

## TEST REPORT

**Applicant:** Jiangsu Shushi Technology Co., Ltd.

**Address:** NO.9 Nanxu Road, RunZhou District, Zhenjiang, Jiangsu, China

**Product Name:** Multi-Function Smart Presence Sensor R3

**FCC ID:** 2BAGQ-3RPL01084Z

**Standard(s):** 47 CFR Part 15, Subpart C(15.255)  
ANSI C63.10-2020

**Report Number:** 2602P23892E-RF-00

**Report Date:** 2026/5/15

The above device has been tested and found compliant with the requirement of the relevant standards by Bay Area Compliance Laboratories Corp. (Dongguan).

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DOCUMENT REVISION HISTORY

| Revision Number | Report Number     | Description of Revision | Date of Revision |
|-----------------|-------------------|-------------------------|------------------|
| 1.0             | 2602P23892E-RF-00 | Original Report         | 2026/5/15        |

## 1. GENERAL INFORMATION

### 1.1 General Description of Equipment under Test

|                                   |                                              |
|-----------------------------------|----------------------------------------------|
| <b>EUT Name:</b>                  | Multi-Function Smart Presence Sensor R3      |
| <b>EUT Model:</b>                 | 3RPL01084Z                                   |
| <b>Operation Frequency Range:</b> | 62025-63815.3MHz                             |
| <b>Maximum Peak EIRP:</b>         | 11.9 dBm                                     |
| <b>Modulation Type:</b>           | FMCW                                         |
| <b>Chirps Time ▲:</b>             | 30μs                                         |
| <b>Emission Designator:</b>       | N0N                                          |
| <b>Rated Input Voltage ▲:</b>     | DC 5V from USB Port                          |
| <b>Serial Number:</b>             | 3G7J-1 (For CE Test)<br>3G7J-2 (For RE Test) |
| <b>EUT Received Date:</b>         | 2026.1.16                                    |
| <b>EUT Received Status:</b>       | Good                                         |

### 1.2 Accessory Information

| Accessory Description | Manufacturer | Model | Parameters |
|-----------------------|--------------|-------|------------|
| /                     | /            | /     | /          |

### 1.3 Antenna Information Detail ▲

| Antenna Type                                                                                                                                                     | input impedance (Ohm) | Antenna Gain | Frequency Range |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------|-----------------|
| Microstrip Antenna                                                                                                                                               | 50                    | 5.27dBi      | 59-64 GHz       |
| <b>The design of compliance with §15.203:</b>                                                                                                                    |                       |              |                 |
| <input checked="" type="checkbox"/> Unit uses a permanently attached antenna.                                                                                    |                       |              |                 |
| <input type="checkbox"/> Unit uses a unique coupling to the intentional radiator.                                                                                |                       |              |                 |
| <input type="checkbox"/> Unit was professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit. |                       |              |                 |

### 1.4 Equipment Modifications

No modifications are made to the EUT during all test items.

## 2. SUMMARY OF TEST RESULTS

| Standard(s)/Rule(s)          | Description of Test         | Result    |
|------------------------------|-----------------------------|-----------|
| §15.207(a)                   | AC Line Conducted Emissions | Compliant |
| §15.255(c)(2)(iii)           | Peak EIRP                   | Compliant |
| §15.215, §15.255 (e)         | Occupied Bandwidth          | Compliant |
| §15.205, §15.209, §15.255(d) | Radiated Spurious Emissions | Compliant |
| §15.255 (f)                  | Frequency Stability         | Compliant |
| §15.255 (h)                  | Group Installation          | Compliant |
| §15.203                      | Antenna Requirement         | Compliant |

### 3. DESCRIPTION OF TEST CONFIGURATION

#### 3.1 EUT Operation Condition

The system was configured for testing in production version with highest transmitter activity (on time), which was provided by the manufacturer. According to 15.31(c) and KDB 364244 D01 Meas 15.255 Radars v01r01, the device tested at Swept mode for FMCW modulation.

#### 3.2 EUT Exercise Software

No software was used in test. The EUT transmit when EUT was power up.

#### 3.3 Support Equipment List and Details

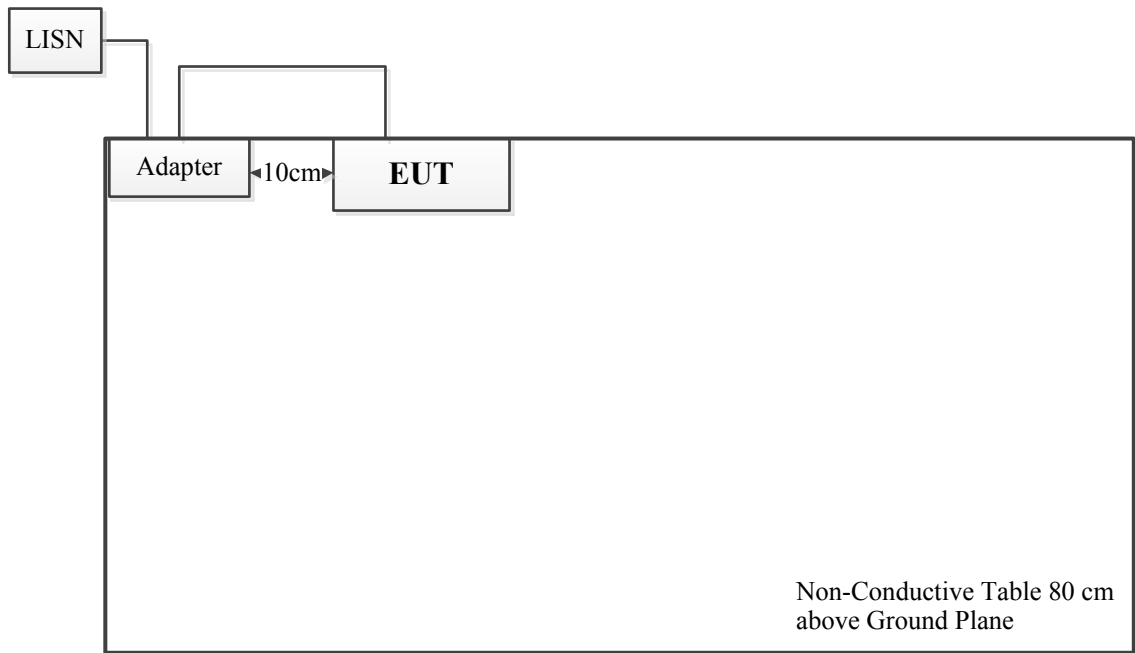
| Manufacturer | Description                         | Model          | Serial Number    |
|--------------|-------------------------------------|----------------|------------------|
| DOOGEE       | Adapter<br>(For CE and RE Below 1G) | HJ0502000W2-EU | EMZBUA21103001EN |
| Huntkey      | Adapter<br>(For RE Above 1G)        | HKA01105021-XE | 0D1805002143     |

#### 3.4 Support Cable List and Details

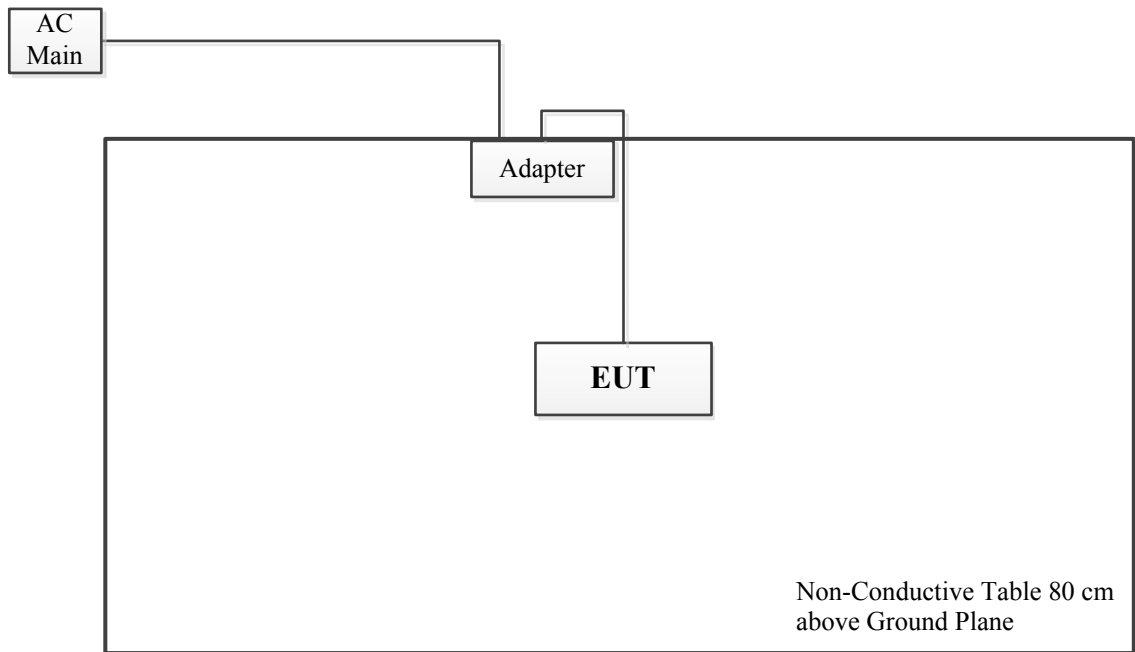
| Cable Description | Shielding Type | Ferrite Core | Length (m) | From Port                           | To  |
|-------------------|----------------|--------------|------------|-------------------------------------|-----|
| USB Cable         | no             | no           | 0.3        | Adapter<br>(For CE and RE Below 1G) | EUT |
| USB Cable         | no             | no           | 1.5        | Adapter<br>(For RE Above 1G)        | EUT |

3.5 Block Diagram of Test Setup

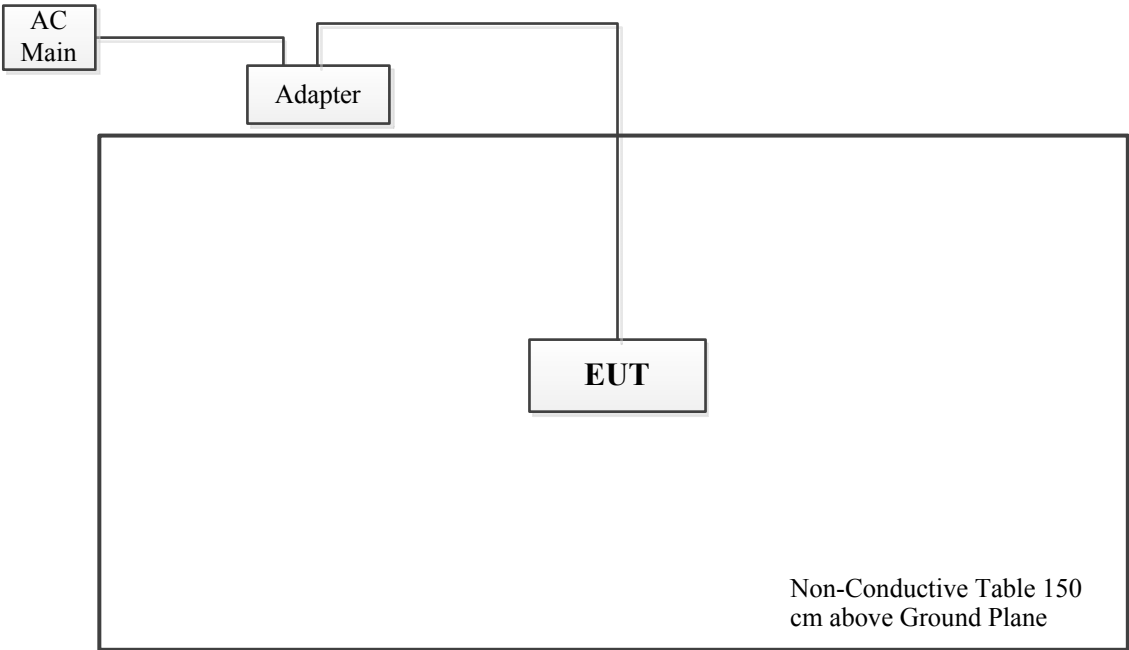
AC line conducted emissions:



Radiated Spurious Emissions:  
Below 1G:



Above 1G:



### 3.6 Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.12, Pulong East 1st Road, Tangxia Town, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 829273, the FCC Designation No. : CN5044.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0022.

### 3.7 Measurement Uncertainty

Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

| Parameter                         | Measurement Uncertainty                                                                                                                                                                                                   |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Occupied Channel Bandwidth        | ±5 %                                                                                                                                                                                                                      |
| Unwanted Emissions, radiated      | 9kHz~30MHz: 3.06dB, 30MHz~1GHz: 6.13 dB, 1GHz~6GHz: 4.79 dB, 6GHz~18GHz: 4.63 dB, 18GHz~26.5GHz: 4.79 dB, 26.5GHz~40GHz: 4.63 dB, 40~60G: 5.65dB, 60G~90G: 5.62dB, 90G-140G: 5.62dB, 140G-220G: 5.62dB, 220G-325G: 5.62dB |
| EIRP                              | 4.94dB                                                                                                                                                                                                                    |
| Temperature                       | ±1 °C                                                                                                                                                                                                                     |
| Humidity                          | ±5%                                                                                                                                                                                                                       |
| DC and low frequency voltages     | ±0.4%                                                                                                                                                                                                                     |
| Duty Cycle                        | 1%                                                                                                                                                                                                                        |
| AC Power Lines Conducted Emission | 2.83 dB (150 kHz to 30 MHz)                                                                                                                                                                                               |

## 4. REQUIREMENTS TEST RESULTS

### 4.1 AC Line Conducted Emissions

#### 4.1.1 Applicable Standard

FCC§15.207(a).

(a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50  $\mu$ H/50 ohms line impedance stabilization network (LISN).

Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

| Frequency of emission (MHz) | Conducted limit (dB $\mu$ V) |           |
|-----------------------------|------------------------------|-----------|
|                             | Quasi-peak                   | Average   |
| 0.15-0.5                    | 66 to 56*                    | 56 to 46* |
| 0.5-5                       | 56                           | 46        |
| 5-30                        | 60                           | 50        |

\*Decreases with the logarithm of the frequency.

(b) The limit shown in paragraph (a) of this section shall not apply to carrier current systems operating as intentional radiators on frequencies below 30 MHz. In lieu thereof, these carrier current systems shall be subject to the following standards:

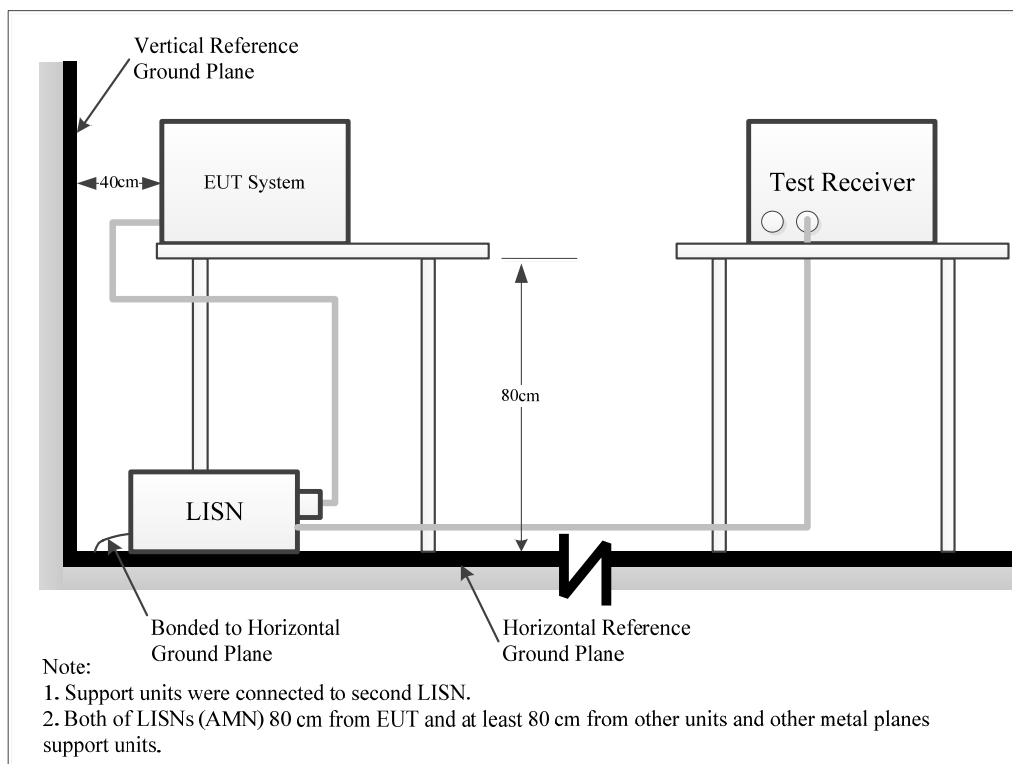
(1) For carrier current system containing their fundamental emission within the frequency band 535-1705 kHz and intended to be received using a standard AM broadcast receiver: no limit on conducted emissions.

(2) For all other carrier current systems: 1000  $\mu$ V within the frequency band 535-1705 kHz, as measured using a 50  $\mu$ H/50 ohms LISN.

(3) Carrier current systems operating below 30 MHz are also subject to the radiated emission limits in §15.205, §15.209, §15.221, §15.223, or §15.227, as appropriate.

(c) Measurements to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines. Devices that include, or make provisions for, the use of battery chargers which permit operating while charging, AC adapters or battery eliminators or that connect to the AC power lines indirectly, obtaining their power through another device which is connected to the AC power lines, shall be tested to demonstrate compliance with the conducted limits.

#### 4.1.2 EUT Setup



The setup of EUT is according with per ANSI C63.10-2020 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The spacing between the peripherals was 10 cm.

#### 3.1.3 EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

| Frequency Range  | IF B/W |
|------------------|--------|
| 150 kHz – 30 MHz | 9 kHz  |

#### 4.1.4 Test Procedure

During the conducted emission test, the EUT was connected to the outlet of the first LISN.

The frequency and amplitude of the six highest ac power-line conducted emissions relative to the limit, measured over all the current-carrying conductors of the EUT power cords, and the operating frequency or frequency to which the EUT is tuned (if appropriate), should be reported, unless such emissions are more than 20 dB below the limit. AC power-line conducted emissions measurements are to be separately carried out only on each of the phase (“hot”) line(s) and (if used) on the neutral line(s), but not on the ground [protective earth] line(s). If less than six emission frequencies are within 20 dB of the limit, then the noise level of the measuring instrument at representative frequencies should be reported. The specific conductor of the power-line cord for each of the reported emissions should be identified. Measure the six highest emissions with respect to the limit on each current-carrying conductor of each power cord associated with the EUT (but not the power cords of associated or peripheral equipment that are part of the test configuration). Then, report the six highest emissions with respect to the limit from among all the measurements identifying the frequency and specific current-carrying conductor identified with the emission. The six highest emissions should be reported for each of the current-carrying conductors, or the six highest emissions may be reported over all the current-carrying conductors.

#### 4.1.5 Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Result = Reading + Factor

Factor = attenuation caused by cable loss + voltage division factor of AMN

The “**Margin**” column of the following data tables indicates the degree of compliance within the applicable limit. The equation for margin calculation is as follows:

Margin = Limit – Result

4.1.6 Test Data

|                |              |              |              |
|----------------|--------------|--------------|--------------|
| Serial Number: | 3G7J-1       | Test Date:   | 2026/01/27   |
| Test Site:     | CE           | Test Mode:   | Transmitting |
| Tester:        | Leesin Xiang | Test Result: | Pass         |

Environmental Conditions:

|                      |      |                              |    |                        |       |
|----------------------|------|------------------------------|----|------------------------|-------|
| Temperature:<br>(°C) | 24.8 | Relative<br>Humidity:<br>(%) | 44 | ATM Pressure:<br>(kPa) | 101.4 |
|----------------------|------|------------------------------|----|------------------------|-------|

Test Equipment List and Details:

| Manufacturer | Description          | Model  | Serial<br>Number | Calibration Date | Calibration Due<br>Date |
|--------------|----------------------|--------|------------------|------------------|-------------------------|
| R&S          | LISN                 | ENV216 | 101614           | 2025/6/25        | 2026/6/24               |
| Unknown      | Coaxial Cable        | RG 142 | C-0200-05        | 2025/5/6         | 2026/5/5                |
| R&S          | EMI Test<br>Receiver | ESCI   | 100224           | 2025/6/25        | 2026/6/24               |
| Audix        | Test Software        | E3     | 191218 V9        | N/A              | N/A                     |

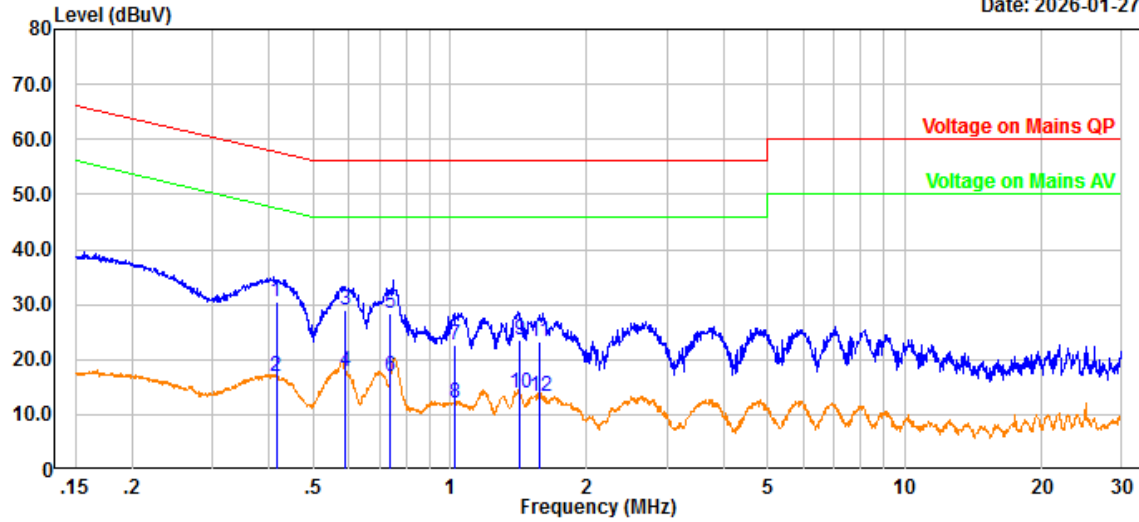
*\* Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

Project No.: 2602P23892E-RF  
 Port: Line  
 Test Mode: Transmitting  
 IF B/W 9kHz PK/AV

Serial No.: 367J-1  
 Tester: Leesin Xiang  
 Note:

Date: 2026-01-27

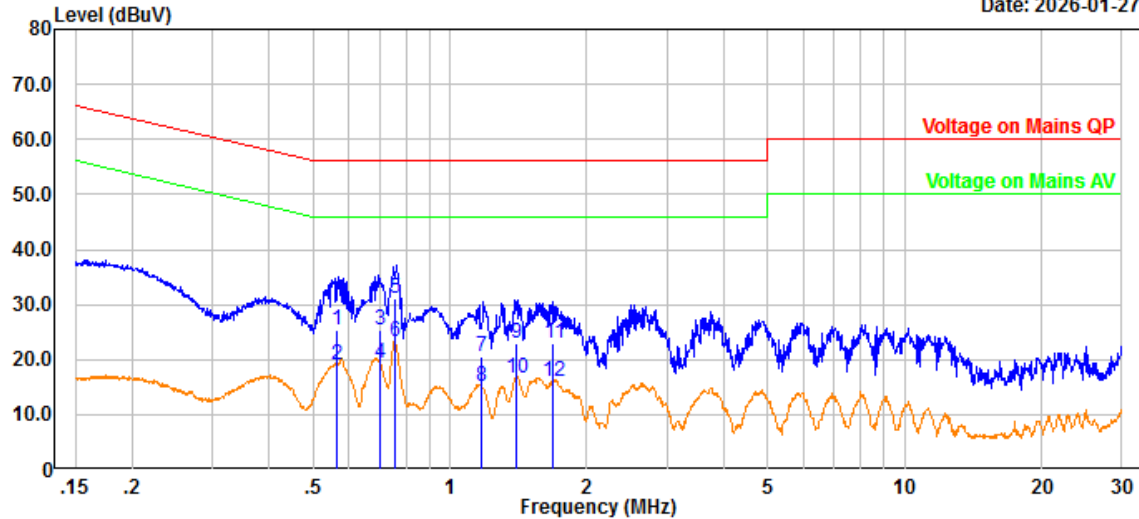


| No. | Frequency (MHz) | Reading (dBμV) | Factor (dB) | Result (dBμV) | Limit (dBμV) | Margin (dB) | Measurement |
|-----|-----------------|----------------|-------------|---------------|--------------|-------------|-------------|
| 1   | 0.415           | 19.89          | 10.67       | 30.56         | 57.55        | 26.99       | QP          |
| 2   | 0.415           | 6.21           | 10.67       | 16.88         | 47.55        | 30.67       | Average     |
| 3   | 0.588           | 18.42          | 10.52       | 28.94         | 56.00        | 27.06       | QP          |
| 4   | 0.588           | 7.36           | 10.52       | 17.88         | 46.00        | 28.12       | Average     |
| 5   | 0.741           | 18.04          | 10.46       | 28.50         | 56.00        | 27.50       | QP          |
| 6   | 0.741           | 6.56           | 10.46       | 17.02         | 46.00        | 28.98       | Average     |
| 7   | 1.024           | 11.80          | 10.82       | 22.62         | 56.00        | 33.38       | QP          |
| 8   | 1.024           | 1.37           | 10.82       | 12.19         | 46.00        | 33.81       | Average     |
| 9   | 1.420           | 12.49          | 11.02       | 23.51         | 56.00        | 32.49       | QP          |
| 10  | 1.420           | 3.01           | 11.02       | 14.03         | 46.00        | 31.97       | Average     |
| 11  | 1.572           | 12.02          | 11.10       | 23.12         | 56.00        | 32.88       | QP          |
| 12  | 1.572           | 2.33           | 11.10       | 13.43         | 46.00        | 32.57       | Average     |

Project No.: 2602P23892E-RF  
Port: neutral  
Test Mode: Transmitting  
IF B/W 9kHz PK/AV

Serial No.: 367J-1  
Tester: Leesin Xiang  
Note:

Date: 2026-01-27



| No. | Frequency<br>(MHz) | Reading<br>(dBμV) | Factor<br>(dB) | Result<br>(dBμV) | Limit<br>(dBμV) | Margin<br>(dB) | Measurement |
|-----|--------------------|-------------------|----------------|------------------|-----------------|----------------|-------------|
| 1   | 0.562              | 14.73             | 10.48          | 25.21            | 56.00           | 30.79          | QP          |
| 2   | 0.562              | 8.62              | 10.48          | 19.10            | 46.00           | 26.90          | Average     |
| 3   | 0.702              | 14.83             | 10.41          | 25.24            | 56.00           | 30.76          | QP          |
| 4   | 0.702              | 8.94              | 10.41          | 19.35            | 46.00           | 26.65          | Average     |
| 5   | 0.755              | 20.63             | 10.50          | 31.13            | 56.00           | 24.87          | QP          |
| 6   | 0.755              | 12.62             | 10.50          | 23.12            | 46.00           | 22.88          | Average     |
| 7   | 1.172              | 9.44              | 10.96          | 20.40            | 56.00           | 35.60          | QP          |
| 8   | 1.172              | 4.22              | 10.96          | 15.18            | 46.00           | 30.82          | Average     |
| 9   | 1.400              | 11.86             | 11.03          | 22.89            | 56.00           | 33.11          | QP          |
| 10  | 1.400              | 5.69              | 11.03          | 16.72            | 46.00           | 29.28          | Average     |
| 11  | 1.688              | 11.70             | 11.12          | 22.82            | 56.00           | 33.18          | QP          |
| 12  | 1.688              | 4.96              | 11.12          | 16.08            | 46.00           | 29.92          | Average     |

## 4.2 Peak EIRP

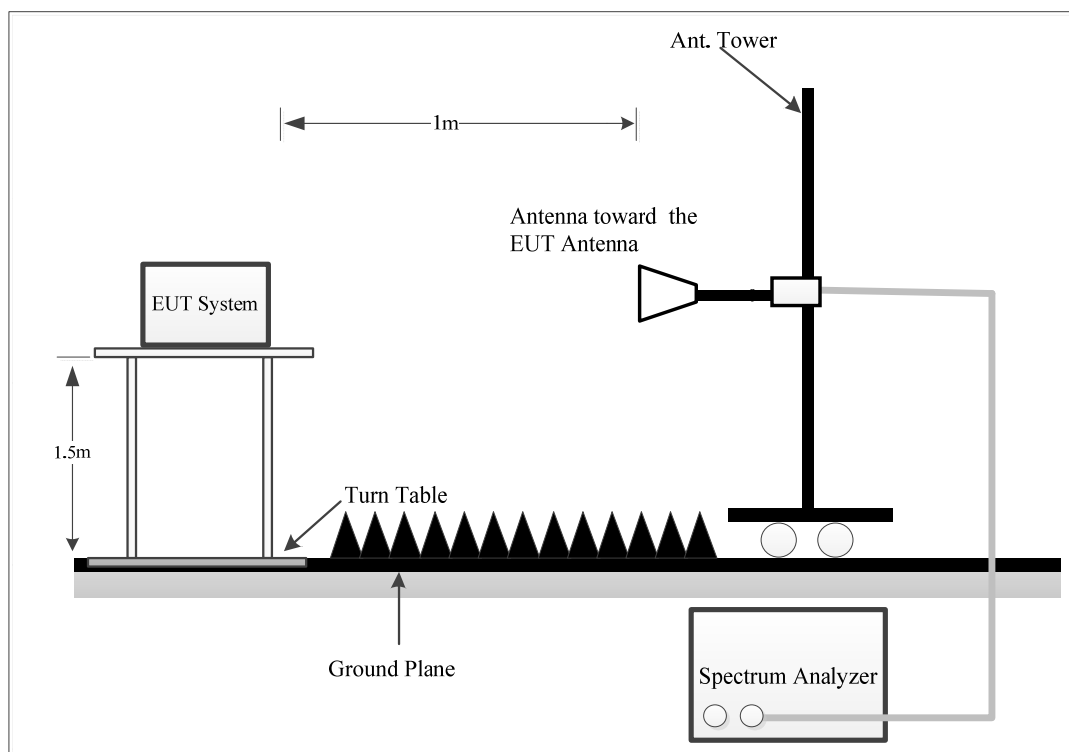
### 4.2.1 Applicable Standard

FCC §15.255(c)(2)(iii)

57.0-64.0 GHz:

(A) The peak EIRP shall not exceed 14 dBm, and the sum of continuous transmitter off-times of at least two milliseconds shall equal at least 25.5 milliseconds within any contiguous interval of 33 milliseconds, except as specific in paragraph (c)(2)(iii)(B) of this section;

### 4.2.2 EUT Setup



Place the measurement antenna at a measurement distance that is in the far-field of the measurement antenna, in the far-field of the EUT antenna. The EIRP test was performed at 1m distance, which was larger than the minimum test distance, please refer to section 4.4.4 for more detail.

### 4.2.3 Test Procedure

Refer to ANSI C63.10-2020 Clause 9.8

For radiated measurements:

- 1) Place the measurement antenna at a measurement distance that is in the far-field of the measurement antenna, in the far-field of the EUT antenna, and meets the measurement distance requirements for final radiated measurements as specified in 9.1.4.
- 2) Place the measurement antenna in the main beam of the EUT then maximize the fundamental emission using the procedures of 9.7, noting that multiple peaks can be found at different beam orientations and/or polarizations.
- 3) Correct the power reading from the spectrum analyzer for any external gain and/or attenuation between the measurement antenna and the spectrum analyzer. This is the power at the output of the measurement antenna
- 4) Calculate the EIRP from the power at the output of the measurement antenna using Equation (22), and then convert to linear form using Equation (24).

$$EIRP = 21.98 - 20 \log(\lambda) + 20 \log(d_{Meas}) + P - G \quad (22)$$

where

|            |                                                                                    |
|------------|------------------------------------------------------------------------------------|
| $EIRP$     | is the equivalent isotropic radiated power, in dBm                                 |
| $\lambda$  | is the wavelength of the emission under investigation $[300/f(\text{MHz})]$ , in m |
| $d_{Meas}$ | is the measurement distance, in m                                                  |
| $P$        | is the power measured at the output of the measurement antenna, in dBm             |
| $G$        | is the gain of the measurement antenna, in dBi                                     |

NOTE—The measured power  $P$  includes all applicable instrument correction factors up to the connection to the measurement antenna.

- 5) Where applicable, calculate conducted output power from the EIRP using Equation (27).

For FMCW emissions, the procedures in 4.1.5.2.8 and Annex L shall be used.

**4.2.4 Test Result**

|                |           |              |              |
|----------------|-----------|--------------|--------------|
| Serial Number: | 3G7J-2    | Test Date:   | 2026/3/6     |
| Test Site:     | Chamber B | Test Mode:   | Transmitting |
| Tester:        | Alan Xie  | Test Result: | Pass         |

**Environmental Conditions:**

|                      |      |                           |    |                           |       |
|----------------------|------|---------------------------|----|---------------------------|-------|
| Temperature:<br>(°C) | 22.1 | Relative Humidity:<br>(%) | 50 | ATM<br>Pressure:<br>(kPa) | 101.2 |
|----------------------|------|---------------------------|----|---------------------------|-------|

**Test Equipment List and Details:**

| Manufacturer     | Description         | Model               | Serial Number | Calibration Date | Calibration Due Date |
|------------------|---------------------|---------------------|---------------|------------------|----------------------|
| Agilent          | Waveguide Mixer     | 11970V              | 2521A011767   | 2026/2/15        | 2029/2/14            |
| Flann Microwave  | Horn Antenna        | 861V/385            | 736           | 2026/2/26        | 2029/2/25            |
| Resenberger      | Coaxial Cable       | LU7-022-1000        | 0031          | 2026/2/27        | 2027/2/26            |
| Resenberger      | Coaxial Cable       | LU7-022-1000        | 0032          | 2026/2/27        | 2027/2/26            |
| Agilent          | Spectrum Analyzer   | E4440A              | MY44303352    | 2025/7/31        | 2026/7/30            |
| Talent Microwave | Low Noise Amplifier | TMLA-050075-3845-15 | 24060304      | 2025/9/30        | 2028/9/29            |

\* Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

**Test Data:**

| Frequency<br>(GHz) | Receiver          |          | Polar<br>(H/V) | Chirps<br>Correction<br>Factor(dB) | Antenna<br>Factor(dB/m) | E-Field@1m<br>(dBμV/m) | EIRP<br>(dBm) | Limit<br>(dBm) |
|--------------------|-------------------|----------|----------------|------------------------------------|-------------------------|------------------------|---------------|----------------|
|                    | Reading<br>(dBμV) | Detector |                |                                    |                         |                        |               |                |
| 63.775             | 59.99             | PK       | H              | 14.21                              | 42.50                   | 116.70                 | 11.90         | 14.00          |

The Mixers and it's RF cables is compose a system for calibration and already added into the reading.

$E\text{-Field} = \text{Reading} + \text{Chirps Correction Factor} + \text{Antenna Factor}$

$EIRP = E\text{-Field} + 20\log(\text{Measurement distance}) - 104.8$

Measurement distance = 1m

The test data recorded was the maximum polarization

| Chirps Time (μs) | Span (MHz) | RBW (MHz) | Chirps Correction Factor (dB) |
|------------------|------------|-----------|-------------------------------|
| 30               | 1790.35    | 1         | 14.21                         |

Refer to ANSI C63.10-2020/cor 1-2023 Annex L.1. The chirps correction factor was calculated using the formula:

$$\alpha = \frac{1}{\left(1 + \left[\left(\frac{2 \times \ln(2)}{\pi}\right)^2 \times \left(\frac{BW_{\text{Chirp}}}{T_{\text{Chirp}} \times RBW^2}\right)^2\right]\right)^{0.25}}$$

where

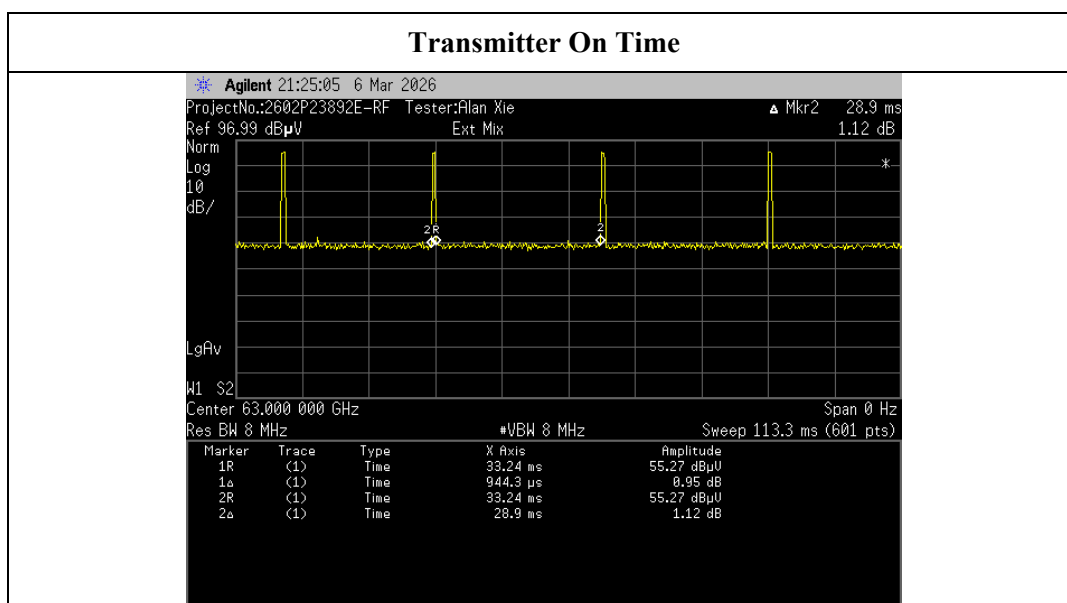
$\alpha$  is the reduction in amplitude  
 $BW_{\text{Chirp}}$  is the FMCW Chirp Bandwidth  
 $T_{\text{Chirp}}$  is the FMCW Chirp Time

#### Transmitter Off-times

| Transmitter On (ms) | Observation Time (ms) | Sum of continuous transmitter off-times (ms) | Limit (ms) |
|---------------------|-----------------------|----------------------------------------------|------------|
| 1.8886              | 33                    | 31.1114                                      | ≥25.5      |

Note: Sum of Continuous Transmitter Off-times = Observation Time(33ms) - Transmitter On

Transmitter On = Ton(Observation Time on 33s) = 0.9443 ms \* 2 = 1.8886ms



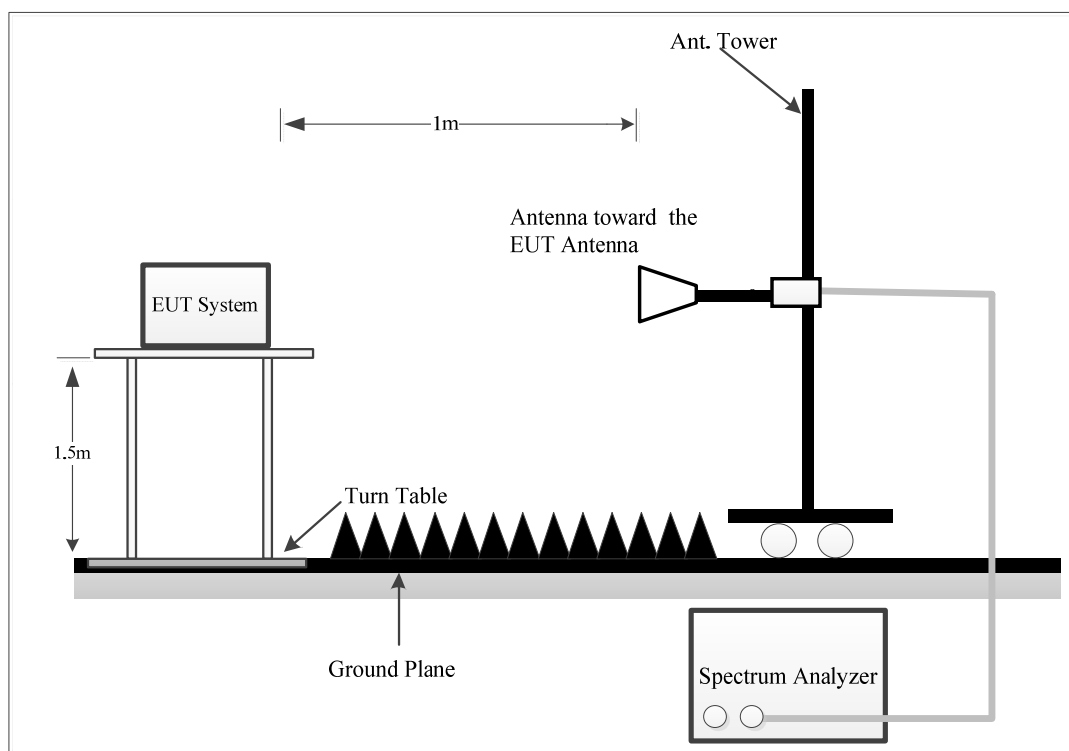
### 4.3 Emission Bandwidth:

#### 4.3.1 Applicable Standard

KDB 364244 D01 Meas 15.255 Radars v01r01

For other than pulsed radar transmitters, the fundamental emission bandwidth is presumed to be “the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage  $\beta/2$  of the total mean power of a given emission. Unless otherwise specified in an ITU-R Recommendation for the appropriate class of emission, the value of  $\beta/2$  should be taken as 0.5%,” as defined in §2.1(c) of the FCC rules. This is also known as the 99% occupied bandwidth (OBW).

#### 4.3.2 EUT Setup



Place the measurement antenna in the main beam of the EUT then maximize the fundamental emission, noting that multiple peaks can be found at different beam orientations and/or polarizations.

### 4.3.3 Test Procedure

KDB 364244 D01 Meas 15.255 Radars v01r01

Clauses 9.3 and 9.4 of C63.10-2020 provide standardized procedures recognized by the FCC for measuring both the relative (-10 dB) bandwidth and the 99% OBW.

The occupied bandwidth (OBW) is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission.

a) The following procedure shall be used for measuring 99% power bandwidth: Use the following spectrum analyzer settings:

- 1) Span equal to approximately 1.5 times the OBW, centered on the carrier frequency
  - 2) RBW, prefer 1% to 5% of OBW, or a minimum of 1 MHz if this is not possible due to a large OBW
  - 3) VBW approximately  $3 \times$  RBW
  - 4) Set the reference level of the instrument as required to reduce the chance of the signal amplitude exceeding the maximum spectrum analyzer input mixer level for linear operation. See guidance provided in 4.1.6.
  - 5) Sweep = No faster than coupled (auto) time.
  - 6) Detector function = peak.
  - 7) Trace = max-hold.
- b) The EUT shall be transmitting at its maximum data rate. Allow the trace to stabilize.
- c) If the instrument does not have a 99% OBW function, recover the trace data points and sum directly in linear power terms. Place the recovered amplitude data points, beginning at the lowest frequency, in a running sum until 0.5% of the total is reached. Record that frequency as the lower OBW frequency. Repeat the process until 99.5% of the total is reached and record that frequency as the upper OBW frequency. The 99% power OBW can be determined by computing the difference these two frequencies.
- d) The OBW shall be reported and plot(s) of the measuring instrument display shall be provided with the test report. The frequency and amplitude axis and scale shall be clearly labeled. Tabular data can be reported in addition to the plot(s).
- e) Repeat this test for each modulation scheme using the guidance of 5.6.2.1.

4.3.4 Test Data

|                |           |              |              |
|----------------|-----------|--------------|--------------|
| Serial Number: | 3G7J-2    | Test Date:   | 2026/3/6     |
| Test Site:     | Chamber B | Test Mode:   | Transmitting |
| Tester:        | Alan Xie  | Test Result: | Pass         |

| Environmental Conditions: |      |                           |    |                           |       |
|---------------------------|------|---------------------------|----|---------------------------|-------|
| Temperature:<br>(°C)      | 22.1 | Relative Humidity:<br>(%) | 50 | ATM<br>Pressure:<br>(kPa) | 101.2 |

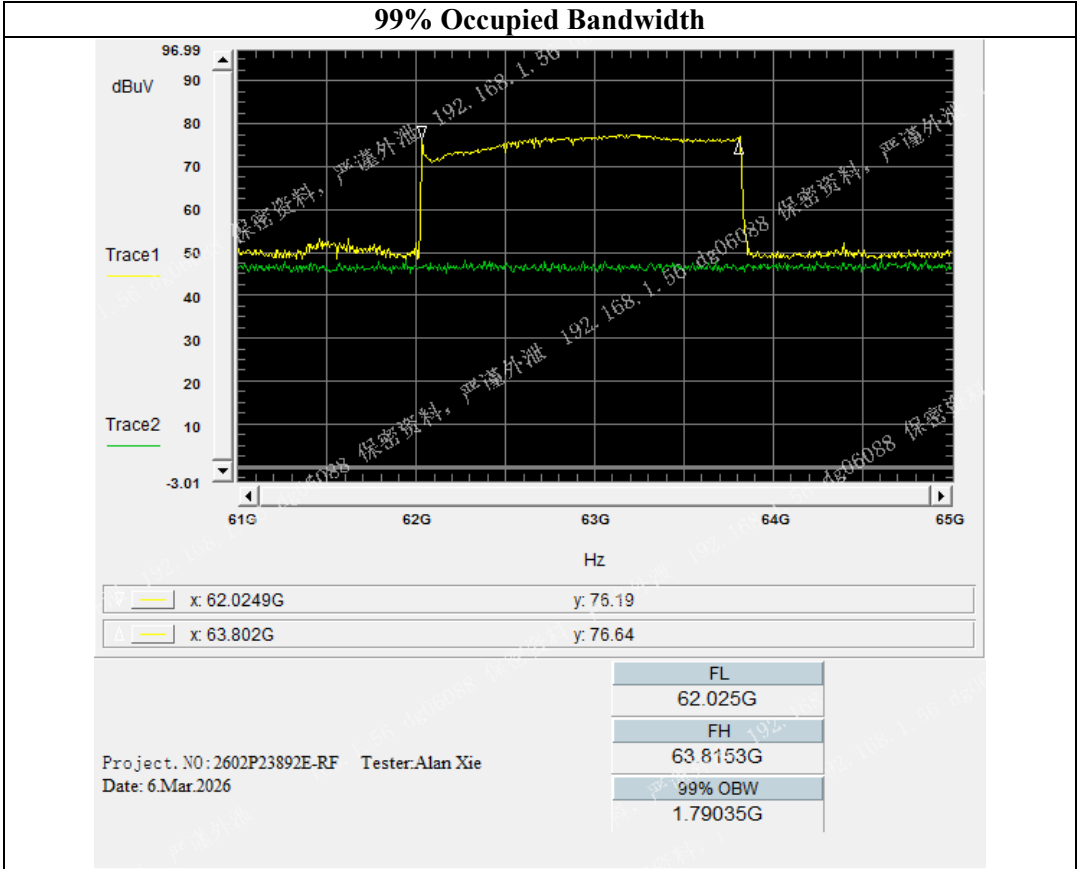
Test Equipment List and Details:

| Manufacturer     | Description         | Model               | Serial Number | Calibration Date | Calibration Due Date |
|------------------|---------------------|---------------------|---------------|------------------|----------------------|
| Agilent          | Waveguide Mixer     | 11970V              | 2521A011767   | 2026/2/15        | 2029/2/14            |
| Flann Microwave  | Horn Antenna        | 861V/385            | 736           | 2026/2/26        | 2029/2/25            |
| Talent Microwave | Low Noise Amplifier | TMLA-050075-3845-15 | 24060304      | 2025/9/30        | 2028/9/29            |
| Agilent          | Spectrum Analyzer   | E4440A              | MY44303352    | 2025/7/31        | 2026/7/30            |
| Resenberger      | Coaxial Cable       | LU7-022-1000        | 0031          | 2026/2/27        | 2027/2/26            |
| Resenberger      | Coaxial Cable       | LU7-022-1000        | 0032          | 2026/2/27        | 2027/2/26            |

*\* Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

| Test Mode    | 99% Occupied Bandwidth<br>(MHz) | FL<br>(GHz) | Limit FL<br>(GHz) | FH<br>(GHz) | Limit FH<br>(GHz) |
|--------------|---------------------------------|-------------|-------------------|-------------|-------------------|
| Transmitting | 1790.35                         | 62.025      | 57                | 63.8153     | 64                |



## 4.4 Radiated Emissions

### 4.4.1 Applicable Standard

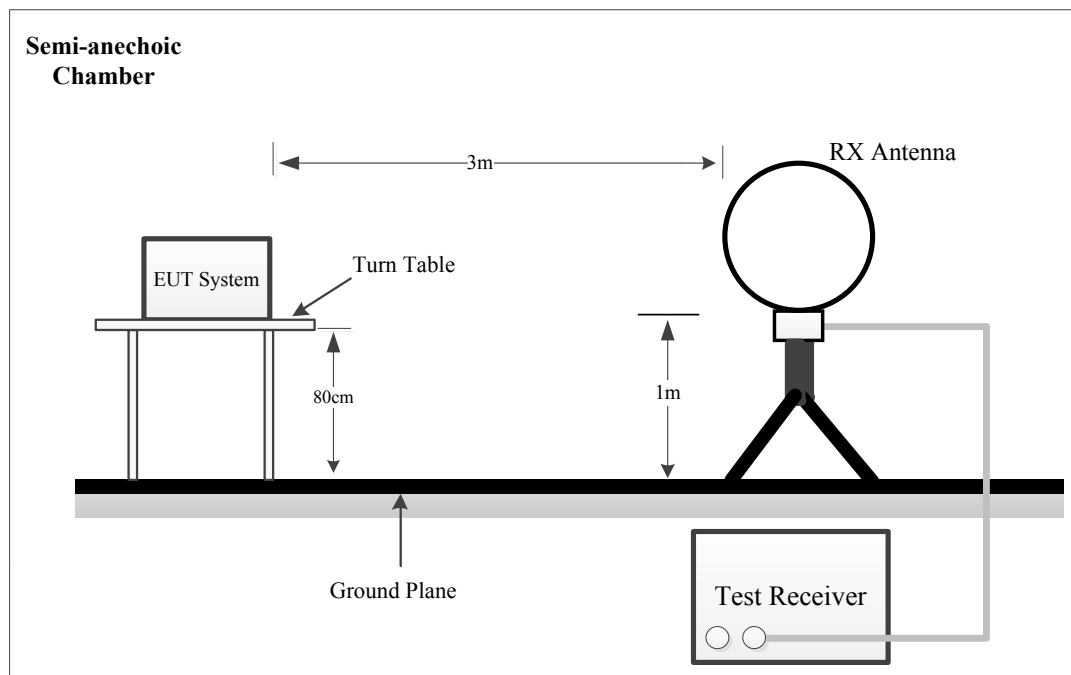
FCC §15.255(d)

Limits on spurious emissions:

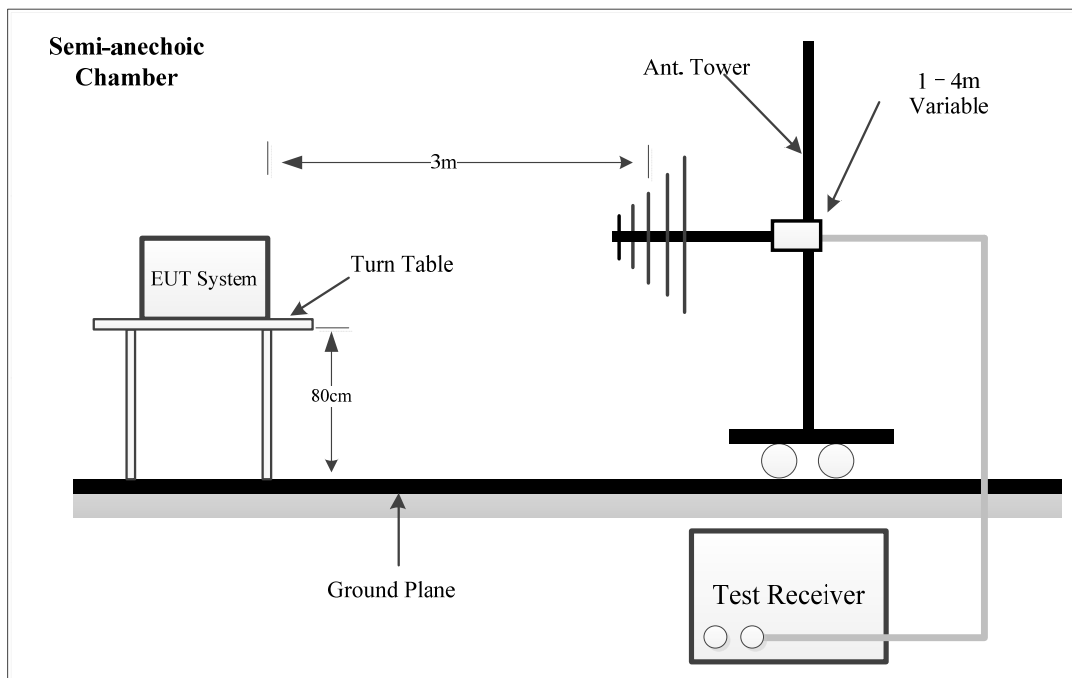
- (1) The power density of any emissions outside the 57-71 GHz band shall consist solely of spurious emissions.
- (2) Radiated emissions below 40 GHz shall not exceed the general limits in § 15.209.
- (3) Between 40 GHz and 200 GHz, the level of these emissions shall not exceed  $90 \text{ pW/cm}^2$  at a distance of 3 meters.
- (4) The levels of the spurious emissions shall not exceed the level of the fundamental emission.

### 4.4.2 EUT Setup

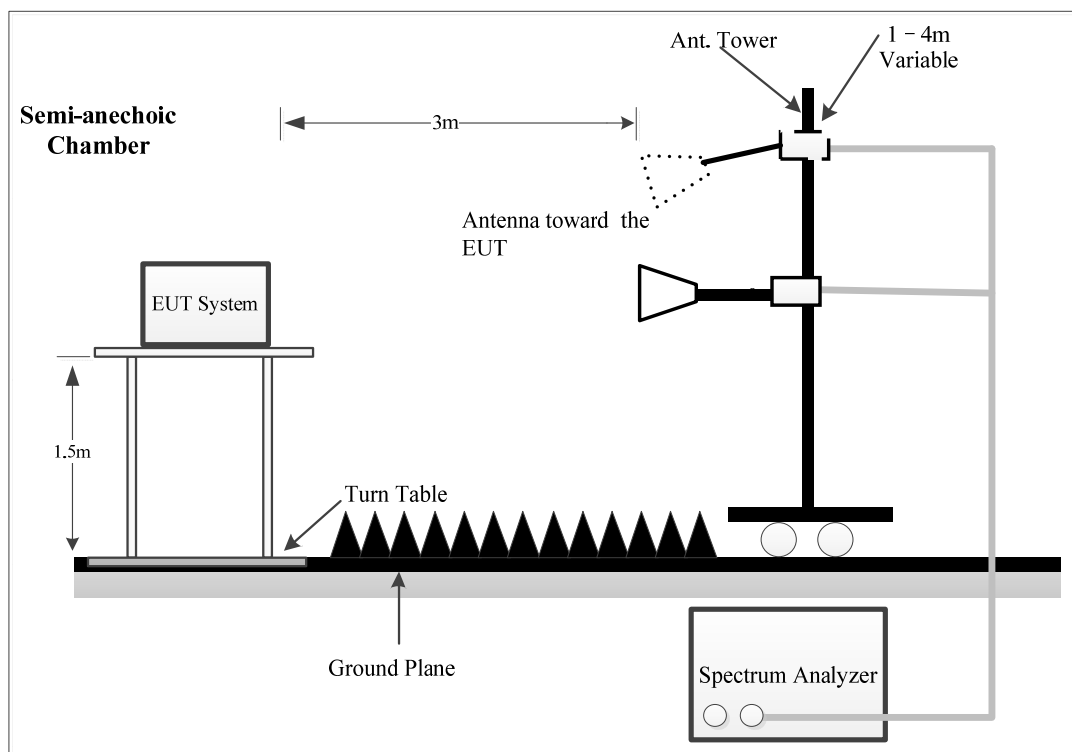
9kHz-30MHz:



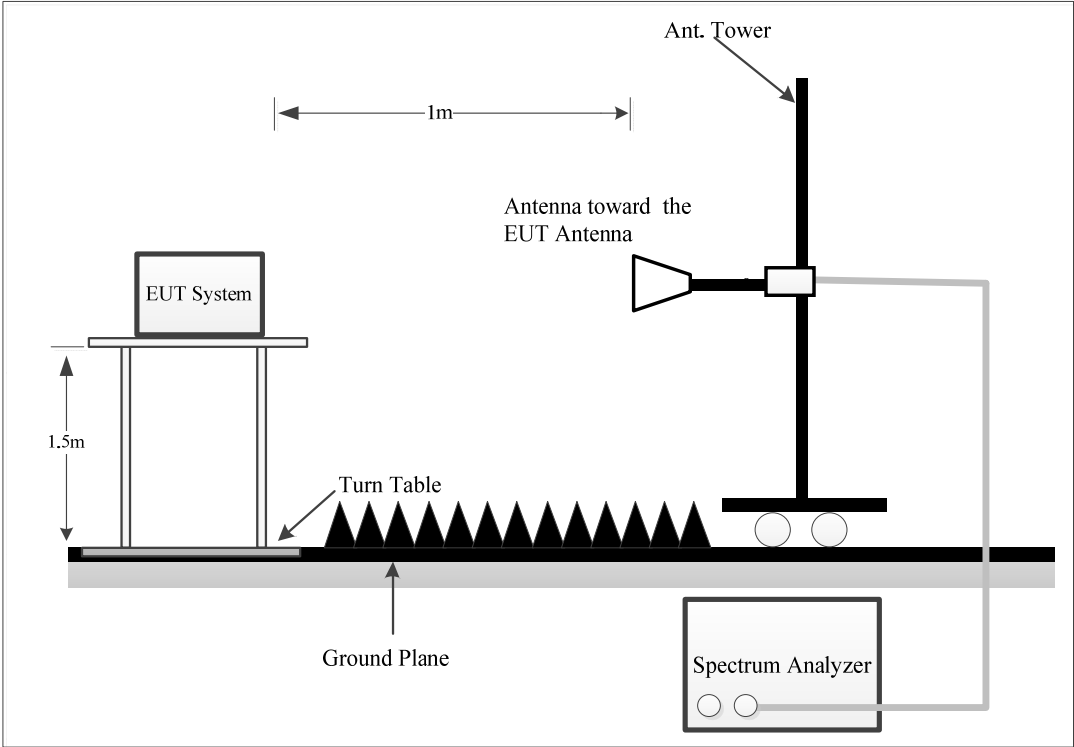
**30MHz~1GHz:**



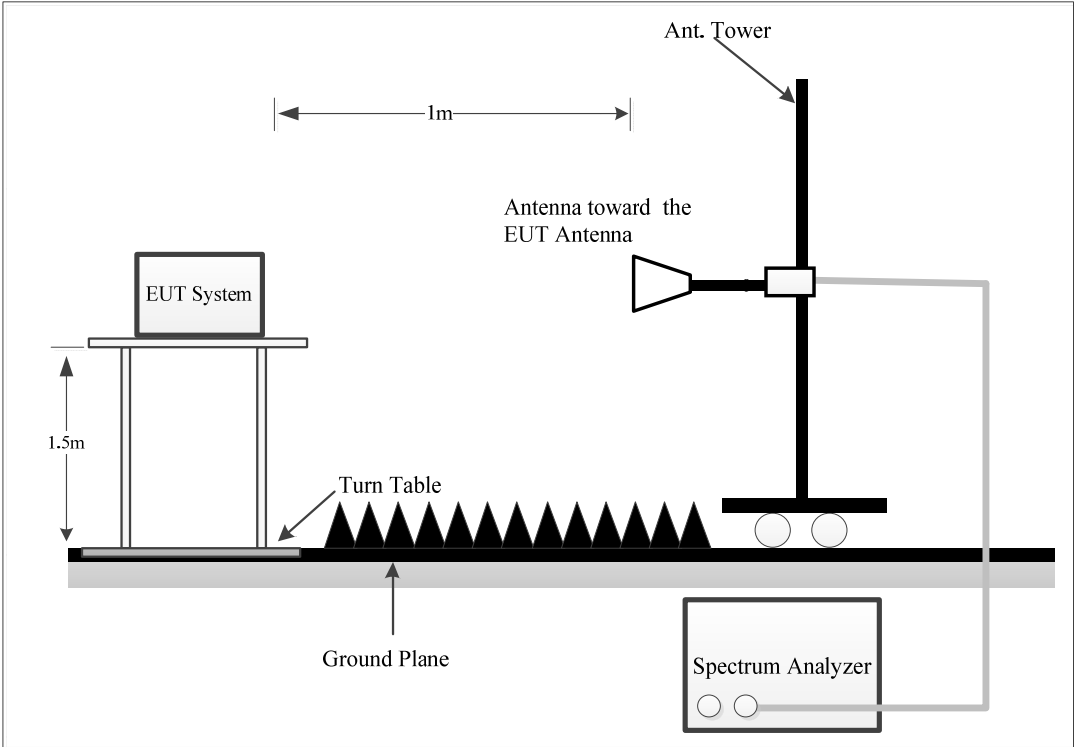
**1~18 GHz:**

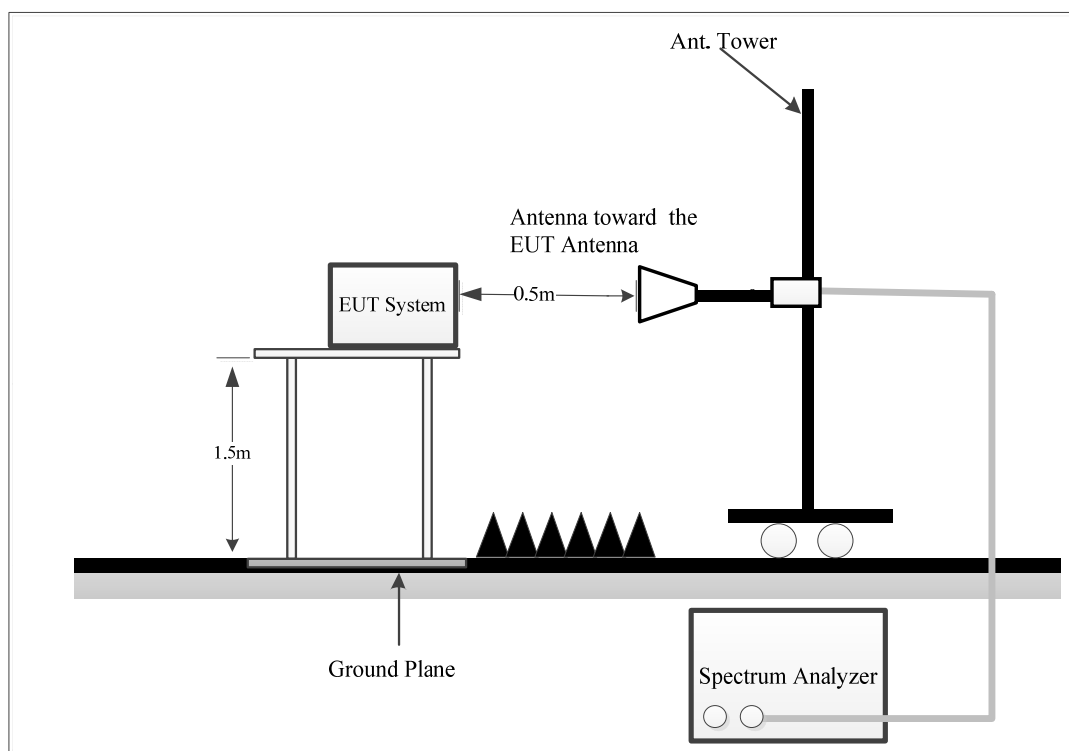


18~40 GHz:



40~90 GHz:



**90~200 GHz:****Above 40GHz:**

The antenna is scanned around the entire perimeter surface of the EUT, in both horizontal and vertical polarizations, at the distance of 1.0 m from 40 GHz to 90 GHz, and 0.5 m from 90 GHz to 200 GHz.

The radiated emission and out of band emission tests were performed in the 3 meters chamber, using the setup accordance with the ANSI C63.10-2020 The specification used was the FCC 15.209/15.205/15.255 limits.

**4.4.3 EMI Test Receiver & Spectrum Analyzer Setup**

The system was investigated from 9kHz to 200 GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

9kHz-1000MHz:

| Frequency Range   | RBW     | Video B/W | IF B/W  | Measurement | Detector   |
|-------------------|---------|-----------|---------|-------------|------------|
| 9 kHz – 150 kHz   | 200 Hz  | 1 kHz     | 200 Hz  | QP/Average  | QP/Average |
| 150 kHz – 30 MHz  | 9 kHz   | 30 kHz    | 9 kHz   | QP/Average  | QP/Average |
| 30 MHz – 1000 MHz | /       | /         | 120 kHz | QP          | QP         |
|                   | 120 kHz | 500 kHz   | /       | PK          | PK         |

1-40GHz:

Pre-scan:

| Frequency Range | Measurement | RBW  | Video B/W | Detector |
|-----------------|-------------|------|-----------|----------|
| 1-40 GHz        | Peak        | 1MHz | 3 MHz     | PK       |
|                 | AV          | 1MHz | 5kHz      | PK       |

Final measurement for emission identified during the pre-scan:

| Frequency Range | Measurement | RBW  | Video B/W | Detector |
|-----------------|-------------|------|-----------|----------|
| 1-40 GHz        | Peak        | 1MHz | 3 MHz     | PK       |
|                 | AV          | 1MHz | 10Hz      | PK       |

Above 40GHz:

| Frequency Range | Measurement | RBW  | Video B/W | Detector |
|-----------------|-------------|------|-----------|----------|
| Above 40GHz     | AV          | 1MHz | 3MHz      | AV       |

Note: Data was recorded in Quasi-peak detection mode for frequency range of 9 kHz-30MHz except 9 – 90 kHz, 110 – 490 kHz, employing an average detector.

#### 4.4.4 Test Procedure

Refer to ANSI C63.10-2020 Clauses 9.10, and 9.11.

A Maximizing procedure was performed to ensure that the highest emissions from the EUT were actually measured in all of the Test Arrangements of the EUT and Local Support Equipment.

All emissions under the average limit and under the noise floor have not recorded in the report.

According to C63.10, the 18-40GHz test result shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade from 3m to 1 m

Distance extrapolation factor =  $20 \log (\text{specific distance [3m]}/\text{test distance [1m]})$  dB= 9.54 dB

#### For above 40GHz:

External harmonic mixers are utilized. The antenna is scanned around the entire perimeter surface of the EUT, in both horizontal and vertical polarizations. The Mixers and it's RF cables is compose a system for calibration, the conversion factor was added into the test Spectrum Analyzer in testing.

The far-field boundary is given in ANSI C63.10-2020:

$$R_m = 2D^2 / \lambda$$

Where:

D is the largest dimension of the antenna aperture in m and

$\lambda$  is the free-space wavelength in m at the frequency of measurement.

The minimum test distance for the frequency range 40GHz-200GHz determine as below:

| Model   | Frequency Range (GHz) | Largest Dimension of the Horn Antenna (mm) | Minimum Test Distance $R_m$ (m) |
|---------|-----------------------|--------------------------------------------|---------------------------------|
| M19RH   | 40-60                 | 46.3                                       | 0.86                            |
| 861/385 | 50-75                 | 43.7                                       | 0.95                            |
| M12RH   | 60-90                 | 30.02                                      | 0.54                            |
| M08RH   | 90-140                | 19.7                                       | 0.36                            |
| M05RH   | 140-220               | 12.5                                       | 0.23                            |

Note: the test distances used were 1.0 m from 40 GHz to 90 GHz, and 0.5 m from 90 GHz to 200GHz, it can be seen that the EUT was always in the Far-field of the Receive Antenna during all Radiated Emissions Tests.

#### 4.4.5 Corrected Amplitude & Margin Calculation

The basic equation is as follows:

For 9kHz-18GHz:

Result = Reading + Factor

For 18GHz-40GHz

Result = Reading + Factor-Distance extrapolation Factor

Factor= Antenna Factor + Cable Loss- Amplifier Gain

Note: the antenna JB3 was calibrated with 6dB Attenuator, the antenna factor includes the insertion loss of the Attenuator.

The “Margin” column of the following data tables indicates the degree of compliance within the applicable limit. The equation for margin calculation is as follows:

Margin = Limit – Result

## 4.4.6 Test Data

|                |                                                |              |                                                                 |
|----------------|------------------------------------------------|--------------|-----------------------------------------------------------------|
| Serial Number: | 3G7J-2                                         | Test Date:   | Below 1G: 2026/3/10<br>1-40G: 2026/1/27<br>Above 40G: 2026/5/15 |
| Test Site:     | Chamber10m, Chamber B                          | Test Mode:   | Transmitting                                                    |
| Tester:        | Jayce Wang, Willem Qiu, Alan Xie,<br>Bill Yang | Test Result: | Pass                                                            |

## Environmental Conditions:

|                      |         |                              |       |                        |             |
|----------------------|---------|------------------------------|-------|------------------------|-------------|
| Temperature:<br>(°C) | 22~26.4 | Relative<br>Humidity:<br>(%) | 50~60 | ATM Pressure:<br>(kPa) | 100.1~101.8 |
|----------------------|---------|------------------------------|-------|------------------------|-------------|

## Test Equipment List and Details:

| Manufacturer          | Description                                            | Model                     | Serial Number     | Calibration Date | Calibration Due Date |
|-----------------------|--------------------------------------------------------|---------------------------|-------------------|------------------|----------------------|
| Below 1G              |                                                        |                           |                   |                  |                      |
| GLOBAL                | Active Loop Antenna                                    | 1313-1A                   | 4060411           | 2025/6/26        | 2028/6/25            |
| Sunol Sciences        | Hybrid Antenna                                         | JB3                       | A060611-1         | 2023/9/6         | 2026/9/5             |
| Narda                 | Coaxial Attenuator                                     | 779-6dB                   | 04269             | 2023/9/6         | 2026/9/5             |
| Unknown               | Coaxial Cable                                          | C-NJNJ-50                 | C-1000-01         | 2025/7/1         | 2026/6/30            |
| Unknown               | Coaxial Cable                                          | C-NJNJ-50                 | C-0400-04         | 2025/7/1         | 2026/6/30            |
| Unknown               | Coaxial Cable                                          | C-NJNJ-50                 | C-0530-01         | 2025/7/1         | 2026/6/30            |
| Sonoma                | Amplifier                                              | 310N                      | 185914            | 2025/8/25        | 2026/8/24            |
| R&S                   | EMI Test Receiver                                      | ESR3                      | 102453            | 2025/6/25        | 2026/6/24            |
| Audix                 | Test Software                                          | E3                        | 191218 V9         | N/A              | N/A                  |
| 1-40 G                |                                                        |                           |                   |                  |                      |
| ETS-Lindgren          | Horn Antenna                                           | 3115                      | 000 527 35        | 2023/9/7         | 2026/9/6             |
| Ducommun Technologies | Horn Antenna                                           | ARH-4223-02               | 1007726-02 1304   | 2023/2/22        | 2026/2/21            |
| Ducommun Technologies | Horn Antenna                                           | ARH-2823-02               | 1007726-01 1302   | 2023/2/22        | 2026/2/21            |
| Xinhang Macrowave     | Coaxial Cable                                          | XH750A-N/J-SMA/J-10M      | 20231117004 #0001 | 2025/11/17       | 2026/11/16           |
| Xinhang Macrowave     | Coaxial Cable                                          | XH360A-2.92/J-2.92/J-6M-A | 20231208001 #0001 | 2025/11/14       | 2026/11/13           |
| AH                    | Preamplifier                                           | PAM-0118P                 | 469               | 2025/4/11        | 2026/4/10            |
| AH                    | Preamplifier                                           | PAM-1840VH                | 191               | 2025/7/31        | 2026/7/30            |
| R&S                   | Spectrum Analyzer                                      | FSV40                     | 101944            | 2025/8/8         | 2026/8/7             |
| Audix                 | Test Software                                          | E3                        | 191218 V9         | N/A              | N/A                  |
| Decentest             | Multiplex Switch Test Control Set & Filter Switch Unit | DT7220SCU & DT7220FSU     | DS79902 & DS79905 | 2025/8/25        | 2026/8/24            |
| Above 40G             |                                                        |                           |                   |                  |                      |
| OML                   | Waveguide Mixer                                        | WR19/M19HWD               | U60313-1          | 2023/9/11        | 2026/9/10            |

|                  |                            |                       |            |           |           |
|------------------|----------------------------|-----------------------|------------|-----------|-----------|
| OML              | Horn Antenna               | M19RH                 | 11648-01   | 2026/2/26 | 2029/2/25 |
| Flann Microwave  | Horn Antenna               | 24245-AB              | 26         | 2026/2/26 | 2029/2/25 |
| Agilent          | mm-Wave Source Modules     | 83556A                | 3138A00547 | 2026/2/15 | 2029/2/14 |
| OML              | Waveguide Mixer            | WR12/M12HWD           | E60120-1   | 2026/2/15 | 2029/2/14 |
| OML              | Horn Antenna               | M12RH                 | E60120-2   | 2026/2/26 | 2029/2/25 |
| OML              | Waveguide Mixer            | WR08/M08HWD           | F60313-1   | 2026/2/15 | 2029/2/14 |
| OML              | Horn Antenna               | M08RH                 | F60313-2   | 2026/2/26 | 2029/2/25 |
| OML              | Waveguide Mixer            | WR05/M05HWD           | G60106-1   | 2026/2/15 | 2029/2/14 |
| OML              | Horn Antenna               | M05RH                 | G60106-2   | 2026/2/26 | 2029/2/25 |
| Resenberger      | Coaxial Cable              | LU7-022-1000          | 0031       | 2026/2/27 | 2027/2/26 |
| Agilent          | Coaxial Cable              | 5061-5458             | 1301       | 2026/2/27 | 2027/2/26 |
| R&S              | Spectrum Analyzer          | FSV40                 | 101944     | 2025/8/8  | 2026/8/7  |
| Agilent          | Spectrum Analyzer          | E4440A                | MY44303352 | 2025/7/31 | 2026/7/30 |
| Talent Microwave | U-Band Low Noise Amplifier | TMLA-040060-4550-19-N | 24060296   | 2025/9/30 | 2028/9/29 |
| Talent Microwave | Low Noise Amplifier        | TMLA-060090-3840-12   | 24060299   | 2025/9/30 | 2028/9/29 |
| Talent Microwave | Low Noise Amplifier        | TMLA-090140-4045-08   | 24060353   | 2025/9/30 | 2028/9/29 |
| Talent Microwave | Low Noise Amplifier        | TMLA-140220-1860-05   | 24060361   | 2025/9/30 | 2028/9/29 |

*\* Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

#### Test Data:

Please refer to the below table and plots.

After pre-scan in the X, Y and Z axes of orientation, the worst case is refer to table and plots.

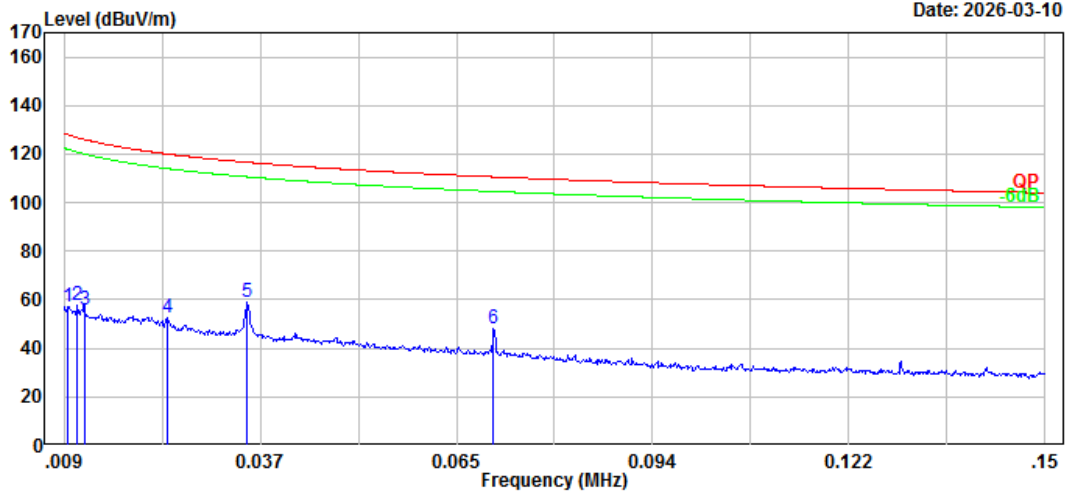
1) 9kHz~30MHz

Three antenna orientations (parallel, perpendicular, and ground-parallel) was measured, the worst orientations was below:

Project No.: 2602P23892E-RF  
Polarization: Horizontal  
Test Mode: Transmitting  
Note:  
RBW:200Hz VBW:1kHz

Serial No.: 367J-2  
Tester: Jayce Wang

Date: 2026-03-10



| No. | Frequency<br>(MHz) | Reading<br>(dBμV) | Factor<br>(dB/m) | Result<br>(dBμV/m) | Limit<br>(dBμV/m) | Margin<br>(dB) | Measurement |
|-----|--------------------|-------------------|------------------|--------------------|-------------------|----------------|-------------|
| 1   | 0.010              | 4.38              | 53.02            | 57.40              | 127.99            | 70.59          | Peak        |
| 2   | 0.011              | 5.16              | 52.58            | 57.74              | 126.80            | 69.06          | Peak        |
| 3   | 0.012              | 3.69              | 52.26            | 55.95              | 125.95            | 70.00          | Peak        |
| 4   | 0.024              | 3.21              | 49.08            | 52.29              | 120.07            | 67.78          | Peak        |
| 5   | 0.035              | 12.18             | 46.60            | 58.78              | 116.63            | 57.85          | Peak        |
| 6   | 0.071              | 7.93              | 40.46            | 48.39              | 110.61            | 62.22          | Peak        |

Project No.: 2602P23892E-RF

Serial No.: 367J-2

Polarization: Horizontal

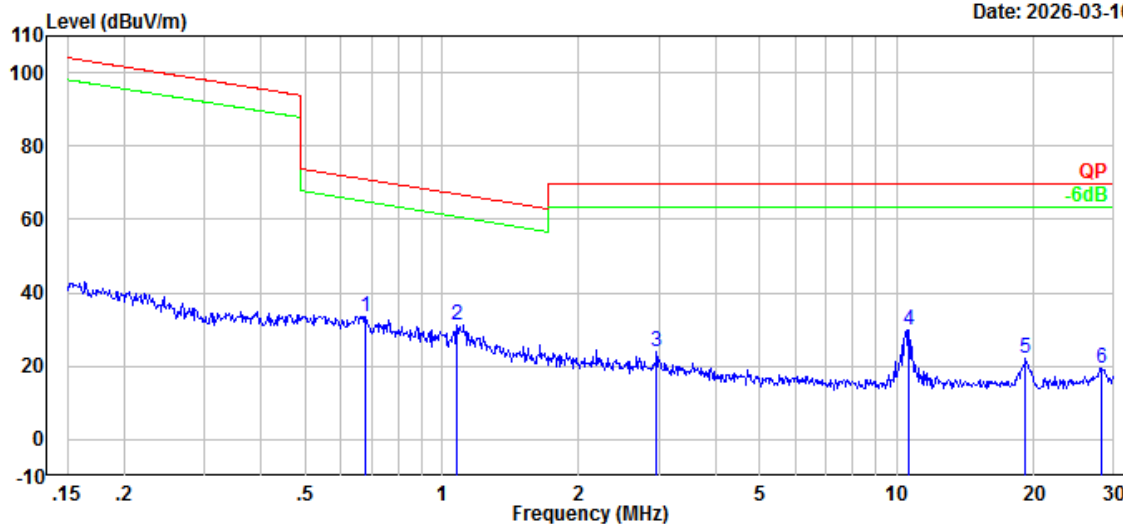
Tester: Jayce Wang

Test Mode: Transmitting

Note:

RBW:9kHz VBW:30kHz

Date: 2026-03-10



| No. | Frequency<br>(MHz) | Reading<br>(dBμV) | Factor<br>(dB/m) | Result<br>(dBμV/m) | Limit<br>(dBμV/m) | Margin<br>(dB) | Measurement |
|-----|--------------------|-------------------|------------------|--------------------|-------------------|----------------|-------------|
| 1   | 0.679              | 11.89             | 21.68            | 33.57              | 70.91             | 37.34          | Peak        |
| 2   | 1.077              | 15.03             | 16.22            | 31.25              | 66.82             | 35.57          | Peak        |
| 3   | 2.962              | 14.18             | 9.93             | 24.11              | 69.54             | 45.43          | Peak        |
| 4   | 10.620             | 25.07             | 4.79             | 29.86              | 69.54             | 39.68          | Peak        |
| 5   | 19.224             | 17.87             | 4.24             | 22.11              | 69.54             | 47.43          | Peak        |
| 6   | 28.152             | 15.29             | 4.16             | 19.45              | 69.54             | 50.09          | Peak        |

2) 30MHz-1GHz

Project No.: 2602P23892E-RF

Serial No.: 3G7J-2

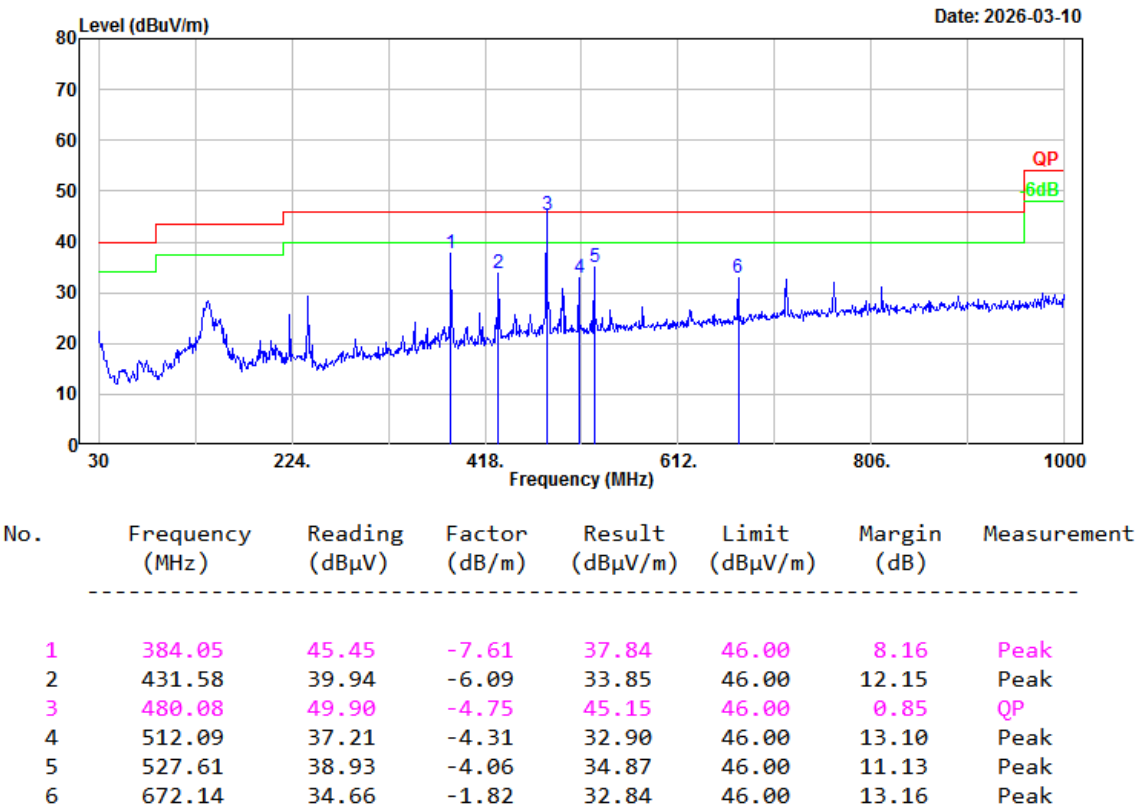
Polarization: Horizontal

Tester: Jayce Wang

Test Mode: Transmitting

Note:

RBW:120kHz VBW:500kHz



Project No.: 2602P23892E-RF

Serial No.: 367J-2

Polarization: Vertical

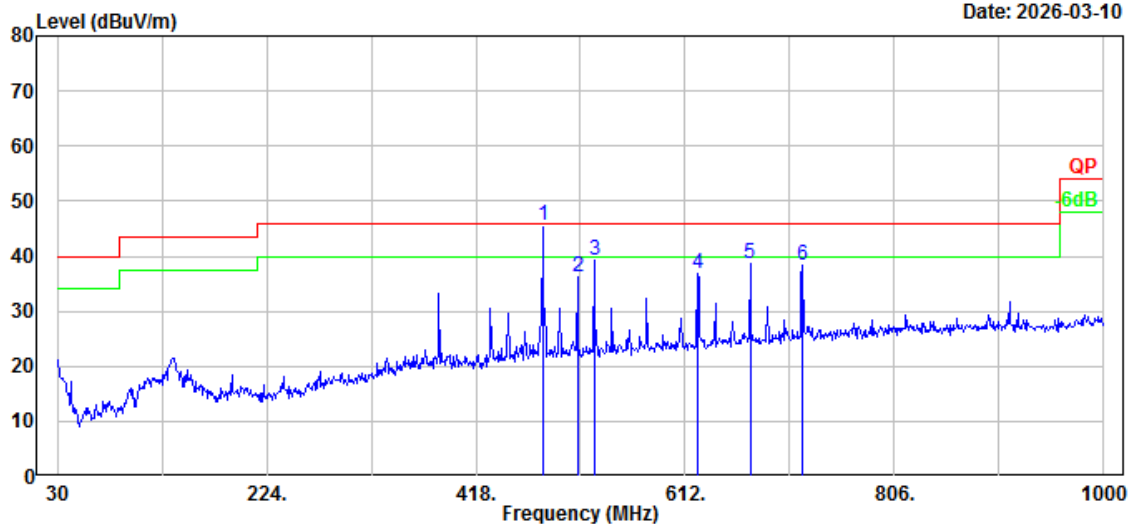
Tester: Jayce Wang

Test Mode: Transmitting

Note:

RBW:120kHz VBW:500kHz

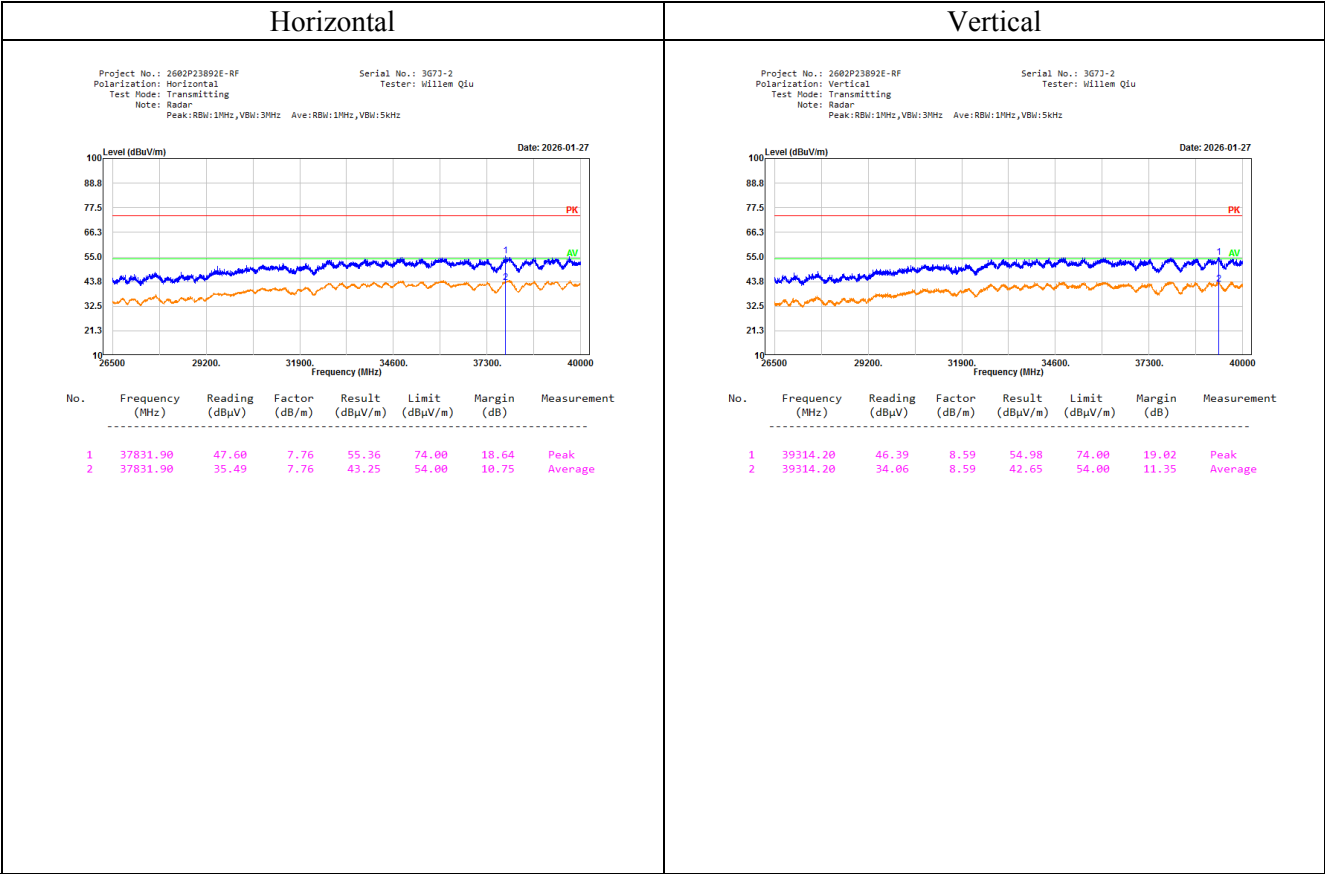
Date: 2026-03-10



| No. | Frequency<br>(MHz) | Reading<br>(dBμV) | Factor<br>(dB/m) | Result<br>(dBμV/m) | Limit<br>(dBμV/m) | Margin<br>(dB) | Measurement |
|-----|--------------------|-------------------|------------------|--------------------|-------------------|----------------|-------------|
| 1   | 480.08             | 50.40             | -4.75            | 45.65              | 46.00             | 0.35           | QP          |
| 2   | 512.09             | 40.40             | -4.31            | 36.09              | 46.00             | 9.91           | Peak        |
| 3   | 527.61             | 43.21             | -4.06            | 39.15              | 46.00             | 6.85           | Peak        |
| 4   | 623.64             | 39.37             | -2.67            | 36.70              | 46.00             | 9.30           | Peak        |
| 5   | 672.14             | 40.38             | -1.82            | 38.56              | 46.00             | 7.44           | Peak        |
| 6   | 720.64             | 39.30             | -0.99            | 38.31              | 46.00             | 7.69           | Peak        |

2) 1GHz-40GHz:





**3) 40GHz-200GHz:**

| Frequency (GHz) | Read Level (dBm) | Detector | Polar (H/V) | Rx Antenna Gain(dBi) | Field Strength (dBμV/m) | Power Density (pW/cm <sup>2</sup> ) | Limit (pW/cm <sup>2</sup> ) |
|-----------------|------------------|----------|-------------|----------------------|-------------------------|-------------------------------------|-----------------------------|
| 48.640          | -91.41           | AV       | H           | 22.30                | 47.75                   | 0.02                                | 90.00                       |
| 48.640          | -91.50           | AV       | V           | 22.30                | 47.66                   | 0.02                                | 90.00                       |
| 66.051          | -95.51           | AV       | H           | 22.50                | 46.10                   | 0.01                                | 90.00                       |
| 64.621          | -95.47           | AV       | V           | 22.20                | 46.25                   | 0.01                                | 90.00                       |
| 120.427         | -90.87           | AV       | H           | 23.00                | 49.44                   | 0.02                                | 90.00                       |
| 120.427         | -90.65           | AV       | V           | 23.00                | 49.66                   | 0.02                                | 90.00                       |
| 169.913         | -65.63           | AV       | H           | 23.00                | 77.67                   | 15.51                               | 90.00                       |
| 174.949         | -65.67           | AV       | V           | 23.00                | 77.88                   | 16.29                               | 90.00                       |

Note:

1. Refer to ANSI C63.10-2020 Clause 9.2.1

Calculate the field strength from the radiated measurement in the far-field using Equation (19):

$$E = 126.8 - 20 \log(\lambda) + P - G \quad (19)$$

where

$E$  is the field strength of the emission at the measurement distance, in dBuV/m  
 $\lambda$  is the wavelength of the emission under investigation [300/(MHz)], in m  
 $P$  is the power measured at the output of the measurement antenna, in dBm  
 $G$  is the gain of the measurement antenna, in dBi

NOTE—The measured power  $P$  includes all applicable instrument correction factors up to the connection to the measurement antenna.

For field strength measurements made at other than the distance specified by the limit, extrapolate the measured field strength to the field strength at the distance specified by the limit using an inverse distance correction factor (20 dB/decade of distance). The inverse-distance equation is given by Equation (20):

$$E_{\text{SpecLimit}} = E_{\text{Meas}} + 20 \log \left( \frac{D_{\text{Meas}}}{D_{\text{SpecLimit}}} \right)$$

where

$E_{\text{SpecLimit}}$  is the field strength of the emission at the distance specified by the limit, in dBuV/m  
 $E_{\text{Meas}}$  is the field strength of the emission at the measurement distance, in dBuV/m  
 $D_{\text{Meas}}$  is the measurement distance, in m  
 $D_{\text{SpecLimit}}$  is the distance specified by the limit, in m

40-90GHz:

$$\text{Field Strength} = E_{\text{SpecLimit}} = E_{\text{Meas}} + 20 \log(1/3)$$

90-200GHz:

$$\text{Field Strength} = E_{\text{SpecLimit}} = E_{\text{Meas}} + 20 \log(0.5/3)$$

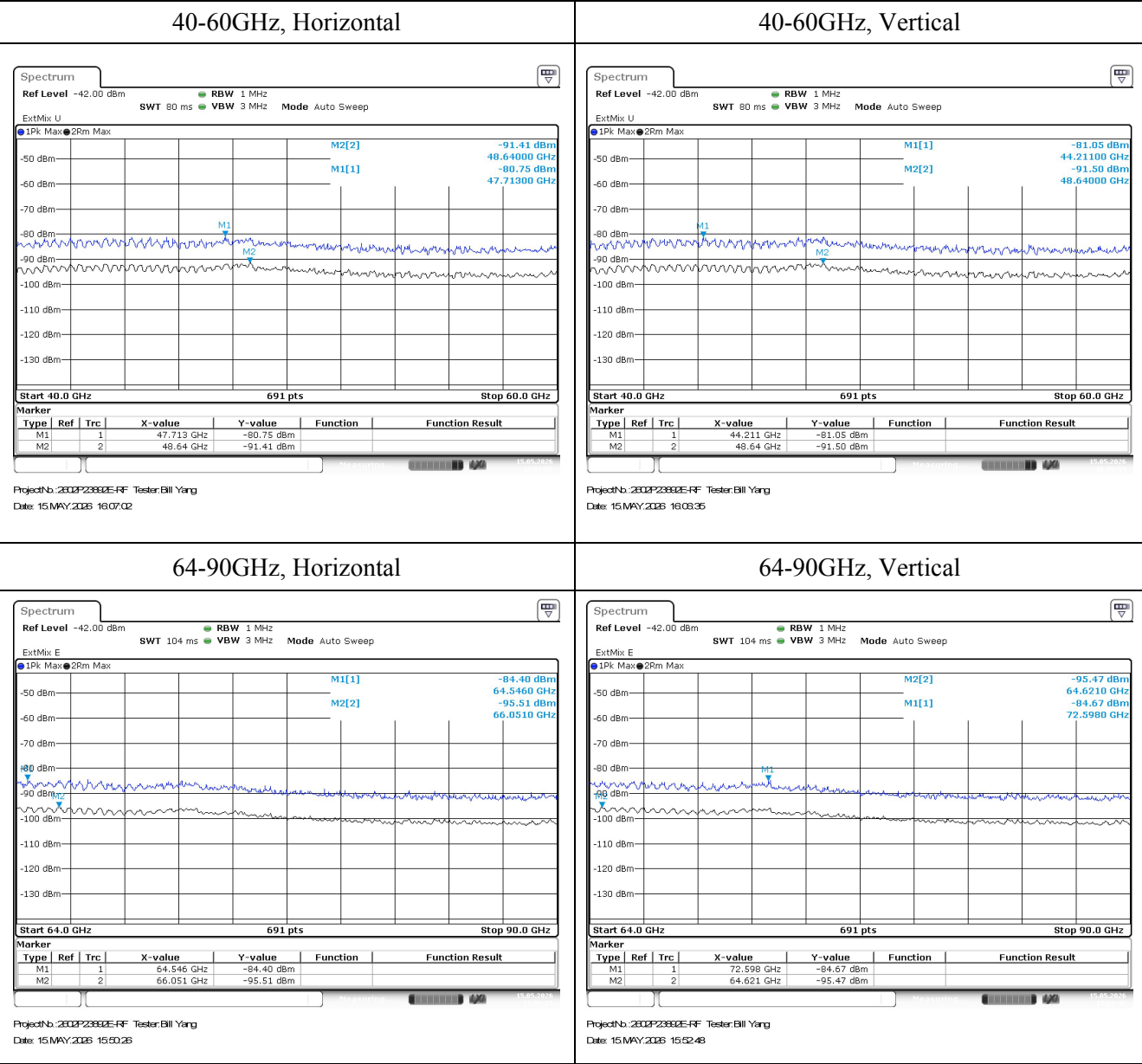
2. Refer to ANSI C63.10-2020 Clause 9.2.3

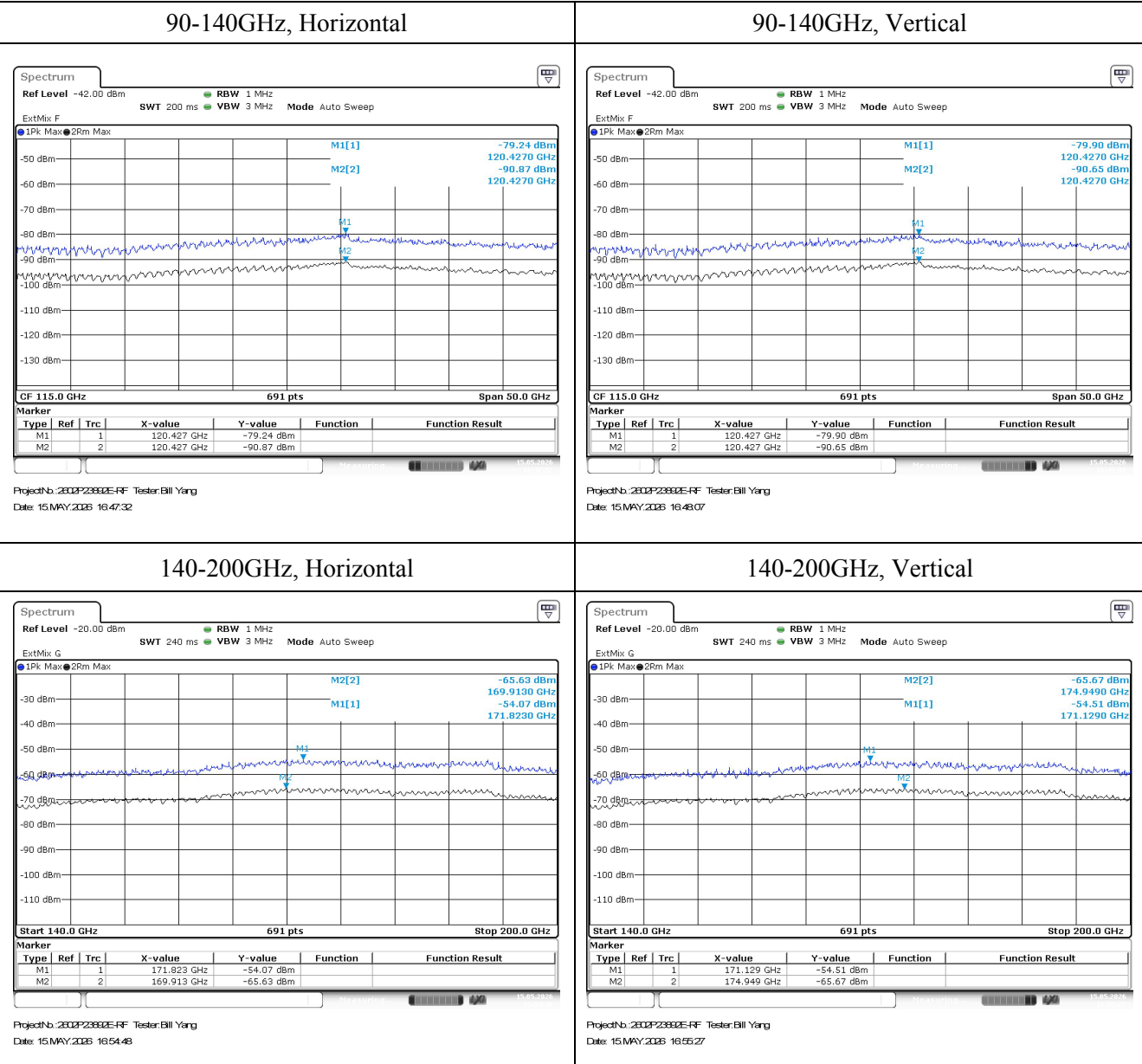
$$PD = \frac{E_{\text{SpecLimit}}^2}{377}$$

where

$PD$  is the power density at the distance specified by the limit, in W/m<sup>2</sup>  
 $E_{\text{SpecLimit}}$  is the field strength at the distance specified by the limit, in V/m

$$S(\text{pW/cm}^2) = (10^{(E_{\text{SpecLimit}}/20)}) / 377 * 10^4.$$





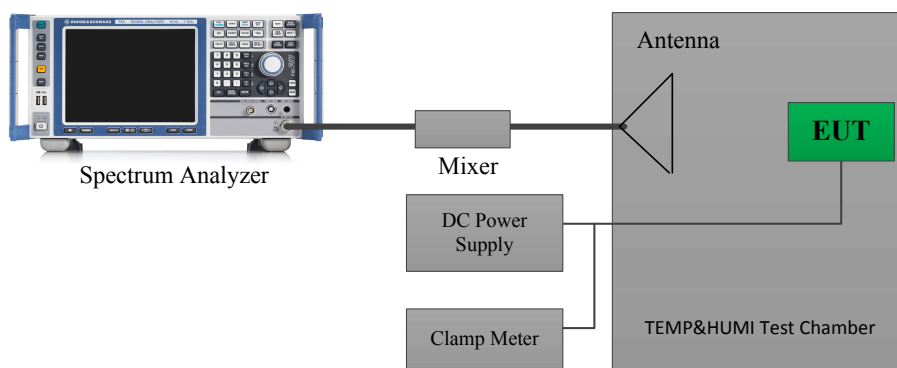
## 4.5 Frequency Stability

### 4.5.1 Applicable Standard

FCC §15.255(f)

(f) Frequency stability. Fundamental emissions must be contained within the frequency bands specified in this section 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.

### 4.5.2 EUT Setup Block Diagram



### 4.5.3 Test Procedure

Refer to ANSI C63.10-2020 Clauses 9.5.

The following procedure shall be used for determining frequency stability of millimeter-wave systems:

- Arrange EUT and test equipment as shown in Figure 21. Some temperature chambers have a window or other opening that permits locating the receive antenna outside the chamber.
- With the EUT at ambient temperature (approximately  $25^{\circ}\text{C}$ ) and voltage source set to the EUT nominal operating voltage (100%), record the spectrum mask of the EUT emission on the spectrum analyzer.
- Vary EUT power supply between 85% and 115% of nominal, and record the frequency excursion of the EUT emission mask.
- Set the power supply to 100% nominal setting, and raise EUT operating temperature to  $50^{\circ}\text{C}$ . Record the frequency excursion of the EUT emission mask.
- Repeat step d) at each  $10^{\circ}\text{C}$  increment down to  $-20^{\circ}\text{C}$ .

**4.5.3 Test Result**

|                |           |              |              |
|----------------|-----------|--------------|--------------|
| Serial Number: | 3G7J-2    | Test Date:   | 2026/3/6     |
| Test Site:     | Chamber B | Test Mode:   | Transmitting |
| Tester:        | Alan Xie  | Test Result: | Pass         |

**Environmental Conditions:**

|                      |      |                           |    |                           |       |
|----------------------|------|---------------------------|----|---------------------------|-------|
| Temperature:<br>(°C) | 22.1 | Relative Humidity:<br>(%) | 50 | ATM<br>Pressure:<br>(kPa) | 101.2 |
|----------------------|------|---------------------------|----|---------------------------|-------|

**Test Equipment List and Details:**

| Manufacturer    | Description            | Model        | Serial Number | Calibration Date | Calibration Due Date |
|-----------------|------------------------|--------------|---------------|------------------|----------------------|
| Agilent         | Waveguide Mixer        | 11970V       | 2521A011767   | 2026/2/15        | 2029/2/14            |
| Flann Microwave | Horn Antenna           | 861V/385     | 736           | 2026/2/26        | 2029/2/25            |
| Resenberger     | Coaxial Cable          | LU7-022-1000 | 0031          | 2026/2/27        | 2027/2/26            |
| Resenberger     | Coaxial Cable          | LU7-022-1000 | 0032          | 2026/2/27        | 2027/2/26            |
| Agilent         | Spectrum Analyzer      | E4440A       | MY44303352    | 2025/7/31        | 2026/7/30            |
| GLOBAL          | TEMP&HUMI Test Chamber | BTH-150-40   | 30173         | 2025/8/1         | 2026/7/31            |
| All-sun         | Clamp Meter            | EM305A       | 8348897       | 2025/8/18        | 2026/8/17            |
| TDK-Lambda      | DC Power Supply        | Z+60-14      | F-08-EM038-1  | N/A              | N/A                  |

\* Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

**Test Data:**

| Temperature | Voltage         | Frequency (GHz) |                |                      |                      |
|-------------|-----------------|-----------------|----------------|----------------------|----------------------|
| °C          | V <sub>DC</sub> | f <sub>L</sub>  | f <sub>H</sub> | f <sub>L</sub> Limit | f <sub>H</sub> Limit |
| -20         | 5               | 62.0252         | 63.8150        | 57                   | 64                   |
| -10         | 5               | 62.0254         | 63.8148        | 57                   | 64                   |
| 0           | 5               | 62.0252         | 63.8147        | 57                   | 64                   |
| 10          | 5               | 62.0251         | 63.8149        | 57                   | 64                   |
| 20          | 5               | 62.0250         | 63.8153        | 57                   | 64                   |
| 30          | 5               | 62.0253         | 63.8152        | 57                   | 64                   |
| 40          | 5               | 62.0251         | 63.8151        | 57                   | 64                   |
| 50          | 5               | 62.0255         | 63.8152        | 57                   | 64                   |
| 20          | 4.25            | 62.0256         | 63.8151        | 57                   | 64                   |
| 20          | 5.75            | 62.0254         | 63.8152        | 57                   | 64                   |

## **4.6 Group Installtion**

### **4.6.1 Applicable Standard**

§15.255 (h)

Any transmitter that has received the necessary FCC equipment authorization under the rules of this chapter may be mounted in a group installation for simultaneous operation with one or more other transmitter(s) that have received the necessary FCC equipment authorization, without any additional equipment authorization. However, no transmitter operating under the provisions of this section may be equipped with external phase-locking inputs that permit beam-forming arrays to be realized.

### **4.6.2 Judgment**

The frequency, amplitude and phase of the transmit signal are set within the EUT. There are no external phase-locking inputs or any other means of combining two or more units together to realize a beam-forming array

## **4.7 Antenna Requirement**

### **4.7.1 Applicable Standard**

FCC §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. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

- a. Antenna must be permanently attached to the unit.
- b. Antenna must use a unique type of connector to attach to the EUT.
- c. Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

### **4.7.2 Judgment**

Please refer to the Antenna Information detail in Section 1.3.

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## **EXHIBIT A - EUT PHOTOGRAPHS**

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Please refer to the attachment 2602P23892E-RF-EXP EUT external photographs and 2602P23892E-RF-INP EUT internal photographs.

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## **EXHIBIT B - TEST SETUP PHOTOGRAPHS**

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Please refer to the attachment 2602P23892E-RF-00-TSP test setup photographs.

## EXHIBIT C - RF EXPOSURE EVALUATION

### MAXIMUM PERMISSIBLE EXPOSURE (MPE)

#### Applicable Standard

FCC §15.255(g) & §1.1310 & §2.1091

Regardless of the power density levels permitted under this subpart, devices operating under the provisions of this subpart are subject to the radiofrequency radiation exposure requirements specified in §§ 1.1307(b), 2.1091, and 2.1093 of this chapter, as appropriate. Applications for equipment authorization of devices operating under this section must contain a statement confirming compliance with these requirements for both fundamental emissions and unwanted emissions. Technical information showing the basis for this statement must be submitted to the Commission upon request.

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See §1.1307(b)(1) of this chapter.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

| (B) Limits for General Population/Uncontrolled Exposure |                               |                               |                                     |                          |
|---------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------------|--------------------------|
| Frequency Range (MHz)                                   | Electric Field Strength (V/m) | Magnetic Field Strength (A/m) | Power Density (mW/cm <sup>2</sup> ) | Averaging Time (minutes) |
| 0.3–1.34                                                | 614                           | 1.63                          | *(100)                              | 30                       |
| 1.34–30                                                 | 824/f                         | 2.19/f                        | *(180/f <sup>2</sup> )              | 30                       |
| 30–300                                                  | 27.5                          | 0.073                         | 0.2                                 | 30                       |
| 300–1500                                                | /                             | /                             | f/1500                              | 30                       |
| 1500–100,000                                            | /                             | /                             | 1.0                                 | 30                       |

f = frequency in MHz; \* = Plane-wave equivalent power density;

According to §1.1310 and §2.1091 RF exposure is calculated.

#### Procedure

Prediction of power density at the distance of the applicable MPE limit

$S = PG/4\pi R^2$  = power density (in appropriate units, e.g. mW/cm<sup>2</sup>);

P = power input to the antenna (in appropriate units, e.g., mW);

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

### Calculated Result

For Bluetooth and ZigBee:

| Operation Modes | Frequency (MHz) | Antenna Gain <sup>▲</sup> |           | Conducted output power including Tune-up Tolerance <sup>▲</sup> |       | Evaluation Distance (cm) | Power Density (mW/cm <sup>2</sup> ) | MPE Limit (mW/cm <sup>2</sup> ) |
|-----------------|-----------------|---------------------------|-----------|-----------------------------------------------------------------|-------|--------------------------|-------------------------------------|---------------------------------|
|                 |                 | (dBi)                     | (numeric) | (dBm)                                                           | (mW)  |                          |                                     |                                 |
| BLE             | 2402-2480       | -1.08                     | 0.78      | 13                                                              | 19.95 | 20.00                    | 0.003                               | 1.0                             |
| ZigBee          | 2405-2480       | -1.08                     | 0.78      | 13                                                              | 19.95 | 20.00                    | 0.003                               | 1.0                             |

Note:  
 1. The Maximum Conducted Power including Tune-up Tolerance and Antenna Gain was declared by manufacturer.  
 2. The device contains a certified Bluetooth& ZigBee module, FCC ID: 2AL3B-XT-ZB6, certified on 11/10/2022.

For Radar:

| Operation Modes | Frequency (MHz) | EIRP including Tune-up Tolerance <sup>▲</sup> |       | Evaluation Distance (cm) | Power Density (mW/cm <sup>2</sup> ) | MPE Limit (mW/cm <sup>2</sup> ) |
|-----------------|-----------------|-----------------------------------------------|-------|--------------------------|-------------------------------------|---------------------------------|
|                 |                 | (dBm)                                         | (mW)  |                          |                                     |                                 |
| Radar           | 62025-63815.3   | 11.9                                          | 15.49 | 20.00                    | 0.003                               | 1.0                             |

Note: The EIRP Tune-up power was declared by the manufacturer.

### Simultaneous transmission:

Bluetooth and ZigBee can transmit simultaneously with Radar:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

$$S_{BLE}/S_{limit-BLE} + S_{ZigBee}/S_{limit-ZigBee} + S_{Radar}/S_{limit-Radar}$$

$$=0.003/1.0+0.003/1.0+0.003/1.0$$

$$=0.009$$

$$< 1.0$$

**Result:** The device meet FCC MPE at 20 cm distance.

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