RF MEASUREMENT REPORT

FCC ID:	2BWYH-UC60M62-RX
Applicant:	Uniqconn Inc.
Product:	60 GHz Full-Duplex Wireless Communication Module
Model No.:	UC60M62-RX
Brand Name:	UNIQCONN
FCC Classification:	Part 15 Low Power Communication Device Transmitter (DXX)
FCC Rule Part(s):	FCC PART 15.255
Received Date:	2026-07-08
Test Date:	2026-07-21 ~ 2026-07-31

Prepared By: Aurora Ding

Reviewed By: Denise Zhou

Approved By: Robin Wu

Revision History

Report No.	Version	Description	Issue Date	Note
R26S1011078-U201	V01	Initial Report	2026-08-05	Invalid
R26S1011078-U201	V02	Updated Section 6.4.5	2026-08-11	Invalid
R26S1011078-U201	V03	Updated Section 1.5	2026-08-12	Valid

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1. General Information

1.1. Applicant

Uniqconn Inc.

42, Changeop-ro, Sujeong-gu, Seongnam-si, Gyeonggi-do, Republic of Korea

1.2. Manufacturer

Uniqconn Inc.

42, Changeop-ro, Sujeong-gu, Seongnam-si, Gyeonggi-do, Republic of Korea

1.3. Testing Facility

☒	**Test Site - MRT Suzhou Laboratory**
	☐ **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 ☒ **Laboratory Location (Suzhou - Wujiang)** Building 1, No.1 Xingdong Road, Wujiang, Suzhou, Jiangsu, People's Republic of China
	Laboratory Accreditations
	A2LA: 3628.01 CNAS: L10551 FCC: CN1166 ISED: CN0001
☐	**Test Site - MRT Shenzhen Laboratory**
	Laboratory Location (Shenzhen) 1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China
	Laboratory Accreditations
	A2LA: 3628.02 FCC: CN1284 ISED: CN0105

1.4. Product information

Product Name	60 GHz Full-Duplex Wireless Communication Module
Model No.	UC60M62-RX
EUT Identification No.	Y-260708-R011-03
Hardware Version	V1.0
Wireless Specification	57 ~ 64 GHz (millimeter wave technology)
Operating Temperature	-40 ~ 85 °C
Operating Voltage	3.3 VDC
Note: The information of the EUT (Equipment Under Test) was provided by the manufacturer. The accuracy, completeness, and validity of the information are solely the responsibility of the manufacturer.	

1.5. Radio Specification

Frequency Range	57 ~ 64 GHz
Channel Number	1
Modulation Type	ASK
Antenna Type	PCB Antenna
Max. Antenna Gain	7.5 dBi

2. Test Configuration

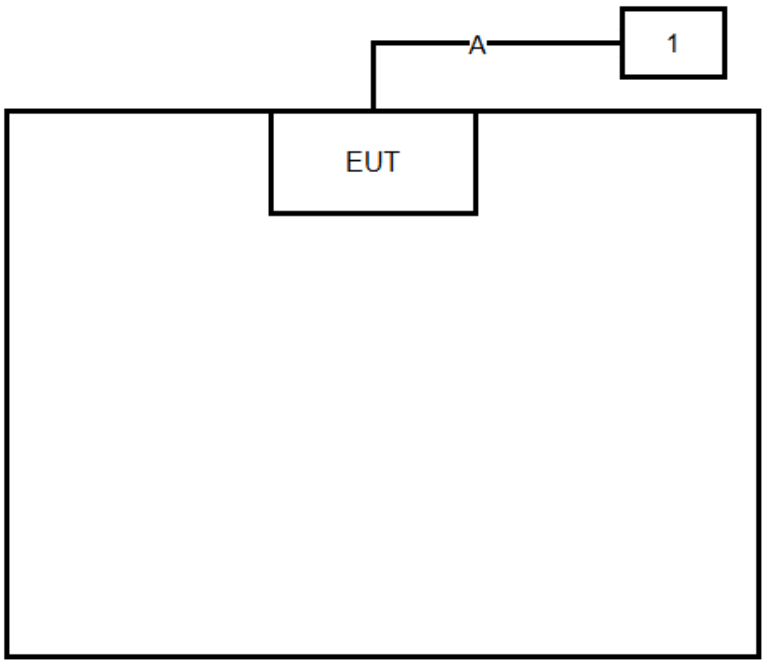
2.1. Test Mode

Mode 1: Power on the EUT by DC source + EUT Operates in TX/RX State

2.2. Test System Connection Diagram

The device was tested per the guidance ANSI C63.10: 2020 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	DC Cable	Non shielded	> 10 m
Product		**Manufacturer**	**Model No.**
1	DC source	N/A	DP 6020

2.3. Applied Standards

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

- FCC Part 15.255
- ANSI C63.10-2020
- ANSI C63.10-2020/Cor1-2023
- ANSI C63.10a-2024

2.4. Test Environment Condition

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

3. 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 this device is **permanently attached.**
- There are no provisions for connection to an external antenna.

Conclusion:

The unit complies with the requirement of §15.203.

4. Measuring Instrument

Instrument	Manufacturer	Model No.	Asset No.	Cali. Interval	Cali. Due Date	Test Site
EMI Test Receiver	R&S	ESR3	MRTSUE07111	1 year	2027-03-05	WJ-AC2
Signal Analyzer	Keysight	N9042B	MRTSUE07260	1 year	2026-11-05	WJ-AC2
Signal Analyzer	Keysight	N9010B	MRTSUE07285	1 year	2027-02-11	WJ-AC2
USB Power Sensor	Keysight	U8489A	MRTSUE06448	5 years	2028-07-11	WJ-AC2
Signal Generator	Keysight	E8257D	MRTSUE06453	1 year	2027-04-14	WJ-AC2
Active Loop Antenna	Schwarzbeck	FMZB 1519-60 D	MRTSUE07076	1 year	2026-11-18	WJ-AC2
TRILOG Broad Band Antenna	Schwarzbeck	VULB 9163	MRTSUE07097	1 year	2027-04-14	WJ-AC2
Horn Antenna	RFSPIN	DRH18-E	MRTSUE07105	1 year	2027-05-11	WJ-AC2
Horn Antenna	Schwarzbeck	BBHA 9170	MRTSUE06599	1 year	2026-08-18	WJ-AC2
Preamplifier	EMCI	EMC118A45SE	MRTSUE07102	1 year	2027-04-08	WJ-AC2
Preamplifier	EMCI	EMC184045SE	MRTSUE07103	1 year	2027-04-08	WJ-AC2
Thermohygrometer	testo	608-H1	MRTSUE07424	1 year	2027-06-15	WJ-AC2
Thermohygrometer	testo	608-H1	MRTSUE11332	1 year	2027-05-10	WJ-AC2
Anechoic Chamber	TDK	WJ-AC2	MRTSUE07117	1 year	2027-05-05	WJ-AC2
Horn Antenna	TL	TL-22SHA25-T1	MRTSUE07475	N/A	N/A	WJ-AC2
Horn Antenna	TL	TL-15SHA25-T1	MRTSUE07476	N/A	N/A	WJ-AC2
Horn Antenna	TL	TL-10SHA25-T1	MRTSUE07477	N/A	N/A	WJ-AC2
Horn Antenna	TL	TL-8SHA25	MRTSUE07478	N/A	N/A	WJ-AC2
Horn Antenna	TL	TL-5SHA25	MRTSUE07479	N/A	N/A	WJ-AC2
mmWave Antenna	A-INFO	LB-15-25-A	MRTSUE06409	N/A	N/A	WJ-AC2
Signal Analyzer Frequency Extender	Keysight	V3050A	MRTSUE07258	3 years	2027-06-25	WJ-AC2
mmWave Extension Module	Keysight	E8257DV15	MRTSUE06456	N/A	N/A	WJ-AC2
mmWave Extension Module	Keysight	N9029AV05	MRTSUE06367	N/A	N/A	WJ-AC2
mmWave Extension Module	Keysight	N9029AV06	MRTSUE06368	N/A	N/A	WJ-AC2
Signal Analyzer	Keysight	N9042B	MRTSUE07260	1 year	2026-11-05	WJ-TR1
Horn Antenna	TL	TL-15SHA25-T1	MRTSUE07476	N/A	N/A	WJ-TR1
mmWave Antenna	A-INFO	LB-15-25-A	MRTSUE06409	N/A	N/A	WJ-TR1
Signal Analyzer Frequency Extender	Keysight	V3050A	MRTSUE07258	3 years	2027-06-25	WJ-TR1
High and low temperature-humidity test chamber	GWS	EL-01JA	MRTSUE07114	1 year	2027-05-10	WJ-TR1
Thermohygrometer	testo	608-H1	MRTSUE11403	1 year	2026-11-30	WJ-TR1

Note: mmWave Horn Antennas and mmWave Extension Module need not be periodically calibrated. Antenna appearance and connector were checked and no damage.

Software	Version	Function
e3	230711	RE & CE
CONTROLLER CO3000	V 1.03.02	RE Antenna & Turntable
BenchVue Power Meter	2024.1	Power

5. Decision Rules and 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
Measurement Uncertainty for a Level of Confidence of 95% (U = 2Uc(y)): 9 kHz ~ 150 kHz: 3.59 dB 150 kHz ~ 30 MHz: 3.20 dB
Radiated Disturbance
Measurement Uncertainty for a Level of Confidence of 95% (U = 2Uc(y)): Coaxial: 9 kHz ~ 30 MHz: 2.56 dB Coplanar: 9 kHz ~ 30 MHz: 2.55 dB Horizontal: 30 MHz ~ 200 MHz: 3.48 dB 200 MHz ~ 1 GHz: 4.17 dB 1 GHz ~ 40 GHz: 5.01 dB 40 GHz ~ 50 GHz: 3.99 dB 50 GHz ~ 75 GHz: 4.02 dB 75 GHz ~ 110 GHz: 3.99 dB 110 GHz ~ 140 GHz: 4.05 dB 140 GHz ~ 220 GHz: 4.11 dB Vertical: 30 MHz ~ 200 MHz: 4.09 dB 200 MHz ~ 1 GHz: 5.30 dB 1 GHz ~ 40 GHz: 4.85 dB 40 GHz ~ 50 GHz: 3.85 dB 50 GHz ~ 75 GHz: 3.91 dB 75 GHz ~ 110 GHz: 3.88 dB 110 GHz ~ 140 GHz: 4.06 dB 140 GHz ~ 220 GHz: 4.13 dB

6. Test Result

6.1. Summary

FCC Section(s)	Test Description	Test Condition	Verdict
15.215 (c) 15.255 (e)(2)	Emission Bandwidth	Radiated	Pass
15.255 (c)(1)(i)	Peak EIRP & Output Power		Pass
15.255 (d)	Transmitter Spurious Emissions		Pass
15.255 (f)	Frequency stability		Pass
15.207	AC Conducted Emissions 150 kHz ~ 30 MHz	Line Conducted	N/A

Note: "N/A" means that this item is not applicable, and the detail information refer to relevant section

6.2. Emission Bandwidth

6.2.1. Test Limit

Within 57 ~ 71 GHz

6.2.2. Test Procedure

ANSI C63.10-2020 Section 9.3

6.2.3. Test Setting

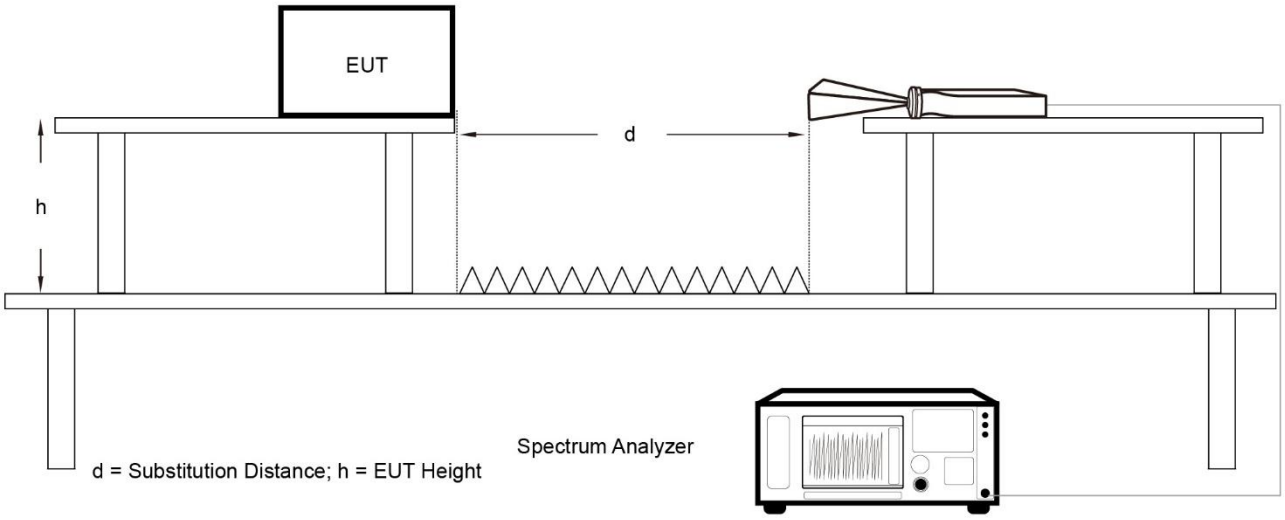
20 dB Bandwidth

1. Set the spectrum span range to overlap the nominal center frequency
2. RBW, prefer 1% to 5% of EBW, or a minimum of 1 MHz if this is not possible due to a large EBW, unless otherwise specified by the applicable rule
3. VBW ≥ 3 × RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. Allow the trace to stabilize and marker the highest level
8. Use Occupied BW function to determine two frequencies, one at the lowest frequency and the other at the highest frequency

6 dB Bandwidth

1. Set the spectrum span range to overlap the nominal center frequency
2. RBW = 100 kHz (Refer to FCC Part 15.255 (e)(2))
3. VBW ≥ 3 × RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. Allow the trace to stabilize and marker the highest level
8. Determine the lower and upper frequency points that are 6 dB below the peak emission level

6.2.4. Test Setup

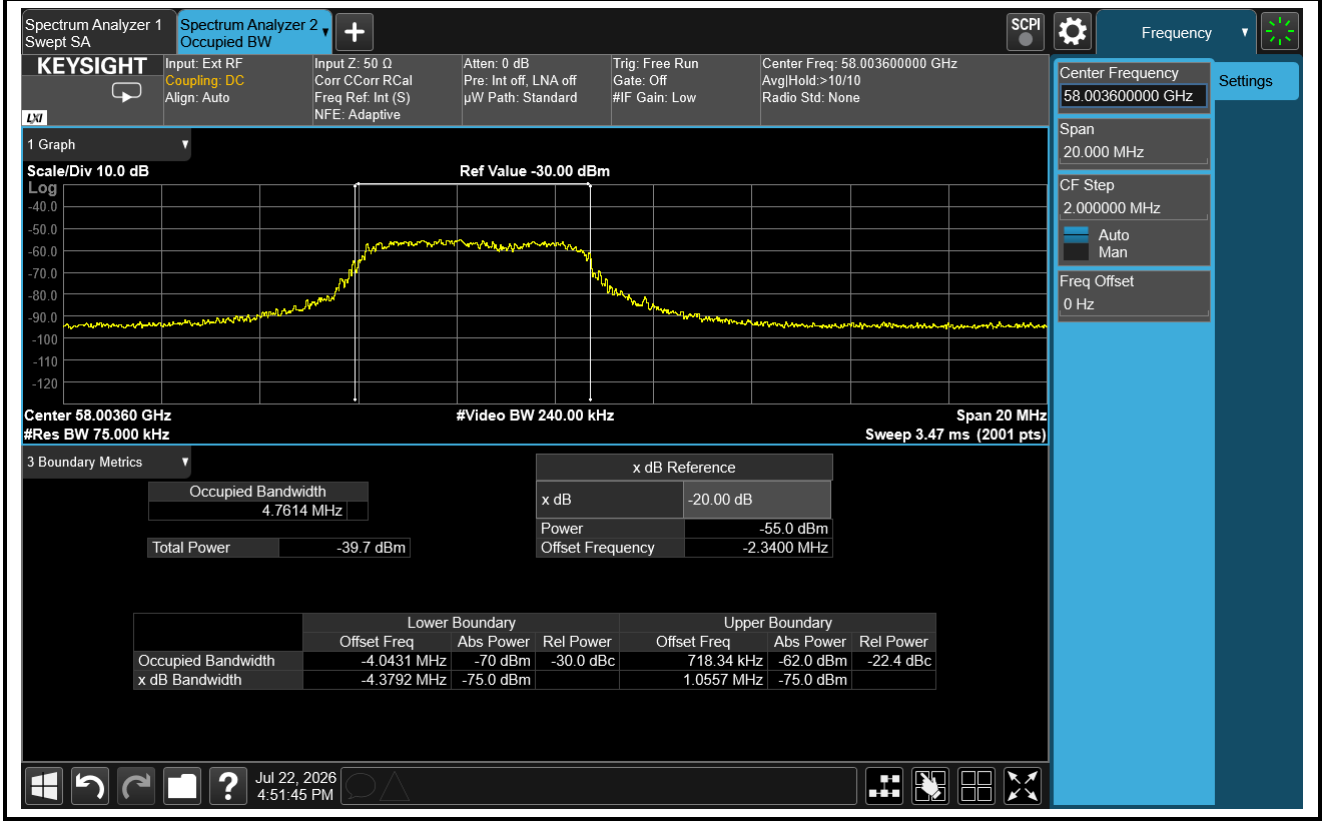


6.2.5. Test Result

Test Site	WJ-AC2	Test Engineer	Simon Lu
Test Date	2026-07-22 ~ 2026-07-31		

Frequency (GHz)	Modulation Type	20 dB Bandwidth (MHz)	F_L (MHz)	F_H (MHz)	Limit (MHz)	Result
57 ~ 64	ASK	5.4349	57999.2208	58004.6557	57000 ~ 71000	Pass

20 dB Bandwidth



Notes:

1. F_L= Center Frequency (MHz) + Lower Boundary Offset Frequency (MHz)

   F_H= Center Frequency (MHz) + Upper Boundary Offset Frequency (MHz)

2. 20 dB Bandwidth (MHz) = F_H - F_L

3. F_L = 58003.6 MHz + (-4.3792 MHz) = 57999.2208 MHz

   F_H = 58003.6 MHz + 1.0557 MHz = 58004.6557 MHz

   20 dB Bandwidth (MHz) = 58004.6557 MHz - 57999.2208 MHz = 5.4349 MHz

Frequency (GHz)	Modulation Type	6 dB Bandwidth (MHz)	F_L (MHz)	F_H (MHz)	Limit (MHz)	Result
57 ~ 64	ASK	0.833	58006.728	58007.561	57000 ~ 71000	Pass

6 dB Bandwidth

Note: 6 dB Bandwidth (MHz) = F_H - F_L = 58007.561 MHz – 58006.728 MHz = 0.833 MHz

6.3. Peak EIRP & Output Power

6.3.1. Test Limit

According to FCC §15.255 (c)(1)(i), the average power of any emission shall not exceed 40 dBm and the peak power of any emission shall not exceed 43 dBm.

According to FCC§15.255 (e)(2), Transmitters with an emission bandwidth of less than 100 MHz must limit their peak transmitter conducted output power to the product of 500 mW times their emission bandwidth divided by 100MHz.

6.3.2. Test Procedure

ANSI C63.10-2020 Section 9.9

Note: Far-field boundary calculation as below.

According to ANSI C63.10-2020, Clause 9.1.4, All measurements shall be made in the far-field of the measurement antenna. The far-field boundary for mm-wave antennas is $2 D^2/\lambda$.

- For spurious and harmonic emissions testing, D is the largest antenna dimension of the measurement antenna in m;

  For fundamental or out-of-band emissions, D is the largest antenna dimension of the EUT antenna or measurement antenna, whichever is largest.
- λ is the wavelength in m.

● Far-field boundary calculation			
Frequency Range (GHz)	λ (m)	D (m)	$R_{(Far\ Field)}$ (m)
18.00 ~ 40.00	0.012	0.058	0.897
40.00 ~ 50.00	0.006	0.067	1.496
50.00 ~ 75.00	0.004	0.038	0.722
75.00 ~ 110.00	0.0027	0.028	0.575
110.00 ~ 140.00	0.0021	0.022	0.452
140.00 ~ 220.00	0.0014	0.015	0.330
220.00 ~ 231.00	0.0013	0.0055	0.047

6.3.3. Test Setting

For EIRP measurement

1. Connect the test antenna for the fundamental frequency band to the mm-wave RF detector. Place the test horn in the main beam of the EUT at 0.75 m. Connect the video output of the detector to the 50 Ω input of a DSO. Set the sampling rate of the DSO to at least twice the cutoff frequency of any LPF used or to at least twice the signal bandwidth without a LPF. Adjust the memory depth, the triggering, and the sweep speed to obtain a display that is representative of the signal considering the type of modulation.
2. Record the average and peak voltages from the DSO.
3. Replace the EUT with mm-wave source to the RF input port of the instrumentation system. The mm-wave source shall be unmodulated.
4. Adjust the frequency of the mm-wave source to the center of the frequency range occupied by the transmitter. Adjust the amplitude of the mm-wave source such that the DSO indicates a voltage equal to the peak voltage recorded in step 2.
5. Without changing any settings, replace the DSO with the mm-wave power meter. Measure and note the power.
6. Repeat step 4 and step 5 for the average voltage recorded in step 2.

Calculate the peak conducted output power from the peak EIRP using below equation:

$$P_{cond} = EIRP_{Linear} / G_{EUT}$$

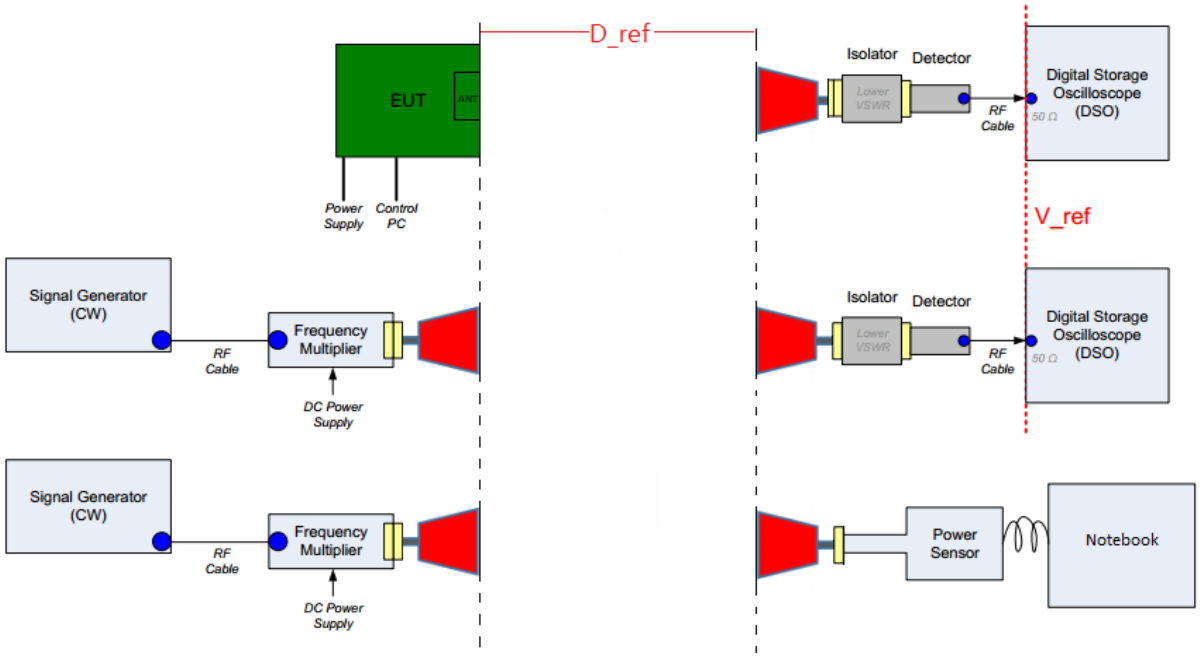
Where

P_{cond} is the conducted output power, in W

$EIRP_{Linear}$ is the equivalent isotropically radiated power, in W

G_{EUT} is numeric gain of the EUT radiating element (antenna)

6.3.4. Test Setup



6.3.5. Test Result

Test Site	WJ-AC2	Test Engineer	Simon Lu
Test Date	2026-07-24		

Frequency (GHz)	Peak EIRP (dBm)	Peak EIRP Limit (dBm)	Average EIRP (dBm)	Average EIRP Limit (dBm)	Result
57 ~ 64	-22.70	43	-22.99	40	Pass

Frequency (GHz)	Peak EIRP (dBm)	Antenna Gain (dBi)	Peak Conducted Power (dBm)	Peak Conducted Power (mW)	Peak Conducted Power Limit (mW)	Result
57 ~ 64	-22.70	7.5	-30.20	0.00095	4.165	Pass

Notes:

Peak Conducted Power (dBm) = Peak EIRP (dBm) - Antenna Gain (dBi)

Peak Conducted Power (mW) = $10^{(\text{Peak Conducted Power (dBm)} / 10)}$

Peak Conducted Power Limit (mW)= 500 (mW) / 100(MHz) × 6dB Bandwidth (MHz).

6.4. Transmitter Spurious Emissions

6.4.1. Test Limit

According to FCC §15.255 (d), limits on spurious emissions:

1. The power density of any emissions outside the 57-71 GHz band shall consist solely of spurious emissions.

2. Radiated emissions below 40 GHz shall not exceed the general limits in §15.209.

3. Between 40 GHz and 200 GHz, the level of these emissions shall not exceed 90 pW/cm^2 at a distance of 3 meters.

4. The levels of the spurious emissions shall not exceed the level of the fundamental emission.

FCC Part 15.209 Limit		
Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 80	100**	3
80 ~ 216	150**	3
216 ~ 960	200**	3
Above 960	500	3
Note 1: The lower limit shall apply at the transition frequency. Note 2: Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system. Note 3: E field strength (dBμV/m) = 20log E field strength (μV/m).		

6.4.2. Test Procedure

ANSI C63.10-2020 Section 9.10 & 9.11

6.4.3. Test Setting

Measurement of harmonic and spurious emissions above 40 GHz

1. Connect the test antenna covering the appropriate frequency range to a spectrum analyzer via an external mixer.
2. Set spectrum analyzer RBW = 1 MHz, VBW = 3 MHz, average detector.
3. Maximize all observed emissions. Note the maximum power indicated on the spectrum analyzer. Adjust this reading, if necessary, by the conversion loss of the external mixer used at the frequency under investigation and the external mixer IF cable loss.
4. Calculate the maximum field strength of the emission at the measurement distance
5. Calculate the power density at the distance specified by the limit from the field strength at the distance specified by the limit
6. Repeat the preceding sequence for every emission observed in the frequency band under investigation.

Measurement of harmonic and spurious emissions below 40 GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = as specified in Table 1
3. VBW = 3 MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Table 1 - RBW as a function of frequency

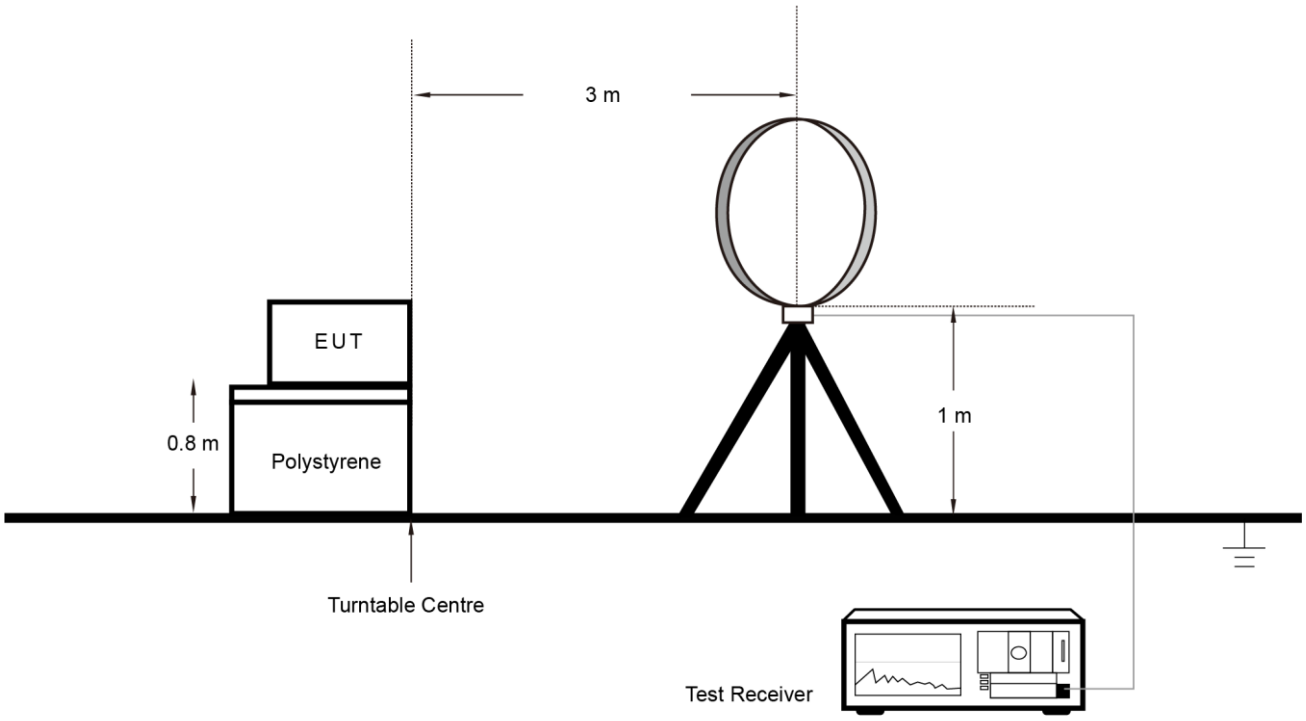
Frequency	RBW
9 ~ 150 kHz	200 ~ 300 Hz
0.15 ~ 30 MHz	9 ~ 10 kHz
30 ~ 1000 MHz	100 ~ 120 kHz
> 1000 MHz	1 MHz

Average Field Strength Measurements

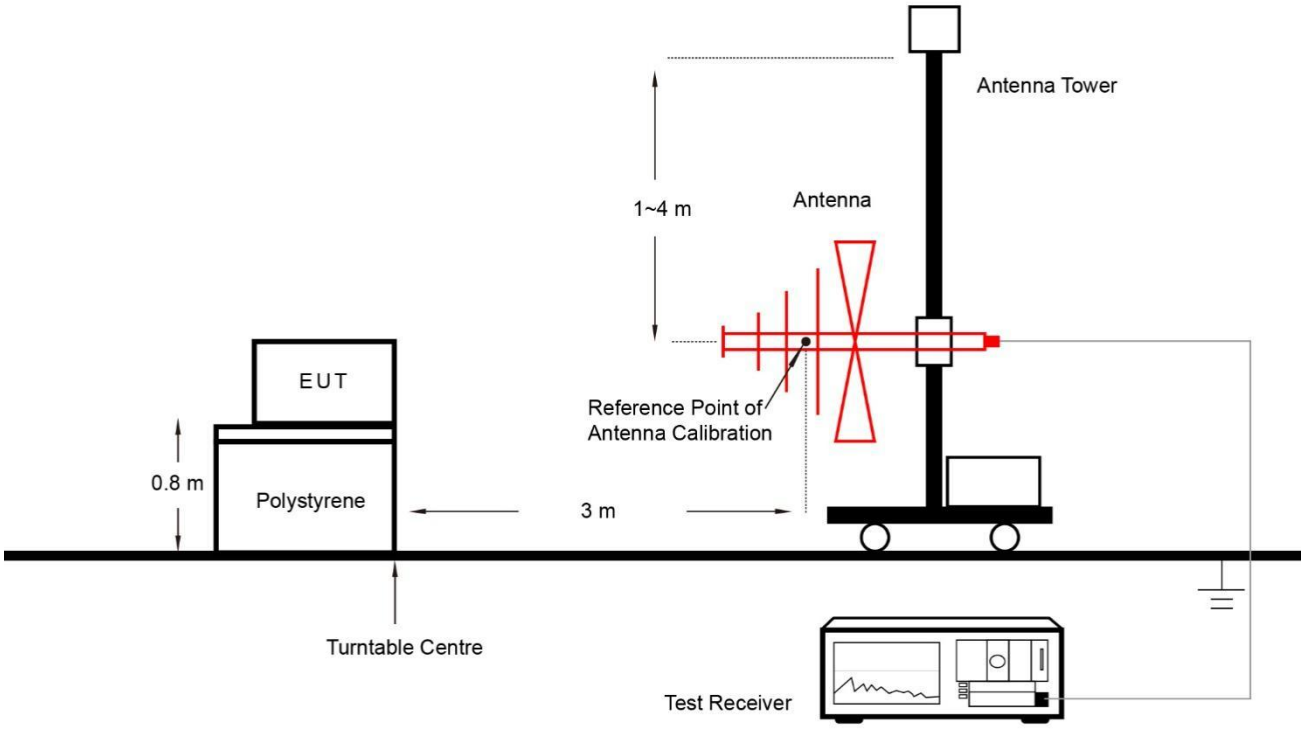
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1 MHz
3. VBW = 3 × RBW
4. Detector = Average
5. Sweep time = auto
6. Trace mode = max hold
7. Allow max hold to run for at least 50 times (1/duty cycle) traces.

6.4.4. Test Setup

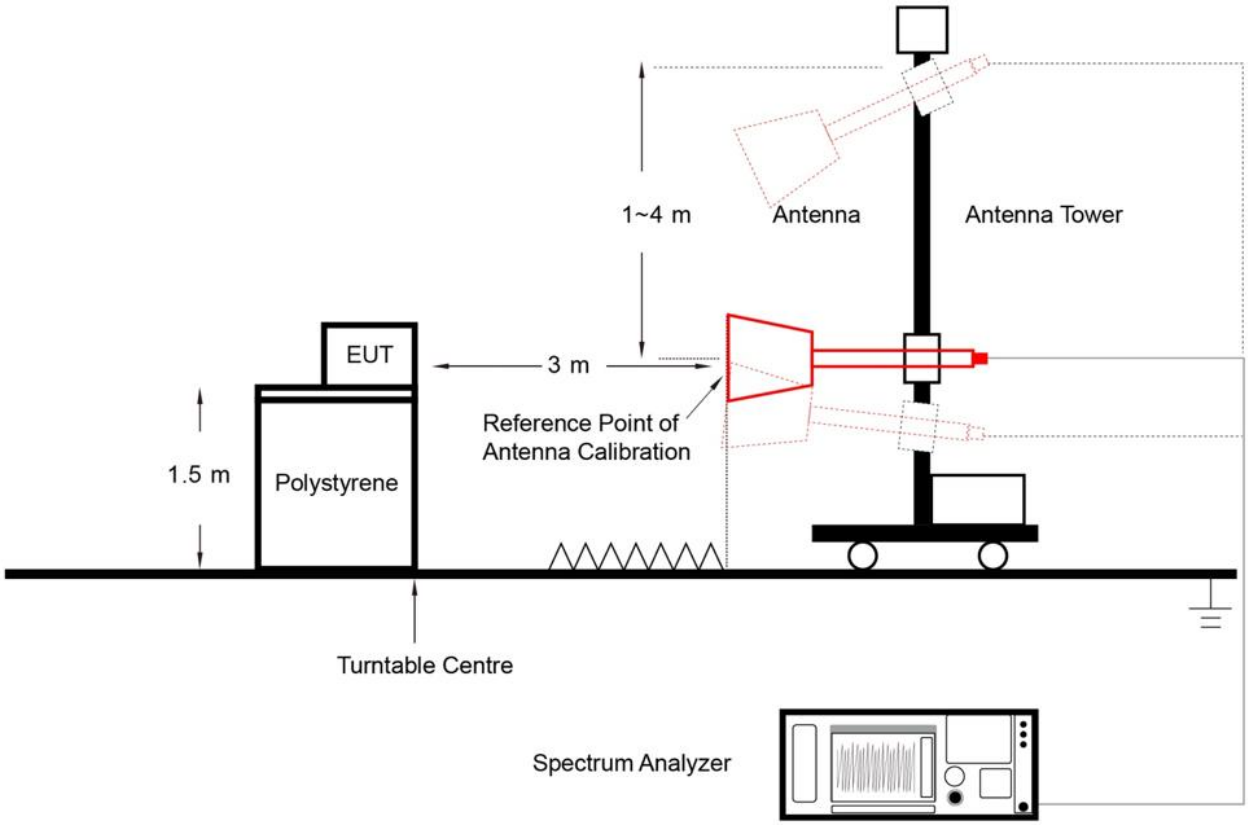
Below 30 MHz Test Setup:



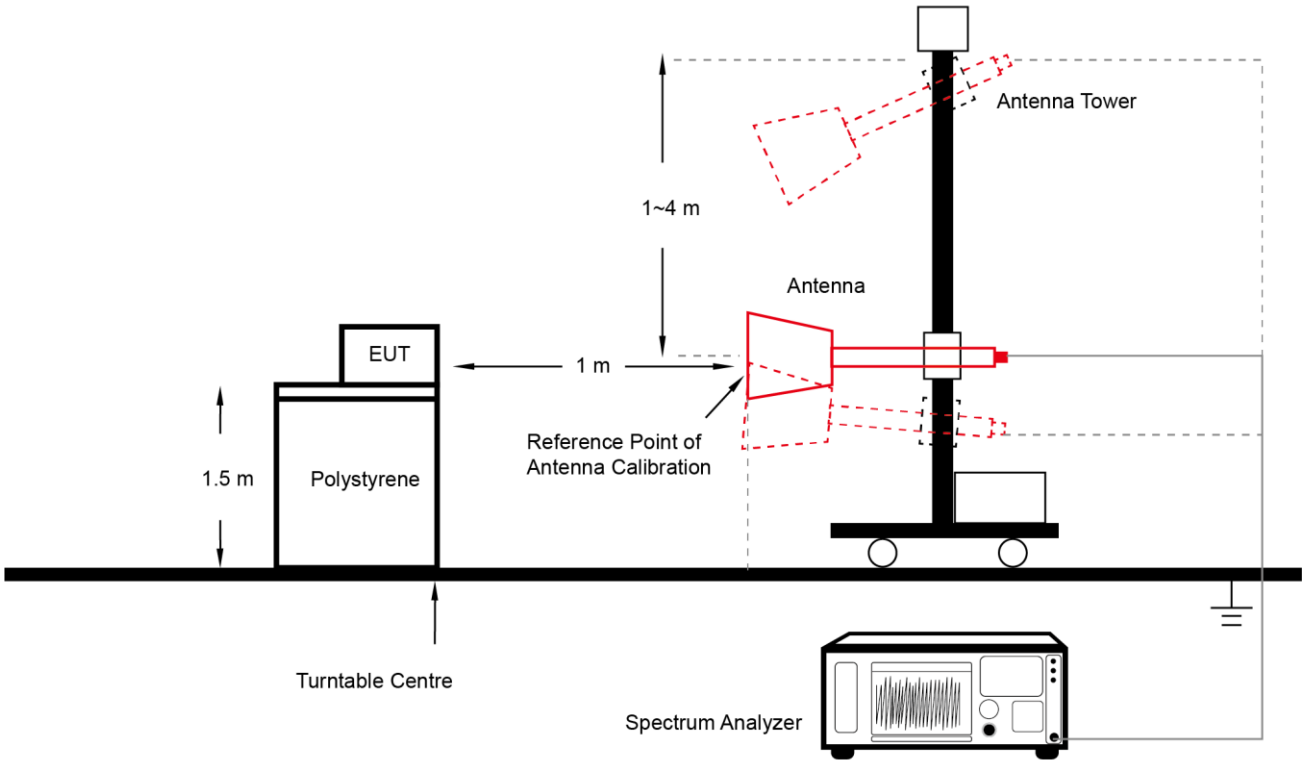
Below 1 GHz Test Setup:



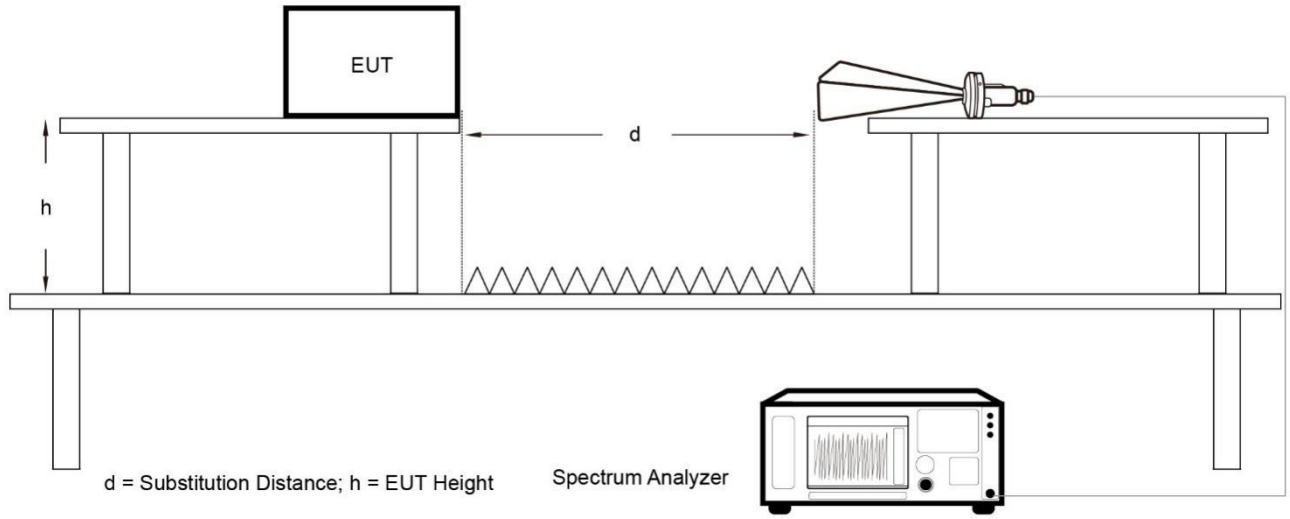
1 GHz ~ 18 GHz Test Setup:



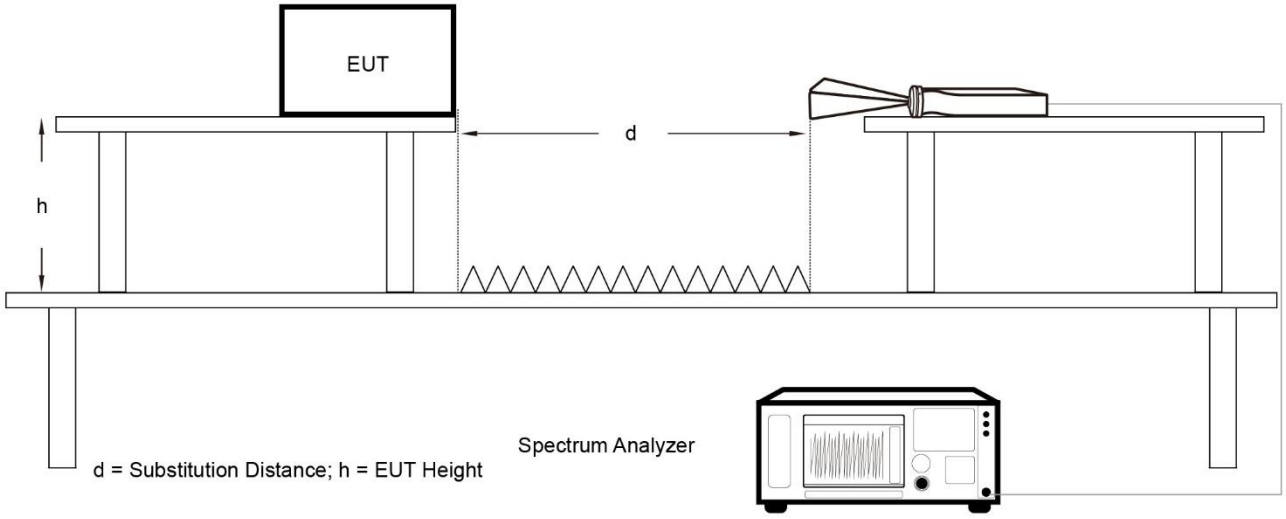
18 GHz ~ 40 GHz Test Setup:



40 GHz ~ 50 GHz Test Setup:



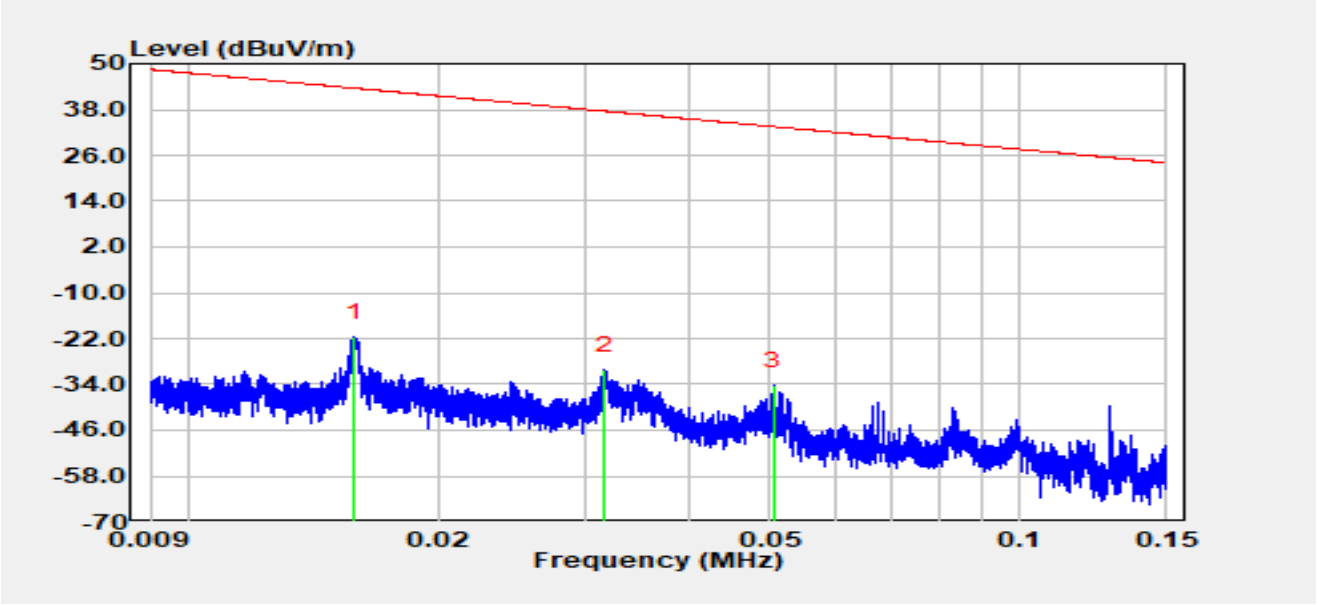
Above 50 GHz Test Setup:



6.4.5. Test Result

The Result of Transmitter Spurious Emission for 9 kHz ~ 30 MHz:

Site	WJ-AC2	Test Date	2026-07-21
Temperature	29.1 °C	Humidity	55.1%
Limit	FCC_Part 15.209_RSE (3 m)	Test Engineer	Carl Jiang
Test Voltage	DC 3.3 V	Polarity	Horizontal
Test Mode	Mode 1		



No	Mark	Frequency (MHz)	Reading (dBµV)	C.F (dB/m)	Measurement (dBµV/m)	Margin (dB)	Limit (dBµV/m)	Detector
1	*	0.02	38.01	-59.66	-21.65	-65.24	43.59	Peak
2		0.03	29.86	-60.09	-30.23	-67.82	37.59	Peak
3		0.05	25.89	-60.17	-34.28	-67.81	33.52	Peak

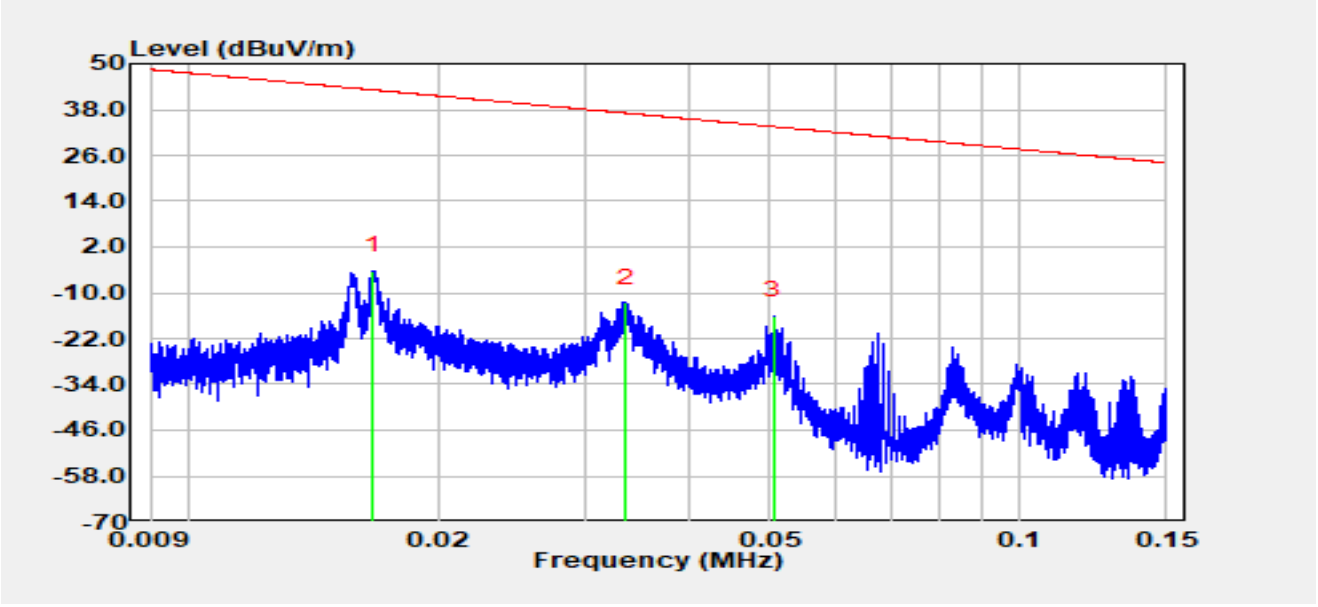
Notes:

1. “ * “ indicates the worst-case emission level observed during the measurement.

2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB) + 40log(d1/d2) (dB), d1 = 3 m, d2 = 300 m (9 kHz - 490 kHz) or 30 m (490 kHz - 30 MHz).

3. Measurement (dBµV/m) = Reading (dBµV) + C.F (dB/m).

Site	WJ-AC2	Test Date	2026-07-21
Temperature	29.1 °C	Humidity	55.1%
Limit	FCC_Part 15.209_RSE (3 m)	Test Engineer	Carl Jiang
Test Voltage	DC 3.3 V	Polarity	Vertical
Test Mode	Mode 1		



No	Mark	Frequency (MHz)	Reading (dBµV)	C.F (dB/m)	Measurement (dBµV/m)	Margin (dB)	Limit (dBµV/m)	Detector
1	*	0.02	55.48	-59.71	-4.23	-47.39	43.16	Peak
2		0.03	47.49	-60.10	-12.61	-49.68	37.07	Peak
3		0.05	44.22	-60.17	-15.95	-49.46	33.51	Peak

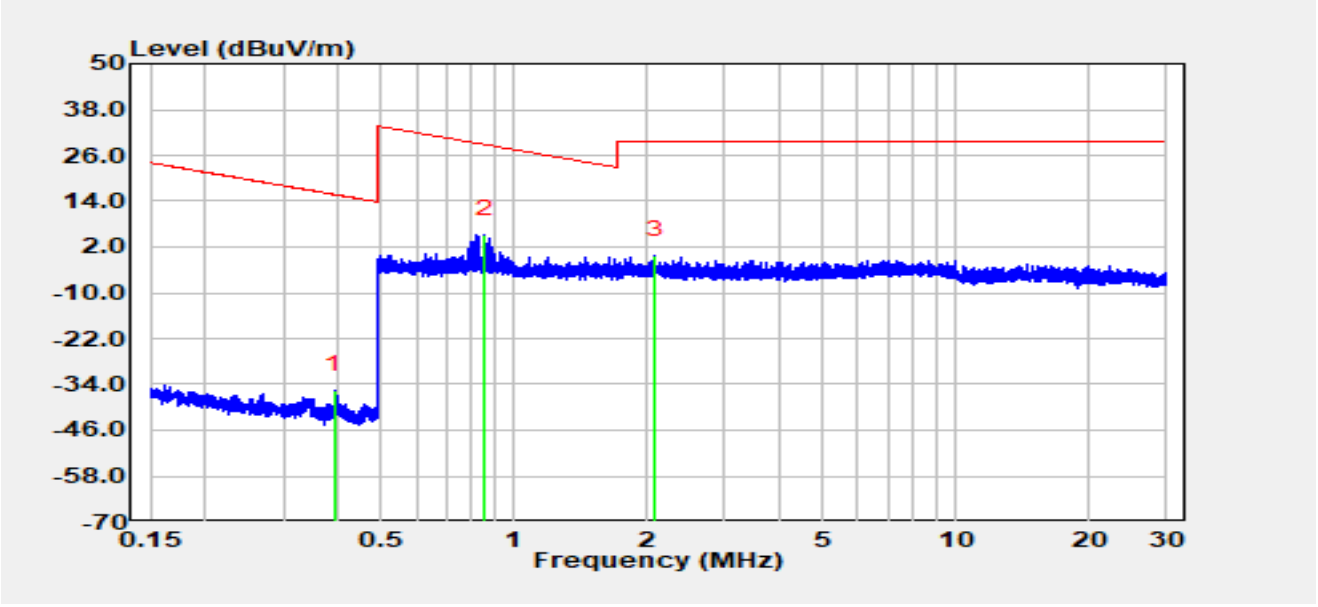
Notes:

1. “ * “ indicates the worst-case emission level observed during the measurement.

2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB) + 40log(d1/d2) (dB), d1 = 3 m, d2 = 300 m (9 kHz - 490 kHz) or 30 m (490 kHz - 30 MHz).

3. Measurement (dBµV/m) = Reading (dBµV) + C.F (dB/m).

Site	WJ-AC2	Test Date	2026-07-21
Temperature	29.1 °C	Humidity	55.1%
Limit	FCC_Part 15.209_RSE (3 m)	Test Engineer	Carl Jiang
Test Voltage	DC 3.3 V	Polarity	Horizontal
Test Mode	Mode 1		



No	Mark	Frequency (MHz)	Reading (dBµV)	C.F (dB/m)	Measurement (dBµV/m)	Margin (dB)	Limit (dBµV/m)	Detector
1		0.39	25.00	-60.37	-35.37	-51.11	15.75	Peak
2	*	0.86	25.74	-20.41	5.33	-23.64	28.97	Peak
3		2.09	20.15	-20.24	-0.10	-29.60	29.50	Peak

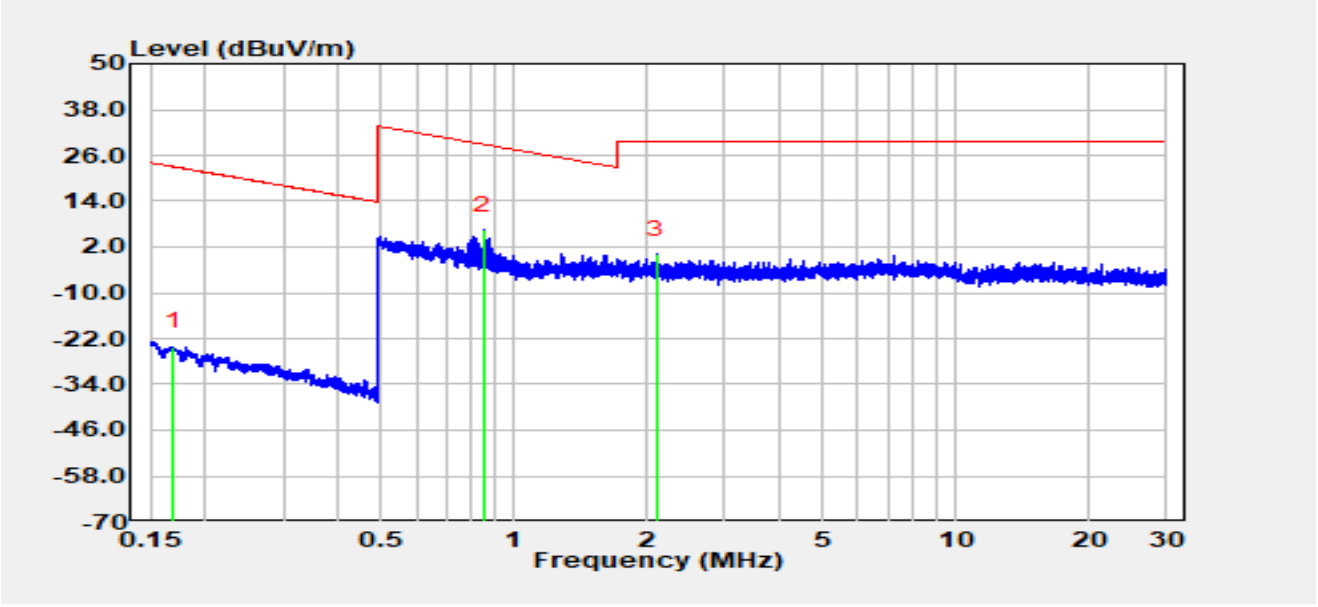
Notes:

1. “ * “ indicates the worst-case emission level observed during the measurement.

2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB) + 40log(d1/d2) (dB), d1 = 3 m, d2 = 300 m (9 kHz - 490 kHz) or 30 m (490 kHz - 30 MHz).

3. Measurement (dBµV/m) = Reading (dBµV) + C.F (dB/m).

Site	WJ-AC2	Test Date	2026-07-21
Temperature	29.1 °C	Humidity	55.1%
Limit	FCC_Part 15.209_RSE (3 m)	Test Engineer	Carl Jiang
Test Voltage	DC 3.3 V	Polarity	Vertical
Test Mode	Mode 1		



No	Mark	Frequency (MHz)	Reading (dBµV)	C.F (dB/m)	Measurement (dBµV/m)	Margin (dB)	Limit (dBµV/m)	Detector
1		0.17	36.10	-60.30	-24.19	-47.23	23.04	Peak
2	*	0.85	26.83	-20.41	6.43	-22.58	29.01	Peak
3		2.10	20.37	-20.24	0.13	-29.37	29.50	Peak

Notes:

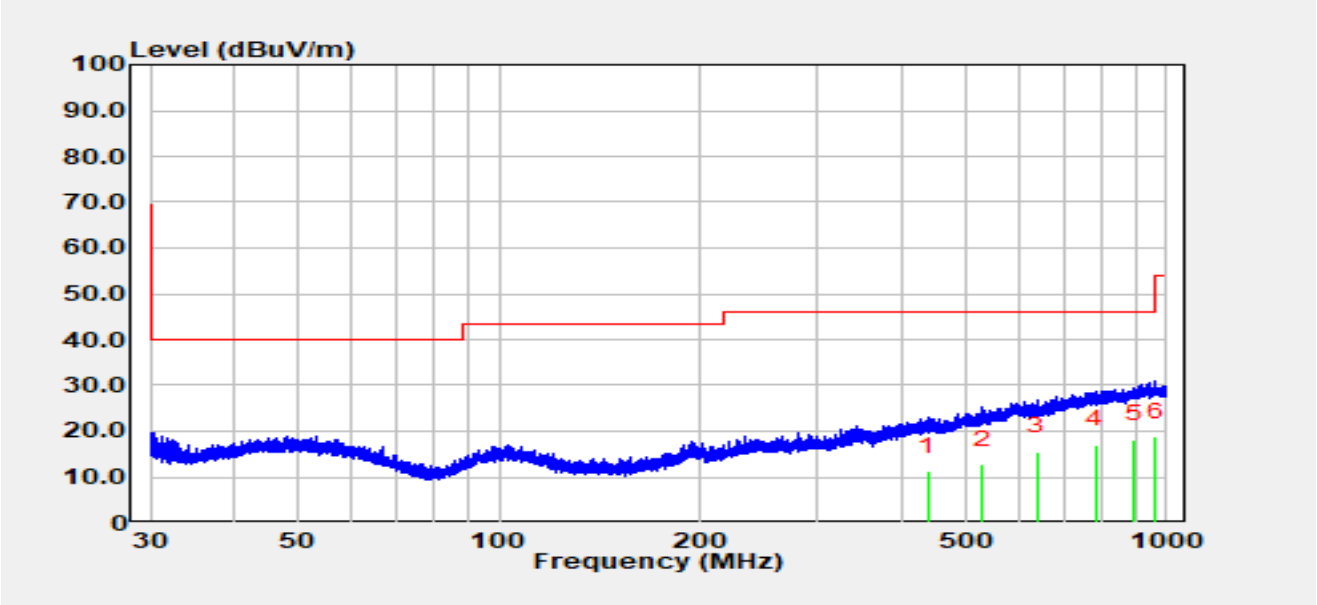
1. “ * “ indicates the worst-case emission level observed during the measurement.

2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB) + 40log(d1/d2) (dB), d1 = 3 m, d2 = 300 m (9 kHz - 490 kHz) or 30 m (490 kHz - 30 MHz).

3. Measurement (dBµV/m) = Reading (dBµV) + C.F (dB/m).

The Result of Transmitter Spurious Emission for 30 MHz ~ 1 GHz:

Site	WJ-AC2	Test Date	2026-07-21
Temperature	29.1 °C	Humidity	55.1%
Limit	FCC_Part 15.209_RSE (3 m)	Test Engineer	Carl Jiang
Test Voltage	DC 3.3 V	Polarity	Horizontal
Test Mode	Mode 1		

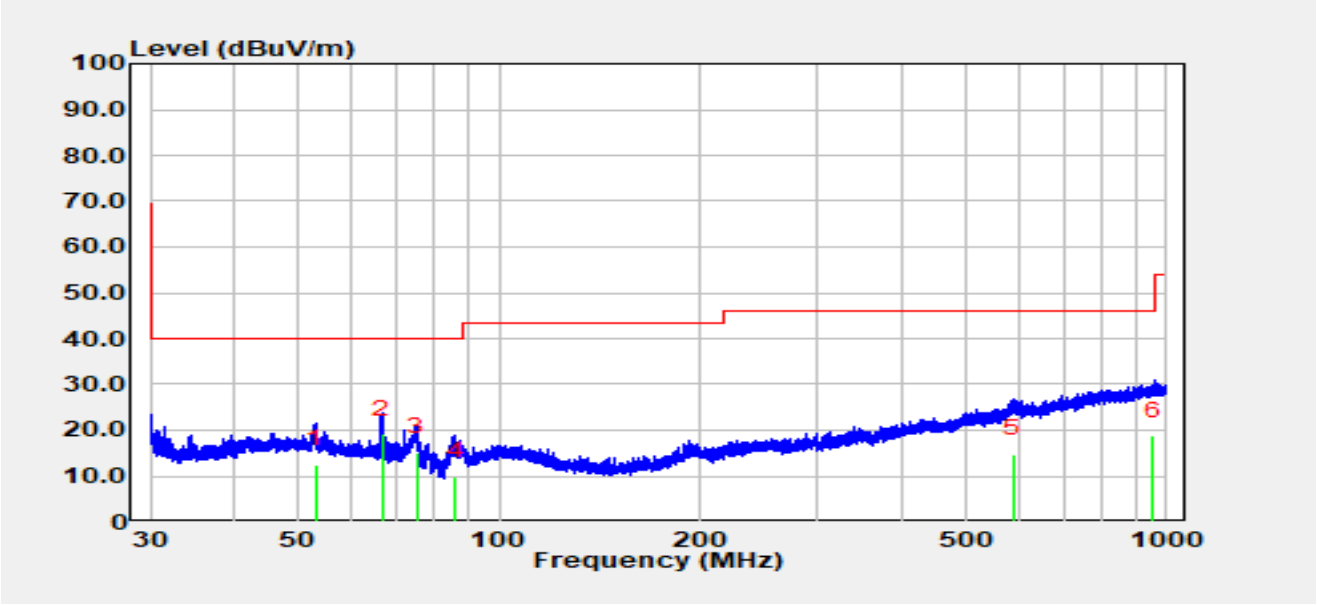


No	Mark	Frequency (MHz)	Reading (dBµV)	C.F (dB/m)	Measurement (dBµV/m)	Margin (dB)	Limit (dBµV/m)	Detector
1		439.12	-11.60	22.81	11.21	-34.79	46.00	QP
2		530.85	-11.40	24.16	12.76	-33.24	46.00	QP
3		640.39	-10.40	26.04	15.64	-30.36	46.00	QP
4		783.72	-11.20	28.26	17.06	-28.94	46.00	QP
5	*	894.17	-10.80	29.09	18.29	-27.71	46.00	QP
6		962.16	-11.00	29.82	18.82	-35.18	54.00	QP

Notes:

1. " * " indicates the worst-case emission level observed during the measurement.
2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).
3. Measurement (dBµV/m) = Reading (dBµV) + C.F (dB/m).

Site	WJ-AC2	Test Date	2026-07-21
Temperature	29.1 °C	Humidity	55.1%
Limit	FCC_Part 15.209_RSE (3 m)	Test Engineer	Carl Jiang
Test Voltage	DC 3.3 V	Polarity	Vertical
Test Mode	Mode 1		



No	Mark	Frequency (MHz)	Reading (dBµV)	C.F (dB/m)	Measurement (dBµV/m)	Margin (dB)	Limit (dBµV/m)	Detector
1		52.98	-6.80	19.41	12.61	-27.39	40.00	QP
2	*	66.69	2.70	16.46	19.16	-20.84	40.00	QP
3		75.16	1.50	13.68	15.18	-24.82	40.00	QP
4		86.05	-4.40	14.39	9.99	-30.01	40.00	QP
5		588.49	-11.20	26.07	14.87	-31.13	46.00	QP
6		952.43	-11.10	29.84	18.74	-27.26	46.00	QP

Notes:

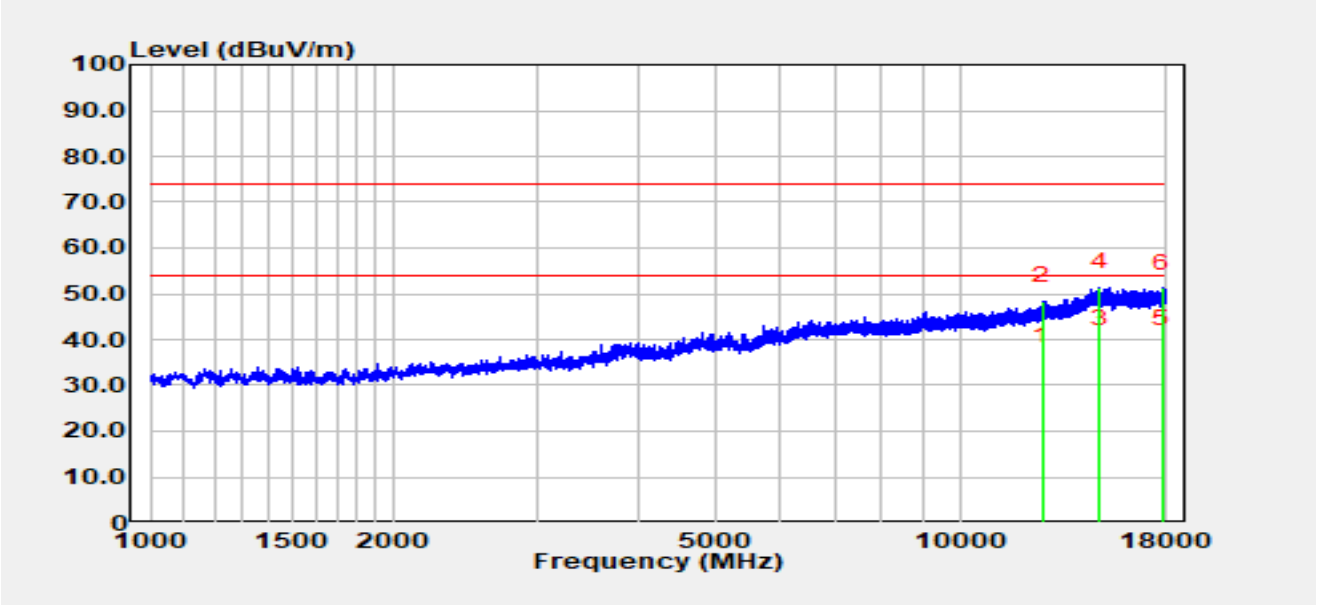
1. " * " indicates the worst-case emission level observed during the measurement.

2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB).

3. Measurement (dBµV/m) = Reading (dBµV) + C.F (dB/m).

The Result of Transmitter Spurious Emission for 1 GHz ~ 18 GHz:

Site	WJ-AC2	Test Date	2026-07-21
Temperature	29.1 °C	Humidity	55.1%
Limit	FCC_Part 15.209_RSE (3 m)	Test Engineer	Carl Jiang
Test Voltage	DC 3.3 V	Polarity	Horizontal
Test Mode	Mode 1		

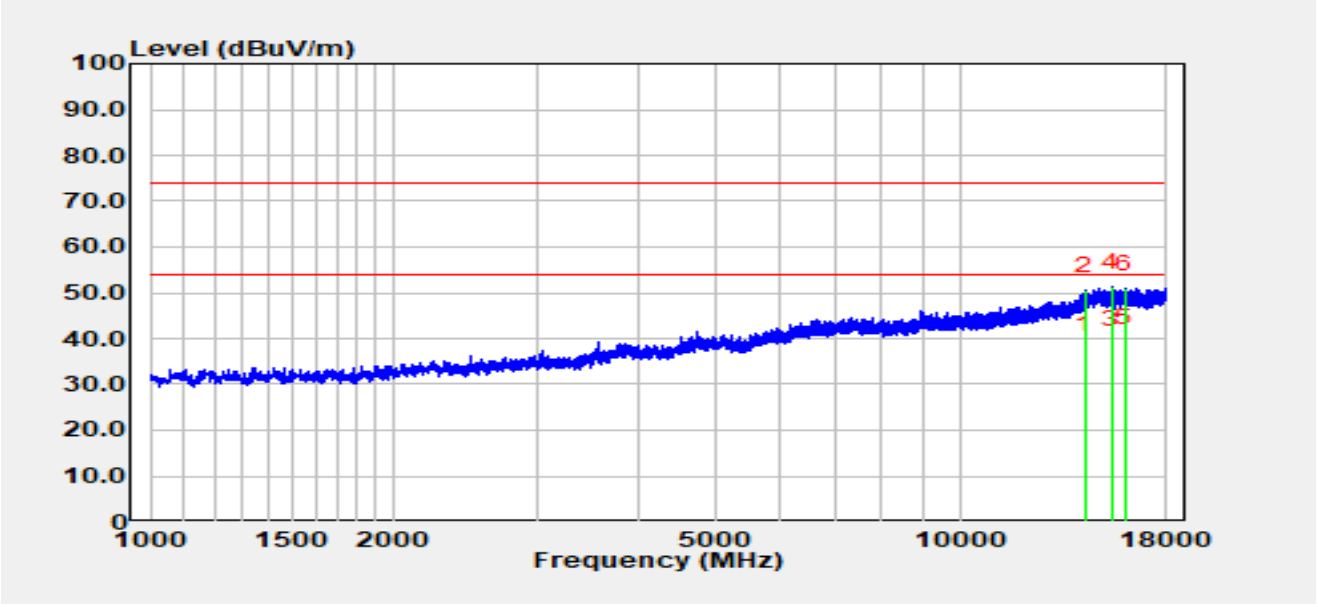


No	Mark	Frequency (MHz)	Reading (dBµV)	C.F (dB/m)	Measurement (dBµV/m)	Margin (dB)	Limit (dBµV/m)	Detector
1		12645.00	31.11	4.30	35.41	-18.59	54.00	Average
2		12645.00	44.06	4.30	48.36	-25.64	74.00	Peak
3		14861.80	33.20	5.77	38.97	-15.03	54.00	Average
4		14861.80	45.56	5.77	51.33	-22.67	74.00	Peak
5	*	17813.00	35.81	3.32	39.13	-14.87	54.00	Average
6		17813.00	47.94	3.32	51.26	-22.74	74.00	Peak

Notes:

1. " * " indicates the worst-case emission level observed during the measurement.
2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB) - AMP (dB).
3. Measurement (dBµV/m) = Reading (dBµV) + C.F (dB/m).

Site	WJ-AC2	Test Date	2026-07-21
Temperature	29.1 °C	Humidity	55.1%
Limit	FCC_Part 15.209_RSE (3 m)	Test Engineer	Carl Jiang
Test Voltage	DC 3.3 V	Polarity	Vertical
Test Mode	Mode 1		



No	Mark	Frequency (MHz)	Reading (dBµV)	C.F (dB/m)	Measurement (dBµV/m)	Margin (dB)	Limit (dBµV/m)	Detector
1		14249.80	32.71	4.97	37.68	-16.32	54.00	Average
2		14249.80	45.44	4.97	50.40	-23.60	74.00	Peak
3		15371.80	33.05	5.57	38.62	-15.38	54.00	Average
4		15371.80	45.59	5.57	51.17	-22.83	74.00	Peak
5	*	15988.90	32.97	6.23	39.20	-14.80	54.00	Average
6		15988.90	44.68	6.23	50.91	-23.09	74.00	Peak

Notes:

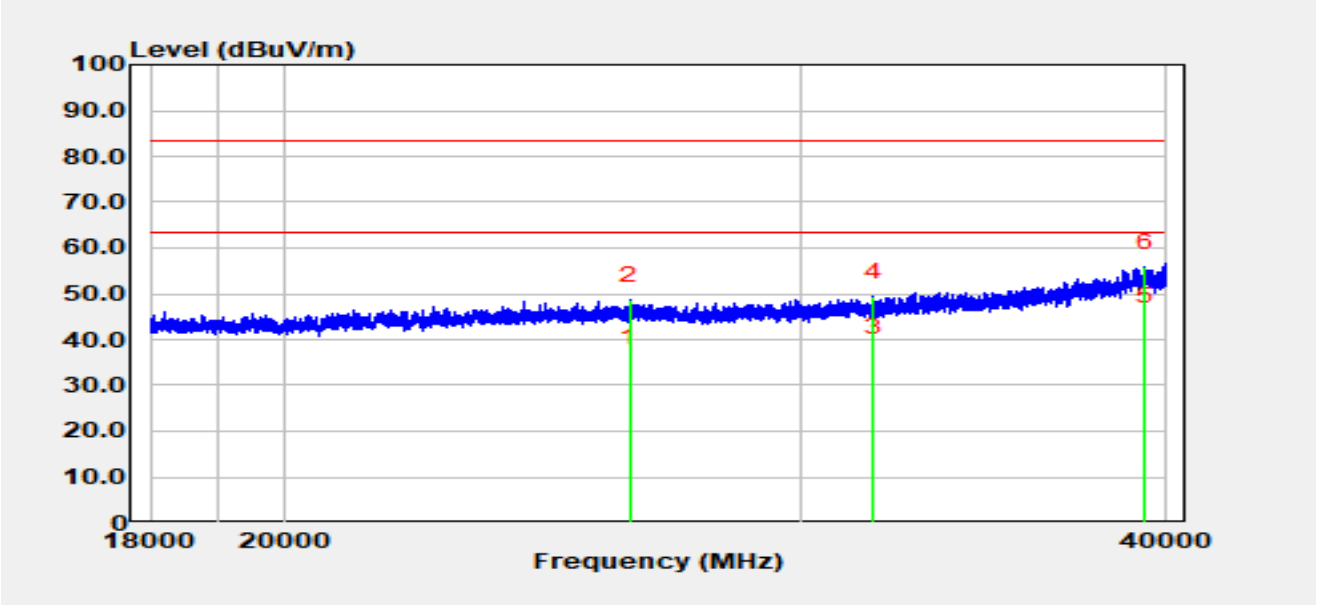
1. " * " indicates the worst-case emission level observed during the measurement.

2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB) - AMP (dB).

3. Measurement (dBµV/m) = Reading (dBµV) + C.F (dB/m).

The Result of Transmitter Spurious Emission for 18 GHz ~ 40 GHz:

Site	WJ-AC2	Test Date	2026-07-27
Temperature	30.6 °C	Humidity	51.8%
Limit	FCC_Part 15.209_RSE (1 m)	Test Engineer	Carl Jiang
Test Voltage	DC 3.3 V	Polarity	Horizontal
Test Mode	Mode 1		

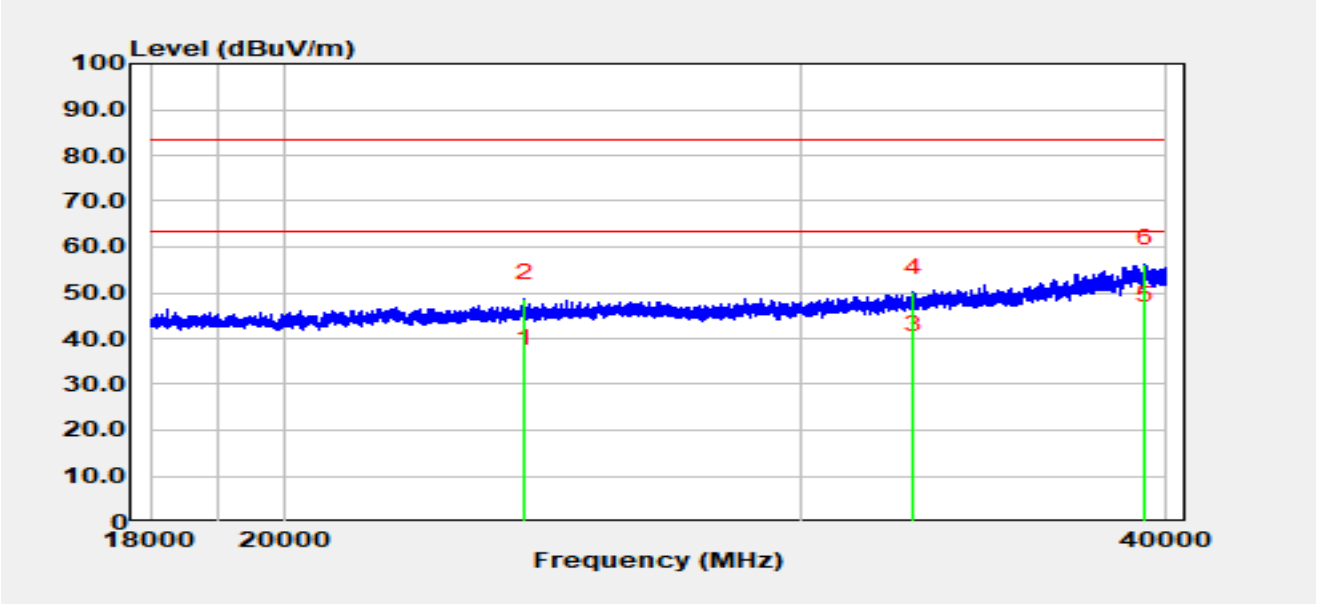


No	Mark	Frequency (MHz)	Reading (dBµV)	C.F (dB/m)	Measurement (dBµV/m)	Margin (dB)	Limit (dBµV/m)	Detector
1		26245.60	29.14	5.74	34.88	-28.66	63.54	Average
2		26245.60	42.76	5.74	48.50	-35.04	83.54	Peak
3		31763.20	29.78	7.49	37.27	-26.27	63.54	Average
4		31763.20	41.85	7.49	49.34	-34.20	83.54	Peak
5	*	39329.00	29.59	14.31	43.91	-19.63	63.54	Average
6		39329.00	41.41	14.31	55.73	-27.81	83.54	Peak

Notes:

1. " * " indicates the worst-case emission level observed during the measurement.
2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB) - AMP (dB).
3. Measurement (dBµV/m) = Reading (dBµV) + C.F (dB/m).
4. Limit@1m (dBµV/m) = Limit@3m (dBµV/m) + 20 × log(3m / 1m).

Site	WJ-AC2	Test Date	2026-07-27
Temperature	30.6 °C	Humidity	51.8%
Limit	FCC_Part 15.209_RSE (1 m)	Test Engineer	Carl Jiang
Test Voltage	DC 3.3 V	Polarity	Vertical
Test Mode	Mode 1		

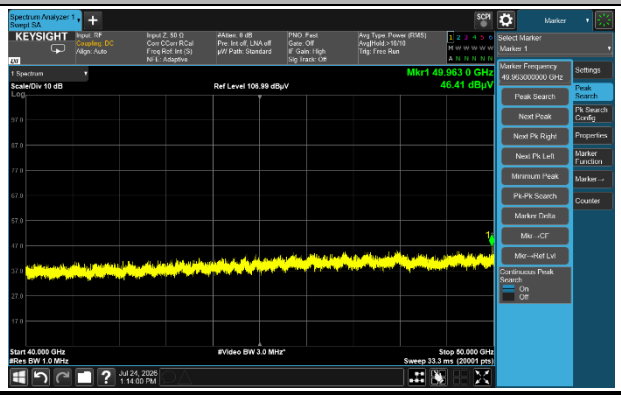
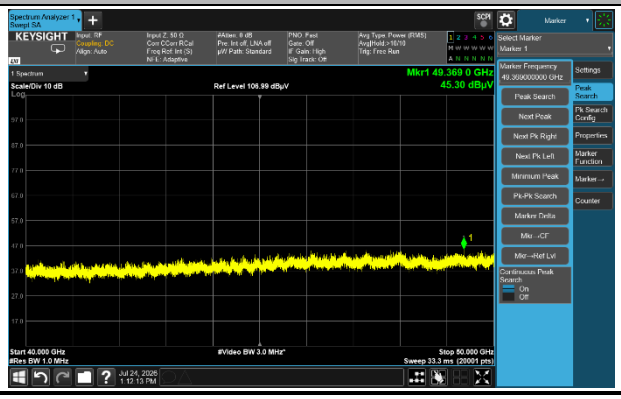


No	Mark	Frequency (MHz)	Reading (dBµV)	C.F (dB/m)	Measurement (dBµV/m)	Margin (dB)	Limit (dBµV/m)	Detector
1		24151.20	29.64	4.93	34.57	-28.97	63.54	Average
2		24151.20	43.76	4.93	48.69	-34.85	83.54	Peak
3		32795.00	29.48	8.10	37.58	-25.96	63.54	Average
4		32795.00	42.05	8.10	50.15	-33.39	83.54	Peak
5	*	39315.80	29.48	14.53	44.01	-19.53	63.54	Average
6		39315.80	41.82	14.53	56.35	-27.19	83.54	Peak

Notes:

1. " * " indicates the worst-case emission level observed during the measurement.
2. C.F (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB) - AMP (dB).
3. Measurement (dBµV/m) = Reading (dBµV) + C.F (dB/m).
4. Limit @1m (dBµV/m) = Limit @3m (dBµV/m) + 20 × log(3m / 1m).

Test Site	WJ-AC2	Test Engineer	Simon Lu
Test Date	2026-07-21	Test Frequency Range	40 ~ 200 GHz

40 ~ 50 GHz - Horizontal	40 ~ 50 GHz - Vertical
	

Frequency (GHz)	Reading Level @1.5m (dBµV)	Factor (dB/m)	Measure Level @1.5m (dBµV/m)	Measure Level @3m (dBµV/m)	Power Density (pW/cm^2)	Limit (pW/cm^2)	Polarization
40 ~ 50 GHz							
49.963	46.41	43.17	89.58	83.56	60.20	90	Horizontal
49.369	45.30	43.17	88.47	82.45	46.62	90	Vertical

Notes:

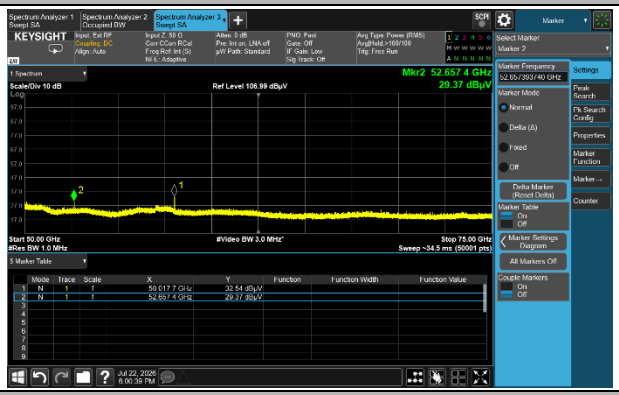
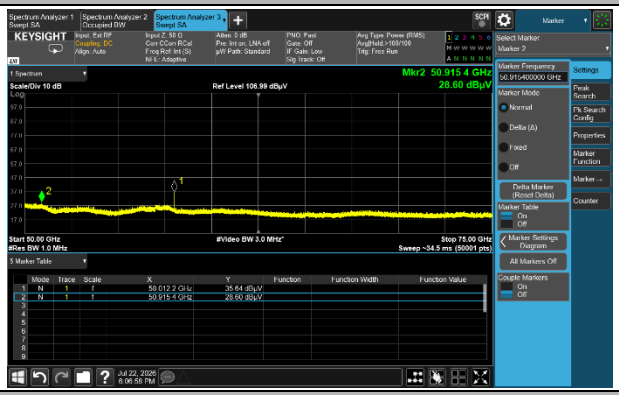
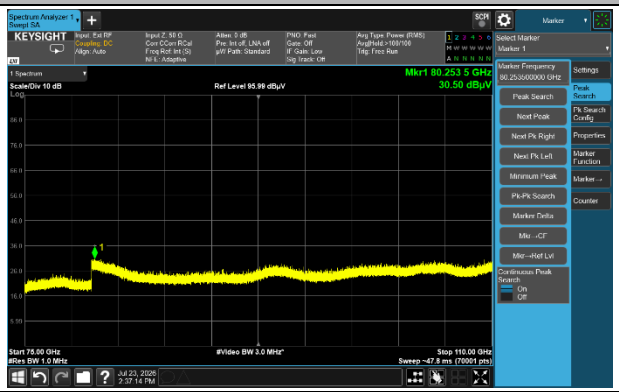
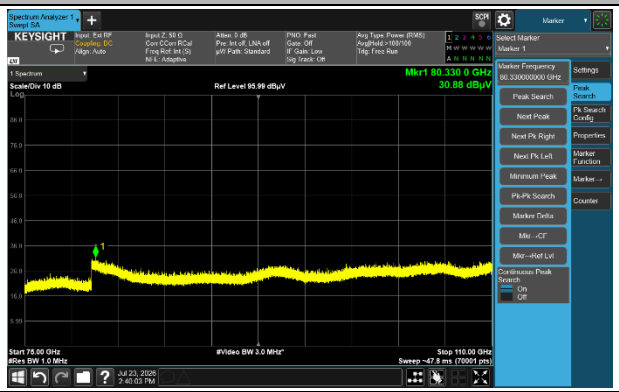
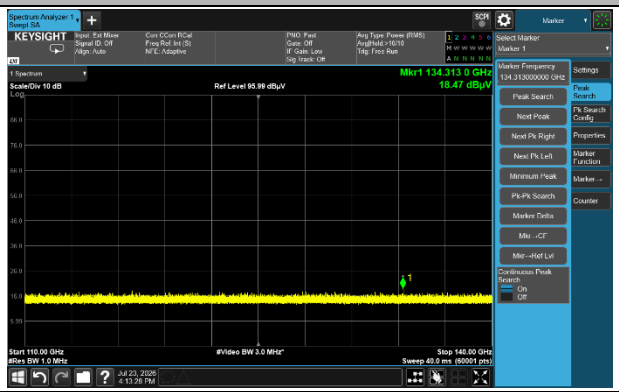
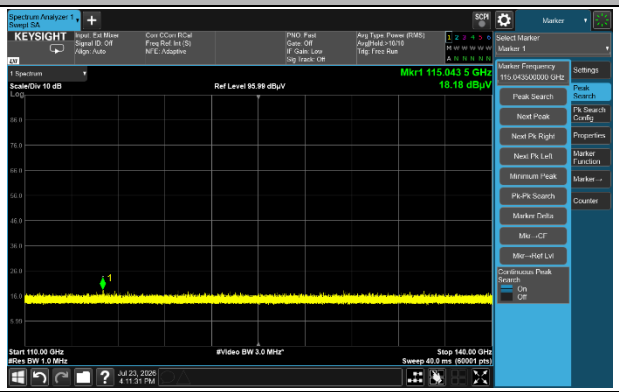
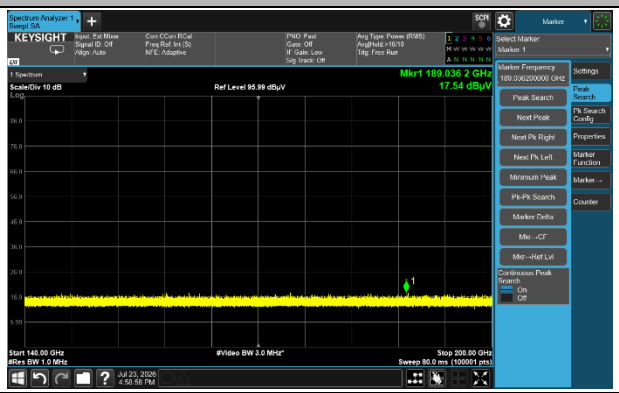
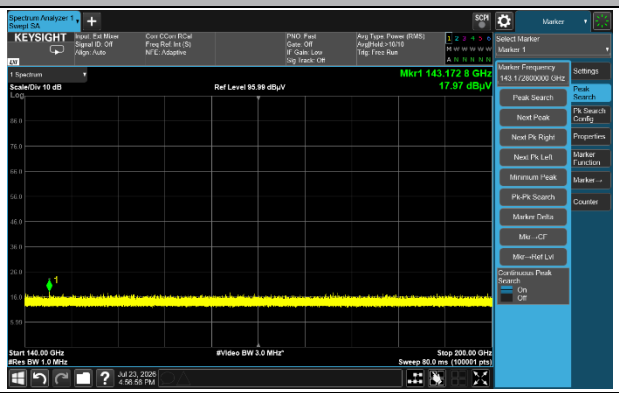
1. Measure Level @1.5m = Reading Level @1.5m + Factor

   Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) + Mixer Conversion Loss (dB)

2. Measure Level @3m = Measure Level @1.5m + 20 × log(1.5m / 3m)

3. Power Density = (10^8 / 377) × {10^[(Measure Level @3m -120) / 20]}^{2}.

4. The test distance is 1.5 m and the height is 0.7 m.

50 ~ 75 GHz - Horizontal	50 ~ 75 GHz - Vertical
	
75 ~ 110 GHz - Horizontal	75 ~ 110 GHz - Vertical
	
110 ~ 140 GHz - Horizontal	110 ~ 140 GHz - Vertical
	
140 ~ 200 GHz - Horizontal	140 ~ 200 GHz - Vertical
	

Frequency (GHz)	Reading Level @1m (dBμV)	Factor (dB/m)	Measure Level @1m (dBμV/m)	Measure Level @3m (dBμV/m)	Power Density (pW/cm^2)	Limit (pW/cm^2)	Polarization
50 ~ 200 GHz							
52.6574	29.37	40.78	70.15	60.61	0.31	90	Horizontal
50.9154	28.60	40.74	69.34	59.80	0.25	90	Vertical
80.2535	30.50	44.30	74.80	65.26	0.89	90	Horizontal
80.3300	30.88	44.30	75.18	65.64	0.97	90	Vertical
134.3130	18.47	57.01	75.48	65.94	1.04	90	Horizontal
115.0435	18.18	58.23	76.41	66.87	1.29	90	Vertical
189.0362	17.54	60.87	78.41	68.87	2.04	90	Horizontal
143.1728	17.97	60.57	78.54	69.00	2.11	90	Vertical

Notes:

1. Measure Level @1m = Reading Level @1m + Factor
   Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) + Mixer Conversion Loss (dB)
2. Measure Level @3m = Measure Level @1m + 20 × log(1m / 3m)
3. Power Density = $(10^8 / 377) \times \{10^{[(\text{Measure Level @3m } -120) / 20]}\}^2$.
4. The test distance is 1 m and the height is 0.7 m.

6.5. Frequency Stability

6.5.1. Test Limit

According to FCC §15.255 (f), fundamental emissions must be contained within the frequency bands 57 ~ 71 GHz during all conditions of operation. Equipment is presumed to operate over the temperature range -20 to +50 degrees Celsius with an input voltage variation of 85% to 115% of rated input voltage, unless justification is presented to demonstrate otherwise.

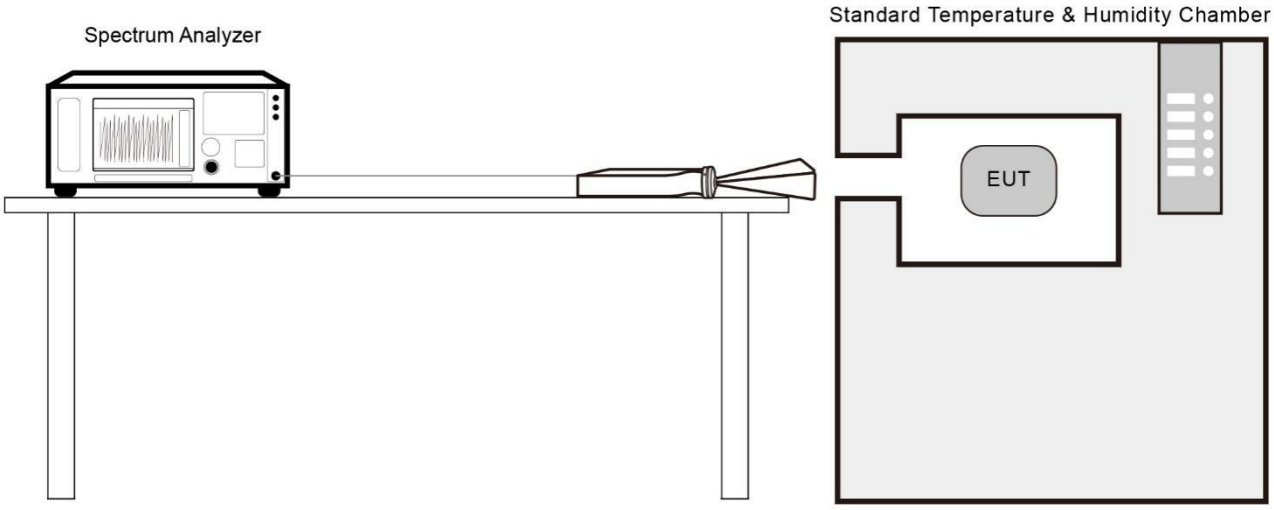
6.5.2. Test Procedure

ANSI C63.10-2020 Section 9.5

6.5.3. Test Setting

1. Arrange EUT and test equipment according to Section 6.5.4.
2. With the EUT at ambient temperature and voltage source set to the EUT nominal operating voltage (100%), record the spectrum mask of the EUT emission on the spectrum analyzer.
3. Vary EUT power supply between 85% and 115% of nominal and record the frequency excursion of the EUT emission mask.
4. Set the power supply to 100% nominal setting, and raise EUT operating temperature to 50 °C.
5. Record the frequency excursion of the EUT emission mask.
6. Repeat step 5 at each 10 °C increment down to -20 °C.

6.5.4. Test Setup



6.5.5. Test Result

Test Site	WJ-TR1	Test Engineer	Simon Lu
Test Date	2026-07-23		

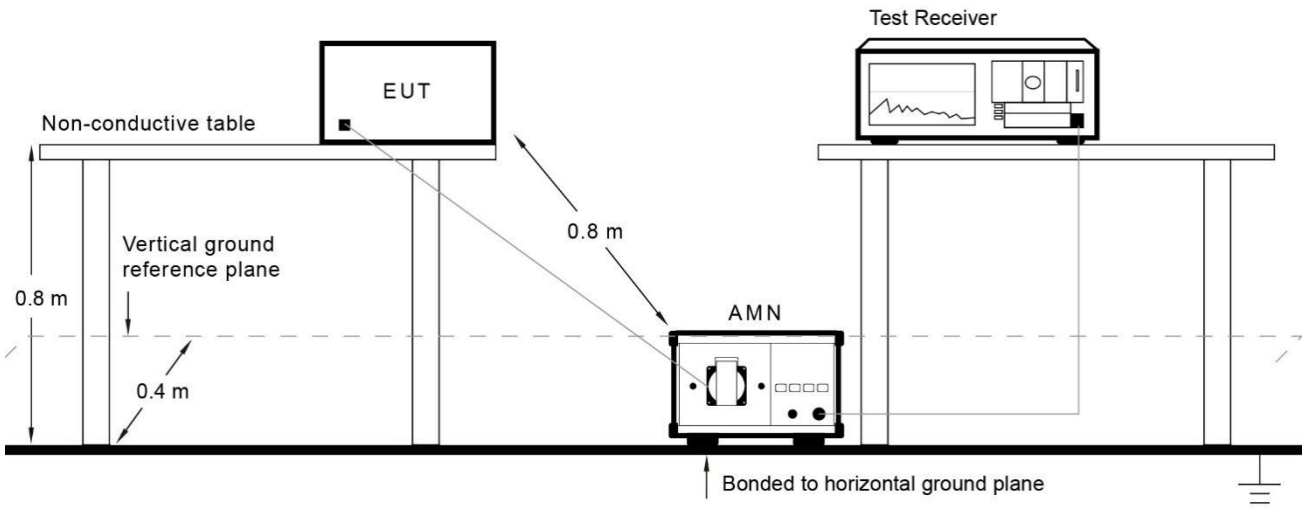
Voltage (%)	Power (VDC)	Temp (°C)	Low Frequency (GHz)	High Frequency (GHz)	Limit (GHz)	Result
100	3.3	-20	58.2153581	58.2212521	57 ~ 71	Pass
		-10	58.1781479	58.1833614	57 ~ 71	Pass
		0	58.1189059	58.1245899	57 ~ 71	Pass
		+10	58.0835298	58.0891055	57 ~ 71	Pass
		+20	58.0352918	58.0406167	57 ~ 71	Pass
		+30	57.9992689	58.0052519	57 ~ 71	Pass
		+40	57.9564948	57.9618879	57 ~ 71	Pass
		+50	57.9204360	57.9259558	57 ~ 71	Pass
115	3.80	+20	58.0360606	58.0417552	57 ~ 71	Pass
85	2.81	+20	58.0359929	58.0415380	57 ~ 71	Pass

6.6. AC Conducted Emissions Measurement

6.6.1. Test Limit

FCC 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 0.15 MHz to 0.5 MHz.		

6.6.2. Test Setup



6.6.3. Test Result

Since the EUT is powered from a DC source and has no AC mains port, the AC conducted emission is not applicable.

Appendix A - Test Setup Photograph

Refer to “R26S1011078-UT” file.

Appendix B - EUT Photograph

Refer to “R26S1011078-UE” file.

The End