

## TEST REPORT

**Applicant:** Anker Innovations Limited

**Address:** Unit 56, 8th Floor, Tower 2, Admiralty Centre, 18 Harcourt Road, Hong Kong

**Product Name:** eufy Radar Motion Sensor

**FCC ID:** 2AOKB-T8C00

**IC:** 23451-T8C00

**HVIN:** T8C00

**Standard(s):** 47 CFR Part 15, Subpart C(15.255)  
ANSI C63.10-2020 +Cor.1-2023  
RSS-210 Issue 11, June 25, 2024  
RSS-Gen, Issue 5, February 2021 Amendment 2

**Report Number:** 2502U65913E-RF-00C

**Report Date:** 2025/7/11

The above device has been tested and found compliant with the requirement of the relative 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             | 2502U65913E-RF-00C | Original Report         | 2025/7/11        |

## 1. GENERAL INFORMATION

### 1.1 General Description of Equipment under Test

|                                          |                                                                                                          |
|------------------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>EUT Name:</b>                         | eufy Radar Motion Sensor                                                                                 |
| <b>EUT Model:</b>                        | T8C00                                                                                                    |
| <b>Operation Frequency Range:</b>        | 60.5366-63.2072 GHz                                                                                      |
| <b>Modulation Type:</b>                  | FMCW                                                                                                     |
| <b>Maximum Peak Output Power (EIRP):</b> | 17.5dBm                                                                                                  |
| <b>Chirp Time▲:</b>                      | 317.5μs                                                                                                  |
| <b>Rated Input Voltage:</b>              | DC 5V from USB                                                                                           |
| <b>Serial Number:</b>                    | 3596-1(For AC line conducted emissions test)<br>3596-5(For all tests except AC line conducted emissions) |
| <b>EUT Received Date:</b>                | 2025/6/24                                                                                                |
| <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 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------|-----------------|
| Array Antenna Integrated in chip                                                                                                                                                                                                                                                                                                                                                                 | Unknown               | 7.24dBi      | 58-64 GHz       |
| The Method of §15.203 Compliance:<br><input checked="" type="checkbox"/> Antenna must be permanently attached to the unit.<br><input type="checkbox"/> Antenna must use a unique type of connector to attach to the EUT.<br><input type="checkbox"/> Unit must be 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)<br>RSS-Gen Clause 8.8                                          | AC Line Conducted Emissions         | Compliant |
| §15.255(c)(2)(iii)<br>RSS-210 Annex J                                     | Peak EIRP and Transmitter Off-times | Compliant |
| §15.215, §15.255 (e)<br>RSS-Gen Clause 6.7                                | Emission Bandwidth                  | Compliant |
| §15.205, §15.209, §15.255(d)<br>RSS-Gen Clause 8.10<br>RSS-210, Annex J.4 | Radiated Spurious Emissions         | Compliant |
| §15.255 (f)<br>RSS-210 Annex J.6                                          | Frequency Stability                 | Compliant |
| §15.255 (h)<br>RSS-210 Annex J.7                                          | Group Installation                  | Compliant |
| §15.203<br>RSS-Gen Clause 6.8                                             | 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

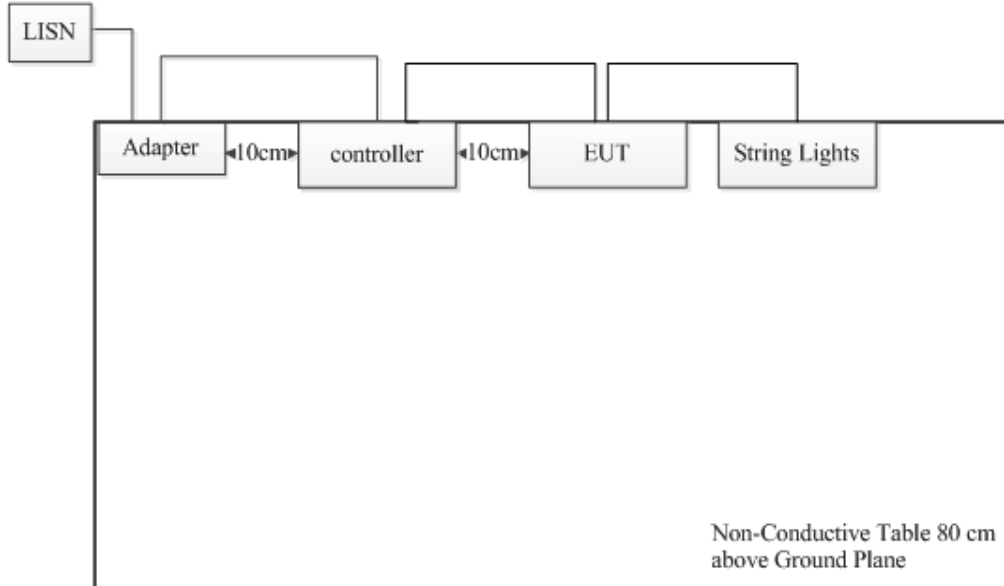
| Manufacturer            | Description   | Model               | Serial Number |
|-------------------------|---------------|---------------------|---------------|
| Anker                   | String Lights | unknown             | unknown       |
| Anker                   | controller    | T8L04               | 358C-3        |
| XY POWER SUPPLY LIMITED | Adapter       | XY120SR_360300VQ-UP | unknown       |

#### 3.4 Support Cable List and Details

| Cable Description | Shielding Type | Ferrite Core | Length (m) | From Port  | To            |
|-------------------|----------------|--------------|------------|------------|---------------|
| DC Cable          | NO             | NO           | 2.5        | controller | Adapter       |
| Signal Cable      | NO             | NO           | 1.6        | EUT        | controller    |
| Signal Cable      | NO             | NO           | 1.1        | EUT        | String Lights |

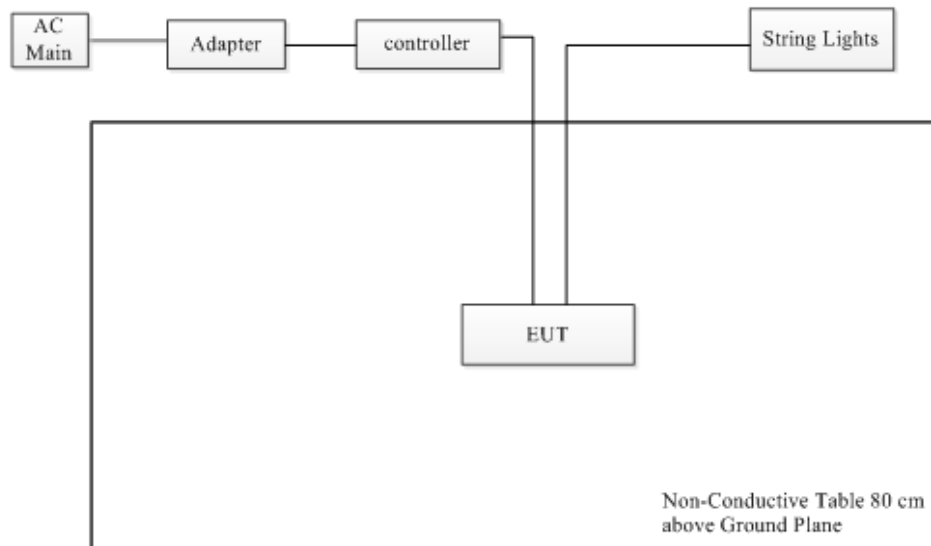
### 3.5 Block Diagram of Test Setup

AC Line Conducted emissions:

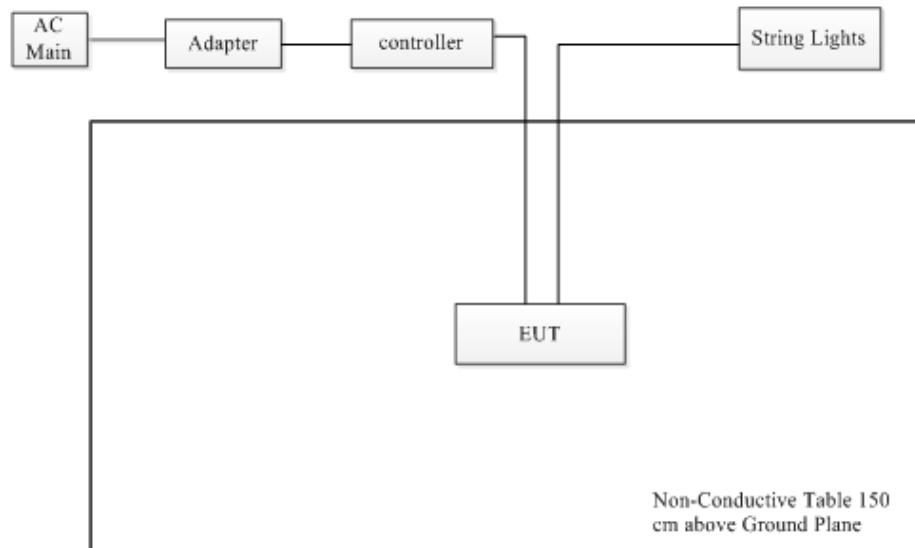


Radiated Spurious emissions:

Below 1G:



Above 1GHz:



### 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: 3.3dB, 30MHz~200MHz: 4.55 dB, 200MHz~1GHz: 5.92 dB, 1GHz~6GHz: 4.98 dB, 6GHz~18GHz: 5.89 dB, 18GHz~26.5GHz: 5.47 dB, 26.5GHz~40GHz: 5.63 dB, 40~60G: 4.83dB, 60G~90G: 4.94dB, 90G-140G: 5.46dB, 140G-220G: 6.00dB, 220G-325G: 7.35dB |
| EIRP                              | 4.94dB                                                                                                                                                                                                                                           |
| Temperature                       | ±1 °C                                                                                                                                                                                                                                            |
| Humidity                          | ±5%                                                                                                                                                                                                                                              |
| DC and low frequency voltages     | ±0.4%                                                                                                                                                                                                                                            |
| Duty Cycle                        | 1%                                                                                                                                                                                                                                               |
| AC Power Lines Conducted Emission | 3.11 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.

## RSS-Gen Clause 8.8

Unless stated otherwise in the applicable RSS, for radio apparatus that are designed to be connected to the public utility AC power network, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the range 150 kHz to 30 MHz shall not exceed the limits in table 4, as measured using a 50  $\mu$ H / 50  $\Omega$  line impedance stabilization network. This requirement applies for the radio frequency voltage measured between each power line and the ground terminal of each AC power-line mains cable of the EUT.

For an EUT that connects to the AC power lines indirectly, through another device, the requirement for compliance with the limits in table 4 shall apply at the terminals of the AC power-line mains cable of a representative support device, while it provides power to the EUT. The lower limit applies at the boundary between the frequency ranges. The device used to power the EUT shall be representative of typical applications.

**Table 4 – AC power-line conducted emissions limits**

| Frequency<br>(MHz) | Conducted limit (dB $\mu$ V) |                       |
|--------------------|------------------------------|-----------------------|
|                    | Quasi-peak                   | Average               |
| 0.15 - 0.5         | 66 to 56 <sup>1</sup>        | 56 to 46 <sup>1</sup> |
| 0.5 – 5            | 56                           | 46                    |
| 5 – 30             | 60                           | 50                    |

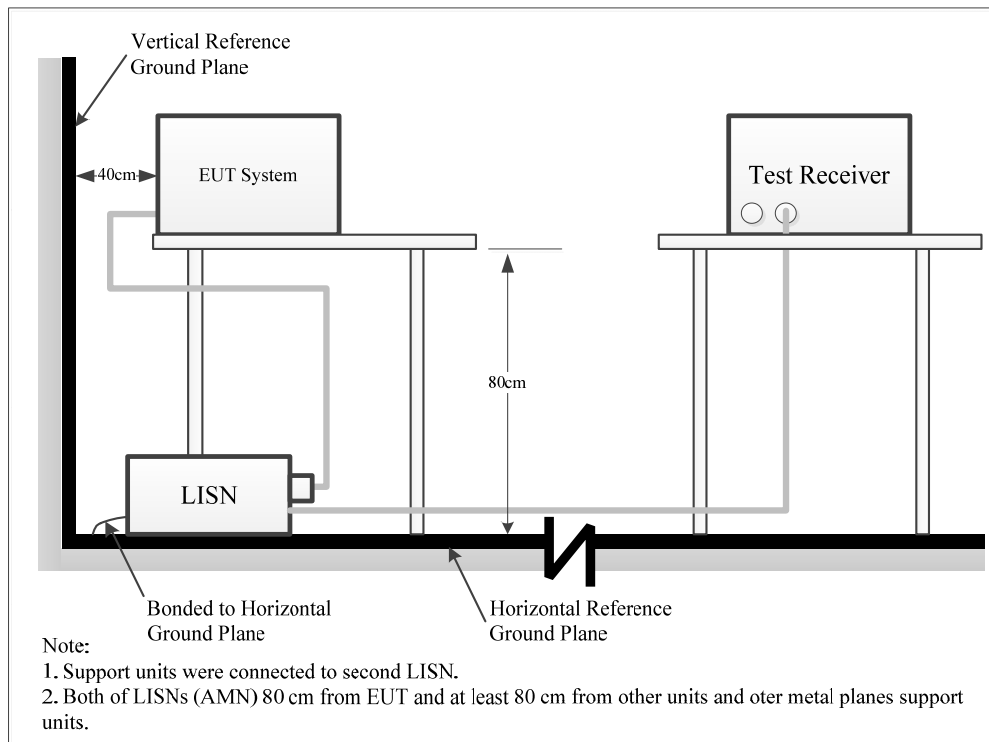
**Note 1:** The level decreases linearly with the logarithm of the frequency.

For an EUT with a permanent or detachable antenna operating between 150 kHz and 30 MHz, the AC power-line conducted emissions must be measured using the following configurations:

(a) Perform the AC power-line conducted emissions test with the antenna connected to determine compliance with the limits of table 4 outside the transmitter's fundamental emission band.

(b) Retest with a dummy load instead of the antenna to determine compliance with the limits of table 4 within the transmitter's fundamental emission band. For a detachable antenna, remove the antenna and connect a suitable dummy load to the antenna connector. For a permanent antenna, remove the antenna and terminate the RF output with a dummy load or network that simulates the antenna in the fundamental frequency band.

#### 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, RSS-Gen 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: | 3596-1    | Test Date:   | 2025/07/08   |
| Test Site:     | CE        | Test Mode:   | Transmitting |
| Tester:        | Yukin Qiu | Test Result: | Pass         |

Environmental Conditions:

|                      |      |                              |    |                        |      |
|----------------------|------|------------------------------|----|------------------------|------|
| Temperature:<br>(°C) | 27.4 | Relative<br>Humidity:<br>(%) | 63 | ATM Pressure:<br>(kPa) | 99.9 |
|----------------------|------|------------------------------|----|------------------------|------|

Test Equipment List and Details:

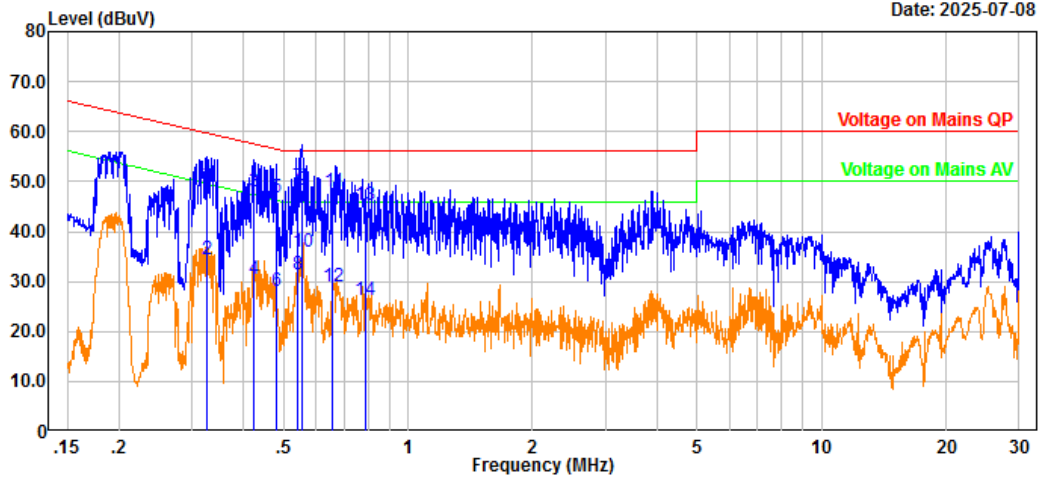
| Manufacturer | Description          | Model  | Serial<br>Number | Calibration<br>Date | Calibration<br>Due Date |
|--------------|----------------------|--------|------------------|---------------------|-------------------------|
| R&S          | LISN                 | ENV216 | 101614           | 2024/9/5            | 2025/9/4                |
| Unknown      | Coaxial Cable        | RG 142 | C-0200-05        | 2025/5/6            | 2026/5/5                |
| R&S          | EMI Test<br>Receiver | ESCI   | 101121           | 2024/9/5            | 2025/9/4                |
| 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.: 2502U65913E-RF  
Port: Line  
Test Mode: Transmitting  
IF B/W 9kHz PK/AV

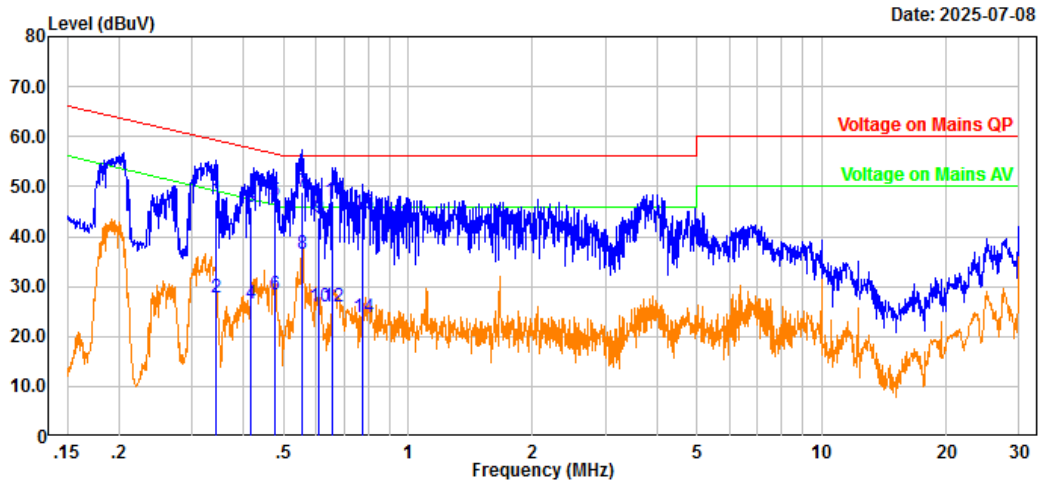
Serial No.: 3596-1  
Tester: Yukin Qiu  
Note: Part 15.255



| No. | Frequency<br>(MHz) | Reading<br>(dBμV) | Factor<br>(dB) | Result<br>(dBμV) | Limit<br>(dBμV) | Margin<br>(dB) | Measurement |
|-----|--------------------|-------------------|----------------|------------------|-----------------|----------------|-------------|
| 1   | 0.326              | 38.76             | 10.80          | 49.56            | 59.55           | 9.99           | QP          |
| 2   | 0.326              | 23.57             | 10.80          | 34.37            | 49.55           | 15.18          | Average     |
| 3   | 0.423              | 37.07             | 10.81          | 47.88            | 57.40           | 9.52           | QP          |
| 4   | 0.423              | 19.72             | 10.81          | 30.53            | 47.40           | 16.87          | Average     |
| 5   | 0.480              | 36.04             | 10.81          | 46.85            | 56.34           | 9.49           | QP          |
| 6   | 0.480              | 17.29             | 10.81          | 28.10            | 46.34           | 18.24          | Average     |
| 7   | 0.539              | 38.08             | 10.81          | 48.89            | 56.00           | 7.11           | QP          |
| 8   | 0.539              | 20.59             | 10.81          | 31.40            | 46.00           | 14.60          | Average     |
| 9   | 0.553              | 37.60             | 10.81          | 48.41            | 56.00           | 7.59           | QP          |
| 10  | 0.553              | 25.05             | 10.81          | 35.86            | 46.00           | 10.14          | Average     |
| 11  | 0.659              | 37.18             | 10.81          | 47.99            | 56.00           | 8.01           | QP          |
| 12  | 0.659              | 18.16             | 10.81          | 28.97            | 46.00           | 17.03          | Average     |
| 13  | 0.786              | 34.40             | 10.81          | 45.21            | 56.00           | 10.79          | QP          |
| 14  | 0.786              | 15.31             | 10.81          | 26.12            | 46.00           | 19.88          | Average     |

Project No.: 2502U65913E-RF  
Port: neutral  
Test Mode: Transmitting  
IF B/W 9kHz PK/AV

Serial No.: 3596-1  
Tester: Yukin Qiu  
Note: Part 15.255



| No. | Frequency<br>(MHz) | Reading<br>(dBμV) | Factor<br>(dB) | Result<br>(dBμV) | Limit<br>(dBμV) | Margin<br>(dB) | Measurement |
|-----|--------------------|-------------------|----------------|------------------|-----------------|----------------|-------------|
| 1   | 0.344              | 36.69             | 10.75          | 47.44            | 59.10           | 11.66          | QP          |
| 2   | 0.344              | 16.96             | 10.75          | 27.71            | 49.10           | 21.39          | Average     |
| 3   | 0.417              | 35.27             | 10.74          | 46.01            | 57.50           | 11.49          | QP          |
| 4   | 0.417              | 15.91             | 10.74          | 26.65            | 47.50           | 20.85          | Average     |
| 5   | 0.477              | 36.25             | 10.72          | 46.97            | 56.39           | 9.42           | QP          |
| 6   | 0.477              | 17.56             | 10.72          | 28.28            | 46.39           | 18.11          | Average     |
| 7   | 0.556              | 38.13             | 10.71          | 48.84            | 56.00           | 7.16           | QP          |
| 8   | 0.556              | 25.78             | 10.71          | 36.49            | 46.00           | 9.51           | Average     |
| 9   | 0.607              | 32.97             | 10.71          | 43.68            | 56.00           | 12.32          | QP          |
| 10  | 0.607              | 15.25             | 10.71          | 25.96            | 46.00           | 20.04          | Average     |
| 11  | 0.657              | 36.47             | 10.71          | 47.18            | 56.00           | 8.82           | QP          |
| 12  | 0.657              | 15.23             | 10.71          | 25.94            | 46.00           | 20.06          | Average     |
| 13  | 0.779              | 33.87             | 10.74          | 44.61            | 56.00           | 11.39          | QP          |
| 14  | 0.779              | 13.24             | 10.74          | 23.98            | 46.00           | 22.02          | Average     |

## 4.2 EIRP and Peak Conducted Output power

### 4.2.1 Applicable Standard

#### FCC §15.255(c)(2) (iii)

(B) The peak EIRP shall not exceed 20 dBm, and the sum of continuous transmitter off-times of at least two milliseconds shall equal at least 16.5 milliseconds within any contiguous interval of 33 milliseconds when operated outdoors:

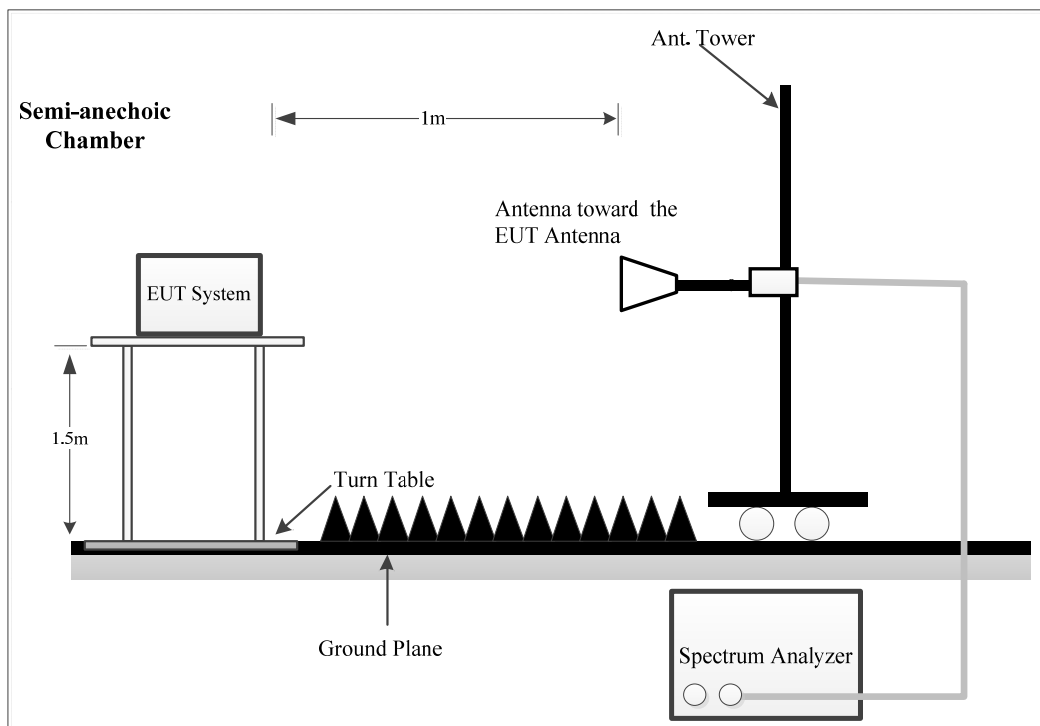
- (1) As part of a temporary or permanently fixed application; or
- (2) When being used in vehicular applications to perform specific tasks of moving something or someone, except for in-cabin applications;

#### RSS-210, Annex J.3.2(b) (iii)

(iii)FDS operating in the 57.0-64.0 GHz band shall comply with one of the following limits, depending on the operating condition of the device:

- (2)for devices employed for outdoor operation (temporary or permanently fixed application) or vehicular uses (excluding in-cabin applications and operations), the peak e.i.r.p. shall not exceed 20 dBm and the sum of continuous transmitter off-times of at least 2 ms shall equal at least 16.5 ms within any contiguous interval of 33 ms.

### 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: | 3596-5    | Test Date:   | 2025/7/9     |
| Test Site:     | Chamber B | Test Mode:   | Transmitting |
| Tester:        | Bill Yang | Test Result: | Pass         |

Environmental Conditions:

|                      |      |                           |    |                        |       |
|----------------------|------|---------------------------|----|------------------------|-------|
| Temperature:<br>(°C) | 27.9 | Relative Humidity:<br>(%) | 42 | ATM Pressure:<br>(kPa) | 100.2 |
|----------------------|------|---------------------------|----|------------------------|-------|

Test Equipment List and Details:

| Manufacturer    | Description       | Model        | Serial Number | Calibration Date | Calibration Due Date |
|-----------------|-------------------|--------------|---------------|------------------|----------------------|
| Agilent         | Waveguide Mixer   | 11970V       | 2521A011767   | 2023/2/16        | 2026/2/15            |
| Flann Microwave | Horn Antenna      | 861V/385     | 736           | 2023/2/27        | 2026/2/26            |
| Resenberger     | Coaxial Cable     | LU7-022-1000 | 0031          | 2025/2/28        | 2026/2/27            |
| Resenberger     | Coaxial Cable     | LU7-022-1000 | 0032          | 2025/2/28        | 2026/2/27            |
| Agilent         | Spectrum Analyzer | E4440A       | MY44303352    | 2024/9/6         | 2025/9/5             |

\* 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:

Chirps Correction Factor

| Chirps Time<br>(µs) | BW <sub>Chirp</sub><br>(MHz) | RBW<br>(MHz) | Chirps Correction Factor<br>(dB) |
|---------------------|------------------------------|--------------|----------------------------------|
| 317.5               | 2670.55                      | 1            | 5.85                             |

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

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

where

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

**EIRP:**

| Frequency (GHz) | Reading (dBμV) | Detector | Polar (H/V) | Chirps Correction Factor (dB) | Antenna Factor (dB/m) | E-Field@1m (dBμV/m) | EIRP (dBm) | Limit (dBm) |
|-----------------|----------------|----------|-------------|-------------------------------|-----------------------|---------------------|------------|-------------|
| 61.87           | 74.25          | PK       | V           | 5.85                          | 42.20                 | 122.30              | 17.50      | 20.00       |

*Factor = Antenna Factor*

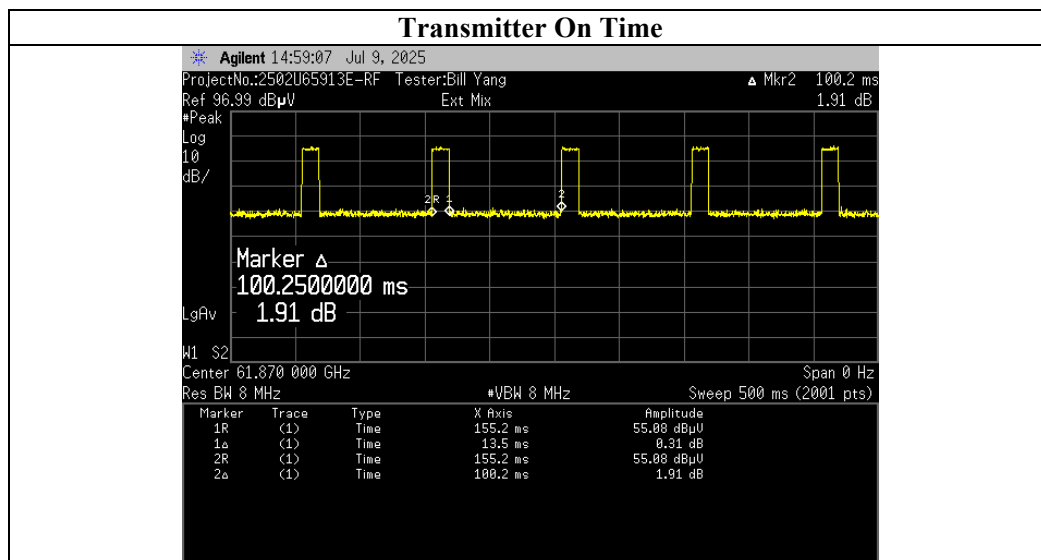
*EIRP = Reading + Factor + Chirps Correction Factor + 20log(Measurement distance) - 104.8*

*Measurement distance = 1m*

**Transmitter Off-times**

| Transmitter On (ms) | Observation Time (ms) | Sum of Continuous Transmitter Off-times (ms) | Limit (ms) |
|---------------------|-----------------------|----------------------------------------------|------------|
| 13.5                | 33                    | 19.5                                         | ≥16.5      |

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



## 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).

### RSS-Gen Clause 6.7

The occupied bandwidth or the “99% emission bandwidth” is defined as the frequency range between two points, one above and the other below the carrier frequency, within which 99% of the total transmitted power of the fundamental transmitted emission is contained. The occupied bandwidth shall be reported for all equipment in addition to the specified bandwidth required in the applicable RSSs.

In some cases, the “x dB bandwidth” is required, which is defined as the frequency range between two points, one at the lowest frequency below and one at the highest frequency above the carrier frequency, at which the maximum power level of the transmitted emission is attenuated x dB below the maximum in-band power level of the modulated signal, where the two points are on the outskirts of the in-band emission.

The following conditions shall be observed for measuring the occupied bandwidth and x dB bandwidth: The transmitter shall be operated at its maximum carrier power measured under normal test conditions. The span of the spectrum analyzer shall be set large enough to capture all products of the modulation process, including the emission skirts, around the carrier frequency, but small enough to avoid having other emissions (e.g. on adjacent channels) within the span.

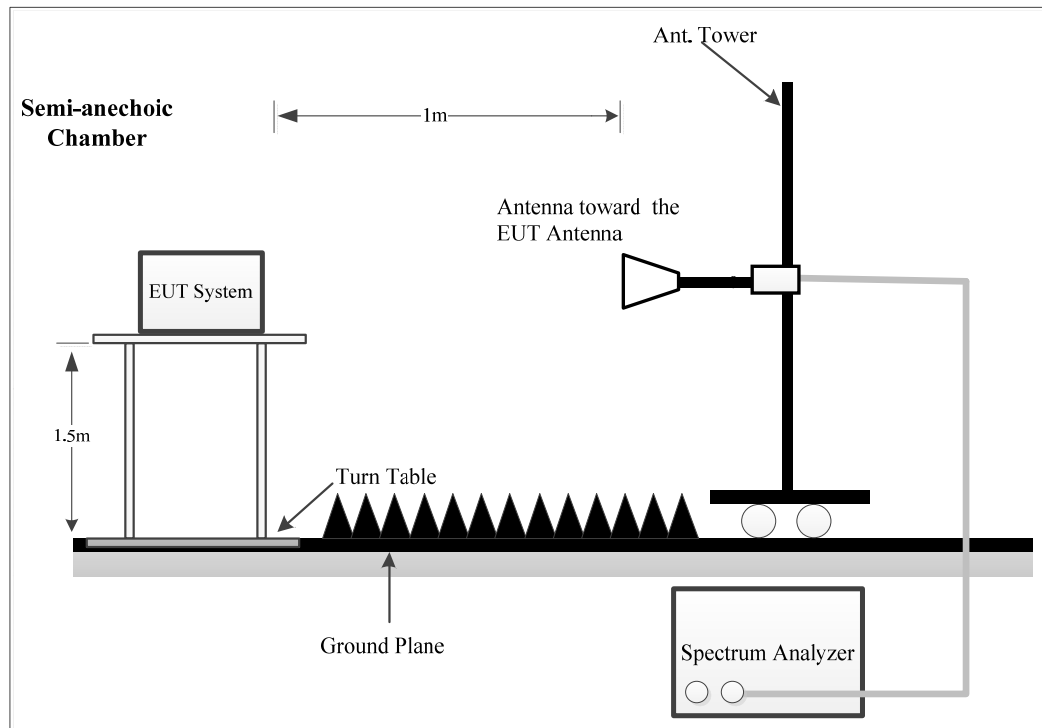
The detector of the spectrum analyzer shall be set to “Sample”. However, a peak, or peak hold, may be used in place of the sampling detector since this usually produces a wider bandwidth than the actual bandwidth (worst-case measurement). Use of a peak hold (or “Max Hold”) may be necessary to determine the occupied / x dB bandwidth if the device is not transmitting continuously.

The resolution bandwidth (RBW) shall be in the range of 1% to 5% of the actual occupied / x dB bandwidth and the video bandwidth (VBW) shall not be smaller than three times the RBW value. Video averaging is not permitted.

Note: It may be necessary to repeat the measurement a few times until the RBW and VBW are in compliance with the above requirement.

For the 99% emission bandwidth, the trace data points are recovered and directly summed in linear power level terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached, and that frequency recorded. The process is repeated for the highest frequency data points (starting at the highest frequency, at the right side of the span, and going down in frequency). This frequency is then recorded. The difference between the two recorded frequencies is the occupied bandwidth (or the 99% emission bandwidth).

### 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: | 3596-5    | Test Date:   | 2025/7/9 |
| Test Site:     | Chamber B | Test Mode:   | Sweep    |
| Tester:        | Bill Yang | Test Result: | Pass     |

| Environmental Conditions: |      |                           |    |                           |       |
|---------------------------|------|---------------------------|----|---------------------------|-------|
| Temperature:<br>(°C)      | 27.9 | Relative Humidity:<br>(%) | 42 | ATM<br>Pressure:<br>(kPa) | 100.2 |

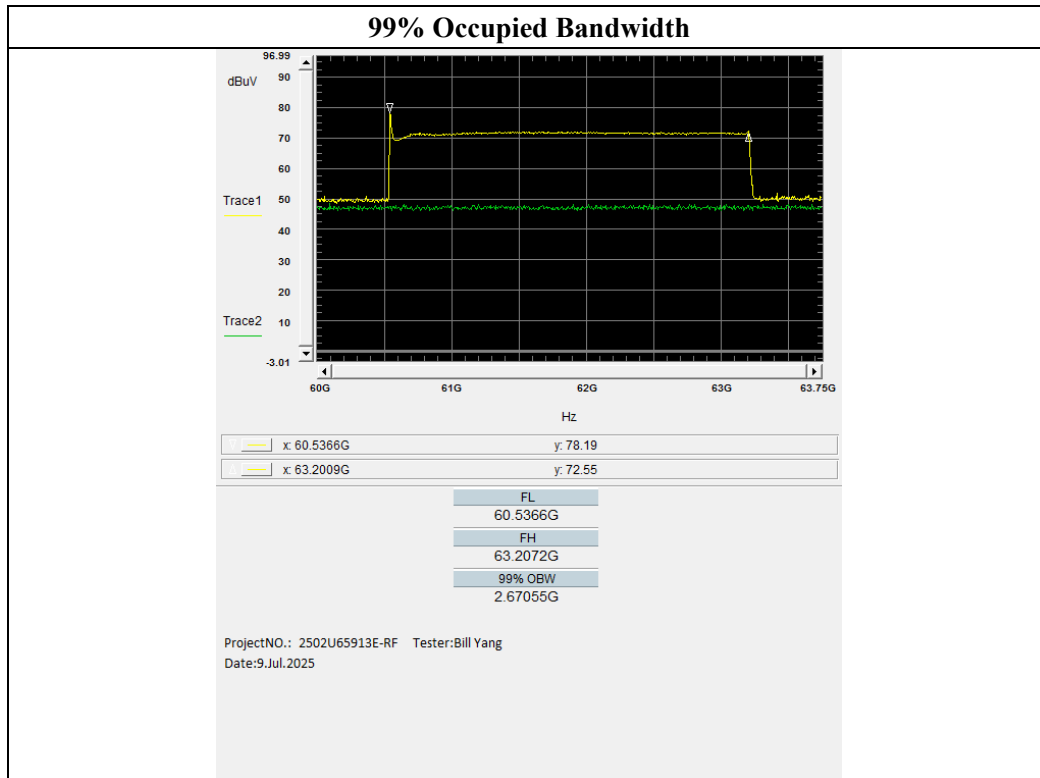
Test Equipment List and Details:

| Manufacturer    | Description       | Model        | Serial Number | Calibration Date | Calibration Due Date |
|-----------------|-------------------|--------------|---------------|------------------|----------------------|
| Agilent         | Waveguide Mixer   | 11970V       | 2521A011767   | 2023/2/16        | 2026/2/15            |
| Flann Microwave | Horn Antenna      | 861V/385     | 736           | 2023/2/27        | 2026/2/26            |
| Agilent         | Spectrum Analyzer | E4440A       | MY44303352    | 2024/9/6         | 2025/9/5             |
| Resenberger     | Coaxial Cable     | LU7-022-1000 | 0031          | 2025/2/28        | 2026/2/27            |
| Resenberger     | Coaxial Cable     | LU7-022-1000 | 0032          | 2025/2/28        | 2026/2/27            |

\* 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) | F <sub>L</sub><br>(GHz) | Limit<br>F <sub>L</sub><br>(GHz) | F <sub>H</sub><br>(GHz) | Limit<br>F <sub>H</sub><br>(GHz) |
|-----------|---------------------------------|-------------------------|----------------------------------|-------------------------|----------------------------------|
| Sweep     | 2670.55                         | 60.5366                 | 57                               | 63.2072                 | 64                               |



## 4.4 Radiated Spurious 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.

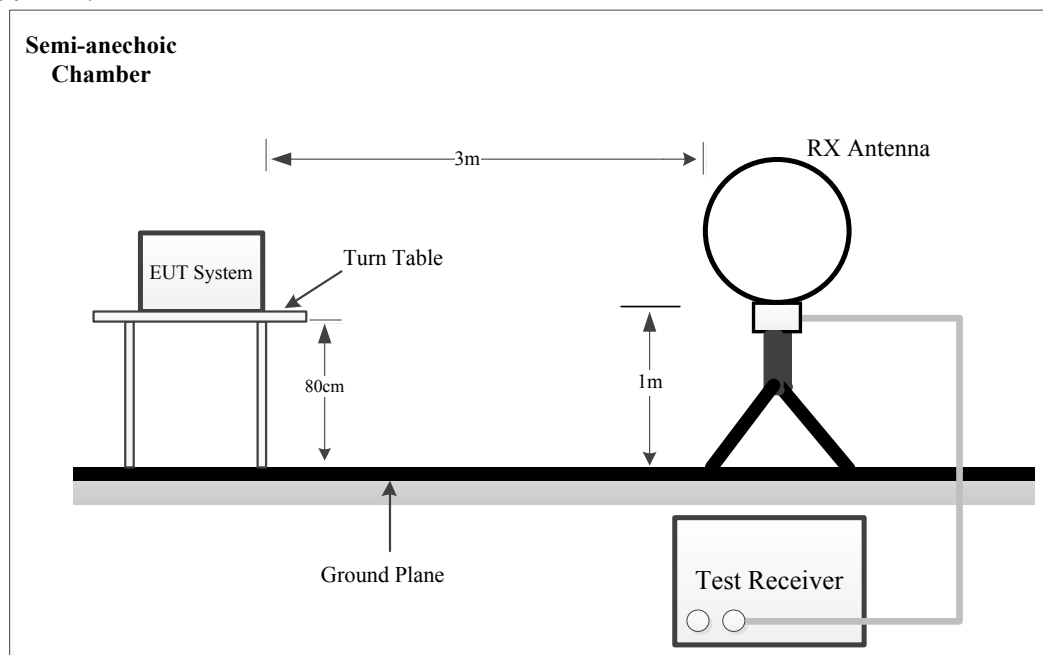
RSS-210, Annex J.4

Any emissions outside the band 57-71 GHz shall consist solely of spurious emissions and shall not exceed:

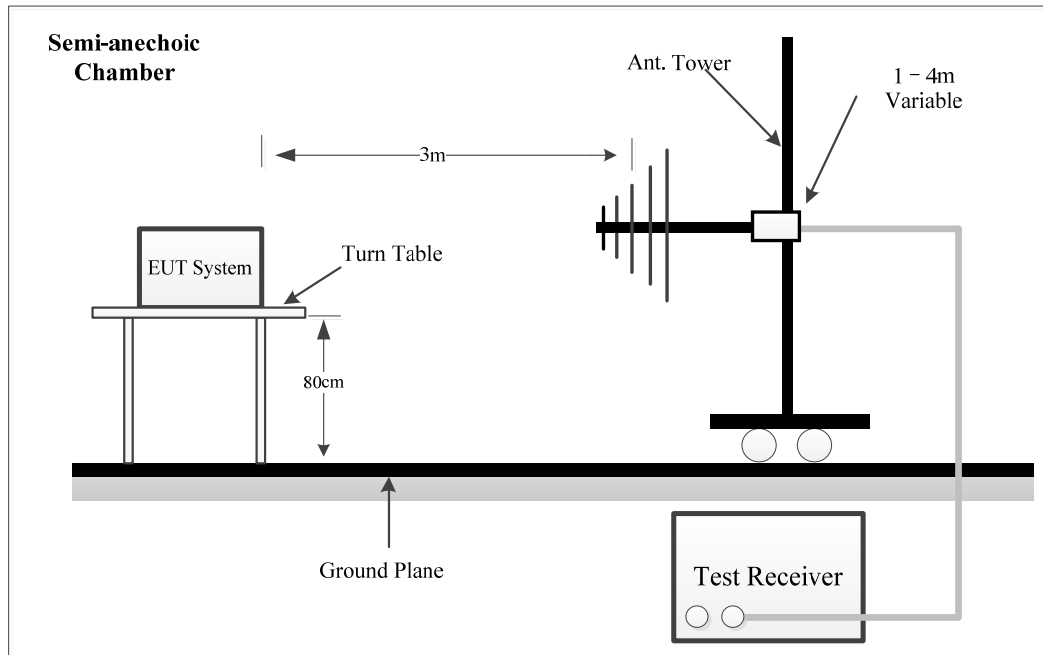
- (a) the fundamental emission levels
- (b) the general field strength limits specified in RSS-Gen, General Requirements for Compliance of Radio Apparatus, for emissions below 40 GHz
- (c)  $90 \text{ pW/cm}^2$  peak at a distance of 3 m for emissions between 40 GHz and 200 GHz

### 4.4.2 EUT Setup

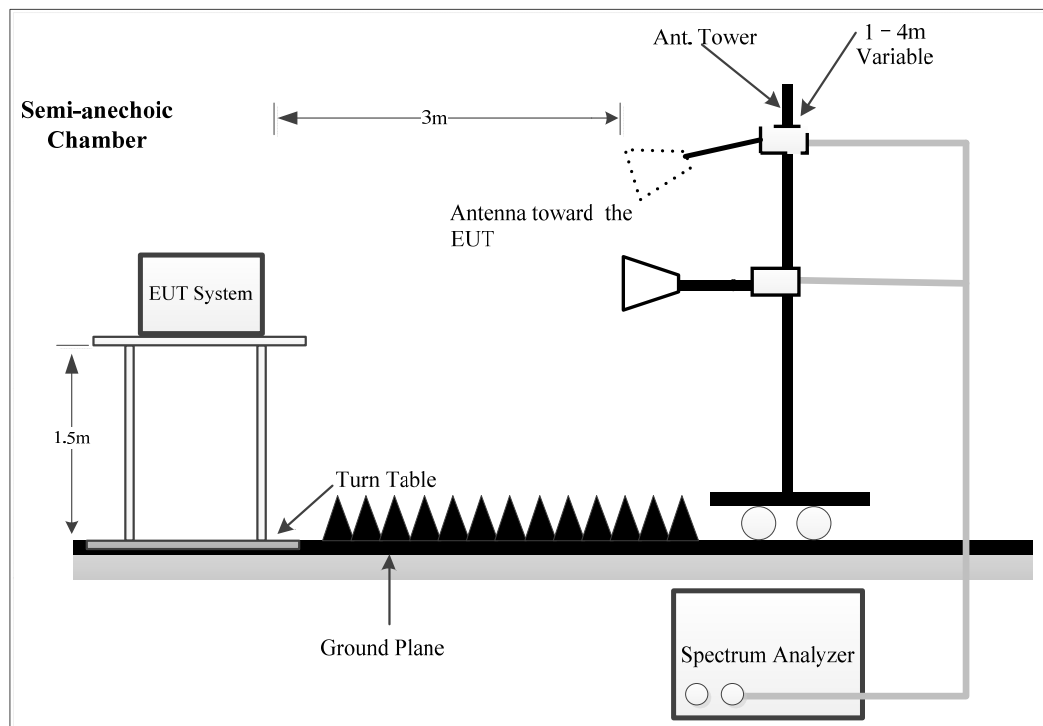
9kHz-30MHz:



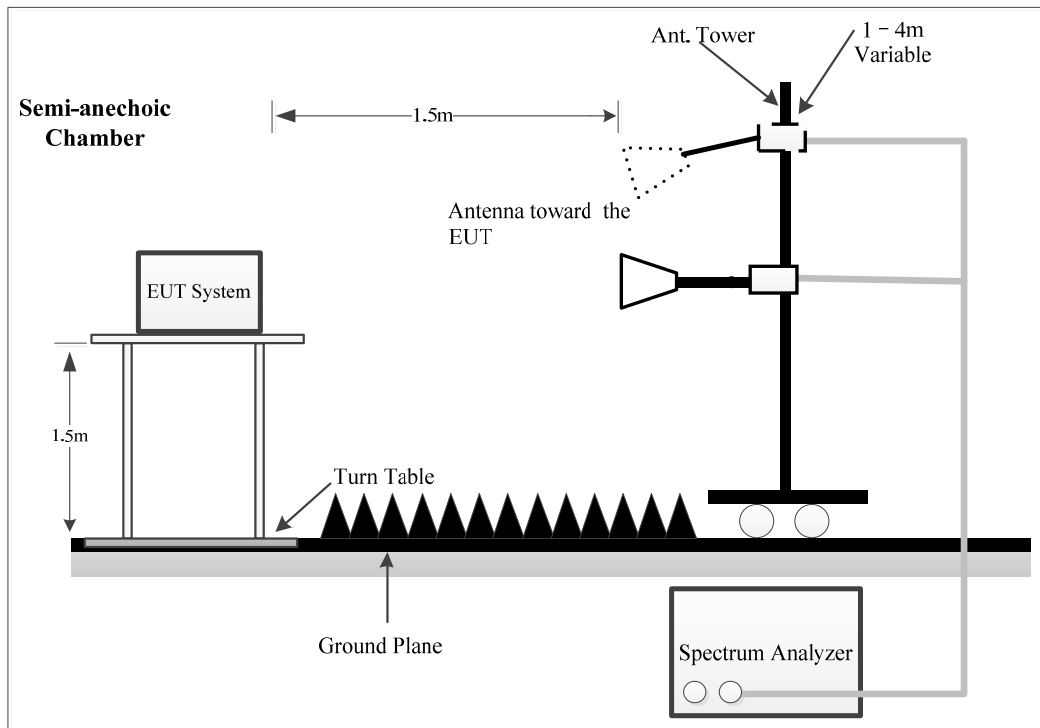
**30MHz~1GHz:**



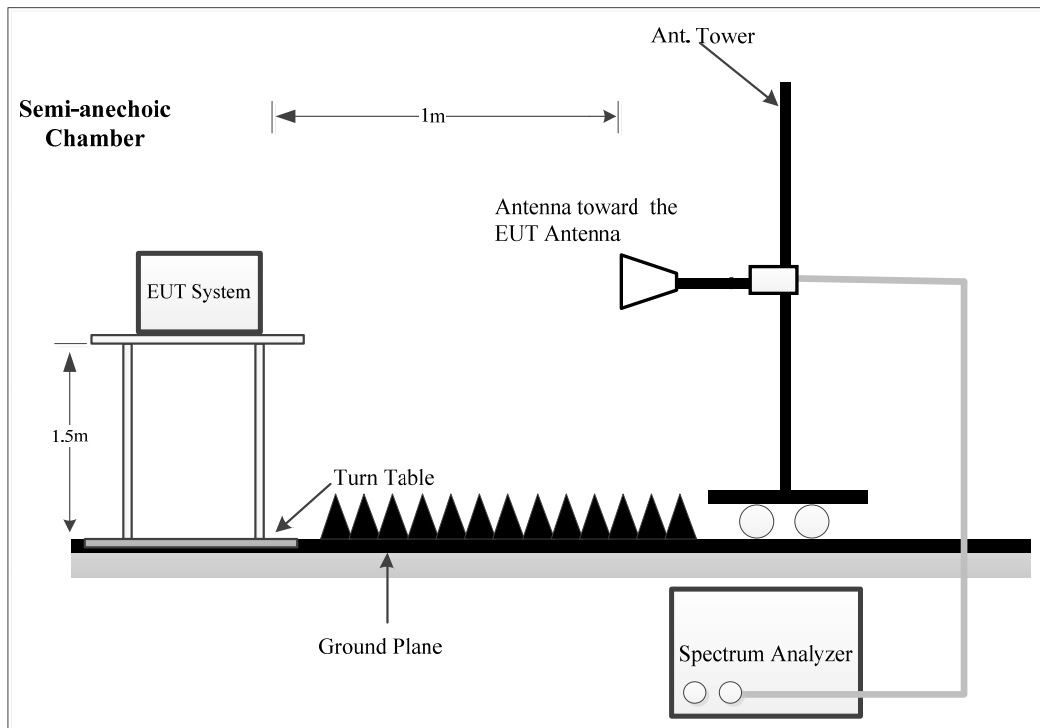
**1~26.5 GHz:**

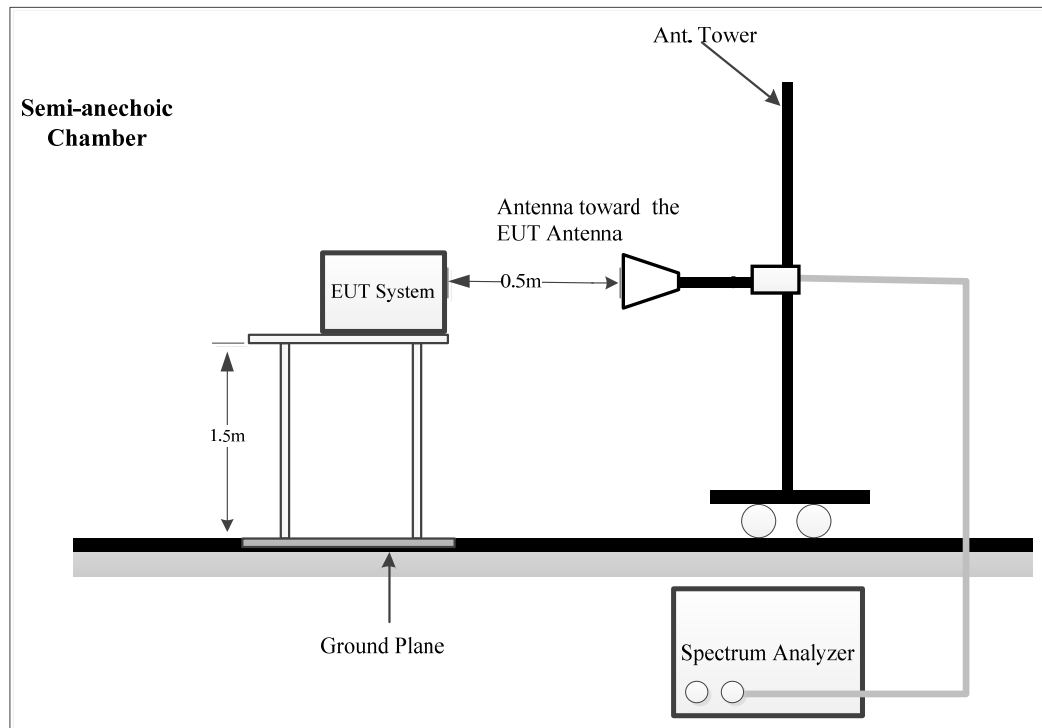


**26.5~40 GHz:**



**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, RSS-210 and RSS-Gen limits.

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

The system was investigated from 30 MHz to 200 GHz.

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

| Frequency Range   | RBW     | Video B/W | IF B/W  | Measurement | Detector   |
|-------------------|---------|-----------|---------|-------------|------------|
| 9 kHz – 150 kHz   | 300 Hz  | 1 kHz     | 200 Hz  | QP/Average  | QP/Average |
| 150 kHz – 30 MHz  | 10 kHz  | 30 kHz    | 9 kHz   | QP/Average  | QP/Average |
| 30 MHz – 1000 MHz | /       | /         | 120 kHz | QP          | QP         |
|                   | 100 kHz | 300 kHz   | /       | PK          | PK         |

1- 40GHz:

Pre-scan:

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

40-200GHz:

| Frequency Range | Measurement | RBW  | Video B/W | Detector |
|-----------------|-------------|------|-----------|----------|
| 40-200GHz       | Peak        | 1MHz | 3 MHz     | PK       |

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 26.5-40GHz test result shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade from 3m to 1.5m

Distance extrapolation factor =  $20 \log (\text{specific distance [3m]}/\text{test distance [1.5m]})$  dB= 6.0 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 200 GHz, 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

$$E_{Log} = 20 \times \log_{10}(E_{Linear})$$

$E_{Linear}$  is the field strength of the emission, in  $\mu V/m$

$E_{Log}$  is the field strength of the emission, in dB  $\mu V/m$

For 9kHz-30MHz test, test distance is 3m, extrapolation limit shall be calculated using Equation:

$$E_{limit-measure} = E_{limit-Standard} + 40 \times \log_{10} (d_{standard}/d_{measure})$$

The basic equation is as follows:

For 9kHz-26.5GHz:

Result = Reading + Factor

For 26.5GHz-40GHz

Result = Reading + Factor-Distance extrapolation Factor

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:

$$\text{Margin} = \text{Limit} - \text{Result}$$

For the spurious emission below 30MHz, the limit was convert from dB $\mu A/m$  to dB $\mu V/m$  by adding 51.5 dB.

**4.4.6 Test Data**

|                |                              |              |                                                          |
|----------------|------------------------------|--------------|----------------------------------------------------------|
| Serial Number: | 3596-5                       | Test Date:   | Below 1GHz:2025/7/10<br>Above 1GHz:<br>2025/7/8~2025/7/9 |
| Test Site:     | Chamber10m, Chamber B        | Test Mode:   | Transmitting                                             |
| Tester:        | Zoo Zou, Alan Xie, Bill Yang | Test Result: | Pass                                                     |

**Environmental Conditions:**

|                      |           |                           |       |                        |            |
|----------------------|-----------|---------------------------|-------|------------------------|------------|
| Temperature:<br>(°C) | 24.9~27.9 | Relative Humidity:<br>(%) | 42~49 | ATM Pressure:<br>(kPa) | 99.8~100.2 |
|----------------------|-----------|---------------------------|-------|------------------------|------------|

**Test Equipment List and Details:**

| Manufacturer          | Description          | Model                     | Serial Number     | Calibration Date | Calibration Due Date |
|-----------------------|----------------------|---------------------------|-------------------|------------------|----------------------|
| 9kHz~1000MHz          |                      |                           |                   |                  |                      |
| EMCO                  | Passive Loop Antenna | 6512                      | 9706-1206         | 2023/10/25       | 2026/10/24           |
| 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            | 2024/8/26        | 2025/8/25            |
| R&S                   | EMI Test Receiver    | ESR3                      | 102453            | 2024/8/26        | 2025/8/25            |
| Audix                 | Test Software        | E3                        | 191218 V9         | N/A              | N/A                  |
| Above 1GHz            |                      |                           |                   |                  |                      |
| 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 | 2024/11/17       | 2025/11/16           |
| Xinhang Macrowave     | Coaxial Cable        | XH360A-2.92/J-2.92/J-6M-A | 20231208001 #0001 | 2024/12/9        | 2025/12/8            |
| AH                    | Preamplifier         | PAM-0118P                 | 469               | 2025/4/11        | 2026/4/10            |
| AH                    | Preamplifier         | PAM-1840VH                | 191               | 2024/9/5         | 2025/9/4             |
| R&S                   | Spectrum Analyzer    | FSV40                     | 101944            | 2024/9/6         | 2025/9/5             |
| Audix                 | Test Software        | E3                        | 191218 (V9)       | N/A              | N/A                  |
| OML                   | Waveguide Mixer      | WR19/M19HWD               | U60313-1          | 2023/2/16        | 2026/2/15            |
| OML                   | Horn Antenna         | M19RH                     | 11648-01          | 2023/2/27        | 2026/2/26            |
| OML                   | Waveguide Mixer      | WR12/M12HWD               | E60120-1          | 2023/2/16        | 2026/2/15            |
| OML                   | Horn Antenna         | M12RH                     | E60120-2          | 2023/2/27        | 2026/2/26            |
| OML                   | Waveguide Mixer      | WR08/M08HWD               | F60313-1          | 2023/2/16        | 2026/2/15            |
| OML                   | Horn Antenna         | M08RH                     | F60313-2          | 2023/2/27        | 2026/2/26            |
| OML                   | Waveguide Mixer      | WR05/M05HWD               | G60106-1          | 2023/2/16        | 2026/2/15            |
| OML                   | Horn Antenna         | M05RH                     | G60106-2          | 2023/2/27        | 2026/2/26            |

|             |               |              |      |           |           |
|-------------|---------------|--------------|------|-----------|-----------|
| Resenberger | Coaxial Cable | LU7-022-1000 | 0031 | 2025/2/28 | 2026/2/27 |
|-------------|---------------|--------------|------|-----------|-----------|

*\* 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.

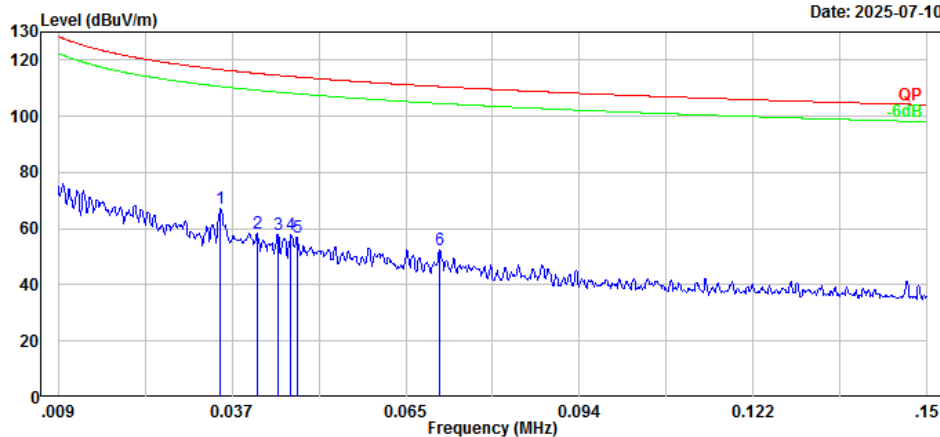
**1) 9kHz~30MHz:**

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

Project No.: 2502U65913E-RF  
Polarization: Parallel  
Test Mode: Transmitting  
Note: 60G Radar  
RBW:300Hz VBW:1kHz

Serial No.: 3596-5  
Tester: Zoo Zou

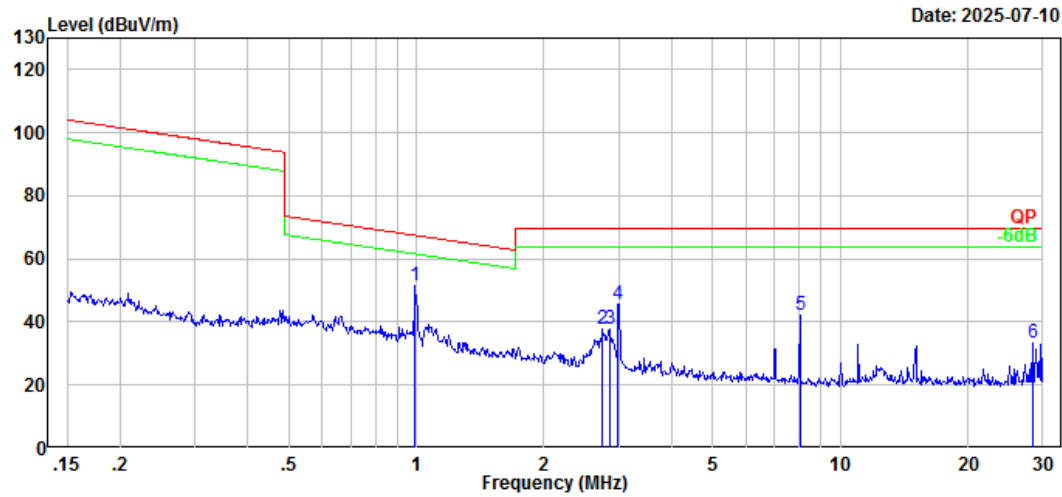
Date: 2025-07-10



| No. | Frequency<br>(MHz) | Reading<br>(dBμV) | Factor<br>(dB/m) | Result<br>(dBμV/m) | Limit<br>(dBμV/m) | Margin<br>(dB) | Measurement |
|-----|--------------------|-------------------|------------------|--------------------|-------------------|----------------|-------------|
| 1   | 0.035              | 20.60             | 46.60            | 67.20              | 116.63            | 49.43          | Peak        |
| 2   | 0.041              | 12.66             | 45.54            | 58.20              | 115.29            | 57.09          | Peak        |
| 3   | 0.045              | 12.87             | 44.97            | 57.84              | 114.60            | 56.76          | Peak        |
| 4   | 0.047              | 13.10             | 44.60            | 57.70              | 114.20            | 56.50          | Peak        |
| 5   | 0.048              | 12.68             | 44.44            | 57.12              | 114.02            | 56.90          | Peak        |
| 6   | 0.071              | 11.98             | 40.44            | 52.42              | 110.59            | 58.17          | Peak        |

Project No.: 2502U65913E-RF  
Polarization: Parallel  
Test Mode: Transmitting  
Note: 60G Radar  
RBW:10kHz VBW:30kHz

Serial No.: 3596-5  
Tester: Zoo Zou

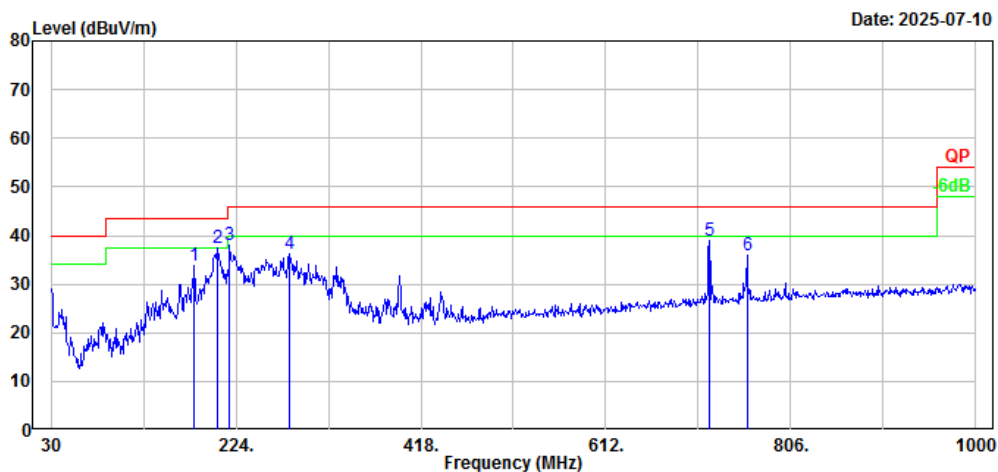


| No. | Frequency<br>(MHz) | Reading<br>(dBμV) | Factor<br>(dB/m) | Result<br>(dBμV/m) | Limit<br>(dBμV/m) | Margin<br>(dB) | Measurement |
|-----|--------------------|-------------------|------------------|--------------------|-------------------|----------------|-------------|
| 1   | 0.994              | 34.73             | 16.67            | 51.40              | 67.52             | 16.12          | Peak        |
| 2   | 2.750              | 27.28             | 10.41            | 37.69              | 69.54             | 31.85          | Peak        |
| 3   | 2.854              | 27.61             | 10.18            | 37.79              | 69.54             | 31.75          | Peak        |
| 4   | 2.993              | 36.00             | 9.86             | 45.86              | 69.54             | 23.68          | Peak        |
| 5   | 8.020              | 37.29             | 5.08             | 42.37              | 69.54             | 27.17          | Peak        |
| 6   | 28.452             | 29.16             | 4.24             | 33.40              | 69.54             | 36.14          | Peak        |

## 2) 30MHz-1GHz

Project No.: 2502U65913E-RF  
Polarization: Horizontal  
Test Mode: Transmitting  
Note: 60G Radar  
RBW:100kHz VBW:300kHz

Serial No.: 3596-5  
Tester: Zoo Zou

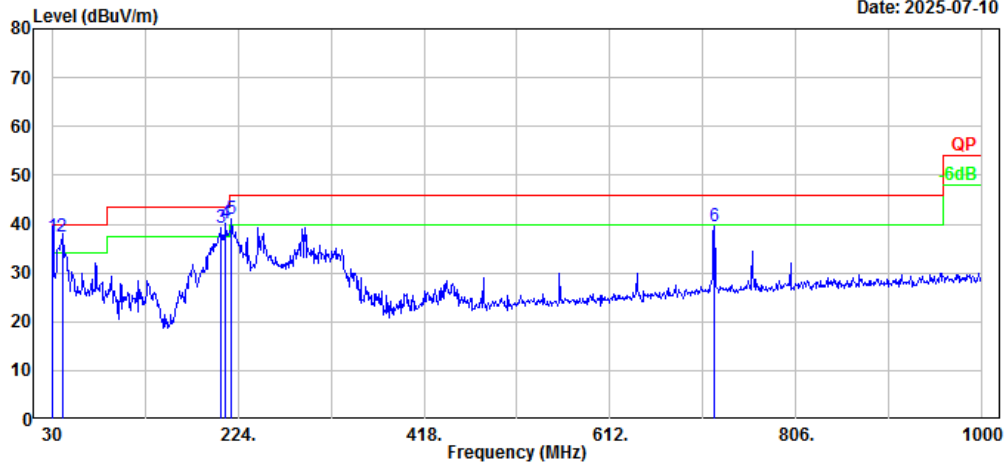


| No. | Frequency<br>(MHz) | Reading<br>(dBUV) | Factor<br>(dB/m) | Result<br>(dBUV/m) | Limit<br>(dBUV/m) | Margin<br>(dB) | Measurement |
|-----|--------------------|-------------------|------------------|--------------------|-------------------|----------------|-------------|
| 1   | 180.35             | 46.14             | -12.35           | 33.79              | 43.50             | 9.71           | Peak        |
| 2   | 204.60             | 49.43             | -12.01           | 37.42              | 43.50             | 6.08           | Peak        |
| 3   | 217.21             | 50.50             | -12.52           | 37.98              | 46.00             | 8.02           | Peak        |
| 4   | 280.26             | 45.92             | -9.73            | 36.19              | 46.00             | 9.81           | Peak        |
| 5   | 720.64             | 39.74             | -0.89            | 38.85              | 46.00             | 7.15           | Peak        |
| 6   | 760.41             | 35.94             | -0.15            | 35.79              | 46.00             | 10.21          | Peak        |

Project No.: 2502U65913E-RF  
Polarization: Vertical  
Test Mode: Transmitting  
Note: 60G Radar  
RBW:100kHz VBW:300kHz

Serial No.: 3596-5  
Tester: Zoo Zou

Date: 2025-07-10



| No. | Frequency<br>(MHz) | Reading<br>(dBUV) | Factor<br>(dB/m) | Result<br>(dBUV/m) | Limit<br>(dBUV/m) | Margin<br>(dB) | Measurement |
|-----|--------------------|-------------------|------------------|--------------------|-------------------|----------------|-------------|
| 1   | 30.97              | 41.99             | -4.50            | 37.49              | 40.00             | 2.51           | QP          |
| 2   | 40.67              | 48.80             | -11.29           | 37.51              | 40.00             | 2.49           | QP          |
| 3   | 206.54             | 51.31             | -12.21           | 39.10              | 43.50             | 4.40           | Peak        |
| 4   | 211.39             | 52.61             | -12.56           | 40.05              | 43.50             | 3.45           | Peak        |
| 5   | 217.21             | 53.61             | -12.52           | 41.09              | 46.00             | 4.91           | Peak        |
| 6   | 720.64             | 40.36             | -0.89            | 39.47              | 46.00             | 6.53           | Peak        |

## 2) 1GHz-40GHz

Horizontal

Project No.: 2502U65913E-RF

Polarization: Horizontal

Test Mode: Transmitting

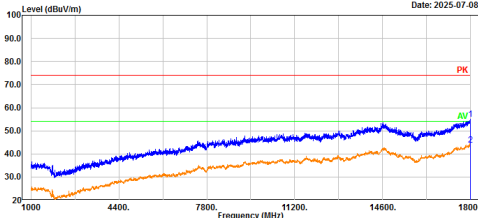
Note: Radar 60.5366-63.2072 GHz

Peak:RBW:1MHz,VBW:30Hz Ave:RBW:1MHz,VBW:5kHz

Serial No.: 3596-5

Tester: Alan Xie

Date: 2025-07-08



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Measurement |
|-----|-----------------|----------------|---------------|-----------------|----------------|-------------|-------------|
| 1   | 17993.20        | 47.22          | 7.86          | 55.08           | 74.00          | 18.92       | Peak        |
| 2   | 17993.20        | 35.90          | 7.86          | 43.76           | 54.00          | 10.24       | Average     |

Vertical

Project No.: 2502U65913E-RF

Polarization: Vertical

Test Mode: Transmitting

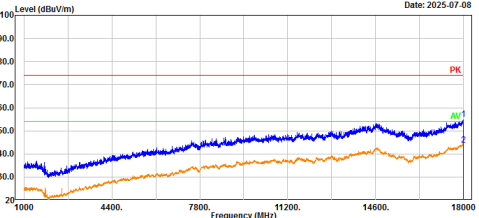
Note: Radar 60.5366-63.2072 GHz

Peak:RBW:1MHz,VBW:30Hz Ave:RBW:1MHz,VBW:5kHz

Serial No.: 3596-5

Tester: Alan Xie

Date: 2025-07-08



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Measurement |
|-----|-----------------|----------------|---------------|-----------------|----------------|-------------|-------------|
| 1   | 18000.00        | 47.12          | 7.90          | 55.02           | 74.00          | 18.98       | Peak        |
| 2   | 18000.00        | 35.84          | 7.90          | 43.74           | 54.00          | 10.26       | Average     |

Horizontal

Project No.: 2502U65913E-RF

Polarization: Horizontal

Test Mode: Transmitting

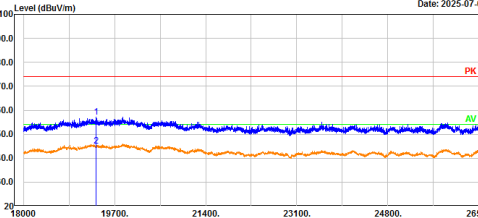
Note: Radar 60.5366-63.2072 GHz

Peak:RBW:1MHz,VBW:30Hz Ave:RBW:1MHz,VBW:5kHz

Serial No.: 3596-5

Tester: Alan Xie

Date: 2025-07-08



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Measurement |
|-----|-----------------|----------------|---------------|-----------------|----------------|-------------|-------------|
| 1   | 19361.70        | 47.44          | 9.73          | 57.17           | 74.00          | 16.83       | Peak        |
| 2   | 19361.70        | 35.43          | 9.73          | 45.16           | 54.00          | 8.84        | Average     |

Vertical

Project No.: 2502U65913E-RF

Polarization: Vertical

Test Mode: Transmitting

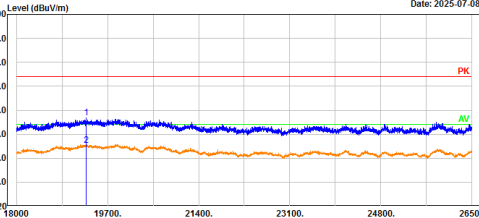
Note: Radar 60.5366-63.2072 GHz

Peak:RBW:1MHz,VBW:30Hz Ave:RBW:1MHz,VBW:5kHz

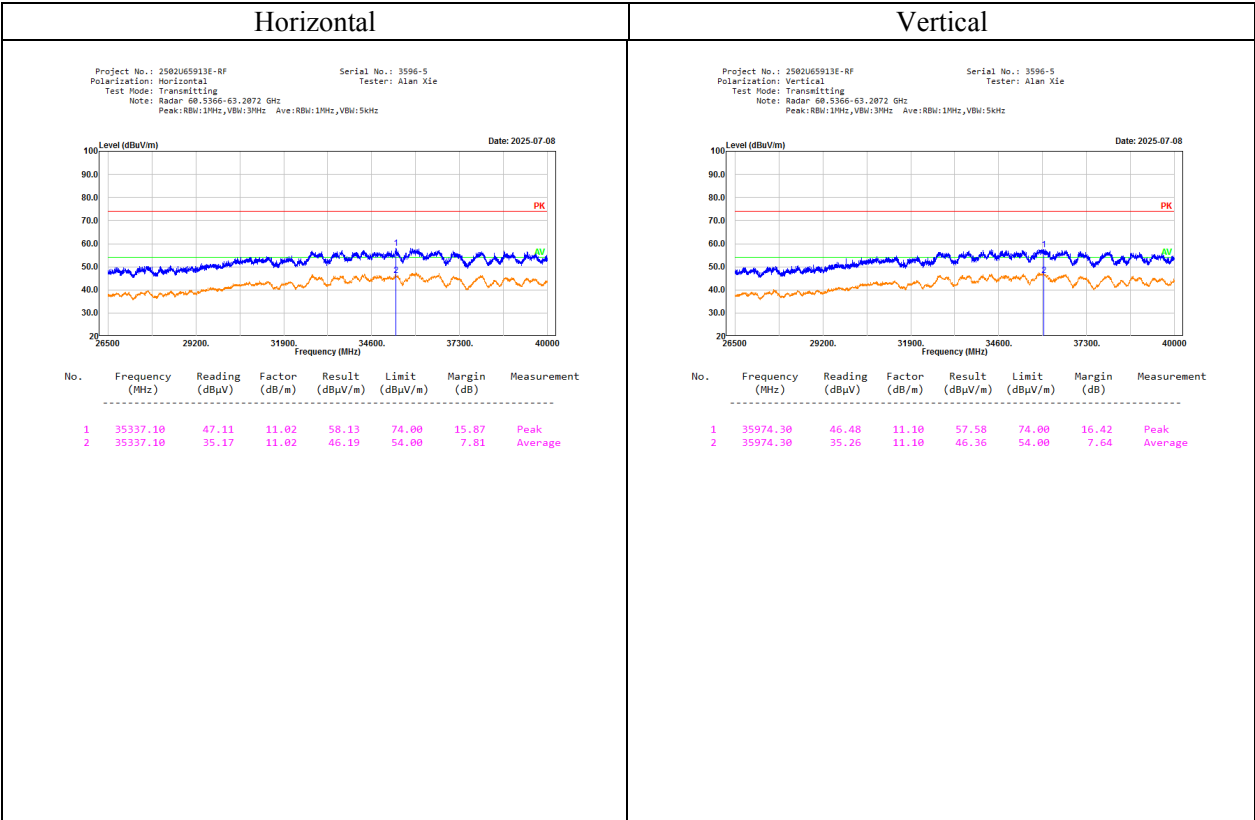
Serial No.: 3596-5

Tester: Alan Xie

Date: 2025-07-08



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Measurement |
|-----|-----------------|----------------|---------------|-----------------|----------------|-------------|-------------|
| 1   | 19297.10        | 47.23          | 9.69          | 56.92           | 74.00          | 17.08       | Peak        |
| 2   | 19297.10        | 35.56          | 9.69          | 45.25           | 54.00          | 8.75        | Average     |



**3) 40GHz-200GHz:****61.87 GHz**

| Frequency (GHz) | Receiver Reading (dBμV) | Polar (H/V) | Factor (dB/m) | Field Strength (dBμV/m) | Power Density (pW/cm <sup>2</sup> ) | Limit (pW/cm <sup>2</sup> ) |
|-----------------|-------------------------|-------------|---------------|-------------------------|-------------------------------------|-----------------------------|
| 40.510          | 50.65                   | H           | 38.87         | 79.98                   | 26.40                               | 90.00                       |
| 40.180          | 50.48                   | V           | 38.82         | 79.76                   | 25.10                               | 90.00                       |
| 90.620          | 51.63                   | H           | 45.18         | 81.25                   | 35.37                               | 90.00                       |
| 90.100          | 51.78                   | V           | 45.12         | 81.34                   | 36.09                               | 90.00                       |

*Note:**Factor = Antenna Factor**Field Strength = Reading + Factor + 20log( $d_{Meas}/d_{SpecLimit}$ )* *$d_{Meas}$  is the measurement distance, in m* *$d_{SpecLimit}$  is the distance specified by the limit, in m*

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

where

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

1

## 4.5 Frequency Stability

### 4.5.1 Applicable Standard

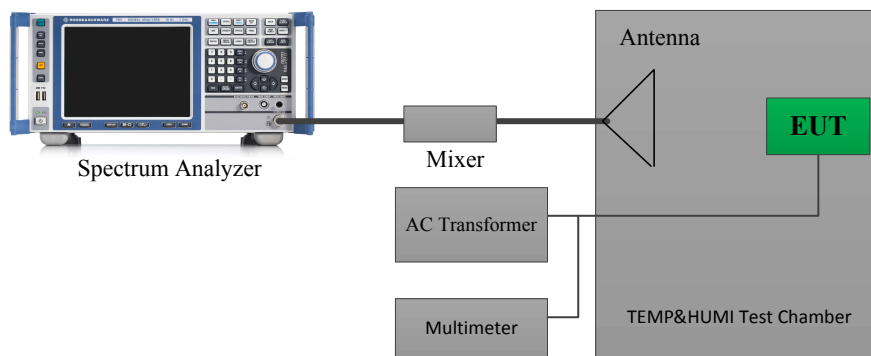
FCC §15.255(f)

(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.

RSS-210, Annex J.6

Fundamental emissions shall be contained within the frequency bands specified in this annex during all conditions of operation when tested at the temperature and voltage variations specified for the frequency stability measurement in RSS-Gen.

### 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  $-20^{\circ}\text{C}$ .

## 4.5.4 Test Result

|                |           |              |              |
|----------------|-----------|--------------|--------------|
| Serial Number: | 3596-5    | Test Date:   | 2025/7/9     |
| Test Site:     | RF        | Test Mode:   | Transmitting |
| Tester:        | Bill Yang | Test Result: | Pass         |

## Environmental Conditions:

|                      |      |                              |    |                           |       |
|----------------------|------|------------------------------|----|---------------------------|-------|
| Temperature:<br>(°C) | 27.3 | Relative<br>Humidity:<br>(%) | 67 | ATM<br>Pressure:<br>(kPa) | 100.2 |
|----------------------|------|------------------------------|----|---------------------------|-------|

## Test Equipment List and Details:

| Manufacturer    | Description            | Model        | Serial Number | Calibration Date | Calibration Due Date |
|-----------------|------------------------|--------------|---------------|------------------|----------------------|
| Agilent         | Waveguide Mixer        | 11970V       | 2521A011767   | 2023/2/16        | 2026/2/15            |
| Flann Microwave | Horn Antenna           | 861V/385     | 736           | 2023/2/27        | 2026/2/26            |
| Agilent         | Spectrum Analyzer      | E4440A       | MY44303352    | 2024/9/6         | 2025/9/5             |
| Resenberger     | Coaxial Cable          | LU7-022-1000 | 0031          | 2025/2/28        | 2026/2/27            |
| Resenberger     | Coaxial Cable          | LU7-022-1000 | 0032          | 2025/2/28        | 2026/2/27            |
| BACL            | TEMP&HUMI Test Chamber | BTH-150-40   | 30173         | 2024/9/6         | 2025/9/5             |
| All-sun         | Clamp Meter            | EM305A       | 8348897       | 2024/8/16        | 2025/8/15            |
| Daoxiang        | AC Transformer         | TDGC2-5KVA   | F-08-EM011    | 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) |         |             |             |
|-------------|-----------------|-----------------|---------|-------------|-------------|
|             |                 | $f_L$           | $f_H$   | $f_L$ Limit | $f_H$ Limit |
| °C          | V <sub>AC</sub> |                 |         |             |             |
| -20         | 120             | 60.5362         | 63.2075 | 57          | 64          |
| -10         | 120             | 60.5364         | 63.2076 | 57          | 64          |
| 0           | 120             | 60.5361         | 63.2071 | 57          | 64          |
| 10          | 120             | 60.5361         | 63.2073 | 57          | 64          |
| 20          | 120             | 60.5366         | 63.2072 | 57          | 64          |
| 30          | 120             | 60.5366         | 63.2071 | 57          | 64          |
| 40          | 120             | 60.5368         | 63.2074 | 57          | 64          |
| 50          | 120             | 60.5364         | 63.2075 | 57          | 64          |
| 20          | 102             | 60.5365         | 63.2071 | 57          | 64          |
| 20          | 138             | 60.5367         | 63.2073 | 57          | 64          |

Note: the operation voltage is declared by manufacturer ▲.

## **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.

RSS-210, Annex J.7

Any transmitter that is certified under this annex may be mounted in a group installation for simultaneous operation with one or more certified transmitters, without any additional equipment authorization. However, no transmitter operating under the provisions of this annex shall 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.

#### RSS-Gen Clause 6.8

The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list.

For expediting the testing, measurements may be performed using only the antenna with highest gain of each combination of transmitter and antenna type, with the transmitter output power set at the maximum level. However, the transmitter shall comply with the applicable requirements under all operational conditions and when in combination with any type of antenna from the list provided in the test report (and in the notice to be included in the user manual, provided below).

When measurements at the antenna port are used to determine the RF output power, the effective gain of the device's antenna shall be stated, based on a measurement or on data from the antenna's manufacturer.

The test report shall state the RF power, output power setting and spurious emission measurements with each antenna type that is used with the transmitter being tested.

For licence-exempt equipment with detachable antennas, the user manual shall also contain the following notice in a conspicuous location:

This radio transmitter [enter the device's ISED certification number] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Immediately following the above notice, the manufacturer shall provide a list of all antenna types which can be used with the transmitter, indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna type.

#### **4.7.2 Judgment**

Please refer to the Antenna Information detail in Section 1.3.

## **EXHIBIT A - EUT PHOTOGRAPHS**

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Please refer to the attachment 2502U65913E-RF-EXP EUT EXTERNAL PHOTOGRAPHS and 2502U65913E-RF-INP EUT INTERNAL PHOTOGRAPHS.

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

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Please refer to the attachment 2502U65913E-RF-00C-TSP SETUP PHOTOGRAPHS.

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