TEST REPORT

Applicant:	Tri Cascade Inc.
Address:	19200 Von Karman Ave, Ste 400, Irvine, CA 92612
Equipment Type:	WiFi 7 5G Router
Model Name:	VOSIO 7G
Brand Name:	VOSIO
FCC ID:	2ACARVOSIOX7A
Test Standard:	47 CFR Part 15 Subpart E (refer to section 3.1)
Sample Arrival Date:	Jun. 16, 2025
Test Date:	Jun. 17, 2025 - Jun. 23, 2025
Date of Issue:	Jun. 30, 2025

ISSUED BY:

Shanghai Tejet Communications Technology Co., Ltd. Testing Center

Prepared by: Zhang Rujie **Reviewed by:** Hai Su **Approved by:** Zhang Yanqing

(Laboratory Manager)

Zhang Rujie Hai Su Zhang Yanqing

Revision History

Version	Issue Date	Revisions
Rev. 01	Jun. 30, 2025	Initial Issue

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1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shanghai Tejet Communications Technology Co., Ltd. Testing Center
Address	1-2/F., Building 1, No.222, Xuanlan Road, Xuanqiao, Pudong New District, Shanghai, China

1.2 Test Location

Name	Shanghai Tejet Communications Technology Co., Ltd. Testing Center
Location	1-2/F., Building 1, No.222, Xuanlan Road, Xuanqiao, Pudong New District, Shanghai, China
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1352.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Tri Cascade Inc.
Address	19200 Von Karman Ave, Ste 400, Irvine, CA 92612

2.2 Manufacturer Information

Manufacturer	Tri Cascade Inc.
Address	19200 Von Karman Ave, Ste 400, Irvine, CA 92612

2.3 General Description for Equipment under Test (EUT)

EUT Name	WiFi 7 5G Router
Model Name Under Test	VOSIO 7G
Series Model Name	N/A
Description of Model name differentiation	N/A
Sample Number	SC-SZ2530935-S09(conducted) SC-SZ2530935-S12(radiated)
Hardware Version	FG18_MB_PCB_V1.3
Software Version	X7_PA_1.01.000008
Dimensions (Approx.)	L: 109mm* W: 109mm* H: 212mm*
Weight (Approx.)	N/A

2.4 Technical Information

Wireless connectivity	2.4G WIFI 802.11b, 802.11g, 802.11n(HT20/40), 802.11ax(HE20/40), 802.11be(EHT20/40) 5G WIFI 802.11a, 802.11n(HT20/40), 802.11ac(VHT20/40/80/160), 802.11ax(HE20/40/80/160), 802.11be(EHT20/40/80/160) 6G WIFI 802.11ax(HE20/40/80/160), 802.11be(EHT20/40/80/160/320)

The requirement for the following technical information of the EUT was tested in this report:

Frequency Range		U-NII-5: 5925 MHz to 6425 MHz U-NII-6: 6425 MHz to 6525 MHz U-NII-7: 6525 MHz to 6875 MHz U-NII-8: 6875 MHz to 7125 MHz
Modulation technology		OFDMA
Modulation Type		4096QAM, 1024QAM, 64QAM, 16QAM, BPSK, QPSK
Transfer Rate (Mbps) (Single RF path)		802.11ax up to 1201 Mbps 802.11be: up to 2882 Mbps
Channel Bandwidth		802.11ax: 20 MHz, 40 MHz, 80 MHz, 160MHz 802.11be: 20 MHz, 40 MHz, 80 MHz, 160MHz, 320MHz
Maximum Output Power		U-NII-5: 17.07 dBm U-NII-8: 13.16 dBm
Antenna System (eg., MIMO, Smart Antenna)		Multi Input Multi Output (MIMO) for 802.11ax/be
Categorization as Correlated or Completely Uncorrelated		Categorization as Uncorrelated for 802.11ax/be
Antenna Type	Main Antenna	PCB Antenna
	Aux. Antenna	
Antenna Gain	Main Antenna	U-NII-5: 5925 MHz to 6425 MHz: 3.23 dBi U-NII-6: 6425 MHz to 6525 MHz: 3.23 dBi U-NII-7: 6525 MHz to 6875 MHz: 3.23 dBi U-NII-8: 6875 MHz to 7125 MHz: 3.23 dBi
	Aux. Antenna	U-NII-5: 5925 MHz to 6425 MHz: 3.61 dBi U-NII-6: 6425 MHz to 6525 MHz: 3.61 dBi U-NII-7: 6525 MHz to 6875 MHz: 3.61 dBi U-NII-8: 6875 MHz to 7125 MHz: 3.61 dBi
Total directional gain	For power spectral density(PSD) measurements	Correlated: U-NII-5: 5925 MHz to 6425 MHz: 6.43 dBi U-NII-6: 6425 MHz to 6525 MHz: 6.43 dBi U-NII-7: 6525 MHz to 6875 MHz: 6.43 dBi U-NII-8: 6875 MHz to 7125 MHz: 6.43 dBi Formulas: Directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$ + … +

		$10^{GN/20})^2$ /NANT] dBi Uncorrelated: U-NII-5: 5925 MHz to 6425 MHz: 3.42 dBi U-NII-6: 6425 MHz to 6525 MHz: 3.42 dBi U-NII-7: 6525 MHz to 6875 MHz: 3.42 dBi U-NII-8: 6875 MHz to 7125 MHz: 3.42 dBi Formulas: Directional gain = 10 log[($10^{G1/10}$ + $10^{G2/10}$ + ... + $10^{GN/10}$)/NANT] dBi
	For power measurements	Correlated: U-NII-5: 5925 MHz to 6425 MHz: 6.43 dBi U-NII-6: 6425 MHz to 6525 MHz: 6.43 dBi U-NII-7: 6525 MHz to 6875 MHz: 6.43 dBi U-NII-8: 6875 MHz to 7125 MHz: 6.43 dBi Formulas: Directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$ + ... + $10^{GN/20}$)^2 /NANT] dBi Uncorrelated: U-NII-5: 5925 MHz to 6425 MHz: 3.42 dBi U-NII-6: 6425 MHz to 6525 MHz: 3.42 dBi U-NII-7: 6525 MHz to 6875 MHz: 3.42 dBi U-NII-8: 6875 MHz to 7125 MHz: 3.42 dBi Formulas: Directional gain = 10 log[($10^{G1/10}$ + $10^{G2/10}$ + ... + $10^{GN/10}$)/NANT] dBi
About the Product		The equipment is WiFi 7 5G Router, intended for used with information technology equipment.

Mode	Antenna		
	Main Antenna	Aux. Antenna	MIMO
802.11ax20	√	√	√
802.11ax40	√	√	√
802.11ax80	√	√	√
802.11ax160	√	√	√
802.11be20	√	√	√
802.11be40	√	√	√
802.11be80	√	√	√
802.11be160	√	√	√
802.11be320	√	√	√
Note: All the configurations were tested, but only the worst data was shown in this report.			

802.11ax and be RU configuration table									
Mode	Full RU	RU_26	RU_52	RU_106	RU_242	RU_484	RU_996	RU_996*2	RU_996*4
802.11ax20	√	--	--	--	--	--	--	--	--
802.11ax40	√	--	--	--	--	--	--	--	--
802.11ax80	√	--	--	--	--	--	--	--	--
802.11ax160	√	--	--	--	--	--	--	--	--
802.11be20	√	--	--	--	--	--	--	--	--
802.11be40	√	--	--	--	--	--	--	--	--
802.11be80	√	--	--	--	--	--	--	--	--
802.11be160	√	--	--	--	--	--	--	--	--
802.11be320	√	--	--	--	--	--	--	--	--
Note: EUT only supports Full RU.									

2.5 Channel List

U-NII-5/6/7/8:

20 MHz		40 MHz		80 MHz		160 MHz	
Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)
1	**5955**	**3**	**5965**	**7**	**5985**	**15**	**6025**
5	5975	11	6005	23	6065	**47**	**6185**
9	5995	19	6045	**39**	**6145**	**79**	**6345**
13	6015	27	6085	55	6225	**111**	**6505**
17	6035	35	6125	71	6305	**143**	**6665**
21	6055	**43**	**6165**	**87**	**6385**	**175**	**6825**
25	6075	51	6205	**103**	**6465**	**207**	**6985**
29	6095	59	6245	**119**	**6545**		
33	6115	67	6285	**135**	**6625**		
37	6135	75	6325	151	6705		
41	6155	83	6365	**167**	**6785**		
45	**6175**	**91**	**6405**	**183**	**6865**		
49	6195	**99**	**6445**	**199**	**6945**		
53	6215	**107**	**6485**	**215**	**7025**		
57	6235	**115**	**6525**				
61	6255	123	6565				
65	6275	131	6605				
69	6295	139	6645				
73	6315	**147**	**6685**				
77	6335	155	6725				
81	6355	163	6765				
85	6375	171	6805				
89	6395	**179**	**6845**				
93	**6415**	**187**	**6885**				
97	6435	195	6925				
101	6455	203	6965				
105	**6475**	211	7005				
109	6495	219	7045				
113	**6515**	**227**	**7085**				
117	**6535**						
121	6555						
125	6575						
129	6595						
133	6615						
137	6635						
141	6655						
145	6675						

149	**6695**						
153	6715						
157	6735						
161	6755						
165	6775						
169	6795						
173	6815						
177	6835						
181	**6855**						
185	**6875**						
189	6895						
193	6915						
197	6935						
201	6955						
205	6975						
209	**6995**						
213	7015						
217	7035						
221	7055						
225	7075						
229	7095						
233	**7115**						

320M	
Channel Number	Frequency (MHz)
31	6105
63	6265
95	6425
127	6585
159	6745
191	6905

The Lowest frequency, the middle frequency and the highest frequency of channel were selected to perform the test, and the selected channel see below:

For 802.11ax(HE20)/be(EHT20)

U-NII-5 (5925 - 6425 MHz)			U-NII-6 (6425 - 6525 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
1	Low	5955	97	Low	6435
45	Mid	6175	105	Mid	6475
93	High	6415	113	High	6515

U-NII-7 (6425 - 6875 MHz)			U-NII-8 (6875 - 7125 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
117	Low	6535	185	Low	6875
153	Mid	6715	213	Mid	7015
181	High	6855	233	High	7115

For 802.11ax(HE40)/be(EHT40)

U-NII-5 (5925 - 6425 MHz)			U-NII-6 (6425 - 6525 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
3	Low	5965	99	Low	6445
43	Mid	6165	107	Mid	6485
91	High	6405	115	High	6525

U-NII-7 (6425 - 6875 MHz)			U-NII-8 (6875 - 7125 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
123	Low	6565	187	Low	6885
155	Mid	6725	211	Mid	7005
179	High	6845	227	High	7085

For 802.11ax(HE80)/be(EHT80)

U-NII-5 (5925 - 6425 MHz)			U-NII-6 (6425 - 6525 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
7	Low	5985	103	Low	6465
39	Mid	6145	119	High	6545
87	High	6385			

U-NII-7 (6425 - 6875 MHz)			U-NII-8 (6875 - 7125 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
135	Low	6625	183	Low	6865
151	Mid	6705	199	Mid	6945
167	High	6785	215	High	7025

For 802.11ax(HE160)/be(EHT160)

U-NII-5 (5925 - 6425 MHz)			U-NII-6 (6425 - 6525 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
15	Low	6025	111	Mid	6505
47	Mid	6185			
79	High	6345			

U-NII-7 (6425 - 6875 MHz)			U-NII-8 (6875 - 7125 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
143	Low	6665	207	Mid	6985
175	High	6825			

For 802.11be(EHT320)

U-NII-5 (5925 - 6425 MHz)			U-NII-6 (6425 - 6525 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
31	Low	6105	95	Low	6425
63	High	6265			

U-NII-7 (6425 - 6875 MHz)			U-NII-8 (6875 - 7125 MHz)		
Channel Number	Channel	Frequency (MHz)	Channel Number	Channel	Frequency (MHz)
127	Low	6585	191	Mid	6905
159	High	6745			

Note: Preliminary tests were performed in different data rate in above table to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

Test Items	Mode	Data Rate	Modulation Type	U-NII-5 Channel	U-NII-6 Channel	U-NII-7 Channel	U-NII-8 Channel
RF Output Power	11ax(20 MHz)	8.6	OFDMA	1/45/93	97/105/113	117/153/181	185/213/229/233
	11ax(40 MHz)	17.2		3/43/91	99/107/115	123/155/179	187/211/227
	11ax(80 MHz)	36		7/39/87	103/119	135/151/167	183/199/215
	11ax(160 MHz)	72.1		15/47/79	111	143/175	207
	11be(20 MHz)	8.6		1/45/93	97/105/113	117/153/181	185/213/229/233
	11be(40 MHz)	17.2		3/43/91	99/107/115	123/155/179	187/211/227
	11be(80 MHz)	36		7/39/87	103/119	135/151/167	183/199/215
	11be(160 MHz)	72.1		15/47/79	111	143/175	207

	11be(320 MHz)	144.1		31/63	95	127/159	191
Emission Bandwidth & 99% Occupied Bandwidth	11ax(20 MHz)	8.6	OFDMA	1/45/93	97/105/113	117/153/181	185/213/229/233
	11ax(40 MHz)	17.2		3/43/91	99/107/115	123/155/179	187/211/227
	11ax(80 MHz)	36		7/39/87	103/119	135/151/167	183/199/215
	11ax(160 MHz)	72.1		15/47/79	111	143/175	207
	11be(20 MHz)	8.6		1/45/93	97/105/113	117/153/181	185/213/229/233
	11be(40 MHz)	17.2		3/43/91	99/107/115	123/155/179	187/211/227
	11be(80 MHz)	36		7/39/87	103/119	135/151/167	183/199/215
	11be(160 MHz)	72.1		15/47/79	111	143/175	207
	11be(320 MHz)	144.1		31/63	95	127/159	191
Power Spectral Density	11ax(20 MHz)	8.6	OFDMA	1/45/93	97/105/113	117/153/181	185/213/229/233
	11ax(40 MHz)	17.2		3/43/91	99/107/115	123/155/179	187/211/227
	11ax(80 MHz)	36		7/39/87	103/119	135/151/167	183/199/215
	11ax(160 MHz)	72.1		15/47/79	111	143/175	207
	11be(20 MHz)	8.6		1/45/93	97/105/113	117/153/181	185/213/229/233
	11be(40 MHz)	17.2		3/43/91	99/107/115	123/155/179	187/211/227
	11be(80 MHz)	36		7/39/87	103/119	135/151/167	183/199/215
	11be(160 MHz)	72.1		15/47/79	111	143/175	207
	11be(320 MHz)	144.1		31/63	95	127/159	191
Radiated Spurious Emissions	11ax(20 MHz)	8.6	OFDMA	1/45/93	97/105/113	117/153/181	185/213/229/233
	11ax(40 MHz)	17.2		3/43/91	99/107/115	123/155/179	187/211/227
	11ax(80 MHz)	36		7/39/87	103/119	135/151/167	183/199/215
	11ax(160 MHz)	72.1		15/47/79	111	143/175	207
	11be(20 MHz)	8.6		1/45/93	97/105/113	117/153/181	185/213/229/233
	11be(40 MHz)	17.2		3/43/91	99/107/115	123/155/179	187/211/227
	11be(80 MHz)	36		7/39/87	103/119	135/151/167	183/199/215
	11be(160 MHz)	72.1		15/47/79	111	143/175	207
	11be(320 MHz)	144.1		31/63	95	127/159	191
Band Edge (Restricted-band)	11ax(20 MHz)	8.6	OFDMA	1/45/93	97/105/113	117/153/181	185/213/229/233
	11ax(40 MHz)	17.2		3/43/91	99/107/115	123/155/179	187/211/227
	11ax(80 MHz)	36		7/39/87	103/119	135/151/167	183/199/215
	11ax(160 MHz)	72.1		15/47/79	111	143/175	207
	11be(20 MHz)	8.6		1/45/93	97/105/113	117/153/181	185/213/229/233
	11be(40 MHz)	17.2		3/43/91	99/107/115	123/155/179	187/211/227
	11be(80 MHz)	36		7/39/87	103/119	135/151/167	183/199/215
	11be(160 MHz)	72.1		15/47/79	111	143/175	207
	11be(320 MHz)	144.1		31/63	95	127/159	191
Contention Based Protocol	11ax(20 MHz)	8.6	OFDMA	1/45/93	97/105/113	117/153/181	185/213/229/233
	11ax(40 MHz)	17.2		3/43/91	99/107/115	123/155/179	187/211/227
	11ax(80 MHz)	36		7/39/87	103/119	135/151/167	183/199/215
	11ax(160 MHz)	72.1		15/47/79	111	143/175	207
	11be(20 MHz)	8.6		1/45/93	97/105/113	117/153/181	185/213/229/233

	11be(40 MHz)	17.2		3/43/91	99/107/115	123/155/179	187/211/227
	11be(80 MHz)	36		7/39/87	103/119	135/151/167	183/199/215
	11be(160 MHz)	72.1		15/47/79	111	143/175	207
	11be(320 MHz)	144.1		31/63	95	127/159	191
In-Band Emissions	11ax(20 MHz)	8.6	OFDMA	1/45/93	97/105/113	117/153/181	185/213/229/233
	11ax(40 MHz)	17.2		3/43/91	99/107/115	123/155/179	187/211/227
	11ax(80 MHz)	36		7/39/87	103/119	135/151/167	183/199/215
	11ax(160 MHz)	72.1		15/47/79	111	143/175	207
	11be(20 MHz)	8.6		1/45/93	97/105/113	117/153/181	185/213/229/233
	11be(40 MHz)	17.2		3/43/91	99/107/115	123/155/179	187/211/227
	11be(80 MHz)	36		7/39/87	103/119	135/151/167	183/199/215
	11be(160 MHz)	72.1		15/47/79	111	143/175	207
	11be(320 MHz)	144.1		31/63	95	127/159	191

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 15 Subpart E	Unlicensed National Information Infrastructure Devices
2	KDB Publication 789033 D02v02r01	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E
3	KDB Publication 987594 D03v01	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure 6 GHz (U-NII) Devices Part 15, Subpart E
4	KDB Publication 662911 D01v02r01	Emissions Testing of Transmitters with Multiple Outputs in the Same Band (e.g., MIMO, Smart Antenna, etc)
5	ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices

3.2 Test Verdict

No.	Description	FCC Part No.	RSS Part No.	Test Result	Verdict
1	Antenna Requirement	15.203	N/A	--	Pass[Note1]
2	RF Output Power	15.407(a)	N/A	ANNEX A.1	Pass
3	Emission Bandwidth & 99% Occupied Bandwidth	15.407(a)	N/A	ANNEX A.2	Pass
4	Power Spectral Density	15.407(a)	N/A	ANNEX A.4	Pass
5	Conducted Emission	15.207	N/A	ANNEX A.5	Pass
6	Radiated Spurious Emissions and Band Edge (Restricted-band)	15.407(b)	N/A	ANNEX A.6	Pass
7	Contention Based Protocol	15.407(d)	N/A	ANNEX A.7	Pass
8	In-Band Emissions	15.407(b)	N/A	ANNEX A.8	Pass

Note [1]: The EUT has a permanently and irreplaceable attached antenna, which complies with the requirement FCC 15.203.

Note [2]: Under all normal operating conditions specified in the user manual, frequency stability can keep radiation within the operating frequency band.

Note [3]: This report references the module report, RF Output Power, Conducted Emission, Radiated Spurious Emissions and Band Edge (Restricted-band) were spot-checked in this report, other test projects refers to the original report No. BTL-FCCP-4-2311H013 which issued by BTL Inc. on Jun. 24, 2024.

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

During the measurement, the normal environmental conditions were within the listed ranges:

Relative Humidity	52% to 59%	
Atmospheric Pressure	100 kPa to 102 kPa	
Temperature	NT (Normal Temperature)	+22.0℃ to +24.2℃
	LT (Low Temperature)	0℃
	HT (High Temperature)	+40℃
Working Voltage of the EUT	NV (Normal Voltage)	12.0 V
	LV (Low Voltage)	10.8 V
	HV (High Voltage)	13.2 V

4.2 Test Equipment List

Description	Manufacturer	Model	Equipment No.	Cal. Date	Cal. Due
Spectrum Analyzer	KEYSIGHT	N9020A	BH-EMC-L066	2025.02.12	2026.02.11
Spectrum Analyzer	KEYSIGHT	N9010B	BH-EMC-L099	2025.02.12	2026.02.11
Signal Generator	Anritsu	MG3710E	BH-EMC-L131	2025.02.12	2026.02.11
Wideband Radio Communication Tester	R&S	CMW500	BH-EMC-L094	2025.02.11	2026.02.10
EMI Receiver	KEYSIGHT	N9038A	BH-EMC-L015	2024.07.09	2025.07.08
Test Antenna-Loop(9 kHz-30 MHz)	SCHWARZBECK	FMZB 1519 B	BH-EMC-L067	2024.03.11	2027.03.10
Test Antenna-Bi-Log(30 MHz-3 GHz)	SCHWARZBECK	VULB 9163	BH-EMC-L008	2024.03.11	2027.03.10
Test Antenna-Horn(1-18 GHz)	SCHWARZBECK	BBHA 9120D	BH-EMC-L044	2024.03.11	2027.03.10
Test Antenna-Horn (18-40 GHz)	A-INFO	LB-180400-KF	BH-EMC-L061	2024.03.11	2027.03.10
Anechoic Chamber	YiHeng	9m*6m*6m	BH-EMC-L001	2024.04.18	2027.04.17
EMI Receiver	KEYSIGHT	N9038A	BH-EMC-L127	2025.02.12	2026.02.11
LISN	SCHWARZBECK	NSLK 8127	BH-EMC-L011	2025.02.11	2026.02.10
10dB Limiter	SCHWARZBECK	VTSD 9561-F	BH-EMC-L014	2025.02.11	2026.02.10
Shielded Room	YiHeng	5m*4m*3.2m	BH-EMC-L006	2024.02.22	2027.02.21

4.3 Test Software List

Description	Manufacturer	Software Version	Serial No.	Applicable Test Setup
BL410R	BALUN	V2.1.1.496	N/A	The section 4.6.1
BL410E	BALUN	V21.919	N/A	The section 4.6.2&4.6.3&4.6.4&4.6.5

4.4 Decision Rule

☐ No Need

☒ Use General conformity decision rule (Consider uncertainty or not ☒No ☐Yes)

☐ Use Special Conformity Decision Rule (Consider uncertainty or not ☐No ☐Yes)

4.5 Measurement Uncertainty

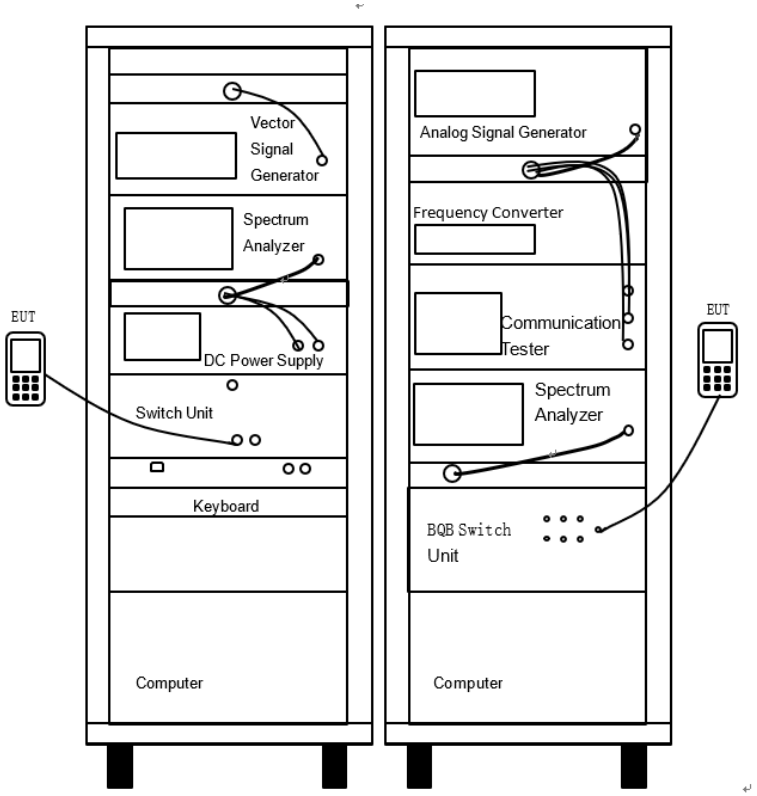
The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2.

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Parameters	Uncertainty
Occupied Channel Bandwidth	2.4 %
RF output power, conducted	0.41 dB
Power Spectral Density, conducted	1.73 dB
Unwanted Emissions, conducted	1.73 dB
All emissions, radiated	3.70 dB
Temperature	0.82 °C
Humidity	4.1 %

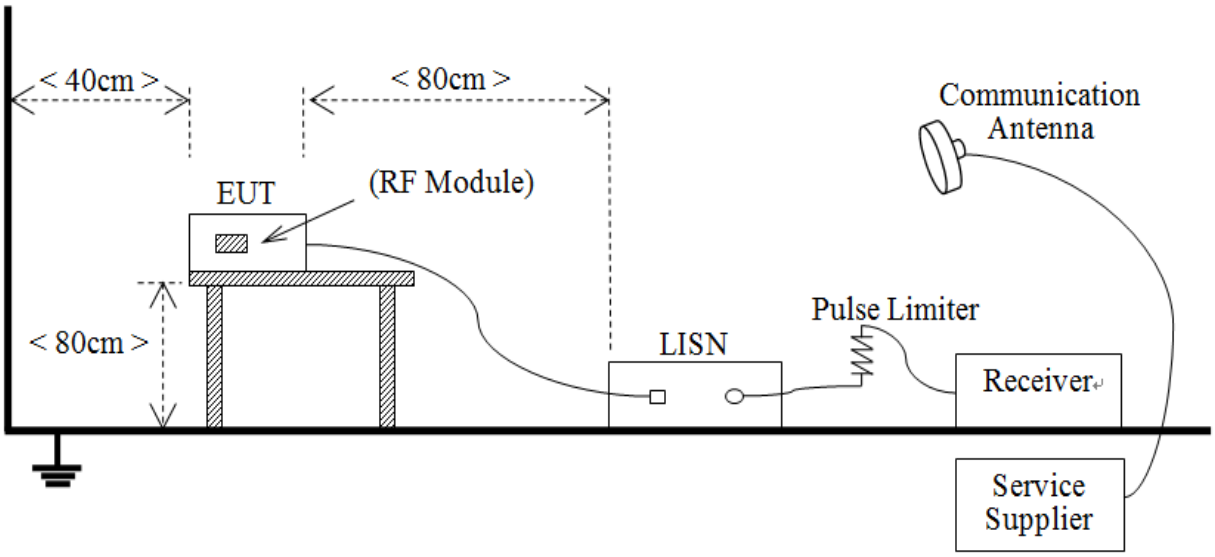
4.6 Description of Test Setup

4.6.1 For Antenna Port Test



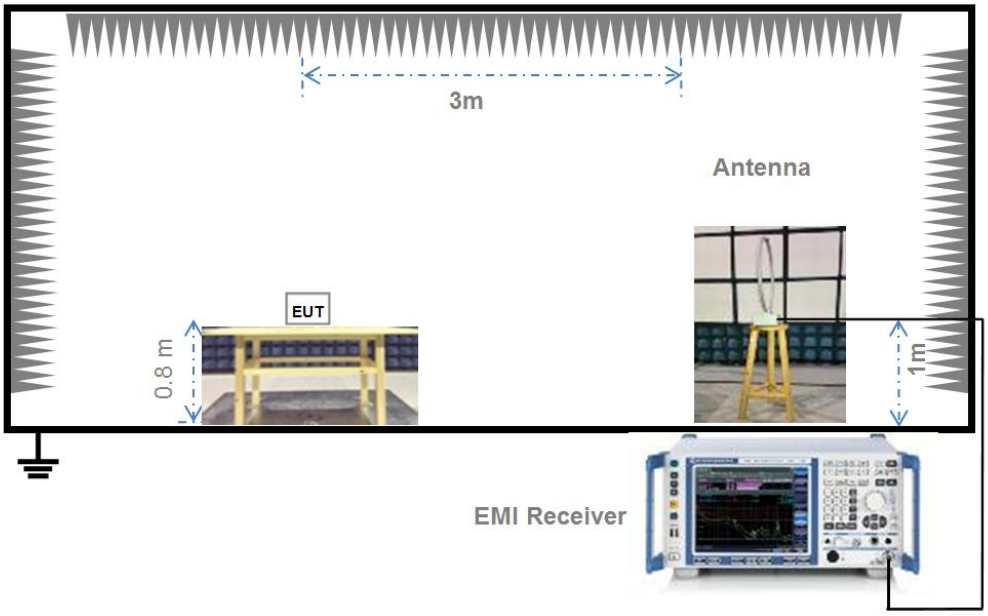
(Diagram 1)

4.6.2 For AC Power Supply Port Test



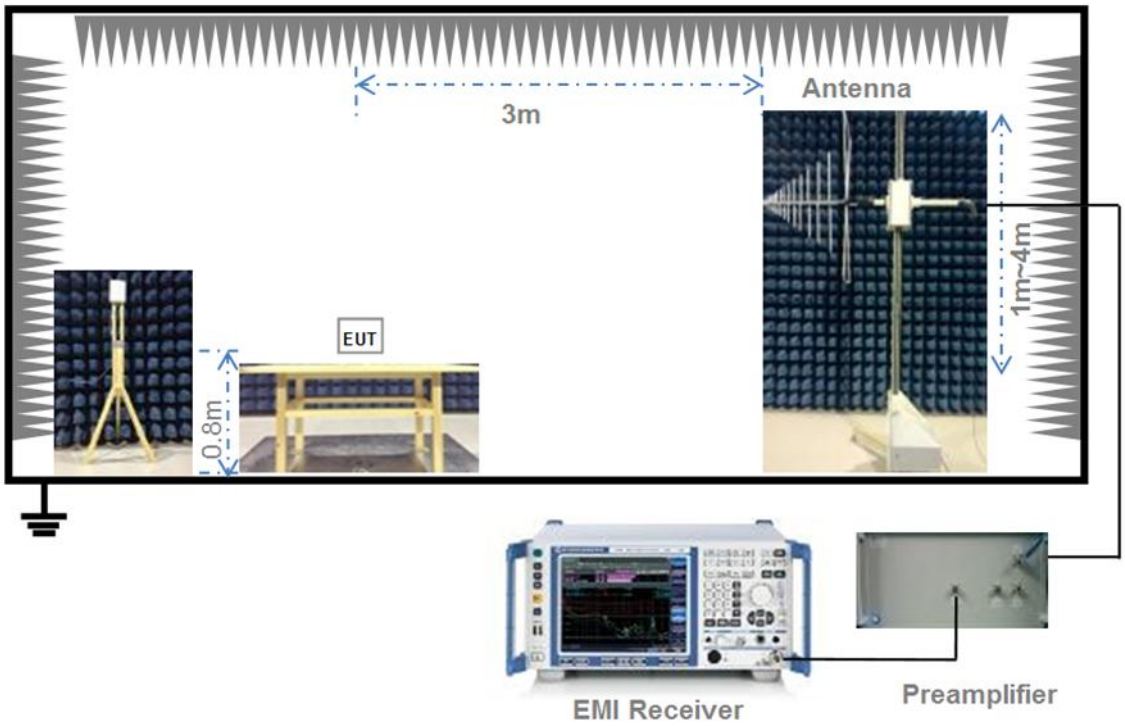
(Diagram 2)

4.6.3 For Radiated Test (Below 30 MHz)



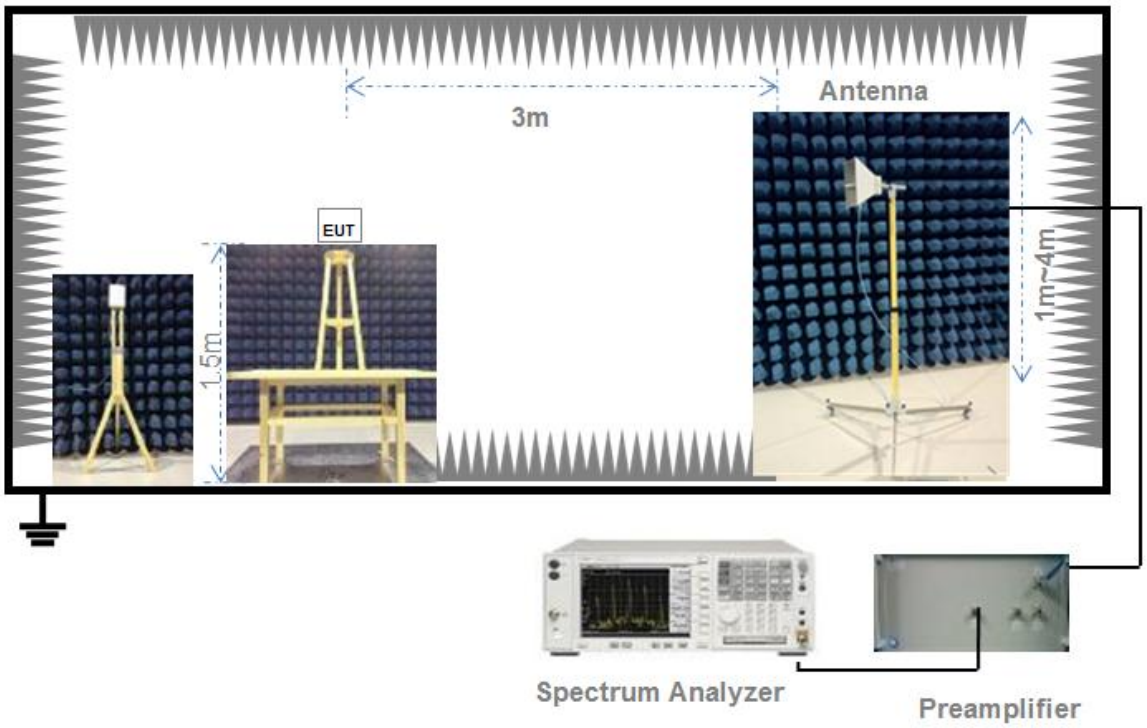
(Diagram 3)

4.6.4 For Radiated Test (30 MHz-1 GHz)



(Diagram 4)

4.6.5 For Radiated Test (Above 1 GHz)



(Diagram 5)

5 TEST ITEMS

5.1 RF Output Power

5.1.1 Test Limit

FCC §15.407(a)

The maximum conducted output power should not exceed:

Frequency Band (MHz)	Limit
5925-7125	30 dBm (e.i.r.p.)
Note: Where “B” is the 26 dB emissions bandwidth in MHz.	

5.1.2 Test Setup

The section 4.6.1 (Diagram 1) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.1.3 Test Procedure

Maximum conducted (average) output power

a) Measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the conditions listed below are satisfied.

1) The EUT is configured to transmit continuously or to transmit with a constant duty cycle.
2) At all times when the EUT is transmitting, it shall be transmitting at its maximum power control level.
3) The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five.

b) If the transmitter does not transmit continuously, measure the duty cycle (x) of the transmitter output signal.
c) Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
d) Adjust the measurement in dBm by adding 10 log (1/x) where x is the duty cycle.

Measurements of duty cycle

The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the on and off times of the transmitted signal.
Set the center frequency of the instrument to the center frequency of the transmission.
Set RBW ≥ OBW if possible; otherwise, set RBW to the largest available value.
Set VBW ≥ RBW. Set detector = peak or average.

The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring duty cycle shall not be used if T ≤ 16.7 microseconds.)
The E.I.R.P used radiated test method. At a test site that has been validated using the procedures of ANSI C63.4 or the latest CISPR 16-1-4 for measurements above 1 GHz, so as to simulate a near free-space

environment.

5.1.4 Test Result

Please refer to ANNEX A.1.

5.2 Emission Bandwidth and 99% Occupied Bandwidth

5.2.1 Limit

FCC §15.407(a)

The maximum transmitter channel bandwidth for U-NII devices in the 5.925-7.125 GHz band is 320 megahertz.

5.2.2 Test Setup

The test setup photo please refer to 4.6.1 (Diagram 1) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.2.3 Test Procedure

Emission bandwidth

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

Occupied Bandwidth

1. Set Span = 1.5 times to 5.0 times the OBW
2. Set RBW = 1% to 5% of the OBW.
3. Set VBW ≥ 3*RBW, Detector = Peak.
4. Trace mode = Max hold.
5. Use the 99% power bandwidth function of the instrument.

6 dB bandwidth

1. Set RBW = 100 kHz, VBW = 300 kHz.
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.

5.2.4 Test Result

Please refer to ANNEX A.2 and ANNEX A.3.

5.3 Power Spectral density (PSD)

5.3.1 Limit

FCC §15.407(a)

The maximum power spectral density should not exceed:

Frequency Band (MHz)	Limit
5925-7125	5 dBm/MHz (e.i.r.p.)

5.3.2 Test Setup

The section 4.6.1 (Diagram 1) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.3.3 Test Procedure

Set the spectrum analyzer or EMI receiver span to view the entire emission bandwidth.
1. Set RBW = 1 MHz,
2. VBW ≥ 3*RBW,
3. Sweep time = Auto,
4. Detector = RMS.
5. Allow the sweeps to continue until the trace stabilizes.
6. Use the peak marker function to determine the maximum amplitude level.
7. The E.I.R.P spectral density used radiated test method. At a test site that has been validated using the procedures of ANSI C63.4 or the latest CISPR 16-1-4 for measurements above 1 GHz, so as to simulate a near free-space environment.

5.3.4 Test Result

Please refer to ANNEX A.4.

5.4 Conducted Emission

5.4.1 Limit

FCC §15.207

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the U-NII-150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50μH/50Ω line impedance stabilization network (LISN).

Frequency range (MHz)	Conducted Limit (dBμV)	
	Quai-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
0.50 - 30	60	50

5.4.2 Test Setup

The section 4.6.2 (Diagram 2) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.4.3 Test Procedure

The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. Refer to recorded points and plots below.

5.4.4 Test Result

Please refer to ANNEX A.5.

5.5 Radiated Spurious Emissions and Band Edge (Restricted-band)

5.5.1 Limit

FCC §15.209 & 15.407(b)

Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

Note [1]: The Limit for radiated test was performed according to FCC Part 15C
Note [2]: The tighter limit applies at the band edge.

Un-restricted band emissions	
Out Operating Band (MHz）	Limit
5925 - 7125	e.i.r.p. -27 dBm (68.2 dBuV/m@3m)

Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength.

5.5.2 Test Setup

The section 4.6.3-4.6.5 (Diagram 3 - Diagram 5) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.5.3 Test Procedure

Since the emission limits are specified in terms of radiated field strength levels, measurements performed to demonstrate compliance have traditionally relied on a radiated test configuration. Radiated measurements remain the principal method for demonstrating compliance to the specified limits; however antenna-port conducted measurements are also now acceptable to demonstrate compliance (see below for details). When radiated measurements are utilized, test site requirements and procedures for maximizing and measuring radiated emissions that are described in ANSI C63.10 shall be followed.

Antenna-port conducted measurements may also be used as an alternative to radiated measurements for demonstrating compliance in the restricted frequency bands. If conducted measurements are performed, then proper impedance matching must be ensured and an additional radiated test for cabinet/case spurious emissions is required.

General Procedure for conducted measurements in restricted bands

a) Measure the conducted output power (in dBm) using the detector specified (see guidance regarding measurement procedures for determining quasi-peak, peak, and average conducted output power, respectively).

b) Add the maximum transmit antenna gain (in dBi) to the measured output power level to determine the EIRP level (see guidance on determining the applicable antenna gain)

c) Add the appropriate maximum ground reflection factor to the EIRP level (6 dB for frequencies ≤ 30 MHz, 4.7 dB for frequencies between 30 MHz and 1000 MHz, inclusive and 0 dB for frequencies > 1000 MHz).
d) For devices with multiple antenna-ports, measure the power of each individual chain and sum the EIRP of all chains in linear terms (e.g., Watts, mW).
e) Convert the resultant EIRP level to an equivalent electric field strength using the following relationship:
E = EIRP – 20log D + 104.8
where:
E = electric field strength in dBμV/m,
EIRP = equivalent isotropic radiated power in dBm
D = specified measurement distance in meters.
f) Compare the resultant electric field strength level to the applicable limit.
g) Perform radiated spurious emission test.

Quasi-Peak measurement procedure

The specifications for measurements using the CISPR quasi-peak detector can be found in Publication 16 of the International Special Committee on Radio Frequency Interference (CISPR) of the International Electrotechnical Commission.

As an alternative to CISPR quasi-peak measurement, compliance can be demonstrated to the applicable emission limits using a peak detector.

Peak power measurement procedure

Peak emission levels are measured by setting the instrument as follows:

a) RBW = as specified in Table 1.
b) VBW ≥ 3 x RBW.
c) Detector = Peak.
d) Sweep time = auto.
e) Trace mode = max hold.
f) Allow sweeps to continue until the trace stabilizes. (Note that the required measurement time may be longer for low duty cycle applications).

Table 1—RBW as a function of frequency

Frequency	RBW
9-150 kHz	200-300 Hz
0.15-30 MHz	9-10 kHz
30-1000 MHz	100-120 kHz
> 1000 MHz	1 MHz

If the peak-detected amplitude can be shown to comply with the average limit, then it is not necessary to perform a separate average measurement.

Trace averaging across on and off times of the EUT transmissions followed by duty cycle correction

If continuous transmission of the EUT (i.e., duty cycle ≥ 98 percent) cannot be achieved and the duty cycle is constant (i.e., duty cycle variations are less than ± 2 percent), then the following procedure shall be used:
a) The EUT shall be configured to operate at the maximum achievable duty cycle.
b) Measure the duty cycle, x, of the transmitter output signal as described in section 6.0.
c) RBW = 1 MHz (unless otherwise specified).
d) VBW ≥ 3 x RBW.
e) Detector = RMS, if span/(# of points in sweep) ≤ (RBW/2). Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If this condition cannot be satisfied, then the detector mode shall be set to peak.
f) Averaging type = power (i.e., RMS).
1) As an alternative, the detector and averaging type may be set for linear voltage averaging.
2) Some instruments require linear display mode in order to use linear voltage averaging. Log or dB averaging shall not be used.
g) Sweep time = auto.
h) Perform a trace average of at least 100 traces.
i) A correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 percent duty cycle. The correction factor is computed as follows:
1) If power averaging (RMS) mode was used in step f), then the applicable correction factor is 10 log(1/x), where x is the duty cycle.
2) If linear voltage averaging mode was used in step f), then the applicable correction factor is 20 log(1/x), where x is the duty cycle.
3) If a specific emission is demonstrated to be continuous (≥ 98 percent duty cycle) rather than turning on and off with the transmit cycle, then no duty cycle correction is required for that emission.
NOTE: Reduction of the measured emission amplitude levels to account for operational duty factor is not permitted. Compliance is based on emission levels occurring during transmission - not on an average across on and off times of the transmitter.

Determining the applicable transmit antenna gain

A conducted power measurement will determine the maximum output power associated with a restricted band emission; however, in order to determine the associated EIRP level, the gain of the transmitting antenna (in dBi) must be added to the measured output power (in dBm).

Since the out-of-band characteristics of the EUT transmit antenna will often be unknown, the use of a conservative antenna gain value is necessary. Thus, when determining the EIRP based on the measured conducted power, the upper bound on antenna gain for a device with a single RF output shall be selected as the maximum in-band gain of the antenna across all operating bands, or 2 dBi, whichever is greater. However, for devices that operate in multiple frequency bands while using the same transmit antenna, the highest gain of the antenna within the operating band nearest in frequency to the restricted band emission being measured may be used in lieu of the overall highest gain when the emission is at a frequency that is within 20 percent of the nearest band edge frequency, but in no case shall a value less than 2 dBi be used.

See KDB 662911 for guidance on calculating the additional array gain term when determining the effective antenna gain for a EUT with multiple outputs occupying the same or overlapping frequency ranges in the same band.

Radiated spurious emission test

An additional consideration when performing conducted measurements of restricted band emissions is that unwanted emissions radiating from the EUT cabinet, control circuits, power leads, or intermediate circuit elements will likely go undetected in a conducted measurement configuration. To address this concern, a radiated test shall be performed to ensure that emissions emanating from the EUT cabinet (rather than the antenna port) also comply with the applicable limits.
For these cabinet radiated spurious emission measurements the EUT transmit antenna may be replaced with a termination matching the nominal impedance of the antenna. Procedures for performing radiated measurements are specified in ANSI C63.10. All detected emissions shall comply with the applicable limits.
The measurement frequency range is from 30 MHz to the 10th harmonic of the fundamental frequency.
The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.
The power of the EUT transmitting frequency should be ignored.
All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.
Use the following spectrum analyzer settings:
Span = wide enough to fully capture the emission being measured
RBW = 1 MHz for f ≥ 1 GHz, 100 kHz for f < 1 GHz
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold

5.5.4 Test Result

Please refer to ANNEX A.6.

5.6 Contention Based Protocol

5.6.1 Limit

FCC §15.15.407(d)

Indoor access points, subordinate devices and client devices operating in the 5.925-7.125 GHz band (herein referred to as unlicensed devices) are required to use technologies that include a contention-based protocol to avoid co-channel interference with incumbent devices sharing the band. To ensure incumbent co-channel operations are detected in a technology-agnostic manner, unlicensed devices are required to detect co-channel radio frequency energy (energy detect) and avoid simultaneous transmission.

Unlicensed low-power indoor devices must detect co-channel radio frequency power that is at least -62 dBm or lower. Upon detection of energy in the band, unlicensed low power indoor devices must vacate the channel and stay off the channel as long as detected radio frequency power is equal to or greater than the threshold (-62 dBm). The -62 dBm (or lower) threshold is referenced to a 0 dBi antenna gain.

5.6.2 Test Setup

The section 4.6.1 (Diagram 1) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.6.3 Test Procedure

The AWGN interference signal level is corrected according to the antenna gain, and the AWGN interference signal is modulated by the vector signal source. When AWGN interference exists, a spectrum analyzer is used to detect whether the EUT recognizes and stops transmission.

5.6.4 Test Result

Please refer to ANNEX A.7.

5.7 In-Band Emissions

5.7.1 Limit

FCC §15.15.407(b)

Using the measuring equipment limit line function, develop the emissions mask based on the following requirements. The emissions power spectral density must be reduced below the peak power spectral density (in dB) as follows:

a. Suppressed by 20 dB at 1 MHz outside of the channel edge. (The channel edge is defined as the 26-dB point on either side of the carrier center frequency.)
b. Suppressed by 28 dB at one channel bandwidth from the channel center.
c. Suppressed by 40 dB at one- and one-half times the channel bandwidth from the channel center.

5.7.2 Test Setup

The section 4.6.1 (Diagram 1) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.7.3 Test Procedure

1. Connect output of the antenna port to a spectrum analyzer or EMI receiver, with appropriate attenuation, as to not damage the instrumentation.
2. Set the reference level of the measuring equipment in accordance with procedure 4.1.5.2 of ANSI C63.10-2013.
3. Measure the 26 dB EBW using the test procedure 12.4.1 of ANSI C63.10-2013. (This will be used to determine the channel edge.)
4. Measure the power spectral density (which will be used for emissions mask reference) using the following procedure:
a) Set the span to encompass the entire 26 dB EBW of the signal.
b) Set RBW = same RBW used for 26 dB EBW measurement.
c) Set VBW ≥ 3 X RBW
d) Number of points in sweep ≥ [2 X span / RBW].
e) Sweep time = auto.
f) Detector = RMS (i.e., power averaging)
g) Trace average at least 100 traces in power averaging (rms) mode.
h) Use the peak search function on the instrument to find the peak of the spectrum.
5. For the purposes of developing the emission mask, the channel bandwidth is defined as the 26 dB EBW.
6. Using the measuring equipment limit line function, develop the emissions mask based on the following requirements. The emissions power spectral density must be reduced below the peak power spectral density (in dB) as follows:
a. Suppressed by 20 dB at 1 MHz outside of the channel edge. (The channel edge is defined as the 26-dB point on either side of the carrier center frequency.)
b. Suppressed by 28 dB at one channel bandwidth from the channel center.
c. Suppressed by 40 dB at one- and one-half times the channel bandwidth from the channel center.
7. Adjust the span to encompass the entire mask as necessary.
8. Clear trace.

9. Trace average at least 100 traces in power averaging (rms) mode.
10. Adjust the reference level as necessary so that the crest of the channel touches the top of the emission mask

5.7.4 Test Result

Please refer to ANNEX A.8.

ANNEX A TEST RESULT

A.1 RF Output Power

Duty Cycle

Note: The Duty Cycle, please refer to the Report No. BTL-FCCP-4-2311H013 which issued by BTL Inc. on Jun. 24, 2024. Section 1.4.

Note: This report verifies only the worst mode.

Test Data

Conducted Power

Main Antenna:

U-NII-5 (5925 - 6425MHz)					
Mode	Channel	EIRP (dBm)	EIRP (mW)	EIRP Limit (dBm)	Verdict
11be (EHT40)	CH3	14.61	28.91	30	Pass
11be (EHT40)	CH43	14.36	27.29	30	Pass
11be (EHT40)	CH91	14.17	26.12	30	Pass

U-NII-8 (6875 - 7125MHz)					
Mode	Channel	EIRP (dBm)	EIRP (mW)	EIRP Limit (dBm)	Verdict
11ax (HE20) (SU)	CH185	10.51	11.25	30	Pass
11ax (HE20) (SU)	CH213	10.62	11.53	30	Pass
11ax (HE20) (SU)	CH229	10.44	11.07	30	Pass
11ax (HE20) (SU)	CH233	-8.53	0.14	30	Pass

Aux. Antenna:

U-NII-5 (5925 - 6425MHz)					
Mode	Channel	EIRP (dBm)	EIRP (mW)	EIRP Limit (dBm)	Verdict
11be (EHT40)	CH3	13.42	21.98	30	Pass
11be (EHT40)	CH43	13.50	22.39	30	Pass
11be (EHT40)	CH91	13.01	20.00	30	Pass

U-NII-8 (6875 - 7125MHz)					
Mode	Channel	EIRP (dBm)	EIRP (mW)	EIRP Limit (dBm)	Verdict
11ax (HE20) (SU)	CH185	9.52	8.95	30	Pass
11ax (HE20) (SU)	CH213	9.63	9.18	30	Pass
11ax (HE20) (SU)	CH229	9.60	9.12	30	Pass
11ax (HE20) (SU)	CH233	-10.56	0.09	30	Pass

MIMO:

U-NII-5 (5925 - 6425MHz)					
Mode	Channel	EIRP (dBm)	EIRP (mW)	EIRP Limit (dBm)	Verdict
11be (EHT40)	CH3	17.07	50.89	30	Pass
11be (EHT40)	CH43	16.96	49.68	30	Pass
11be (EHT40)	CH91	16.64	46.12	30	Pass

U-NII-8 (6875 - 7125MHz)					
Mode	Channel	EIRP (dBm)	EIRP (mW)	EIRP Limit (dBm)	Verdict
11ax (HE20) (SU)	CH185	13.05	20.20	30	Pass
11ax (HE20) (SU)	CH213	13.16	20.72	30	Pass
11ax (HE20) (SU)	CH229	13.05	20.19	30	Pass
11ax (HE20) (SU)	CH233	-6.42	0.23	30	Pass

A.2 Emission Bandwidth & 99% Occupied Bandwidth

Note: The Emission Bandwidth & 99% Occupied Bandwidth, please refer to the Report No. BTL-FCCP-4-2311H013 which issued by BTL Inc. on Jun. 24, 2024. APPENDIX B.

A.3 Power Spectral Density (PSD)

Note: The Power Spectral Density (PSD), please refer to the Report No. BTL-FCCP-4-2311H013 which issued by BTL Inc. on Jun. 24, 2024. APPENDIX C.

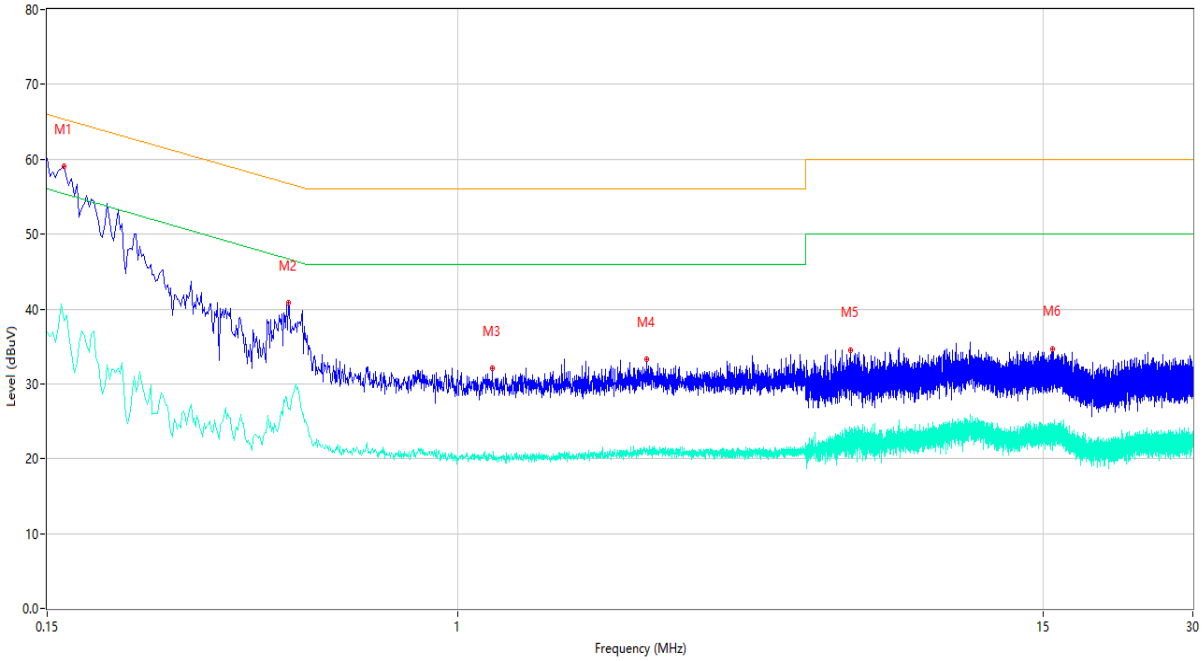
A.4 Conducted Emission

Note 1: The EUT is working in the Normal link mode. All modes have been tested and normal link mode is worst.

Note 2: Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 60 Hz and 240 VAC, 50 Hz) for which the device is capable of operation. So, The configuration 120 VAC, 60 Hz and 240 VAC, 50 Hz were tested respectively, but only the worst configuration (120 VAC, 60 Hz) shown here.

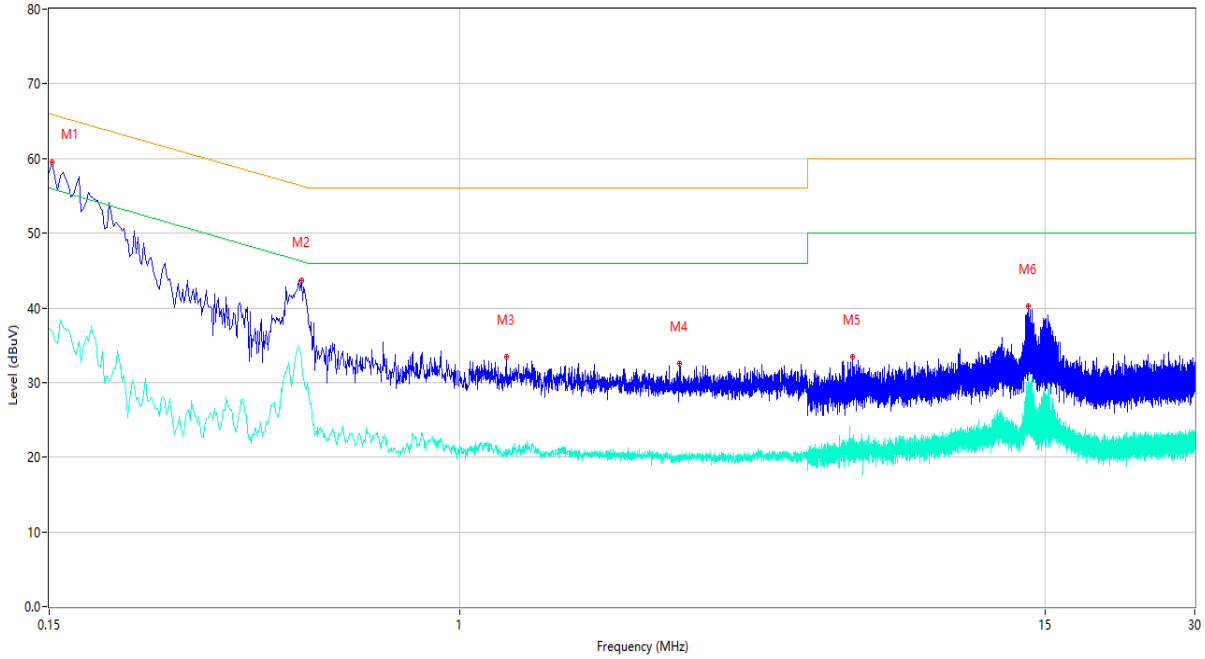
Test Data and Plots

PHASE L



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.162	59.09	10.07	65.36	6.27	Peak	L	Pass
1**	0.162	38.35	10.07	55.36	17.01	AV	L	Pass
2	0.458	40.82	10.14	56.73	15.91	Peak	L	Pass
2**	0.458	26.70	10.14	46.73	20.03	AV	L	Pass
3	1.174	32.04	10.22	56.00	23.96	Peak	L	Pass
3**	1.174	20.21	10.22	46.00	25.79	AV	L	Pass
4	2.400	33.30	10.37	56.00	22.70	Peak	L	Pass
4**	2.400	21.12	10.37	46.00	24.88	AV	L	Pass
5	6.148	34.56	10.60	60.00	25.44	Peak	L	Pass
5**	6.148	22.69	10.60	50.00	27.31	AV	L	Pass
6	15.692	34.72	11.18	60.00	25.28	Peak	L	Pass
6**	15.692	24.74	11.18	50.00	25.26	AV	L	Pass

PHASE N



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.152	59.49	10.15	65.89	6.40	Peak	N	Pass
1**	0.152	36.94	10.15	55.89	18.95	AV	N	Pass
2	0.482	43.75	10.17	56.30	12.55	Peak	N	Pass
2**	0.482	33.08	10.17	46.30	13.22	AV	N	Pass
3	1.244	33.42	10.25	56.00	22.58	Peak	N	Pass
3**	1.244	20.45	10.25	46.00	25.55	AV	N	Pass
4	2.762	32.55	10.29	56.00	23.45	Peak	N	Pass
4**	2.762	20.06	10.29	46.00	25.94	AV	N	Pass
5	6.174	33.49	10.54	60.00	26.51	Peak	N	Pass
5**	6.174	22.49	10.54	50.00	27.51	AV	N	Pass
6	13.908	40.19	11.09	60.00	19.81	Peak	N	Pass
6**	13.908	27.63	11.09	50.00	22.37	AV	N	Pass

A.5 Radiated Spurious Emissions and Band Edge (Restricted-band)

A.5.1 Radiated Spurious Emissions

Test Data

Note 1: The symbol of “--” in the table which means not application.

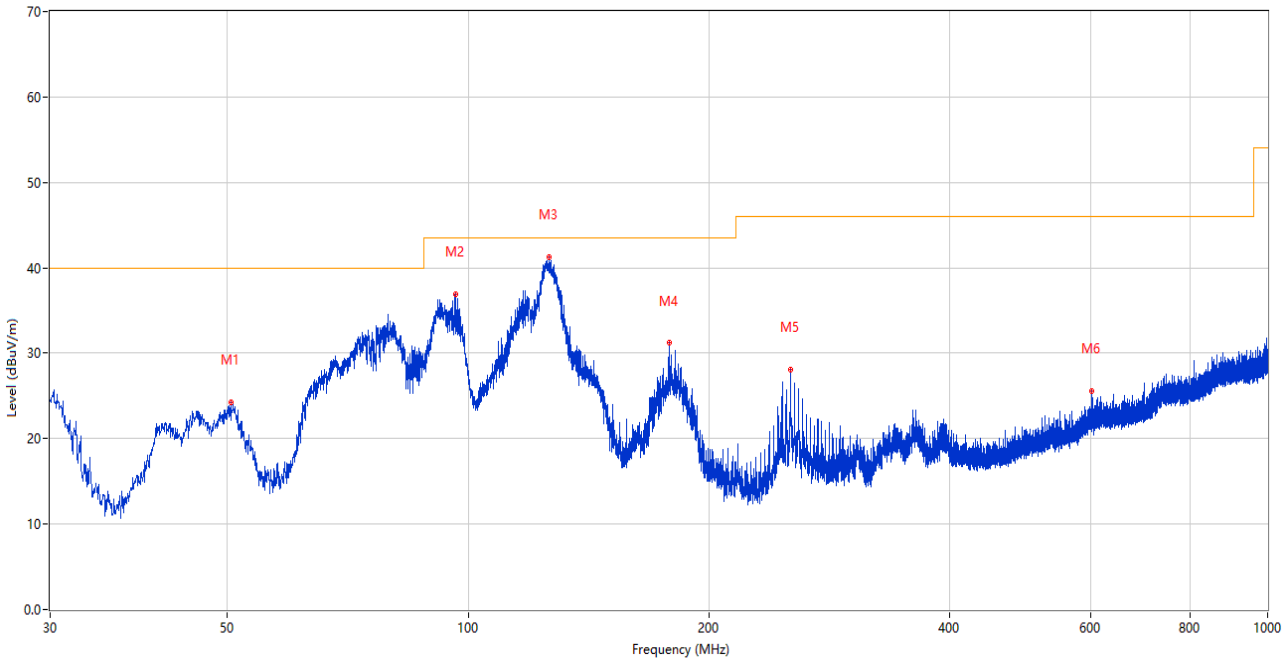
Note 2: For the test data above 1 GHz，According the ANSI C63.4, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

Note 3: The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

Note 4: The EUT is working in the Normal link mode below 1 GHz. All modes have been tested and normal link mode is worst.

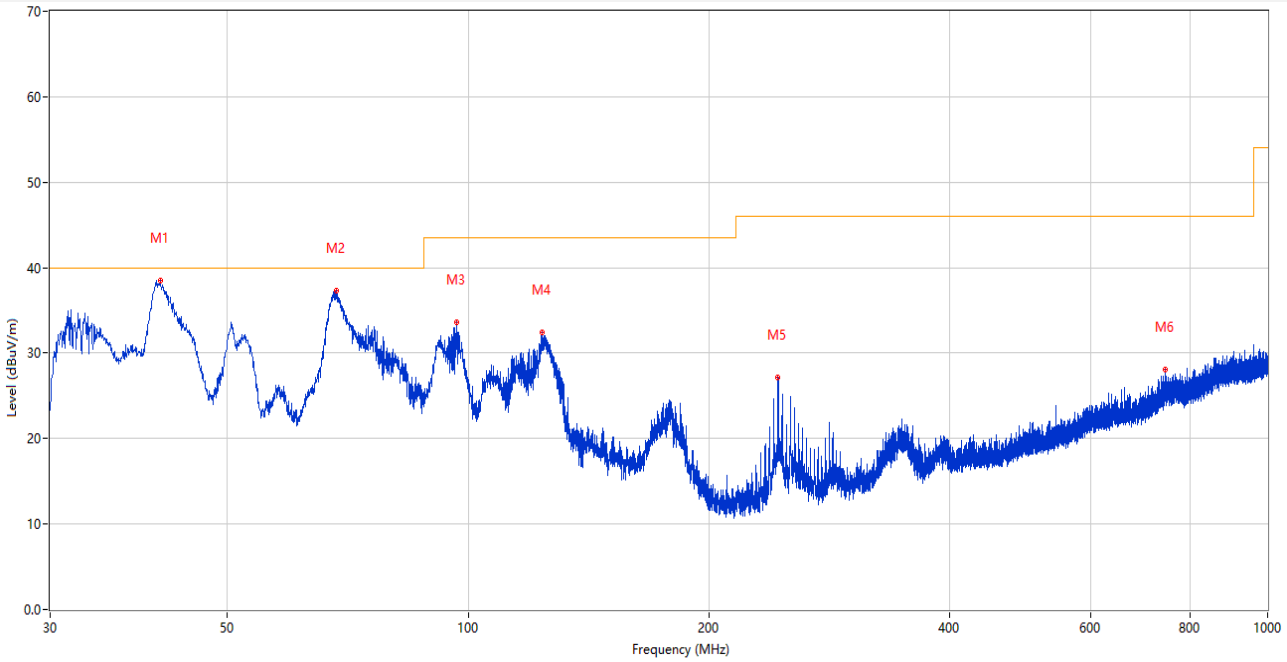
Note 5: For Multiple transmitter output, the quantity *10 log (NANT)* dB is added to each spectrum value before comparing to the emission limit. When testing out-of-band and spurious emissions against relative emission limits, tests may be performed on each output individually without summing or adding *10 log(NANT)* if the measurements are made relative to the in-band emissions on the individual outputs.

30 MHz to 1 GHz, ANT H



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	50.516	24.22	-24.55	40.0	15.78	Peak	360.00	200	Horizontal	Pass
2	96.590	36.91	-26.43	43.5	6.59	Peak	122.00	200	Horizontal	Pass
3	126.418	41.20	-28.86	43.5	2.30	Peak	331.00	100	Horizontal	Pass
4	178.507	31.26	-27.95	43.5	12.24	Peak	35.00	100	Horizontal	Pass
5	253.052	28.12	-24.00	46.0	17.88	Peak	206.00	200	Horizontal	Pass
6	603.318	25.57	-14.87	46.0	20.43	Peak	307.00	100	Horizontal	Pass

30 MHz to 1 GHz, ANT V

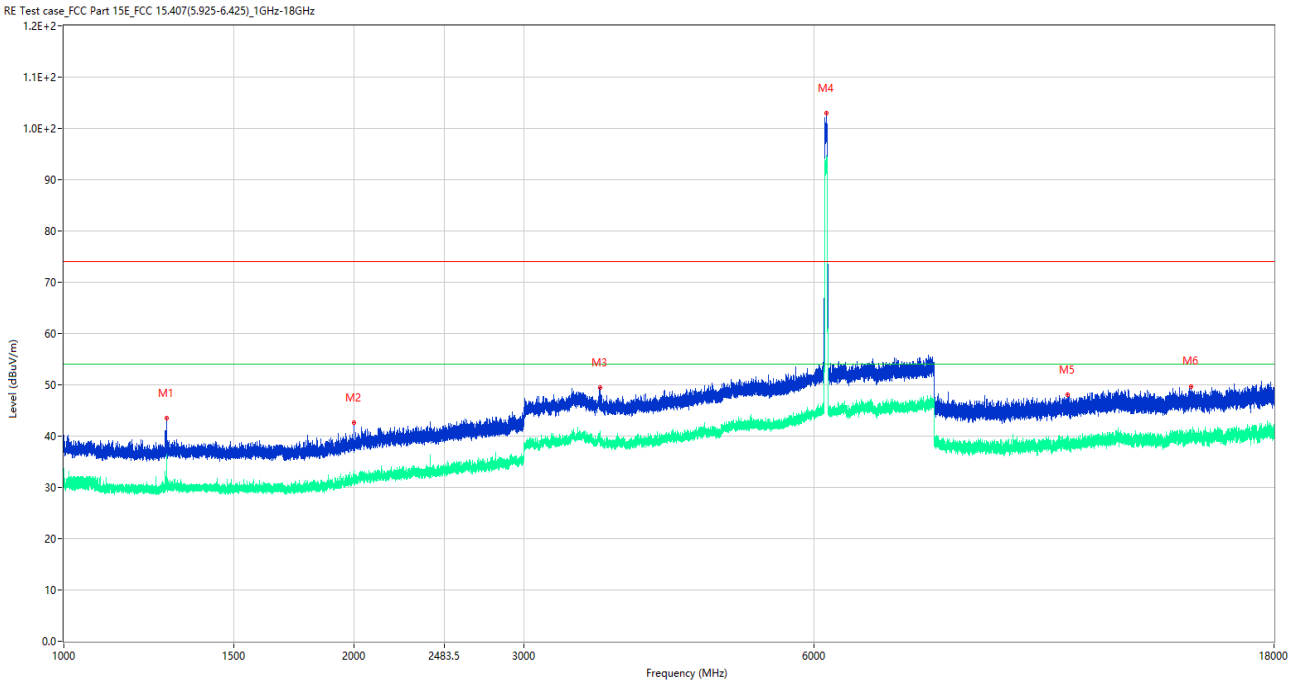


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	41.203	38.52	-25.54	40.0	1.48	Peak	111.00	100	Vertical	Pass
2	68.509	37.32	-28.50	40.0	2.68	Peak	236.00	200	Vertical	Pass
3	96.688	33.64	-26.41	43.5	9.86	Peak	266.00	100	Vertical	Pass
4	123.848	32.40	-28.64	43.5	11.10	Peak	88.00	200	Vertical	Pass
5	244.176	27.14	-24.27	46.0	18.86	Peak	277.00	100	Vertical	Pass
6	745.132	28.12	-11.97	46.0	17.88	Peak	360.00	200	Vertical	Pass

Note 1: The spurious above 18G is noise only, do not show on the report.

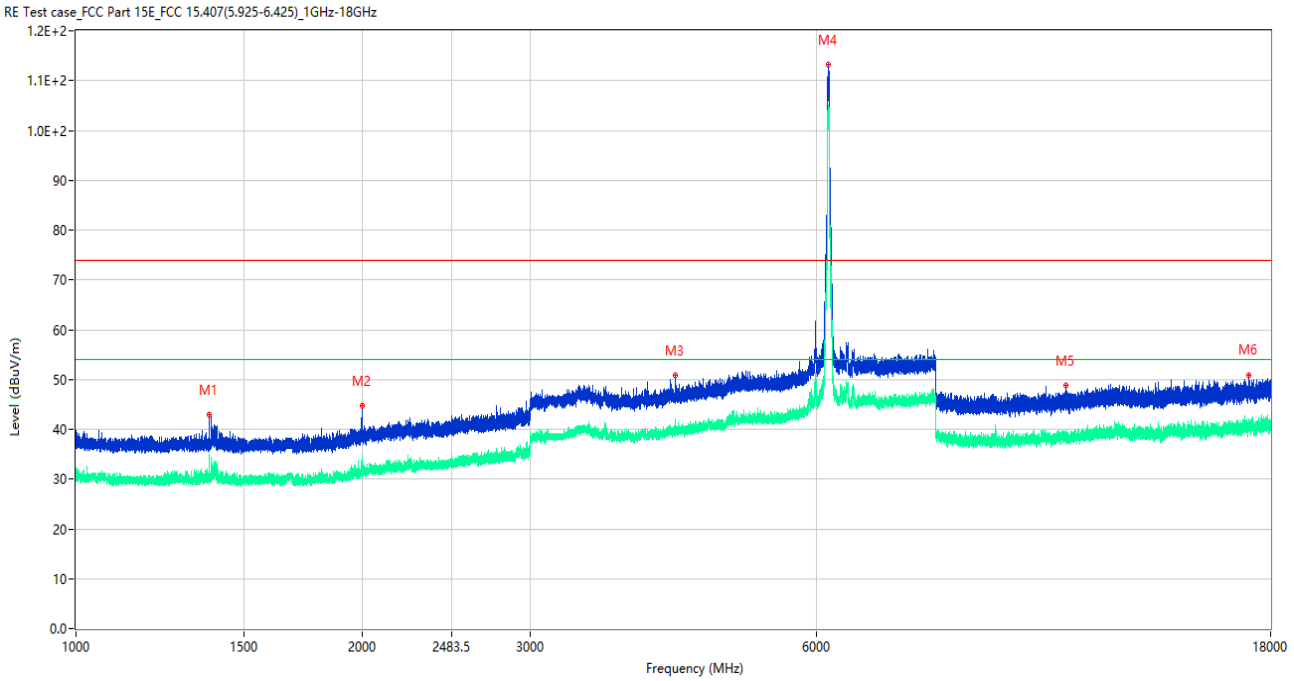
Note 2: This report verifies only the worst mode.

11be40, U-NII-5, 1 GHz to 18 GHz, Middle Channel, ANT H



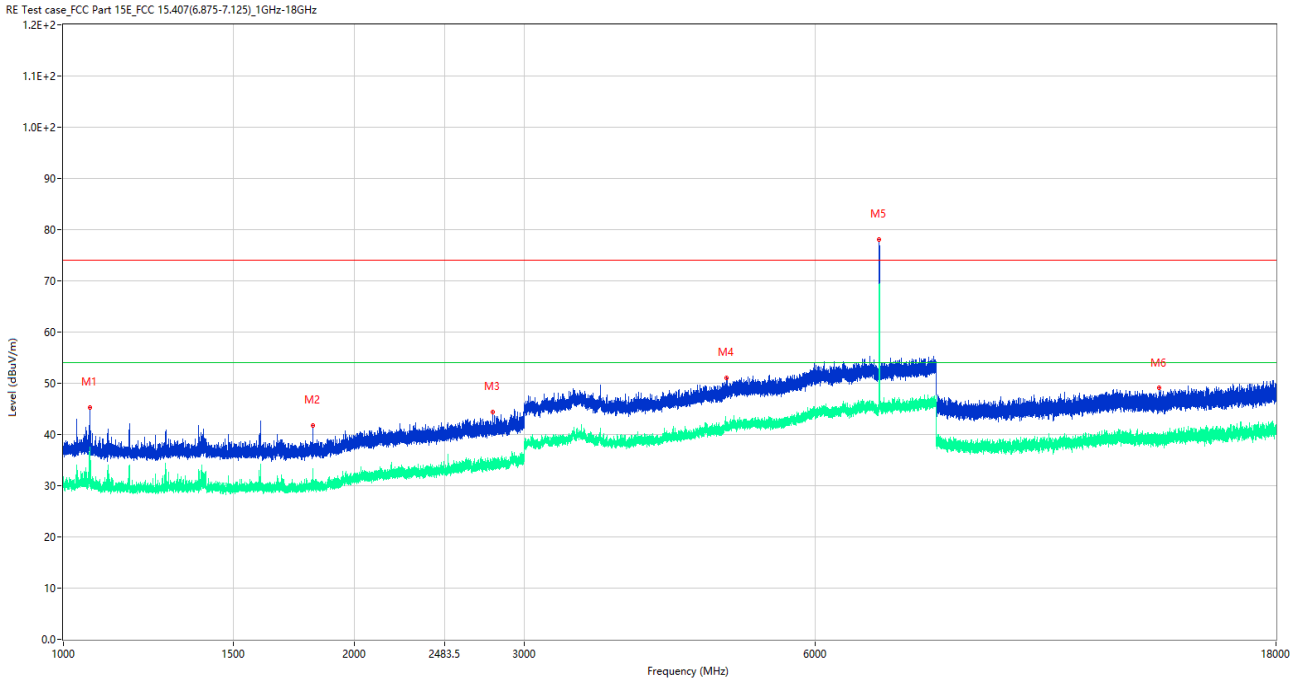
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1277.300	43.43	-15.86	74.0	30.57	Peak	135.00	150	Horizontal	Pass
1**	1277.300	33.85	-15.86	54.0	20.15	AV	135.00	150	Horizontal	Pass
2	1998.100	42.55	-14.38	74.0	31.45	Peak	217.00	150	Horizontal	Pass
2**	1998.100	32.26	-14.38	54.0	21.74	AV	217.00	150	Horizontal	Pass
3	3598.500	49.44	-5.07	74.0	24.56	Peak	230.00	150	Horizontal	Pass
3**	3598.500	39.88	-5.07	54.0	14.12	AV	230.00	150	Horizontal	Pass
4	6184.500	102.95	-0.70	74.0	-28.95	Peak	360.00	150	Horizontal	N/A
4**	6184.500	93.46	-0.70	54.0	-39.46	AV	360.00	150	Horizontal	N/A
5	10999.625	48.05	-2.69	74.0	25.95	Peak	360.00	150	Horizontal	Pass
5**	10999.625	39.07	-2.69	54.0	14.93	AV	360.00	150	Horizontal	Pass
6	14758.388	49.66	-1.69	74.0	24.34	Peak	278.00	150	Horizontal	Pass
6**	14758.388	39.32	-1.69	54.0	14.68	AV	278.00	150	Horizontal	Pass

11be40, U-NII-5, 1 GHz to 18 GHz, Middle Channel, ANT V



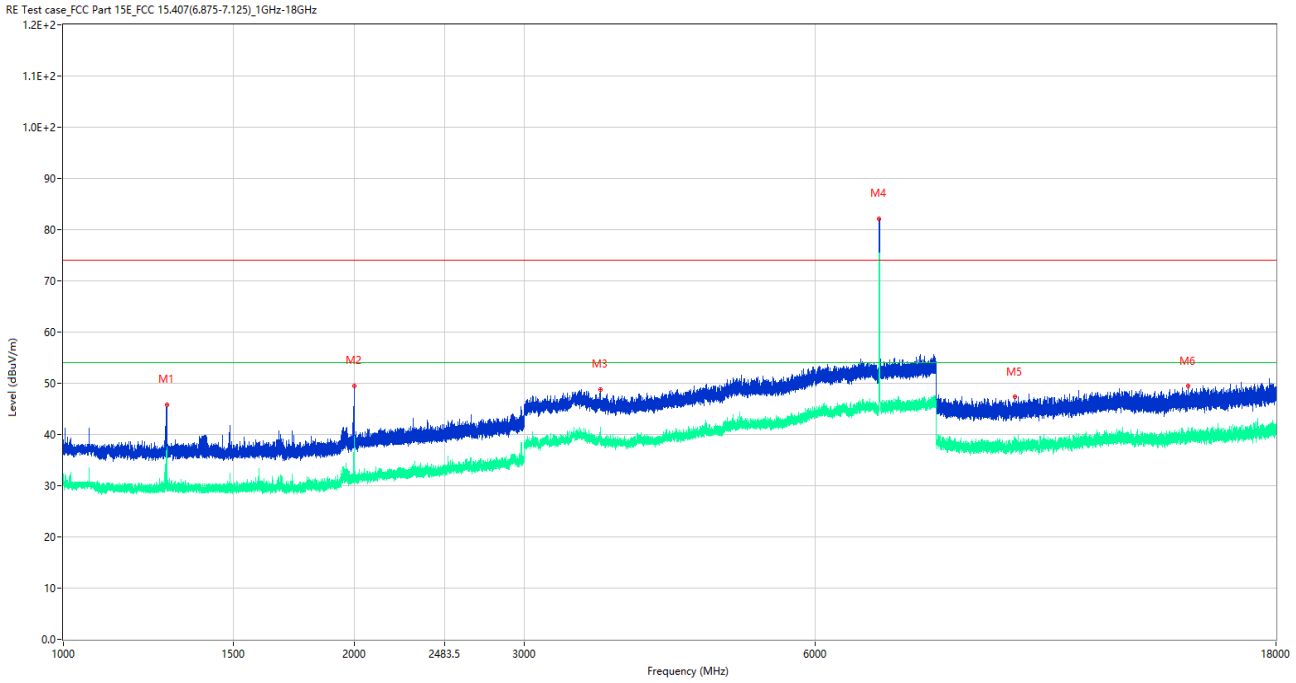
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1378.900	42.98	-16.00	74.0	31.02	Peak	41.00	150	Vertical	Pass
1**	1378.900	30.68	-16.00	54.0	23.32	AV	41.00	150	Vertical	Pass
2	1999.600	44.84	-14.31	74.0	29.16	Peak	160.00	150	Vertical	Pass
2**	1999.600	30.56	-14.31	54.0	23.44	AV	160.00	150	Vertical	Pass
3	4263.500	50.88	-3.85	74.0	23.12	Peak	194.00	150	Vertical	Pass
3**	4263.500	41.67	-3.85	54.0	12.33	AV	194.00	150	Vertical	Pass
4	6180.750	113.22	-0.68	74.0	-39.22	Peak	129.00	150	Vertical	N/A
4**	6180.750	102.23	-0.68	54.0	-48.23	AV	129.00	150	Vertical	N/A
5	10966.612	48.86	-3.34	74.0	25.14	Peak	148.00	150	Vertical	Pass
5**	10966.612	38.71	-3.34	54.0	15.29	AV	148.00	150	Vertical	Pass
6	17066.287	50.91	-0.89	74.0	23.09	Peak	360.00	150	Vertical	Pass
6**	17066.287	40.63	-0.89	54.0	13.37	AV	360.00	150	Vertical	Pass

11ax20, U-NII-8, 1 GHz to 18 GHz, Middle Channel, ANT H



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1064.500	45.28	-15.20	74.0	28.72	Peak	359.00	150	Horizontal	Pass
1**	1064.500	33.57	-15.20	54.0	20.43	AV	359.00	150	Horizontal	Pass
2	1812.200	41.67	-16.02	74.0	32.33	Peak	353.00	150	Horizontal	Pass
2**	1812.200	30.83	-16.02	54.0	23.17	AV	353.00	150	Horizontal	Pass
3	2784.100	44.43	-9.75	74.0	29.57	Peak	17.00	150	Horizontal	Pass
3**	2784.100	34.76	-9.75	54.0	19.24	AV	17.00	150	Horizontal	Pass
4	4857.500	51.11	-2.11	74.0	22.89	Peak	360.00	150	Horizontal	Pass
4**	4857.500	41.66	-2.11	54.0	12.34	AV	360.00	150	Horizontal	Pass
5	6988.000	78.12	0.26	74.0	-4.12	Peak	160.00	150	Horizontal	N/A
5**	6988.000	68.35	0.26	54.0	-14.35	AV	160.00	150	Horizontal	N/A
6	13610.738	49.09	-3.06	74.0	24.91	Peak	178.00	150	Horizontal	Pass
6**	13610.738	38.85	-3.06	54.0	15.15	AV	178.00	150	Horizontal	Pass

11ax20, U-NII-8, 1 GHz to 18 GHz, Middle Channel, ANT V



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1279.000	45.86	-15.88	74.0	28.14	Peak	90.00	150	Vertical	Pass
1**	1279.000	30.35	-15.88	54.0	23.65	AV	90.00	150	Vertical	Pass
2	1998.700	49.48	-14.35	74.0	24.52	Peak	123.00	150	Vertical	Pass
2**	1998.700	31.01	-14.35	54.0	22.99	AV	123.00	150	Vertical	Pass
3	3595.750	48.82	-5.25	74.0	25.18	Peak	111.00	150	Vertical	Pass
3**	3595.750	40.32	-5.25	54.0	13.68	AV	111.00	150	Vertical	Pass
4	6988.500	82.09	0.27	74.0	-8.09	Peak	127.00	150	Vertical	N/A
4**	6988.500	74.01	0.27	54.0	-20.01	AV	127.00	150	Vertical	N/A
5	9663.450	47.38	-3.29	74.0	26.62	Peak	76.00	150	Vertical	Pass
5**	9663.450	38.21	-3.29	54.0	15.79	AV	76.00	150	Vertical	Pass
6	14602.463	49.44	-2.60	74.0	24.56	Peak	143.00	150	Vertical	Pass
6**	14602.463	40.12	-2.60	54.0	13.88	AV	143.00	150	Vertical	Pass

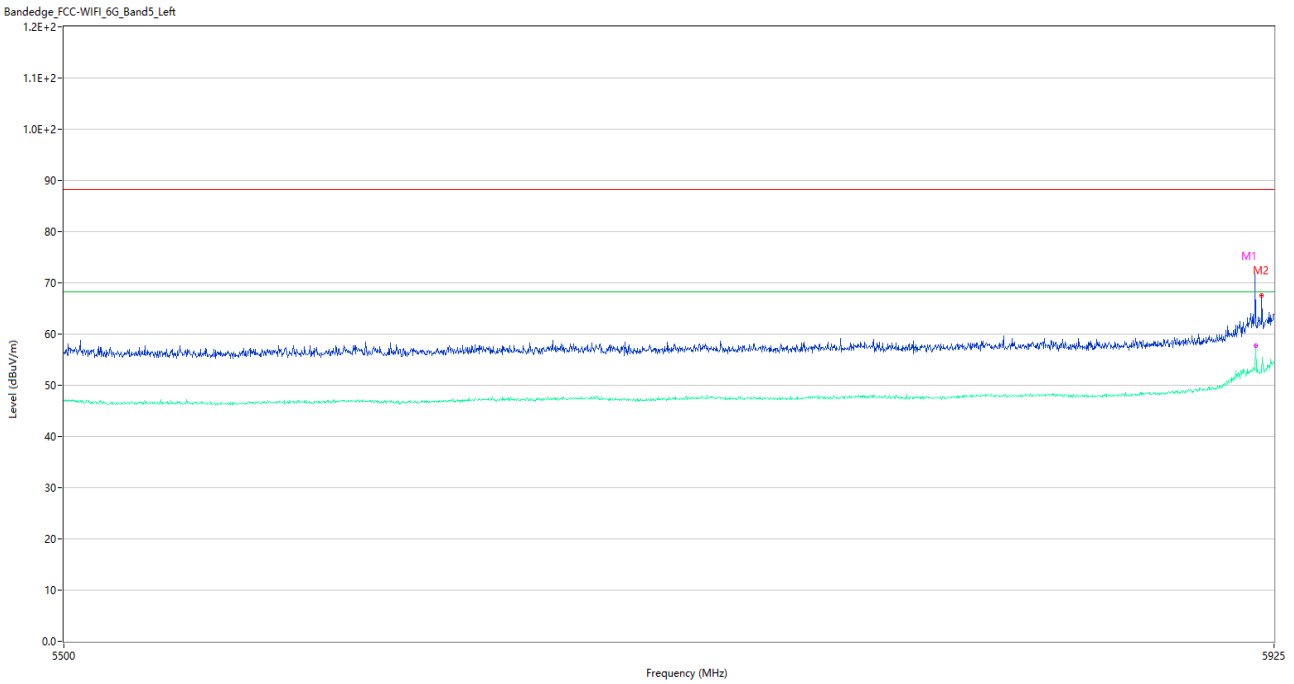
A.5.2 Band Edge (Restricted-band)

Test Band	Mode	Channel	Verdict
U-NII-5	802.11ax(HE20) (SU)	Low	Pass
	802.11ax(HE40) (SU)	Low	Pass
	802.11ax(HE80) (SU)	Low	Pass
	802.11ax(HE160) (SU)	Low	Pass
	802.11be(EHT20)	Low	Pass
	802.11be(EHT40)	Low	Pass
	802.11be(EHT80)	Low	Pass
	802.11be(EHT160)	Low	Pass
	802.11be(EHT320)	Middle	Pass
U-NII-8	802.11ax(HE20) (SU)	High	Pass
	802.11ax(HE40) (SU)	High	Pass
	802.11ax(HE80) (SU)	High	Pass
	802.11ax(HE160) (SU)	Middle	Pass
	802.11be(EHT20)	High	Pass
	802.11be(EHT40)	High	Pass
	802.11be(EHT80)	High	Pass
	802.11be(EHT160)	Middle	Pass
	802.11be(EHT320)	Middle	Pass

Test Plots

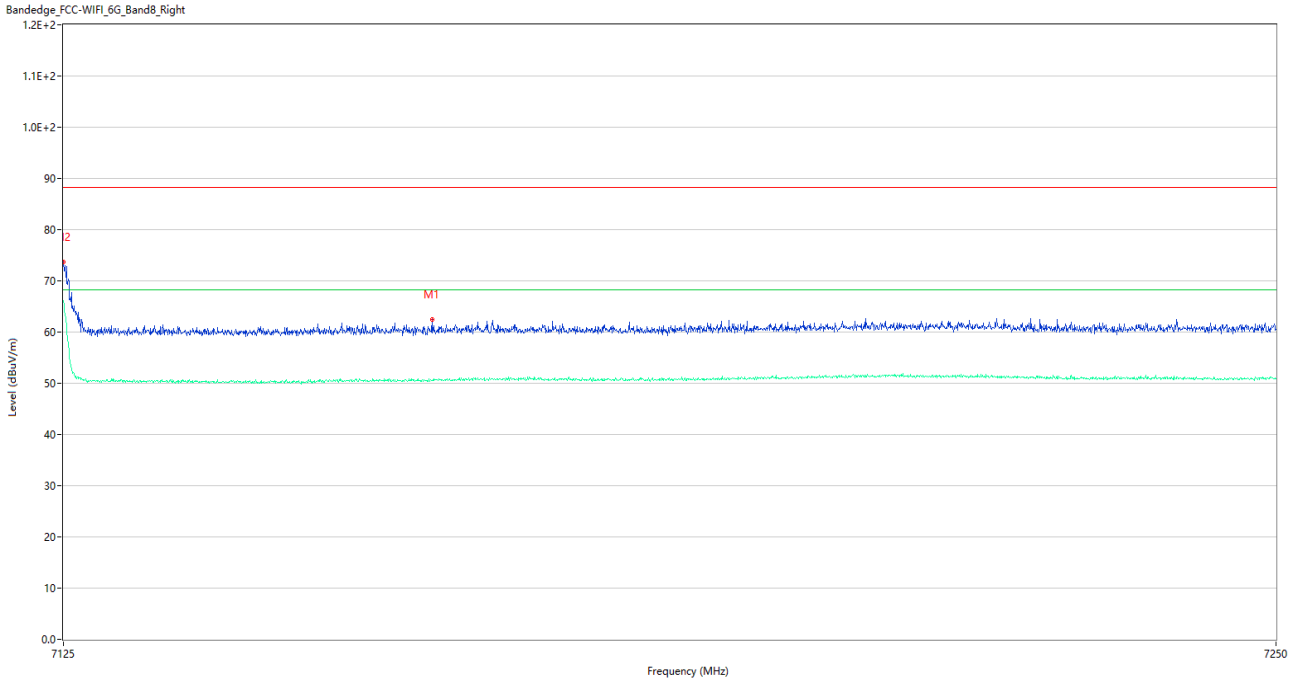
Note: This report verifies only the worst mode.

U-NII-5 11be40 Low Channel



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	5918.413	62.01	6.52	88.2	26.19	Peak	212.00	150	Vertical	Pass
1**	5918.413	57.73	6.52	68.2	10.47	AV	212.00	150	Vertical	Pass
2	5920.538	67.63	6.54	88.2	20.57	Peak	208.00	150	Vertical	Pass
2**	5920.538	52.76	6.54	68.2	15.44	AV	208.00	150	Vertical	Pass

U-NII-8 11ax20 High Channel



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	7162.750	62.42	7.06	88.2	25.78	Peak	303.00	150	Vertical	Pass
1**	7162.750	50.58	7.06	68.2	17.62	AV	303.00	150	Vertical	Pass
2	7125.000	73.62	6.92	88.2	14.58	Peak	121.00	150	Vertical	Pass
2**	7125.000	66.06	6.92	68.2	2.14	AV	121.00	150	Vertical	Pass

A.6 Contention Based Protocol

Note: The Contention Based Protocol, please refer to the Report No. BTL-FCCP-4-2311H013 which issued by BTL Inc. on Jun. 24, 2024. APPENDIX I.

A.7 In-Band Emissions

Note: The In-Band Emissions, please refer to the Report No. BTL-FCCP-4-2311H013 which issued by BTL Inc. on Jun. 24, 2024. APPENDIX G.

ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SZ2531209-AR-1.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ2531209-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SZ2531209-AI.PDF”.

Statement

1. The Testing Center guarantees the scientificity, accuracy and impartiality of the test, and is responsible for all the information in the report, except the information provided by the customer. The customer is responsible for the impact of the information provided on the validity of the results.

2. For the report with Accreditation Symbol, the items marked with "☆" are not within the accredited scope.

3. This report is invalid if it is altered, without the signature of the testing and approval personnel, or without the test report stamp.

4. The test data and results are only valid for the tested samples provided by the customer.

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6. Any objection shall be raised to the Testing Center within 30 days after receiving the report.

--END OF REPORT--