RF MEASUREMENT REPORT

FCC ID:	SFK-WF402B
Applicant:	CIG Shanghai Co., Ltd.
Product:	UWB Location Beacon DC Power
Model No.:	WF-402B-UWB
Brand Name:	AirFinder
FCC Classification:	Ultra Wideband Transmitter
FCC Rule Part(s):	Part 15 Subpart F (Section 15.517)
Received Date:	2023-11-20
Test Date:	2023-11-27 ~ 2023-12-06

Reviewed By: Kevin Guo

Approved By: Robin Wu

Revision History

Report No.	Version	Description	Issue Date	Note
2311RSU053-U3	V01	Initial Report	2024-01-08	Valid

CONTENTS

1. General Information

1.1. Applicant

CIG Shanghai Co., Ltd.

5F, Building 8, NO.2388 Chenhang Road, Minhang District, Shanghai, 201112, P.R.C

1.2. Manufacturer

CIG Shanghai Co., Ltd.

5F, Building 8, NO.2388 Chenhang Road, Minhang District, Shanghai, 201112, P.R.C

1.3. Testing Facility

<table>
<tr><td>☒</td><td colspan="5">Test Site – MRT Suzhou Laboratory</td></tr>
<tr><td></td><td colspan="5">Laboratory Location (Suzhou – Wuzhong)
D8 Building, No.2 Tian’edang Rd., Wuzhong Economic Development Zone, Suzhou, China
Laboratory Location (Suzhou – SIP)
4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China</td></tr>
<tr><td></td><td colspan="5">Laboratory Accreditations</td></tr>
<tr><td></td><td colspan="2">A2LA: 3628.01</td><td colspan="3">CNAS: L10551</td></tr>
<tr><td></td><td colspan="2">FCC: CN1166</td><td colspan="3">ISED: CN0001</td></tr>
<tr><td></td><td rowspan="2">VCCI:</td><td>☐R-20025</td><td>☐G-20034</td><td>☐C-20020</td><td>☐T-20020</td></tr>
<tr><td></td><td>☐R-20141</td><td>☐G-20134</td><td>☐C-20103</td><td>☐T-20104</td></tr>
<tr><td>☐</td><td colspan="5">Test Site – MRT Shenzhen Laboratory</td></tr>
<tr><td></td><td colspan="5">Laboratory Location (Shenzhen)
1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China</td></tr>
<tr><td></td><td colspan="5">Laboratory Accreditations</td></tr>
<tr><td></td><td colspan="2">A2LA: 3628.02</td><td colspan="3">CNAS: L10551</td></tr>
<tr><td></td><td colspan="2">FCC: CN1284</td><td colspan="3">ISED: CN0105</td></tr>
<tr><td>☐</td><td colspan="5">Test Site – MRT Taiwan Laboratory</td></tr>
<tr><td></td><td colspan="5">Laboratory Location (Taiwan)
No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)</td></tr>
<tr><td></td><td colspan="5">Laboratory Accreditations</td></tr>
<tr><td></td><td colspan="5">TAF: 3261</td></tr>
<tr><td></td><td colspan="2">FCC: 291082, TW3261</td><td colspan="3">ISED: TW3261</td></tr>
</table>

1.4. Product Information

Product Name	UWB Location Beacon DC Power
Model No.	WF-402B-UWB
Serial No.	90258686
Bluetooth Specification	V5.0 (Single mode, BLE)
UWB Specification	6489.6MHz
Antenna Information	Refer to Section 1.5
Power Supply	DC 5V
Remark: The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.	

1.5. Radio Specification under Test

Operation Frequency	6489.6MHz
Channel Number	1
Type of modulation	BPM-BPSK
Antenna Type	SMT
Antenna Gain	4.12dBi

2. Test Configuration

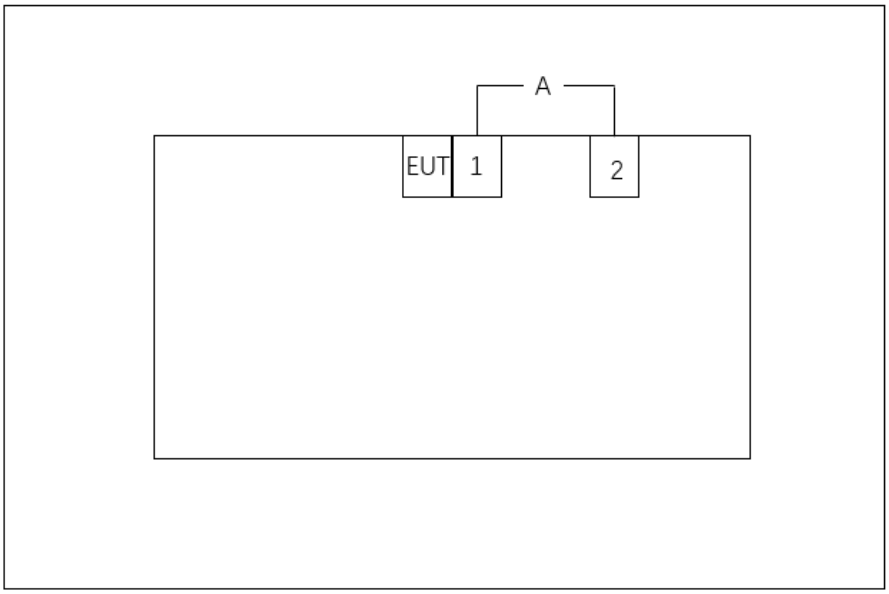
2.1. Test Mode

Mode 1: Transmit by 6489.6 MHz

2.2. Test System Connection Diagram

The device was tested per the guidance ANSI C63.10: 2013 was used to reference the appropriate EUT setup for radiated emissions testing and AC line conducted testing.

Connection Diagram



Cable Type		Cable Description	Length
A	Power Cable	Non shielded	1.5m
Product		**Manufacturer**	**Model No.**
1	XLE Location Beacon AC Power	CIG	WF-402CB-XLE
2	AC/DC Adapter	AtechOEM	ADS065T-W 240200

2.3. Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15.517
- 393764 D01 UWB FAQ v02r01
- ANSI C63.10-2013

2.4. Test Environment Condition

Ambient Temperature	15 ~ 35°C
Relative Humidity	20 ~ 75%RH

3. Measuring Instrument

Instrument	Manufacturer	Model No.	Asset No.	Cali. Interval	Cali. Due Date	Test Site
TRILOG Antenna	Schwarzbeck	VULB 9162	MRTSUE06022	1 year	2024-05-15	WZ-AC2
EMI Test Receiver	Agilent	N9038A	MRTSUE06125	1 year	2024-05-23	WZ-AC2
Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06171	1 year	2024-10-11	WZ-AC2
Preamplifier	Schwarzbeck	BBV 9718	MRTSUE06176	1 year	2024-05-07	WZ-AC2
Anechoic Chamber	RIKEN	WZ-AC2	MRTSUE06213	1 year	2024-04-20	WZ-AC2
Thermohygrometer	testo	608-H1	MRTSUE11038	1 year	2024-10-25	WZ-AC2
Thermohygrometer	testo	608-H1	MRTSUE11263	1 year	2024-11-07	WZ-AC2
Loop Antenna	Schwarzbeck	FMZB 1519	MRTSUE06025	1 year	2024-09-17	WZ-AC2
Preamplifier	EMCI	EMC051845SE	MRTSUE06987	1 year	2024-09-07	WZ-AC2
Horn Antenna	Schwarzbeck	BBHA 9170	MRTSUE06597	1 year	2024-11-04	WZ-AC2
Preamplifier	EMCI	EMC184045SE	MRTSUE06640	1 year	2024-01-12	WZ-AC2
Signal Analyzer	R&S	FSV40	MRTSUE06218	1 year	2024-09-04	WZ-AC2

Software	Version	Function
EMI V3	V 3.0.0	EMI Test Software
Controller_MF 7802	1.02	RE Antenna & Turntable

4. Antenna Requirements

Excerpt from §15.203 of the FCC Rules/Regulations:

"An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can 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."

- The antenna of the device is **permanently attached.**

Conclusion:

The unit complies with the requirement of §15.203.

5. Measurement Uncertainty

5.1. Decision Rules

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4: 2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

5.2. Measurement Uncertainty

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k = 2.

AC Conducted Emission Measurement
The maximum measurement uncertainty is evaluated as: 9kHz~150kHz: 3.58dB 150kHz~30MHz: 3.20dB
Radiated Emission Measurement
The maximum measurement uncertainty is evaluated as: Coaxial: 9kHz~30MHz: 2.61dB Coplanar: 9kHz~30MHz: 2.62dB Horizontal: 30MHz~200MHz: 3.79dB 200MHz~1GHz: 3.91dB 1GHz~40GHz: 4.99dB Vertical: 30MHz~200MHz: 4.06dB 200MHz~1GHz: 5.21dB 1GHz~40GHz: 4.90dB
Occupied Bandwidth
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 2.7%

6. Test Result

6.1. Summary

FCC Section(s)	Test Description	Test Condition	Verdict
15.517(b) 15.503(d)	Emission Bandwidth	Radiated	Pass
15.517(c) & (e)	Average and Peak Power Spectral Density		Pass
15.517(c) & (d) 15.209	Radiated Emissions		Pass
15.207	AC Conducted Emissions 150kHz - 30MHz	Line Conducted	Pass

Note:

For radiated emission test, every axis (X, Y, Z) was also verified and showed the worst axis in the test setup photos. The test results shown in the following sections represent the worst-case emissions.

6.2. Emission Bandwidth Measurement

6.2.1. Test Limit

§15.517(b): The UWB bandwidth of a device operating under the provisions of this section must be contained between 3100 MHz and 10600 MHz.

§15.503(d): An intentional radiator that, at any point in time, has a fractional bandwidth equal to or greater than 0.20 or has a UWB bandwidth equal to or greater than 500 MHz, regardless of the fractional bandwidth.

6.2.2. Test Procedure

ANSI C63.10 - 2013 - Section 10.1

6.2.3. Test Setting

The frequency at which the maximum power level is measured with the peak detector is designated f_M. The peak power measurements shall be made using a spectrum analyzer or EMI receiver with a 1 MHz resolution bandwidth and a video bandwidth of 1 MHz or greater. The instrument shall be set to peak detection using the maximum-hold trace mode. The outermost 1 MHz segments above and below f_M, where the peak power falls by 10 dB relative to the level at f_M, are designated as f_H and f_L, respectively:

a) For the lowest frequency bound f_L, the emission is searched from a frequency lower than f_M that has, by inspection, a peak power much lower than 10 dB less than the power at f_M and increased toward f_M until the peak power indicates 10 dB less than the power at f_M. The frequency of that segment is recorded.

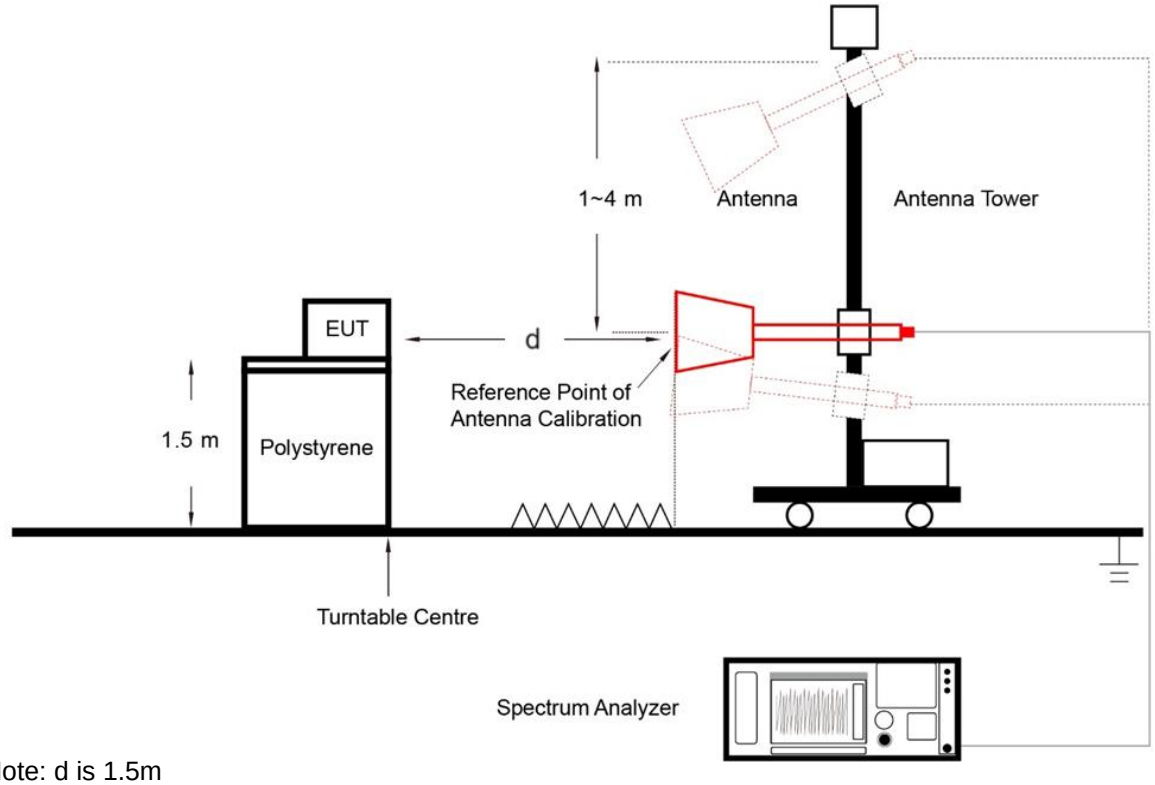
b) This process is repeated for the highest frequency bound f_H, beginning at a frequency higher than f_M that has, by inspection, a peak power much lower than 10 dB below the power at f_M. The frequency of that segment is recorded.

c) The two recorded frequencies represent the highest f_H and lowest f_L bounds of the UWB transmission, and the −10 dB bandwidth (B – 10) is defined as ($f_H – f_L$). The center frequency (fc) is mathematically determined from ($f_H – f_L$) / 2.

d) The fractional bandwidth is defined as $2(f_H – f_L) / (f_H + f_L)$.

e) Determine whether the −10 dB bandwidth ($f_H – f_L$) is ≥ 500 MHz, or whether the fractional bandwidth $2 * (f_H – f_L) / (f_H + f_L)$ is ≥ 0.2.

6.2.4. Test Setup



Note: d is 1.5m

6.2.5. Test Result

Refer to Appendix A.1.

6.3. Average and Peak Power Spectral Density

6.3.1. Test Limit

§15.517 (c) The radiated emission shall not exceed the following average limits when measured using a resolution bandwidth of 1 MHz:

Frequency (MHz)	EIRP in dBm
3100 - 10600	-41.3

§15.517 (e) There is a limit on the peak level of the emissions contained within a 50 MHz bandwidth centered on the frequency at which the highest radiated emission occurs, f_M. That limit is 0 dBm EIRP.

6.3.2. Test Procedure

ANSI C63.10 - 2013 - Section 10.3

6.3.3. Test Setting

Peak Power within 50 MHz bandwidth

The peak detector of the instrument is selected and the maximum hold feature activated.

It is acceptable to employ an RBW of less than 50 MHz (but no less than 1 MHz) when performing the required peak power measurements. When this approach is employed, the peak emissions EIRP is converted to a commensurate with the RBW by employing a [20*log (50MHz/RBW)] relationship.

For example, the peak power could be expressed in a 40 MHz bandwidth as follows in Equation:

$EIRP_{50MHz} = EIRP_{40MHz} + 20*\log(50MHz/40MHz)$.

Maximum Average Emissions

The following procedure shall be used for evaluating rms-average power spectral density:

a) Set the RBW to 1 MHz

b) Set the VBW to 3 MHz

c) Set the frequency span to examine the spectrum across a convenient frequency segment

d) Select the power averaging (rms) detector

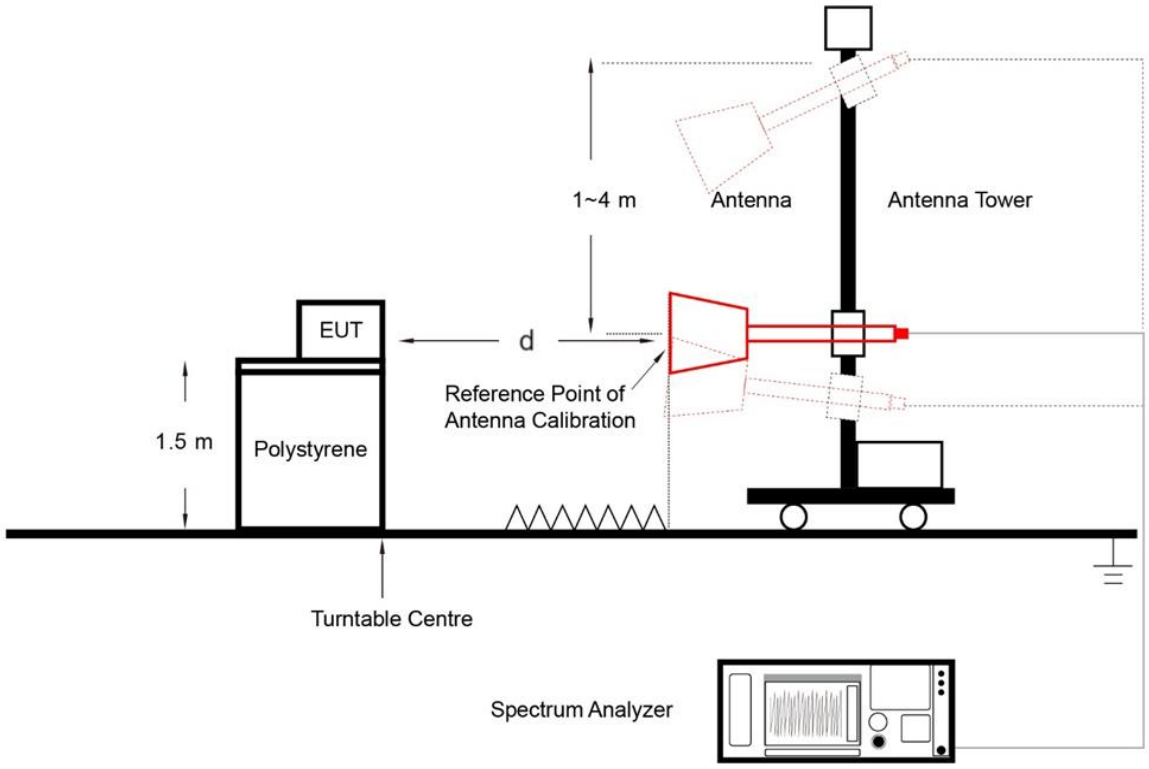
e) Set the sweep time so that there is no more than a 1 ms integration period over each measurement bin.

For this measurement, a substitution method is used. The substitution factor is determined by using (a signal generator, a substitute antenna, a cable connecting signal generator to substitute antenna) to substitute EUT, P_{SG} is the power setting of SG, P_{SA} is the level of SA, G_T is the gain of the substitute antenna in dBi, L_C is the

signal loss in the cable connecting the signal generator to the substitute antenna in dB, the substitution factor is calculated as follows:

substitution factor = $P_{SG} + G_T – L_C - P_{SA}$

6.3.4. Test Setup



Note: d is 1.5m

6.3.5. Test Result

Refer to Appendix A.2.

6.4. Radiated Emission Measurement

6.4.1. Test Limit

§15.517 (c) The radiated emissions at or below 960 MHz from a device operating under the provisions of this section shall not exceed the emission levels in § 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [μV/m]	Measured Distance [Meters]
0.009 – 0.490	2400/F (kHz)	300
0.490 – 1.705	24000/F (kHz)	30
1.705 – 30	30	30
30 – 88	100	3
88 – 216	150	3
216 – 960	200	3

§15.517 (c) The radiated emissions above 960 MHz from a device operating under the provisions of this section shall not exceed the following average limits when measured using a resolution bandwidth of 1 MHz.

Frequency [MHz]	EIRP [dBm]
960 – 1610	-75.3
1610 – 1990	-53.3
1990 – 3100	-51.3
3100 – 10600	-41.3
Above 10600	-51.3

§15.517 (d) In addition to the radiated emission limits specified in the table above, UWB transmitters operating under the provisions of this section shall not exceed the following average limits when measured using a resolution bandwidth of no less than 1 kHz.

Frequency [MHz]	EIRP of spurious [dBm]
1164 – 1240	-85.3
1559 – 1610	-85.3

6.4.2. Test Procedure

ANSI C63.10 - 2013 - Section 10.2 & 10.3

ANSI C63.10 - 2013 - Section 6.3 (General Requirements)

ANSI C63.10 - 2013 - Section 6.4 (Standard test method below 30MHz)

ANSI C63.10 - 2013 - Section 6.5 (Standard test method above 30MHz to 1GHz)

ANSI C63.10 - 2013 - Section 6.6 (Standard test method above 1GHz)

6.4.3. Test Setting

Table 1 - RBW as a function of frequency

Frequency	RBW
9 ~ 150 kHz	200 ~ 300 Hz
0.15 ~ 30 MHz	9 ~ 10 kHz
30 ~ 960 MHz	100 ~ 120 kHz

Peak Measurements above 960MHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz (1kHz for GPS band)
3. VBW = 3 * RBW
4. Detector = Peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Average Measurements above 960MHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz (1kHz for GPS band)
3. VBW = 3 * RBW
4. Detector = Average
5. Sweep points = 2 * Span / RBW
6. Sweep time = Sweep points * 1ms
7. Trace mode = average
8. Trace was allowed to stabilize

Quasi-Peak Measurements below 960MHz

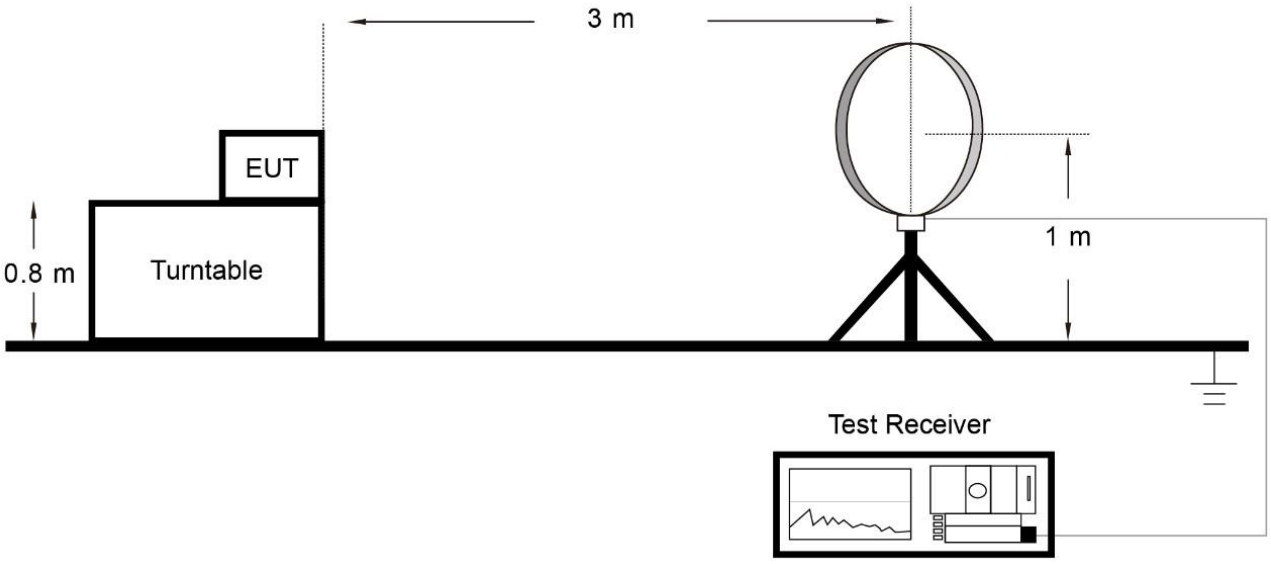
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = as specified in Table 1
4. Detector = CISPR quasi-peak
5. Sweep time = auto couple
6. Trace was allowed to stabilize

For measurement above 1GHz, a substitution method is used. The substitution factor is determined by using (a signal generator, a substitute antenna, a cable connecting signal generator to substitute antenna) to substitute EUT, P_{SG} is the power setting of SG, P_{SA} is the level of SA, G_T is the gain of the substitute antenna in dBi, L_C is the signal loss in the cable connecting the signal generator to the substitute antenna in dB, the substitution factor is calculated as follows:

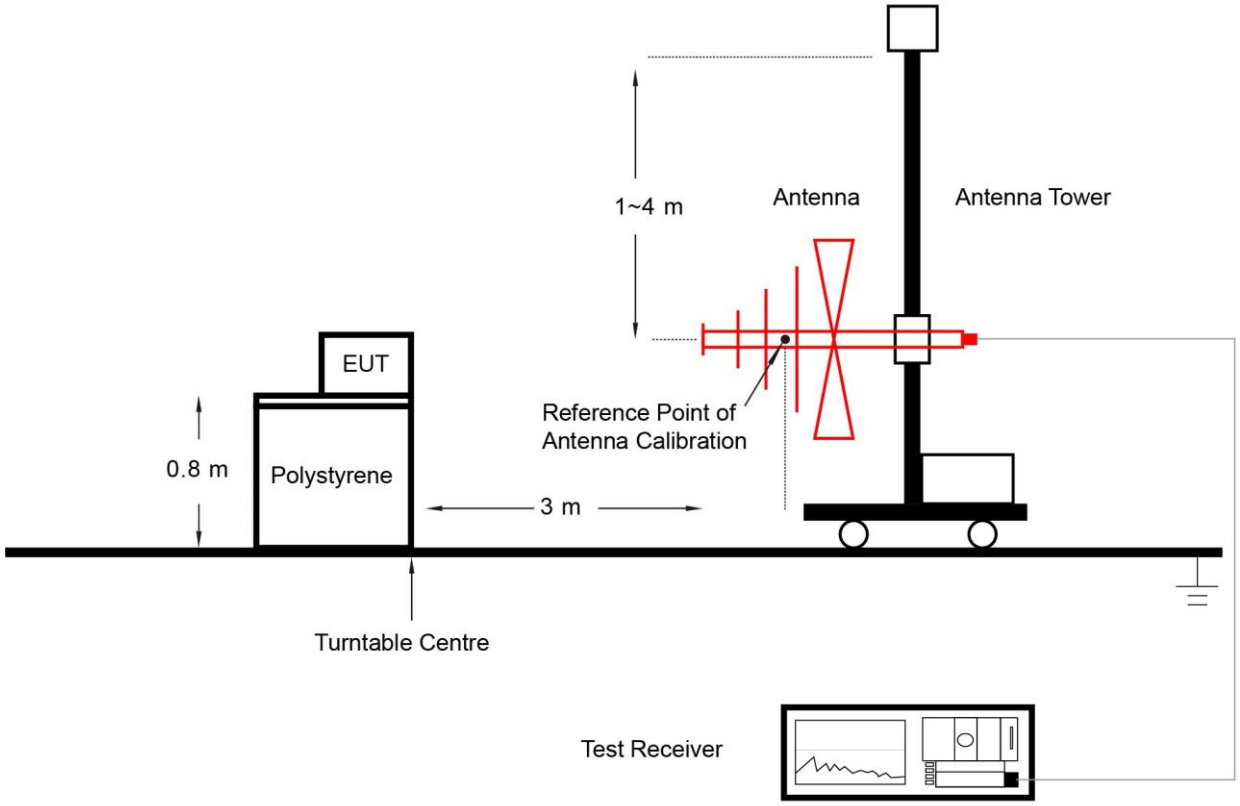
substitution factor = $P_{SG} + G_T – L_C - P_{SA}$

6.4.4. Test Setup

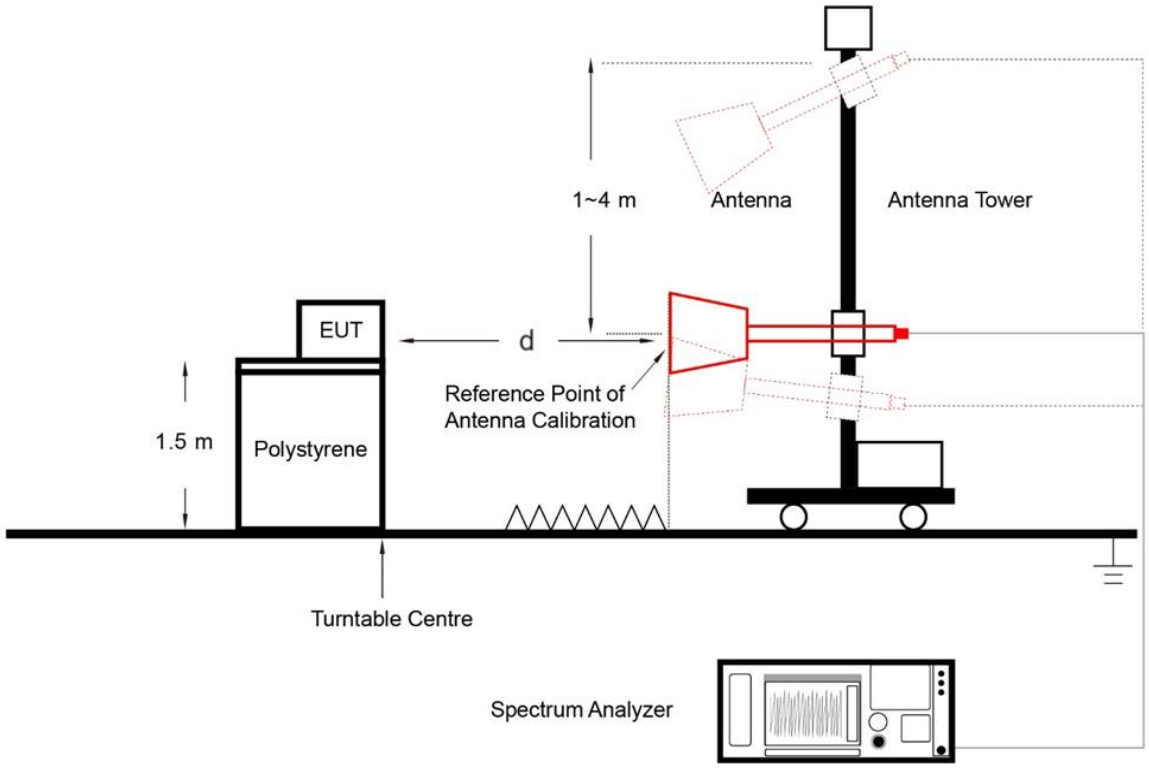
Below 30MHz Test Setup



Above 30MHz Test Setup:



Above 1GHz Test Setup:



Note: d is 1.5m

6.4.5. Test Result

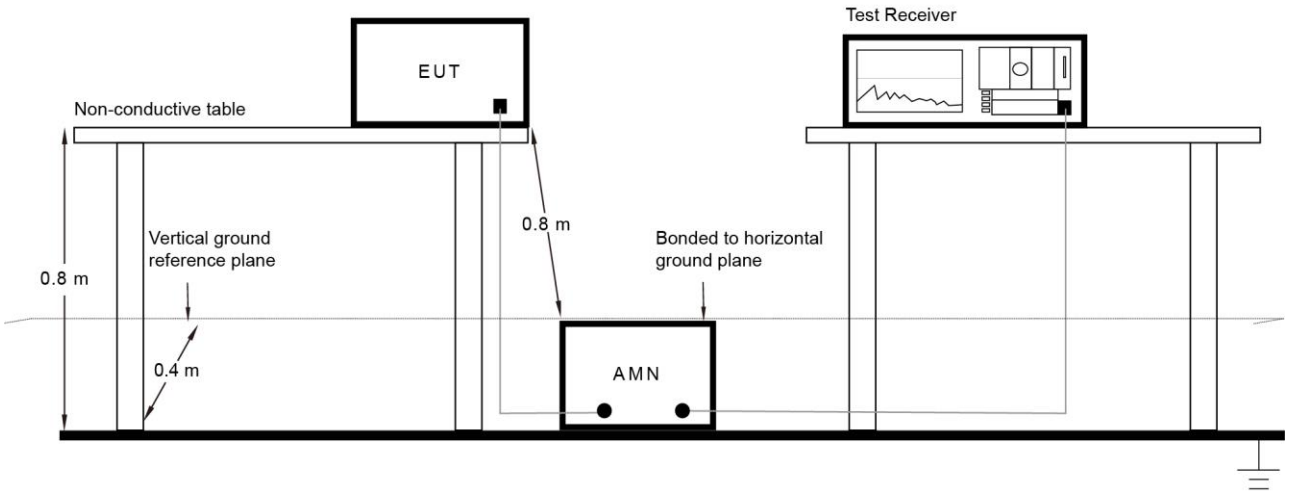
Refer to Appendix A.3.

6.5. AC Conducted Emissions Measurement

6.5.1. Test Limit

FCC Part 15.207 Limits		
Frequency (MHz)	QP (dBμV)	AV (dBμV)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50
Note 1: The lower limit shall apply at the transition frequencies.		
Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.		

6.5.2. Test Setup



6.5.3. Test Result

Refer to Appendix A.4.

Appendix A - Test Result

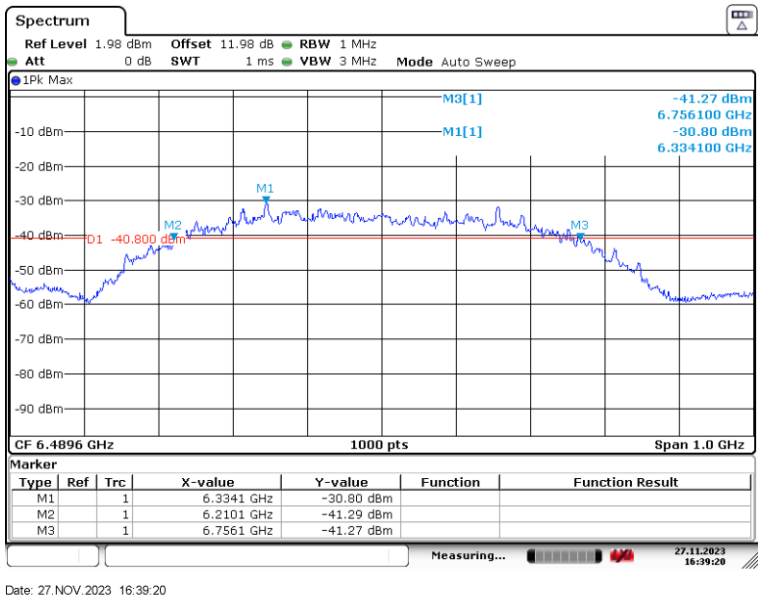
A.1 Emission Bandwidth Test Result

Test Site	WZ-AC2	Test Engineer	Amy Zhang
Test Date	2023-11-27		

Test Mode	F_L (MHz)	Limit (MHz)	F_H (MHz)	Limit (MHz)	Result
Mode 1	6210.1	≥3100	6756.1	≤10600	Pass

Test Mode	Emission Bandwidth (MHz)	Limit (MHz)	Result	F_C (MHz)
Mode 1	546	≥ 500	Pass	6483.1
Note 1: Emission Bandwidth = F_H - F_L = 6756.1 - 6210.1 = 546 MHz Note 2: F_C = (F_H + F_L) / 2 = 6483.1 MHz				

Emission Bandwidth



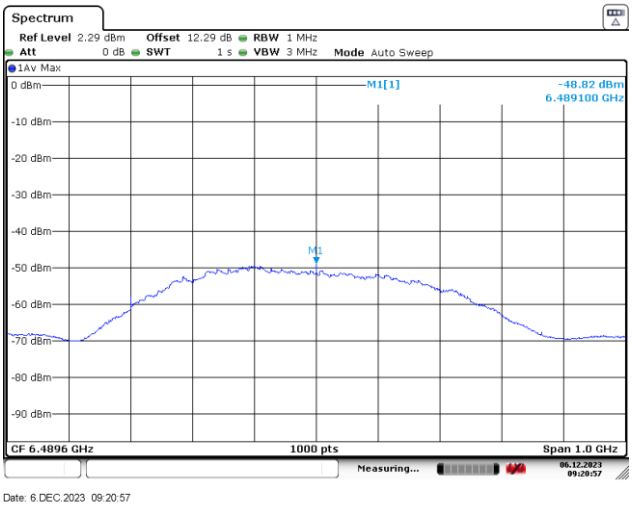
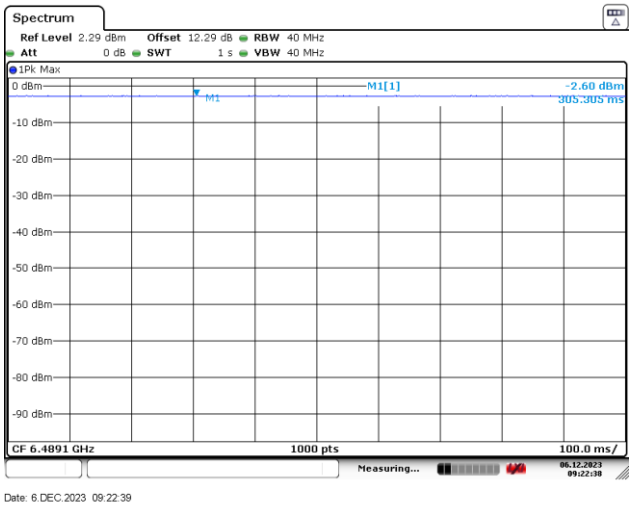
A.2 Average and Peak Power Spectral Density Test Result

Test Site	WZ-AC2	Test Engineer	Amy Zhang
Test Date	2023-12-06		

Test Mode	Average Power (dBm/MHz)	Average Power Limit (dBm/MHz)	Peak Power (dBm/40MHz)	Peak Power (dBm/50MHz)	Peak Power Limit (dBm/50MHz)	Result
Mode 1	-48.82	≤ -41.3	-2.60	-0.66	≤ 0	Pass

Note 1: Conversion Factor (dB) = 20 * Log (50MHz / 40MHz) = 1.94

Note 2: Peak Power (dBm/50MHz) = Peak Power (dBm/40MHz) + Conversion Factor (dB)

Average Power	Peak Power
	

A.3 Radiated Emission Test Result

Test Site	WZ-AC2	Test Engineer	Amy Zhang
Test Date	2023-12-06		

Frequency Range (MHz)	Frequency (MHz)	Reading Level (dBm)	Substitution Factor (dB)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
960 ~ 1610	1231.8	-64.4	-13.3	-77.7	-75.3	-2.4	Average	Horizontal
	1315.4	-64.5	-13.2	-77.7	-75.3	-2.4	Average	Horizontal
	1131.2	-64.0	-14.2	-78.2	-75.3	-2.9	Average	Vertical
	1311.4	-64.3	-12.3	-76.6	-75.3	-1.3	Average	Vertical
1610 ~ 1990	1695.1	-54.6	-14.1	-68.7	-53.3	-15.4	Peak	Horizontal
	1789.6	-54.0	-13.8	-67.8	-53.3	-14.5	Peak	Horizontal
	1669.9	-54.4	-14.3	-68.7	-53.3	-15.4	Peak	Vertical
	1824.3	-55.2	-13.6	-68.8	-53.3	-15.5	Peak	Vertical
1990 ~ 3100	2163.4	-55.3	-10.4	-65.7	-51.3	-14.4	Peak	Horizontal
	2425.9	-53.2	-11.0	-64.2	-51.3	-12.9	Peak	Horizontal
	2210.7	-54.8	-10.7	-65.5	-51.3	-14.2	Peak	Vertical
	2425.9	-52.2	-11.3	-63.5	-51.3	-12.2	Peak	Vertical
3100 - 10600	9126.0	-72.9	20.0	-52.9	-41.3	-11.6	Peak	Horizontal
	10418.0	-73.4	22.5	-50.9	-41.3	-9.6	Peak	Horizontal
	8735.0	-73.4	20.3	-53.1	-41.3	-11.8	Peak	Vertical
	10171.5	-73.1	21.6	-51.5	-41.3	-10.2	Peak	Vertical
Above 10600	13567.4	-63.7	10.5	-53.2	-51.3	-1.9	Peak	Horizontal
	14510.9	-64.4	11.7	-52.7	-51.3	-1.4	Peak	Horizontal
	13511.9	-63.5	10.9	-52.6	-51.3	-1.3	Peak	Vertical
	14411.0	-64.9	11.2	-53.7	-51.3	-2.4	Peak	Vertical

Note 1: Measure Level (dBm) = Reading Level (dBm) + Substitution Factor (dB)

Note 2: Substitution Factor (dB) = Cable Loss (dB) + Space Attenuation (dB) - Antenna Gain (dBi) - Pre_Amplifier Gain (dB)

Test Site	WZ-AC2	Test Engineer	Amy Zhang
Test Date	2023-12-06		

GPS Band

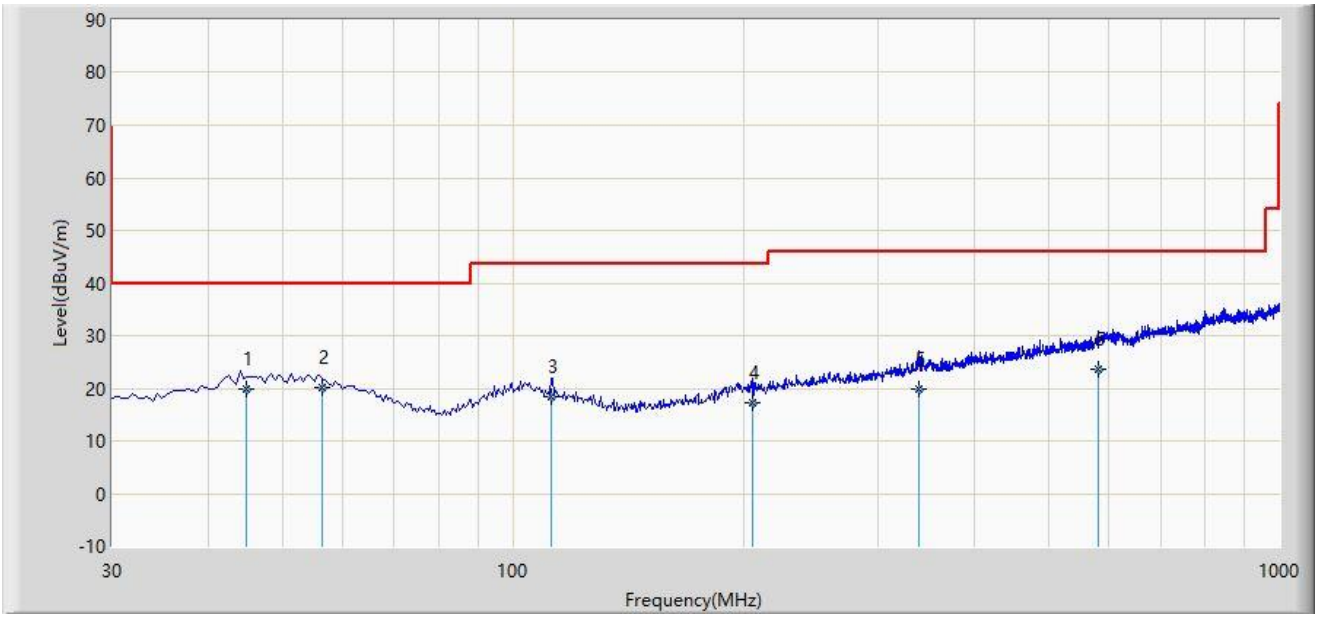
Frequency Range (MHz)	Frequency (MHz)	Reading Level (dBm)	Substitution Factor (dB)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
1164 ~ 1240	1179.4	-94.6	0.0	-94.6	-85.3	-9.3	Peak	Horizontal
	1192.0	-94.7	-0.7	-95.4	-85.3	-10.1	Peak	Horizontal
	1170.7	-94.5	1.7	-92.8	-85.3	-7.5	Peak	Vertical
	1198.8	-94.1	-0.8	-94.9	-85.3	-9.6	Peak	Vertical
1559 ~ 1610	1572.1	-93.7	1.0	-92.7	-85.3	-7.4	Peak	Horizontal
	1593.8	-94.9	0.0	-94.9	-85.3	-9.6	Peak	Horizontal
	1592.0	-93.9	0.2	-93.7	-85.3	-8.4	Peak	Vertical
	1597.7	-94.2	0.1	-94.1	-85.3	-8.8	Peak	Vertical

Note 1: Measure Level (dBm) = Reading Level (dBm) + Substitution Factor (dB)

Note 2: Substitution Factor (dB) = Cable Loss (dB) + Space Attenuation (dB) - Antenna Gain (dBi) - Pre_Amplifier Gain (dB)

The Result of Radiated Emission below 1GHz:

Site: WZ-AC2	Test Date: 2023-11-27
Limit: FCC_Part15.209_RSE(3m)	Engineer: Karl Gao
Probe: VULB9162_30-7000MHz	Polarity: Horizontal
EUT: UWB Location Beacon DC Power	Power: DC 5V
Test Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		44.900	19.919	-0.400	-20.081	40.000	20.319	QP
2	*	56.400	20.070	0.100	-19.930	40.000	19.969	QP
3		112.100	18.329	0.500	-25.171	43.500	17.829	QP
4		205.600	17.308	-1.100	-26.192	43.500	18.408	QP
5		339.400	19.921	-2.500	-26.079	46.000	22.422	QP
6		580.100	23.508	-3.200	-22.492	46.000	26.707	QP

Note 1: " * " means this data is the worst emission level.

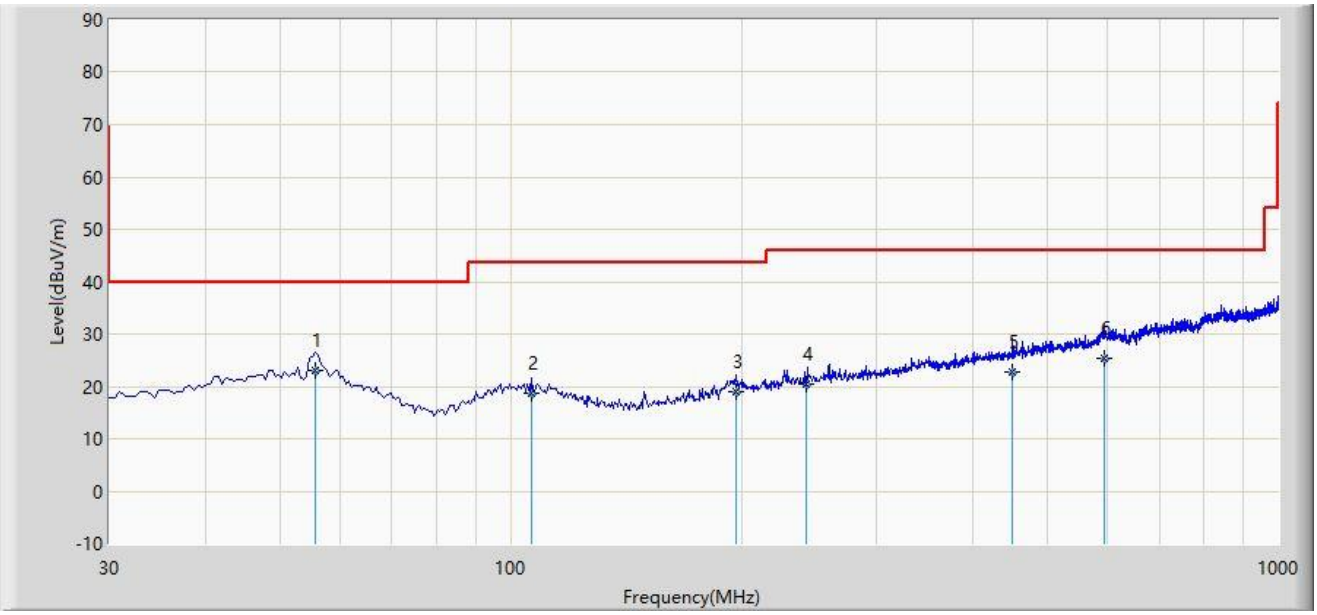
Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Note 4: Quasi-Peak measurement was not performed when peak measure level was lower than the quasi-peak limit.

Note 5: The amplitude of radiated emissions (frequency range from 9kHz to 30MHz and 18GHz to 40GHz) are that proximity to ambient noise, which also are attenuated more than 20 dB below the permissible value. Therefore, the data is not presented in the report.

Site: WZ-AC2	Test Date: 2023-11-27
Limit: FCC_Part15.209_RSE(3m)	Engineer: Karl Gao
Probe: VULB9162_30-7000MHz	Polarity: Vertical
EUT: UWB Location Beacon DC Power	Power: DC 5V
Test Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	55.600	23.188	3.100	-16.812	40.000	20.088	QP
2		106.400	18.569	0.100	-24.931	43.500	18.469	QP
3		196.700	18.994	0.200	-24.506	43.500	18.793	QP
4		243.100	20.458	0.700	-25.542	46.000	19.757	QP
5		450.300	22.792	-1.400	-23.208	46.000	24.191	QP
6		592.400	25.269	-2.300	-20.731	46.000	27.569	QP

Note 1: " * " means this data is the worst emission level.

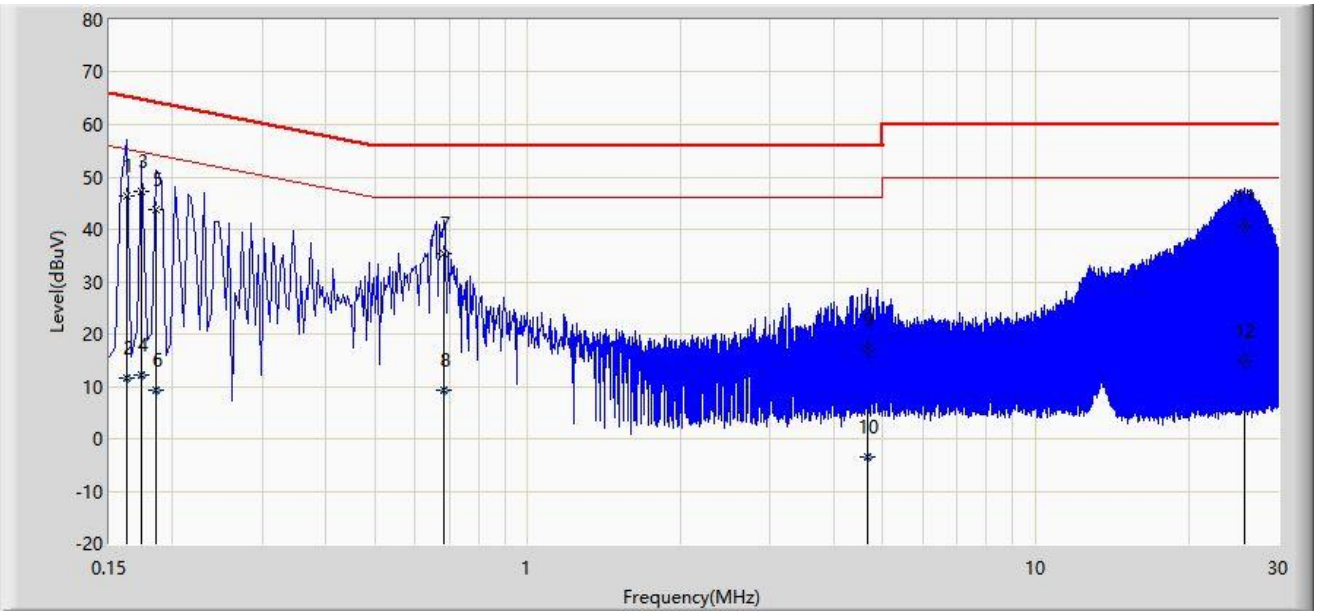
Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Note 4: The amplitude of radiated emissions (frequency range from 9kHz to 30MHz and 18GHz to 40GHz) are that proximity to ambient noise, which also are attenuated more than 20 dB below the permissible value. Therefore, the data is not presented in the report.

A.4 AC Conducted Emissions Test Result

Site: WZ-SR2	Test Date: 2023-12-05
Limit: FCC_Part15.207_CE_AC Power	Engineer: Linda Wei
Probe: ENV216_101683_Filter Off_E	Polarity: Line
EUT: UWB Location Beacon DC Power	Power: AC 120V/60Hz
Test Mode 1	



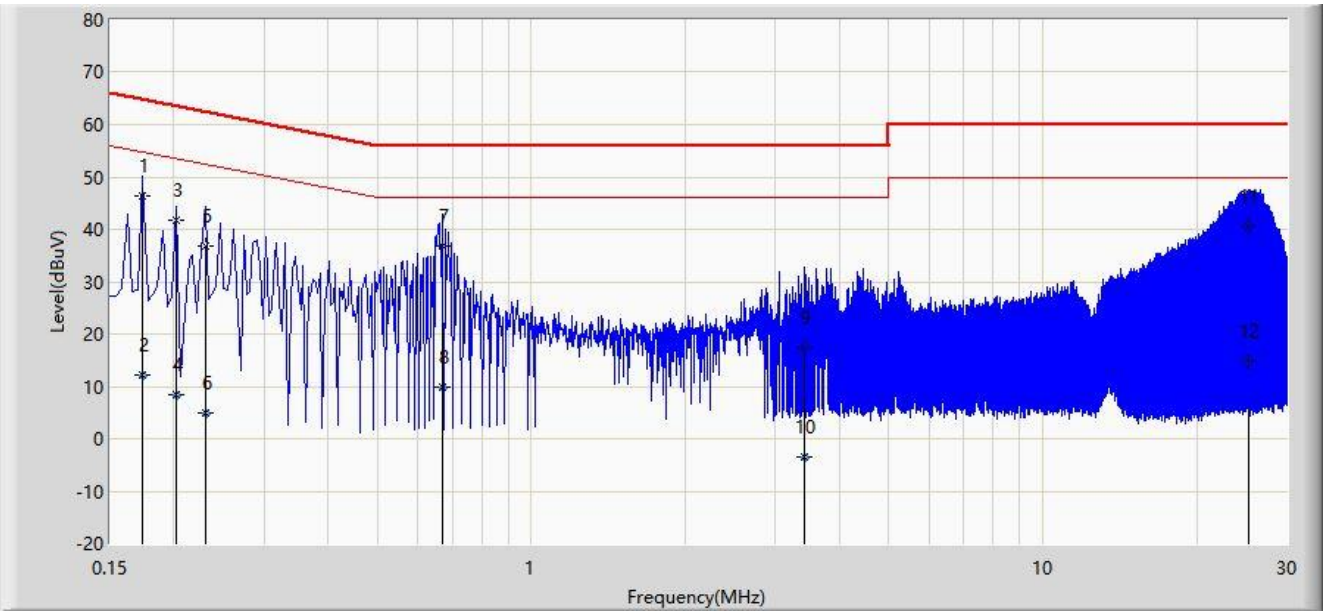
No	Mark	Frequency (MHz)	Measure Level (dBµV)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV)	Factor (dB)	Type
1		0.162	46.460	36.689	-18.900	65.361	9.772	QP
2		0.162	11.498	1.727	-43.863	55.361	9.772	AV
3	*	0.174	47.157	37.380	-17.610	64.767	9.777	QP
4		0.174	12.314	2.538	-42.453	54.767	9.777	AV
5		0.186	43.672	33.890	-20.541	64.213	9.781	QP
6		0.186	9.368	-0.414	-44.845	54.213	9.781	AV
7		0.682	35.380	25.347	-20.620	56.000	10.033	QP
8		0.682	9.257	-0.776	-36.743	46.000	10.033	AV
9		4.670	16.982	6.223	-39.018	56.000	10.760	QP
10		4.670	-3.366	-14.126	-49.366	46.000	10.760	AV
11		25.790	40.462	28.666	-19.538	60.000	11.796	QP
12		25.790	14.894	3.099	-35.106	50.000	11.796	AV

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBµV) = Reading Level (dBµV) + Factor (dB).

Note 3: Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

Site: WZ-SR2	Test Date: 2023-12-05
Limit: FCC_Part15.207_CE_AC Power	Engineer: Linda Wei
Probe: ENV216_101683_Filter Off_E	Polarity: Neutral
EUT: UWB Location Beacon DC Power	Power: AC 120V/60Hz
Test Mode 1	



No	Mark	Frequency (MHz)	Measure Level (dBµV)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV)	Factor (dB)	Type
1	*	0.174	46.268	36.489	-18.499	64.767	9.780	QP
2		0.174	12.263	2.484	-42.504	54.767	9.780	AV
3		0.202	41.686	31.898	-21.842	63.528	9.788	QP
4		0.202	8.335	-1.453	-45.193	53.528	9.788	AV
5		0.230	36.870	27.070	-25.579	62.450	9.800	QP
6		0.230	5.007	-4.793	-47.443	52.450	9.800	AV
7		0.670	36.880	26.843	-19.120	56.000	10.037	QP
8		0.670	9.763	-0.274	-36.237	46.000	10.037	AV
9		3.410	17.349	6.600	-38.651	56.000	10.749	QP
10		3.410	-3.497	-14.246	-49.497	46.000	10.749	AV
11		25.202	40.536	28.528	-19.464	60.000	12.008	QP
12		25.202	14.760	2.752	-35.240	50.000	12.008	AV

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBµV) = Reading Level (dBµV) + Factor (dB).

Note 3: Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

Appendix B - Test Setup Photograph

Refer to “2311RSU053-UT” file.

Appendix C - EUT Photograph

Refer to “2311RSU0053-UE” file.

The End