	3.68	3.77
T20°CVnom	3.00	3.15	3.32	3.48
T10°CVnom	2.28	2.74	1.97	2.77
T0°CVnom	3.15	3.13	3.25	3.14
T-10°CVnom	1.48	2.05	1.26	1.72
T-20°CVnom	1.00	1.12	1.72	1.06
T-30°CVnom	0.42	0.55	0.24	1.10
Vnom [Vac]: 120		Vmax [Vac]: 138		Vmin [Vac]: 102
Tnom [°C]: 20		Tmax [°C]: 50		Tmin [°C]: -30

Frequency: 5785 MHz	Frequency Drift (ppm)			
Temperature (°C)	0 minute	2 minutes	5 minutes	10 minutes
T20°CVmax	5.79	5.90	5.92	5.96
T20°CVmin	4.03	4.61	4.01	4.21
T50°CVnom	3.82	4.17	3.63	4.27
T40°CVnom	2.95	3.07	3.47	2.84
T30°CVnom	2.60	2.68	2.66	2.35
T20°CVnom	2.87	3.27	2.75	3.49
T10°CVnom	2.16	2.73	2.30	1.93
T0°CVnom	2.60	3.02	2.68	2.78
T-10°CVnom	1.55	1.95	1.80	2.04
T-20°CVnom	1.26	1.76	1.46	1.71
T-30°CVnom	0.22	0.35	0.09	0.41
Vnom [Vac]: 120		Vmax [Vac]: 138		Vmin [Vac]: 102
Tnom [°C]: 20		Tmax [°C]: 50		Tmin [°C]: -30

4 Test laboratory information

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

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

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

Linkou	**Kwei Shan**	**Kwei Shan Site II**
Tel: 886-2-2601-1640	Tel: 886-3-271-8666	Tel: 886-3-271-8640
No. 30-2, Ding Fwu Tsuen, Lin Kou District, New Taipei City, Taiwan, R.O.C.	No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C.	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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