

# FCC TEST REPORT

**FCC ID: 2BNXC-XY001YB01**

**Report No.** : SSP25070013-3E

**Applicant** : Shenzhen Xuanyaun Technology Co., Ltd.

**Product Name** : XORIGIN YONBO

**Model Name** : XY001YB01

**Test Standard** : FCC Part 15 Subpart E

**Date of Issue** : 2025-07-17




**Shenzhen CCUT Quality Technology Co., Ltd.**

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This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by Shenzhen CCUT Quality Technology Co., Ltd.

**Test Report Basic Information**

<b>Applicant</b> .....:	Shenzhen Xuanyaun Technology Co., Ltd. 3004, Galaxy WORLD Building B, Yabao Road No.1, Longgang District, Address of Applicant.....:	Shenzhen, Guangdong, China
<b>Manufacturer</b> .....:	Inspur Intelligent Equipment Co., Ltd. West Area, First Floor, North, Building S06, No. 1036 Langchao Road, Jinan Address of Manufacturer.....:	Area, Shandong Free Trade Pilot Zone, China
<b>Product Name</b> .....:	XORIGIN YONBO	
<b>Brand Name</b> .....:	XORIGIN AI	
<b>Main Model</b> .....:	XY001YB01	
<b>Series Models</b> .....:	XY001YB02, XY001YB03	
<b>Test Standard</b> .....:	FCC Part 15 Subpart E KDB 789033 D02 v02r01 ANSI C63.4-2014 ANSI C63.10-2013	
<b>Date of Test</b> .....	2025-07-02 to 2025-07-10	
<b>Test Result</b> .....:	PASS	
<b>Tested By</b> .....	 _____ (Walker Wu)	
<b>Reviewed By</b> .....:	 _____ (Lorzix Luo)	
<b>Authorized Signatory</b> .....:	 _____ (Lahm Peng)	
Note : This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by Shenzhen CCUT Quality Technology Co., Ltd.. All test data presented in this test report is only applicable to presented test sample.		

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Revision History

Revision	Issue Date	Description	Revised By
V1.0	2025-07-17	Initial Release	Lahm Peng

# 1. General Information

## 1.1 Product Information

Product Name:	XORIGIN YONBO
Trade Name:	XORIGIN AI
Main Model:	XY001YB01
Series Models:	XY001YB02, XY001YB03
Rated Voltage:	DC 11.1V by battery, DC 9-12.6V Charging from Charging Base Charging Base Input: DC 5-20V, Output: DC 9-12.6V, 7.2A, 65W Max
Power Adapter:	INPUT:100-240V-50/60Hz, 1.5A, OUTPUT:5V=3.0A, 12V=3.0A, 15V=3.0A, 20V=3.25A, 65W Max
Battery:	DC 11.1V, 5000mAh
Test Sample No:	SSP25070013-1
Hardware Version:	V1.0
Software Version:	V1.0
Note 1: The test data is gathered from a production sample, provided by the manufacturer.	
Note 2: The color of appearance and model name of series models listed are different from the main model, but the circuit and the electronic construction are the same, declared by the manufacturer.	

Wireless Specification	
Wireless Standard:	802.11a(HT20) 802.11n(HT20/HT40) 802.11ac(VHT20/VHT40/VHT80)
Operating Frequency:	802.11a/n/ac(HT/VHT20): U-NII Band 4: 5745MHz to 5825MHz 802.11n/ac(HT/VHT40): U-NII Band 4: 5755MHz to 5795MHz 802.11ac(HT/VHT80): U-NII Band 4: 5775MHz
Number of Channel:	802.11a/n/ac(HT/VHT20): 5 for Band 4 802.11n/ac(HT/VHT40): 2 for Band 4 802.11ac(VHT80): 1 for Band 4
Modulation:	OFDM(BPSK, QPSK, BPSK, 16QAM, 64QAM, 256QAM)
Antenna Gain:	2.03dBi
Type of Antenna:	FPCB Antenna
Type of Device:	<input type="checkbox"/> Portable Device <input checked="" type="checkbox"/> Mobile Device <input type="checkbox"/> Modular Device

Channel List for UNII Band 4 (5725-5850MHz)							
802.11a/n/ac(20MHz)		802.11n/ac(40MHz)		802.11ac(80MHz)		(160MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	<u>5745</u>	151	<u>5755</u>	155	<u>5775</u>	--	--
153	5765	159	<u>5795</u>	--	--	--	--
157	<u>5785</u>	--	--	--	--	--	--
161	5805	--	--	--	--	--	--
165	<u>5825</u>	--	--	--	--	--	--

## 1.2 Test Setup Information

List of Test Modes				
Test Mode	Description	Remark		
TM1	UNII Band 4_802.11a(HT20)	5745MHz/5785MHz/5825MHz		
TM2	UNII Band 4_802.11n(HT20)	5745MHz/5785MHz/5825MHz		
TM3	UNII Band 4_802.11n(HT40)	5755MHz/5795MHz		
TM4	UNII Band 4_802.11ac(VHT20)	5745MHz/5785MHz/5825MHz		
TM5	UNII Band 4_802.11ac(VHT40)	5755MHz/5795MHz		
TM6	UNII Band 4_802.11ac(VHT80)	5775MHz		
TM7	Charging	AC 120V/60Hz		
List and Details of Auxiliary Cable				
Description		Length (cm)	Shielded/Unshielded	With/Without Ferrite
-		-	-	-
-		-	-	-
List and Details of Auxiliary Equipment				
Description		Manufacturer	Model	Serial Number
-		-	-	-
-		-	-	-

### 1.3 Compliance Standards

Compliance Standards	
FCC Part 15 Subpart E	FEDERAL COMMUNICATIONS COMMISSION, RADIO FREQUENCY DEVICES, Unlicensed National Information Infrastructure Devices
All measurements contained in this report were conducted with all above standards	
According to standards for test methodology	
FCC Part 15 Subpart E	FEDERAL COMMUNICATIONS COMMISSION, RADIO FREQUENCY DEVICES, Unlicensed National Information Infrastructure Devices
KDB 789033 D02 v02r01	GUIDELINES FOR COMPLIANCE TESTING OF UNLICENSED NATIONAL INFORMATION INFRASTRUCTURE (U-NII) DEVICES PART 15, SUBPART E
ANSI C63.4-2014	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.
ANSI C63.10-2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
Maintenance of compliance is the responsibility of the manufacturer or applicant. Any modification of the product, which result is lowering the emission, should be checked to ensure compliance has been maintained.	

### 1.4 Test Facilities

Laboratory Name:	<b>Shenzhen CCUT Quality Technology Co., Ltd.</b> 1F, Building 35, Changxing Technology Industrial Park, Yutang Street, Guangming District, Shenzhen, Guangdong, China
CNAS Laboratory No.:	L18863
A2LA Certificate No.:	6983.01
FCC Registration No.:	583813
FCC Designation No.:	CN1373
ISED Registration No.:	CN0164
All measurement facilities used to collect the measurement data are located at 1F, Building 35, Changxing Technology Industrial Park, Yutang Street, Guangming District, Shenzhen, Guangdong, China.	



## 1.5 List of Measurement Instruments

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
<b>Conducted Emissions</b>					
AMN	ROHDE&SCHWARZ	ENV216	101097	2024-08-07	2025-08-06
EMI Test Receiver	ROHDE&SCHWARZ	ESPI	100242	2024-08-07	2025-08-06
Test Cable	N/A	Cable 5	N/A	2024-08-07	2025-08-06
EMI Test Software	FARA	EZ-EMC	EMEC-3A1+	N/A	N/A
<b>Radiated Emissions</b>					
EMI Test Receiver	ROHDE&SCHWARZ	ESPI	100154	2024-08-07	2025-08-06
Spectrum Analyzer	KEYSIGHT	N9020A	MY48030972	2024-08-07	2025-08-06
Spectrum Analyzer	ROHDE&SCHWARZ	FSV40-N	101692	2024-08-07	2025-08-06
Amplifier	SCHWARZBECK	BBV 9743B	00251	2024-08-07	2025-08-06
Amplifier	HUABO	YXL0518-2.5-45	--	2024-08-07	2025-08-06
Amplifier	COM-MW	DLAN-18G-4G-02	10229104	2024-08-07	2025-08-06
Loop Antenna	DAZE	ZN30900C	21104	2024-08-03	2025-08-02
Broadband Antenna	SCHWARZBECK	VULB 9168	01320	2024-08-03	2025-08-02
Horn Antenna	SCHWARZBECK	BBHA 9120D	02553	2024-08-03	2025-08-02
Horn Antenna	COM-MW	ZLB7-18-40G-950	12221225	2024-08-03	2025-08-02
Attenuator	QUANJUDA	6dB	220731	2024-08-07	2025-08-06
Test Cable	N/A	Cable 1	N/A	2024-08-07	2025-08-06
Test Cable	N/A	Cable 2	N/A	2024-08-07	2025-08-06
Test Cable	N/A	Cable 3	N/A	2024-08-07	2025-08-06
Test Cable	N/A	Cable 4	N/A	2024-08-07	2025-08-06
Test Cable	N/A	Cable 8	N/A	2024-08-07	2025-08-06
Test Cable	N/A	Cable 9	N/A	2024-08-07	2025-08-06
EMI Test Software	FARA	EZ-EMC	FA-03A2 RE+	N/A	N/A
<b>Conducted RF Testing</b>					
RF Test System	MWRFTTest	MW100-RFCB	220418SQS-37	2024-08-07	2025-08-06
Spectrum Analyzer	KEYSIGHT	N9020A	ATO-90521	2024-08-07	2025-08-06
RF Test Software	MWRFTTest	MTS 8310	N/A	N/A	N/A
Laptop	Lenovo	ThlnkPad E15 Gen 3	SPPOZ22485	N/A	N/A

## 1.6 Measurement Uncertainty

Test Item	Conditions	Uncertainty
Conducted Emissions	9kHz ~ 30MHz	±1.64 dB
Radiated Emissions	9kHz ~ 30MHz	±2.88 dB
	30MHz ~ 1GHz	±3.32 dB
	1GHz ~ 18GHz	±3.50 dB
	18GHz ~ 40GHz	±3.66 dB
Conducted Output Power	9kHz ~ 26GHz	±0.50 dB
Occupied Bandwidth	9kHz ~ 26GHz	±4.0 %
Conducted Spurious Emission	9kHz ~ 26GHz	±1.32 dB
Power Spectrum Density	9kHz ~ 26GHz	±0.62 dB

## 2. Summary of Test Results

FCC Rule	Description of Test Item	Result
FCC Part 15.207, 15.407(b)(9)	Conducted Emissions	Passed
FCC Part 15.209, 15.407(b)(9), (10)	Radiated Emissions	Passed
Passed: The EUT complies with the essential requirements in the standard Failed: The EUT does not comply with the essential requirements in the standard N/A: Not applicable		

### **3. Antenna Requirement**

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#### **3.1 Standard and Limit**

According to FCC Part 15.203, 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 shall be considered sufficient to comply with the provisions of this section.

#### **3.2 Test Result**

This product has an FPCB antenna, and the maximum antenna gain is 2.03dBi, fulfill the requirement of this section.

## 4. Conducted Emissions

### 4.1 Standard and Limit

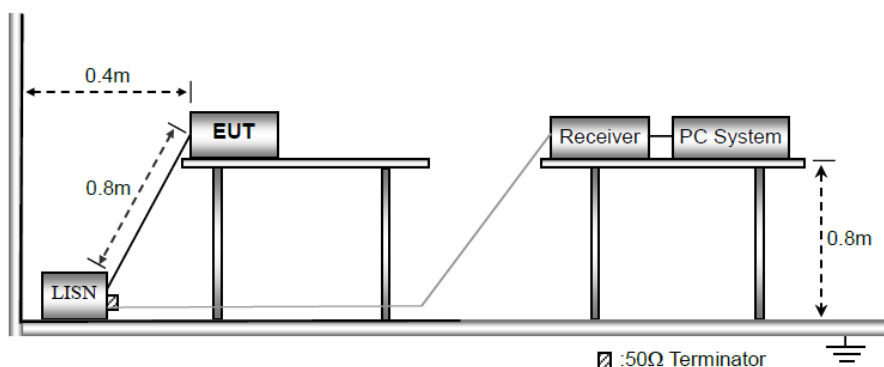
According to the rule FCC Part 15.207, Conducted emissions limit, the limit for a wireless device as below:

Frequency of Emission (MHz)	Conducted emissions (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

Note 1: Decreases with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz  
 Note 2: The lower limit applies at the band edges

### 4.2 Test Procedure

Test is conducting under the description of ANSI C63.10 - 2013 section 6.2.



Test Setup Block Diagram

a) The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

b) The following is the setting of the receiver

Attenuation: 10dB

Start Frequency: 0.15MHz

Stop Frequency: 30MHz

IF Bandwidth: 9kHz

c) The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipment powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

d) Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

e) I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

f) LISN is at least 80 cm from nearest part of EUT chassis.

g) For the actual test configuration, please refer to the related Item - photographs of the test setup.

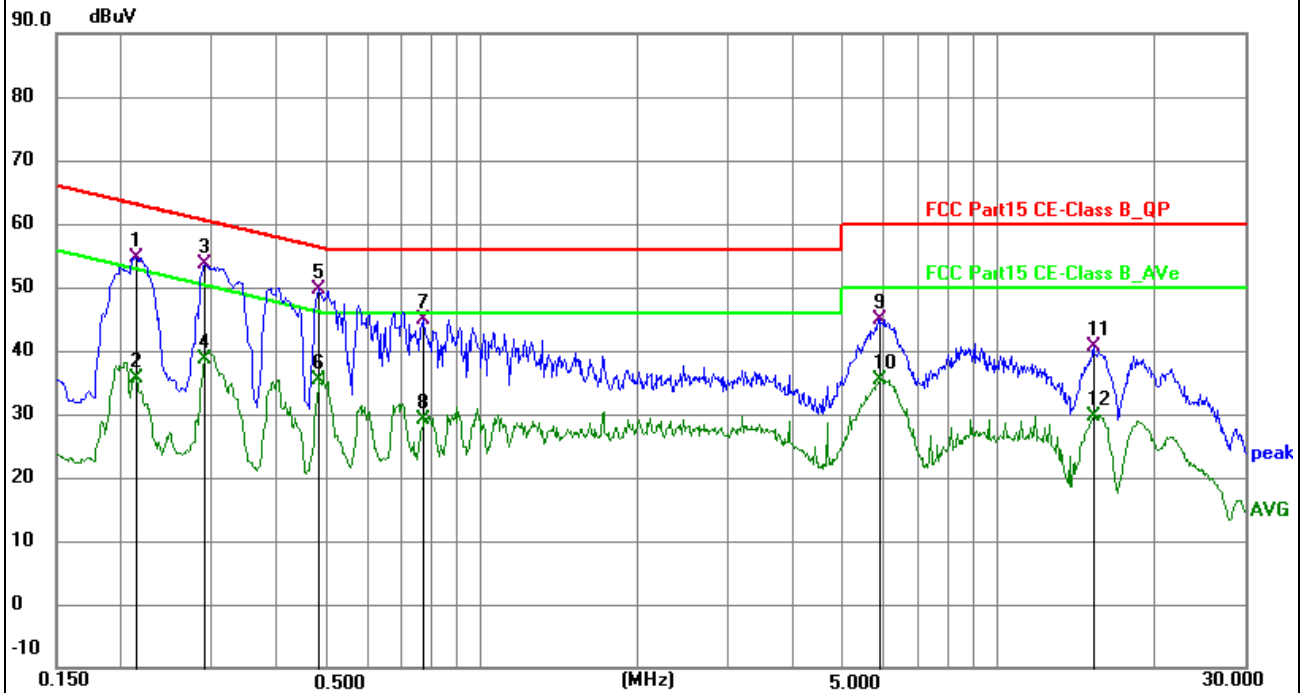
### **4.3 Test Data and Results**

Both band4 all of the 802.11a, 802.11n and 802.11ac modes have been tested, the EUT complied with the FCC Part 15.207 standard limit for a wireless device, and with the worst case 802.11a\_5180MHz as below:

Remark: Level = Reading + Factor, Margin = Level - Limit

## Test Plots and Data of Conducted Emissions

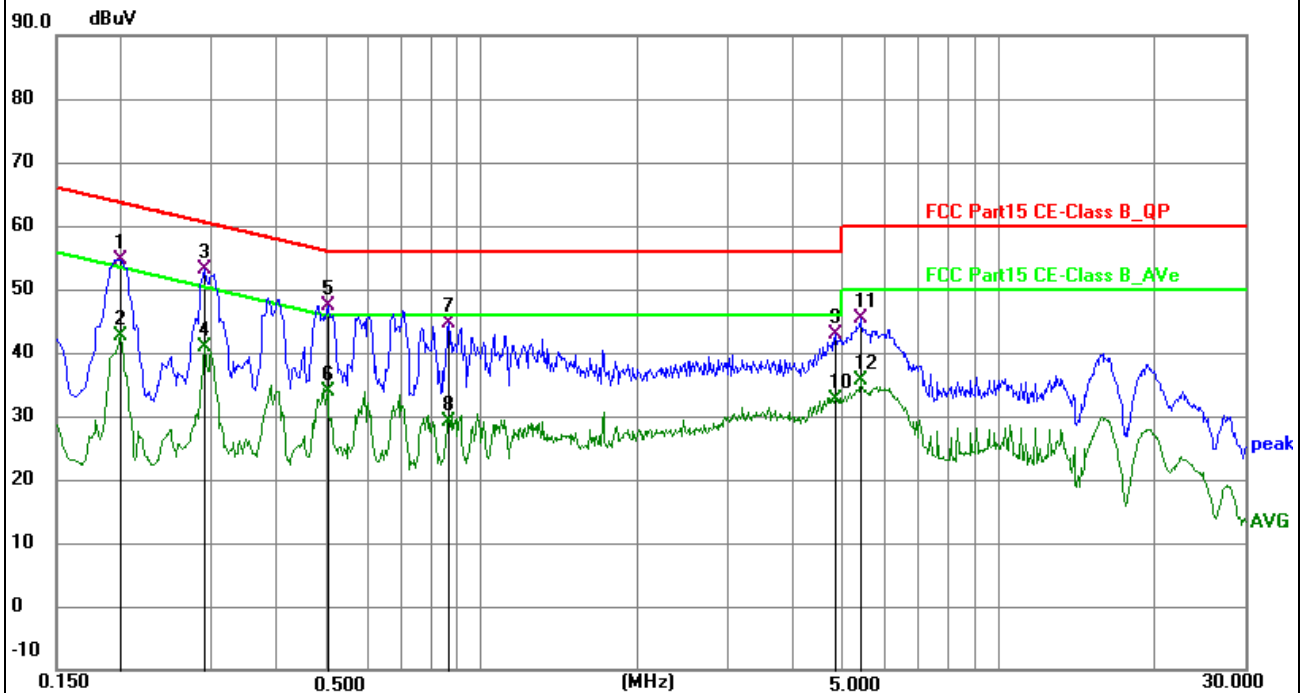
Tested Mode:	TM7
Test Voltage:	AC 120V/60Hz
Test Power Line:	Neutral
Remark:	



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.2130	45.48	9.24	54.72	63.09	-8.37	QP	P	
2	0.2130	26.31	9.24	35.55	53.09	-17.54	AVG	P	
3	0.2894	44.36	9.38	53.74	60.54	-6.80	QP	P	
4	0.2894	29.35	9.38	38.73	50.54	-11.81	AVG	P	
5 *	0.4830	40.23	9.39	49.62	56.29	-6.67	QP	P	
6	0.4830	26.03	9.39	35.42	46.29	-10.87	AVG	P	
7	0.7710	35.51	9.40	44.91	56.00	-11.09	QP	P	
8	0.7710	19.82	9.40	29.22	46.00	-16.78	AVG	P	
9	5.8920	35.35	9.57	44.92	60.00	-15.08	QP	P	
10	5.8920	25.70	9.57	35.27	50.00	-14.73	AVG	P	
11	15.2654	30.98	9.55	40.53	60.00	-19.47	QP	P	
12	15.2654	19.97	9.55	29.52	50.00	-20.48	AVG	P	

## Test Plots and Data of Conducted Emissions

Tested Mode:	TM7
Test Voltage:	AC 120V/60Hz
Test Power Line:	Live
Remark:	



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1995	45.31	9.39	54.70	63.63	-8.93	QP	P	
2	0.1995	33.12	9.39	42.51	53.63	-11.12	AVG	P	
3 *	0.2893	43.47	9.57	53.04	60.54	-7.50	QP	P	
4	0.2893	31.30	9.57	40.87	50.54	-9.67	AVG	P	
5	0.5010	37.84	9.58	47.42	56.00	-8.58	QP	P	
6	0.5010	24.39	9.58	33.97	46.00	-12.03	AVG	P	
7	0.8655	34.94	9.58	44.52	56.00	-11.48	QP	P	
8	0.8655	19.64	9.58	29.22	46.00	-16.78	AVG	P	
9	4.8254	33.09	9.76	42.85	56.00	-13.15	QP	P	
10	4.8254	22.88	9.76	32.64	46.00	-13.36	AVG	P	
11	5.4015	35.60	9.76	45.36	60.00	-14.64	QP	P	
12	5.4015	25.88	9.76	35.64	50.00	-14.36	AVG	P	



## 5. Radiated Emissions(Below 1GHz)

### 5.1 Standard and Limit

According to FCC Part 15.407(b)(9), Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in FCC Part 15.209.

According to the rule FCC Part 15.209, Radiated emission limit for a wireless device as below:

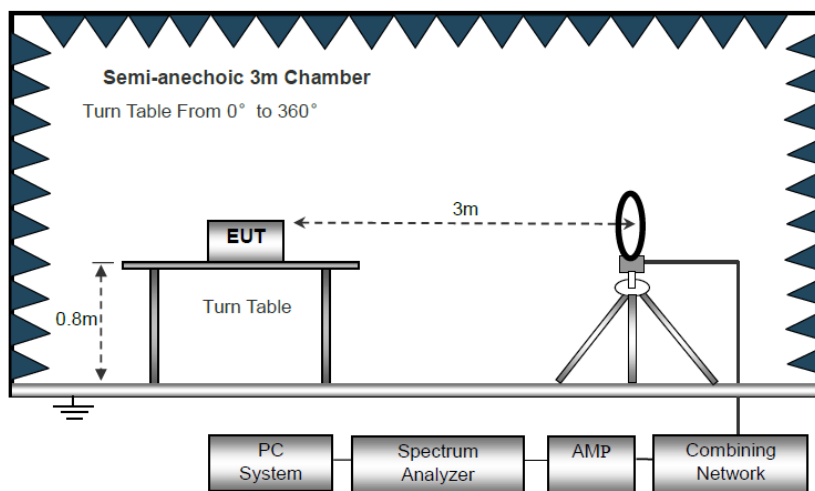
Frequency of Emission (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Note: The more stringent limit applies at transition frequencies.

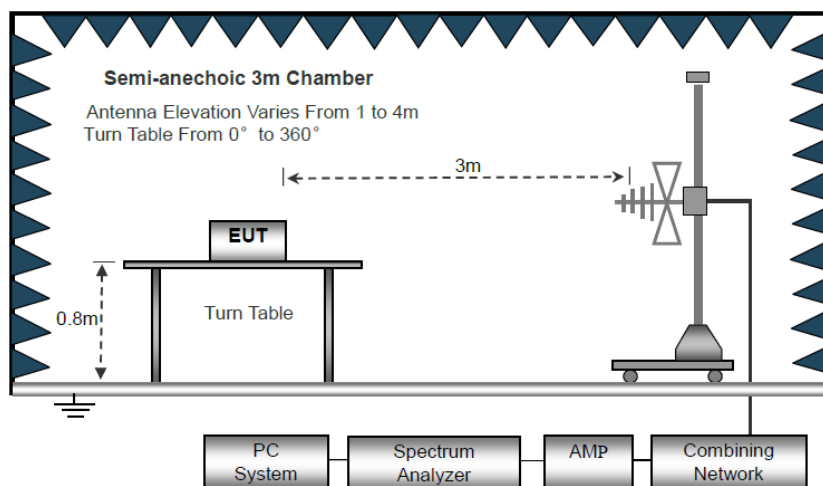
Note: Spurious Radiated Emissions measurements starting below or at the lowest crystal frequency.

### 5.2 Test Procedure

Test is conducting under the description of ANSI C63.10 - 2013 section 6.3 to 6.6.



Block Diagram of Radiated Emission Below 30MHz



Block Diagram of Radiated Emission From 30MHz to 1GHz

- a) The EUT is placed on a turntable, which is 0.8m above ground plane for test frequency range below 1GHz.
- b) EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
- c) Use the following spectrum analyzer settings:  
 Span = wide enough to fully capture the emission being measured  
 RBW = 100 kHz  
 VBW  $\geq$  RBW, Sweep = auto  
 Detector function = peak  
 Trace = max hold
- d) Follow the guidelines in ANSI C63.4-2014 with respect to maximizing the emission by rotating the EUT, adjusting the measurement antenna height and polarization, etc. The peak reading of the emission, after being corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength, submit this data. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- e) For the actual test configuration, please refer to the related item - EUT test photos.

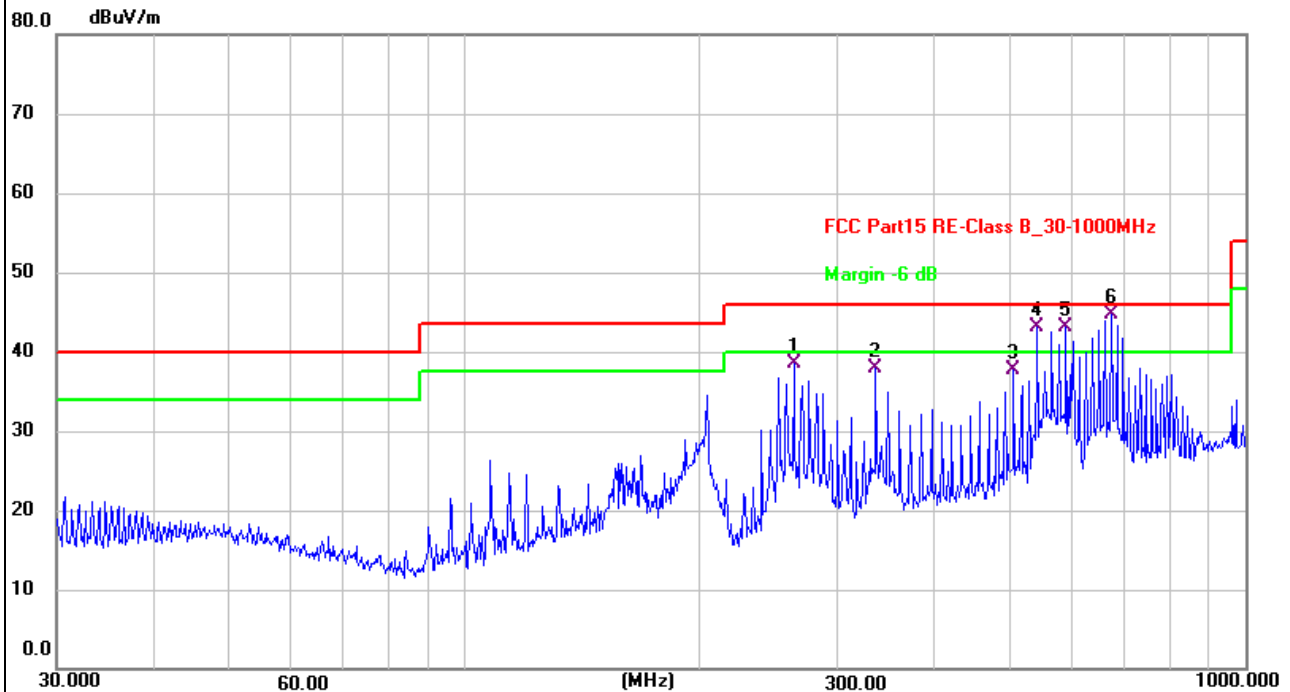
### 5.3 Test Data and Results

Both band4 all of the 802.11a, 802.11n and 802.11ac modes have been tested, the EUT complied with the FCC Part 15.209 standard limit for a wireless device, and with the worst case 802.11a\_5180MHz as below:

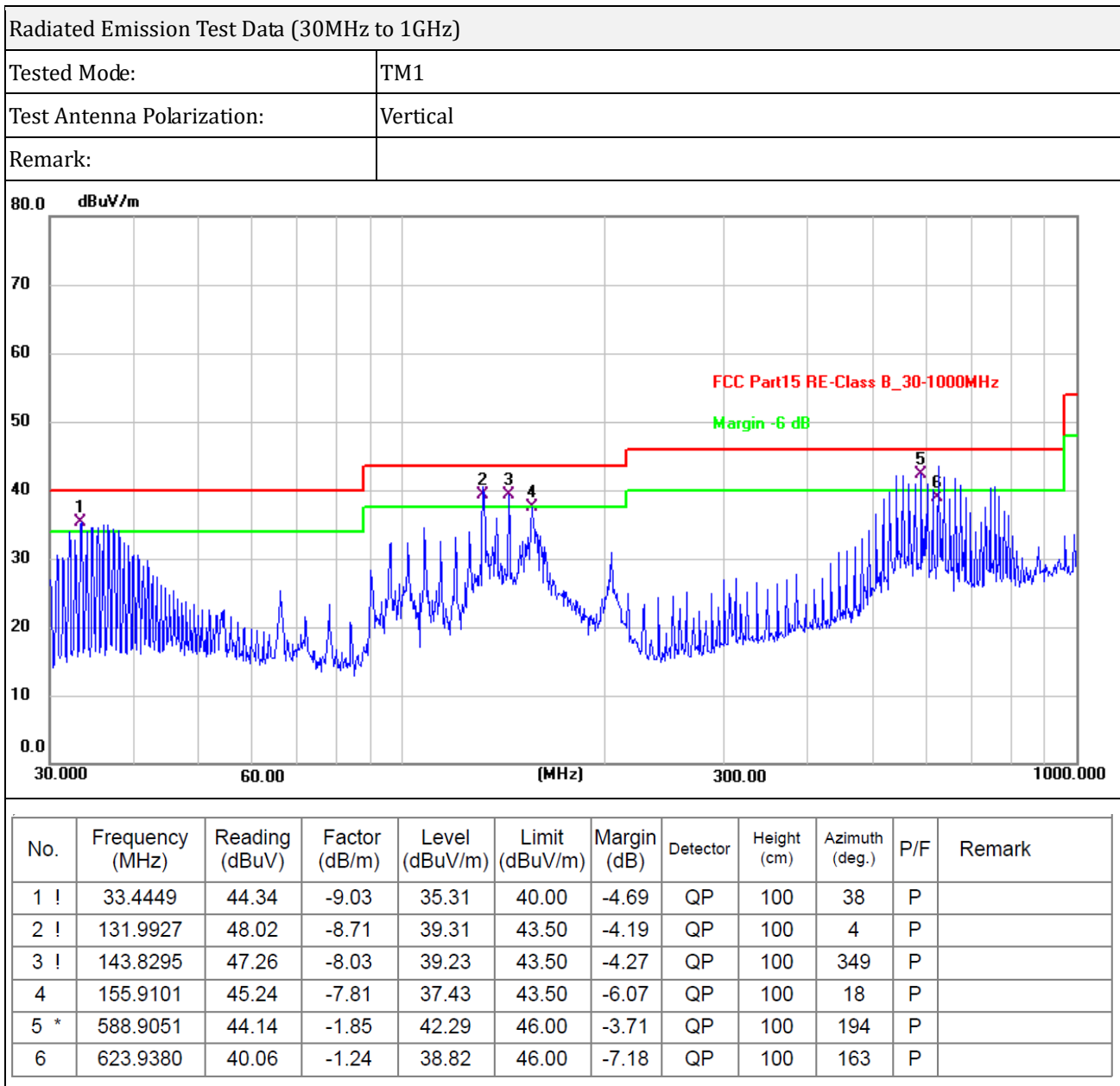
Remark: Level = Reading + Factor, Margin = Level - Limit

## Radiated Emission Test Data (30MHz to 1GHz)

Tested Mode:	TM1
Test Antenna Polarization:	Horizontal
Remark:	



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	263.8190	48.03	-9.49	38.54	46.00	-7.46	QP	100	259	P	
2	336.0352	45.07	-7.23	37.84	46.00	-8.16	QP	100	229	P	
3	504.7062	40.82	-3.20	37.62	46.00	-8.38	QP	100	142	P	
4 !	541.3723	45.84	-2.83	43.01	46.00	-2.99	QP	100	42	P	
5 !	588.9050	45.00	-1.85	43.15	46.00	-2.85	QP	100	2	P	
6 *	672.8444	45.01	-0.33	44.68	46.00	-1.32	QP	100	322	P	



Note 1: this EUT was tested in 3 orthogonal positions, with the X-axis being the worst, and the worst case position data was reported.

Note 2: Testing is carried out with frequency rang 9kHz to 1GHz. The measurements greater than 20dB below the limit from 9kHz to 30MHz.

\*\*\*\*\* END OF REPORT \*\*\*\*\*