FCC PART 15.249
TEST REPORT

On Behalf of

Fujian Youtong Electronics Co.,Ltd.

North part of 1st, 2nd-3rd floor, Building1#, No.18, Majiang Road, Mawei, Fuzhou Fujian, China

FCC ID: 2BORN-R68
Model: R68

May 22, 2025

This Report Concerns:	Equipment Type:
☒ Original Report	Wireless Transmitter

Test Engineer:	LBi Li / LBi Li
Report Number:	**QCT25ER-1515E-01**
Test Date:	May 16~19, 2025
Test Result:	Pass
Reviewed By:	Vincent Yang / Vincent Yang
Approved By:	Kendy Wang / Kendy Wang
Prepared By:	**Shenzhen QC Testing Laboratory Co., Ltd.** East of 1/F., Building E, Xinghong Science Park, No.111, Shuiku Road, Fenghuanggang, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China **Tel: 0755-23008269** **Fax: 0755-23726780**

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Revision History of This Test Report

Report Number	Description	Issued Date
QCT25ER-1515E-01	Initial Issue	2025-5-22

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1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

EUT Description	Wireless Transmitter
Model No.	R68
Tested Model	R68
Sample(s) Status	Engineer sample
Operation Frequency:	915MHz
Channel numbers:	1
Modulation type:	FSK
Antenna Type:	Spring Antenna
Antenna gain*1:	0dBi
Power supply:	DC 4.5V (Powered by 3*1.5V AA battery)
Trade Mark:	N/A
Applicant	Fujian Youtong Electronics Co.,Ltd.
Address	North part of 1st, 2nd-3rd floor, Building1#, No.18, Majiang Road, Mawei, Fuzhou Fujian, China
Manufacturer	Fujian Youtong Electronics Co.,Ltd.
Address	North part of 1st, 2nd-3rd floor, Building1#, No.18, Majiang Road, Mawei, Fuzhou Fujian, China
Sample No.	Y25E1515E01YN

Note: *1This information provided by Manufacturer, SZ QC Lab is not responsible for the accuracy of this information.

1.2 System Test Configuration

1.2.1 Support Equipment

N/A

1.2.2 Test mode and voltage

Transmitting mode: The manufacturer provides the engineering sample to set the continuously transmitting mode, and the power level is the default.

Test voltage: DC 4.5V

RF power setting	Default power
Test software	Engineering sample to set the continuously transmitting mode

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1.3 Test Facility

Test Firm : Shenzhen QC Testing Laboratory Co., Ltd.

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19. The testing quality system of our laboratory meets with ISO/IEC-17025 requirements. This approval result is accepted by MRA of APLAC.

Our test facility is recognized, certified, or accredited by the following organizations:

CNAS – Registration No.: L8464

The EMC Laboratory has been accredited by CNAS, and in compliance with ISO/IEC 17025:2017 General Requirements for testing Laboratories.

A2LA Certificate Number: 6759.01

The EMC Laboratory has been accredited by A2LA, and in compliance with ISO/IEC 17025:2017 General Requirements for testing Laboratories.

FCC Registration Number: 561109

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission.

IC Registration Number: 29628

CAB identifier: CN0141

The EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada.

1.4 Measurement Uncertainty

Parameter	Uncertainty
Occupied Channel Bandwidth	±1.42 x10^{-4}%
RF output power, conducted	±1.06dB
Power Spectral Density, conducted	±1.06dB
Unwanted Emissions, conducted	±2.51dB
AC Power Line Conducted Emission	±1.80dB
Radiated Spurious Emission test (9kHz-30MHz)	±2.66dB
Radiated Spurious Emission test (30MHz-1000MHz)	±4.04dB
Radiated Spurious Emission test (1000MHz-18000MHz)	±4.70 dB
Radiated Spurious Emission test (18GHz-40GHz)	±4.80dB
Temperature	±0.8℃
Humidity	±3.2%
DC and low frequency voltages	±0.1%
Time	±5%
Duty cycle	±5%

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

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2. Summary of Test Results

Test Item	Section	Result
Antenna Requirement	15.203	Pass
Conduction Emission	15.207	Not Applicable
Radiated Emissions	15.205, 15.209, 15.249	Pass
20dB Bandwidth	15.215 (c)	Pass

Note: 1. In the configuration tested, the EUT complied with the standards specified above.

2.Test according to ANSI C63.10:2013

3. All indications of Pass/Fail in this report are opinions expressed by Shenzhen QC Testing Laboratory Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.

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3. List of Test and Measurement Instruments

3.1 Conducted Emission Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due
1	EMI Test Receiver	Rohde&Schwarz	ESIB 7	2277573376	2025.03.17	2026.03.16
2	EMI Test Receiver	Rohde&Schwarz	ESCI3	101820	2024.08.06	2025.08.05
3	Artificial Mains Network	SCHWARZBECK	NSLK8126	8126200	2024.08.06	2025.08.05
4	PULSE LIMITER	Rohde&Schwarz	ESH3-Z2	100058	2025.03.18	2026.03.17
Conducted Emission Measurement Software: TS+ JS32-CE Ver 5.0.0						

3.2 Radiated Emission Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due
1.	EMI Test Receiver	Rohde&Schwarz	ESIB 7	2277573376	2025.03.17	2026.03.16
2.	EMI Test Receiver	Rohde&Schwarz	ESPI3	101131	2025.03.17	2026.03.16
3.	Spectrum Analyzer	Rohde&Schwarz	FSV 40	101458	2025.03.18	2026.03.17
4.	TRILOG Broadband Test-Antenna	SCHWARZBECK	VULB9168	VULB9168-588	2025.03.22	2026.03.21
5.	Loop Antenna	EMCO	6502	2133	2025.03.19	2026.03.18
6.	horn antenna	SCHWARZBECK	BBHA9120D	2069	2024.08.10	2025.08.09
7.	Horn Antenna	COM-MW	ZLB7-18-40G-950	12221225	2024.08.10	2026.08.09
8.	Pre-amplifier	MITEQ	TTA0001-18	2063645	2025.03.17	2026.03.16
9.	Pre-amplifier	MITEQ	TTA1800-30-HG	2063644	2025.03.17	2026.03.16
10.	Pre-amplifier	COM-MW	DLAN-18000-40000-02	10229104	2025.03.22	2026.03.21
11.	966 Camber	ZhongYU	9*6*6	/	2023.05.08	2026.05.07
Radiated Emission Measurement Software: EZ_EMC Ver QCT03A2 RE+						

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3.3 RF Conducted test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due
1.	Spectrum Analyzer	ROHDE& SCHWARZ	FSV 40	101458	2025.03.18	2026.03.17
2.	Signal Generator	Agilent	N5182A	MY50141563	2025.03.18	2026.03.17
3.	RF Automatic Test System	MW	MW100-RFCB/ MW100-PSB	MW2007004	2025.03.18	2026.03.17
RF Conducted Measurement Software: MTS 8310 Ver 2.0.0.0						

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4. Antenna requirement

Standard requirement: FCC Part15 C 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: The antenna is Spring Antenna, reference to the Internal Photos for details.

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5. Radiated Emission Method

5.1. Applicable Standard

FCC Part15 C Section 15.249

5.2. Limit

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902–928 MHz	50	500
2400–2483.5 MHz	50	500
5725–5875 MHz	50	500
24.0–24.25 GHz	250	2500

As per FCC Section 15.249

(c) Field strength limits are specified at a distance of 3 meters.

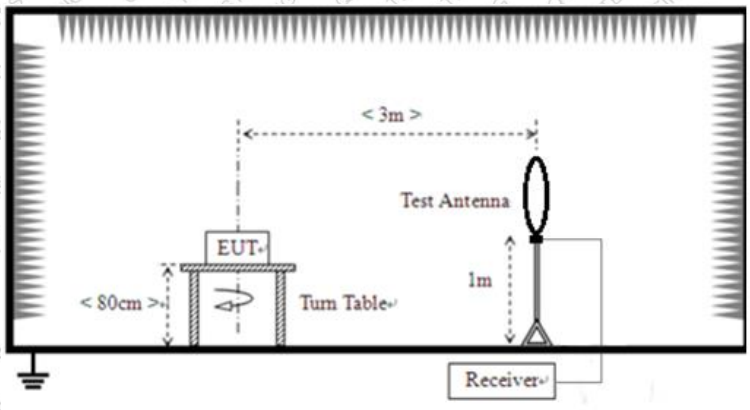
(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

5.3. Receiver setup

Frequency	Detector	RBW	VBW	Value
9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

5.4. Test setup

For radiated emissions from 9kHz to 30MHz



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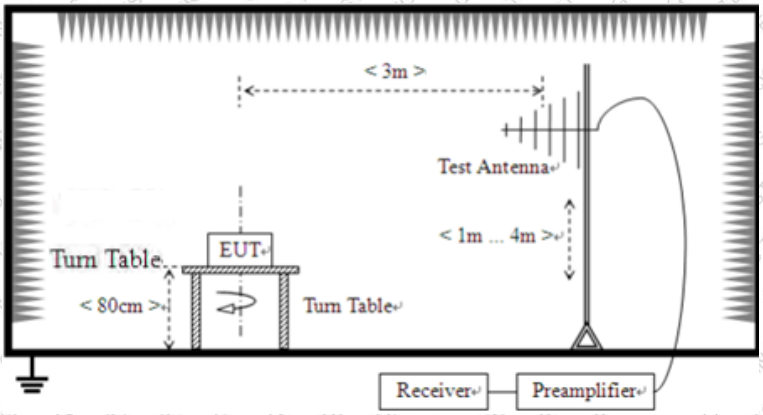
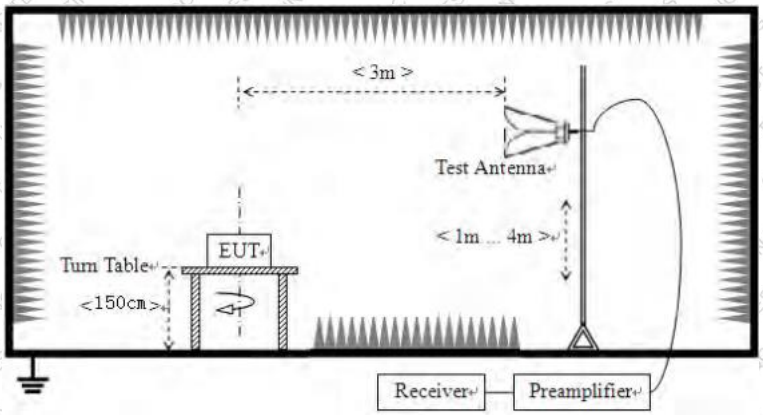
For radiated emissions from 30MHz to1GHz



For radiated emissions above 1GHz



5.5. Test Procedure

1. The EUT was placed on the top of a rotating table (0.8 meters for below 1GHz and 1.5 meters for above 1GHz) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. 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.
4. 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 and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. 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.

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5.6. Test Data

Temperature	25-26℃	Humidity	49-54%
ATM Pressure	101.1kPa	Antenna Gain	0dBi
Test by	LBi Li	Test result	PASS

Remarks:

Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.

Measurement data:

9 kHz ~ 30 MHz

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

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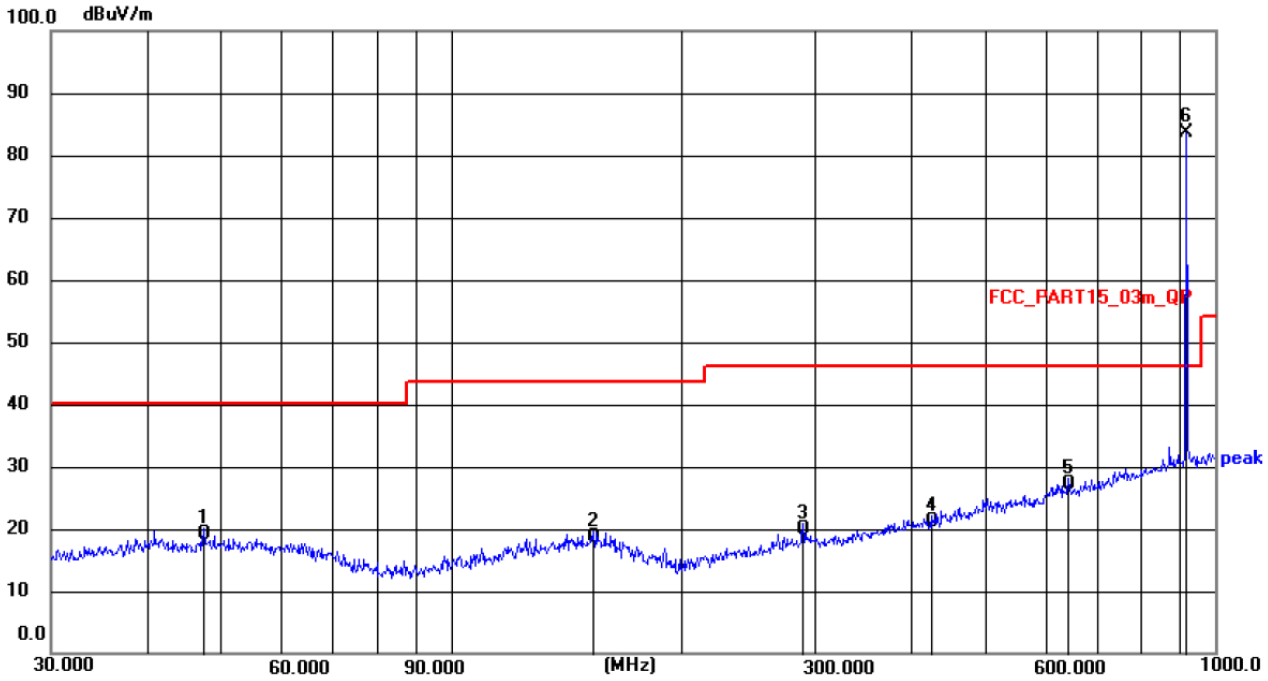
Below 1GHz:
Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	47.4917	4.49	14.68	19.17	40.00	20.83	QP
2	153.7384	3.95	14.63	18.58	43.50	24.92	QP
3	289.0020	5.48	14.50	19.98	46.00	26.02	QP
4	425.0280	2.82	18.37	21.19	46.00	24.81	QP
5	642.8612	5.13	21.98	27.11	46.00	18.89	QP
6 *	915.0000	57.02	26.60	83.62	/	/	peak

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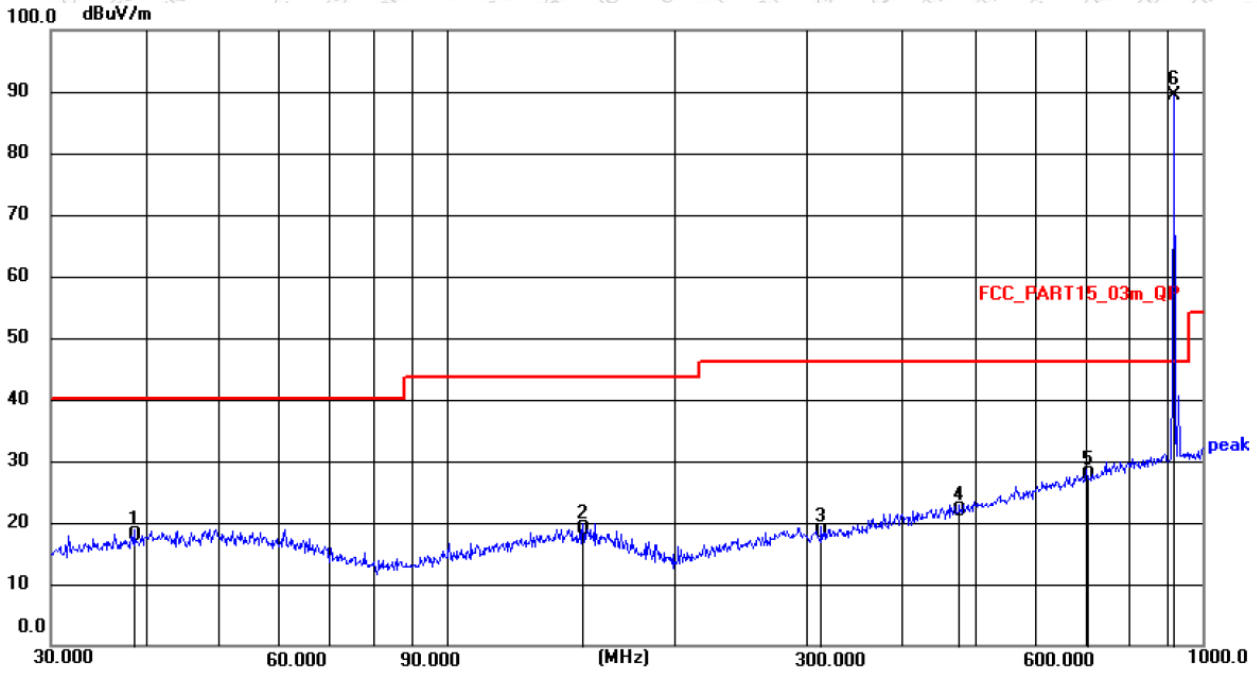
Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	38.6160	3.73	14.27	18.00	40.00	22.00	QP
2	151.5971	4.41	14.38	18.79	43.50	24.71	QP
3	313.2760	3.77	14.71	18.48	46.00	27.52	QP
4	477.1693	2.80	19.11	21.91	46.00	24.09	QP
5	701.7609	4.71	22.82	27.53	46.00	18.47	QP
6 *	915.0000	63.14	26.27	89.41	/	/	peak

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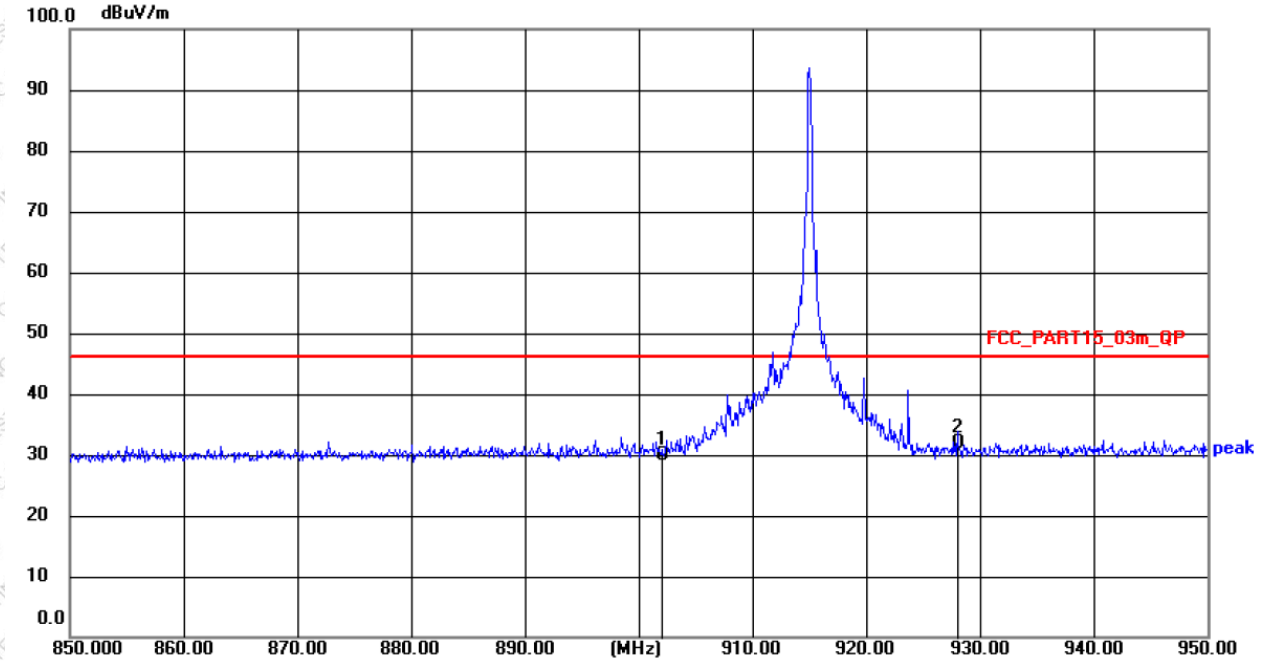
Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	902.0000	3.22	26.54	29.76	46.00	16.24	QP
2 *	928.0000	5.33	26.66	31.99	46.00	14.01	QP

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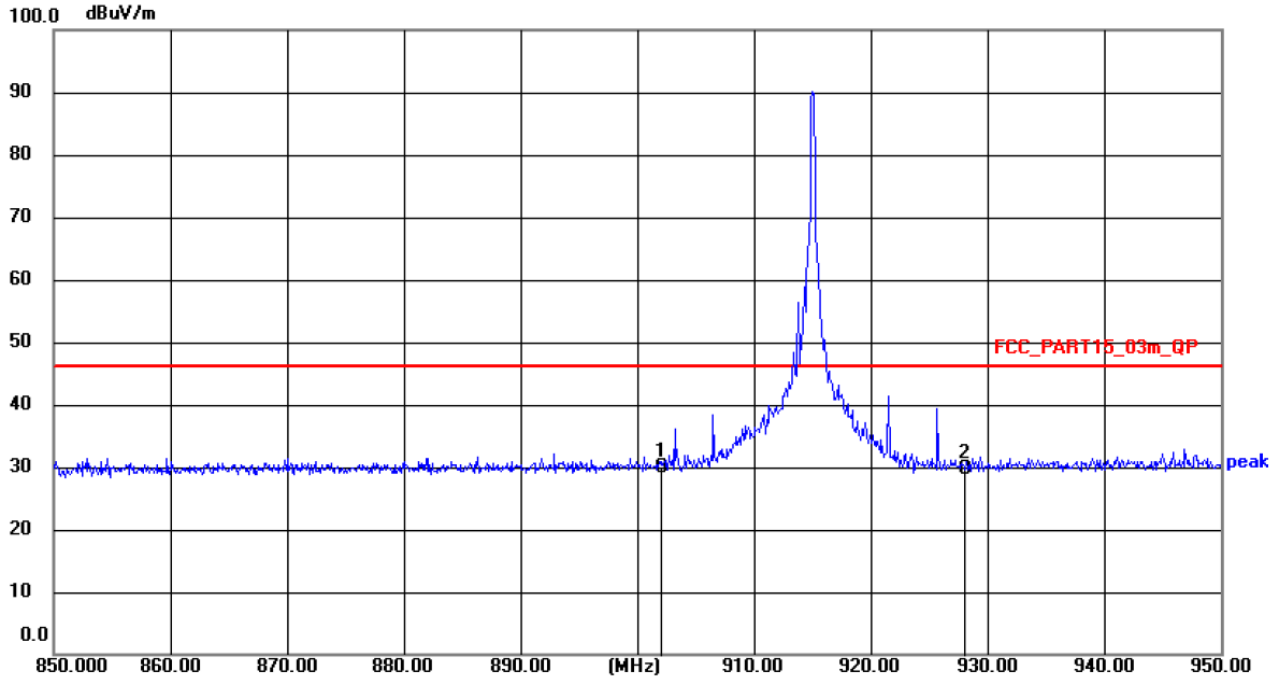
Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	902.0000	3.80	26.14	29.94	46.00	16.06	QP
2	928.0000	3.17	26.38	29.55	46.00	16.45	QP

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Above 1G:

Frequency (MHz)	Read Level (dBμV)	polarization	Factor (dB/m)	Level (dBμV/m)	Limit Line (dBμV/m)	Margin (dB)	Detector
1830	54.74	H	-24.38	30.36	74	43.64	peak
2400.753	61.01	H	-22.37	38.64	74	35.36	peak
2456.913	64.6	V	-22.25	42.35	74	31.65	peak
3485.601	53.98	H	-20.93	33.05	74	40.95	peak
1830	54.74	H	-24.38	30.36	74	43.64	peak

Frequency (MHz)	Read Level (dBμV)	polarization	Factor (dB/m)	Peak value (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)
915	57.02	H	26.6	83.62	93.98	10.36
915	63.14	V	26.27	89.41	93.98	4.57

Remarks:

1. Level =Receiver Read level + Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.
3. If the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement, so AV emission value did not show in above table if the peak value complies with average limit.

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6. 20dB Occupy Bandwidth

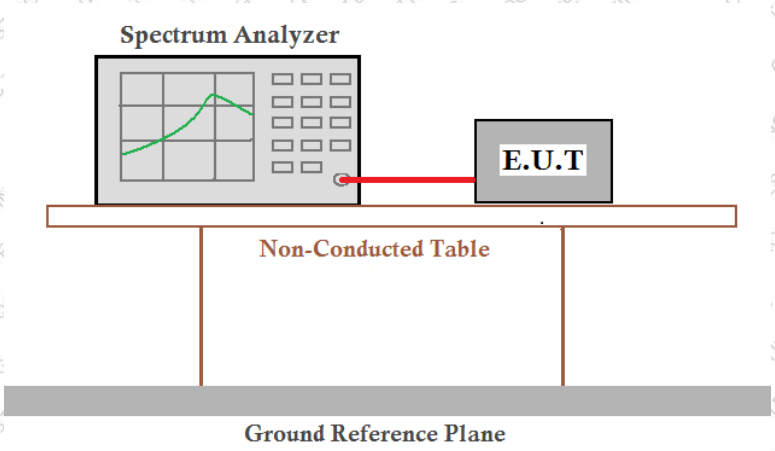
6.1. Applicable Standard

FCC Part15 C Section 15.215

6.2. Limit

N/A

6.3. Test setup



6.4. Test Data

Temperature	23.5 ℃	Humidity	49%
ATM Pressure	101.1kPa	Antenna Gain	0dBi
Test by	LBi Li	Test result	PASS

Please refer to following table and plots.

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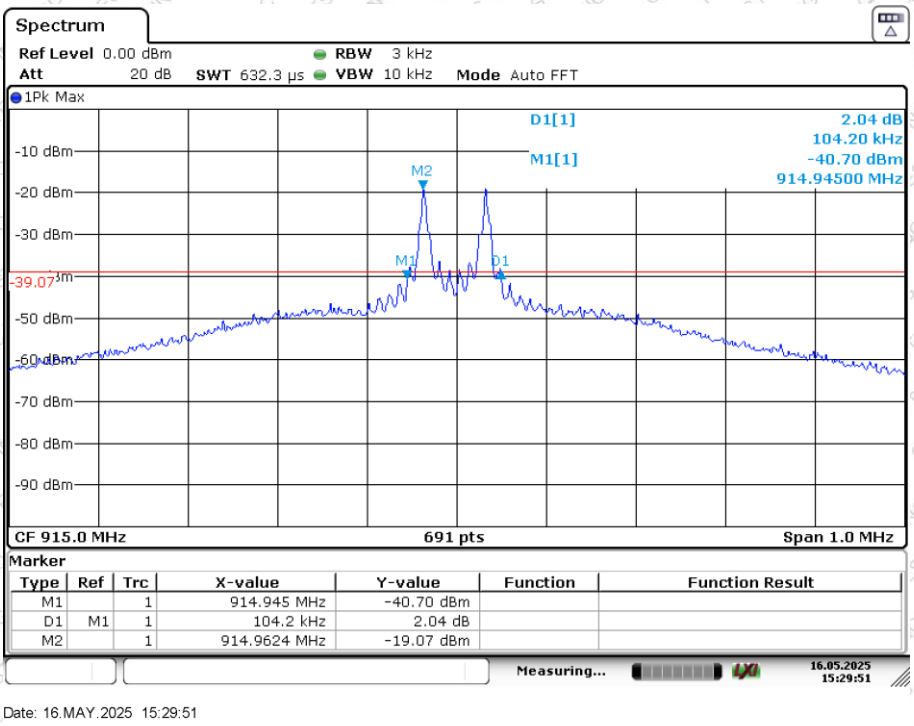
Test Frequency (MHz)	-20dB bandwidth (MHz)
915	0.104

Test plot as follows:



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