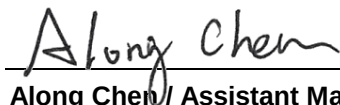


FCC Test Report

FCC ID : CM6-WMIA198N
Equipment : 802.11abgn Mini PCI module
Model No. : WMIA-198Nv2
Brand Name : Spacelabs
Applicant : Spacelabs Healthcare, Inc.
Address : 35301 SE Center Street, Snoqualmie,
Washington United States 98065
Standard : 47 CFR FCC Part 15.407
Received Date : Jun. 15, 2017
Tested Date : Jul. 04 ~ Aug. 07, 2017

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

Reviewed by:



Along Chen / Assistant Manager

Approved by:



Gary Chang / Manager



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Release Record

Report No.	Version	Description	Issued Date
FR761501AN	Rev. 01	Initial issue	Sep. 19, 2017

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.174MHz 48.97 (Margin -15.80dB) - QP	Pass
15.407(b) 15.209	Radiated Emissions	[dBuV/m at 3m]: 3883.00MHz 53.74 (Margin -0.26dB) - AV	Pass
15.407(a)	Emission Bandwidth	Meet the requirement of limit	Pass
15.407(e)	6dB bandwidth	Meet the requirement of limit	Pass
15.407(a)	RF Output Power	Max Power [dBm]: 5150~5250MHz: 22.04 5250~5350MHz: 22.17 5470~5725MHz: 23.77 5725~5850MHz: 23.49	Pass
15.407(a)	Peak Power Spectral Density	Meet the requirement of limit	Pass
15.407(g)	Frequency Stability	Meet the requirement of limit	Pass
15.203	Antenna Requirement	Meet the requirement of limit	Pass

1 General Description

1.1 Information

1.1.1 Specification of the Equipment under Test (EUT)

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N _{TX})	Data Rate / MCS
5150-5250 5250-5350 5470-5725 5725-5850	a	5180-5240 5260-5320 5500-5700 5745-5825	36-48 [4] 52-64 [4] 100-140 [11] 149-165 [5]	2	6-54 Mbps
5150-5250 5250-5350 5470-5725 5725-5850	n (HT20)	5180-5240 5260-5320 5500-5700 5745-5825	36-48 [4] 52-64 [4] 100-140 [11] 149-165 [5]	2	MCS 0-15
5150-5250 5250-5350 5470-5725 5725-5850	n (HT40)	5190-5230 5270-5310 5510-5670 5755-5795	38-46 [2] 54-62 [2] 102-134 [5] 151-159 [2]	2	MCS 0-15

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

1.1.2 Antenna Details

Ant. No.	Brnad	Model	Type	Connector	Operating Frequencies (MHz) / Antenna Gain (dBi)				
					2400~2483.5	5150~5250	5250~5350	5470~5725	5725~5850
1	Nearson	SPCB06724	PCB	UFL	2				

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

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	118	5590
64	5320	126	5630
100	5500	134	5670
104	5520	151	5755
108	5540	159	5795
112	5560	---	---
116	5580	---	---
120	5600	---	---
124	5620	---	---
128	5640	---	---
132	5660	---	---
136	5680	---	---
140	5700	---	---
149	5745	---	---
153	5765	---	---
157	5785	---	---
161	5805	---	---
165	5825	---	---

1.1.6 Test Tool and Duty Cycle

Test Tool	ART, v0_9_b34_ar928xALL		
Duty Cycle and Duty Factor	Mode	Duty cycle (%)	Duty factor (dB)
	11a	100.00%	0.00
	HT20	100.00%	0.00
	HT40	99.50%	0.02

1.1.7 Power Setting

For Frequency band 5150-5250 MHz		
Modulation Mode	Test Frequency (MHz)	Power Set
11a	5180	16.5
11a	5200	19
11a	5240	19.5
HT20	5180	14.5
HT20	5200	19
HT20	5240	18.5
HT40	5190	11
HT40	5230	17.5

For Frequency band 5250~5350 MHz		
Modulation Mode	Test Frequency (MHz)	Power Set
11a	5260	19.5
11a	5300	18.5
11a	5320	14.5
HT20	5260	18.5
HT20	5300	16.5
HT20	5320	12.5
HT40	5270	16.50
HT40	5310	10.50

For Frequency band 5470~5725 MHz		
Modulation Mode	Test Frequency (MHz)	Power Set
11a	5500	14.5
11a	5580	20.5
11a	5700	12.5
HT20	5500	12.5
HT20	5580	21.5
HT20	5700	12.5
HT40	5510	13.50
HT40	5590	18.00
HT40	5670	15.50

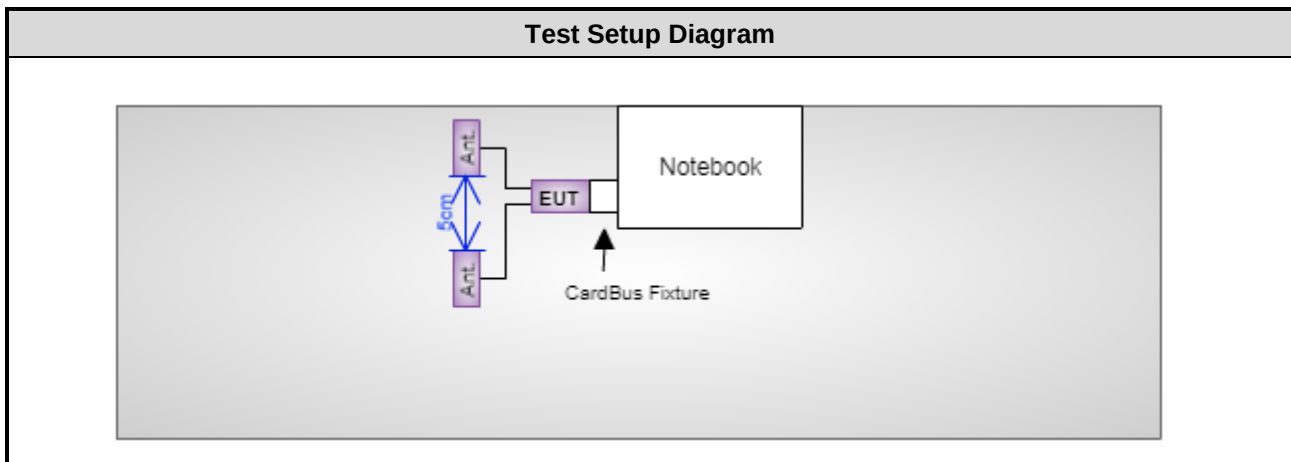
For Frequency band 5725~5850 MHz		
Modulation Mode	Test Frequency (MHz)	Power Set
11a	5745	20
11a	5785	20.5
11a	5825	21.5
HT20	5745	20
HT20	5785	20.5
HT20	5825	21.5
HT40	5755	18.50
HT40	5795	18.50

1.2 Local Support Equipment List

Support Equipment List					
No.	Equipment	Brand	Model	FCC ID	Signal cable / Length (m)
1	Notebook	IBM	ThinkPad X32 2672	---	---
2	CardBus Fixture	---	---	---	---

Note: No.1 & 2 were provided by applicant

1.3 Test Setup Chart



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
Receiver	R&S	ESR3	101657	Dec. 21, 2016	Dec. 20, 2017
LISN	SCHWARZBECK	Schwarzbeck 8127	8127-667	Nov. 08, 2016	Nov. 07, 2017
RF Cable-CON	EMC	EMCCFD300-BM-B M-6000	50821	Dec. 20, 2016	Dec. 19, 2017
50 ohm terminal (Support Unit)	NA	50	04	May 12, 2017	May 11, 2018
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	Nov. 25, 2016	Nov. 24, 2017
Receiver	R&S	ESR3	101658	Nov. 24, 2016	Nov. 23, 2017
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-524	Oct. 13, 2016	Oct. 12, 2017
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 21, 2016	Dec. 20, 2017
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Oct. 25, 2016	Oct. 24, 2017
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 10, 2016	Nov. 09, 2017
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Dec. 09, 2016	Dec. 08, 2017
Preamplifier	EMC	EMC02325	980146	Oct. 08, 2016	Oct. 07, 2017
Preamplifier	Agilent	83017A	MY39501308	Oct. 06, 2016	Oct. 05, 2017
Preamplifier	EMC	EMC184045B	980192	Aug. 24, 2016	Aug. 23, 2017
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Dec. 09, 2016	Dec. 08, 2017
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Dec. 09, 2016	Dec. 08, 2017
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16139/4	Dec. 09, 2016	Dec. 08, 2017
LF cable 1M	EMC	EMCCFD400-NM-N M-1000	16052	Dec. 09, 2016	Dec. 08, 2017
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Dec. 09, 2016	Dec. 08, 2017
LF cable 10M	Woken	CFD400NL-LW	CFD400NL-002	Dec. 09, 2016	Dec. 08, 2017
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101063	Mar. 15, 2017	Mar. 14, 2018
Power Meter	Anritsu	ML2495A	1241002	Oct. 06, 2016	Oct. 05, 2017
Power Sensor	Anritsu	MA2411B	1207366	Oct. 06, 2016	Oct. 05, 2017
DC POWER SOURCE	GW INSTEK	GPC-6030D	EM892433	Oct. 20, 2016	Oct. 19, 2017
Measurement Software	Sporton	Sporton_1	1.3.30	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

1.5 Testing Applied Standards

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

47 CFR FCC Part 15.407

ANSI C63.10-2013

FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04

FCC KDB 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	23°C /56%	Alex Tsai
Radiated Emissions	03CH02-WS	23-24°C / 61-62%	Vincent Yeh Kevin Lee
RF Conducted	TH01-WS	22°C / 64%	Felix Sung

➤ FCC site registration No.: 181692

➤ IC site registration No.: 10807A-1

2.2 The Worst Test Modes and Channel Details

Frequency band 5150~5350 MHz / 5470~5725 MHz				
Test item	Modulation Mode	Test Frequency (MHz)	Data Rate	Test Configuration
Conducted Emissions	HT20	5580	MCS 0	---
Radiated Emissions ≤1GHz	HT20	5580	MCS 0	---
RF Output Power	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 5590 / 5670	MCS 0	
Radiated Emissions >1GHz 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 5590 / 5670	MCS 0	
Frequency Stability	Un-modulation	5320	---	---

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

3 Transmitter Test Results

3.1 Conducted Emissions

3.1.1 Limit of Conducted Emissions

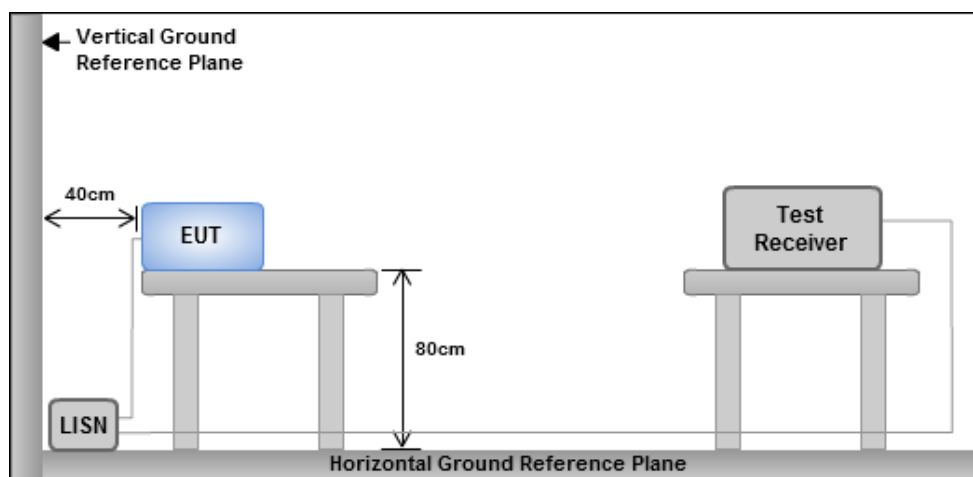
Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

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

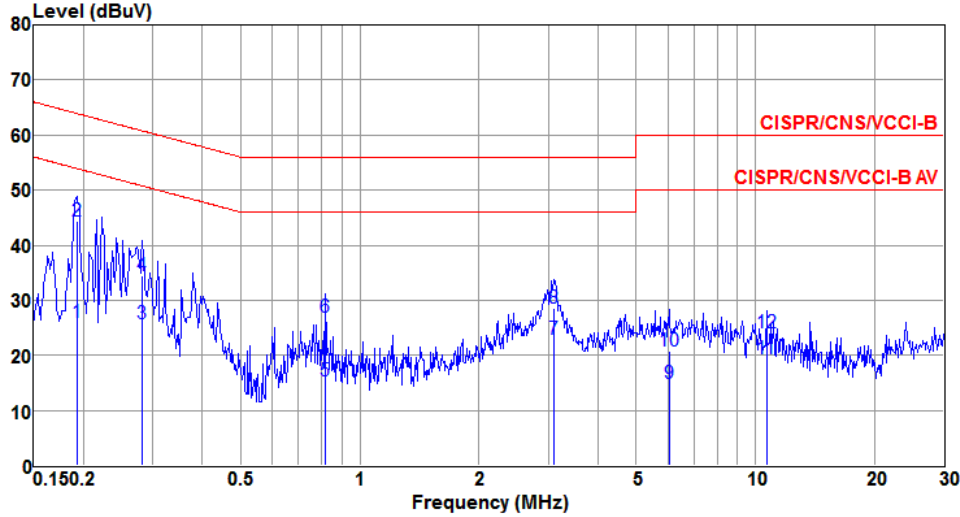
3.1.3 Test Setup



- 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)	5580
Power Phase	Line		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.192	25.94	53.93	-27.99	25.80	0.10	0.04	Average
2	0.192	44.46	63.93	-19.47	44.32	0.10	0.04	QP
3	0.282	25.84	50.76	-24.92	25.72	0.08	0.04	Average
4	0.282	34.58	60.76	-26.18	34.46	0.08	0.04	QP
5	0.815	15.29	46.00	-30.71	15.18	0.07	0.04	Average
6	0.815	26.96	56.00	-29.04	26.85	0.07	0.04	QP
7	3.090	22.98	46.00	-23.02	22.70	0.16	0.12	Average
8	3.090	28.56	56.00	-27.44	28.28	0.16	0.12	QP
9	6.084	14.91	50.00	-35.09	14.54	0.18	0.19	Average
10	6.084	20.70	60.00	-39.30	20.33	0.18	0.19	QP
11	10.681	19.38	50.00	-30.62	18.94	0.22	0.22	Average
12	10.681	24.05	60.00	-35.95	23.61	0.22	0.22	QP

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

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

Level (dBuV)

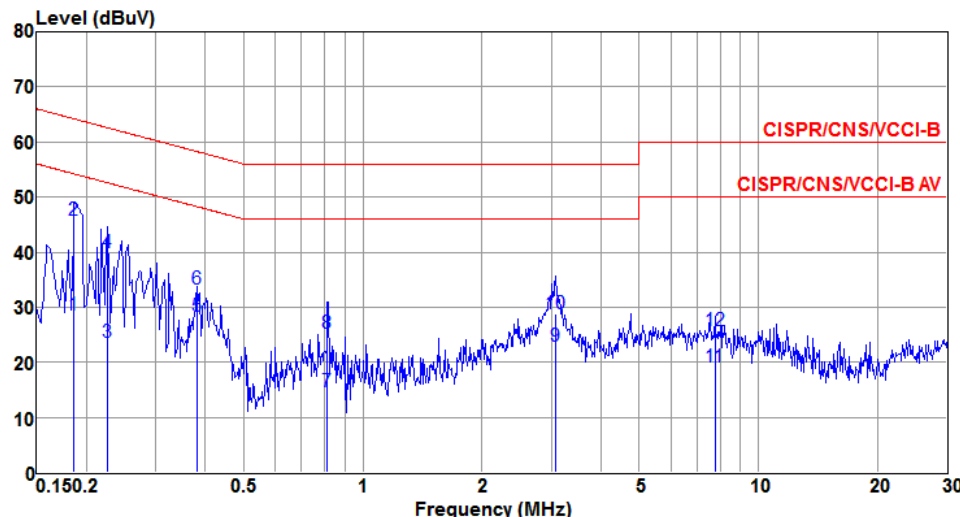
Frequency (MHz)

	Freq	Level	Limit	Over	Read	LISN	cable	
	MHz	dBuV	Line	Limit	Level	factor	loss	Remark
			dBuV	dB	dBuV	dB	dB	
1	0.198	27.84	53.71	-25.87	27.71	0.09	0.04	Average
2@	0.198	44.56	63.71	-19.15	44.43	0.09	0.04	QP
3	0.228	24.69	52.52	-27.83	24.55	0.10	0.04	Average
4	0.228	40.77	62.52	-21.75	40.63	0.10	0.04	QP
5	0.383	28.24	48.21	-19.97	28.07	0.13	0.04	Average
6	0.383	33.26	58.21	-24.95	33.09	0.13	0.04	QP
7	0.820	14.91	46.00	-31.09	14.77	0.10	0.04	Average
8	0.820	27.00	56.00	-29.00	26.86	0.10	0.04	QP
9	3.241	21.19	46.00	-24.81	20.92	0.15	0.12	Average
10	3.241	26.63	56.00	-29.37	26.36	0.15	0.12	QP
11	7.793	18.38	50.00	-31.62	17.92	0.26	0.20	Average
12	7.793	23.61	60.00	-36.39	23.15	0.26	0.20	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).

2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

Modulation	11a	Test Freq. (MHz)	5825
Power Phase	Line		

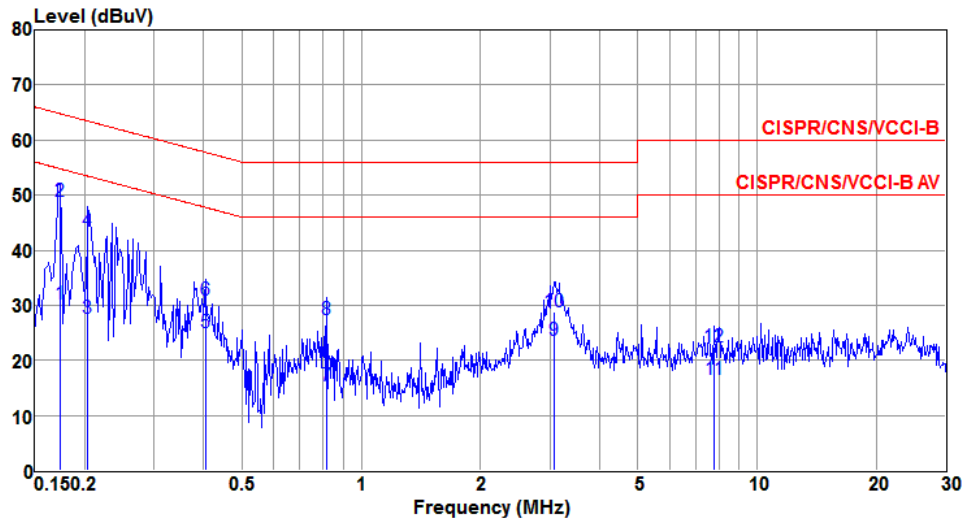


	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.186	28.49	54.20	-25.71	28.36	0.09	0.04	Average
2@	0.186	45.69	64.20	-18.51	45.56	0.09	0.04	QP
3	0.226	23.67	52.61	-28.94	23.54	0.09	0.04	Average
4	0.226	39.95	62.61	-22.66	39.82	0.09	0.04	QP
5	0.381	28.40	48.25	-19.85	28.30	0.06	0.04	Average
6	0.381	33.24	58.25	-25.01	33.14	0.06	0.04	QP
7	0.813	14.66	46.00	-31.34	14.55	0.07	0.04	Average
8	0.813	25.29	56.00	-30.71	25.18	0.07	0.04	QP
9	3.074	22.88	46.00	-23.12	22.62	0.15	0.11	Average
10	3.074	28.88	56.00	-27.12	28.62	0.15	0.11	QP
11	7.769	19.19	50.00	-30.81	18.80	0.19	0.20	Average
12	7.769	25.74	60.00	-34.26	25.35	0.19	0.20	QP

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).

2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

Modulation	11a	Test Freq. (MHz)	5825
Power Phase	Neutral		



The graph displays the measured level in dBUV across a frequency range from 0.150.2 MHz to 30 MHz. Two red lines represent the CISPR/CNS/VCCI-B and CISPR/CNS/VCCI-B AV limits. The blue line shows the measured signal, which is generally below the limits, with some peaks around 0.2 MHz and 3 MHz.

	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.174	30.18	54.77	-24.59	30.05	0.09	0.04	Average
2	0.174	48.97	64.77	-15.80	48.84	0.09	0.04	QP
3	0.204	27.53	53.45	-25.92	27.40	0.09	0.04	Average
4	0.204	43.49	63.45	-19.96	43.36	0.09	0.04	QP
5	0.404	24.92	47.77	-22.85	24.75	0.13	0.04	Average
6	0.404	30.93	57.77	-26.84	30.76	0.13	0.04	QP
7	0.817	15.37	46.00	-30.63	15.23	0.10	0.04	Average
8	0.817	27.35	56.00	-28.65	27.21	0.10	0.04	QP
9	3.074	23.56	46.00	-22.44	23.30	0.15	0.11	Average
10	3.074	28.89	56.00	-27.11	28.63	0.15	0.11	QP
11	7.788	16.46	50.00	-33.54	16.00	0.26	0.20	Average
12	7.788	22.41	60.00	-37.59	21.95	0.26	0.20	QP

Note 1: Level (dBUV) = Read Level (dBUV) + LISN Factor (dB) + Cable Loss (dB).

Note 2: Over Limit (dB) = Level (dBUV) – Limit Line (dBUV).

3.2 Emission Bandwidth

3.2.1 Limit of Emission Bandwidth

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

3.2.2 Test Procedures

26dB Bandwidth

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

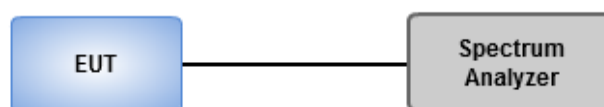
Occupied Bandwidth

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

6dB Bandwidth

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

3.2.3 Test Setup



3.2.4 Test Result of Emission Bandwidth

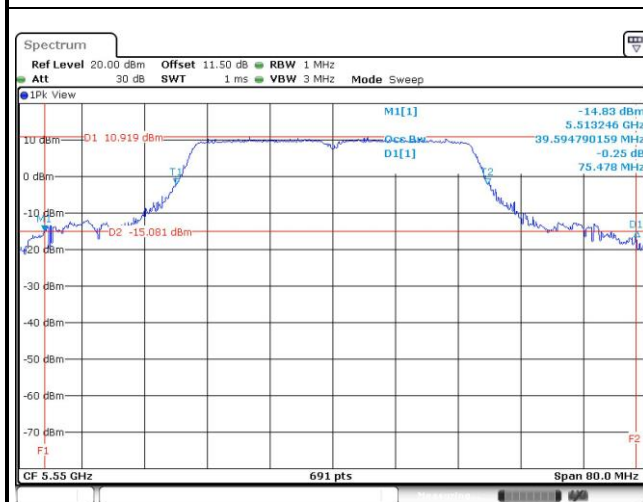
For Frequency band 5150~5250 MHz										
Mode	N _{TX}	Freq. (MHz)	26dB Bandwidth (MHz)				99% Bandwidth (MHz)			
			Chain 0	Chain 1	Chain 2	Chain 3	Chain 0	Chain 1	Chain 2	Chain 3
11a	2	5180	25.45	24.23	---	---	17.08	17.13	---	---
11a	2	5200	25.68	25.33	---	---	17.09	17.07	---	---
11a	2	5240	27.13	26.32	---	---	17.13	17.04	---	---
HT20	2	5180	25.68	25.57	---	---	18.46	18.42	---	---
HT20	2	5200	26.90	26.61	---	---	18.35	18.25	---	---
HT20	2	5240	26.14	25.80	---	---	18.25	18.17	---	---
HT40	2	5190	55.65	50.44	---	---	38.20	38.02	---	---
HT40	2	5230	67.83	57.97	---	---	37.86	37.52	---	---

For Frequency band 5250~5350 MHz											
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	
11a	2	5260	25.68	25.80	---	---	17.12	17.10	---	---	24.00
11a	2	5300	26.26	26.61	---	---	17.14	17.05	---	---	24.00
11a	2	5320	25.86	24.23	---	---	17.10	17.02	---	---	24.00
HT20	2	5260	26.84	25.74	---	---	18.26	18.18	---	---	24.00
HT20	2	5300	26.96	25.39	---	---	18.30	18.21	---	---	24.00
HT20	2	5320	26.38	26.03	---	---	18.35	18.27	---	---	24.00
HT40	2	5270	54.49	57.39	---	---	37.90	37.56	---	---	24.00
HT40	2	5310	56.58	51.01	---	---	37.94	37.62	---	---	24.00

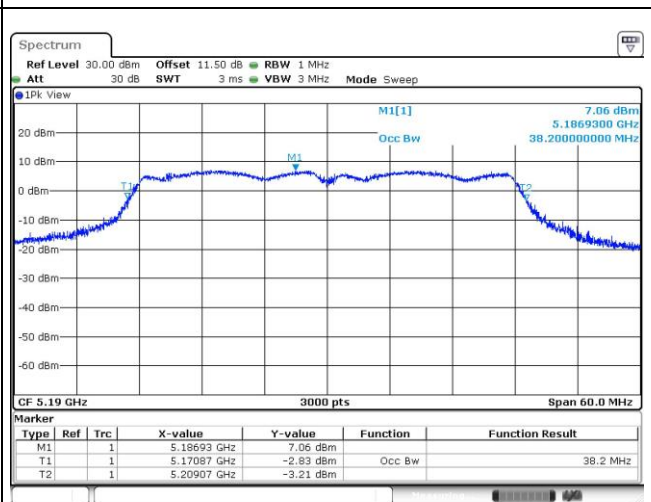
For Frequency band 5470~5725 MHz

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	
11a	2	5500	25.39	25.62	---	---	17.10	17.05	---	---	24.00
11a	2	5580	42.17	42.46	---	---	17.91	17.67	---	---	24.00
11a	2	5700	25.57	24.29	---	---	17.17	17.10	---	---	24.00
HT20	2	5500	26.38	26.03	---	---	18.35	18.21	---	---	24.00
HT20	2	5580	45.36	46.38	---	---	19.65	19.31	---	---	24.00
HT20	2	5700	26.26	26.43	---	---	18.47	18.29	---	---	24.00
HT40	2	5510	54.15	58.67	---	---	38.02	37.66	---	---	24.00
HT40	2	5550	75.48	71.07	---	---	38.02	37.66	---	---	24.00
HT40	2	5670	68.99	61.68	---	---	37.98	37.58	---	---	24.00

Worst Plot of 26dB Bandwidth



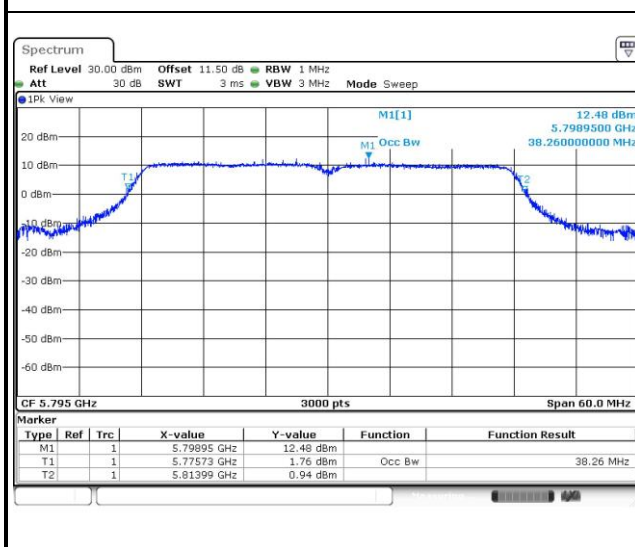
Worst Plot of 99% Bandwidth



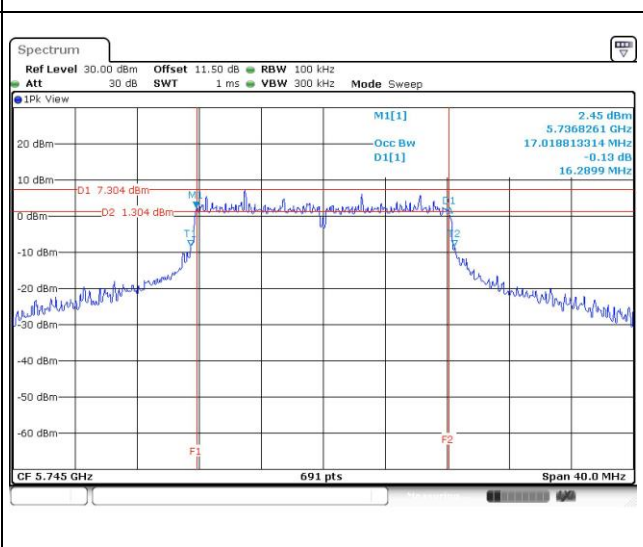
For Frequency band 5725-5850 MHz

Mode	N _{TX}	Freq. (MHz)	OBW Bandwidth (MHz)				6dB Bandwidth (MHz)				6dB BW Limit (MHz)
			Chain 0	Chain 1	Chain 2	Chain 3	Chain 0	Chain 1	Chain 2	Chain 3	
11a	2	5745	17.31	17.21	---	---	16.29	16.35	---	---	0.5
11a	2	5785	17.93	17.65	---	---	16.29	16.41	---	---	0.5
11a	2	5825	20.00	19.49	---	---	16.29	16.35	---	---	0.5
HT20	2	5745	18.43	18.32	---	---	17.57	17.57	---	---	0.5
HT20	2	5785	18.70	18.59	---	---	17.57	17.57	---	---	0.5
HT20	2	5825	20.33	19.63	---	---	17.57	17.57	---	---	0.5
HT40	2	5755	38.08	37.60	---	---	36.29	36.17	---	---	0.5
HT40	2	5795	38.26	37.76	---	---	36.06	36.41	---	---	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
☒	Client devices	Conducted Power: 250 mW

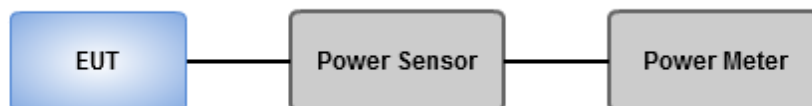
Frequency Band (MHz)		Limit
☒	5250 ~ 5350	250mW or 11dBm+10 log B
☒	5470 ~ 5725	250mW or 11dBm+10 log B
☒	5725 ~ 5850	1 W

Note: "B" is the 26dB emission bandwidth in MHz.

3.3.2 Test Procedures

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

3.3.3 Test Setup



3.3.4 Test Result of Maximum Conducted Output Power

For Frequency band 5150~5250 MHz									
Mode	N _{TX}	Freq. (MHz)	Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)
			Chain 0	Chain 1	Chain 2	Chain 3			
11a	2	5180	16.45	16.49	---	---	88.723	19.48	24.00
11a	2	5200	18.11	18.56	---	---	136.494	21.35	24.00
11a	2	5240	18.76	19.28	---	---	159.885	22.04	24.00
HT20	2	5180	14.83	14.96	---	---	61.742	17.91	24.00
HT20	2	5200	18.06	18.57	---	---	135.918	21.33	24.00
HT20	2	5240	17.72	18.06	---	---	123.130	20.90	24.00
HT40	2	5190	10.78	11.18	---	---	25.089	13.99	24.00
HT40	2	5230	16.56	16.84	---	---	93.596	19.71	24.00

For Frequency band 5250~5350 MHz									
Mode	N _{TX}	Freq. (MHz)	Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)
			Chain 0	Chain 1	Chain 2	Chain 3			
11a	2	5260	18.87	19.43	---	---	164.790	22.17	24.00
11a	2	5300	18.64	19.02	---	---	152.913	21.84	24.00
11a	2	5320	15.24	15.38	---	---	67.934	18.32	24.00
HT20	2	5260	18.03	18.33	---	---	131.610	21.19	24.00
HT20	2	5300	17.04	16.93	---	---	99.900	20.00	24.00
HT20	2	5320	12.84	13.18	---	---	40.028	16.02	24.00
HT40	2	5270	16.59	16.51	---	---	90.375	19.56	24.00
HT40	2	5310	11.11	11.77	---	---	27.944	14.46	24.00

For Frequency band 5470~5725 MHz									
Mode	N _{TX}	Freq. (MHz)	Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)
			Chain 0	Chain 1	Chain 2	Chain 3			
11a	2	5500	15.04	15.45	---	---	66.991	18.26	24.00
11a	2	5580	19.88	20.25	---	---	203.200	23.08	24.00
11a	2	5700	11.45	12.02	---	---	29.886	14.75	24.00
HT20	2	5500	13.02	13.56	---	---	42.743	16.31	24.00
HT20	2	5580	20.38	21.11	---	---	238.266	23.77	24.00
HT20	2	5700	11.65	12.11	---	---	30.877	14.90	24.00
HT40	2	5510	13.12	13.82	---	---	44.611	16.49	24.00
HT40	2	5590	17.56	18.51	---	---	127.974	21.07	24.00
HT40	2	5670	14.26	15.22	---	---	59.935	17.78	24.00

For Frequency band 5725-5850 MHz									
Mode	N _{TX}	Freq. (MHz)	Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)
			Chain 0	Chain 1	Chain 2	Chain 3			
11a	2	5745	18.56	19.05	---	---	152.132	21.82	30.00
11a	2	5785	19.33	19.58	---	---	176.486	22.47	30.00
11a	2	5825	20.42	20.54	---	---	223.394	23.49	30.00
HT20	2	5745	18.59	19.18	---	---	155.071	21.91	30.00
HT20	2	5785	19.32	19.54	---	---	175.456	22.44	30.00
HT20	2	5825	20.43	20.18	---	---	214.640	23.32	30.00
HT40	2	5755	17.37	17.68	---	---	113.190	20.54	30.00
HT40	2	5795	17.47	17.86	---	---	116.941	20.68	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
☒	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, 5250~5350 MHz, 5470~5725 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 $\geq 10 * (\text{number of points in sweep}) * (\text{total on/off period of the transmitted signal})$.
3. Perform a single sweep.
4. Use the peak marker function to determine the maximum amplitude level.
5. Add $10 \log(1/x)$, where x is the duty cycle.

For 5725~5850 MHz

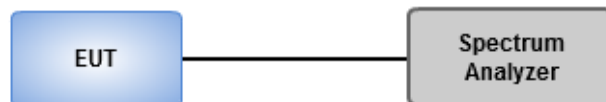
☒ Method SA-1

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 $\geq 10 * (\text{number of points in sweep}) * (\text{total on/off period of the transmitted signal})$.
3. Perform a single sweep.
4. Use the peak marker function to determine the maximum amplitude level.
5. Add $10 \log(1/x)$, where x is the duty cycle.

3.4.3 Test Setup



3.4.4 Test Result of Peak Power Spectral Density

Frequency band			5150~5250 MHz / 5250~5350 MHz			
Condition			Peak Power Spectral Density (dBm/MHz)			
Mode	N _{TX}	Freq. (MHz)	PPSD w/o D.F (dBm/MHz)	Duty Factor (dB)	PPSD with D.F (dBm/MHz)	PPSD Limit (dBm/MHz)
11a	2	5180	6.42	0.00	6.42	11
11a	2	5200	8.17	0.00	8.17	11
11a	2	5240	8.64	0.00	8.64	11
HT20	2	5180	3.74	0.00	3.74	11
HT20	2	5200	7.68	0.00	7.68	11
HT20	2	5240	7.18	0.00	7.18	11
HT40	2	5190	-2.36	0.00	-2.36	11
HT40	2	5230	3.21	0.00	3.21	11
11a	2	5260	8.55	0.00	8.55	11
11a	2	5300	8.42	0.00	8.42	11
11a	2	5320	4.19	0.00	4.19	11
HT20	2	5260	7.16	0.00	7.16	11
HT20	2	5300	6.21	0.00	6.21	11
HT20	2	5320	2.02	0.00	2.02	11
HT40	2	5270	3.13	0.00	3.13	11
HT40	2	5310	-3.00	0.00	-3.00	11

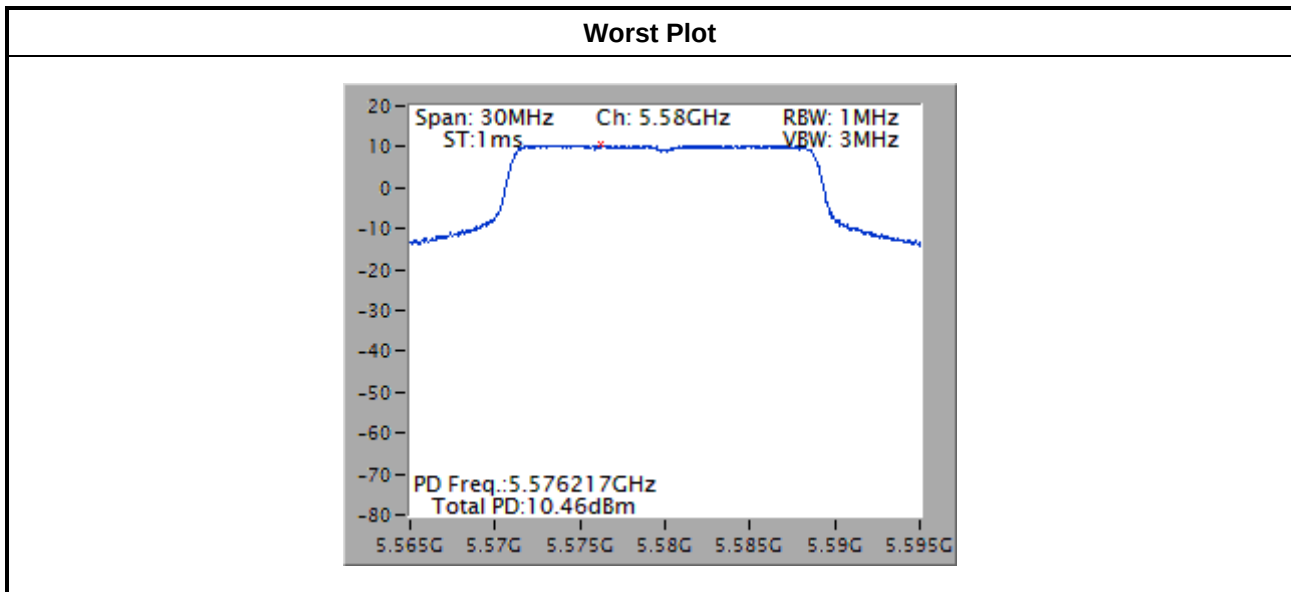
Note:

1. D.F is duty factor.
2. Test result is bin-by-bin summing measured value of each TX port.

Frequency band			5470~5725 MHz			
Condition			Peak Power Spectral Density (dBm/MHz)			
Mode	N _{TX}	Freq. (MHz)	PPSD w/o D.F (dBm/MHz)	Duty Factor (dB)	PPSD with D.F (dBm/MHz)	PPSD Limit (dBm/MHz)
11a	2	5500	5.11	0.00	5.11	11
11a	2	5580	9.90	0.00	9.90	11
11a	2	5700	1.17	0.00	1.17	11
HT20	2	5500	2.76	0.00	2.76	11
HT20	2	5580	10.46	0.00	10.46	11
HT20	2	5700	0.80	0.00	0.80	11
HT40	2	5510	0.68	0.00	0.68	11
HT40	2	5590	4.09	0.00	4.09	11
HT40	2	5670	0.83	0.00	0.83	11

Note:

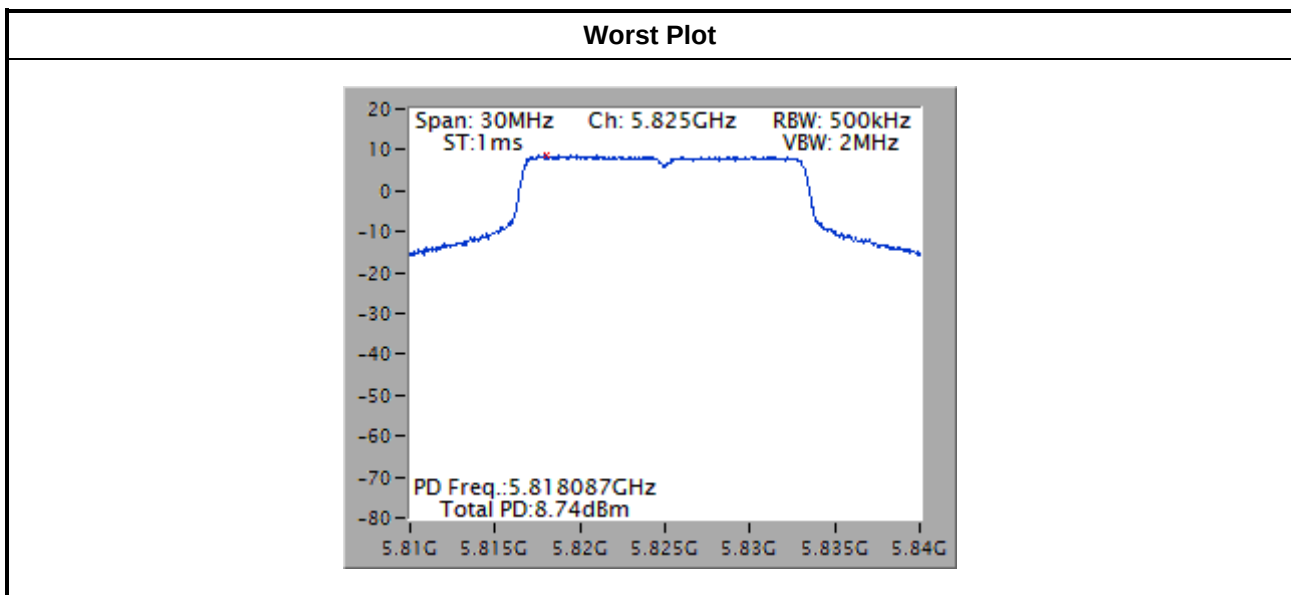
1. D.F is duty factor.
2. Test result is bin-by-bin summing measured value of each TX port.



Frequency band			5725-5850 MHz			
Condition			Peak Power Spectral Density (dBm/500kHz)			
Mode	N _{TX}	Freq. (MHz)	PPSD w/o D.F (dBm/500kHz)	Duty Factor (dB)	PPSD with D.F (dBm/500kHz)	PPSD Limit (dBm/500kHz)
11a	2	5745	6.58	0.00	6.58	30.00
11a	2	5785	7.44	0.00	7.44	30.00
11a	2	5825	8.74	0.00	8.74	30.00
HT20	2	5745	6.13	0.00	6.13	30.00
HT20	2	5785	7.03	0.00	7.03	30.00
HT20	2	5825	8.24	0.00	8.24	30.00
HT40	2	5755	1.55	0.00	1.55	30.00
HT40	2	5795	2.05	0.00	2.05	30.00

Note:

1. D.F is duty factor.
2. Test result is bin-by-bin summing measured value of each TX port.



3.5 Transmitter Radiated and Band Edge Emissions

3.5.1 Limit of Transmitter Radiated and Band Edge Emissions

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

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

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

Un-restricted band emissions above 1GHz Limit	
Operating Band	Limit
5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.25 - 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,. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see § 15.205(c))

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

3.5.2 Test Procedures

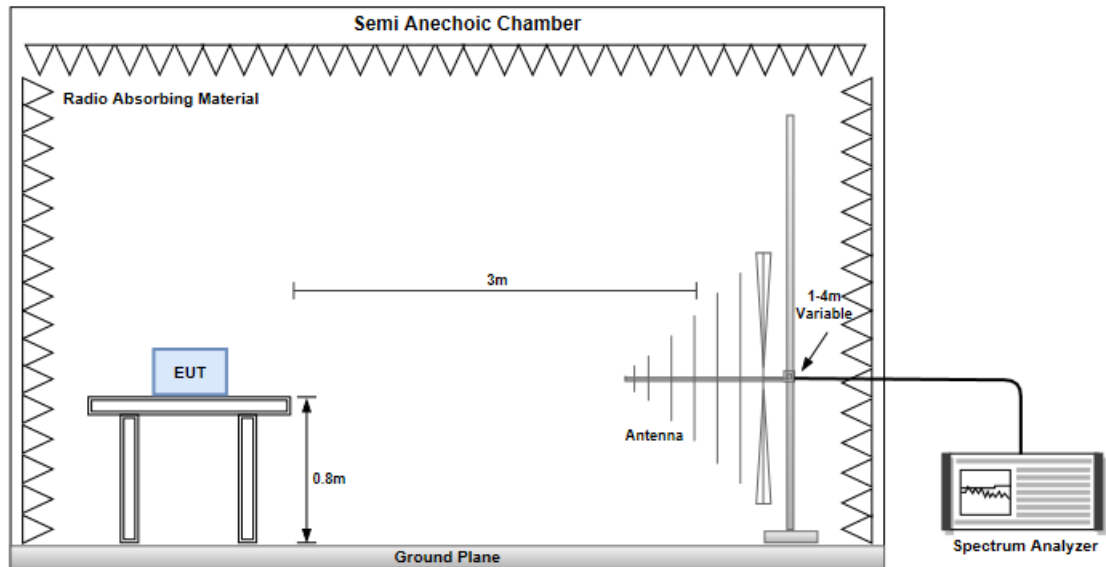
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission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

Note:

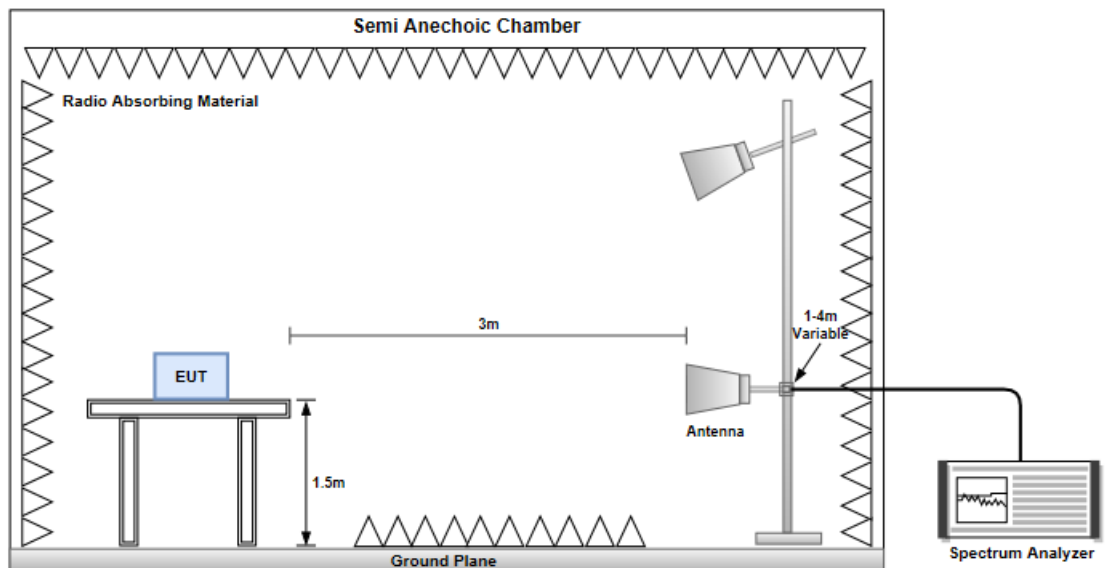
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

3.5.3 Test Setup

Radiated Emissions below 1 GHz

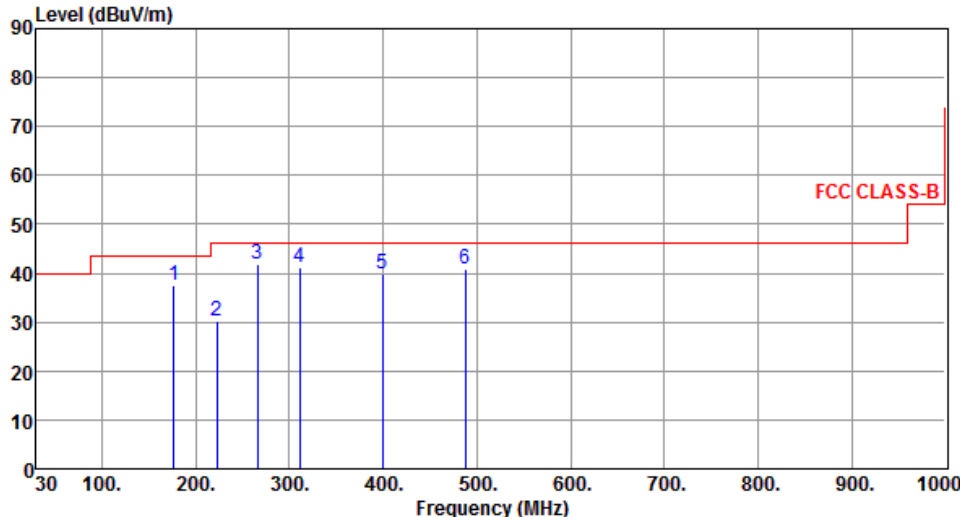


Radiated Emissions above 1 GHz



3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

Modulation	HT20	Test Freq. (MHz)	5580
Polarization	Horizontal		

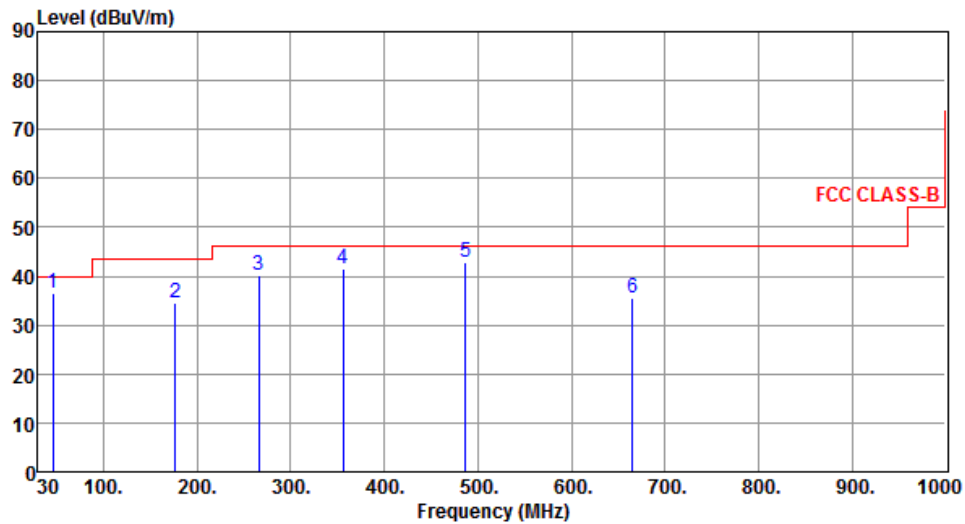


The graph displays the emission level in dBuV/m on the y-axis (0 to 90) against frequency in MHz on the x-axis (30 to 1000). A red line represents the FCC CLASS-B limit, which is 40 dBuV/m from 30 to 100 MHz, 45 dBuV/m from 100 to 300 MHz, and 55 dBuV/m from 300 to 1000 MHz. Six vertical blue lines indicate measured emission levels at specific frequencies, labeled 1 through 6. The measured levels are all below the FCC CLASS-B limit.

	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	176.47	37.56	43.50	-5.94	46.88	-9.32	Peak	---	---
2	222.50	30.35	46.00	-15.65	40.70	-10.35	QP	100	284
3	265.71	41.79	46.00	-4.21	50.43	-8.64	Peak	---	---
4	311.30	41.32	46.00	-4.68	48.55	-7.23	Peak	---	---
5	399.57	39.89	46.00	-6.11	44.89	-5.00	Peak	---	---
6	487.84	40.98	46.00	-5.02	44.01	-3.03	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	45.52	36.41	40.00	-3.59	43.98	-7.57	Peak	---	---
2	176.47	34.46	43.50	-9.04	43.78	-9.32	Peak	---	---
3	265.71	40.24	46.00	-5.76	48.88	-8.64	Peak	---	---
4	355.92	41.58	46.00	-4.42	47.68	-6.10	Peak	---	---
5	486.87	42.92	46.00	-3.08	45.98	-3.06	Peak	---	---
6	665.63	35.62	46.00	-10.38	35.40	0.22	QP	100	71

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

*Factor includes antenna factor , cable loss and amplifier gain

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

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

Modulation	11a	Test Freq. (MHz)	5825
Polarization	Horizontal		
Level (dBuV/m)			

Modulation	11a	Test Freq. (MHz)	5825
Polarization	Vertical		
Level (dBuV/m) </			

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

Modulation	11a	Test Freq. (MHz)	5180
Polarization	Horizontal		
Level (dBuV/m)			

Modulation	11a	Test Freq. (MHz)	5180
Polarization	Vertical		
Level (dBuV/m)			

Modulation	11a	Test Freq. (MHz)	5200
Polarization	Vertical		
Level (dBuV/m)			

Modulation	11a	Test Freq. (MHz)	5240
Polarization	Horizontal		
Level (dBuV/m) <			

Modulation	11a	Test Freq. (MHz)	5240
Polarization	Vertical		
Level (dBuV/m)			

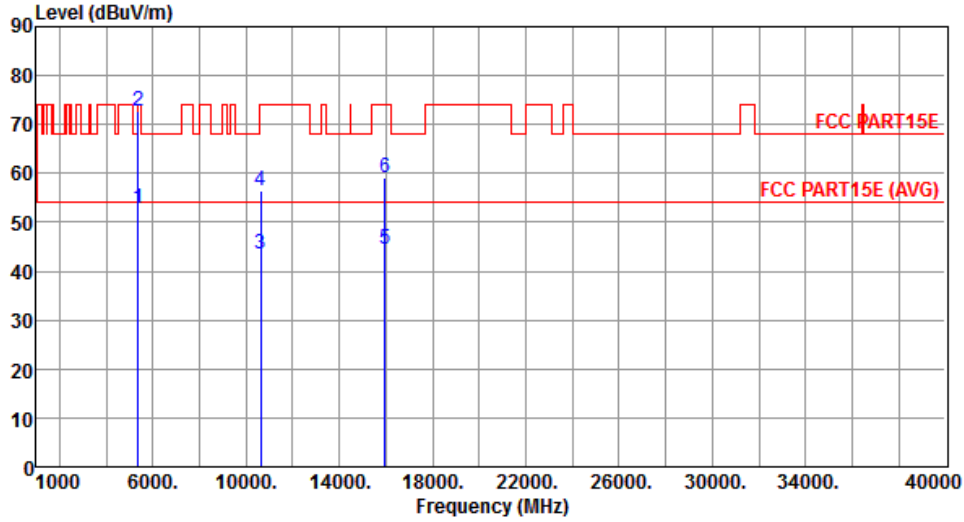
Modulation	11a	Test Freq. (MHz)	5260
Polarization	Horizontal		
Level (dBuV/m)			

Modulation	11a	Test Freq. (MHz)	5260
Polarization	Vertical		
Level (dBuV/m) <			

Modulation	11a	Test Freq. (MHz)	5300
Polarization	Horizontal		
Level (dBuV/m) </			

Modulation	11a	Test Freq. (MHz)	5300
Polarization	Vertical		
Level (dBuV/m)			

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



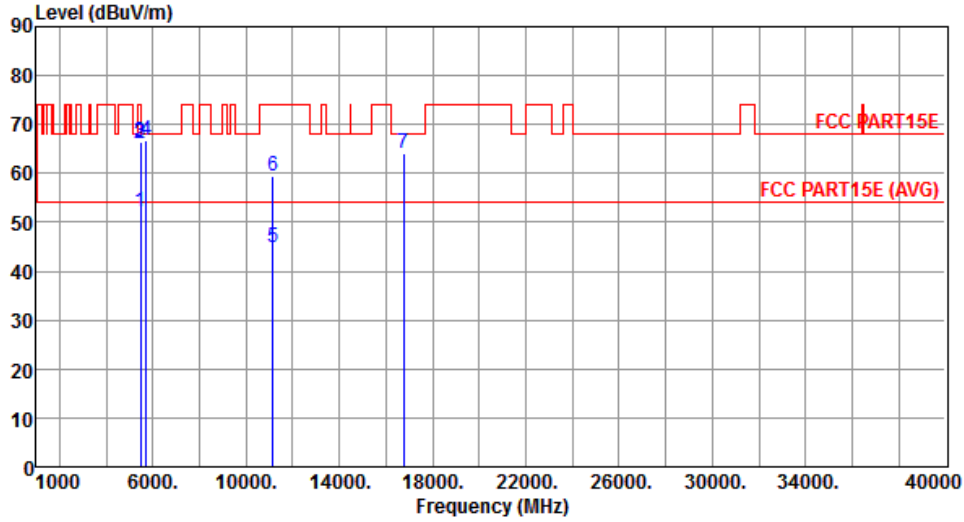
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	52.69	54.00	-1.31	47.95	4.74	Average	307	88
2	5350.00	72.86	74.00	-1.14	68.12	4.74	Peak	307	88
3	10640.00	43.46	54.00	-10.54	29.28	14.18	Average	100	231
4	10640.00	56.42	74.00	-17.58	42.24	14.18	Peak	100	231
5	15960.00	44.51	54.00	-9.49	30.78	13.73	Average	226	253
6	15960.00	58.96	74.00	-15.04	45.23	13.73	Peak	226	253

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		
Level (dBuV/m) <			

Modulation	11a	Test Freq. (MHz)	5500
Polarization	Vertical		
Level (dBuV/m)			

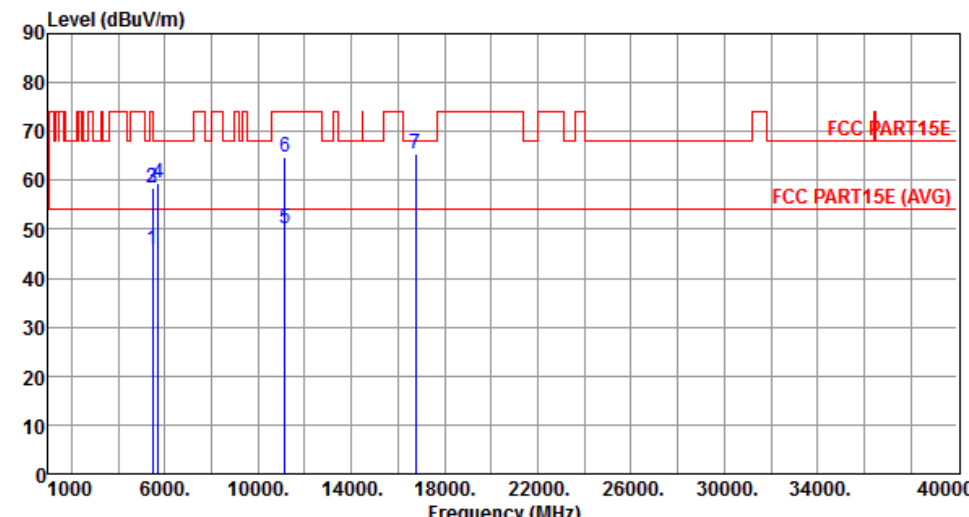
Modulation	11a	Test Freq. (MHz)	5580
Polarization	Horizontal		



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	52.20	54.00	-1.80	47.31	4.89	Average	287	86
2	5460.00	66.20	74.00	-7.80	61.31	4.89	Peak	287	86
3	5470.00	66.30	68.20	-1.90	61.39	4.91	Peak	287	86
4	5725.00	66.86	68.20	-1.34	61.54	5.32	Peak	287	86
5	11160.00	44.97	54.00	-9.03	30.25	14.72	Average	100	198
6	11160.00	59.36	74.00	-14.64	44.64	14.72	Peak	100	198
7	16740.00	64.03	68.20	-4.17	47.55	16.48	Peak	206	247

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		

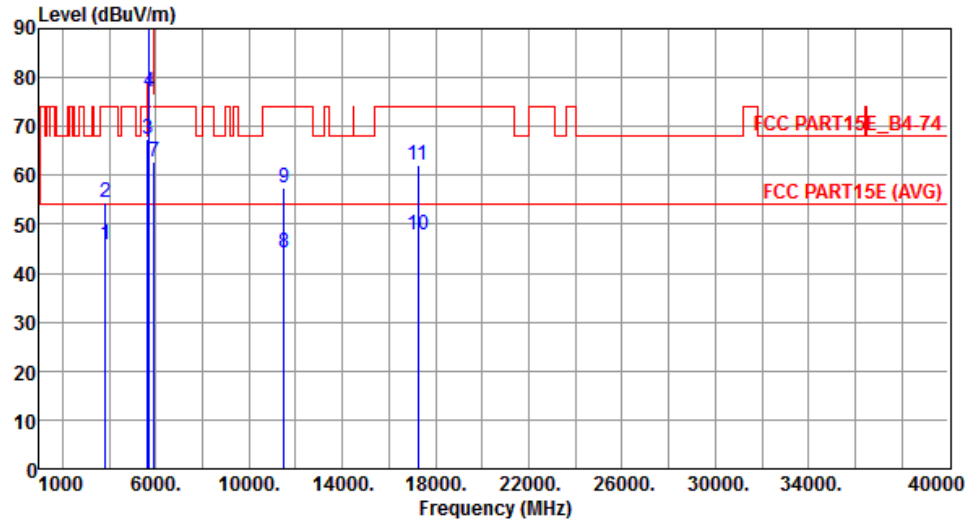


	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	45.89	54.00	-8.11	41.00	4.89	Average	309	144
2	5460.00	58.30	74.00	-15.70	53.41	4.89	Peak	309	144
3	5470.00	58.44	68.20	-9.76	53.53	4.91	Peak	309	144
4	5725.00	59.36	68.20	-8.84	54.04	5.32	Peak	309	144
5	11160.00	49.99	54.00	-4.01	35.27	14.72	Average	194	334
6	11160.00	64.59	74.00	-9.41	49.87	14.72	Peak	194	334
7	16740.00	65.42	68.20	-2.78	48.94	16.48	Peak	100	319

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		
Level (dBuV/m) </			

Modulation	11a	Test Freq. (MHz)	5700
Polarization	Vertical		
Level (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	3829.60	45.83	54.00	-8.17	45.11	0.72	Average	303	244
2	3829.60	54.55	74.00	-19.45	53.83	0.72	Peak	303	244
3	5650.00	67.27	68.20	-0.93	62.08	5.19	Peak	289	83
4	5700.00	77.04	105.20	-28.16	71.76	5.28	Peak	289	83
5	5720.00	90.66	110.80	-20.14	85.35	5.31	Peak	289	83
6	5725.00	100.07	122.20	-22.13	94.75	5.32	Peak	289	83
7	5925.00	62.82	68.20	-5.38	57.18	5.64	Peak	289	83
8	11490.00	44.19	54.00	-9.81	29.37	14.82	Average	100	159
9	11490.00	57.30	74.00	-16.70	42.48	14.82	Peak	100	159
10	17235.00	47.79	54.00	-6.21	30.08	17.71	Average	272	259
11	17235.00	62.09	74.00	-11.91	44.38	17.71	Peak	272	259
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).									

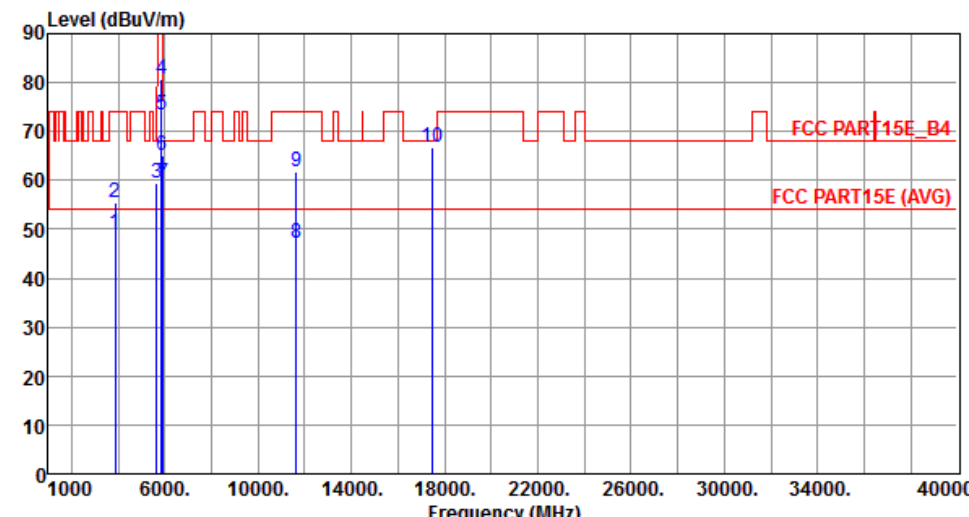
Modulation	11a	Test Freq. (MHz)	5745
Polarization	Vertical		
Level (dBuV/m) </			

Modulation	11a	Test Freq. (MHz)	5785
Polarization	Horizontal		
Level (dBuV/m) </			

Modulation	11a	Test Freq. (MHz)	5785
Polarization	Vertical		
Level (dBuV/m) </			

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

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



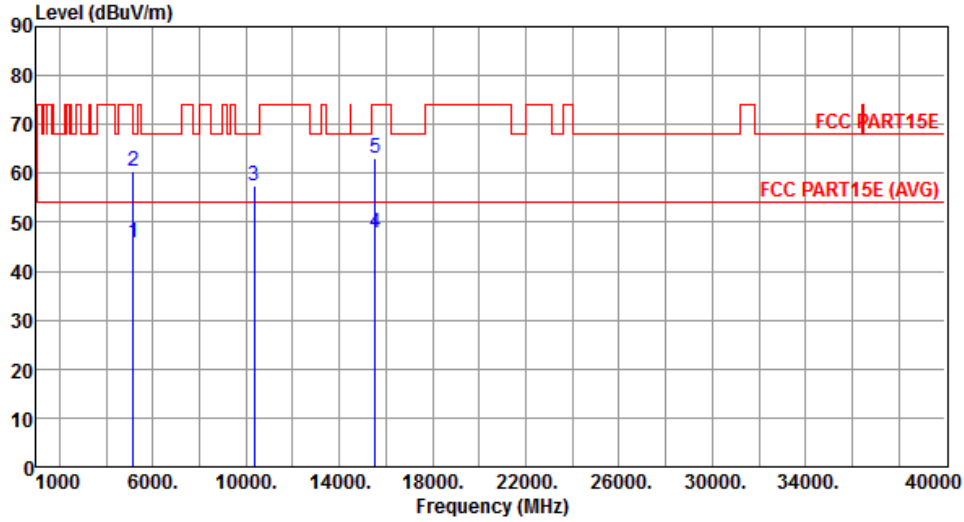
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3883.00	49.16	54.00	-4.84	48.27	0.89	Average	117	256
2	3883.00	55.33	74.00	-18.67	54.44	0.89	Peak	117	256
3	5650.00	59.44	68.20	-8.76	54.25	5.19	Peak	358	128
4	5850.00	80.71	122.20	-41.49	75.19	5.52	Peak	358	128
5	5855.00	73.55	110.80	-37.25	68.02	5.53	Peak	358	128
6	5875.00	65.20	105.20	-40.00	59.64	5.56	Peak	358	128
7	5925.00	59.31	68.20	-8.89	53.67	5.64	Peak	358	128
8	11650.00	47.18	54.00	-6.82	32.74	14.44	Average	100	327
9	11650.00	61.75	74.00	-12.25	47.31	14.44	Peak	100	327
10	17475.00	66.79	68.20	-1.41	48.50	18.29	Peak	100	301

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

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

Modulation	HT20	Test Freq. (MHz)	5180
Polarization	Horizontal		
Level (dBuV/m)			

Modulation	HT20	Test Freq. (MHz)	5180
Polarization	Vertical		

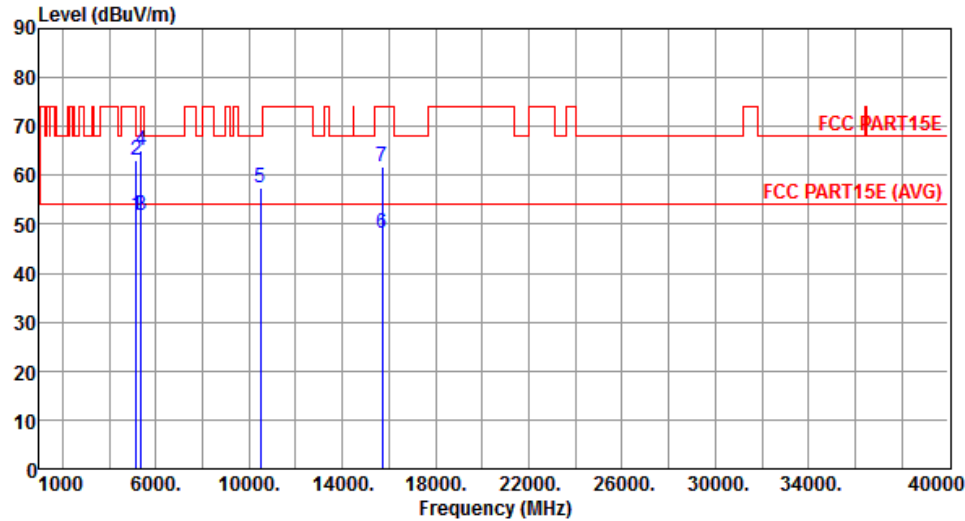


	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5150.00	45.67	54.00	-8.33	41.19	4.48	Average	352	144
2	5150.00	60.57	74.00	-13.43	56.09	4.48	Peak	352	144
3	10360.00	57.37	68.20	-10.83	43.59	13.78	Peak	100	345
4	15540.00	47.66	54.00	-6.34	33.27	14.39	Average	341	120
5	15540.00	63.21	74.00	-10.79	48.82	14.39	Peak	341	120

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					
Level (dBuV/m) <						

Modulation	HT20	Test Freq. (MHz)	5200
Polarization	Vertical		
Level (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	51.90	54.00	-2.10	47.42	4.48	Average	293	92
2	5150.00	63.22	74.00	-10.78	58.74	4.48	Peak	293	92
3	5350.00	51.74	54.00	-2.26	47.00	4.74	Average	293	92
4	5350.00	65.21	74.00	-8.79	60.47	4.74	Peak	293	92
5	10480.00	57.32	68.20	-10.88	43.37	13.95	Peak	100	158
6	15720.00	48.11	54.00	-5.89	34.00	14.11	Average	100	222
7	15720.00	61.62	74.00	-12.38	47.51	14.11	Peak	100	222

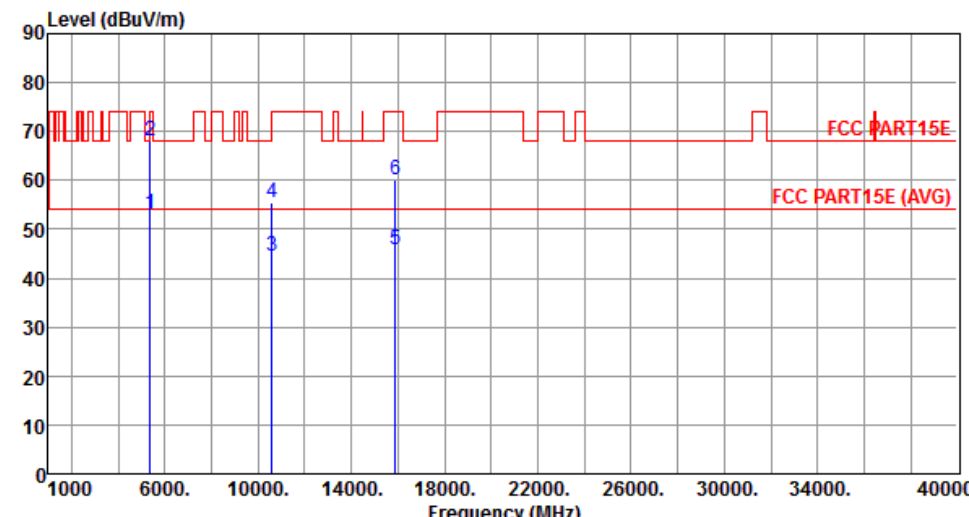
Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).

Modulation	HT20	Test Freq. (MHz)	5240
Polarization	Vertical		
Level (dBuV/m)			

Modulation	HT20		Test Freq. (MHz)		5260	
Polarization	Horizontal					
Level (dBuV/m) </						

Modulation	HT20	Test Freq. (MHz)	5260
Polarization	Vertical		
Level (dBuV/m)			

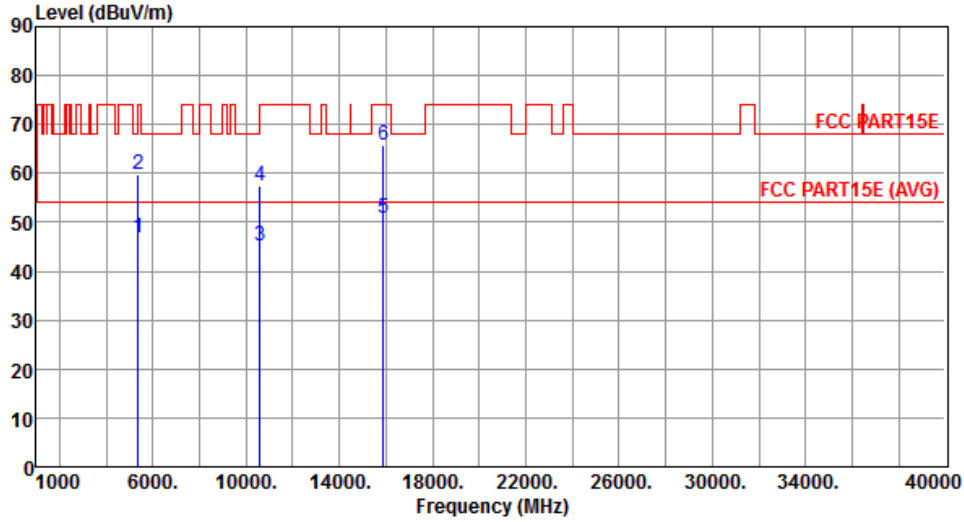
Modulation	HT20	Test Freq. (MHz)	5300
Polarization	Horizontal		



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	53.04	54.00	-0.96	48.30	4.74	Average	325	86
2	5350.00	68.20	74.00	-5.80	63.46	4.74	Peak	325	86
3	10600.00	44.37	54.00	-9.63	30.25	14.12	Average	100	173
4	10600.00	55.33	74.00	-18.67	41.21	14.12	Peak	100	173
5	15900.00	45.80	54.00	-8.20	31.98	13.82	Average	221	276
6	15900.00	60.08	74.00	-13.92	46.26	13.82	Peak	221	276

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

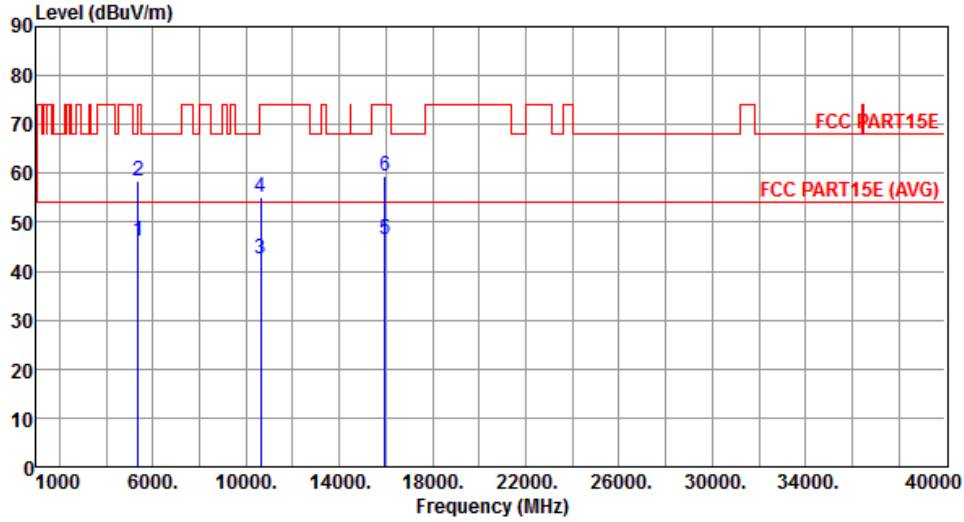
Modulation	HT20	Test Freq. (MHz)	5300
Polarization	Vertical		



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	46.97	54.00	-7.03	42.23	4.74	Average	373	135
2	5350.00	59.78	74.00	-14.22	55.04	4.74	Peak	373	135
3	10600.00	45.33	54.00	-8.67	31.21	14.12	Average	100	353
4	10600.00	57.53	74.00	-16.47	43.41	14.12	Peak	100	353
5	15900.00	50.94	54.00	-3.06	37.12	13.82	Average	320	224
6	15900.00	65.79	74.00	-8.21	51.97	13.82	Peak	320	224

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		

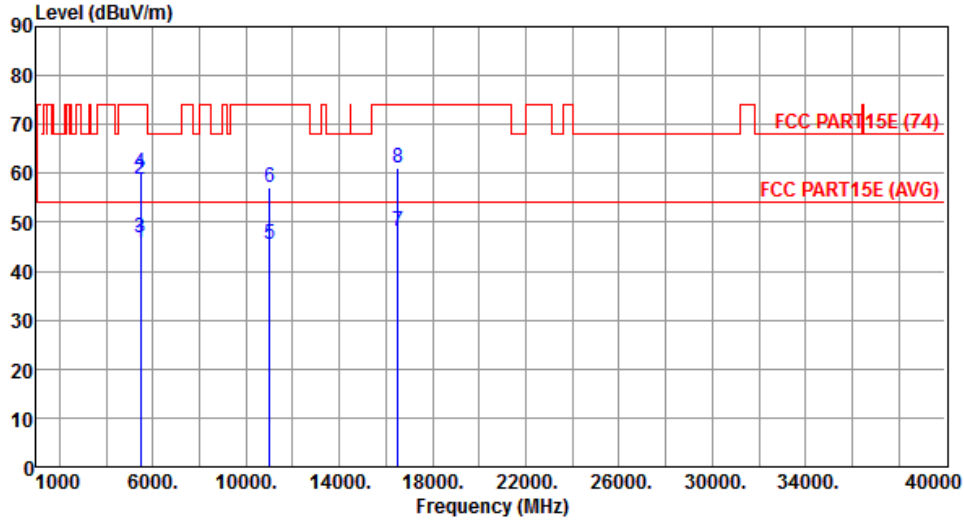


	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	46.32	54.00	-7.68	41.58	4.74	Average	389	135
2	5350.00	58.41	74.00	-15.59	53.67	4.74	Peak	389	135
3	10640.00	42.42	54.00	-11.58	28.24	14.18	Average	100	328
4	10640.00	55.25	74.00	-18.75	41.07	14.18	Peak	100	328
5	15960.00	46.52	54.00	-7.48	32.79	13.73	Average	309	217
6	15960.00	59.59	74.00	-14.41	45.86	13.73	Peak	309	217

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).

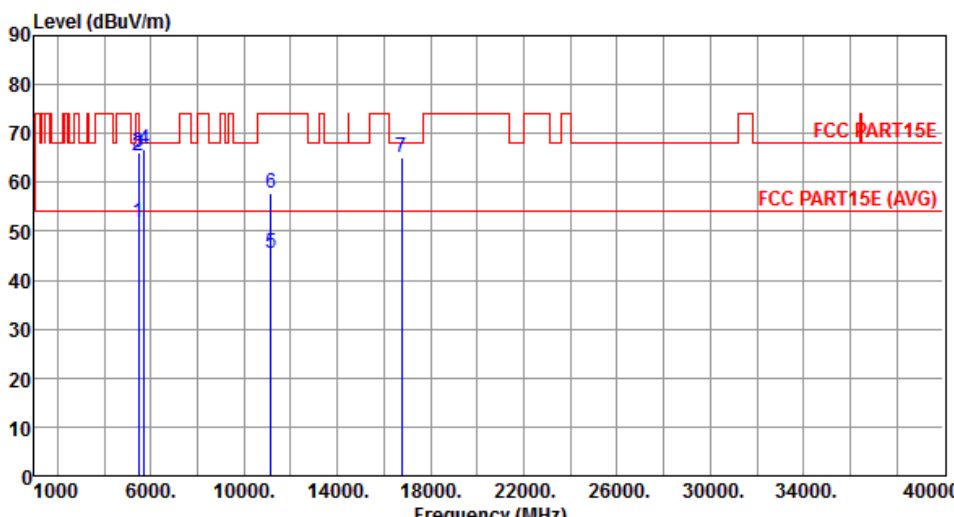
Modulation	HT20	Test Freq. (MHz)	5500
Polarization	Horizontal		
Level (dBuV/m)			

Modulation	HT20	Test Freq. (MHz)	5500
Polarization	Vertical		



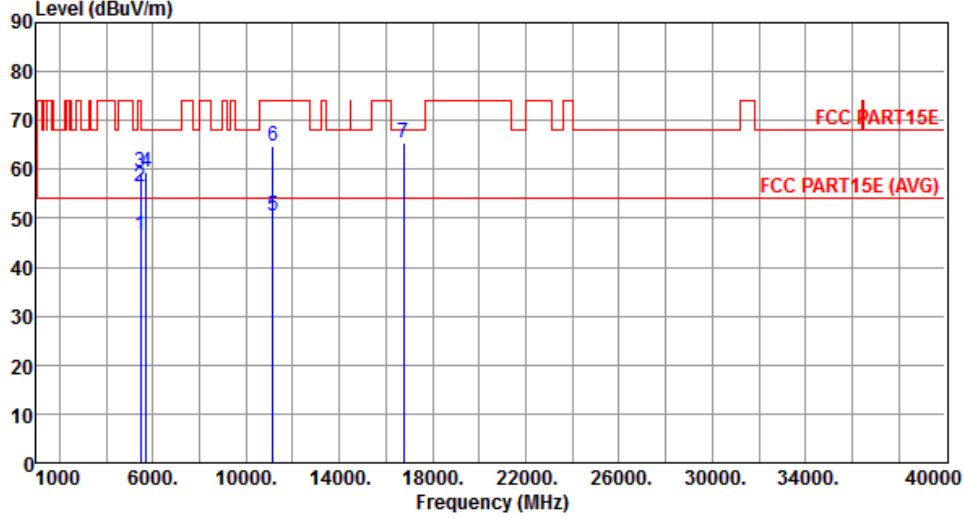
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	45.70	54.00	-8.30	40.81	4.89	Average	319	151
2	5460.00	58.93	74.00	-15.07	54.04	4.89	Peak	319	151
3	5470.00	46.69	54.00	-7.31	41.78	4.91	Average	319	151
4	5470.00	59.96	74.00	-14.04	55.05	4.91	Peak	319	151
5	11000.00	45.50	54.00	-8.50	30.82	14.68	Average	100	318
6	11000.00	57.14	74.00	-16.86	42.46	14.68	Peak	100	318
7	16500.00	48.19	54.00	-5.81	32.33	15.86	Average	302	223
8	16500.00	61.25	74.00	-12.75	45.39	15.86	Peak	302	223

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	5460.00	51.72	54.00	-2.28	46.83	4.89	Average	208	81
2	5460.00	65.57	74.00	-8.43	60.68	4.89	Peak	208	81
3	5470.00	65.94	68.20	-2.26	61.03	4.91	Peak	208	81
4	5725.00	66.80	68.20	-1.40	61.48	5.32	Peak	208	81
5	11160.00	45.61	54.00	-8.39	30.89	14.72	Average	125	218
6	11160.00	57.92	74.00	-16.08	43.20	14.72	Peak	125	218
7	16740.00	65.25	68.20	-2.95	48.77	16.48	Peak	204	249

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

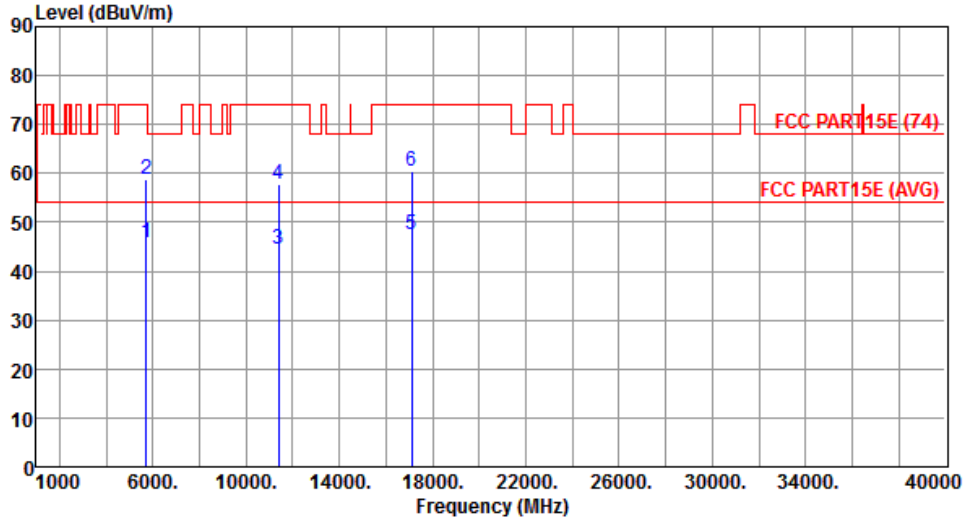
Modulation	HT20	Test Freq. (MHz)	5580
Polarization	Vertical		



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	46.56	54.00	-7.44	41.67	4.89	Average	325	144
2	5460.00	56.46	74.00	-17.54	51.57	4.89	Peak	325	144
3	5470.00	59.32	68.20	-8.88	54.41	4.91	Peak	325	144
4	5725.00	59.60	68.20	-8.60	54.28	5.32	Peak	325	144
5	11160.00	50.32	54.00	-3.68	35.60	14.72	Average	201	322
6	11160.00	64.75	74.00	-9.25	50.03	14.72	Peak	201	322
7	16740.00	65.38	68.20	-2.82	48.90	16.48	Peak	350	230

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).

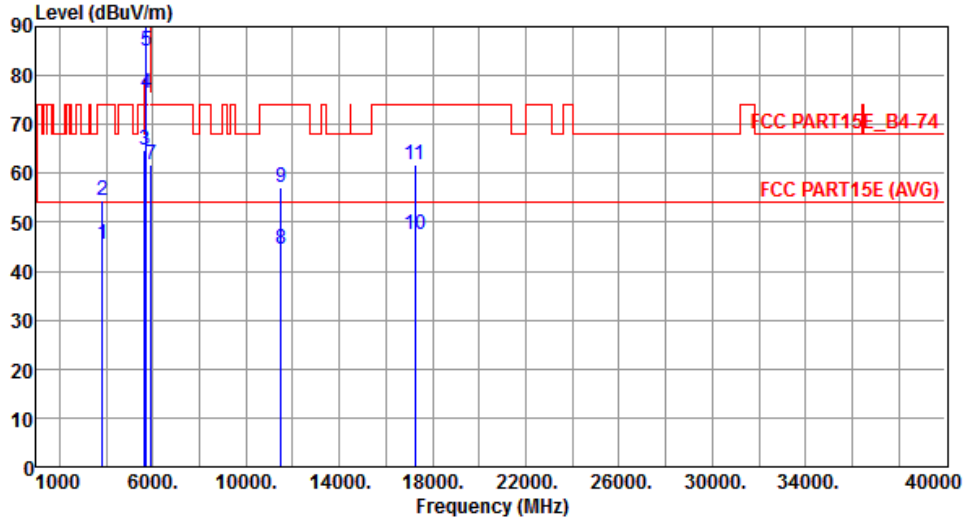
Modulation	HT20	Test Freq. (MHz)	5700
Polarization	Vertical		



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5725.00	45.73	54.00	-8.27	40.41	5.32	Average	315	130
2	5725.00	58.91	74.00	-15.09	53.59	5.32	Peak	315	130
3	11400.00	44.50	54.00	-9.50	29.71	14.79	Average	197	341
4	11400.00	57.62	74.00	-16.38	42.83	14.79	Peak	197	341
5	17100.00	47.46	54.00	-6.54	30.09	17.37	Average	100	109
6	17100.00	60.33	74.00	-13.67	42.96	17.37	Peak	100	109

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).

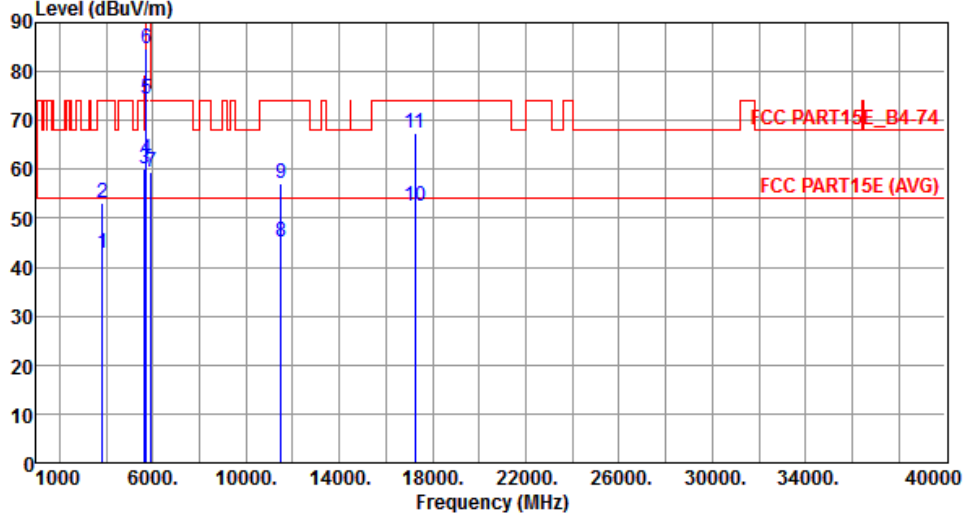
Modulation	HT20	Test Freq. (MHz)	5745
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3829.60	45.36	54.00	-8.64	44.64	0.72	Average	305	246
2	3829.60	54.54	74.00	-19.46	53.82	0.72	Peak	305	246
3	5650.00	64.90	68.20	-3.30	59.71	5.19	Peak	310	75
4	5700.00	76.40	105.20	-28.80	71.12	5.28	Peak	310	75
5	5720.00	85.15	110.80	-25.65	79.84	5.31	Peak	310	75
6	5725.00	95.65	122.20	-26.55	90.33	5.32	Peak	310	75
7	5925.00	61.83	68.20	-6.37	56.19	5.64	Peak	310	75
8	11490.00	44.44	54.00	-9.56	29.62	14.82	Average	100	151
9	11490.00	57.21	74.00	-16.79	42.39	14.82	Peak	100	151
10	17235.00	47.63	54.00	-6.37	29.92	17.71	Average	275	264
11	17235.00	61.92	74.00	-12.08	44.21	17.71	Peak	275	264

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		



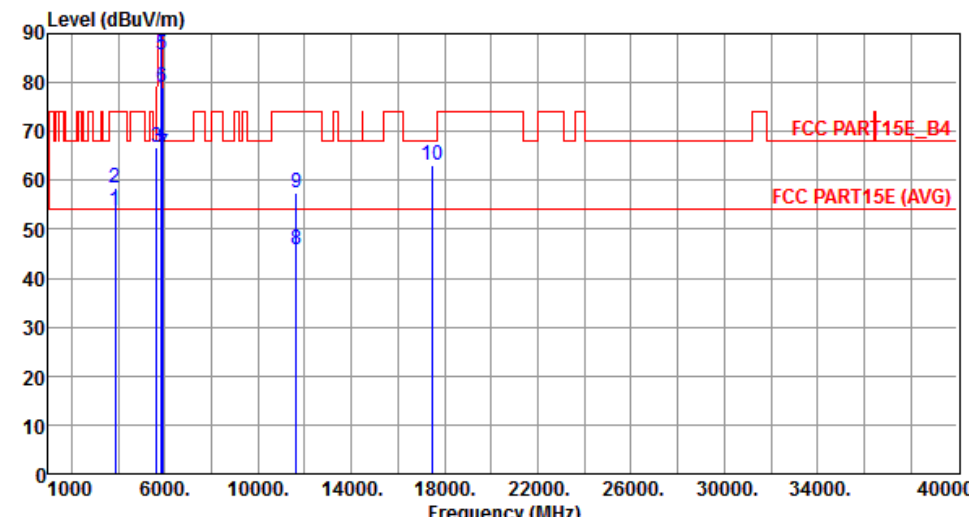
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3829.60	42.80	54.00	-11.20	42.08	0.72	Average	100	289
2	3829.60	53.06	74.00	-20.94	52.34	0.72	Peak	100	289
3	5650.00	60.23	68.20	-7.97	55.04	5.19	Peak	389	129
4	5700.00	62.08	105.20	-43.12	56.80	5.28	Peak	389	129
5	5720.00	74.47	110.80	-36.33	69.16	5.31	Peak	389	129
6	5725.00	84.78	122.20	-37.42	79.46	5.32	Peak	389	129
7	5925.00	59.32	68.20	-8.88	53.68	5.64	Peak	389	129
8	11490.00	45.13	54.00	-8.87	30.31	14.82	Average	100	131
9	11490.00	57.10	74.00	-16.90	42.28	14.82	Peak	100	131
10	17235.00	52.49	54.00	-1.51	34.78	17.71	Average	201	296
11	17235.00	67.38	74.00	-6.62	49.67	17.71	Peak	201	296

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		
Level (dBuV/m) <			

Modulation	HT20	Test Freq. (MHz)	5785
Polarization	Vertical		
Level (dBuV/m)			

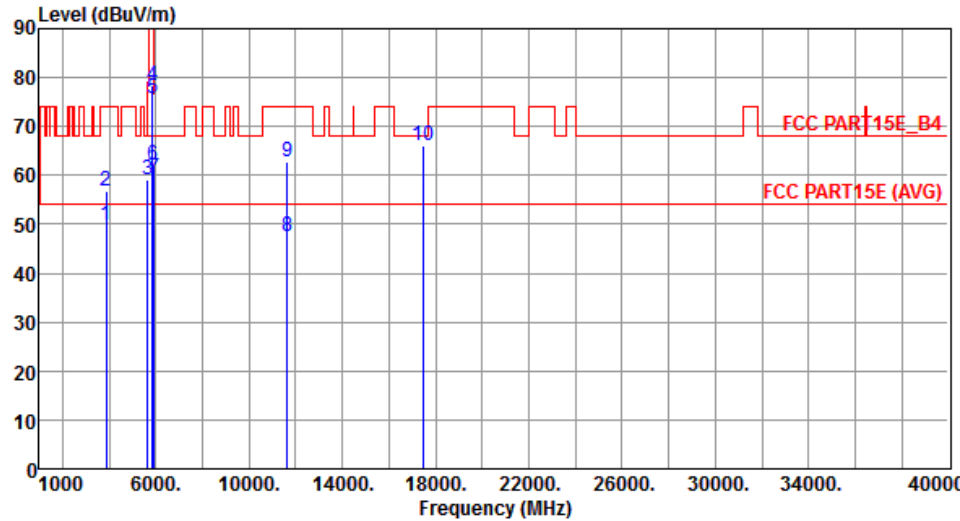
Modulation	HT20	Test Freq. (MHz)	5825
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	3883.00	53.74	54.00	-0.26	52.85	0.89	Average	316	243
2	3883.00	58.55	74.00	-15.45	57.66	0.89	Peak	316	243
3	5650.00	66.68	68.20	-1.52	61.49	5.19	Peak	290	91
4	5850.00	91.50	122.20	-30.70	85.98	5.52	Peak	290	91
5	5855.00	85.64	110.80	-25.16	80.11	5.53	Peak	290	91
6	5875.00	79.03	105.20	-26.17	73.47	5.56	Peak	290	91
7	5925.00	65.27	68.20	-2.93	59.63	5.64	Peak	290	91
8	11650.00	45.91	54.00	-8.09	31.47	14.44	Average	315	284
9	11650.00	57.40	74.00	-16.60	42.96	14.44	Peak	315	284
10	17475.00	63.12	68.20	-5.08	44.83	18.29	Peak	100	253

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	3883.00	49.72	54.00	-4.28	48.83	0.89	Average	132	295
2	3883.00	56.64	74.00	-17.36	55.75	0.89	Peak	132	295
3	5650.00	59.23	68.20	-8.97	54.04	5.19	Peak	389	197
4	5850.00	78.41	122.20	-43.79	72.89	5.52	Peak	389	197
5	5855.00	75.77	110.80	-35.03	70.24	5.53	Peak	389	197
6	5875.00	62.01	105.20	-43.19	56.45	5.56	Peak	389	197
7	5925.00	59.36	68.20	-8.84	53.72	5.64	Peak	389	197
8	11650.00	47.44	54.00	-6.56	33.00	14.44	Average	100	303
9	11650.00	62.71	74.00	-11.29	48.27	14.44	Peak	100	303
10	17475.00	66.01	68.20	-2.19	47.72	18.29	Peak	203	296

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

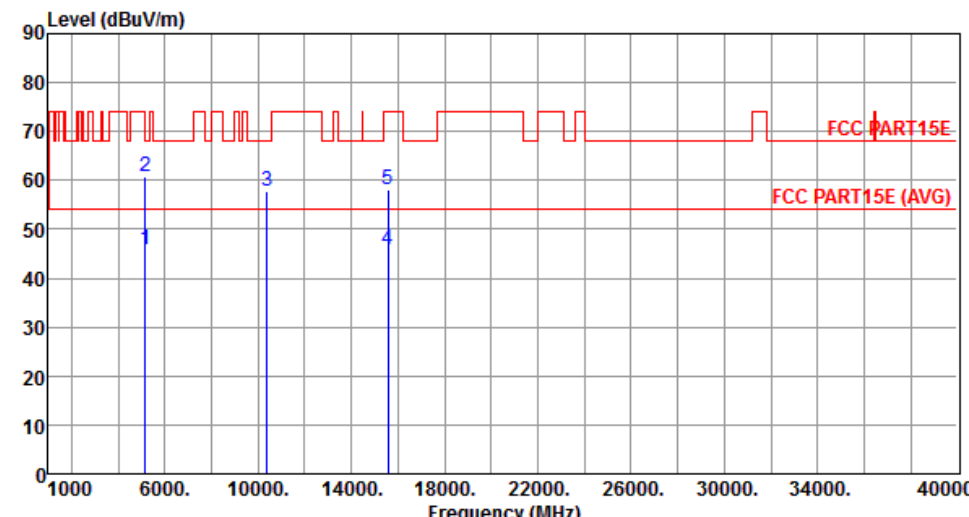
*Factor includes antenna factor , cable loss and amplifier gain

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

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

Modulation	HT40	Test Freq. (MHz)	5190
Polarization	Horizontal		
Level (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	45.67	54.00	-8.33	41.19	4.48	Average	355	165
2	5150.00	60.63	74.00	-13.37	56.15	4.48	Peak	355	165
3	10380.00	57.68	68.20	-10.52	43.86	13.82	Peak	100	179
4	15570.00	45.93	54.00	-8.07	31.59	14.34	Average	100	130
5	15570.00	57.96	74.00	-16.04	43.62	14.34	Peak	100	130

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

Modulation	HT40	Test Freq. (MHz)	5230
Polarization	Horizontal		
Level (dBuV/m) <			

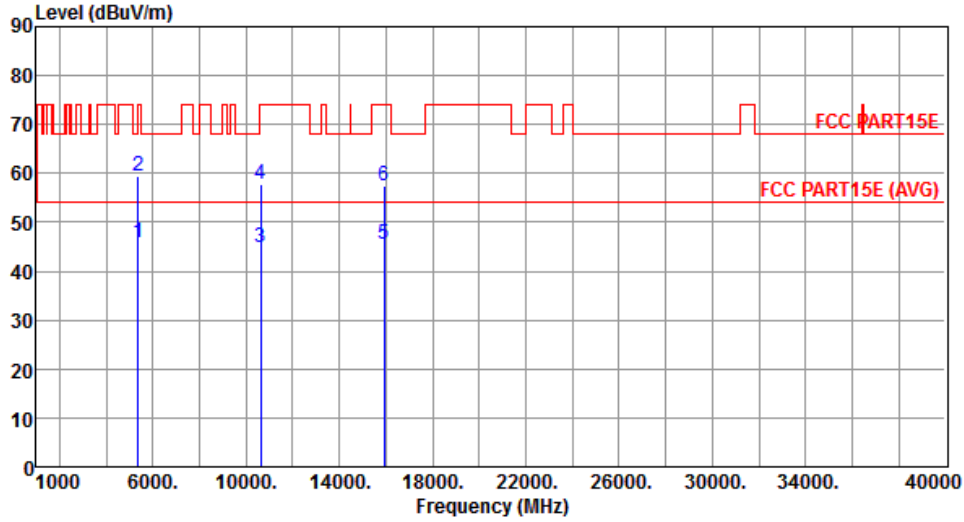
Modulation	HT40	Test Freq. (MHz)	5230
Polarization	Vertical		
Level (dBuV/m)			

Modulation	HT40		Test Freq. (MHz)		5270	
Polarization	Horizontal					
Level (dBuV/m) <						

Modulation	HT40	Test Freq. (MHz)	5270
Polarization	Vertical		
Level (dBuV/m) <			

Modulation	HT40		Test Freq. (MHz)		5310	
Polarization	Horizontal					
Level (dBuV/m)						

Modulation	HT40	Test Freq. (MHz)	5310
Polarization	Vertical		

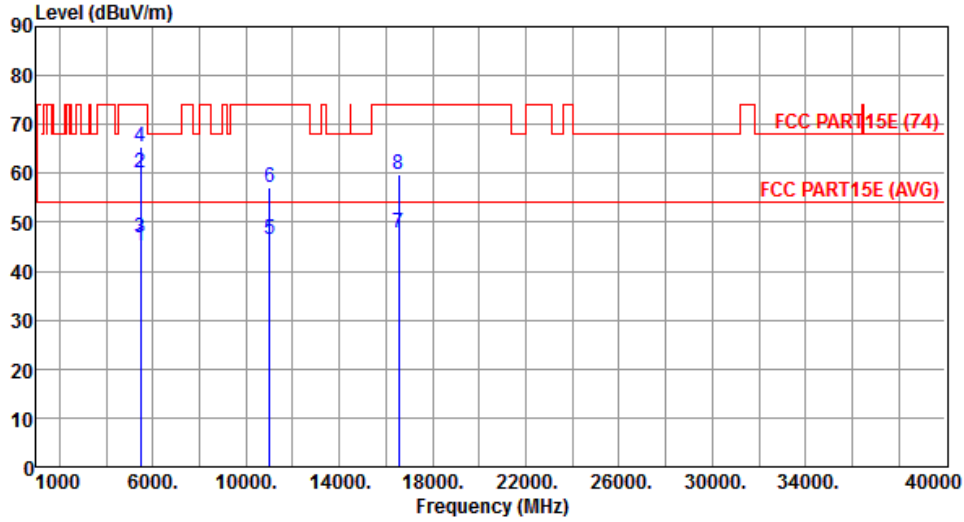


	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5350.00	45.76	54.00	-8.24	41.02	4.74	Average	357	170
2	5350.00	59.52	74.00	-14.48	54.78	4.74	Peak	357	170
3	10620.00	44.99	54.00	-9.01	30.85	14.14	Average	100	194
4	10620.00	57.77	74.00	-16.23	43.63	14.14	Peak	100	194
5	15930.00	45.59	54.00	-8.41	31.81	13.78	Average	100	156
6	15930.00	57.47	74.00	-16.53	43.69	13.78	Peak	100	156

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

Modulation	HT40		Test Freq. (MHz)		5510	
Polarization	Horizontal					
Level (dBuV/m) </						

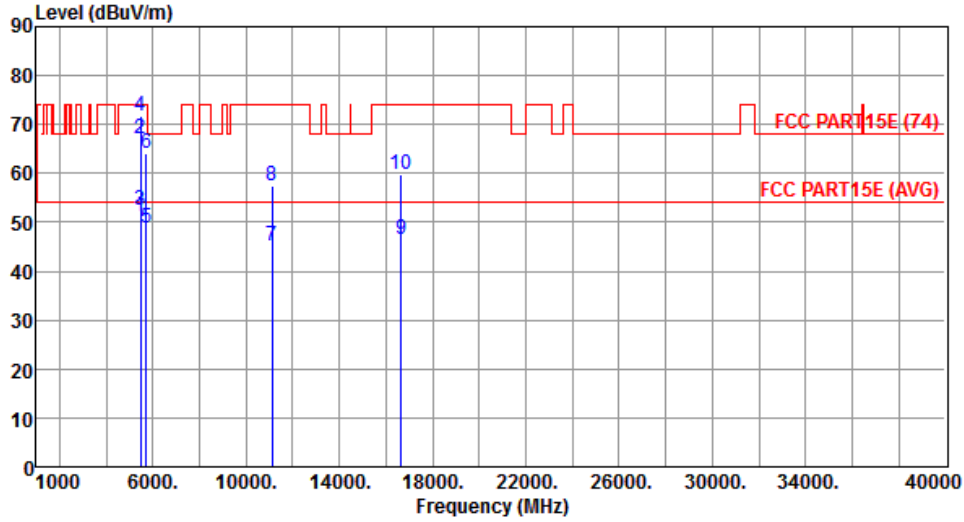
Modulation	HT40	Test Freq. (MHz)	5510
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5460.00	45.32	54.00	-8.68	40.43	4.89	Average	351	88
2	5460.00	60.15	74.00	-13.85	55.26	4.89	Peak	351	88
3	5470.00	46.77	54.00	-7.23	41.86	4.91	Average	351	88
4	5470.00	65.31	74.00	-8.69	60.40	4.91	Peak	351	88
5	11020.00	46.36	54.00	-7.64	31.67	14.69	Average	100	191
6	11020.00	57.22	74.00	-16.78	42.53	14.69	Peak	100	191
7	16530.00	47.83	54.00	-6.17	31.90	15.93	Average	100	164
8	16530.00	59.76	74.00	-14.24	43.83	15.93	Peak	100	164

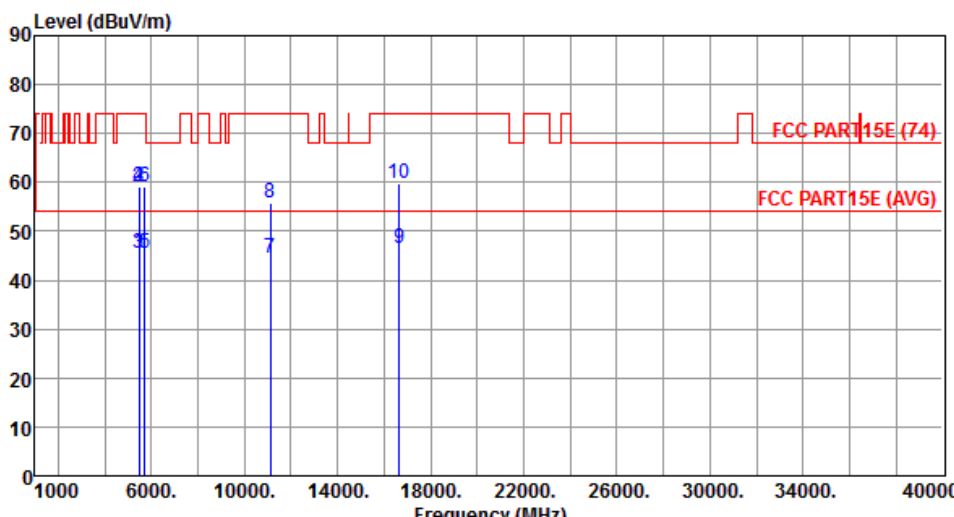
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	HT40	Test Freq. (MHz)	5590
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	5460.00	51.30	54.00	-2.70	46.41	4.89	Average	332	87
2	5460.00	67.08	74.00	-6.92	62.19	4.89	Peak	332	87
3	5470.00	52.53	54.00	-1.47	47.62	4.91	Average	332	87
4	5470.00	71.77	74.00	-2.23	66.86	4.91	Peak	332	87
5	5725.00	48.67	54.00	-5.33	43.35	5.32	Average	332	87
6	5725.00	64.05	74.00	-9.95	58.73	5.32	Peak	332	87
7	11100.00	45.12	54.00	-8.88	30.41	14.71	Average	100	175
8	11100.00	57.49	74.00	-16.51	42.78	14.71	Peak	100	175
9	16650.00	46.65	54.00	-7.35	30.41	16.24	Average	100	243
10	16650.00	59.63	74.00	-14.37	43.39	16.24	Peak	100	243

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)	5590						
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	5460.00	45.37	54.00	-8.63	40.48	4.89	Average	364	162
2	5460.00	58.95	74.00	-15.05	54.06	4.89	Peak	364	162
3	5470.00	45.47	54.00	-8.53	40.56	4.91	Average	364	162
4	5470.00	59.18	74.00	-14.82	54.27	4.91	Peak	364	162
5	5725.00	45.45	54.00	-8.55	40.13	5.32	Average	364	162
6	5725.00	59.15	74.00	-14.85	53.83	5.32	Peak	364	162
7	11100.00	44.63	54.00	-9.37	29.92	14.71	Average	137	108
8	11100.00	55.67	74.00	-18.33	40.96	14.71	Peak	137	108
9	16650.00	46.34	54.00	-7.66	30.10	16.24	Average	351	237
10	16650.00	59.64	74.00	-14.36	43.40	16.24	Peak	351	237

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

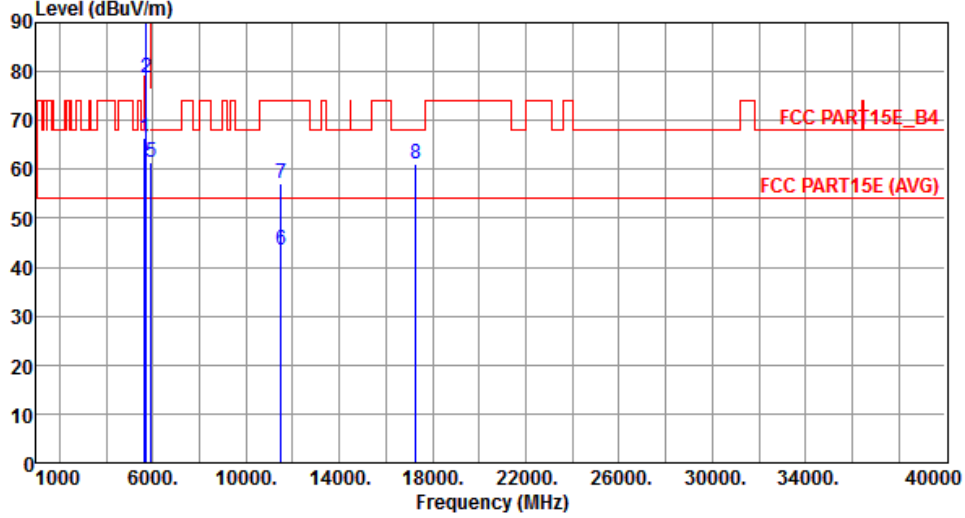
*Factor includes antenna factor , cable loss and amplifier gain

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

Modulation	HT40	Test Freq. (MHz)	5670
Polarization	Horizontal		
Level (dBuV/m)			

Modulation	HT40		Test Freq. (MHz)		5670	
Polarization	Vertical					
Level (dBuV/m) </						

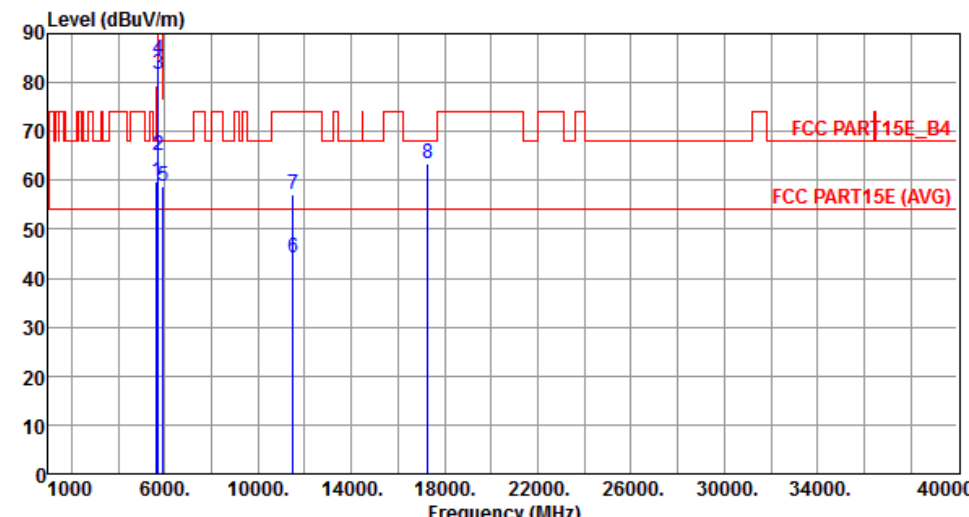
Modulation	HT40	Test Freq. (MHz)	5755
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	66.48	68.20	-1.72	61.29	5.19	Peak	291	93
2	5700.00	78.86	105.20	-26.34	73.58	5.28	Peak	291	93
3	5720.00	90.46	110.80	-20.34	85.15	5.31	Peak	291	93
4	5725.00	94.33	122.20	-27.87	89.01	5.32	Peak	291	93
5	5925.00	61.60	68.20	-6.60	55.96	5.64	Peak	291	93
6	11510.00	43.62	54.00	-10.38	28.82	14.80	Average	100	135
7	11510.00	57.16	74.00	-16.84	42.36	14.80	Peak	100	135
8	17265.00	61.01	68.20	-7.19	43.23	17.78	Peak	100	148

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

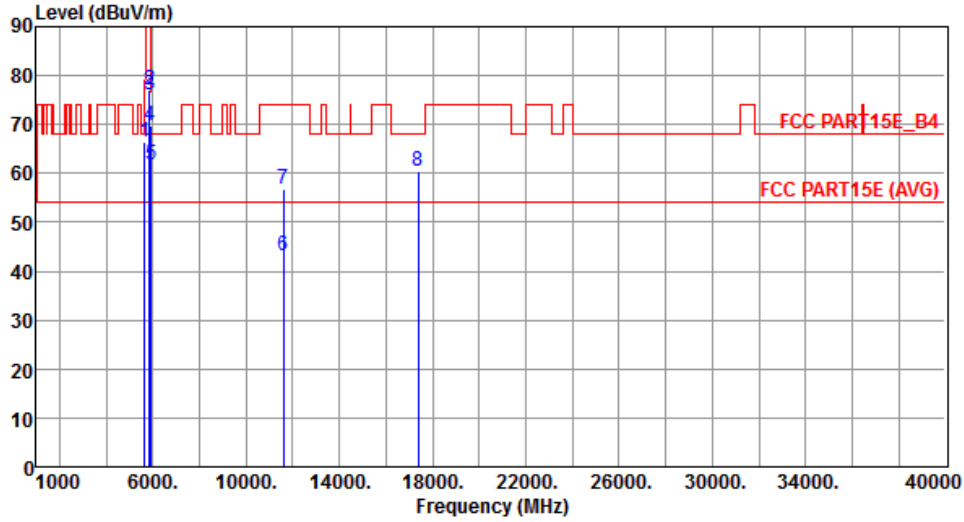
Modulation	HT40	Test Freq. (MHz)	5755
Polarization	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	59.80	68.20	-8.40	54.61	5.19	Peak	388	183
2	5700.00	65.12	105.20	-40.08	59.84	5.28	Peak	388	183
3	5720.00	81.63	110.80	-29.17	76.32	5.31	Peak	388	183
4	5725.00	84.60	122.20	-37.60	79.28	5.32	Peak	388	183
5	5925.00	58.87	68.20	-9.33	53.23	5.64	Peak	388	183
6	11510.00	44.33	54.00	-9.67	29.53	14.80	Average	100	305
7	11510.00	57.26	74.00	-16.74	42.46	14.80	Peak	100	305
8	17265.00	63.38	68.20	-4.82	45.60	17.78	Peak	175	297

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

Modulation	HT40	Test Freq. (MHz)	5795
Polarization	Horizontal		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	5650.00	66.55	68.20	-1.65	61.36	5.19	Peak	286	93
2	5850.00	77.05	122.20	-45.15	71.53	5.52	Peak	286	93
3	5855.00	76.13	110.80	-34.67	70.60	5.53	Peak	286	93
4	5875.00	69.61	105.20	-35.59	64.05	5.56	Peak	286	93
5	5925.00	61.66	68.20	-6.54	56.02	5.64	Peak	286	93
6	11590.00	43.18	54.00	-10.82	28.59	14.59	Average	100	146
7	11590.00	56.91	74.00	-17.09	42.32	14.59	Peak	100	146
8	17385.00	60.59	68.20	-7.61	42.52	18.07	Peak	100	118

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

Modulation	HT40	Test Freq. (MHz)	5795
Polarization	Vertical		
Level (dBuV/m) <			

3.6 Frequency Stability

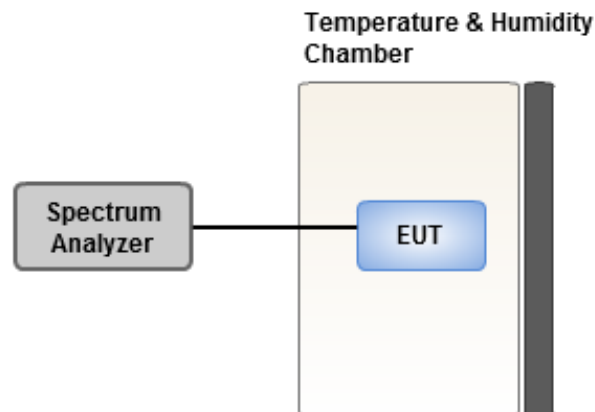
3.6.1 Limit of Frequency Stability

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 60 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: 5320 MHz	Frequency Drift (ppm)			
Temperature (°C)	0 minute	2 minutes	5 minutes	10 minutes
T20°CVmax	6.72	6.49	6.92	7.19
T20°CVmin	6.06	6.43	6.53	6.32
T60°CVnom	5.32	5.87	5.07	5.89
T50°CVnom	4.17	4.77	4.22	4.91
T40°CVnom	4.25	4.00	4.20	4.41
T30°CVnom	3.84	3.63	4.24	4.02
T20°CVnom	4.26	4.14	4.73	4.25
T10°CVnom	3.08	3.88	2.79	3.25
T0°CVnom	2.61	3.31	2.78	3.45
T-10°CVnom	2.00	2.69	2.45	1.89
T-20°CVnom	1.15	1.39	1.98	1.85
T-30°CVnom	0.74	0.70	0.82	0.88
Vnom [Vdc]: 120		Vmax [Vdc]: 138		Vmin [Vdc]: 102
Tnom [°C]: 20		Tmax [°C]: 60		Tmin [°C]: -30

Frequency: 5785 MHz	Frequency Drift (ppm)			
Temperature (°C)	0 minute	2 minutes	5 minutes	10 minutes
T20°C _{Vmax}	5.94	6.39	5.68	5.61
T20°C _{Vmin}	5.19	5.01	4.84	4.89
T60°C _{Vnom}	3.64	4.01	3.33	3.78
T50°C _{Vnom}	4.27	4.75	4.36	4.45
T40°C _{Vnom}	3.54	4.03	3.73	3.43
T30°C _{Vnom}	3.68	3.94	3.44	3.31
T20°C _{Vnom}	4.65	4.30	4.54	5.21
T10°C _{Vnom}	2.81	3.31	3.10	2.95
T0°C _{Vnom}	2.00	2.67	1.81	2.73
T-10°C _{Vnom}	1.34	1.64	1.39	1.27
T-20°C _{Vnom}	1.79	1.98	1.72	2.34
T-30°C _{Vnom}	1.10	1.06	1.35	0.94
Vnom [Vdc]: 120		Vmax [Vdc]: 138		Vmin [Vdc]: 102
Tnom [°C]: 20		Tmax [°C]: 60		Tmin [°C]: -30

4 Test laboratory information

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

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

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

Linkou

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Kou District, New Taipei City,
Taiwan, R.O.C.

Kwei Shan

Tel: 886-3-271-8666

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

Kwei Shan Site II

Tel: 886-3-271-8640

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