TEST REPORT

Product	:	Smart LCD Gimbal Projector
Trade mark	:	BladeCine
Model/Type reference	:	Cube 600, Cube 600 Pro, Cube 600 Max, Cube 600 Plus
Serial Number	:	N/A
Report Number	:	EED32Q81115004
FCC ID	:	2BKWN-CUBE600
Date of Issue	:	Sep. 24, 2024
Test Standards	:	47 CFR Part 15 Subpart E
Test result	:	PASS

Prepared for:

Valerion Technology USA Co., Ltd
1312 17th Street, Unit Num 2955, Denver, CO 80202, United States.

Prepared by:

Centre Testing International Group Co., Ltd.
Hongwei Industrial Zone, Bao'an 70 District,
Shenzhen, Guangdong, China
TEL: +86-755-3368 3668
FAX: +86-755-3368 3385

Compiled by:	Keven Tan	Reviewed by:	Frazer Li
Approved by:	Aaron Ma	Date:	Sep. 24, 2024

Check No.: 2703300724

2 Content

3 Version

Version No.	Date	Description
00	Sep. 24, 2024	Original

4 Test Summary

Test Item	Test Requirement	Result
Antenna Requirement	47 CFR Part 15 Subpart C Section 15.203	PASS
AC Power Line Conducted Emission	47 CFR Part 15 Subpart E Section 15.407 (b)(6)	PASS
Duty Cycle	47 CFR Part 15 Subpart E Section 15.407	NOTE
Maximum Conducted Output Power	47 CFR Part 15 Subpart E Section 15.407 (a)	NOTE
26dB emission bandwidth	47 CFR Part 15 Subpart E Section 15.407 (a)	NOTE
99% Occupied bandwidth	\	NOTE
6dB emission bandwidth	47 CFR Part 15 Subpart E Section 15.407 (e)	NOTE
Maximum Power Spectral Density	47 CFR Part 15 Subpart E Section 15.407 (a)	NOTE
Frequency stability	47 CFR Part 15 Subpart E Section 15.407 (g)	NOTE
Radiated Emissions	47 CFR Part 15 Subpart E Section 15.407 (b)	PASS
Radiated Emissions which fall in the restricted bands	47 CFR Part 15 Subpart E Section 15.407 (b)	PASS

Remark:
NOTE: The test data refer to the module's report of FCC ID:2AR82-SKIWB663U21.
Company Name and Address shown on Report, the sample(s) and sample Information were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.

Model No.: Cube 600, Cube 600 Pro, Cube 600 Max, Cube 600 Plus

Only the model Cube 600 was tested, their electrical circuit design, layout, components used and internal wiring are identical, Only the color of the appearance and package is different.

5 General Information

5.1 Client Information

Applicant:	Valerion Technology USA Co., Ltd
Address of Applicant:	1312 17th Street, Unit Num 2955, Denver, CO 80202, United States.
Manufacturer:	Shenzhen WeProTalk Technology Co., Ltd
Address of Manufacturer:	1902, 2501, Yihua Financial Technology Building, No. 3939, Baishi Road, Binhai Community, Yuehai Street, Nanshan District, Shenzhen
Factory :	Shenzhen WeProTalk Technology Co., Ltd
Address of Factory :	1902, 2501, Yihua Financial Technology Building, No. 3939, Baishi Road, Binhai Community, Yuehai Street, Nanshan District, Shenzhen

5.2 General Description of EUT

Product Name:	Smart LCD Gimbal Projector	
Model No.:	Cube 600, Cube 600 Pro, Cube 600 Max, Cube 600 Plus	
Test Model No.:	Cube 600	
Trade mark:	BladeCine	
Product Type:	☐ Mobile ☐ Portable ☒ Fix Location	
Type of Modulation:	IEEE 802.11a: OFDM (BPSK, QPSK, 16QAM, 64QAM) IEEE 802.11n(HT20/HT40): OFDM (BPSK, QPSK, 16QAM, 64QAM) IEEE 802.11ac(VHT20/VHT40/VHT80): OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)	
Operating Frequency	U-NII-1: 5150-5250MHz U-NII-3:5745-5825MHz	
Antenna Type:	Dipole Antenna	
Antenna Gain:	ANT 0: Band1: 1.78dBi, Band4: 1.31dBi ANT 1: Band1: 1.06dBi, Band4: 1.66dBi	
Power Supply:	Adapter:	AC 120V
Test voltage:	AC 120V	
Sample Received Date:	Aug. 09, 2024	
Sample tested Date:	Aug. 09, 2024 to Aug. 24, 2024	

Operation Frequency each of channel

802.11a/802.11n/802.11ac (20MHz) Frequency/Channel Operations:

U-NII-1		U-NII-3	
Channel	Frequency(MHz)	Channel	Frequency(MHz)
36	5180	149	5745
40	5200	153	5765
44	5220	157	5785
48	5240	161	5805
-	-	165	5825

802.11n/802.11ac (40MHz) Frequency/Channel Operations:

U-NII-1		U-NII-3	
Channel	Frequency(MHz)	Channel	Frequency(MHz)
38	5190	151	5755
46	5230	159	5795

802.11ac (80MHz) Frequency/Channel Operations:

U-NII-1		U-NII-3	
Channel	Frequency(MHz)	Channel	Frequency(MHz)
42	5210	155	5775

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

5.3 Test Configuration

EUT Test Software Settings:	
Software:	N/A
EUT Power Grade:	Default
Use test software to set the lowest frequency, the middle frequency and the highest frequency keep transmitting of the EUT.	
Test Mode:	
We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:	
Per-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.	
Mode	Data rate
802.11a	6 Mbps
802.11n(HT20)	MCS0
802.11n(HT40)	MCS0
802.11ac(VHT20)	MCS0
802.11ac(VHT40)	MCS0
802.11ac(VHT80)	MCS0

5.4 Test Environment

Operating Environment:		
Radiated Spurious Emissions:		
Temperature:	22~25.0 °C	
Humidity:	50~55 % RH	
Atmospheric Pressure:	1010mbar	
Conducted Emissions:		
Temperature:	22~25.0 °C	
Humidity:	50~55 % RH	
Atmospheric Pressure:	1010mbar	
RF Conducted:		
Humidity:	50~55 % RH	
Atmospheric Pressure:	1010mbar	
Temperature:	NT (Normal Temperature)	22~25.0 °C
	LT (Low Temperature)	0 °C
	HT (High Temperature)	40 °C
Working Voltage of the EUT:	NV (Normal Voltage)	120V
	LV (Low Voltage)	110V
	HV (High Voltage)	130V

5.5 Description of Support Units

The EUT has been tested with associated equipment below.

1）support equipment

Description	Manufacturer	Model No.	Certification	Supplied by
Netbook	HP	DESKTOP-H31GDCQ	FCC&CE	CTI

5.6 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax:+86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

5.7 Deviation from Standards

None.

5.8 Abnormalities from Standard Conditions

None.

5.9 Other Information Requested by the Customer

None.

5.10 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Radio Frequency	7.9×10^{-8}
2	RF power, conducted	0.46dB (30MHz-1GHz)
		0.55dB (1GHz-18GHz)
3	Radiated Spurious emission test	3.3dB (9kHz-30MHz)
		4.5dB (30MHz-1GHz)
		4.8dB (1GHz-18GHz)
		3.4dB (18GHz-40GHz)
4	Conduction emission	3.5dB (9kHz to 150kHz)
		3.1dB (150kHz to 30MHz)
5	Temperature test	0.64°C
6	Humidity test	3.8%
7	DC power voltages	0.026%

6 Equipment List

RF test system					
Equipment	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. Date (mm-dd-yyyy)**	**Cal. Due date (mm-dd-yyyy)**
Communication test set	R&S	CMW500	107929	06-26-2024	06-25-2025
Signal Generator	R&S	SMBV100A	1407.6004K02-262149-CV	09-05-2023	09-04-2024
Spectrum Analyzer	R&S	FSV40	101200	07-18-2024	07-17-2025
RF control unit(power unit)	MWRF-test	MW100-RFCB	MW220620CTI-42	06-25-2024	06-24-2025
High-low temperature test chamber	Dong Guang Qin Zhuo	LK-80GA	QZ20150611879	11-12-2023	12-10-2024
Temperature/ Humidity Indicator	biaozhi	HM10	1804186	05-29-2024	05-28-2025
BT&WI-FI Automatic test software	MWRF-test	MTS 8310	V2.0.0.0	---	---
Spectrum Analyzer	R&S	FSV3044	101509	01-17-2024	01-16-2025

Conducted disturbance Test					
Equipment	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date (mm-dd-yyyy)**	**Cal. Due date (mm-dd-yyyy)**
Receiver	R&S	ESCI	100435	04-18-2024	04-17-2025
Temperature/ Humidity Indicator	Defu	TH128	/	04-25-2024	04-24-2025
LISN	R&S	ENV216	100098	09-22-2023	09-21-2024
Barometer	changchun	DYM3	1188	---	---
Test software	Fara	EZ-EMC	EMC-CON 3A1.1	---	---
Capacitive voltage probe	Schwarzbeck	CVP 9222C	00124	06-18-2024	06-17-2025

ISN	TESEQ	ISN T800	30297	12-14-2023	12-13-2024

3M Semi-anechoic Chamber (2)- Radiated disturbance Test					
Equipment	Manufacturer	Model	Serial No.	Cal. Date	Due Date
3M Chamber & Accessory Equipment	TDK	SAC-3	---	05/22/2022	05/21/2025
Receiver	R&S	ESCI7	100938-003	09/22/2023	09/21/2024
Spectrum Analyzer	R&S	FSV40	101200	07/18/2024	07/17/2025
TRILOG Broadband Antenna	schwarzbeck	VULB 9163	9163-618	05/22/2022	05/21/2025
Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-076	04/16/2024	04/15/2025
Microwave Preamplifier	Tonscend	EMC051845SE	980380	12/14/2023	12/13/2024
Horn Antenna	A.H.SYSTEMS	SAS-574	374	07/02/2023	07/01/2026
Horn Antenna	ETS-LINGREN	BBHA 9120D	9120D-1869	04/16/2024	04/15/2025
Preamplifier	Agilent	11909A	12-1	03/22/2024	03/21/2025
Preamplifier	CD	PAP-1840-60	6041.6042	06/19/2024	06/18/2025
Test software	Fara	EZ-EMC	EMEC-3A1-Pre	---	---
Cable line	Fulai(7M)	SF106	5219/6A	---	---
Cable line	Fulai(6M)	SF106	5220/6A	---	---
Cable line	Fulai(3M)	SF106	5216/6A	---	---
Cable line	Fulai(3M)	SF106	5217/6A	---	---

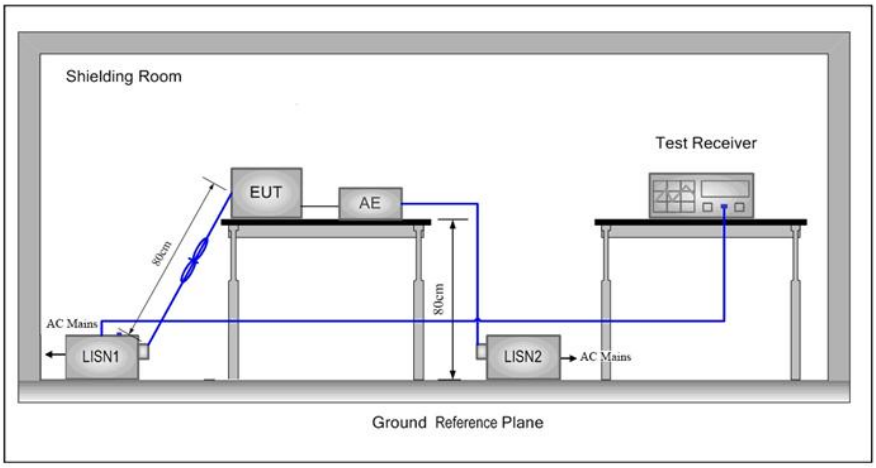
3M full-anechoic Chamber					
Equipment	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. Date (mm-dd-yyyy)**	**Cal. Due date (mm-dd-yyyy)**
RSE Automatic test software	JS Tonscend	JS36-RSE	10166	---	---
Receiver	Keysight	N9038A	MY57290136	01-09-2024	01-08-2025
Spectrum Analyzer	Keysight	N9020B	MY57111112	01-19-2024	01-18-2025
Spectrum Analyzer	Keysight	N9030B	MY57140871	01-13-2024	01-12-2025
TRILOG Broadband Antenna	Schwarzbeck	VULB 9163	9163-1148	04-28-2024	04-27-2025
Horn Antenna	Schwarzbeck	BBHA 9170	9170-832	04-16-2024	04-15-2025
Horn Antenna	ETS-LINDGREN	3117	57407	07-03-2024	07-02-2025
Preamplifier	Tonscend	EMC051845SE	980380	12-14-2023	12-13-2024
Preamplifier	EMCI	EMC001330	980563	03-08-2024	03-07-2025
Preamplifier	JS Tonscend	TAP-011858	AP21B806112	07-18-2024	07-17-2025
Communication test set	R&S	CMW500	102898	12-14-2023	12-13-2024
Temperature/ Humidity Indicator	biaozhi	GM1360	EE1186631	04-07-2024	04-06-2025
Fully Anechoic Chamber	TDK	FAC-3	---	01-09-2024	01-08-2027
Cable line	Times	SFT205-NMSM-2.50M	394812-0001	---	---
Cable line	Times	SFT205-NMSM-2.50M	394812-0002	---	---
Cable line	Times	SFT205-NMSM-2.50M	394812-0003	---	---
Cable line	Times	SFT205-NMSM-2.50M	393495-0001	---	---
Cable line	Times	EMC104-NMNM-1000	SN160710	---	---
Cable line	Times	SFT205-NMSM-3.00M	394813-0001	---	---
Cable line	Times	SFT205-NMNM-1.50M	381964-0001	---	---
Cable line	Times	SFT205-NMSM-7.00M	394815-0001	---	---
Cable line	Times	HF160-KMKM-3.00M	393493-0001	---	---

7 Radio Technical Requirements Specification

7.1 Antenna Requirement

Standard requirement:	47 CFR Part 15C Section 15.203
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.	
EUT Antenna:	Please see Internal photos
The antenna is Dipole antenna. The best case gain of the antenna ANT 0 is Band1: 1.78dBi, Band4: 1.31dBi. The best case gain of the antenna ANT 1 is Band1: 1.06dBi, Band4: 1.66dBi	

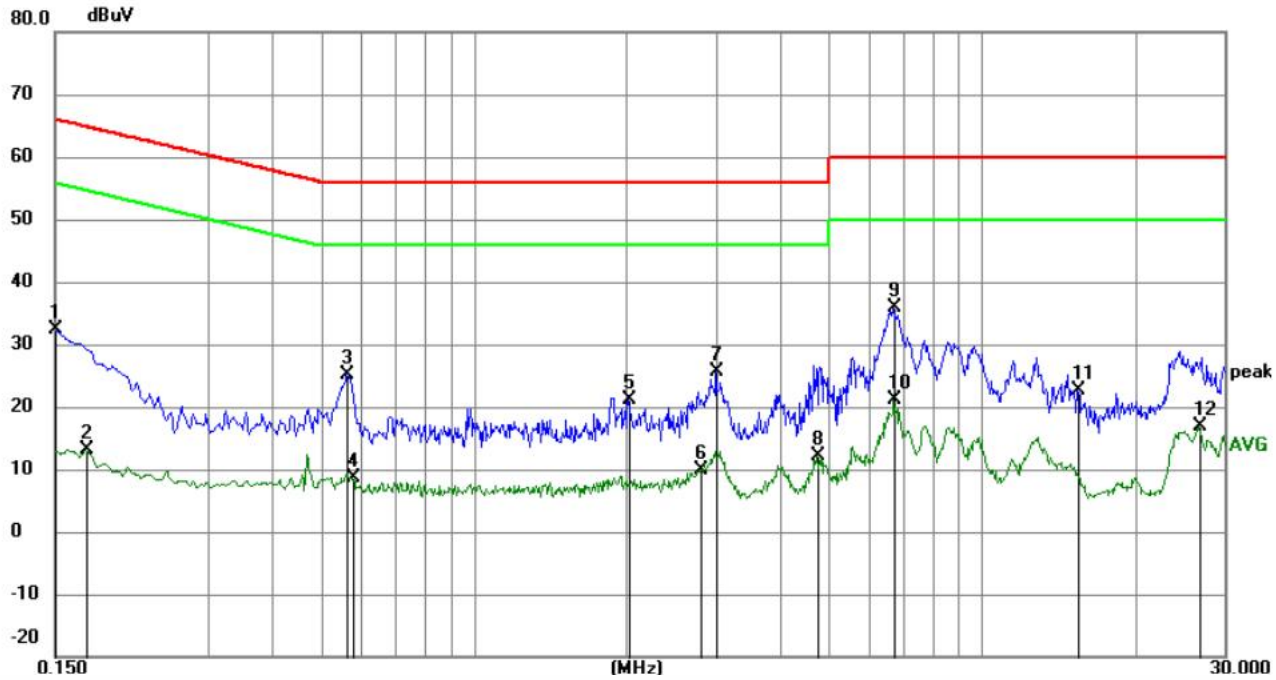
7.2 AC Power Line Conducted Emissions

Test Requirement:	47 CFR Part 15C Section 15.207
Test Method:	ANSI C63.10: 2013
Test Frequency Range:	150kHz to 30MHz
Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto
Limit:	Frequency range (MHz) / Limit (dBuV): Quasi-peak / Average 0.15-0.5: 66 to 56* / 56 to 46* 0.5-5: 56 / 46 5-30: 60 / 50 * Decreases with the logarithm of the frequency.
Test Setup:	
Test Procedure:	1) The mains terminal disturbance voltage test was conducted in a shielded room. 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded. 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane. 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2. 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to

	ANSI C63.10: 2013 on conducted measurement.
Test Mode:	All modes were tested, only the worst case was recorded in the report.
Test Results:	Pass

Measurement Data

Live line:

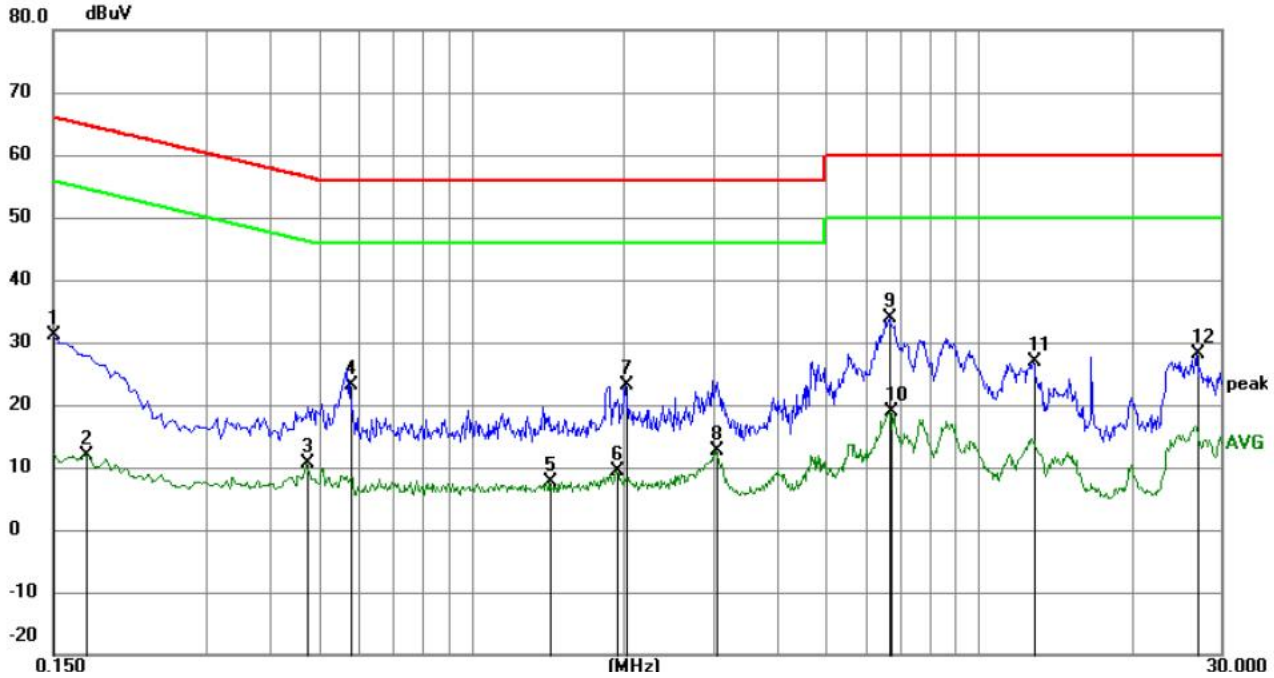


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1500	22.50	9.84	32.34	66.00	-33.66	QP	
2		0.1725	3.25	9.86	13.11	54.84	-41.73	AVG	
3		0.5639	15.38	9.66	25.04	56.00	-30.96	QP	
4		0.5775	-1.10	9.63	8.53	46.00	-37.47	AVG	
5		2.0175	11.34	9.75	21.09	56.00	-34.91	QP	
6		2.8050	0.05	9.77	9.82	46.00	-36.18	AVG	
7		3.0075	15.82	9.78	25.60	56.00	-30.40	QP	
8		4.7399	2.23	9.83	12.06	46.00	-33.94	AVG	
9	*	6.7245	25.99	9.85	35.84	60.00	-24.16	QP	
10		6.7245	11.17	9.85	21.02	50.00	-28.98	AVG	
11		15.3915	12.76	9.86	22.62	60.00	-37.38	QP	
12		26.8125	6.92	9.87	16.79	50.00	-33.21	AVG	

Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.
3. If the Peak value under Average limit, the Average value is not recorded in the report.

Neutral line:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1500	21.36	9.84	31.20	66.00	-34.80	QP	
2		0.1731	2.08	9.86	11.94	54.81	-42.87	AVG	
3		0.4740	0.93	9.78	10.71	46.44	-35.73	AVG	
4		0.5775	13.39	9.63	23.02	56.00	-32.98	QP	
5		1.4325	-2.16	9.74	7.58	46.00	-38.42	AVG	
6		1.9365	-0.35	9.75	9.40	46.00	-36.60	AVG	
7		2.0175	13.38	9.75	23.13	56.00	-32.87	QP	
8		3.0300	2.74	9.78	12.52	46.00	-33.48	AVG	
9	*	6.6930	23.91	9.85	33.76	60.00	-26.24	QP	
10		6.7110	8.99	9.85	18.84	50.00	-31.16	AVG	
11		12.8175	17.15	9.84	26.99	60.00	-33.01	QP	
12		26.9565	18.14	9.87	28.01	60.00	-31.99	QP	

Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.
3. If the Peak value under Average limit, the Average value is not recorded in the report.

7.3 Radiated Emission

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.407 (b)
Test Method:	ANSI C63.10 2013
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)

Receiver Setup:

Frequency	Detector	RBW	VBW	Remark
0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak
0.009MHz-0.090MHz	Average	10kHz	30kHz	Average
0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak
0.110MHz-0.490MHz	Average	10kHz	30kHz	Average
0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
30MHz-1GHz	Quasi-peak	100 kHz	300kHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10kHz	Average

Limit:

Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
1.705MHz-30MHz	30	-	-	30
30MHz-88MHz	100	40.0	Quasi-peak	3
88MHz-216MHz	150	43.5	Quasi-peak	3
216MHz-960MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
Above 1GHz	500	54.0	Average	3

*(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(4) For transmitters operating in the 5.725-5.85 GHz band:
(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.
Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the

	frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. Note: (i) EIRP = ((E*d)^2) / 30 where: • E is the field strength in V/m; • d is the measurement distance in meters; • EIRP is the equivalent isotropically radiated power in watts. (ii) Working in dB units, the above equation is equivalent to: EIRP[dBm] = E[dBμV/m] + 20 log(d[meters]) - 104.77 (iii) Or, if d is 3 meters: EIRP[dBm] = E[dBμV/m] - 95.2
Test Setup:	

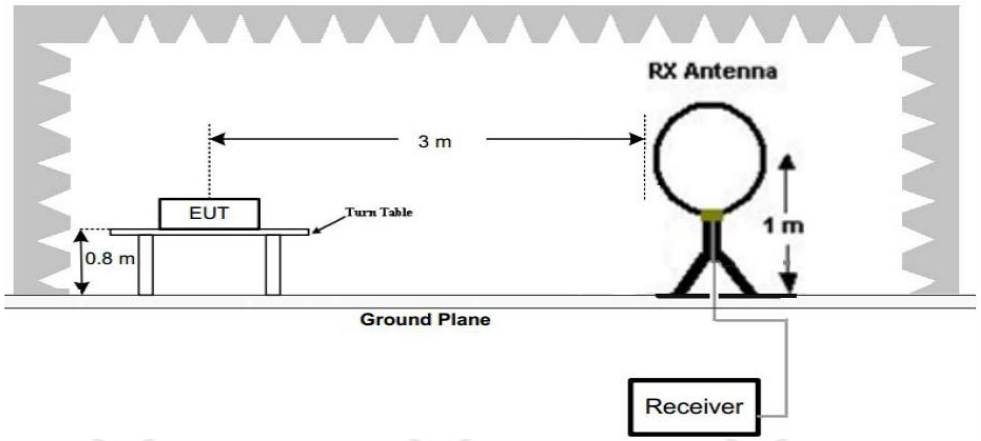


Figure 1. Below 30MHz

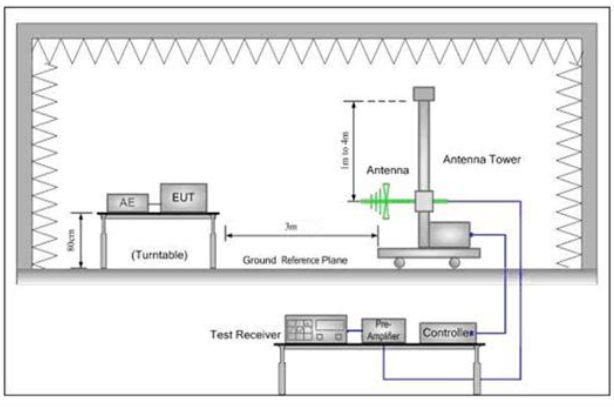


Figure 2. 30MHz to 1GHz

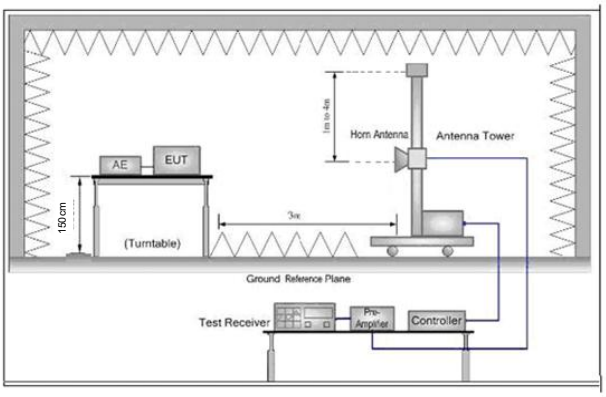


Figure 3. Above 1 GHz

Test Procedure:	a. 1) Below 1G: The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2) Above 1G: The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.

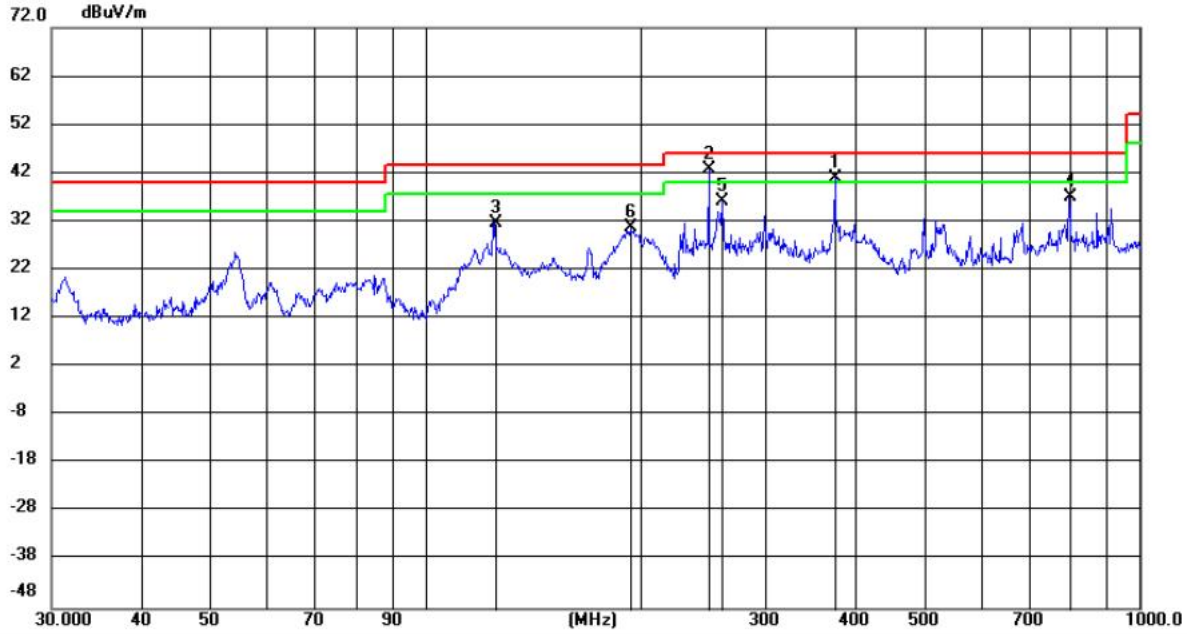
	Note: For the radiated emission test above 1GHz: Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane. b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. g. Test the EUT in the lowest channel, the middle channel and the highest channel h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case. i. Repeat above procedures until all frequencies measured was complete.
Test Mode:	Transmitting mode with modulation
Test Results:	Pass

Radiated Spurious Emissions test Data:
Radiated Emission below 1GHz

Remark: During the test, the Radiates Emission from 30MHz to 1GHz was performed in all modes, only the worst case lowest channel of 6Mbps for 802.11 a was recorded in the report.

Horizontal:

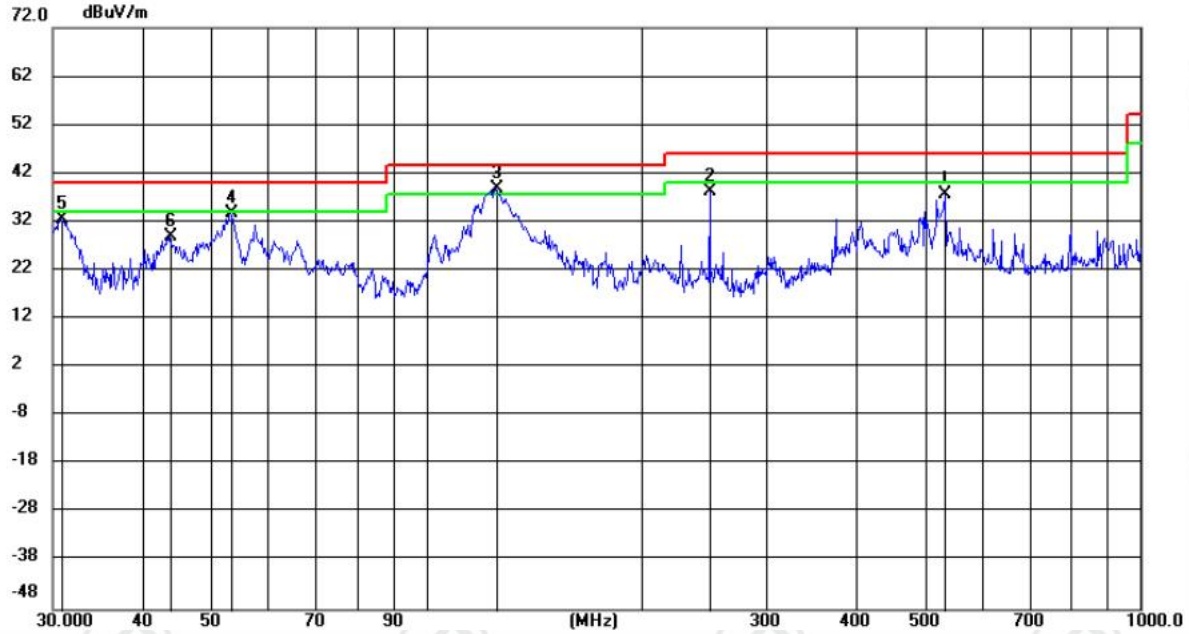
Test Graph



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	!	375.0168	23.31	17.57	40.88	46.00	-5.12	QP	100	358	
2	*	250.0380	28.56	14.27	42.83	46.00	-3.17	QP	100	274	
3		125.0285	20.89	10.77	31.66	43.50	-11.84	QP	100	337	
4		797.9997	12.52	24.47	36.99	46.00	-9.01	QP	200	199	
5		261.0124	21.36	14.68	36.04	46.00	-9.96	QP	100	7	
6		194.4534	18.61	12.14	30.75	43.50	-12.75	QP	100	7	

Vertical:

Test Graph



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		533.8321	19.46	18.14	37.60	46.00	-8.40	QP	200	287	
2		249.9941	25.83	12.55	38.38	46.00	-7.62	QP	100	73	
3	*	125.0504	29.13	9.59	38.72	43.50	-4.78	QP	200	84	
4		53.2525	20.96	12.77	33.73	40.00	-6.27	QP	100	255	
5		30.7886	20.53	12.00	32.53	40.00	-7.47	QP	100	105	
6		43.7811	15.77	13.12	28.89	40.00	-11.11	QP	100	30	

Transmitter Emission above 1GHz

Remark: During the test, the Radiates Emission above 1G was performed in all modes, only the worst case ant1 and ant2 transmit simultaneously was recorded in the report.

MIMO

Mode:		802.11 n(HT20) Transmitting				Channel:		5180MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1062.1562	6.97	44.98	51.95	68.20	16.25	PASS	Horizontal	PK
2	1999.4499	9.44	42.20	51.64	68.20	16.56	PASS	Horizontal	PK
3	3901.5402	16.88	35.06	51.94	68.20	16.26	PASS	Horizontal	PK
4	7167.0334	-4.52	53.66	49.14	68.20	19.06	PASS	Horizontal	PK
5	11026.6263	6.22	46.06	52.28	68.20	15.92	PASS	Horizontal	PK
6	15893.0947	10.45	42.93	53.38	68.20	14.82	PASS	Horizontal	PK
7	1047.3047	7.22	43.54	50.76	68.20	17.44	PASS	Vertical	PK
8	1949.945	12.43	36.75	49.18	68.20	19.02	PASS	Vertical	PK
9	3957.0957	17.64	34.51	52.15	68.20	16.05	PASS	Vertical	PK
10	7367.7184	-3.83	48.34	44.51	68.20	23.69	PASS	Vertical	PK
11	11235.3618	6.38	45.81	52.19	68.20	16.01	PASS	Vertical	PK
12	15890.7945	10.34	43.22	53.56	68.20	14.64	PASS	Vertical	PK

Mode:		802.11 n(HT20) Transmitting				Channel:		5200MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1056.6557	7.10	45.88	52.98	68.20	15.22	PASS	Horizontal	PK
2	1952.1452	12.30	36.52	48.82	68.20	19.38	PASS	Horizontal	PK
3	3449.945	15.64	35.17	50.81	68.20	17.39	PASS	Horizontal	PK
4	6658.1329	-6.96	58.00	51.04	68.20	17.16	PASS	Horizontal	PK
5	11001.3251	6.82	45.17	51.99	68.20	16.21	PASS	Horizontal	PK
6	15891.9446	10.39	42.61	53.00	68.20	15.20	PASS	Horizontal	PK
7	1054.4554	7.15	45.17	52.32	68.20	15.88	PASS	Vertical	PK
8	1957.0957	12.01	36.75	48.76	68.20	19.44	PASS	Vertical	PK
9	3947.1947	17.76	34.69	52.45	68.20	15.75	PASS	Vertical	PK
10	6861.6931	-4.97	49.60	44.63	68.20	23.57	PASS	Vertical	PK
11	11223.2862	6.26	45.96	52.22	68.20	15.98	PASS	Vertical	PK
12	16609.5805	10.79	43.09	53.88	68.20	14.32	PASS	Vertical	PK

Mode:			802.11 n(HT20) Transmitting			Channel:		5240MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1052.2552	7.21	45.13	52.34	68.20	15.86	PASS	Horizontal	PK
2	1997.7998	9.53	39.93	49.46	68.20	18.74	PASS	Horizontal	PK
3	3794.2794	16.34	34.16	50.50	68.20	17.70	PASS	Horizontal	PK
4	6904.8202	-4.39	49.51	45.12	68.20	23.08	PASS	Horizontal	PK
5	9798.9399	4.28	45.65	49.93	68.20	18.27	PASS	Horizontal	PK
6	15899.42	10.76	42.33	53.09	68.20	15.11	PASS	Horizontal	PK
7	1046.7547	7.21	44.97	52.18	68.20	16.02	PASS	Vertical	PK
8	1943.8944	12.30	36.18	48.48	68.20	19.72	PASS	Vertical	PK
9	3948.2948	17.79	33.96	51.75	68.20	16.45	PASS	Vertical	PK
10	7269.3885	-3.73	47.68	43.95	68.20	24.25	PASS	Vertical	PK
11	10469.9985	5.07	45.86	50.93	68.20	17.27	PASS	Vertical	PK
12	15117.3809	11.61	40.86	52.47	68.20	15.73	PASS	Vertical	PK

Mode:			802.11 n(HT40) Transmitting			Channel:		5190MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1055.0055	7.14	44.79	51.93	68.20	16.27	PASS	Horizontal	PK
2	1924.0924	11.84	36.80	48.64	68.20	19.56	PASS	Horizontal	PK
3	3951.0451	17.79	34.99	52.78	68.20	15.42	PASS	Horizontal	PK
4	6808.7904	-4.81	48.68	43.87	68.20	24.33	PASS	Horizontal	PK
5	11249.1625	6.51	45.56	52.07	68.20	16.13	PASS	Horizontal	PK
6	15905.7453	10.14	43.01	53.15	68.20	15.05	PASS	Horizontal	PK
7	1051.1551	7.23	43.18	50.41	68.20	17.79	PASS	Vertical	PK
8	1951.0451	12.37	36.89	49.26	68.20	18.94	PASS	Vertical	PK
9	4294.2794	18.94	32.88	51.82	68.20	16.38	PASS	Vertical	PK
10	6900.22	-4.27	49.55	45.28	68.20	22.92	PASS	Vertical	PK
11	11955.2978	5.42	45.74	51.16	68.20	17.04	PASS	Vertical	PK
12	15905.1703	10.21	42.73	52.94	68.20	15.26	PASS	Vertical	PK

Mode:			802.11 n(HT40) Transmitting			Channel:		5230MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1058.3058	7.06	44.32	51.38	68.20	16.82	PASS	Horizontal	PK
2	1997.7998	9.53	40.31	49.84	68.20	18.36	PASS	Horizontal	PK
3	3951.5952	17.78	34.42	52.20	68.20	16.00	PASS	Horizontal	PK
4	6647.2074	-7.19	55.79	48.60	68.20	19.60	PASS	Horizontal	PK
5	10586.7293	5.68	45.89	51.57	68.20	16.63	PASS	Horizontal	PK
6	15897.1199	10.65	41.71	52.36	68.20	15.84	PASS	Horizontal	PK
7	1051.1551	7.23	42.31	49.54	68.20	18.66	PASS	Vertical	PK
8	1954.8955	12.14	35.83	47.97	68.20	20.23	PASS	Vertical	PK
9	3952.1452	17.77	34.19	51.96	68.20	16.24	PASS	Vertical	PK
10	7353.3427	-3.71	48.68	44.97	68.20	23.23	PASS	Vertical	PK
11	10999.6	6.83	44.90	51.73	68.20	16.47	PASS	Vertical	PK
12	14255.9878	14.40	39.46	53.86	68.20	14.34	PASS	Vertical	PK

Mode:			802.11 ac(VHT80) Transmitting			Channel:		5210MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1063.2563	6.94	45.45	52.39	68.20	15.81	PASS	Horizontal	PK
2	1995.5996	9.67	39.43	49.10	68.20	19.10	PASS	Horizontal	PK
3	4096.2596	18.08	33.83	51.91	68.20	16.29	PASS	Horizontal	PK
4	6636.8568	-7.04	57.59	50.55	68.20	17.65	PASS	Horizontal	PK
5	11003.6252	6.77	44.69	51.46	68.20	16.74	PASS	Horizontal	PK
6	15899.995	10.79	42.18	52.97	68.20	15.23	PASS	Horizontal	PK
7	1058.3058	7.06	43.34	50.40	68.20	17.80	PASS	Vertical	PK
8	1948.8449	12.41	36.36	48.77	68.20	19.43	PASS	Vertical	PK
9	4101.7602	18.26	33.29	51.55	68.20	16.65	PASS	Vertical	PK
10	6892.7446	-4.40	48.42	44.02	68.20	24.18	PASS	Vertical	PK
11	11361.2931	6.01	44.71	50.72	68.20	17.48	PASS	Vertical	PK
12	15895.3948	10.56	42.72	53.28	68.20	14.92	PASS	Vertical	PK

Mode:			802.11 n(HT20) Transmitting			Channel:		5745MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1057.5705	6.92	46.33	53.25	68.20	14.95	PASS	Horizontal	PK
2	1991.1661	10.01	39.69	49.70	68.20	18.50	PASS	Horizontal	PK
3	4395.9264	19.17	32.49	51.66	68.20	16.54	PASS	Horizontal	PK
4	6648.7433	-7.22	51.97	44.75	68.20	23.45	PASS	Horizontal	PK
5	10995.2664	6.64	43.79	50.43	68.20	17.77	PASS	Horizontal	PK
6	15898.4266	10.71	42.43	53.14	68.20	15.06	PASS	Horizontal	PK
7	1059.7707	6.86	41.60	48.46	68.20	19.74	PASS	Vertical	PK
8	2399.2933	12.30	37.33	49.63	68.20	18.57	PASS	Vertical	PK
9	4520.6014	20.48	31.91	52.39	68.20	15.81	PASS	Vertical	PK
10	6815.121	-4.86	46.26	41.40	68.20	26.80	PASS	Vertical	PK
11	11232.9489	6.35	44.32	50.67	68.20	17.53	PASS	Vertical	PK
12	15901.4934	10.63	40.70	51.33	68.20	16.87	PASS	Vertical	PK

Mode:			802.11 n(HT20) Transmitting			Channel:		5785MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1061.9708	6.81	48.06	54.87	68.20	13.33	PASS	Horizontal	PK
2	1995.1997	9.78	40.15	49.93	68.20	18.27	PASS	Horizontal	PK
3	4691.1127	20.16	32.19	52.35	68.20	15.85	PASS	Horizontal	PK
4	6657.9439	-6.96	53.17	46.21	68.20	21.99	PASS	Horizontal	PK
5	11006.0004	6.70	42.96	49.66	68.20	18.54	PASS	Horizontal	PK
6	15897.6598	10.68	40.32	51.00	68.20	17.20	PASS	Horizontal	PK
7	1060.1373	6.85	42.42	49.27	68.20	18.93	PASS	Vertical	PK
8	1950.4634	12.36	35.40	47.76	68.20	20.44	PASS	Vertical	PK
9	4510.7007	20.87	32.18	53.05	68.20	15.15	PASS	Vertical	PK
10	7359.4906	-3.76	47.83	44.07	68.20	24.13	PASS	Vertical	PK
11	11988.9326	6.07	45.15	51.22	68.20	16.98	PASS	Vertical	PK
12	15900.7267	10.71	40.53	51.24	68.20	16.96	PASS	Vertical	PK

Mode:			802.11 n(HT20) Transmitting			Channel:		5825MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1062.3375	6.80	43.00	49.80	68.20	18.40	PASS	Horizontal	PK
2	1999.2333	9.55	39.35	48.90	68.20	19.30	PASS	Horizontal	PK
3	4288.4859	18.92	33.05	51.97	68.20	16.23	PASS	Horizontal	PK
4	6647.2098	-7.19	53.16	45.97	68.20	22.23	PASS	Horizontal	PK
5	11251.3501	6.44	44.62	51.06	68.20	17.14	PASS	Horizontal	PK
6	15902.2602	10.53	41.11	51.64	68.20	16.56	PASS	Horizontal	PK
7	1061.9708	6.81	43.82	50.63	68.20	17.57	PASS	Vertical	PK
8	2409.5606	12.27	36.96	49.23	68.20	18.97	PASS	Vertical	PK
9	4095.2397	18.01	33.13	51.14	68.20	17.06	PASS	Vertical	PK
10	6891.0261	-4.42	46.56	42.14	68.20	26.06	PASS	Vertical	PK
11	11249.8167	6.52	43.52	50.04	68.20	18.16	PASS	Vertical	PK
12	15893.8263	10.49	41.58	52.07	68.20	16.13	PASS	Vertical	PK

Mode:			802.11 n(HT40) Transmitting			Channel:		5755MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1046.9365	7.07	47.19	54.26	68.20	13.94	PASS	Horizontal	PK
2	1995.5664	9.76	41.64	51.40	68.20	16.80	PASS	Horizontal	PK
3	4516.9345	20.62	33.35	53.97	68.20	14.23	PASS	Horizontal	PK
4	6654.1103	-7.09	51.50	44.41	68.20	23.79	PASS	Horizontal	PK
5	10812.0208	5.11	44.43	49.54	68.20	18.66	PASS	Horizontal	PK
6	15895.3597	10.56	41.37	51.93	68.20	16.27	PASS	Horizontal	PK
7	1057.2038	6.92	41.49	48.41	68.20	19.79	PASS	Vertical	PK
8	1947.1631	12.31	35.41	47.72	68.20	20.48	PASS	Vertical	PK
9	3801.8868	16.47	34.74	51.21	68.20	16.99	PASS	Vertical	PK
10	6893.3262	-4.39	47.38	42.99	68.20	25.21	PASS	Vertical	PK
11	11229.1153	6.31	43.76	50.07	68.20	18.13	PASS	Vertical	PK
12	15897.6598	10.68	41.00	51.68	68.20	16.52	PASS	Vertical	PK

Mode:		802.11 n(HT40) Transmitting				Channel:		5795MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1052.8035	7.03	43.73	50.76	68.20	17.44	PASS	Horizontal	PK
2	1994.4663	9.82	41.82	51.64	68.20	16.56	PASS	Horizontal	PK
3	4501.9001	21.21	31.76	52.97	68.20	15.23	PASS	Horizontal	PK
4	6894.0929	-4.37	46.47	42.10	68.20	26.10	PASS	Horizontal	PK
5	10990.666	6.45	43.87	50.32	68.20	17.88	PASS	Horizontal	PK
6	15899.96	10.79	41.32	52.11	68.20	16.09	PASS	Horizontal	PK
7	1057.2038	6.92	42.12	49.04	68.20	19.16	PASS	Vertical	PK
8	1941.6628	12.17	36.21	48.38	68.20	19.82	PASS	Vertical	PK
9	4103.6736	18.23	31.78	50.01	68.20	18.19	PASS	Vertical	PK
10	6828.9219	-4.99	47.33	42.34	68.20	25.86	PASS	Vertical	PK
11	11248.2832	6.50	44.28	50.78	68.20	17.42	PASS	Vertical	PK
12	15899.1933	10.75	41.46	52.21	68.20	15.99	PASS	Vertical	PK

Mode:		802.11 ac(VHT80) Transmitting				Channel:		5775MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1057.5705	6.92	47.37	54.29	68.20	13.91	PASS	Horizontal	PK
2	1994.0996	9.84	38.85	48.69	68.20	19.51	PASS	Horizontal	PK
3	3801.5201	16.50	33.83	50.33	68.20	17.87	PASS	Horizontal	PK
4	7613.2742	-2.75	45.54	42.79	68.20	25.41	PASS	Horizontal	PK
5	11999.6666	6.28	43.56	49.84	68.20	18.36	PASS	Horizontal	PK
6	15892.2928	10.40	41.22	51.62	68.20	16.58	PASS	Horizontal	PK
7	1053.1702	7.02	41.75	48.77	68.20	19.43	PASS	Vertical	PK
8	1929.1953	11.84	35.80	47.64	68.20	20.56	PASS	Vertical	PK
9	4278.5852	18.66	32.57	51.23	68.20	16.97	PASS	Vertical	PK
10	6910.9607	-4.55	47.48	42.93	68.20	25.27	PASS	Vertical	PK
11	10447.0631	4.98	43.40	48.38	68.20	19.82	PASS	Vertical	PK
12	15899.1933	10.75	41.93	52.68	68.20	15.52	PASS	Vertical	PK

Above 18G:

Mode:		802.11 n(HT20) Transmitting				Channel:		5180MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	19442.6177	-23.94	62.05	38.11	74.00	35.89	PASS	Horizontal	PK
2	24099.844	-20.65	58.54	37.89	74.00	36.11	PASS	Horizontal	PK
3	27738.5895	-20.26	58.12	37.86	74.00	36.14	PASS	Horizontal	PK
4	30860.2744	-17.63	56.26	38.63	74.00	35.37	PASS	Horizontal	PK
5	34226.6891	-15.86	52.62	36.76	74.00	37.24	PASS	Horizontal	PK
6	38079.8032	-13.53	49.34	35.81	74.00	38.19	PASS	Horizontal	PK
7	19125.205	-24.40	62.78	38.38	74.00	35.62	PASS	Vertical	PK
8	22396.8559	-24.42	60.82	36.40	74.00	37.60	PASS	Vertical	PK
9	25342.8137	-19.19	58.09	38.90	74.00	35.10	PASS	Vertical	PK
10	28685.3074	-20.74	58.93	38.19	74.00	35.81	PASS	Vertical	PK
11	33573.4629	-15.49	53.77	38.28	74.00	35.72	PASS	Vertical	PK
12	38613.4245	-12.25	49.40	37.15	74.00	36.85	PASS	Vertical	PK

Mode:		802.11 n(HT20) Transmitting				Channel:		5200MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	20018.5607	-23.14	61.08	37.94	74.00	36.06	PASS	Horizontal	PK
2	22453.8982	-24.40	60.42	36.02	74.00	37.98	PASS	Horizontal	PK
3	25383.2953	-19.29	57.84	38.55	74.00	35.45	PASS	Horizontal	PK
4	27860.9544	-20.26	59.57	39.31	74.00	34.69	PASS	Horizontal	PK
5	30924.677	-17.50	57.03	39.53	74.00	34.47	PASS	Horizontal	PK
6	35842.2737	-15.09	52.40	37.31	74.00	36.69	PASS	Horizontal	PK
7	19978.0791	-23.11	61.14	38.03	74.00	35.97	PASS	Vertical	PK
8	22084.0434	-24.94	61.65	36.71	74.00	37.29	PASS	Vertical	PK
9	25049.322	-19.59	57.41	37.82	74.00	36.18	PASS	Vertical	PK
10	29543.7017	-19.49	57.34	37.85	74.00	36.15	PASS	Vertical	PK
11	33372.8949	-16.10	54.40	38.30	74.00	35.70	PASS	Vertical	PK
12	38637.3455	-12.13	50.05	37.92	74.00	36.08	PASS	Vertical	PK

Mode:			802.11 n(HT20) Transmitting			Channel:		5240MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	19827.1931	-23.54	61.26	37.72	74.00	36.28	PASS	Horizontal	PK
2	22230.3292	-24.66	61.87	37.21	74.00	36.79	PASS	Horizontal	PK
3	25502.9001	-19.01	57.99	38.98	74.00	35.02	PASS	Horizontal	PK
4	30071.8029	-19.68	57.39	37.71	74.00	36.29	PASS	Horizontal	PK
5	33477.7791	-15.83	53.91	38.08	74.00	35.92	PASS	Horizontal	PK
6	38490.1396	-12.17	49.13	36.96	74.00	37.04	PASS	Horizontal	PK
7	19908.1563	-23.31	61.23	37.92	74.00	36.08	PASS	Vertical	PK
8	22783.2713	-24.39	60.60	36.21	74.00	37.79	PASS	Vertical	PK
9	25562.7025	-18.82	58.00	39.18	74.00	34.82	PASS	Vertical	PK
10	29176.6071	-20.25	58.01	37.76	74.00	36.24	PASS	Vertical	PK
11	32267.0107	-16.22	55.49	39.27	74.00	34.73	PASS	Vertical	PK
12	38494.7398	-12.17	49.14	36.97	74.00	37.03	PASS	Vertical	PK

Mode:			802.11 n(HT40) Transmitting			Channel:		5190MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	19624.785	-23.90	61.83	37.93	74.00	36.07	PASS	Horizontal	PK
2	22804.4322	-24.41	60.75	36.34	74.00	37.66	PASS	Horizontal	PK
3	27040.2816	-20.25	58.91	38.66	74.00	35.34	PASS	Horizontal	PK
4	30892.4757	-17.57	56.35	38.78	74.00	35.22	PASS	Horizontal	PK
5	34162.2865	-15.93	52.50	36.57	74.00	37.43	PASS	Horizontal	PK
6	38735.7894	-11.64	48.68	37.04	74.00	36.96	PASS	Horizontal	PK
7	19300.932	-24.14	62.39	38.25	74.00	35.75	PASS	Vertical	PK
8	21803.4321	-24.73	61.31	36.58	74.00	37.42	PASS	Vertical	PK
9	24981.2392	-19.83	58.01	38.18	74.00	35.82	PASS	Vertical	PK
10	29074.483	-20.20	58.66	38.46	74.00	35.54	PASS	Vertical	PK
11	32381.0952	-15.55	54.69	39.14	74.00	34.86	PASS	Vertical	PK
12	35922.3169	-15.20	53.14	37.94	74.00	36.06	PASS	Vertical	PK

Mode:			802.11 n(HT40) Transmitting			Channel:		5230MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	19915.5166	-23.29	61.37	38.08	74.00	35.92	PASS	Horizontal	PK
2	22070.2428	-24.96	61.77	36.81	74.00	37.19	PASS	Horizontal	PK
3	25575.583	-18.78	57.91	39.13	74.00	34.87	PASS	Horizontal	PK
4	28882.1953	-20.31	59.50	39.19	74.00	34.81	PASS	Horizontal	PK
5	32460.2184	-15.75	55.43	39.68	74.00	34.32	PASS	Horizontal	PK
6	37256.3703	-14.85	51.20	36.35	74.00	37.65	PASS	Horizontal	PK
7	19664.3466	-23.84	61.94	38.10	74.00	35.90	PASS	Vertical	PK
8	21800.672	-24.72	61.00	36.28	74.00	37.72	PASS	Vertical	PK
9	25211.2484	-18.86	58.11	39.25	74.00	34.75	PASS	Vertical	PK
10	28824.233	-20.38	58.55	38.17	74.00	35.83	PASS	Vertical	PK
11	33617.6247	-15.44	53.91	38.47	74.00	35.53	PASS	Vertical	PK
12	38082.5633	-13.52	50.25	36.73	74.00	37.27	PASS	Vertical	PK

Mode:			802.11 ac(VHT80) Transmitting			Channel:		5210MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	19521.7409	-23.94	62.16	38.22	74.00	35.78	PASS	Horizontal	PK
2	21861.3945	-24.84	61.23	36.39	74.00	37.61	PASS	Horizontal	PK
3	25088.8836	-19.39	57.51	38.12	74.00	35.88	PASS	Horizontal	PK
4	27804.8322	-20.17	58.59	38.42	74.00	35.58	PASS	Horizontal	PK
5	32390.2956	-15.50	55.38	39.88	74.00	34.12	PASS	Horizontal	PK
6	36576.4631	-14.24	52.18	37.94	74.00	36.06	PASS	Horizontal	PK
7	19548.4219	-23.94	61.88	37.94	74.00	36.06	PASS	Vertical	PK
8	22245.0498	-24.64	61.32	36.68	74.00	37.32	PASS	Vertical	PK
9	25378.6951	-19.28	59.11	39.83	74.00	34.17	PASS	Vertical	PK
10	28774.551	-20.49	59.02	38.53	74.00	35.47	PASS	Vertical	PK
11	32442.7377	-15.66	55.13	39.47	74.00	34.53	PASS	Vertical	PK
12	36473.4189	-14.68	51.50	36.82	74.00	37.18	PASS	Vertical	PK

Mode:			802.11 n(HT20) Transmitting			Channel:		5745MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	20840.1536	-24.44	61.83	37.39	74.00	36.61	PASS	Horizontal	PK
2	24615.9846	-19.85	58.91	39.06	74.00	34.94	PASS	Horizontal	PK
3	28287.8515	-20.55	58.46	37.91	74.00	36.09	PASS	Horizontal	PK
4	31812.5125	-17.28	55.21	37.93	74.00	36.07	PASS	Horizontal	PK
5	34653.5861	-15.11	52.31	37.20	74.00	36.80	PASS	Horizontal	PK
6	38938.1975	-10.93	48.27	37.34	74.00	36.66	PASS	Horizontal	PK
7	19426.057	-23.94	62.26	38.32	74.00	35.68	PASS	Vertical	PK
8	21115.2446	-24.70	62.56	37.86	74.00	36.14	PASS	Vertical	PK
9	24034.5214	-20.46	59.56	39.10	74.00	34.90	PASS	Vertical	PK
10	27095.4838	-20.32	58.05	37.73	74.00	36.27	PASS	Vertical	PK
11	30025.801	-19.64	57.99	38.35	74.00	35.65	PASS	Vertical	PK
12	34941.5577	-15.42	52.17	36.75	74.00	37.25	PASS	Vertical	PK

Mode:			802.11 n(HT20) Transmitting			Channel:		5785MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	19981.7593	-23.10	62.19	39.09	74.00	34.91	PASS	Horizontal	PK
2	21472.2189	-24.85	62.26	37.41	74.00	36.59	PASS	Horizontal	PK
3	24006.9203	-20.39	58.32	37.93	74.00	36.07	PASS	Horizontal	PK
4	27614.3846	-20.46	57.93	37.47	74.00	36.53	PASS	Horizontal	PK
5	31071.8829	-17.54	56.06	38.52	74.00	35.48	PASS	Horizontal	PK
6	34863.3545	-15.49	52.07	36.58	74.00	37.42	PASS	Horizontal	PK
7	19770.1508	-23.67	61.74	38.07	74.00	35.93	PASS	Vertical	PK
8	22021.4809	-25.06	62.22	37.16	74.00	36.84	PASS	Vertical	PK
9	25400.776	-19.33	58.21	38.88	74.00	35.12	PASS	Vertical	PK
10	28380.7752	-20.61	58.78	38.17	74.00	35.83	PASS	Vertical	PK
11	31827.2331	-17.32	55.41	38.09	74.00	35.91	PASS	Vertical	PK
12	37163.4465	-15.11	51.06	35.95	74.00	38.05	PASS	Vertical	PK

Mode:			802.11 n(HT20) Transmitting			Channel:		5825MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	20122.5249	-23.64	61.82	38.18	74.00	35.82	PASS	Horizontal	PK
2	23209.2484	-23.40	59.85	36.45	74.00	37.55	PASS	Horizontal	PK
3	25487.2595	-19.06	58.19	39.13	74.00	34.87	PASS	Horizontal	PK
4	28303.4921	-20.56	58.14	37.58	74.00	36.42	PASS	Horizontal	PK
5	32284.4914	-16.12	54.27	38.15	74.00	35.85	PASS	Horizontal	PK
6	38072.4429	-13.58	50.11	36.53	74.00	37.47	PASS	Horizontal	PK
7	18899.796	-24.70	62.55	37.85	74.00	36.15	PASS	Vertical	PK
8	22717.9487	-24.37	60.22	35.85	74.00	38.15	PASS	Vertical	PK
9	25356.6143	-19.22	58.80	39.58	74.00	34.42	PASS	Vertical	PK
10	30054.3222	-19.67	58.13	38.46	74.00	35.54	PASS	Vertical	PK
11	32504.3802	-15.97	55.10	39.13	74.00	34.87	PASS	Vertical	PK
12	38370.5348	-12.16	48.77	36.61	74.00	37.39	PASS	Vertical	PK

Mode:			802.11 n(HT40) Transmitting			Channel:		5755MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	20120.6848	-23.63	61.75	38.12	74.00	35.88	PASS	Horizontal	PK
2	23392.3357	-22.58	59.76	37.18	74.00	36.82	PASS	Horizontal	PK
3	25358.4543	-19.23	57.83	38.60	74.00	35.40	PASS	Horizontal	PK
4	28862.8745	-20.33	58.37	38.04	74.00	35.96	PASS	Horizontal	PK
5	33689.3876	-15.66	52.51	36.85	74.00	37.15	PASS	Horizontal	PK
6	38613.4245	-12.25	49.51	37.26	74.00	36.74	PASS	Horizontal	PK
7	19725.989	-23.74	61.84	38.10	74.00	35.90	PASS	Vertical	PK
8	22281.8513	-24.59	61.31	36.72	74.00	37.28	PASS	Vertical	PK
9	24641.7457	-19.84	58.31	38.47	74.00	35.53	PASS	Vertical	PK
10	26888.4755	-20.03	58.68	38.65	74.00	35.35	PASS	Vertical	PK
11	29545.5418	-19.48	58.39	38.91	74.00	35.09	PASS	Vertical	PK
12	34285.5714	-15.88	52.67	36.79	74.00	37.21	PASS	Vertical	PK

Mode:			802.11 n(HT40) Transmitting			Channel:		5795MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	18784.7914	-24.94	63.37	38.43	74.00	35.57	PASS	Horizontal	PK
2	21782.2713	-24.73	61.56	36.83	74.00	37.17	PASS	Horizontal	PK
3	24597.5839	-19.86	58.34	38.48	74.00	35.52	PASS	Horizontal	PK
4	27803.9122	-20.17	58.54	38.37	74.00	35.63	PASS	Horizontal	PK
5	31369.9748	-17.48	56.73	39.25	74.00	34.75	PASS	Horizontal	PK
6	35833.0733	-15.08	52.03	36.95	74.00	37.05	PASS	Horizontal	PK
7	19782.1113	-23.65	61.76	38.11	74.00	35.89	PASS	Vertical	PK
8	21840.2336	-24.79	61.58	36.79	74.00	37.21	PASS	Vertical	PK
9	26006.1602	-19.12	57.86	38.74	74.00	35.26	PASS	Vertical	PK
10	29545.5418	-19.48	57.50	38.02	74.00	35.98	PASS	Vertical	PK
11	32168.5667	-16.80	55.02	38.22	74.00	35.78	PASS	Vertical	PK
12	37489.1396	-14.19	50.11	35.92	74.00	38.08	PASS	Vertical	PK

Mode:			802.11 ac(VHT80) Transmitting			Channel:		5775MHz	
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	19463.7786	-23.94	62.07	38.13	74.00	35.87	PASS	Horizontal	PK
2	21778.5911	-24.73	61.72	36.99	74.00	37.01	PASS	Horizontal	PK
3	24646.3459	-19.84	58.31	38.47	74.00	35.53	PASS	Horizontal	PK
4	27727.5491	-20.28	58.56	38.28	74.00	35.72	PASS	Horizontal	PK
5	31399.416	-17.40	56.33	38.93	74.00	35.07	PASS	Horizontal	PK
6	36533.2213	-14.43	51.75	37.32	74.00	36.68	PASS	Horizontal	PK
7	19197.8879	-24.34	62.91	38.57	74.00	35.43	PASS	Vertical	PK
8	21839.3136	-24.79	61.41	36.62	74.00	37.38	PASS	Vertical	PK
9	25264.6106	-18.99	58.18	39.19	74.00	34.81	PASS	Vertical	PK
10	27768.0307	-20.22	58.60	38.38	74.00	35.62	PASS	Vertical	PK
11	30847.3939	-17.66	55.90	38.24	74.00	35.76	PASS	Vertical	PK
12	35605.8242	-14.70	51.54	36.84	74.00	37.16	PASS	Vertical	PK

Note:

1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor– Antenna Factor–Cable Factor

2) Scan from 9kHz to 40GHz, the disturbance above 18GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

7.4 Radiated Emission which fall in the restricted bands

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.407 (b)
Test Method:	ANSI C63.10 2013
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)

Receiver Setup:

Frequency	Detector	RBW	VBW	Remark
0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak
0.009MHz-0.090MHz	Average	10kHz	30kHz	Average
0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak
0.110MHz-0.490MHz	Average	10kHz	30kHz	Average
0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
30MHz-1GHz	Quasi-peak	100 kHz	300kHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10kHz	Average

Limit:

Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
1.705MHz-30MHz	30	-	-	30
30MHz-88MHz	100	40.0	Quasi-peak	3
88MHz-216MHz	150	43.5	Quasi-peak	3
216MHz-960MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
Above 1GHz	500	54.0	Average	3

*(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(4) For transmitters operating in the 5.725-5.85 GHz band:
(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.

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated

	emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. Note: (i) EIRP = ((E*d)^2) / 30 where: • E is the field strength in V/m; • d is the measurement distance in meters; • EIRP is the equivalent isotropically radiated power in watts. (ii) Working in dB units, the above equation is equivalent to: EIRP[dBm] = E[dBμV/m] + 20 log(d[meters]) - 104.77 (iii) Or, if d is 3 meters: EIRP[dBm] = E[dBμV/m] - 95.2
Test Setup:	

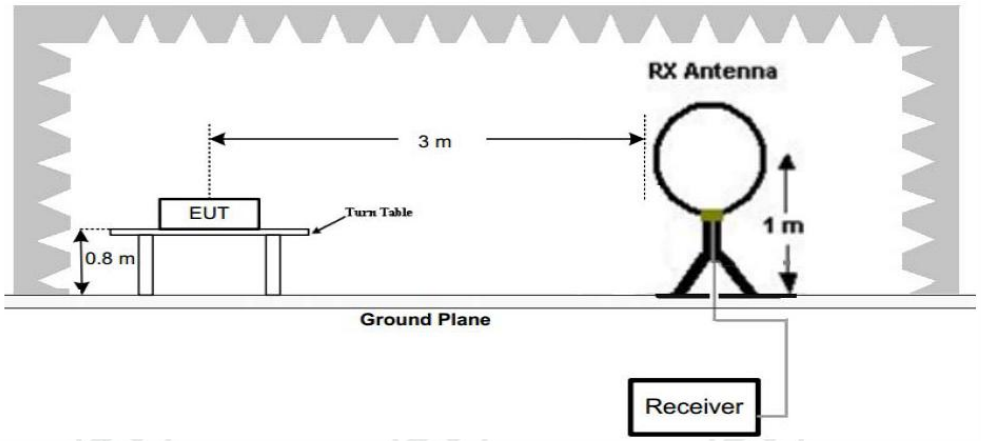


Figure 1. Below 30MHz

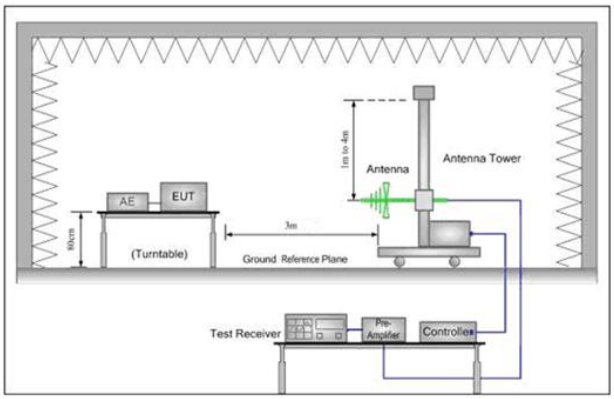


Figure 2. 30MHz to 1GHz

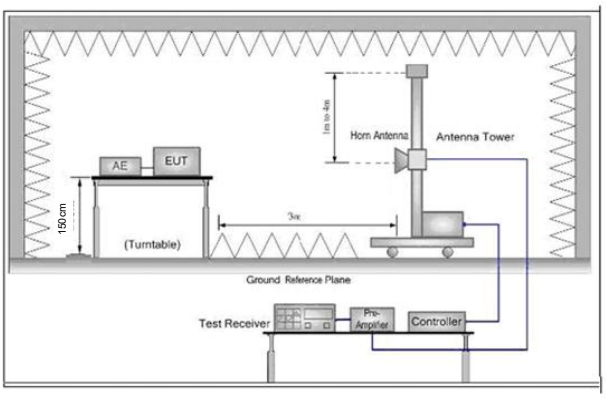


Figure 3. Above 1 GHz

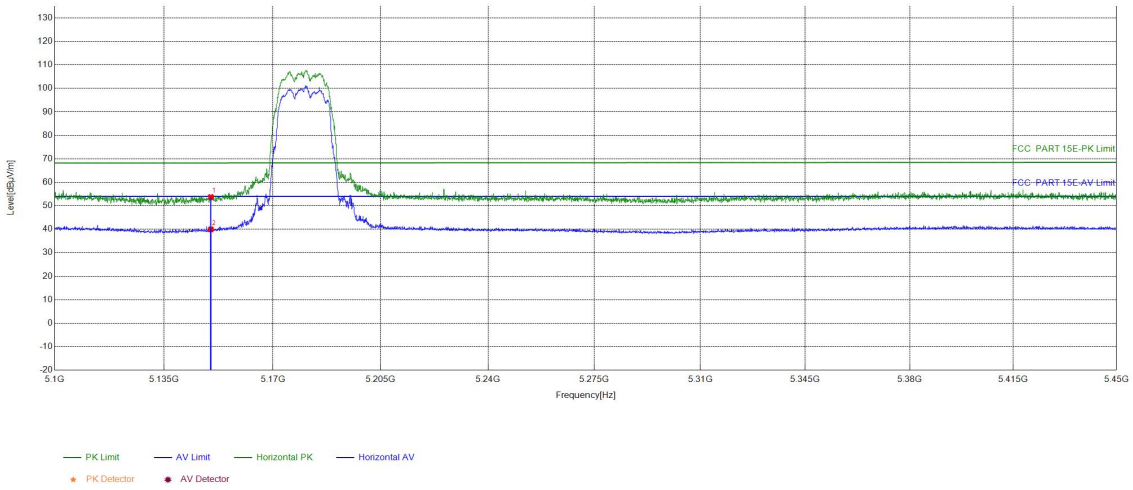
Test Procedure:	j. 1) Below 1G: The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2) Above 1G: The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.

	Note: For the radiated emission test above 1GHz: Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane. k. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. l. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. m. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. n. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. o. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. p. Test the EUT in the lowest channel, the Highest channel q. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case. r. Repeat above procedures until all frequencies measured was complete.
Test Mode:	Transmitting mode with modulation
Test Results:	Pass

Test Data:
Band 1:

Test_Mode	802.11 a Transmitting	Test_Frequency	5180MHz
Tset_Engineer	Aiden.wang	Test_Date	2024\08\21
Remark	\		

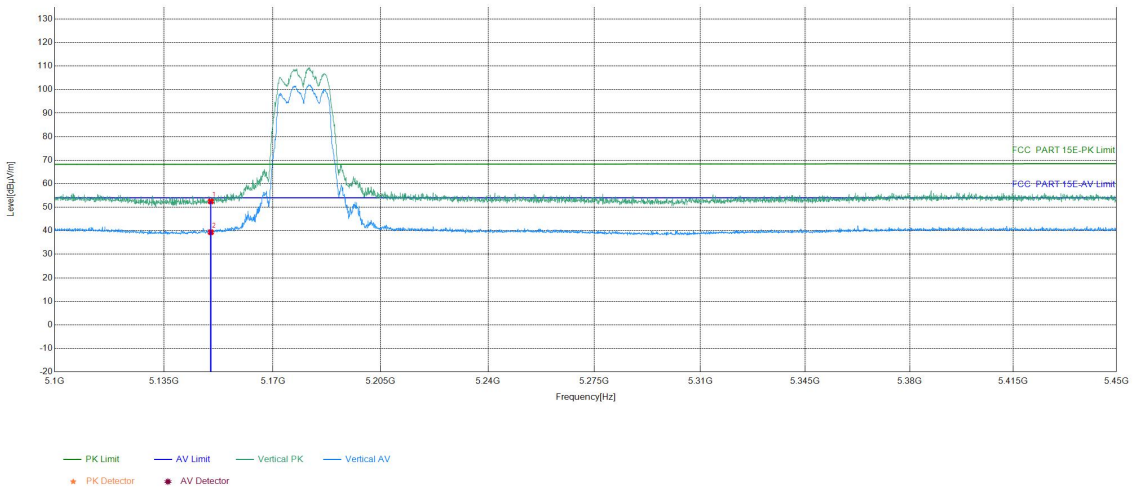
Test Graph



Suspected List									
NO	Freq. [MHz]	Factor [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity	Remark
1	5150	20.05	33.69	53.74	68.24	14.50	PASS	Horizontal	PK
2	5150	20.05	19.91	39.96	54.00	14.04	PASS	Horizontal	AV

Test_Mode	802.11 a Transmitting	Test_Frequency	5180MHz
Tset_Engineer	Aiden.wang	Test_Date	2024\08\21
Remark	\		

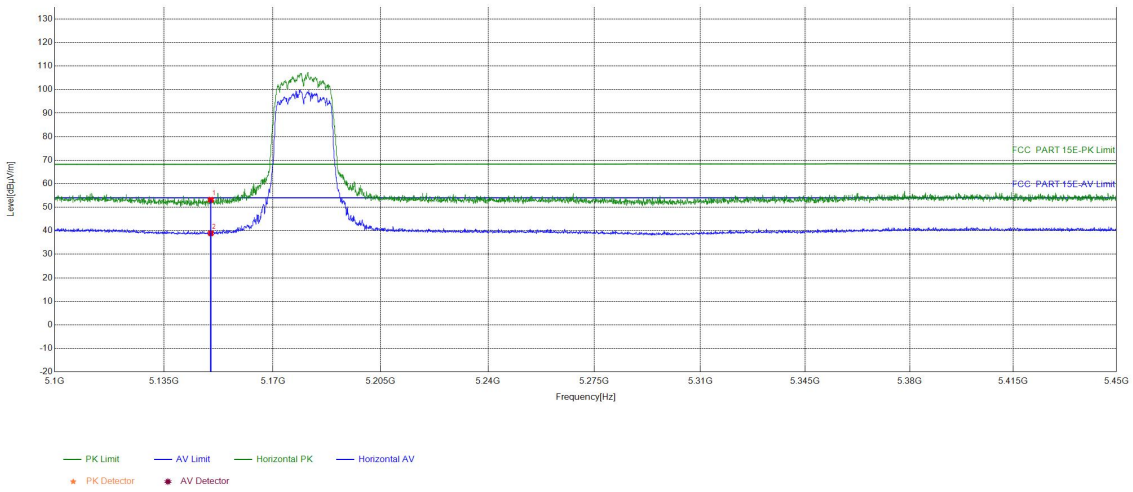
Test Graph



Suspected List									
NO	Freq. [MHz]	Factor [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity	Remark
1	5150	20.05	32.43	52.48	68.24	15.76	PASS	Vertical	PK
2	5150	20.05	19.32	39.37	54.00	14.63	PASS	Vertical	AV

Test_Mode	802.11 n(HT20) Transmitting	Test_Frequency	5180MHz
Tset_Engineer	Aiden.wang	Test_Date	2024\08\21
Remark	\		

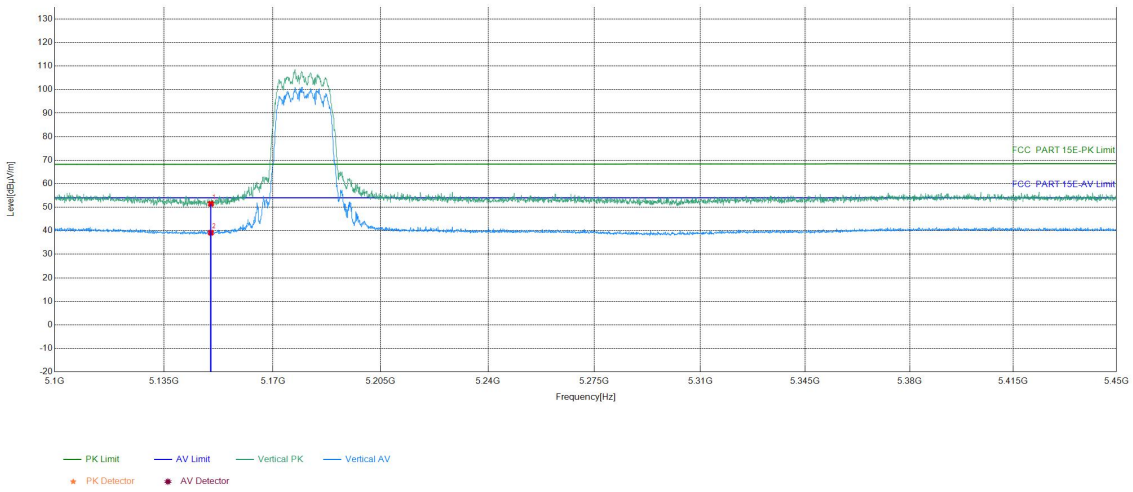
Test Graph



Suspected List									
NO	Freq. [MHz]	Factor [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity	Remark
1	5150	20.05	33.09	53.14	68.24	15.10	PASS	Horizontal	PK
2	5150	20.05	18.87	38.92	54.00	15.08	PASS	Horizontal	AV

Test_Mode	802.11 n(HT20) Transmitting	Test_Frequency	5180MHz
Tset_Engineer	Aiden.wang	Test_Date	2024\08\21
Remark	\		

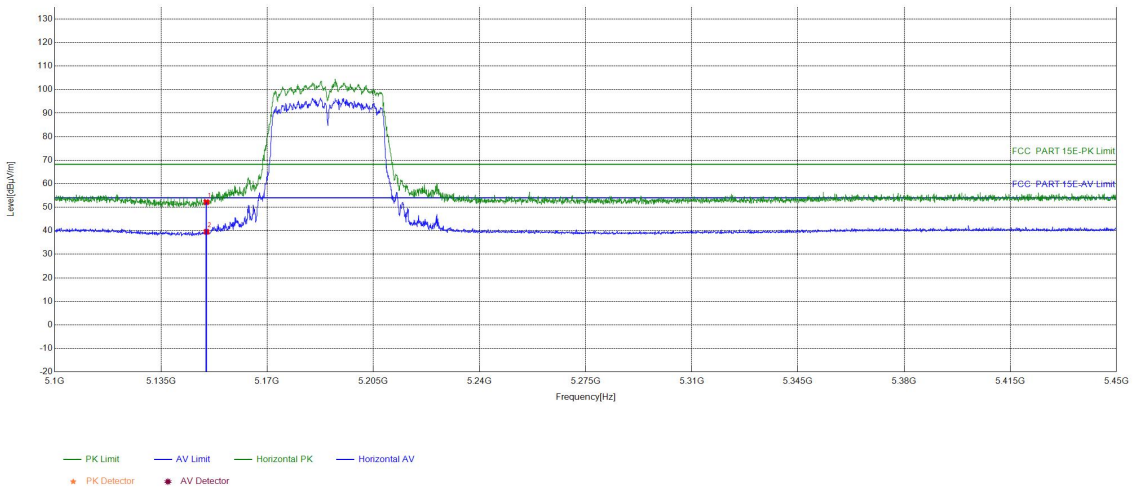
Test Graph



Suspected List									
NO	Freq. [MHz]	Factor [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity	Remark
1	5150	20.05	31.40	51.45	68.24	16.79	PASS	Vertical	PK
2	5150	20.05	19.10	39.15	54.00	14.85	PASS	Vertical	AV

Test_Mode	802.11 n(HT40) Transmitting	Test_Frequency	5190MHz
Tset_Engineer	Aiden.wang	Test_Date	2024\08\21
Remark	\		

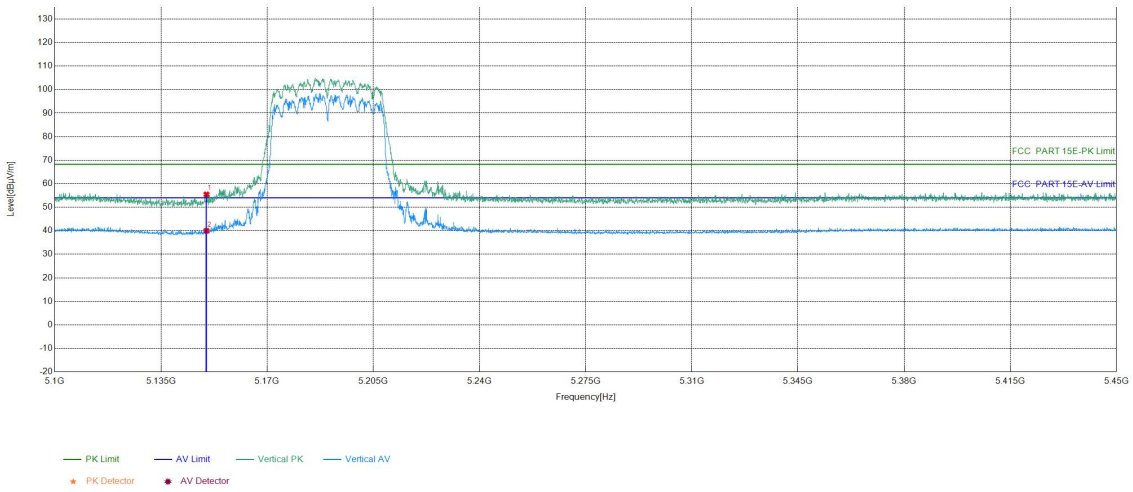
Test Graph



Suspected List									
NO	Freq. [MHz]	Factor [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity	Remark
1	5150	19.80	32.35	52.15	68.20	16.05	PASS	Horizontal	PK
2	5150	19.80	19.75	39.55	54.00	14.45	PASS	Horizontal	AV

Test_Mode	802.11 n(HT40) Transmitting	Test_Frequency	5190MHz
Tset_Engineer	Aiden.wang	Test_Date	2024\08\21
Remark	\		

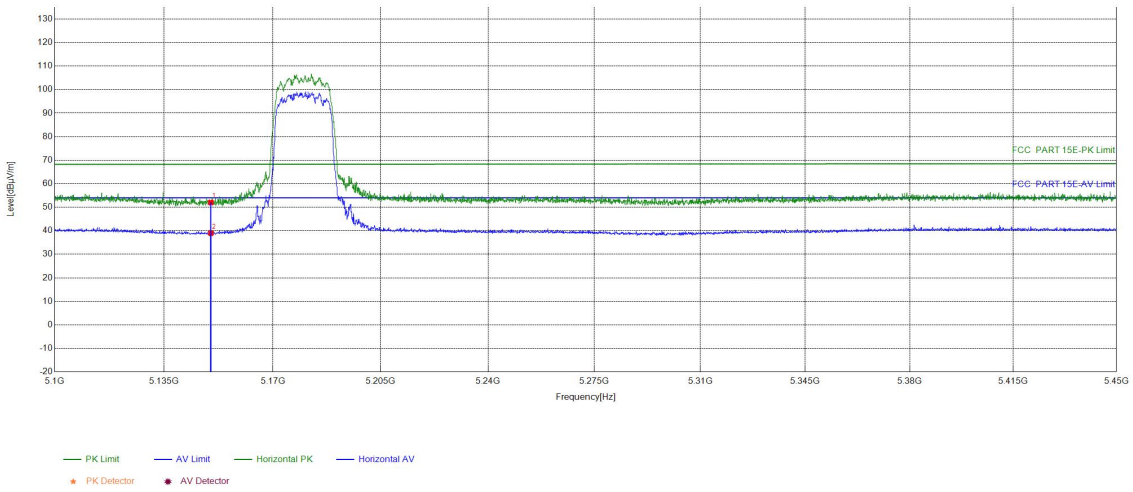
Test Graph



Suspected List									
NO	Freq. [MHz]	Factor [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity	Remark
1	5150	19.80	35.64	55.44	68.20	12.76	PASS	Vertical	PK
2	5150	19.80	20.17	39.97	54.00	14.03	PASS	Vertical	AV

Test_Mode	802.11 ac(VHT20) Transmitting	Test_Frequency	5180MHz
Tset_Engineer	Aiden.wang	Test_Date	2024\08\21
Remark	\		

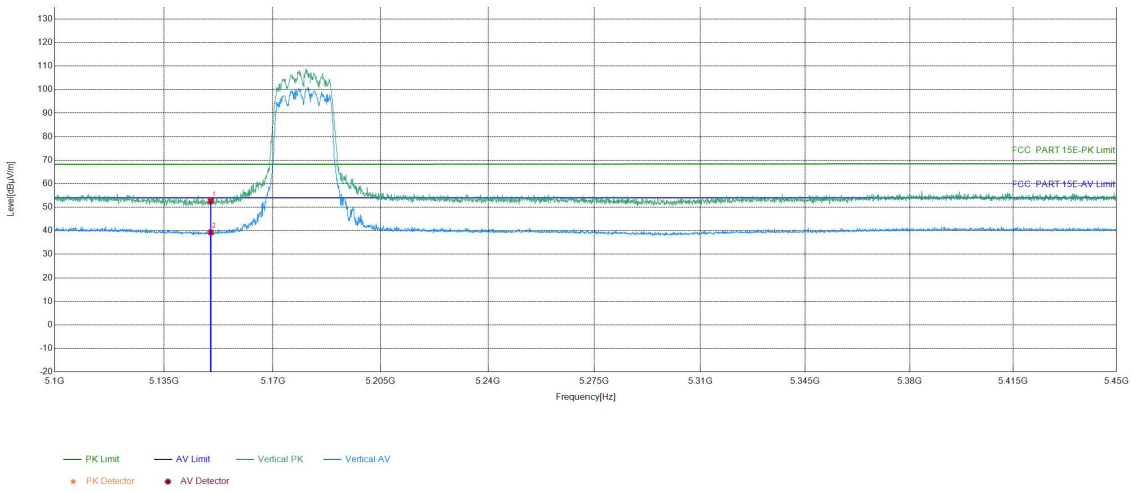
Test Graph



Suspected List									
NO	Freq. [MHz]	Factor [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity	Remark
1	5150	20.05	32.00	52.05	68.24	16.19	PASS	Horizontal	PK
2	5150	20.05	18.94	38.99	54.00	15.01	PASS	Horizontal	AV

Test_Mode	802.11 ac(VHT20) Transmitting	Test_Frequency	5180MHz
Tset_Engineer	Aiden.wang	Test_Date	2024\08\21
Remark	\		

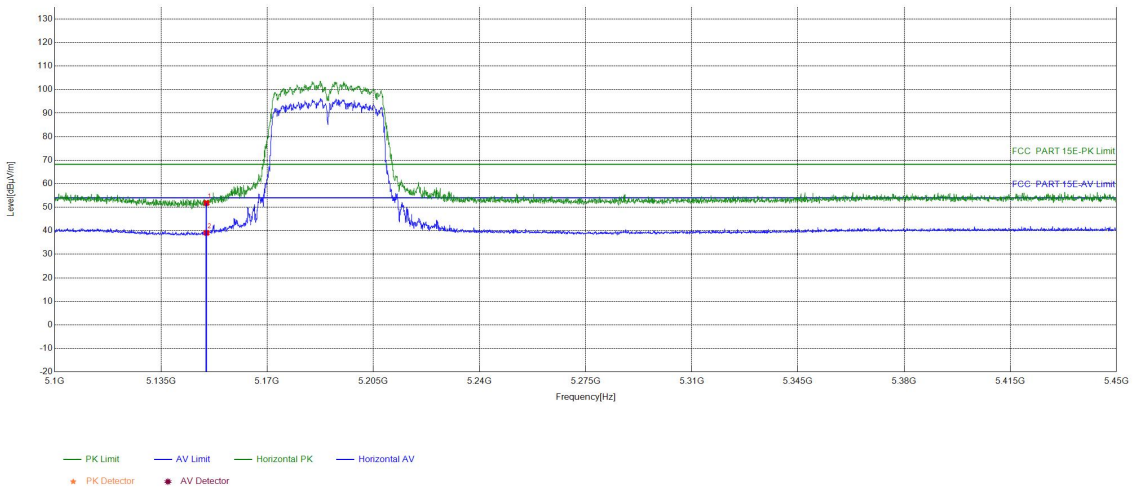
Test Graph



Suspected List									
NO	Freq. [MHz]	Factor [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity	Remark
1	5150	20.05	32.64	52.69	68.24	15.55	PASS	Vertical	PK
2	5150	20.05	19.29	39.34	54.00	14.66	PASS	Vertical	AV

Test_Mode	802.11 ac(VHT40) Transmitting	Test_Frequency	5190MHz
Tset_Engineer	Aiden.wang	Test_Date	2024\08\21
Remark	\		

Test Graph



Suspected List									
NO	Freq. [MHz]	Factor [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity	Remark
1	5150	19.80	31.98	51.78	68.20	16.42	PASS	Horizontal	PK
2	5150	19.80	19.30	39.10	54.00	14.90	PASS	Horizontal	AV