

TEST REPORT

Product : reComputer R1225 LoRaWAN Gateway & Industrial Controller (US915)
Trade mark : Seeed Studio
Model/Type reference : reComputer R1225 LoRaWAN Gateway & Industrial Controller (US915)
Serial Number : N/A
Report Number : EED32S80784204
FCC ID : Z4T-R1225
Date of Issue : Jun. 16, 2026
Test Standards : 47 CFR Part 15 Subpart E
Test result : PASS

Prepared for:

Seeed Technology Co.,Ltd
9F,Building G3,TCL International E city,Shuguang Community,Xili street,Nanshan,Shenzhen, Guangdong Province, P.R.C

Prepared by:

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Jun. 16, 2026

Check No.:5750130426

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2 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	PASS
Maximum Conducted Output Power	47 CFR Part 15 Subpart E Section 15.407 (a)	PASS
26dB Emission Bandwidth	47 CFR Part 15 Subpart E Section 15.407 (a)	PASS
99% Occupied Bandwidth	\	PASS
6dB Emission Bandwidth	47 CFR Part 15 Subpart E Section 15.407 (e)	PASS
Maximum Power Spectral Density	47 CFR Part 15 Subpart E Section 15.407 (a)	PASS
Frequency stability	47 CFR Part 15 Subpart E Section 15.407 (g)	PASS
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

3 General Information

3.1 Client Information

Applicant:	Seeed Technology Co.,Ltd
Address of Applicant:	9F,Building G3,TCL International E city,Shuguang Community,Xili street,Nanshan,Shenzhen, Guangdong Province, P.R.C
Manufacturer:	Seeed Technology Co.,Ltd
Address of Manufacturer:	9F,Building G3,TCL International E city,Shuguang Community,Xili street,Nanshan,Shenzhen, Guangdong Province, P.R.C
Factory :	Shenzhen Xinxian Technology Co.,Limited.
Address of Factory :	5th Floor,102 first Floor,Building B17,HengfengIndustrial town No.739 Zhoushi Road,Hangcheng Street,Bao'an District,Shenzhen

3.2 General Description of EUT

Product Name:	reComputer R1225 LoRaWAN Gateway & Industrial Controller (US915)
Model No.:	reComputer R1225 LoRaWAN Gateway & Industrial Controller (US915)
Test Model No.:	reComputer R1225 LoRaWAN Gateway & Industrial Controller (US915)
Trade mark:	Seeed Studio
EUT Function:	☐ Outdoor AP ☐ Indoor AP ☐ Fixed P2P AP ☒ Indoor
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 Configuration:	☒ Single Transmitting; ☐ MIMO (☐ 2T2R, ☐ 3T3R, ☐ 4T4R, ☐ Other);
Antenna Type:	PCB antenna
Antenna Gain:	U-NII-1: 1.66dBi; U-NII-3: 0.86dBi
Power Supply:	DC 12V
Test voltage:	DC 12V
Sample Received Date:	Apr. 23, 2026
Sample tested Date:	Apr. 23, 2026 to May 30, 2026

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.

3.3 Test Configuration

EUT Test Software Settings:	
Software:	MobaXterm_Personal_26.3.exe (manufacturer declare)
EUT Power Grade:	Default(manufacturer declare)
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

3.4 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)	-30 °C
	HT (High Temperature)	70 °C
Working Voltage of the EUT:	NV (Normal Voltage)	36 V
	LV (Low Voltage)	32.4 V
	HV (High Voltage)	39.6 V

3.5 Description of Support Units

The EUT has been tested independently.

3.6 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, Test Firm Registration No.: 260439

3.7 Deviation from Standards

None.

3.8 Abnormalities from Standard Conditions

None.

3.9 Other Information Requested by the Customer

None.

3.10 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%

4 Equipment List

RF test system					
Equipment	Manufacturer	Mode No.	Serial Number	Cal. Date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
Communication test set	R&S	CMW500	107929	06-16-2025	06-15-2026
Signal Generator	R&S	SMBV100A	262454	08-11-2025	08-10-2026
Spectrum Analyzer	R&S	FSV40	101200	08-11-2025	08-10-2026
RF control unit(power unit)	MWRF-test	MW100-RFCB	MW220620CTI-42	06-16-2025	06-15-2026
high-low temperature test chamber	Dong Guang Qin Zhuo	LK-80GA	QZ20150611879	11-13-2025	11-12-2026
Temperature/Humidity Indicator	biaozhi	HM10	1804186	05-26-2025 05-22-2026	05-25-2026 05-21-2027
BT&Wi-Fi Automatic test software	MWRF-test	MTS 8310	2.0.0.0	---	---
Digital multimeter	FLUKE	17B MAX	59545050WS	10-15-2025	10-14-2026

Conducted disturbance Test					
Equipment	Manufacturer	Model No.	Serial Number	Cal. date	Cal. Due date
				(mm-dd-yyyy)	(mm-dd-yyyy)
Receiver	R&S	ESCI	100435	04-08-2025 04-06-2026	04-07-2026 04-05-2027
Temperature/ Humidity Indicator	Defu	TH128	/	03-24-2026	03-23-2027
LISN	R&S	ENV216	100098	09-13-2025	09-12-2026
Barometer	changchun	DYM3	1188	---	---
Test software	Fara	EZ-EMC	EMC-CON 3A1.1	---	---
Capacitive voltage probe	Schwarzbeck	CVP 9222C	00124	06-07-2025	06-06-2026
ISN	TESEQ	ISN T800	30297	11-24-2025	11-23-2026

3M Semi-anechoic Chamber (2)- Radiated disturbance Test					
Equipment	Manufacturer	Model No.	Serial Number	Cal. date	Cal. Due date
				(mm-dd-yyyy)	(mm-dd-yyyy)
3M Chamber & Accessory Equipment	TDK	SAC-3	---	01/13/2024	01/12/2027
Receiver	R&S	ESCI7	100938-003	09/03/2025	09/02/2026
TRILOG Broadband Antenna	schwarzbeck	VULB 9163	9163-618	05/14/2025 05/11/2026	05/13/2026 05/10/2027
Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-076	03-29-2026	03-28-2027
Microwave Preamplifier	Tonscend	EMC051845SE	980380	11/25/2025	11/24/2026
Horn Antenna	A.H.SYSTEMS	SAS-574	374	07/02/2023	07/01/2026
Horn Antenna	ETS-LINGREN	BBHA 9120D	9120D-1869	03-31-2026	03-30-2027
Preamplifier	Agilent	11909A	12-1	02/06/2026	02/07/2027
Preamplifier	CD	PAP-1840-60	6041.6042	05/26/2025 05/16/2026	05/25/2026 05/15/2027
Test software	Fara	EZ-EMC	EMEC-3A1-Pre	---	---
Cable line	Fulai(7M)	SF106	5219/6A	01/13/2024	01/12/2027
Cable line	Fulai(6M)	SF106	5220/6A	01/13/2024	01/12/2027
Cable line	Fulai(3M)	SF106	5216/6A	01/13/2024	01/12/2027
Cable line	Fulai(3M)	SF106	5217/6A	01/13/2024	01/12/2027

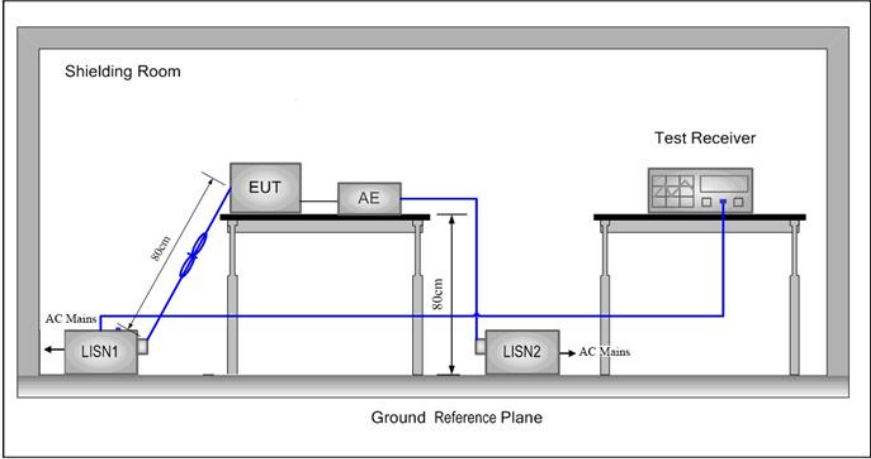
3M full-anechoic Chamber					
Equipment	Manufacturer	Model No.	Serial Number	Cal. Date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
Fully Anechoic Chamber	TDK	FAC-3	---	01-29-2024	01-28-2027
Receiver	Keysight	N9038A	MY57290136	12-22-2025	12-21-2026
Spectrum Analyzer	Keysight	N9020B	MY57111112	12-21-2025	12-20-2026
Spectrum Analyzer	Keysight	N9030B	MY57140871	12-21-2025	12-20-2026
TRILOG Broadband Antenna	Schwarzbeck	VULB 9163	9163-1148	03-29-2026	03-28-2027
Horn Antenna	Schwarzbeck	BBHA 9170	9170-832	03-29-2026	03-28-2027
Horn Antenna	ETS-LINDGREN	3117	57407	06-29-2025	06-28-2026
Preamplifier	EMCI	EMC001330	980563	02-06-2026	02-05-2027
Preamplifier	EMCI	EMC051845SE	980380	11-25-2025	11-24-2026
Preamplifier	Tonscend	TAP-011858	AP21B806112	07-07-2025	07-06-2026
Communication test set	R&S	CMW500	104466	11-25-2025	11-24-2026
Temperature/Humidity Indicator	biaozhi	GM1360	EE1186631	03-24-2026	03-23-2027
RSE Automatic test software	JS Tonscend	JS36-RSE	V5.0.0.1	---	---
Cable line	Times	SFT205-NMSM-2.50M	394812-0001	01-29-2024	01-28-2027
Cable line	Times	SFT205-NMSM-2.50M	394812-0002	01-29-2024	01-28-2027
Cable line	Times	SFT205-NMSM-2.50M	394812-0003	01-29-2024	01-28-2027
Cable line	Times	SFT205-NMSM-2.50M	393495-0001	01-29-2024	01-28-2027
Cable line	Times	EMC104-NMNM-1000	SN160710	01-29-2024	01-28-2027
Cable line	Times	SFT205-NMSM-3.00M	394813-0001	01-29-2024	01-28-2027
Cable line	Times	SFT205-NMNM-1.50M	381964-0001	01-29-2024	01-28-2027
Cable line	Times	SFT205-NMSM-7.00M	394815-0001	01-29-2024	01-28-2027
Cable line	Times	HF160-KMKM-3.00M	393493-0001	01-29-2024	01-28-2027

5 Radio Technical Requirements Specification

5.1 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 PCB antenna. The best case gain of the U-NII-1 antenna is 1.66dBi. The best case gain of the U-NII-3 antenna is 0.86dBi.	

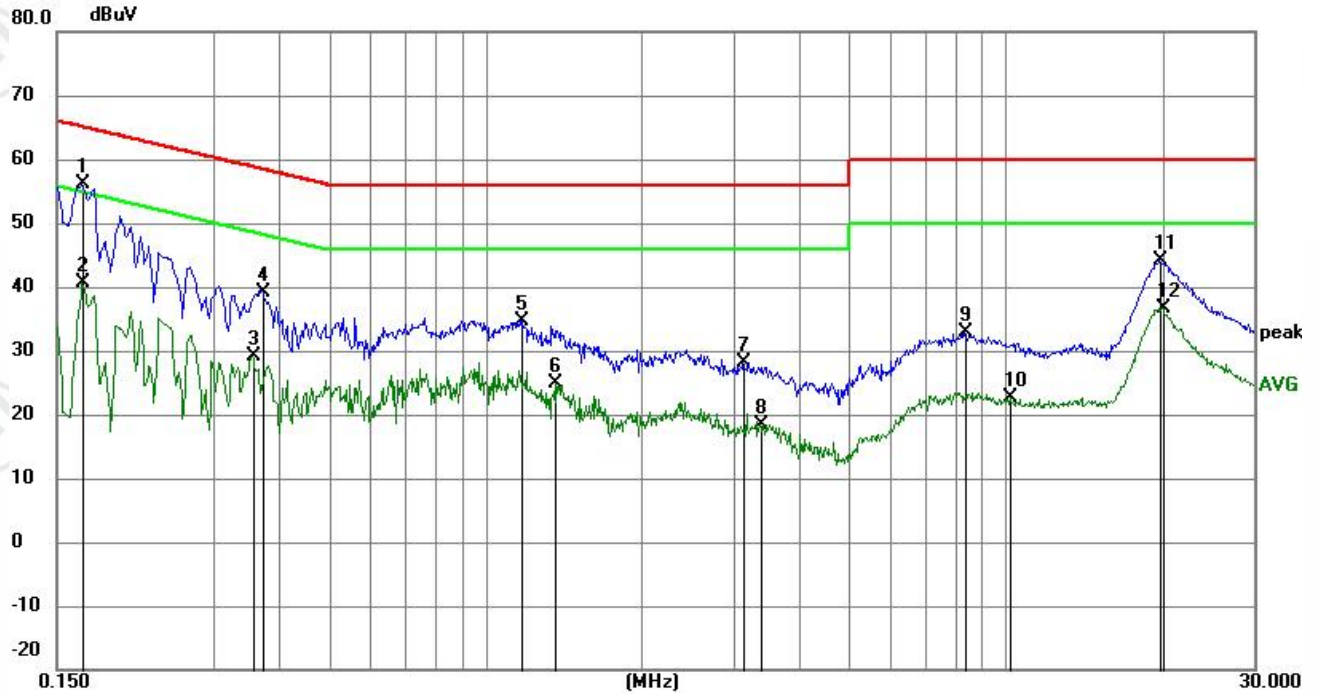
5.2 AC Power Line Conducted Emissions

Test Requirement:	47 CFR Part 15C Section 15.207		
Test Method:	ANSI C63.10-2020		
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 $50\Omega/50\mu\text{H} + 5\Omega$ 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 C63.10-2020 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. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	*	0.1680	45.79	10.26	56.05	65.06	-9.01	QP	
2		0.1680	30.34	10.26	40.60	55.06	-14.46	AVG	
3		0.3570	19.08	10.11	29.19	48.80	-19.61	AVG	
4		0.3750	29.02	10.10	39.12	58.39	-19.27	QP	
5		1.1715	24.46	10.18	34.64	56.00	-21.36	QP	
6		1.3650	14.75	10.18	24.93	46.00	-21.07	AVG	
7		3.1290	18.03	10.13	28.16	56.00	-27.84	QP	
8		3.3720	8.38	10.12	18.50	46.00	-27.50	AVG	
9		8.3265	22.82	9.99	32.81	60.00	-27.19	QP	
10		10.2255	12.67	9.95	22.62	50.00	-27.38	AVG	
11		19.7430	34.33	9.80	44.13	60.00	-15.87	QP	
12		19.9635	26.91	9.80	36.71	50.00	-13.29	AVG	

Remark:

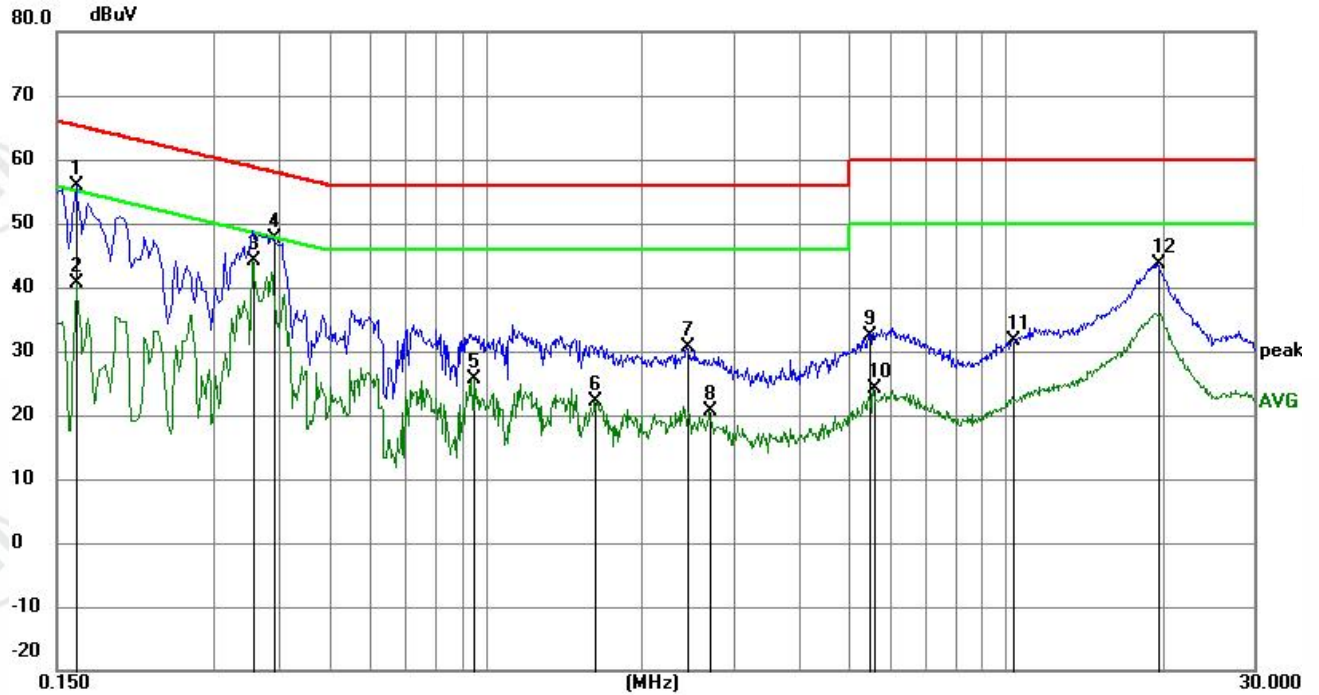
1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.
3. Margin=Measurement-Limit.

4. Measurement=Reading Level+Correct Factor.

5. In the test results, an asterisk (*) indicates Maximum Data, a cross (X) indicates over Limit.

6. If the Peak value under Average limit, the Average value is not recorded in the report.

Neutral line:

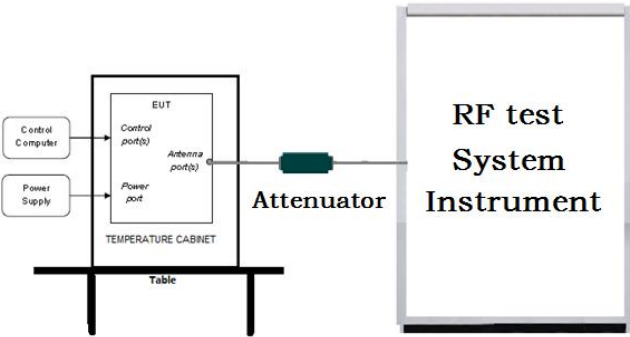


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1635	45.53	10.26	55.79	65.28	-9.49	QP	
2		0.1635	30.40	10.26	40.66	55.28	-14.62	AVG	
3	*	0.3570	33.96	10.11	44.07	48.80	-4.73	AVG	
4		0.3930	37.54	10.09	47.63	58.00	-10.37	QP	
5		0.9510	15.34	10.18	25.52	46.00	-20.48	AVG	
6		1.6260	11.91	10.17	22.08	46.00	-23.92	AVG	
7		2.4405	20.43	10.15	30.58	56.00	-25.42	QP	
8		2.6925	10.43	10.14	20.57	46.00	-25.43	AVG	
9		5.4689	22.41	10.05	32.46	60.00	-27.54	QP	
10		5.5860	14.00	10.05	24.05	50.00	-25.95	AVG	
11		10.3155	21.67	9.94	31.61	60.00	-28.39	QP	
12		19.5855	33.71	9.80	43.51	60.00	-16.49	QP	

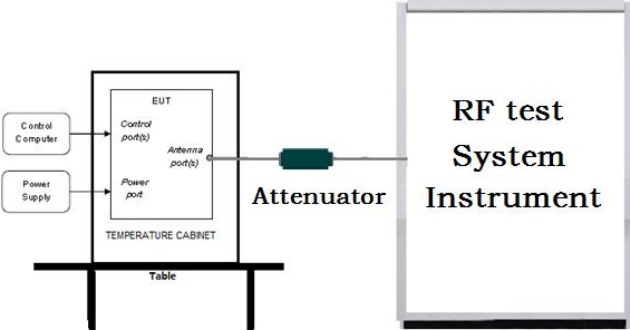
Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level = Receiver Reading + LISN Factor + Cable Loss.
3. Margin = Measurement - Limit.
4. Measurement = Reading Level + Correct Factor.
5. In the test results, an asterisk (*) indicates Maximum Data, a cross (X) indicates over Limit.
6. If the Peak value under Average limit, the Average value is not recorded in the report.

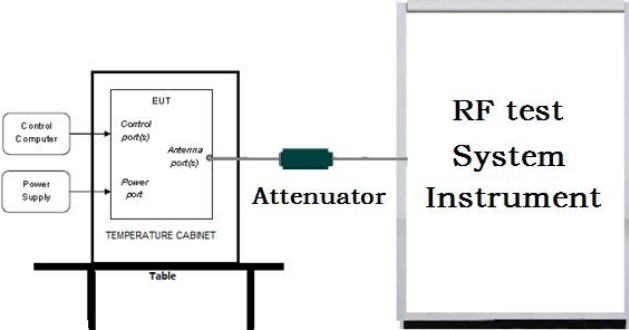
5.3 Maximum Conducted Output Power

Test Requirement:	47 CFR Part 15C Section 15.407 (a)												
Test Method:	KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section E												
Test Setup:													
Test Procedure:	1. The testing follows the Measurement Procedure of KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section E, 3, a 2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement. 3. Set to the maximum power setting and enable the EUT transmit continuously. 4. Measure the conducted output power and record the results in the test report.												
Limit:	<table border="1"> <thead> <tr> <th>Frequency band (MHz)</th><th>Limit</th></tr> </thead> <tbody> <tr> <td>5150-5250</td><td> $\leq 1\text{W}(30\text{dBm})$ for master device $\leq 250\text{mW}(24\text{dBm})$ for client device </td></tr> <tr> <td>5250-5350</td><td>$\leq 250\text{mW}(24\text{dBm})$ for client device or $11\text{dBm}+10\log B^*$</td></tr> <tr> <td>5470-5725</td><td>$\leq 250\text{mW}(24\text{dBm})$ for client device or $11\text{dBm}+10\log B^*$</td></tr> <tr> <td>5725-5850</td><td>$\leq 1\text{W}(30\text{dBm})$</td></tr> <tr> <td>Remark:</td><td> * Where B is the 26dB emission bandwidth in MHz The maximum conducted output power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage. </td></tr> </tbody> </table>	Frequency band (MHz)	Limit	5150-5250	$\leq 1\text{W}(30\text{dBm})$ for master device $\leq 250\text{mW}(24\text{dBm})$ for client device	5250-5350	$\leq 250\text{mW}(24\text{dBm})$ for client device or $11\text{dBm}+10\log B^*$	5470-5725	$\leq 250\text{mW}(24\text{dBm})$ for client device or $11\text{dBm}+10\log B^*$	5725-5850	$\leq 1\text{W}(30\text{dBm})$	Remark:	* Where B is the 26dB emission bandwidth in MHz The maximum conducted output power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage.
Frequency band (MHz)	Limit												
5150-5250	$\leq 1\text{W}(30\text{dBm})$ for master device $\leq 250\text{mW}(24\text{dBm})$ for client device												
5250-5350	$\leq 250\text{mW}(24\text{dBm})$ for client device or $11\text{dBm}+10\log B^*$												
5470-5725	$\leq 250\text{mW}(24\text{dBm})$ for client device or $11\text{dBm}+10\log B^*$												
5725-5850	$\leq 1\text{W}(30\text{dBm})$												
Remark:	* Where B is the 26dB emission bandwidth in MHz The maximum conducted output power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage.												
Test Mode:	Transmitting mode with modulation												
Test Results:	Refer to Appendix A												

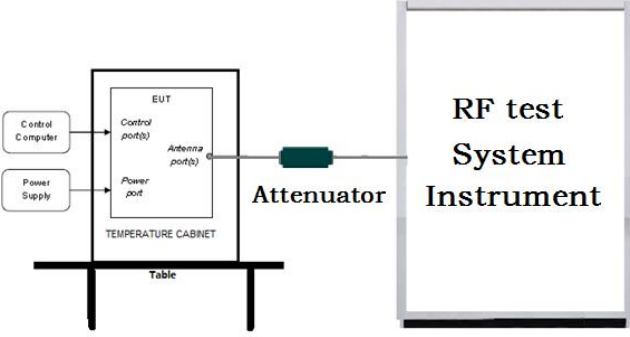
5.4 6dB Emission Bandwidth

Test Requirement:	47 CFR Part 15C Section 15.407 (e)
Test Method:	KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section C
Test Setup:	 Remark: Offset=Cable loss+ attenuation factor.
Test Procedure:	1. KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section C 2. Set to the maximum power setting and enable the EUT transmit continuously. 3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6dB bandwidth must be greater than 500 kHz. 4. Measure and record the results in the test report.
Limit:	≥ 500 kHz
Test Mode:	Transmitting mode with modulation
Test Results:	Refer to Appendix A

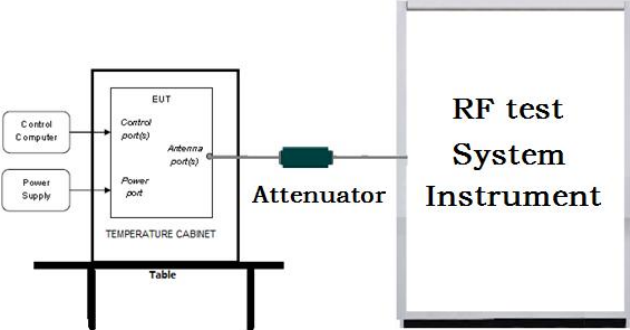
5.5 26dB Emission Bandwidth and 99% Occupied Bandwidth

Test Requirement:	47 CFR Part 15C Section 15.407 (a)
Test Method:	KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section C&D
Test Setup:	 Remark: Offset=Cable loss+ attenuation factor.
Test Procedure:	For 26dB Occupied Bandwidth: 1. KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section D 2. Set to the maximum power setting and enable the EUT transmit continuously. 3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. 4. Measure and record the results in the test report. For 99% Occupied Bandwidth: 1. KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section C 2. Set to the maximum power setting and enable the EUT transmit continuously. 3. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1-5% of the emission bandwidth and set the Video bandwidth (VBW) $\geq 3 * RBW$. 4. Measure and record the results in the test report.
Limit:	No restriction limits
Test Mode:	Transmitting mode with modulation
Test Results:	Refer to Appendix A

5.6 Maximum Power Spectral Density

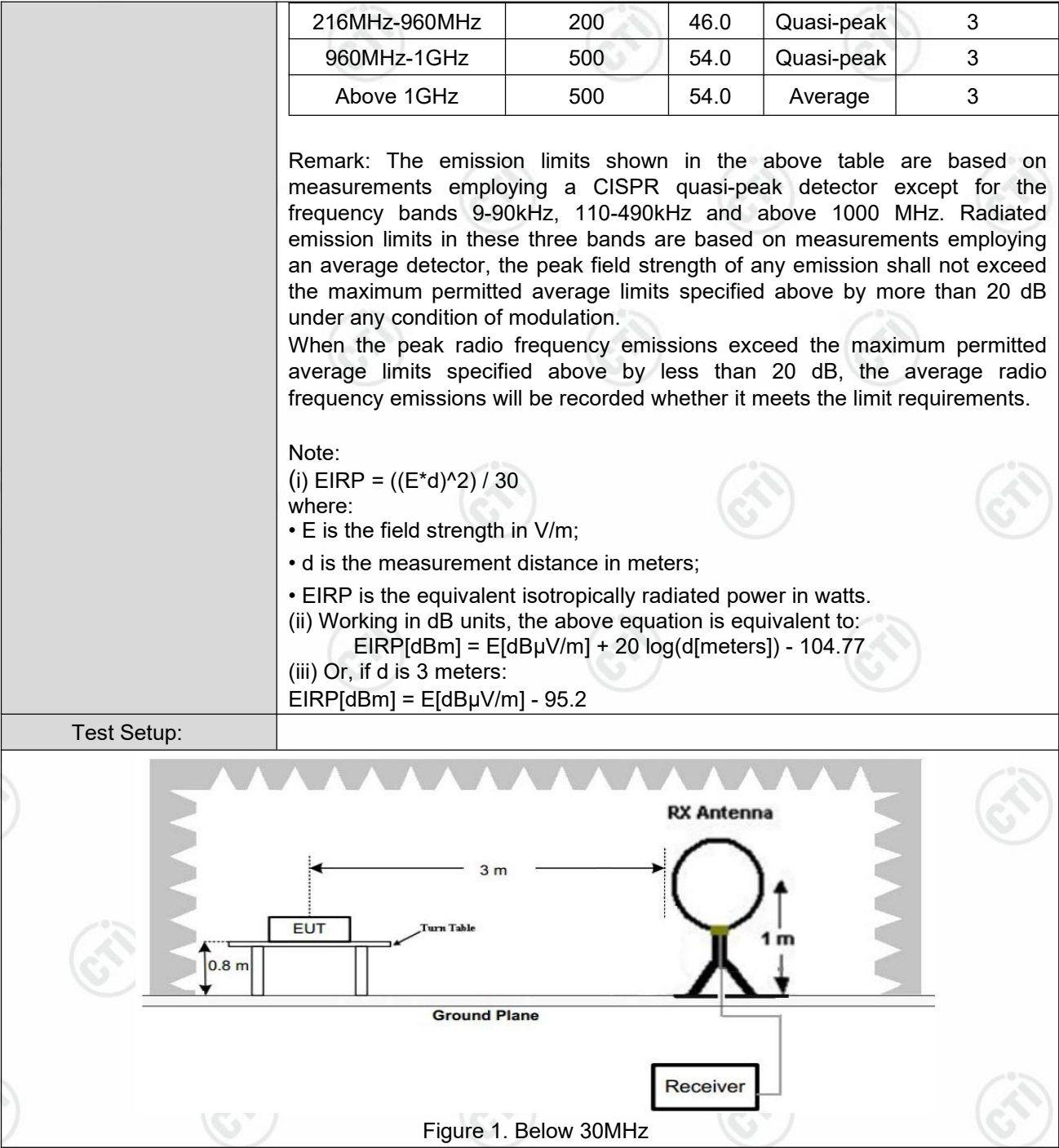
Test Requirement:	47 CFR Part 15C Section 15.407 (a)												
Test Method:	KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section F												
Test Setup:	 Remark: Offset=Cable loss+ attenuation factor.												
Test Procedure:	- Set the spectrum analyzer or EMI receiver span to view the entire emission bandwidth. 1. Set RBW = 510 kHz/1 MHz, VBW ≥ 3*RBW, Sweep time = Auto, Detector = RMS. - Allow the sweeps to continue until the trace stabilizes. - Use the peak marker function to determine the maximum amplitude level.												
Limit:	<table border="1"> <thead> <tr> <th>Frequency band (MHz)</th><th>Limit</th></tr> </thead> <tbody> <tr> <td>5150-5250</td><td>≤17dBm in 1MHz for master device ≤11dBm in 1MHz for client device</td></tr> <tr> <td>5250-5350</td><td>≤11dBm in 1MHz for client device</td></tr> <tr> <td>5470-5725</td><td>≤11dBm in 1MHz for client device</td></tr> <tr> <td>5725-5850</td><td>≤30dBm in 500kHz</td></tr> <tr> <td>Remark:</td><td>The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test.</td></tr> </tbody> </table>	Frequency band (MHz)	Limit	5150-5250	≤17dBm in 1MHz for master device ≤11dBm in 1MHz for client device	5250-5350	≤11dBm in 1MHz for client device	5470-5725	≤11dBm in 1MHz for client device	5725-5850	≤30dBm in 500kHz	Remark:	The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test.
Frequency band (MHz)	Limit												
5150-5250	≤17dBm in 1MHz for master device ≤11dBm in 1MHz for client device												
5250-5350	≤11dBm in 1MHz for client device												
5470-5725	≤11dBm in 1MHz for client device												
5725-5850	≤30dBm in 500kHz												
Remark:	The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test.												
Test Mode:	Transmitting mode with modulation												
Test Results:	Refer to Appendix A												

5.7 Frequency Stability

Test Requirement:	47 CFR Part 15C Section 15.407 (g)
Test Method:	ANSI C63.10-2020
Test Setup:	 Remark: Offset=Cable loss+ attenuation factor.
Test Procedure:	1.The EUT was placed inside the environmental test chamber and powered by nominal AC/DC voltage. 2. Turn the EUT on and couple its output to a spectrum analyzer. 3. Turn the EUT off and set the chamber to the highest temperature specified. d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize. 4. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature. 5. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.
Limit:	The frequency tolerance shall be maintained within the band of operation frequency over a temperature variation of 0 degrees to 45 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.
Test Mode:	Transmitting mode with modulation
Test Results:	Refer to Appendix A

5.8 Radiated Emission

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.407 (b)																																	
Test Method:	ANSI C63.10-2020																																	
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:	(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.																																	
	<table><tr><td>EIRP(dBm)</td><td>Field Strength at 3m (dBμV/m)</td></tr><tr><td>-27(RMS)</td><td>68.2</td></tr><tr><td>-7(Peak)</td><td>88.2</td></tr></table>					EIRP(dBm)	Field Strength at 3m (dBμV/m)	-27(RMS)	68.2	-7(Peak)	88.2																							
	EIRP(dBm)	Field Strength at 3m (dBμV/m)																																
	-27(RMS)	68.2																																
	-7(Peak)	88.2																																
	Unwanted spurious emissions fallen in restricted bands shall comply with the general field strength limits as below table:																																	
<table><tr><td>Frequency</td><td>Field strength (microvolt/meter)</td><td>Limit (dBuV/m)</td><td>Remark</td><td>Measurement distance (m)</td></tr><tr><td>0.009MHz-0.490MHz</td><td>2400/F(kHz)</td><td>-</td><td>-</td><td>300</td></tr><tr><td>0.490MHz-1.705MHz</td><td>24000/F(kHz)</td><td>-</td><td>-</td><td>30</td></tr><tr><td>1.705MHz-30MHz</td><td>30</td><td>-</td><td>-</td><td>30</td></tr><tr><td>30MHz-88MHz</td><td>100</td><td>40.0</td><td>Quasi-peak</td><td>3</td></tr><tr><td>88MHz-216MHz</td><td>150</td><td>43.5</td><td>Quasi-peak</td><td>3</td></tr></table>					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
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																														



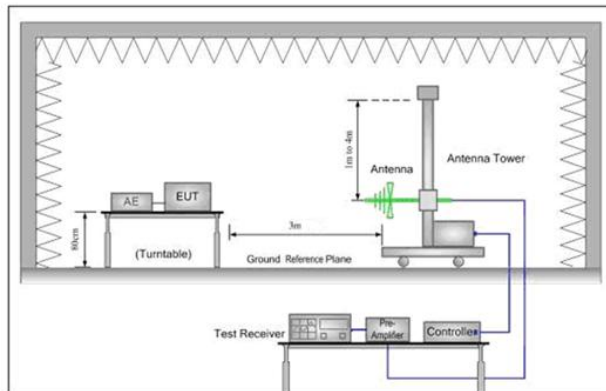


Figure 2. 30MHz to 1GHz

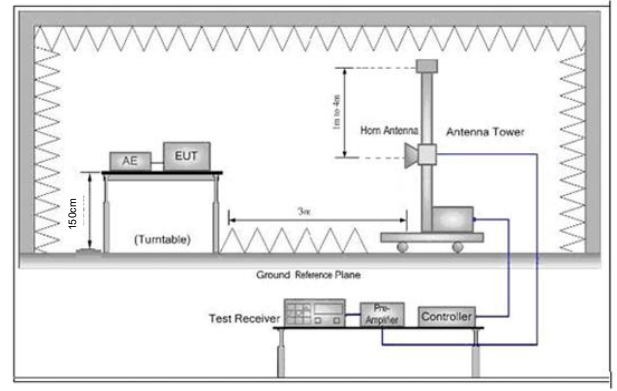


Figure 3. Above 1 GHz

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 chamber. 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 chamber. 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

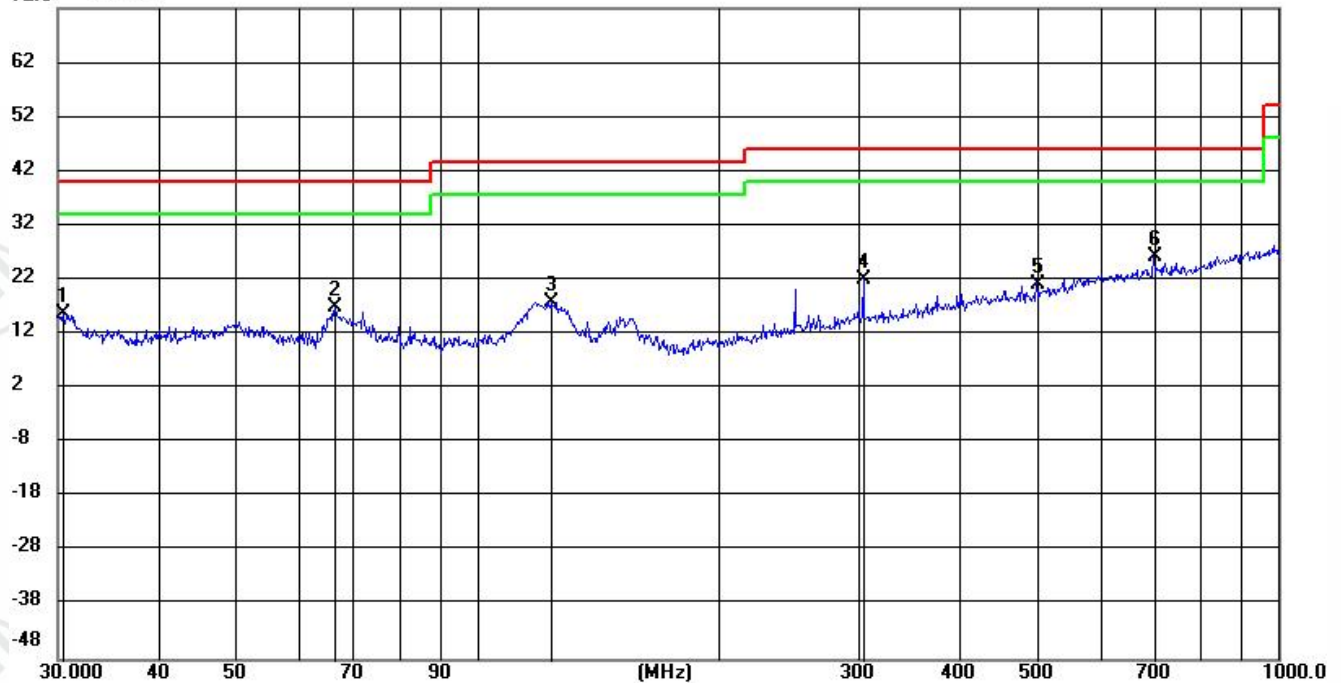
Radiated Spurious Emissions test Data: Radiated Emission below 1GHz

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.

Test Graph

Horizontal:

72.0 dBuV/m



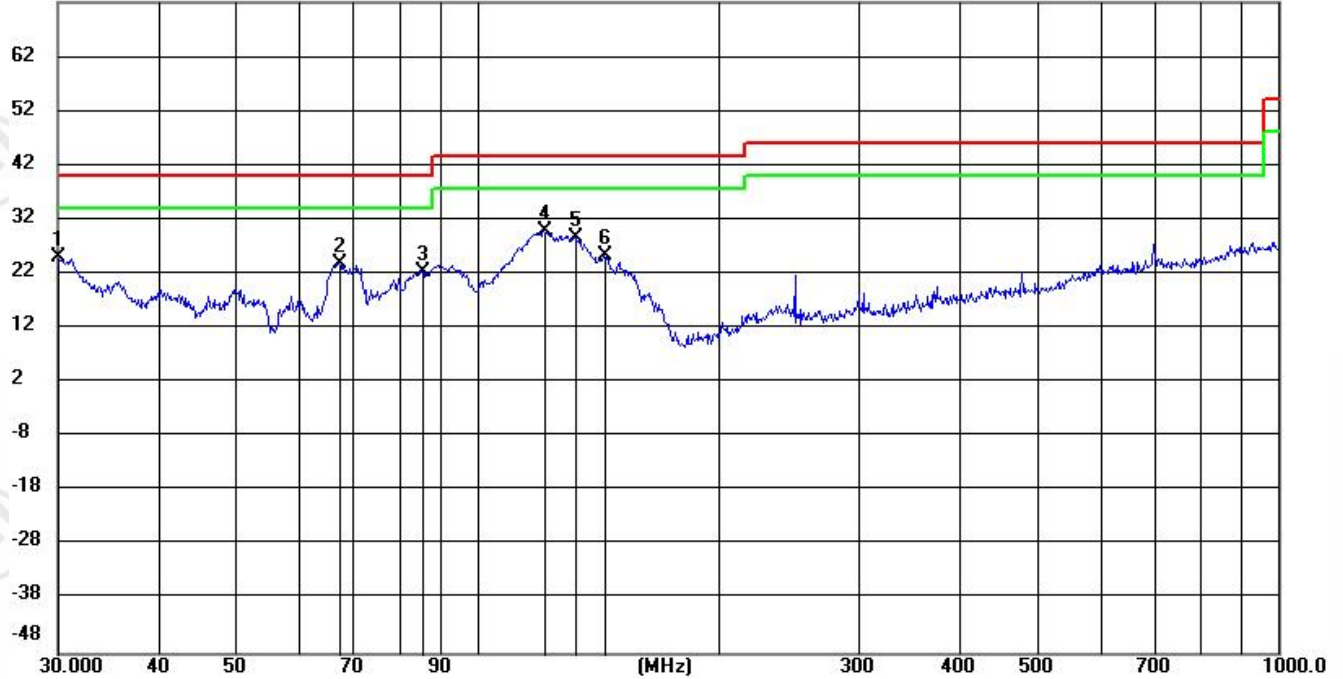
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Antenna Height cm	Table Degree	Comment
1		30.4878	3.27	12.50	15.77	40.00	-24.23	QP	100	278
2		66.4989	4.95	11.89	16.84	40.00	-23.16	QP	100	39
3		123.9155	6.73	11.22	17.95	43.50	-25.55	QP	100	270
4		304.2363	5.60	16.46	22.06	46.00	-23.94	QP	100	23
5		500.0380	0.71	20.59	21.30	46.00	-24.70	QP	100	184
6	*	700.0406	2.16	24.01	26.17	46.00	-19.83	QP	100	31

Remark:

1. $\text{Margin} = \text{Measurement}(\text{Level}) - \text{Limit}$.
2. $\text{Measurement}(\text{Level}) = \text{Reading Level} + \text{Correct Factor}$.
3. In the test results, an asterisk (*) indicates Maximum Data, a cross (X) indicates over Limit, an exclamation mark (!) indicates over -6dB margin Limit.

Vertical:

72.0 dBuV/m



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Antenna Height cm	Table Degree	Comment
1		30.0790	12.48	12.46	24.94	40.00	-15.06	QP	100	17
2		67.2728	12.08	11.70	23.78	40.00	-16.22	QP	100	248
3		85.3280	11.67	10.68	22.35	40.00	-17.65	QP	100	53
4	*	121.3782	18.34	11.42	29.76	43.50	-13.74	QP	100	8
5		132.7548	17.96	10.65	28.61	43.50	-14.89	QP	100	221
6		144.2083	14.90	10.33	25.23	43.50	-18.27	QP	100	283

Remark:

1. $\text{Margin} = \text{Measurement (Level)} - \text{Limit}$.
2. $\text{Measurement (Level)} = \text{Reading Level} + \text{Correct Factor}$.
3. In the test results, an asterisk (*) indicates Maximum Data, a cross (X) indicates over Limit, an exclamation mark (!) indicates over -6dB margin Limit.

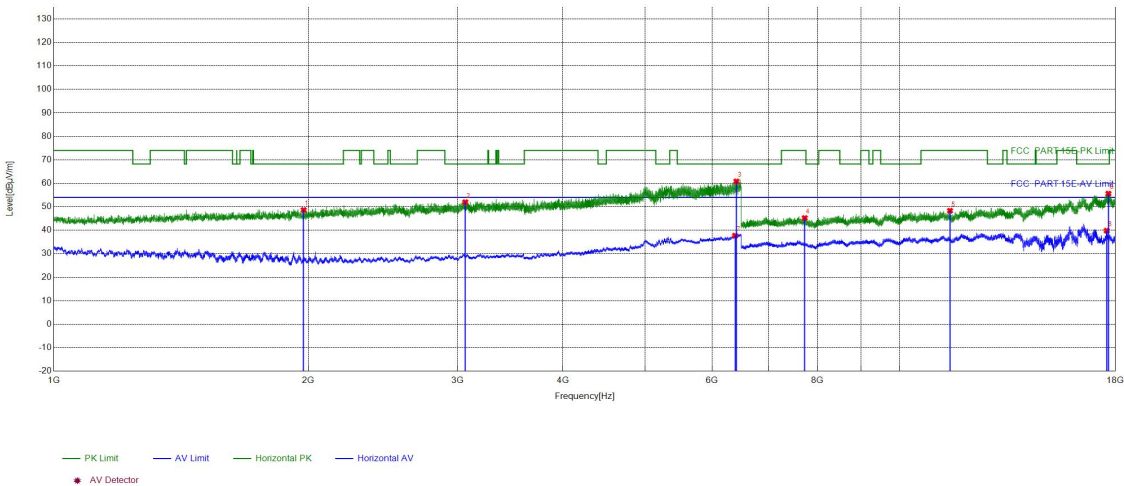
Transmitter Emission above 1GHz

Remark: Through Pre-scan, for 20MHz Occupied Bandwidth, 802.11 a mode was the worst case; for 40MHz Occupied Bandwidth, 802.11 n(HT40) mode was the worst case; for 80MHz Occupied Bandwidth, 802.11ac(VHT80) mode was the worst case,only the worst case was recorded in the report.

U-NII-1:

Test_Mode	802.11 a Transmitting	Test_Frequency	5180MHz
Remark:	/	Test_Date	2026/5/30

Test Graph



Suspected List									
NO	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1974.419	14.71	33.90	48.61	68.20	19.59	PASS	Horizont	PK
2	3066.1026	18.36	33.59	51.95	68.20	16.25	PASS	Horizont	PK
3	6413.7566	28.27	32.56	60.83	68.20	7.37	PASS	Horizont	PK
4	7724.8112	-1.81	47.01	45.20	74.00	28.80	PASS	Horizont	PK
5	11473.9987	2.43	45.90	48.33	74.00	25.67	PASS	Horizont	PK
6	17659.583	14.57	41.05	55.62	68.20	12.58	PASS	Horizont	PK