



# FCC RADIO TEST REPORT

FCC ID : 2BFSB-DG100  
Equipment : Quilt Dial  
Brand Name : Quilt  
Model Name : QD1  
Applicant : Quilt Systems, Inc  
1800 Broadway St, Suite 2, Redwood City,  
CA 94063, United States  
Standard : FCC 47 CFR Part 15.255

The product was received on Apr. 19, 2024 and testing was performed from Apr. 22, 2024 to May 14, 2024. We, Sporton International Inc. Wensan Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures ANSI C63.10-2020 and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval from Sporton International Inc. Wensan Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

**Sporton International Inc. Wensan Laboratory**

No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)



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## History of this test report

| Report No. | Version | Description                                                                                                  | Issue Date    |
|------------|---------|--------------------------------------------------------------------------------------------------------------|---------------|
| FR432213   | 01      | Initial issue of report                                                                                      | Jun. 12, 2024 |
| FR432213   | 02      | Revise Section 3.4 ~ 3.7<br>This report is an updated version, replacing the report issued on Jun. 12, 2024. | Jun. 19, 2024 |
|            |         |                                                                                                              |               |
|            |         |                                                                                                              |               |
|            |         |                                                                                                              |               |
|            |         |                                                                                                              |               |
|            |         |                                                                                                              |               |
|            |         |                                                                                                              |               |
|            |         |                                                                                                              |               |
|            |         |                                                                                                              |               |
|            |         |                                                                                                              |               |
|            |         |                                                                                                              |               |
|            |         |                                                                                                              |               |
|            |         |                                                                                                              |               |
|            |         |                                                                                                              |               |

## Summary of Test Result

| Report Clause | Ref Std. Clause                  | Test Items                                    | Limit                                                                   | Result (PASS/FAIL) |
|---------------|----------------------------------|-----------------------------------------------|-------------------------------------------------------------------------|--------------------|
| 3.4           | §15.255(c)(2)(iii)(A)            | Duty Cycle                                    | 25.5 ms off time per 33 ms                                              | Pass               |
| 3.5           | §15.215(c)<br>§15.255(c)(2)(iii) | Emission Bandwidth                            | 20dB bandwidth<br>Within 57 ~ 64GHz                                     | Pass               |
| 3.6           | §15.255(c)(2)(iii)(A)            | Peak EIRP Power                               | < 14dBm                                                                 | Pass               |
| 3.7           | §15.255(d)                       | Transmitter Spurious Emissions                | Below 40GHz refer to 15.209<br>Above 40GHz: 90 pW/cm <sup>2</sup> @ 3 m | Pass               |
| 3.8           | §15.255(f)                       | Frequency Stability for Temperature & Voltage | Within 57 ~ 64GHz                                                       | Pass               |
| 4             | §15.207                          | AC Power Conducted Emission                   | §15.207                                                                 | Pass               |

**Conformity Assessment Condition:**

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacture who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty".

**Disclaimer:**

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

**Reviewed by:** Alan Liu

**Report Producer:** Lucy Wu



# 1 General Description

## 1.1 Feature of Equipment Under Test

| Product Feature                               |
|-----------------------------------------------|
| <b>General Specs</b><br>60GHz                 |
| <b>Antenna Type</b><br>60GHz: Antenna in Chip |

**Remark:**

1. The EUT's information above is declared by manufacturer. Please refer to Disclaimer in report summary.
2. All measurements were performed radiated and therefore additional antenna gain documentation is not required.

## 1.2 Modification of EUT

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

## 1.3 Testing Location

|                           |                                                                                                                                                  |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Test Site</b>          | Sporton International Inc. Wensan Laboratory                                                                                                     |
| <b>Test Site Location</b> | No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist.,<br>Taoyuan City 333010, Taiwan (R.O.C.)<br>TEL: +886-3-327-0868<br>FAX: +886-3-327-0855 |
| <b>Test Site No.</b>      | <b>Sporton Site No.</b><br>03CH11-HY, 03CH18-HY, CO07-HY                                                                                         |

**Note:** The test site complies with ANSI C63.4 2014 requirement.

FCC designation No.: TW3786

## 1.4 Applied Standards

- ♦ FCC 47 CFR Part 2, 15.255
- ♦ KDB 364244 D01
- ♦ ANSI C63.10-2020

**Remark:** All test items were verified and recorded according to the standards and without any deviation during the test.



## 2 Test Configuration of Equipment Under Test

### 2.1 Test Mode

For radiated measurement, the measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape), and adjusting the measurement antenna orientation, following C63.10 exploratory test procedures and only the worst case emissions were reported in this report.

For transmitter spurious emissions

| Test Configuration |                                                                           |                |
|--------------------|---------------------------------------------------------------------------|----------------|
| Mode 1             | 60GHz FMCW mode                                                           | 57.1 - 63.9GHz |
| Mode 2             | 60GHz FMCW mode + WLAN module (11n Ch48 Setting 19 + BLE Ch00 Setting 18) | 57.1 - 63.9GHz |

For EIRP/99% OBW/6dB BW/20dB BW/DT/ Frequency Stability

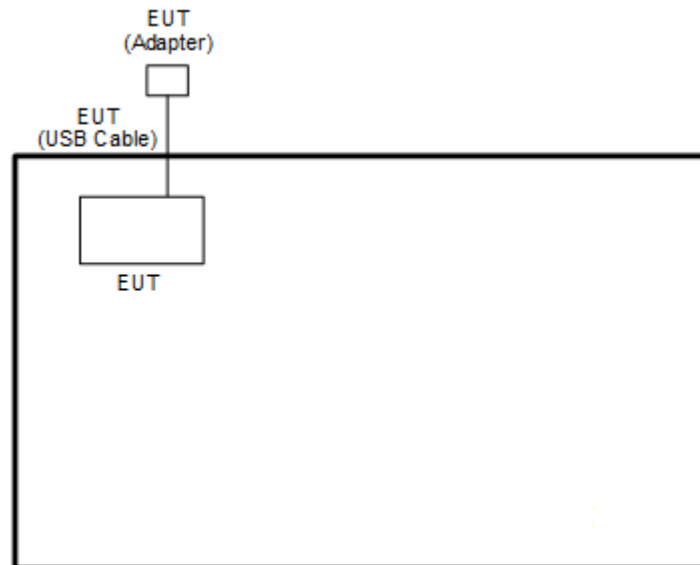
| Test Configuration |                 |                |
|--------------------|-----------------|----------------|
| Mode 1             | 60GHz FMCW mode | 57.1 - 63.9GHz |

Note: The FMCW is used during test.

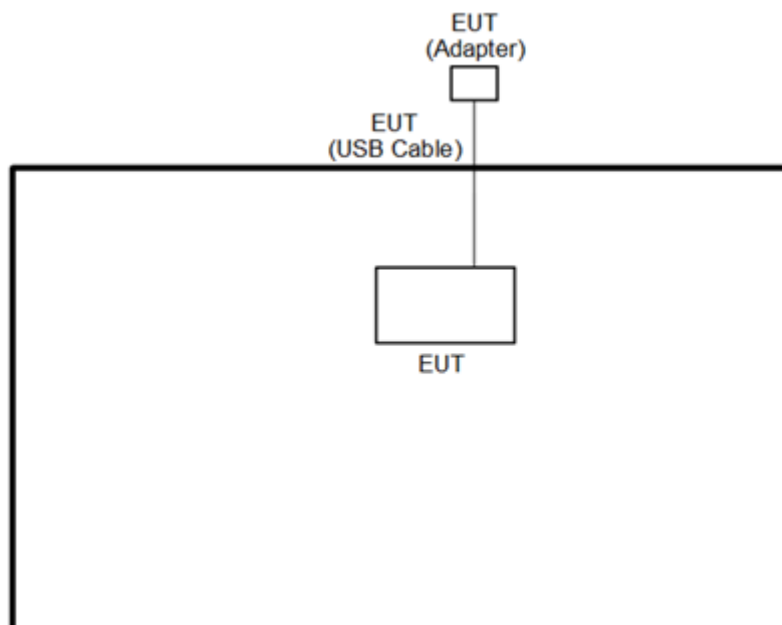
| Test Cases                  |                             |
|-----------------------------|-----------------------------|
| AC<br>Conducted<br>Emission | Mode 1 : 60GHz Tx + Adapter |

## 2.2 Connection Diagram of Test System

### <AC Conducted Emission Mode>



### <60GHz Tx Mode>



## 2.3 Support Unit used in test configuration and system

| Item | Equipment | Brand Name | Model Name    | FCC ID  | Data Cable | Power Cord                                                 |
|------|-----------|------------|---------------|---------|------------|------------------------------------------------------------|
| 1.   | Notebook  | Dell       | Latitude 3400 | FCC DoC | N/A        | AC I/P:<br>Unshielded, 1.2 m<br>DC O/P:<br>Shielded, 1.8 m |
| 2.   | Notebook  | HP         | 15s-du3004TX  | FCC DoC | N/A        | AC I/P:<br>Unshielded, 1.2 m<br>DC O/P:<br>Shielded, 1.8 m |

## 2.4 Far Field Condition for Frequency above 18GHz

| Horn Antenna | Frequency (GHz) | Antenna Dimension A (mm) | Wavelength (λ) (m) | Far field R (m)<br>$\geq 2A^2 / \lambda$ | Measurement Distance (D) (m) |
|--------------|-----------------|--------------------------|--------------------|------------------------------------------|------------------------------|
| BBHA 9170    | 18              | 60                       | 0.0167             | 0.43                                     | 1                            |
|              | 40              | 60                       | 0.0075             | 0.96                                     |                              |
| QWH-UPRR00   | 40              | 48                       | 0.0075             | 0.61                                     | 0.87                         |
|              | 57              | 48                       | 0.0053             | 0.87                                     |                              |
| QWH-VPRR00   | 57              | 38                       | 0.0053             | 0.54                                     | 0.62                         |
|              | 65              | 38                       | 0.0046             | 0.62                                     |                              |
| QWH-EPRR00   | 60              | 31                       | 0.0050             | 0.38                                     | 0.6                          |
|              | 90              | 31                       | 0.0033             | 0.6                                      |                              |
| QWH-FPRR00   | 90              | 21                       | 0.0033             | 0.26                                     | 0.43                         |
|              | 140             | 21                       | 0.0021             | 0.42                                     |                              |
| QWH-GPRR00   | 140             | 14                       | 0.0021             | 0.18                                     | 0.27                         |
|              | 200             | 14                       | 0.0015             | 0.26                                     |                              |

**Note:** The measurement distance may be far than the measurement distance above.



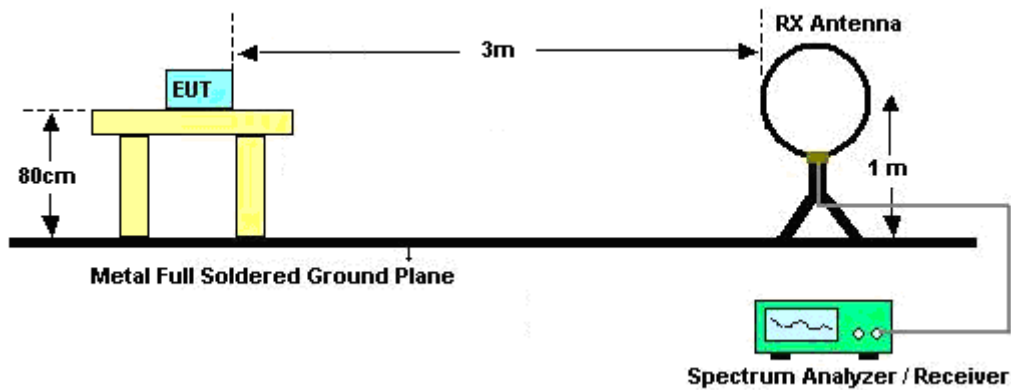
### 3 Radiated Test Items

#### 3.1 Measuring Instruments

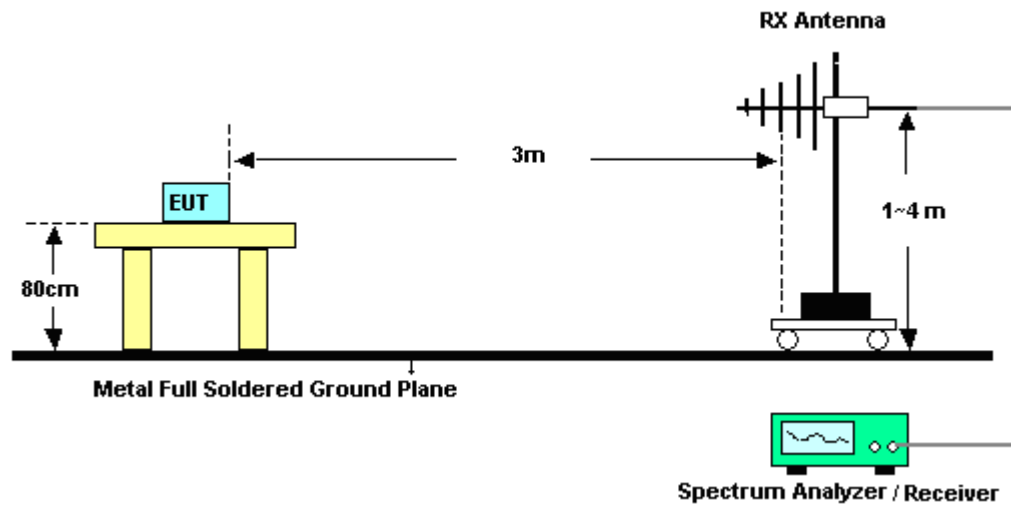
See list of measuring instruments of this test report.

#### 3.2 Test Setup

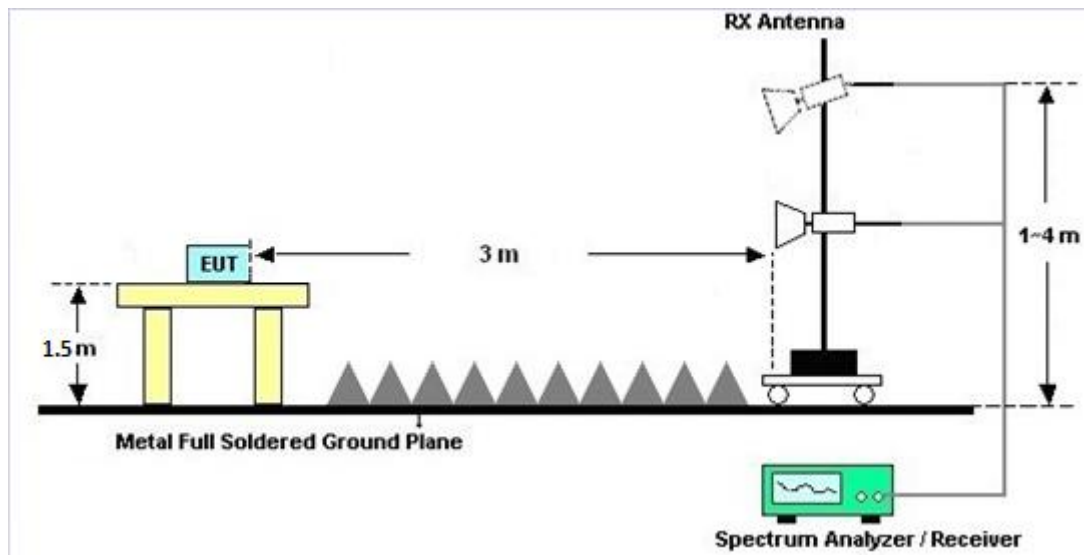
For radiated emissions from 9kHz to 30MHz



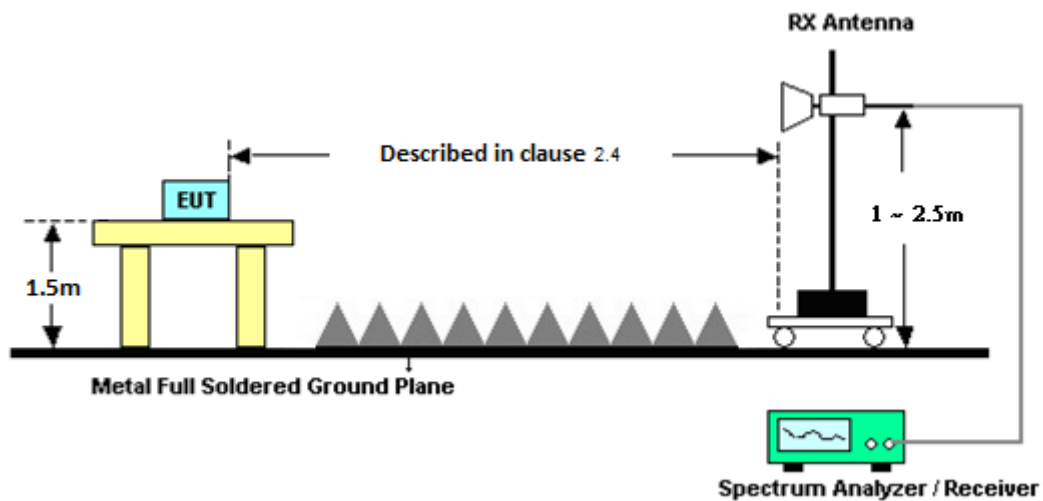
For radiated emissions from 30MHz to 1GHz



For radiated emissions 1GHz to 18GHz



For radiated emissions above 18GHz



### 3.3 Test Result of Radiated Test

Please refer to Clause 3.6.



### 3.4 Duty Cycle

#### 3.4.1 Limit of Duty Cycle Measurement

Per Part 15.255(c)(2)(iii)(A) 57.0–64.0 GHz:

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.

#### 3.4.2 Measuring Instruments

See list of measuring equipment of this test report.

#### 3.4.3 Test Procedures

1. The testing follows ANSI C63.10-2020 Section 9.9.
2. Set the maximum power setting and enable the EUT to FMCW mode.
3. The EUT is placed on a turntable with 1.6 meter respectively above ground.
4. The EUT is set 0.62 meters away from the receiving antenna, which is mounted on the top of a variable height antenna tower.
5. Use 50-75 GHz receiver antenna, pre-amp and digital storage oscilloscope (DSO).
6. The EUT is arranged to its worst case and then tune the antenna tower and turntable (from 0 degree to 360 degrees) to find the maximum reading.
7. Digital storage oscilloscope (DSO) adjust the length of time appropriately and confirm burst period, chirp width and chirp numbers.

#### 3.4.4 Test Results

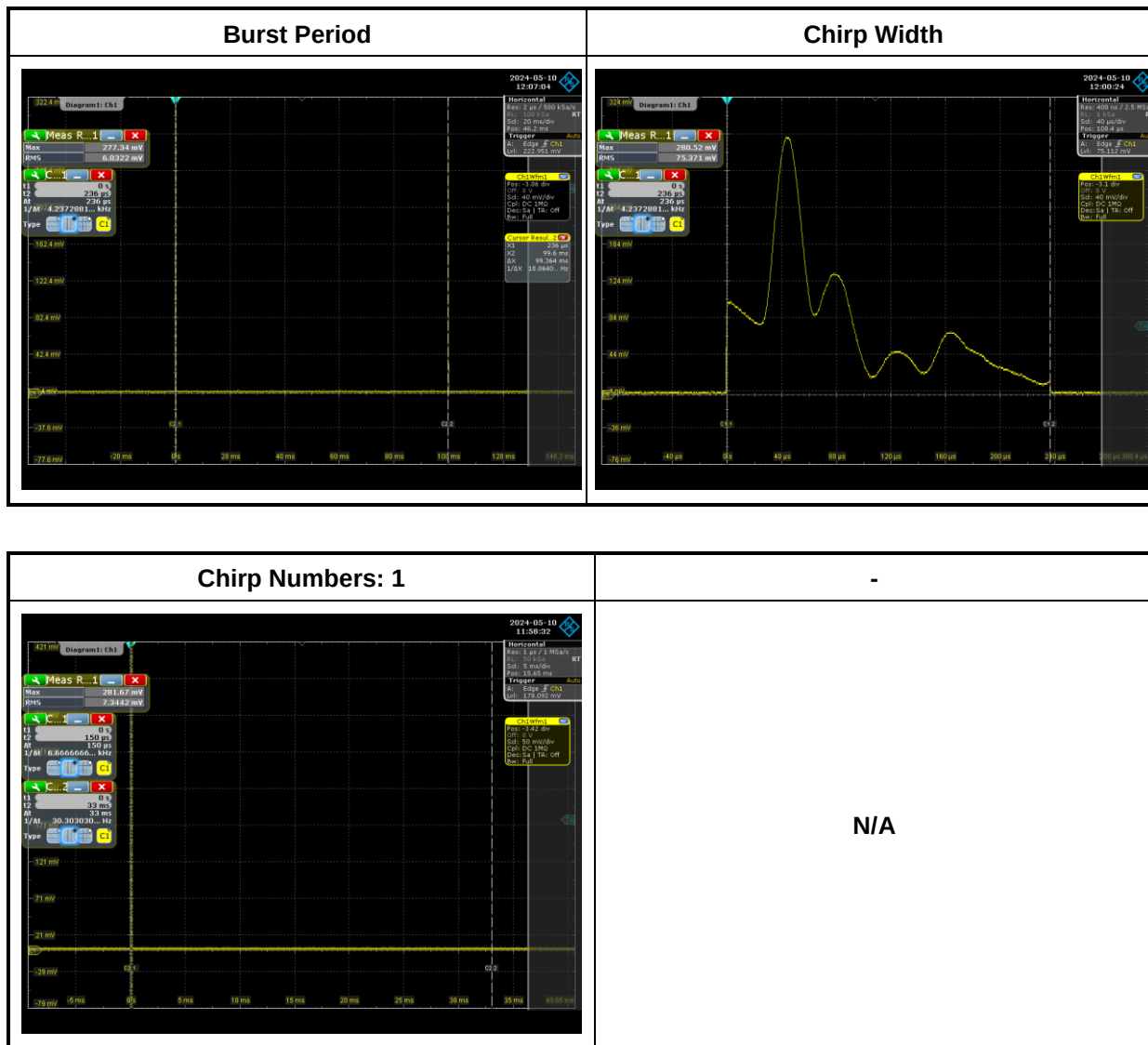
| Chirp Width | Chirp numbers<br>per 33 ms | On Time<br>per 33 ms | Off Time<br>per 33 ms | limit    | Result |
|-------------|----------------------------|----------------------|-----------------------|----------|--------|
| 236μs       | 1                          | 0.236ms              | 32.764ms              | > 25.5ms | Pass   |

**Note:**

1. On time per 33ms = Chirp numbers (1) x Chirp Width (236μs)
2. Off time per 33ms = 33ms - On time per 33ms.



## 3.4.5 Test Plot





## **3.5 Emission Bandwidth**

### **3.5.1 Limit of Emission Bandwidth Measurement**

99% Occupied Bandwidth and 6dB Bandwidth are for reporting only.

Limit for 20 dB Bandwidth: Per Part 15.215(c), the device shall operate in the 57 - 64 GHz band.

The emission bandwidth (EBW) is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least the specified amount below the maximum level of the modulated carrier.

### **3.5.2 Measuring Instruments**

See list of measuring equipment of this test report.

### **3.5.3 Test Procedures**

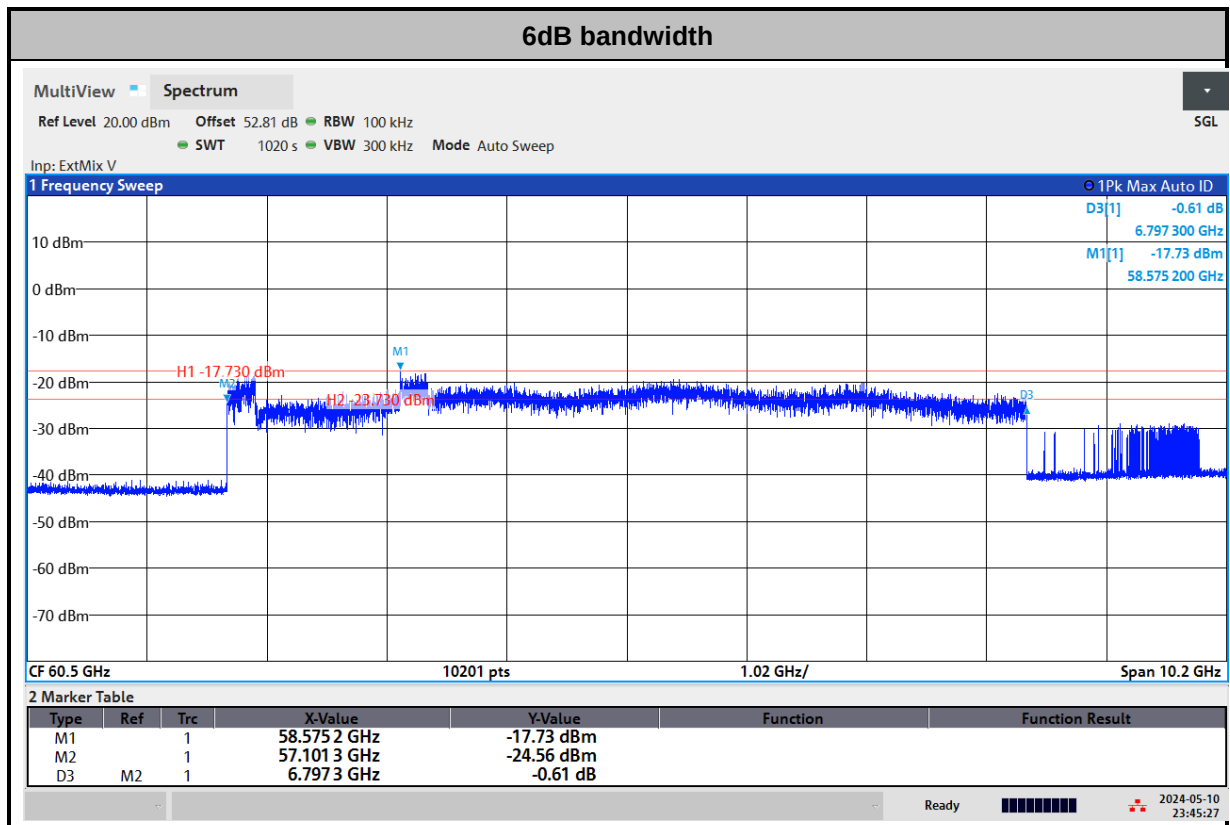
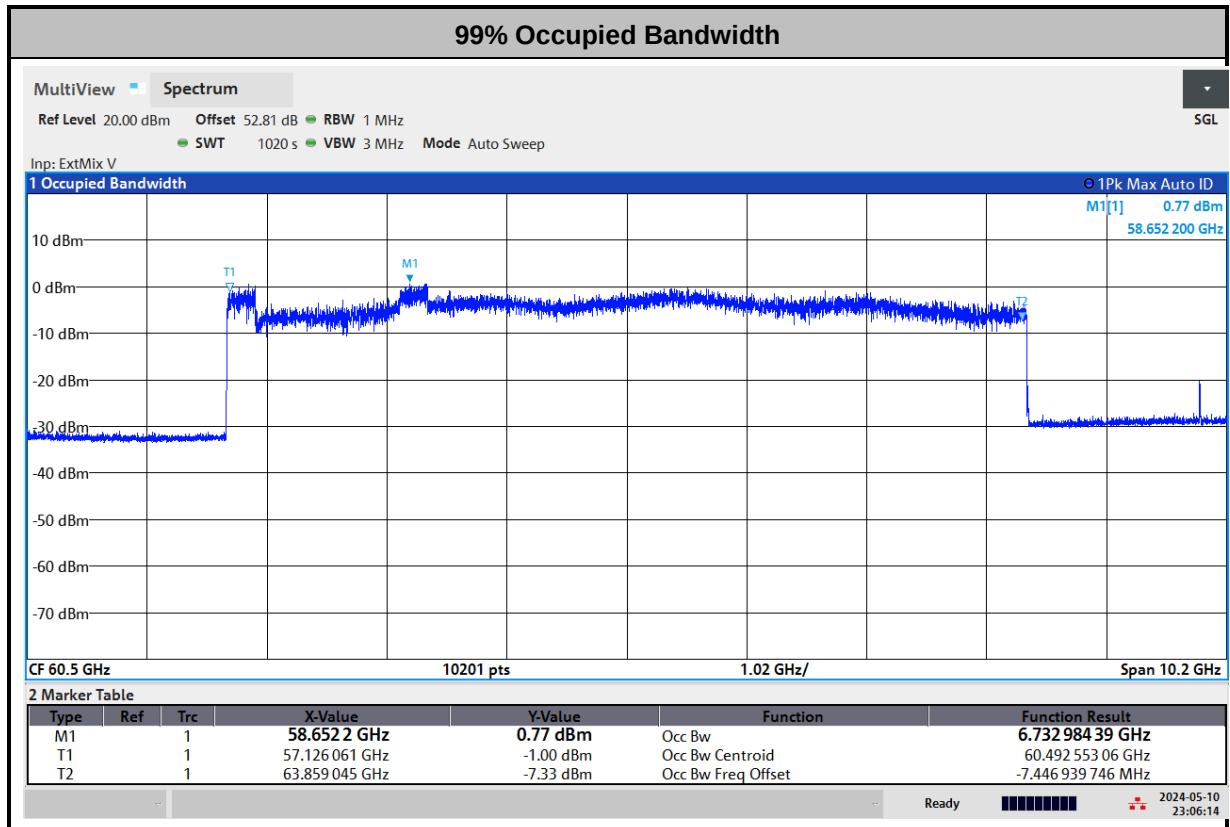
1. The testing follows ANSI C63.10-2020 Section 9.3 and 9.4.
2. Set the maximum power setting and enable the EUT to FMCW mode.
3. The EUT is placed on a turntable with 1.6 meter respectively above ground.
4. The EUT is set 0.62 meters away from the receiving antenna, which is mounted on the top of a variable height antenna tower.
5. Use 50-75 GHz receiver antenna, mixer and spectrum analyzer.
6. The EUT is arranged to its worst case and then tune the antenna tower and turntable (from 0 degree to 360 degrees) to find the maximum reading.
7. For 20dB and 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1MHz and Video bandwidth (VBW) is set 3MHz.
8. For 6dB Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 100kHz and Video bandwidth (VBW) is set 300kHz
9. Measure and record the results in the test report.

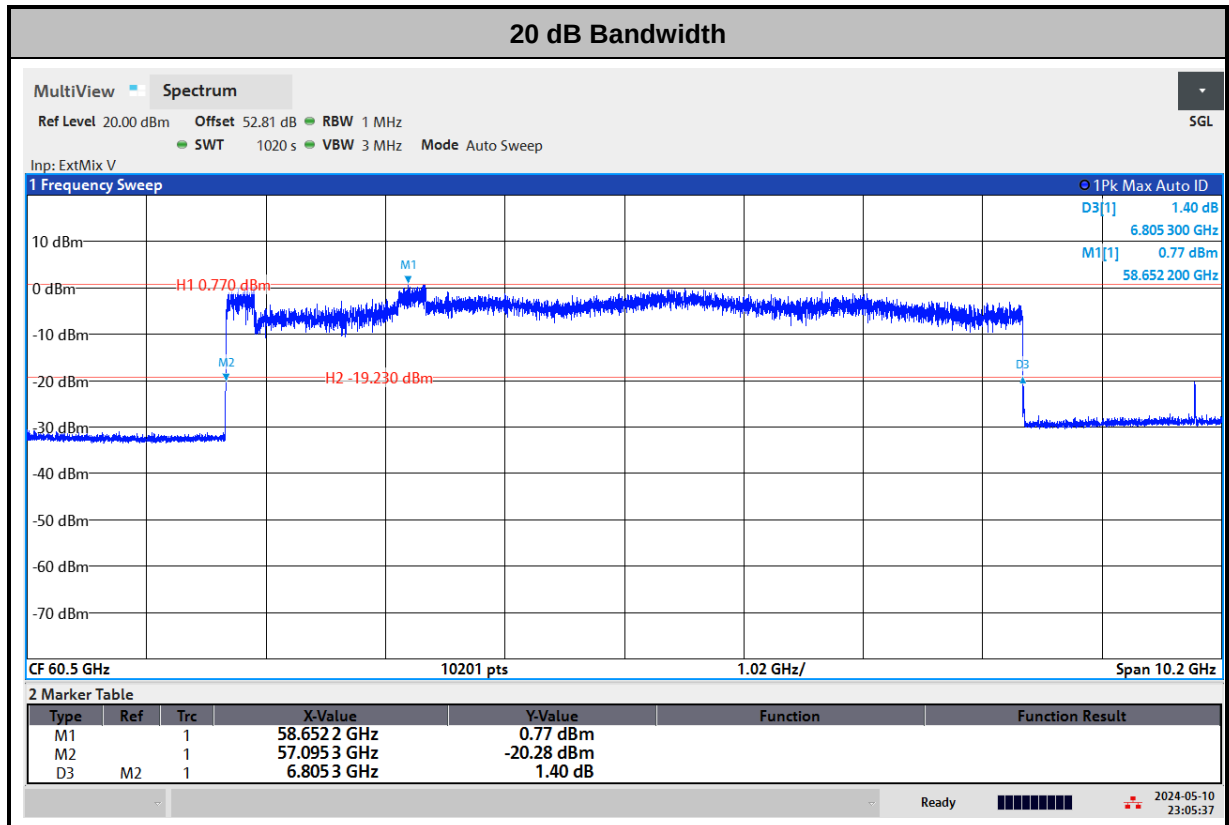
**3.5.4 Test Results**

|                              |                       |                      |                   |        |
|------------------------------|-----------------------|----------------------|-------------------|--------|
| Temperature                  | 20~25℃                | Relative Humidity    |                   | 50~60% |
| Test Engineer                | Eric Jeng and Yu Wang |                      |                   |        |
| 99% Occupied Bandwidth (GHz) |                       | Limit (GHz)          |                   |        |
| 6.7330                       |                       | Report Only          |                   |        |
| 6dB Bandwidth (GHz)          |                       | Limit (GHz)          |                   |        |
| 6.7973                       |                       | Report Only          |                   |        |
| 20dB Bandwidth Measurement   |                       |                      |                   |        |
| Bandwidth (GHz)              | Low Frequency (GHz)   | High Frequency (GHz) | Limit             | Result |
| 6.8053                       | 57.0932               | 63.8985              | Within 57 ~ 64GHz | Pass   |



## 3.5.5 Test Plots









### 3.6 EIRP Power Measurement

#### 3.6.1 Limit of EIRP Power Measurement

| Regulation               | Product Type              | Peak EIRP Power (dBm) |
|--------------------------|---------------------------|-----------------------|
| FCC 15.255(c)(2)(iii)(A) | Field disturbance sensors | 14                    |

#### 3.6.2 Measuring Instruments

See list of measuring equipment of this test report.

#### 3.6.3 Test Procedures

1. The testing follows ANSI C63.10-2020 Section 9.8.
2. Set the maximum power setting and enable the EUT to FMCW mode.
3. The EUT is placed on a turntable with 1.6 meter respectively above ground.
4. The EUT is set 0.62 meters away from the receiving antenna, which is mounted on the top of a variable height antenna tower.
5. Use 50-75 GHz receiver antenna, mixer and spectrum analyzer.
6. The EUT is arranged to its worst case and then tune the antenna tower and turntable (from 0 degree to 360 degrees) to find the maximum reading.
7. The spectrum analyzer's resolution bandwidth (RBW) is set 1MHz and Video bandwidth (VBW) is set 3MHz.
8. Use mark Peak function to check result.
9. Measure and record the results in the test report.



### 3.6.4 Test Results

|                        |                      |                           |  |                   |  |                          |        |
|------------------------|----------------------|---------------------------|--|-------------------|--|--------------------------|--------|
| Temperature            |                      | 20~25℃                    |  | Relative Humidity |  | 50~60%                   |        |
| Test Engineer          |                      | Eric Jeng and Yu Wang     |  |                   |  |                          |        |
| EIRP Power Measurement |                      |                           |  |                   |  |                          |        |
| Frequency<br>(GHz)     | Measure<br>Dist. (m) | Measure Ant Gain<br>(dBi) |  | EIRP (dBm)        |  | EIRP Limit (dBm)<br>Peak | Result |
| 60.5                   | 0.62                 | 22.6                      |  | 0.77              |  | 14                       | PASS   |

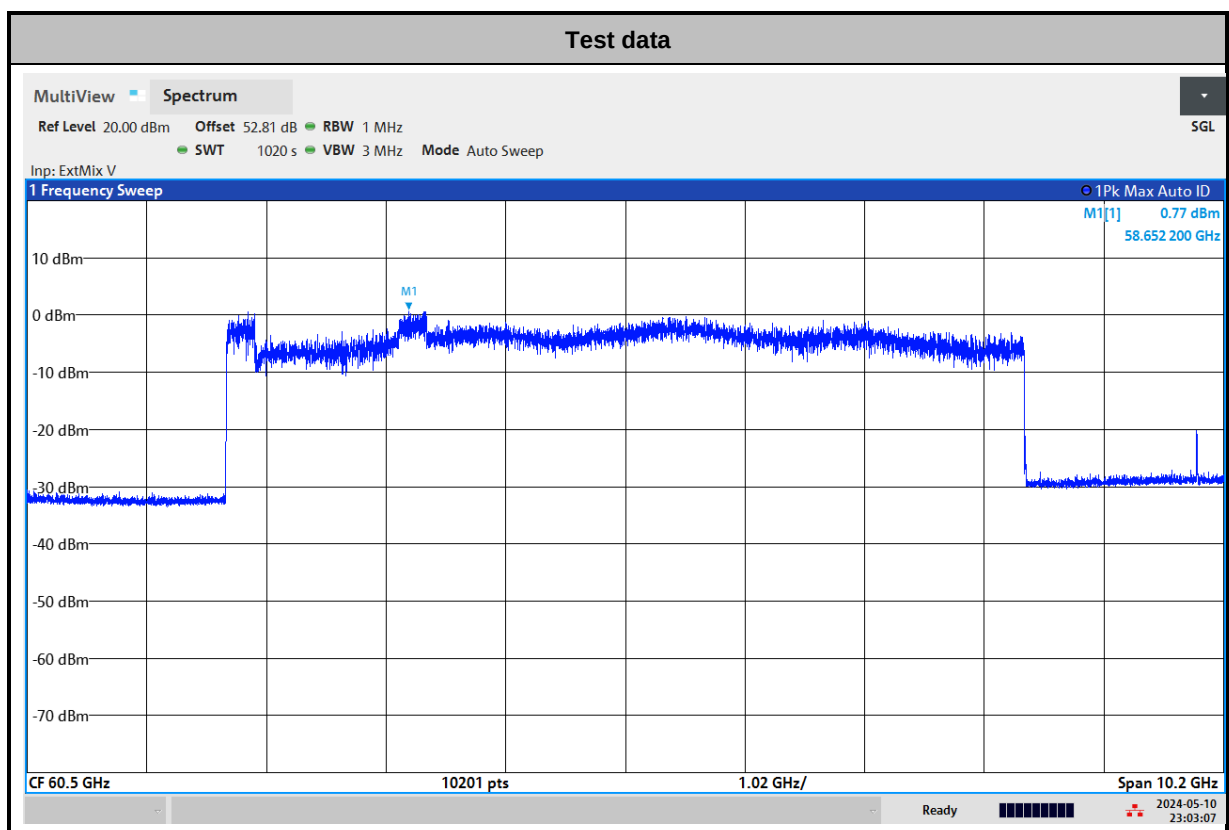
Note:

Total path loss = Air loss - Antenna Factor (dB) + Cable loss(dB) + desensitization correction factor(See section 3.7.5)

Ex:

Total path loss = 63.92 - 22.6 + 0.43 + 11.059 = 52.81

### 3.6.5 Test Plots





### 3.7 Transmit Spurious Emission

#### 3.7.1 Limit of Radiated Spurious Emission

| Frequency Range | Limit                                                      |
|-----------------|------------------------------------------------------------|
| Below 40GHz     | Follow 15.209                                              |
| Above 40GHz     | 90 pW/cm <sup>2</sup> @ 3m (equivalent EIRP 102μW, -10dBm) |

Note 1: For the applicable limit, see FCC 15.255 (d)

Note 2: Spurious emissions shall not exceed the level of fundamental emission.

Note 3: Per Part 15.215(c), the provisions in Part 15.35(b) and (c) that require emissions to be averaged over a 100 millisecond period and that limits the peak power to 20 dB above the average limit do not apply to devices operating under paragraphs Part 15.255(c)(2) and (3) of this section.

#### 3.7.2 Measuring Instruments

See list of measuring equipment of this test report.

#### 3.7.3 Test Procedures

The testing follows ANSI C63.10-2020 Section 9.10 and 9.11 and ANSI C63.10-2020 clause 4.1.5.2.8 and Annex L.

For above 40GHz emission:

$$\text{EIRP} = \text{Prx} - \text{Grx} + \text{Free space loss} = \text{Prx} - \text{Grx} + 20 \cdot \log(4 \pi d / \lambda) + \text{Path Loss}$$

Which

$\text{Prx}$  = Read Level

$\text{Grx}$  = Rx Antenna Gain

A distance factor is offset and formula is  $20 \cdot \log(D1/D2)$

Which

$D1$  = Specification distance = 3m

$D2$  = Measurement distance

$$\text{Power Density (W/m}^2\text{)} = 10^{[(\text{EIRP}-30)/10]} / 4 \pi d$$

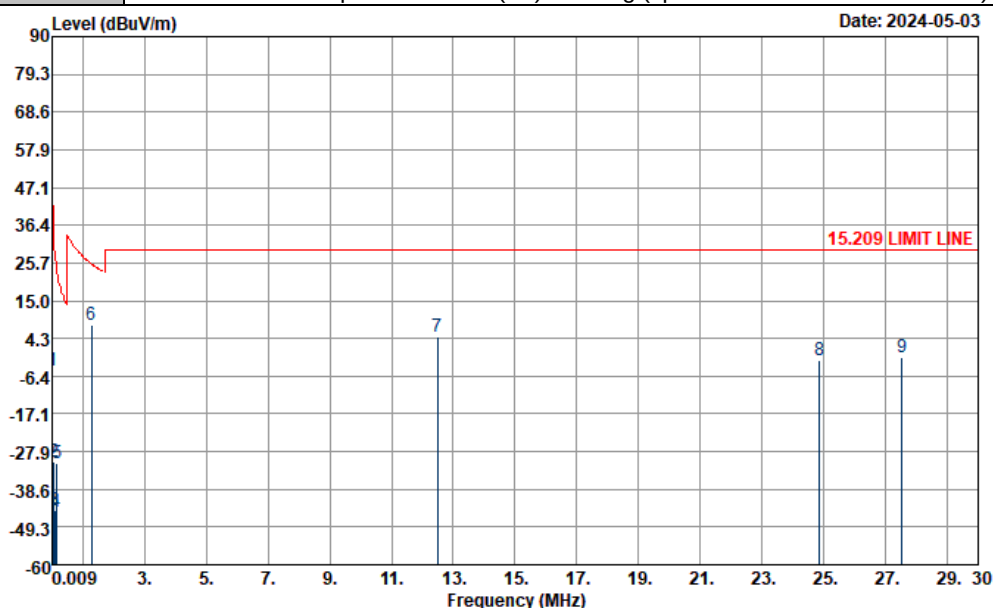
$$\text{Power Density (pW/cm}^2\text{)} = \text{Power Density (W/m}^2\text{)} * 10^{(-8)}$$



## 3.7.4 Test Result

&lt;Below 30MHz&gt;

|                    |                                                                                                                                                                                                             |                   |              |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|
| Temperature        | 20.1 ~ 22.6℃                                                                                                                                                                                                | Relative Humidity | 55.3 ~ 66.5% |
| Test Engineer      | Troye Hsieh, Yuan Lee and Sam Chou                                                                                                                                                                          | Test Distance     | 3m           |
| Test Range         | 9KHz to 30MHz                                                                                                                                                                                               | Test Polarization | Horizontal   |
| Test Configuration | Mode 1: 60GHz FMCW mode                                                                                                                                                                                     |                   |              |
| Remark             | 1. Level ( dBμV/m ) = Read Level (dBμV) + Antenna Factor (dB) + Cable Loss (dB) + Distance extrapolation factor (dB).<br>2. Distance extrapolation factor (dB) = 40 log (specific distance / test distance) |                   |              |

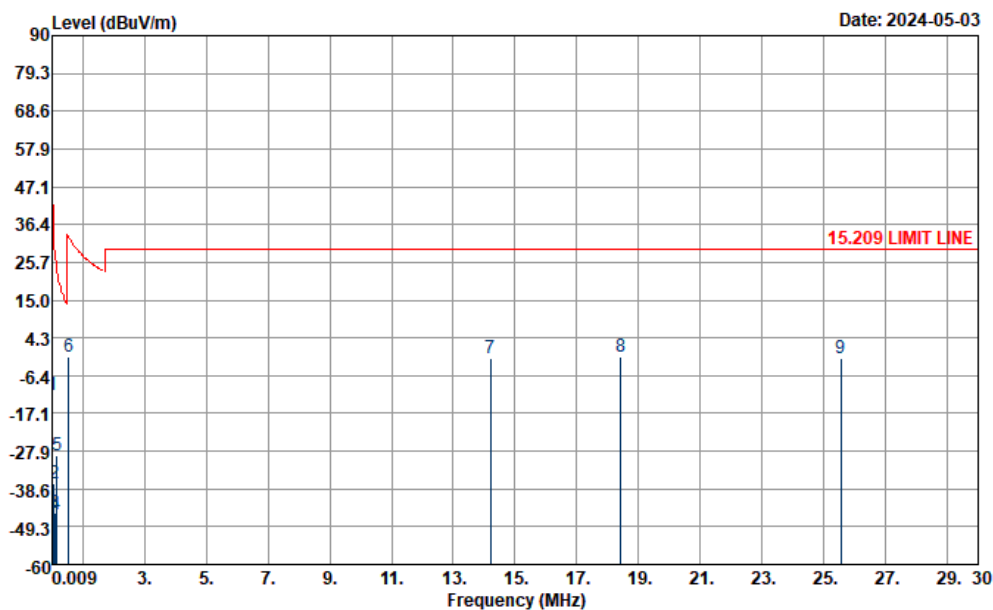


Site : 03CH11-HY  
Condition : 15.209 LIMIT LINE 3m LOOP\_100488\_230912 HORIZONTAL  
Detector : Peak  
Project : 432213

| Mark | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Distance<br>extrapolation<br>Factor<br>( dB ) | Margin<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|------|----------------------|---------------------|-----------------------------------------------|------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|----------------------|-------------------------|---------|
| 1    | 0.0192               | -5.01               | -80                                           | -46.95           | 41.94                       | 55.62                     | 19.31                       | 0.06                    | -                    | -                       | Average |
| 2    | 0.06654              | -30.59              | -80                                           | -61.73           | 31.14                       | 31.14                     | 18.2                        | 0.07                    | -                    | -                       | Average |
| 3    | 0.09586              | -44.41              | -80                                           | -72.38           | 27.97                       | 17.46                     | 18.06                       | 0.07                    | -                    | -                       | QP      |
| 4    | 0.11644              | -44.76              | -80                                           | -71.04           | 26.28                       | 17                        | 18.17                       | 0.07                    | -                    | -                       | Average |
| 5    | 0.15442              | -31.03              | -80                                           | -54.86           | 23.83                       | 30.58                     | 18.32                       | 0.07                    | -                    | -                       | Average |
| 6    | 1.279                | 7.9                 | -40                                           | -17.57           | 25.47                       | 29.16                     | 18.67                       | 0.07                    | -                    | -                       | QP      |
| 7    | 12.496               | 4.74                | -40                                           | -24.76           | 29.5                        | 23.82                     | 20.8                        | 0.12                    | -                    | -                       | QP      |
| 8    | 24.856               | -1.88               | -40                                           | -31.38           | 29.5                        | 15.28                     | 22.74                       | 0.1                     | -                    | -                       | QP      |
| 9    | 27.525               | -1.21               | -40                                           | -30.71           | 29.5                        | 15.83                     | 22.8                        | 0.16                    | -                    | -                       | QP      |



|                    |                                                                                                                                                                                                             |                   |              |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|
| Temperature        | 20.1 ~ 22.6℃                                                                                                                                                                                                | Relative Humidity | 55.3 ~ 66.5% |
| Test Engineer      | Troye Hsieh, Yuan Lee and Sam Chou                                                                                                                                                                          | Test Distance     | 3m           |
| Test Range         | 9KHz to 30MHz                                                                                                                                                                                               | Test Polarization | Vertical     |
| Test Configuration | Mode 1: 60GHz FMCW mode                                                                                                                                                                                     |                   |              |
| Remark             | 1. Level ( dBμV/m ) = Read Level (dBμV) + Antenna Factor (dB) + Cable Loss (dB) + Distance extrapolation factor (dB).<br>2. Distance extrapolation factor (dB) = 40 log (specific distance / test distance) |                   |              |

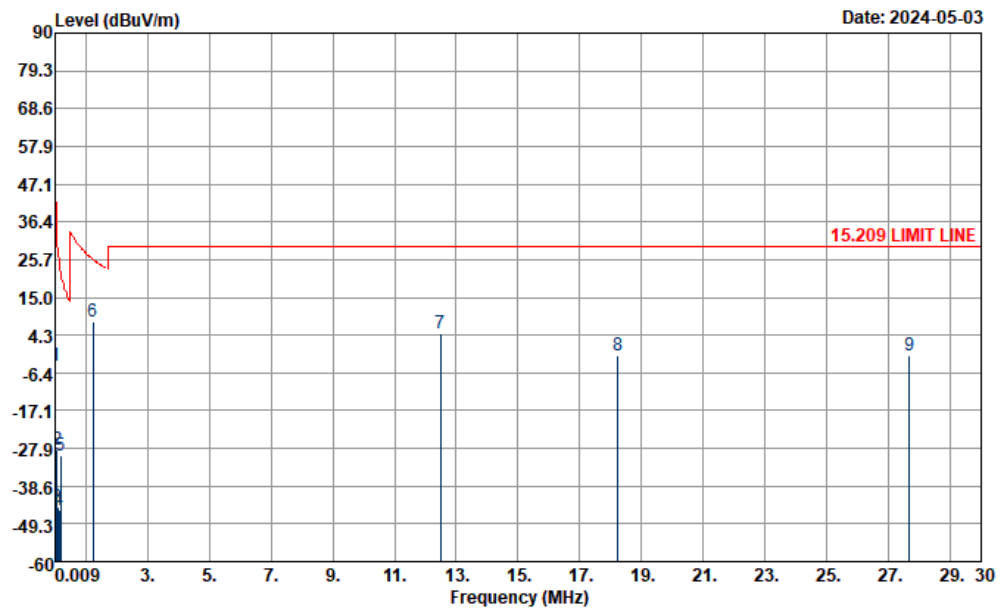


Site : 03CH11-HY  
Condition : 15.209 LIMIT LINE 3m LOOP\_100488\_230912 VERTICAL  
Detector : Peak  
Project : 432213

| Mark | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Distance<br>extrapolation<br>Factor<br>( dB ) | Margin<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|------|----------------------|---------------------|-----------------------------------------------|------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------|-------------------------|---------|
| 1    | 0.0192               | -12.14              | -80                                           | -54.08           | 41.94                       | 48.49                   | 19.31                       | 0.06                    | -                    | -                       | Average |
| 2    | 0.06639              | -36.87              | -80                                           | -68.03           | 31.16                       | 24.87                   | 18.19                       | 0.07                    | -                    | -                       | Average |
| 3    | 0.10192              | -45.37              | -80                                           | -72.81           | 27.44                       | 16.45                   | 18.11                       | 0.07                    | -                    | -                       | QP      |
| 4    | 0.11392              | -45.62              | -80                                           | -72.09           | 26.47                       | 16.15                   | 18.16                       | 0.07                    | -                    | -                       | Average |
| 5    | 0.16054              | -29.25              | -80                                           | -52.74           | 23.49                       | 32.34                   | 18.34                       | 0.07                    | -                    | -                       | Average |
| 6    | 0.55008              | -1                  | -40                                           | -33.8            | 32.8                        | 20.09                   | 18.85                       | 0.06                    | -                    | -                       | QP      |
| 7    | 14.216               | -1.65               | -40                                           | -31.15           | 29.5                        | 17.59                   | 20.62                       | 0.14                    | -                    | -                       | QP      |
| 8    | 18.421               | -0.93               | -40                                           | -30.43           | 29.5                        | 17.22                   | 21.74                       | 0.11                    | -                    | -                       | QP      |
| 9    | 25.545               | -1.44               | -40                                           | -30.94           | 29.5                        | 15.77                   | 22.68                       | 0.11                    | -                    | -                       | QP      |



|                    |                                                                                                                                                                                                             |                   |              |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|
| Temperature        | 20.1 ~ 22.6℃                                                                                                                                                                                                | Relative Humidity | 55.3 ~ 66.5% |
| Test Engineer      | Troye Hsieh, Yuan Lee and Sam Chou                                                                                                                                                                          | Test Distance     | 3m           |
| Test Range         | 9KHz to 30MHz                                                                                                                                                                                               | Test Polarization | Horizontal   |
| Test Configuration | Mode 2: 60GHz FMCW mode + WLAN module (11n Ch48 Setting 19 + BLE Ch00 Setting 18)                                                                                                                           |                   |              |
| Remark             | 1. Level ( dBμV/m ) = Read Level (dBμV) + Antenna Factor (dB) + Cable Loss (dB) + Distance extrapolation factor (dB).<br>2. Distance extrapolation factor (dB) = 40 log (specific distance / test distance) |                   |              |

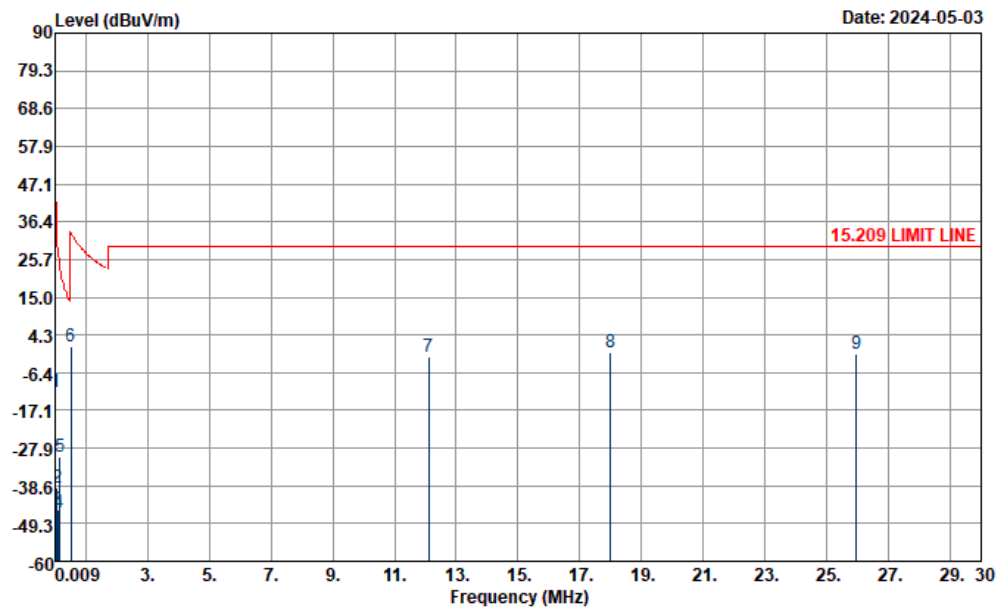


Site : 03CH11-HY  
Condition : 15.209 LIMIT LINE 3m LOOP\_100488\_230912 HORIZONTAL  
Detector : Peak  
Project : 432213

| Mark | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Distance<br>extrapolation<br>Factor<br>( dB ) | Margin<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|------|----------------------|---------------------|-----------------------------------------------|------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------|-------------------------|---------|
| 1    | 0.0192               | -4.61               | -80                                           | -46.55           | 41.94                       | 56.02                   | 19.31                       | 0.06                    | -                    | -                       | Average |
| 2    | 0.06642              | -28.33              | -80                                           | -59.49           | 31.16                       | 33.41                   | 18.19                       | 0.07                    | -                    | -                       | Average |
| 3    | 0.09578              | -44.66              | -80                                           | -72.64           | 27.98                       | 17.21                   | 18.06                       | 0.07                    | -                    | -                       | QP      |
| 4    | 0.135                | -45.3               | -80                                           | -70.3            | 25                          | 16.39                   | 18.24                       | 0.07                    | -                    | -                       | Average |
| 5    | 0.17754              | -29.91              | -80                                           | -52.53           | 22.62                       | 31.61                   | 18.41                       | 0.07                    | -                    | -                       | Average |
| 6    | 1.241                | 7.92                | -40                                           | -17.81           | 25.73                       | 29.17                   | 18.68                       | 0.07                    | -                    | -                       | QP      |
| 7    | 12.496               | 4.97                | -40                                           | -24.53           | 29.5                        | 24.05                   | 20.8                        | 0.12                    | -                    | -                       | QP      |
| 8    | 18.241               | -1.49               | -40                                           | -30.99           | 29.5                        | 16.68                   | 21.72                       | 0.11                    | -                    | -                       | QP      |
| 9    | 27.67                | -1.39               | -40                                           | -30.89           | 29.5                        | 15.65                   | 22.8                        | 0.16                    | -                    | -                       | QP      |



|                    |                                                                                                                                                                                                             |                   |              |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|
| Temperature        | 20.1 ~ 22.6℃                                                                                                                                                                                                | Relative Humidity | 55.3 ~ 66.5% |
| Test Engineer      | Troye Hsieh, Yuan Lee and Sam Chou                                                                                                                                                                          | Test Distance     | 3m           |
| Test Range         | 9KHz to 30MHz                                                                                                                                                                                               | Test Polarization | Vertical     |
| Test Configuration | Mode 2: 60GHz FMCW mode + WLAN module (11n Ch48 Setting 19 + BLE Ch00 Setting 18)                                                                                                                           |                   |              |
| Remark             | 1. Level ( dBμV/m ) = Read Level (dBμV) + Antenna Factor (dB) + Cable Loss (dB) + Distance extrapolation factor (dB).<br>2. Distance extrapolation factor (dB) = 40 log (specific distance / test distance) |                   |              |



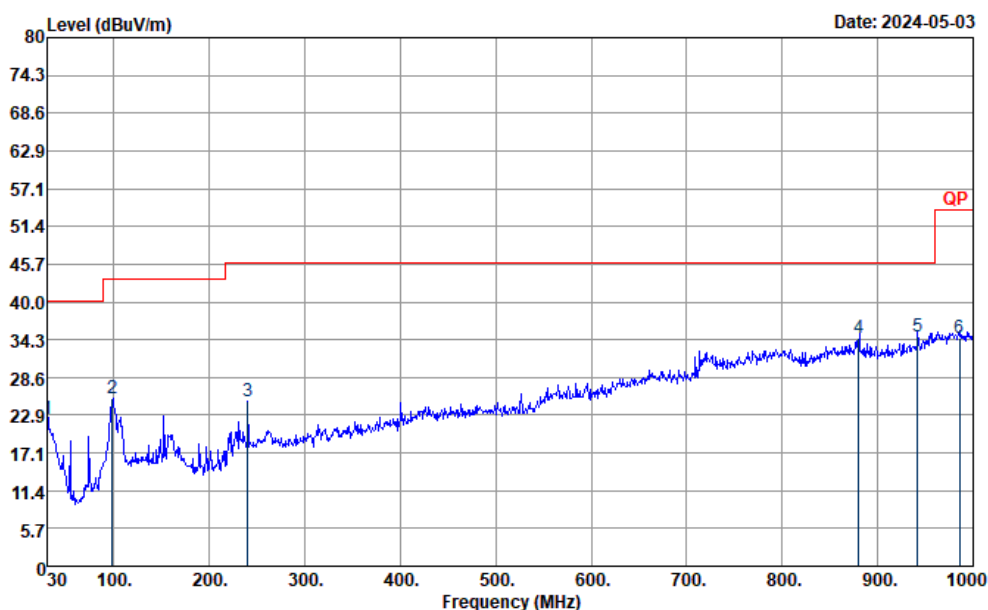
Site : 03CH11-HY  
Condition : 15.209 LIMIT LINE 3m LOOP\_100488\_230912 VERTICAL  
Detector : Peak  
Project : 432213

| Mark | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Distance<br>extrapolation<br>Factor<br>( dB ) | Margin<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Cable<br>Loss<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|------|----------------------|---------------------|-----------------------------------------------|------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|----------------------|-------------------------|---------|
| 1    | 0.0192               | -12.02              | -80                                           | -53.96           | 41.94                       | 48.61                   | 19.31                       | 0.06                    | -                    | -                       | Average |
| 2    | 0.06654              | -38.98              | -80                                           | -70.12           | 31.14                       | 22.75                   | 18.2                        | 0.07                    | -                    | -                       | Average |
| 3    | 0.10278              | -45.43              | -80                                           | -72.8            | 27.37                       | 16.39                   | 18.11                       | 0.07                    | -                    | -                       | QP      |
| 4    | 0.11736              | -46.1               | -80                                           | -72.31           | 26.21                       | 15.66                   | 18.17                       | 0.07                    | -                    | -                       | Average |
| 5    | 0.15544              | -30.33              | -80                                           | -54.1            | 23.77                       | 31.28                   | 18.32                       | 0.07                    | -                    | -                       | Average |
| 6    | 0.51253              | 1.08                | -40                                           | -32.33           | 33.41                       | 22.13                   | 18.89                       | 0.06                    | -                    | -                       | QP      |
| 7    | 12.096               | -1.87               | -40                                           | -31.37           | 29.5                        | 17.13                   | 20.88                       | 0.12                    | -                    | -                       | QP      |
| 8    | 18.007               | -0.7                | -40                                           | -30.2            | 29.5                        | 17.48                   | 21.7                        | 0.12                    | -                    | -                       | QP      |
| 9    | 25.96                | -1.14               | -40                                           | -30.64           | 29.5                        | 16.22                   | 22.52                       | 0.12                    | -                    | -                       | QP      |



## &lt;30MHz to 1GHz&gt;

|                    |                                                                                                                                                                                                                                                                                                                                 |                   |              |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|
| Temperature        | 20.1 ~ 22.6℃                                                                                                                                                                                                                                                                                                                    | Relative Humidity | 55.3 ~ 66.5% |
| Test Engineer      | Troye Hsieh, Yuan Lee<br>and Sam Chou                                                                                                                                                                                                                                                                                           | Test Distance     | 3m           |
| Test Range         | 30MHz to 1GHz                                                                                                                                                                                                                                                                                                                   | Test Polarization | Horizontal   |
| Test Configuration | Mode 1: 60GHz FMCW mode                                                                                                                                                                                                                                                                                                         |                   |              |
| Remark             | 1. Level ( dBμV/m ) = Read Level (dBμV) + Antenna Factor (dB) + Path Loss(dB) - Preamp Factor (dB)<br>2. Path Loss(dB) = Cable loss(dB) + Filter loss(dB)<br>3. The emission position marked as "-" means no suspected emission found and emission level has at least 6dB margin against limit or emission is noise floor only. |                   |              |

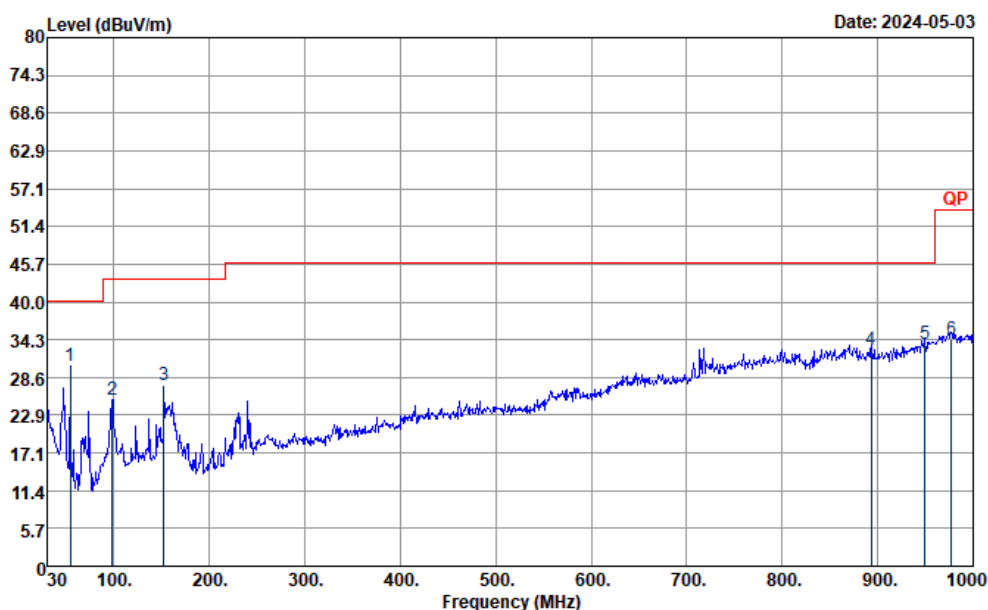


| Mark | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Margin<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>(dB) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark |
|------|----------------------|---------------------|------------------|-----------------------------|-------------------------|-----------------------------|------------------------|--------------------------|----------------------|-------------------------|--------|
| 1    | 30.27                | 22.28               | -17.72           | 40                          | 30.16                   | 23.91                       | 0.67                   | 32.46                    | -                    | -                       | Peak   |
| 2    | 98.31                | 25.48               | -18.02           | 43.5                        | 40.9                    | 15.69                       | 1.26                   | 32.37                    | -                    | -                       | Peak   |
| 3    | 240.06               | 24.98               | -21.02           | 46                          | 38.07                   | 17.02                       | 2.09                   | 32.2                     | -                    | -                       | Peak   |
| 4    | 880.3                | 34.47               | -11.53           | 46                          | 32.75                   | 29                          | 4.28                   | 31.56                    | -                    | -                       | Peak   |
| 5    | 941.9                | 34.73               | -11.27           | 46                          | 31.24                   | 30.06                       | 4.51                   | 31.08                    | -                    | -                       | Peak   |
| 6    | 986                  | 34.49               | -19.51           | 54                          | 29.88                   | 30.56                       | 4.61                   | 30.56                    | -                    | -                       | Peak   |





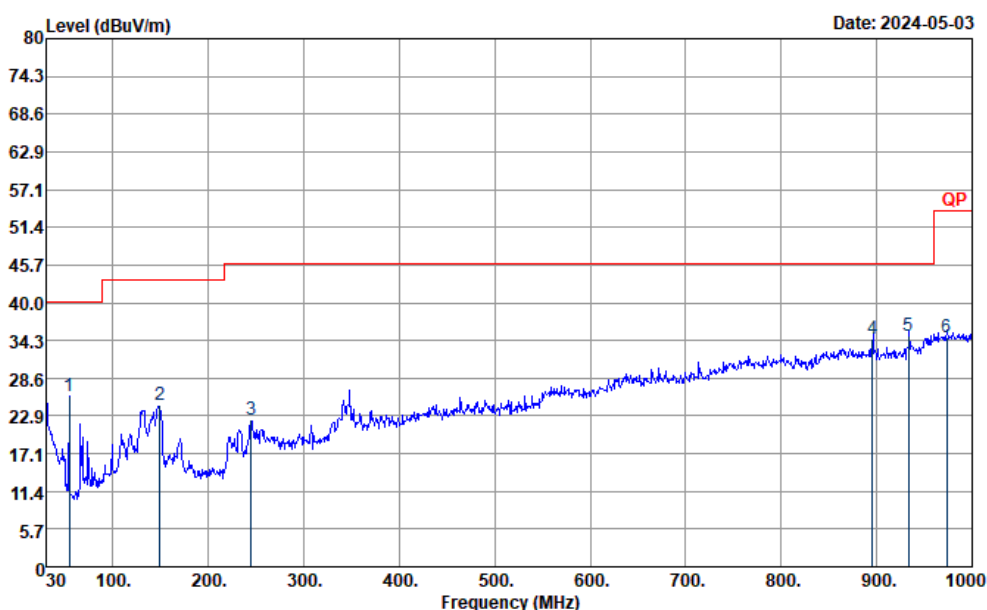
|                    |                                                                                                                                                                                                                                                                                                                                                                                  |                   |              |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|
| Temperature        | 20.1 ~ 22.6℃                                                                                                                                                                                                                                                                                                                                                                     | Relative Humidity | 55.3 ~ 66.5% |
| Test Engineer      | Troye Hsieh, Yuan Lee and Sam Chou                                                                                                                                                                                                                                                                                                                                               | Test Distance     | 3m           |
| Test Range         | 30MHz to 1GHz                                                                                                                                                                                                                                                                                                                                                                    | Test Polarization | Vertical     |
| Test Configuration | Mode 1: 60GHz FMCW mode                                                                                                                                                                                                                                                                                                                                                          |                   |              |
| Remark             | <ol style="list-style-type: none"><li>Level ( dBμV/m ) = Read Level (dBμV) + Antenna Factor (dB) + Path Loss(dB) - Preamp Factor (dB)</li><li>Path Loss(dB) = Cable loss(dB) + Filter loss(dB)</li><li>The emission position marked as "-" means no suspected emission found and emission level has at least 6dB margin against limit or emission is noise floor only.</li></ol> |                   |              |



| Mark | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Margin<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>(dB) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark |
|------|----------------------|---------------------|------------------|-----------------------------|-------------------------|-----------------------------|------------------------|--------------------------|----------------------|-------------------------|--------|
| 1    | 54.03                | 30.38               | -9.62            | 40                          | 49.14                   | 12.63                       | 0.78                   | 32.17                    | -                    | -                       | Peak   |
| 2    | 98.31                | 25.14               | -18.36           | 43.5                        | 40.56                   | 15.69                       | 1.26                   | 32.37                    | -                    | -                       | Peak   |
| 3    | 152.04               | 27.33               | -16.17           | 43.5                        | 41.21                   | 16.72                       | 1.64                   | 32.24                    | -                    | -                       | Peak   |
| 4    | 892.9                | 32.75               | -13.25           | 46                          | 31.01                   | 28.93                       | 4.33                   | 31.52                    | -                    | -                       | Peak   |
| 5    | 949.6                | 33.69               | -12.31           | 46                          | 29.6                    | 30.55                       | 4.54                   | 31                       | -                    | -                       | Peak   |
| 6    | 976.9                | 34.34               | -19.66           | 54                          | 29.44                   | 30.98                       | 4.59                   | 30.67                    | -                    | -                       | Peak   |



|                    |                                                                                                                                                                                                                                                                                                      |                   |              |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|
| Temperature        | 20.1 ~ 22.6°C                                                                                                                                                                                                                                                                                        | Relative Humidity | 55.3 ~ 66.5% |
| Test Engineer      | Troye Hsieh, Yuan Lee<br>and Sam Chou                                                                                                                                                                                                                                                                | Test Distance     | 3m           |
| Test Range         | 30MHz to 1GHz                                                                                                                                                                                                                                                                                        | Test Polarization | Horizontal   |
| Test Configuration | Mode 2: 60GHz FMCW mode + WLAN module (11n Ch48 Setting 19 + BLE Ch00 Setting 18)                                                                                                                                                                                                                    |                   |              |
| Remark             | 1. Level ( dBμV/m ) = Read Level (dBμV) + Antenna Factor (dB) + Path Loss(dB) - Preamp Factor (dB)<br>2. Path Loss(dB) = Cable loss(dB) + Filter loss(dB)<br>3. The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only. |                   |              |

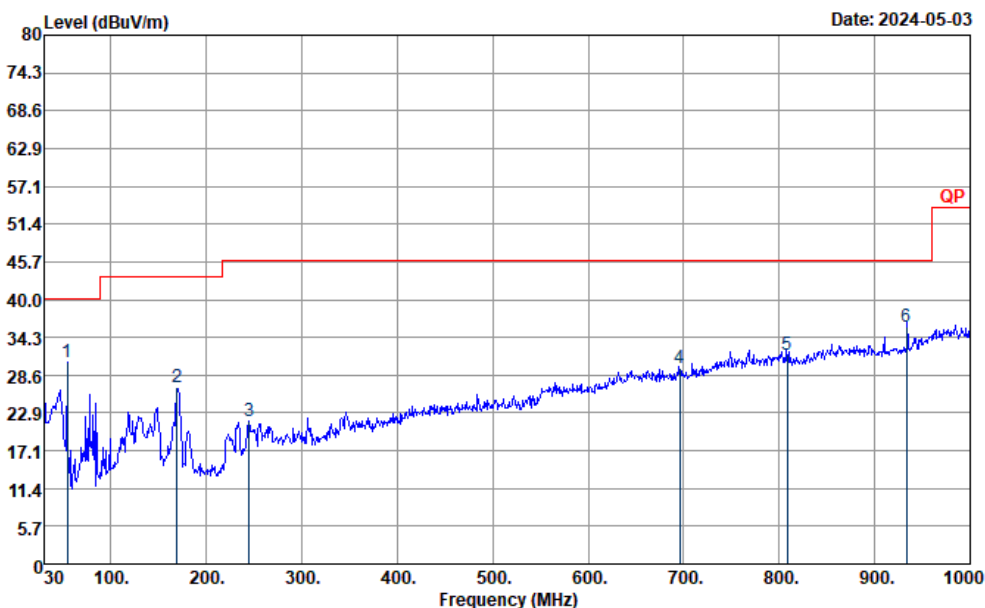


Site : 03CH11-HY  
Condition : QP 3m 2\_BILOG\_35414\_231007 HORIZONTAL  
: RBW:120.000KHz VBW:300.000KHz SWT:0.500sec  
: .  
Detector : Peak  
Project : 432213

| Mark | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Margin<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>(dB) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark |
|------|----------------------|---------------------|------------------|-----------------------------|-------------------------|-----------------------------|------------------------|--------------------------|----------------------|-------------------------|--------|
| 1    | 54.03                | 25.76               | -14.24           | 40                          | 44.52                   | 12.63                       | 0.78                   | 32.17                    | -                    | -                       | Peak   |
| 2    | 149.07               | 24.43               | -19.07           | 43.5                        | 38.25                   | 16.83                       | 1.61                   | 32.26                    | -                    | -                       | Peak   |
| 3    | 244.92               | 22.18               | -23.82           | 46                          | 34.64                   | 17.62                       | 2.1                    | 32.18                    | -                    | -                       | Peak   |
| 4    | 895.7                | 34.57               | -11.43           | 46                          | 32.82                   | 28.91                       | 4.35                   | 31.51                    | -                    | -                       | Peak   |
| 5    | 933.5                | 34.97               | -11.03           | 46                          | 32                      | 29.66                       | 4.48                   | 31.17                    | -                    | -                       | Peak   |
| 6    | 973.4                | 34.82               | -19.18           | 54                          | 29.87                   | 31.07                       | 4.59                   | 30.71                    | -                    | -                       | Peak   |



|                    |                                                                                                                                                                                                                                                                                                                                                       |                   |              |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|
| Temperature        | 20.1 ~ 22.6℃                                                                                                                                                                                                                                                                                                                                          | Relative Humidity | 55.3 ~ 66.5% |
| Test Engineer      | Troye Hsieh, Yuan Lee and Sam Chou                                                                                                                                                                                                                                                                                                                    | Test Distance     | 3m           |
| Test Range         | 30MHz to 1GHz                                                                                                                                                                                                                                                                                                                                         | Test Polarization | Vertical     |
| Test Configuration | Mode 2: 60GHz FMCW mode + WLAN module (11n Ch48 Setting 19 + BLE Ch00 Setting 18)                                                                                                                                                                                                                                                                     |                   |              |
| Remark             | <ol style="list-style-type: none"><li>Level ( dBμV/m ) = Read Level (dBμV) + Antenna Factor (dB) + Path Loss(dB) - Preamp Factor (dB)</li><li>Path Loss(dB) = Cable loss(dB) + Filter loss(dB)</li><li>The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.</li></ol> |                   |              |



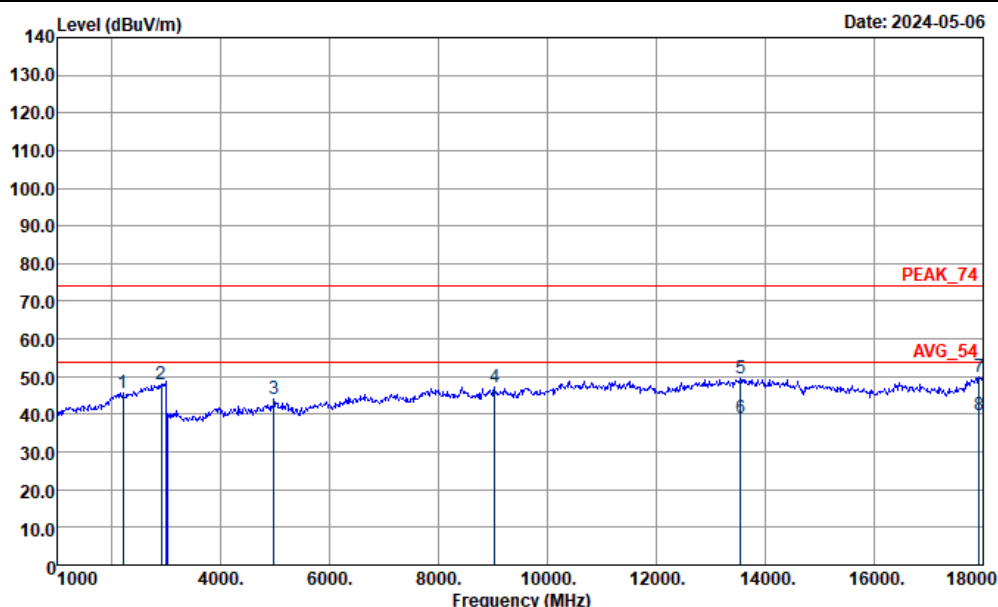
Site : 03CH11-HY  
Condition : QP 3m 2\_BILOG\_35414\_231007 VERTICAL  
: RBW:120.000KHz VBW:300.000KHz SWT:0.500sec  
: .  
Detector : Peak  
Project : 432213

| Mark | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Margin<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>(dB) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark |
|------|----------------------|---------------------|------------------|-----------------------------|-------------------------|-----------------------------|------------------------|--------------------------|----------------------|-------------------------|--------|
| 1    | 54.03                | 30.46               | -9.54            | 40                          | 49.22                   | 12.63                       | 0.78                   | 32.17                    | -                    | -                       | Peak   |
| 2    | 169.32               | 26.64               | -16.86           | 43.5                        | 41.55                   | 15.45                       | 1.72                   | 32.08                    | -                    | -                       | Peak   |
| 3    | 244.38               | 21.56               | -24.44           | 46                          | 34.09                   | 17.55                       | 2.1                    | 32.18                    | -                    | -                       | Peak   |
| 4    | 695.5                | 29.55               | -16.45           | 46                          | 31.03                   | 26.51                       | 3.74                   | 31.73                    | -                    | -                       | Peak   |
| 5    | 808.2                | 31.66               | -14.34           | 46                          | 31.08                   | 27.99                       | 4.13                   | 31.54                    | -                    | -                       | Peak   |
| 6    | 933.5                | 35.93               | -10.07           | 46                          | 32.96                   | 29.66                       | 4.48                   | 31.17                    | -                    | -                       | Peak   |



&lt;1GHz to 18GHz&gt;

|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |              |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|
| Temperature        | 20.1 ~ 22.6℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Relative Humidity | 55.3 ~ 66.5% |
| Test Engineer      | Troye Hsieh, Yuan Lee and Sam Chou                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Test Distance     | 3m           |
| Test Range         | 1GHz to 18GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Test Polarization | Horizontal   |
| Test Configuration | Mode 1: 60GHz FMCW mode                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |              |
| Remark             | <ol style="list-style-type: none"><li>Level ( dBμV/m ) = Read Level (dBμV) + Antenna Factor (dB) + Path Loss(dB) - Preamp Factor (dB)</li><li>Average Path Loss(dB) = Cable loss(dB) + Filter loss(dB)</li><li>Peak Path loss(dB) = Cable loss(dB) + Filter loss(dB) + desensitization correction factor(See section 3.7.5)</li><li>The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.</li></ol> |                   |              |

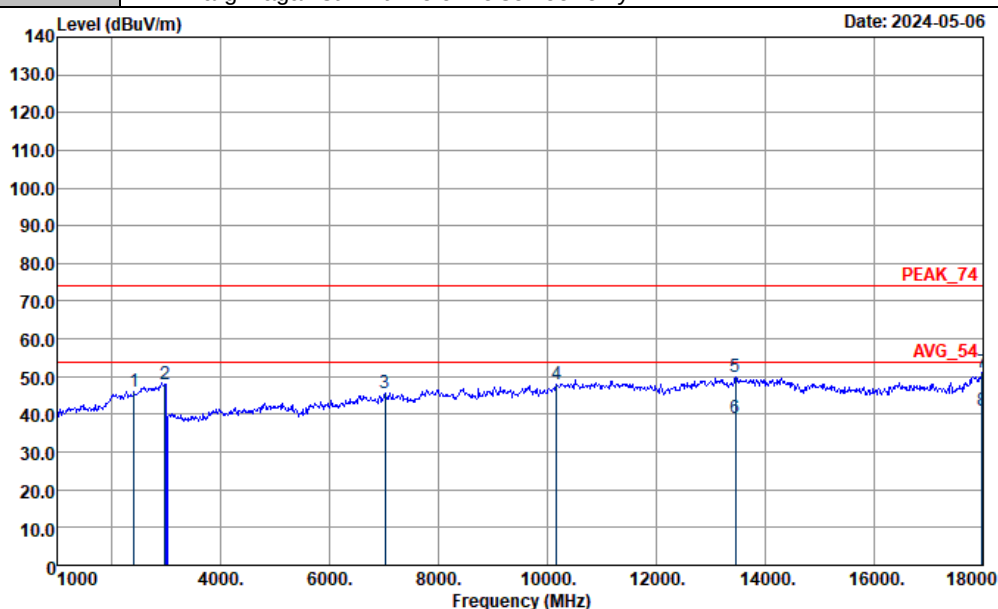


Site : 03CH11-HY  
Condition : PEAK\_74 3m 9120D\_01620\_230817 HORIZONTAL  
.:  
Detector : Peak  
Project : 432213

| Mark | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Margin<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|------|----------------------|---------------------|------------------|-----------------------------|---------------------------|-----------------------------|------------------------|----------------------------|----------------------|-------------------------|---------|
| 1    | 2206                 | 56.79               | -17.21           | 74                          | 45.34                     | 27.2                        | 17.70                  | 33.45                      | -                    | -                       | Peak    |
| 2    | 2908                 | 58.89               | -15.11           | 74                          | 44.53                     | 29.06                       | 18.62                  | 33.32                      | -                    | -                       | Peak    |
| 3    | 4980                 | 55.18               | -18.82           | 74                          | 57.06                     | 33.12                       | 22.86                  | 57.86                      | -                    | -                       | Peak    |
| 4    | 9030                 | 58.16               | -15.84           | 74                          | 51.27                     | 37.9                        | 27.24                  | 58.25                      | -                    | -                       | Peak    |
| 5    | 13545                | 60.40               | -13.60           | 74                          | 51.6                      | 40.48                       | 30.87                  | 62.55                      | 100                  | 120                     | Peak    |
| 6    | 13545                | 39.12               | -14.88           | 54                          | 41.38                     | 40.48                       | 19.81                  | 62.55                      | 100                  | 120                     | Average |
| 7    | 17925                | 61.06               | -12.94           | 74                          | 41.23                     | 41.65                       | 34.44                  | 56.26                      | 100                  | 354                     | Peak    |
| 8    | 17925                | 39.90               | -14.10           | 54                          | 31.13                     | 41.65                       | 23.38                  | 56.26                      | 100                  | 354                     | Average |



|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |              |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|
| Temperature        | 20.1 ~ 22.6℃                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Relative Humidity | 55.3 ~ 66.5% |
| Test Engineer      | Troye Hsieh, Yuan Lee and Sam Chou                                                                                                                                                                                                                                                                                                                                                                                                                                         | Test Distance     | 3m           |
| Test Range         | 1GHz to 18GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Test Polarization | Vertical     |
| Test Configuration | Mode 1: 60GHz FMCW mode                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |              |
| Remark             | <ol style="list-style-type: none"><li>Level ( dBμV/m ) = Read Level (dBμV) + Antenna Factor (dB) + Path Loss(dB) - Preamp Factor (dB)</li><li>Path Loss(dB) = Cable loss(dB) + Filter loss(dB)</li><li>Peak Path loss(dB) = Cable loss(dB) + Filter loss(dB) + desensitization correction factor(See section 3.7.5)</li><li>The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.</li></ol> |                   |              |



Site : 03CH11-HY  
Condition : PEAK\_74 3m 9120D\_01620\_230817 VERTICAL  
:.  
Detector : Peak  
Project : 432213

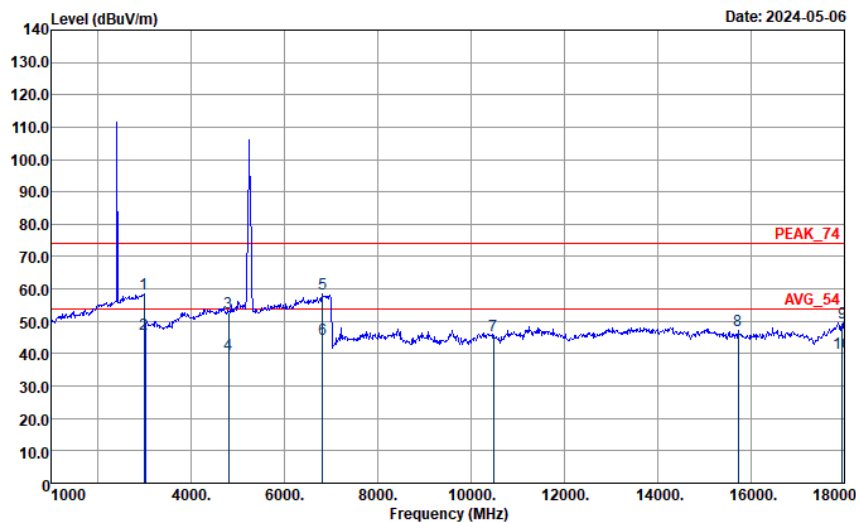
| Mark | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Margin<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>(dB) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|------|----------------------|---------------------|------------------|-----------------------------|-------------------------|-----------------------------|------------------------|--------------------------|----------------------|-------------------------|---------|
| 1    | 2408                 | 56.94               | -17.06           | 74                          | 44.91                   | 27.5                        | 17.86                  | 33.33                    | -                    | -                       | Peak    |
| 2    | 2978                 | 58.90               | -15.10           | 74                          | 43.92                   | 29.58                       | 18.73                  | 33.33                    | -                    | -                       | Peak    |
| 3    | 7020                 | 56.70               | -17.30           | 74                          | 53.55                   | 35.98                       | 25.73                  | 58.56                    | -                    | -                       | Peak    |
| 4    | 10170                | 58.99               | -15.01           | 74                          | 51.68                   | 38.64                       | 28.46                  | 59.79                    | -                    | -                       | Peak    |
| 5    | 13455                | 60.87               | -13.13           | 74                          | 52.19                   | 40.3                        | 30.86                  | 62.48                    | 100                  | 41                      | Peak    |
| 6    | 13455                | 39.01               | -14.99           | 54                          | 41.39                   | 40.3                        | 19.80                  | 62.48                    | 100                  | 41                      | Average |
| 7    | 17985                | 62.11               | -11.89           | 74                          | 41.84                   | 41.94                       | 34.48                  | 56.15                    | 100                  | 59                      | Peak    |
| 8    | 17985                | 41.12               | -12.88           | 54                          | 31.91                   | 41.94                       | 23.42                  | 56.15                    | 100                  | 59                      | Average |



|                          | Mode 1: 60GHz FMCW mode                                                                                                                      |                                                                                                                                            |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
|                          | Horizontal                                                                                                                                   | Vertical                                                                                                                                   |
| 14.47G<br>~14.5G<br>Avg. | <div><p>Level (dBuV/m)</p><p>Date: 2024-05-06</p><p>Site : 03CH11-HY<br/>Condition : AV6_54 3m 91200_01620_230817 HORIZONTAL<br/>.</p></div> | <div><p>Level (dBuV/m)</p><p>Date: 2024-05-06</p><p>Site : 03CH11-HY<br/>Condition : AV6_54 3m 91200_01620_230817 VERTICAL<br/>.</p></div> |
| 17.7G<br>~18G<br>Avg     | <div><p>Level (dBuV/m)</p><p>Date: 2024-05-06</p><p>Site : 03CH11-HY<br/>Condition : AV6_54 3m 91200_01620_230817 HORIZONTAL<br/>.</p></div> | <div><p>Level (dBuV/m)</p><p>Date: 2024-05-06</p><p>Site : 03CH11-HY<br/>Condition : AV6_54 3m 91200_01620_230817 VERTICAL<br/>.</p></div> |



|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |              |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|
| Temperature        | 20.1 ~ 22.6℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Relative Humidity | 55.3 ~ 66.5% |
| Test Engineer      | Troye Hsieh, Yuan Lee and Sam Chou                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Test Distance     | 3m           |
| Test Range         | 1GHz to 18GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Test Polarization | Horizontal   |
| Test Configuration | Mode 2: 60GHz FMCW mode + WLAN module (11n Ch48 Setting 19 + BLE Ch00 Setting 18)                                                                                                                                                                                                                                                                                                                                                                                                  |                   |              |
| Remark             | <ol style="list-style-type: none"><li>Level ( dBμV/m ) = Read Level (dBμV) + Antenna Factor (dB) + Path Loss(dB) - Preamp Factor (dB)</li><li>Average Path Loss(dB) = Cable loss(dB) + Filter loss(dB)</li><li>Peak Path loss(dB) = Cable loss(dB) + Filter loss(dB) + desensitization correction factor(See section 3.7.5)</li><li>The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.</li></ol> |                   |              |

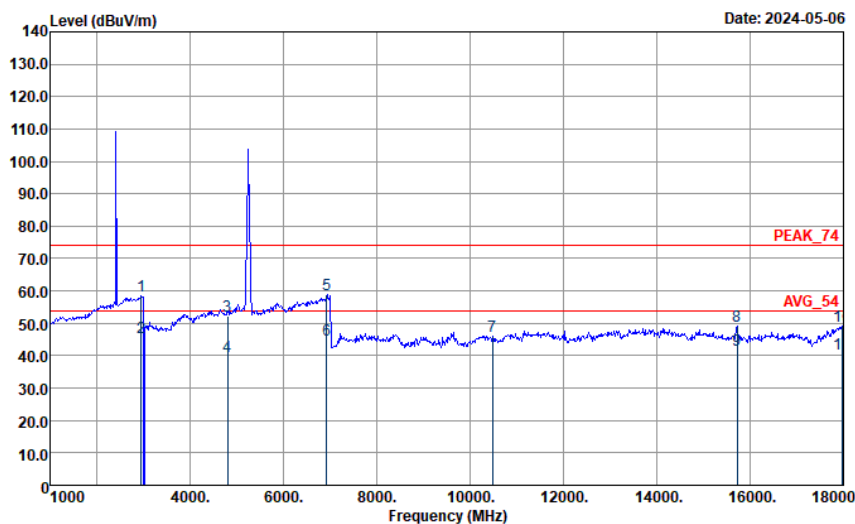


Site : 03CH11-HY  
Condition : PEAK\_74 3m 9120D\_01620\_220824 HORIZONTAL  
Detector : Peak  
Project : 432213

| Mark | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Margin<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>(dB) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|------|----------------------|---------------------|------------------|-----------------------------|-------------------------|-----------------------------|------------------------|--------------------------|----------------------|-------------------------|---------|
| 1    | 2990                 | 69.66               | -4.34            | 74                          | 44.36                   | 29.6                        | 29.03                  | 33.33                    | 100                  | 326                     | Peak    |
| 2    | 2990                 | 46.00               | -8.00            | 54                          | 31.76                   | 29.6                        | 17.97                  | 33.33                    | 100                  | 326                     | Average |
| 3    | 4804                 | 63.82               | -10.18           | 74                          | 42.5                    | 32.42                       | 21.80                  | 32.9                     | 100                  | 345                     | Peak    |
| 4    | 4804                 | 39.82               | -14.18           | 54                          | 29.56                   | 32.42                       | 10.74                  | 32.9                     | 100                  | 345                     | Average |
| 5    | 6812                 | 69.46               | -4.54            | 74                          | 42.69                   | 35.88                       | 24.35                  | 33.46                    | 100                  | 23                      | Peak    |
| 6    | 6812                 | 44.45               | -9.55            | 54                          | 28.74                   | 35.88                       | 13.29                  | 33.46                    | 100                  | 23                      | Average |
| 7    | 10480                | 56.50               | -17.50           | 74                          | 49.46                   | 38.9                        | 28.32                  | 60.18                    | -                    | -                       | Peak    |
| 8    | 15720                | 58.11               | -15.89           | 74                          | 49.57                   | 37.8                        | 32.13                  | 61.39                    | -                    | -                       | Peak    |
| 9    | 17956                | 60.53               | -13.47           | 74                          | 40.56                   | 42.14                       | 34.03                  | 56.2                     | 100                  | 112                     | Peak    |
| 10   | 17956                | 40.19               | -13.81           | 54                          | 31.28                   | 42.14                       | 22.97                  | 56.2                     | 100                  | 112                     | Average |



|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |              |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|
| Temperature        | 20.1 ~ 22.6℃                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Relative Humidity | 55.3 ~ 66.5% |
| Test Engineer      | Troye Hsieh, Yuan Lee and Sam Chou                                                                                                                                                                                                                                                                                                                                                                                                                                         | Test Distance     | 3m           |
| Test Range         | 1GHz to 18GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Test Polarization | Vertical     |
| Test Configuration | Mode 2: 60GHz FMCW mode + WLAN module (11n Ch48 Setting 19 + BLE Ch00 Setting 18)                                                                                                                                                                                                                                                                                                                                                                                          |                   |              |
| Remark             | <ol style="list-style-type: none"><li>Level ( dBμV/m ) = Read Level (dBμV) + Antenna Factor (dB) + Path Loss(dB) - Preamp Factor (dB)</li><li>Path Loss(dB) = Cable loss(dB) + Filter loss(dB)</li><li>Peak Path loss(dB) = Cable loss(dB) + Filter loss(dB) + desensitization correction factor(See section 3.7.5)</li><li>The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.</li></ol> |                   |              |



Site : 03CH11-HY  
Condition : PEAK\_74 3m 9120D\_01620\_220824 VERTICAL  
Detector : Peak  
Project : 432213

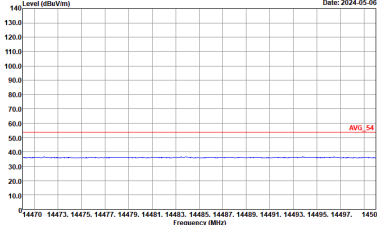
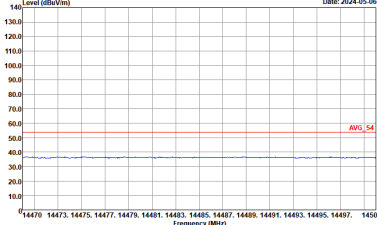
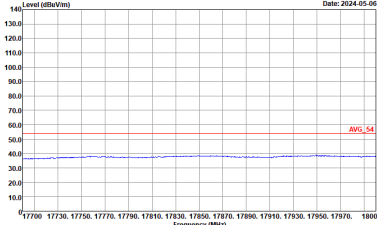
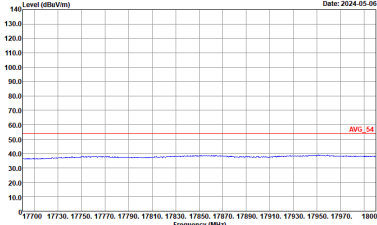
| Mark | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Margin<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark  |
|------|----------------------|---------------------|------------------|-----------------------------|---------------------------|-----------------------------|------------------------|----------------------------|----------------------|-------------------------|---------|
| 1    | 2950                 | 69.47               | -4.53            | 74                          | 44.44                     | 29.4                        | 28.95                  | 33.32                      | 100                  | 61                      | Peak    |
| 2    | 2950                 | 45.76               | -8.24            | 54                          | 31.79                     | 29.4                        | 17.89                  | 33.32                      | 100                  | 61                      | Average |
| 3    | 4804                 | 63.23               | -10.77           | 74                          | 41.91                     | 32.42                       | 21.80                  | 32.9                       | 100                  | 32                      | Peak    |
| 4    | 4804                 | 39.78               | -14.22           | 54                          | 29.52                     | 32.42                       | 10.74                  | 32.9                       | 100                  | 32                      | Average |
| 5    | 6924                 | 69.79               | -4.21            | 74                          | 43.09                     | 35.8                        | 24.43                  | 33.53                      | 100                  | 140                     | Peak    |
| 6    | 6924                 | 44.73               | -9.27            | 54                          | 29.09                     | 35.8                        | 13.37                  | 33.53                      | 100                  | 140                     | Average |
| 7    | 10480                | 57.03               | -16.97           | 74                          | 49.99                     | 38.9                        | 28.32                  | 60.18                      | -                    | -                       | Peak    |
| 8    | 15720                | 60.33               | -13.67           | 74                          | 51.79                     | 37.8                        | 32.13                  | 61.39                      | 100                  | 249                     | Peak    |
| 9    | 15720                | 41.89               | -12.11           | 54                          | 44.41                     | 37.8                        | 21.07                  | 61.39                      | 100                  | 249                     | Average |
| 10   | 17967                | 60.23               | -13.77           | 74                          | 40.18                     | 42.2                        | 34.03                  | 56.18                      | 100                  | 346                     | Peak    |
| 11   | 17967                | 40.42               | -13.58           | 54                          | 31.43                     | 42.2                        | 22.97                  | 56.18                      | 100                  | 346                     | Average |





|                   | Mode 2: 60GHz FMCW mode + WLAN module (11n Ch48 Setting 19 + BLE Ch00 Setting 18)                |                                                                                                |
|-------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
|                   | Horizontal                                                                                       | Vertical                                                                                       |
| 1G<br>-3G<br>Avg. | <div><p>Site : 03CH11-HY<br/>Condition : AV6_54 3m 91200_01620_230817 HORIZONTAL<br/>:</p></div> | <div><p>Site : 03CH11-HY<br/>Condition : AV6_54 3m 91200_01620_230817 VERTICAL<br/>:</p></div> |
| 3G<br>-7G<br>Avg  | <div><p>Site : 03CH11-HY<br/>Condition : AV6_54 3m 91200_01620_230817 HORIZONTAL<br/>:</p></div> | <div><p>Site : 03CH11-HY<br/>Condition : AV6_54 3m 91200_01620_230817 VERTICAL<br/>:</p></div> |

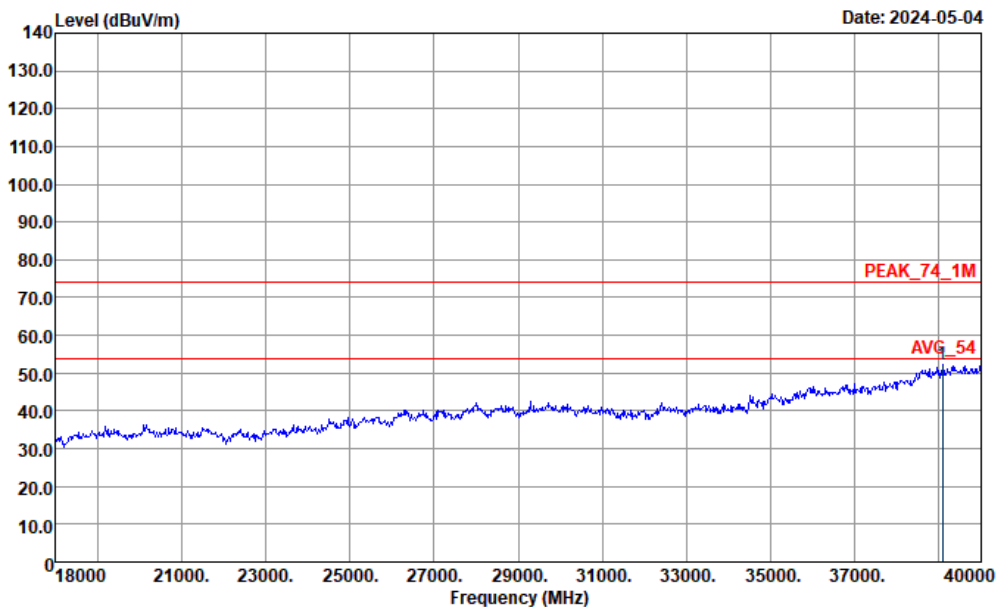


|                          | Mode 2: 60GHz FMCW mode + WLAN module (11n Ch48 Setting 19 + BLE Ch00 Setting 18)                                                                                                                                                                                                                                                                                                                                                                                                                            |          |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
|                          | Horizontal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Vertical |
| 14.47G<br>~14.5G<br>Avg. | <div><div><div>Level (dBuV/m)</div><div>Date: 2024-05-06</div><div>Site : 03CHI1-HY<br/>Condition : AV6_54 3m 91200_01620_230817 HORIZONTAL<br/>:</div></div></div> <div><div><div>Level (dBuV/m)</div><div>Date: 2024-05-06</div><div>Site : 03CHI1-HY<br/>Condition : AV6_54 3m 91200_01620_230817 VERTICAL<br/>:</div></div></div>     |          |
| 17.7G<br>~18G<br>Avg     | <div><div><div>Level (dBuV/m)</div><div>Date: 2024-05-06</div><div>Site : 03CHI1-HY<br/>Condition : AV6_54 3m 91200_01620_230817 HORIZONTAL<br/>:</div></div></div> <div><div><div>Level (dBuV/m)</div><div>Date: 2024-05-06</div><div>Site : 03CHI1-HY<br/>Condition : AV6_54 3m 91200_01620_230817 VERTICAL<br/>:</div></div></div> |          |



&lt;18GHz to 40GHz&gt;

|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                   |              |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|
| Temperature        | 20.1 ~ 22.6℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Relative Humidity | 55.3 ~ 66.5% |
| Test Engineer      | Troye Hsieh, Yuan Lee and Sam Chou                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Test Distance     | 1m           |
| Test Range         | 18GHz to 40GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Test Polarization | Horizontal   |
| Test Configuration | Mode 1: 60GHz FMCW mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                   |              |
| Remark             | <ol style="list-style-type: none"><li>Level ( dBμV/m ) = Read Level (dBμV) + Antenna Factor (dB) + Path Loss(dB) - Preamp Factor (dB)</li><li>Average Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Distance extrapolation factor (dB).</li><li>Peak Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Distance extrapolation factor (dB) + desensitization correction factor(See section 3.7.5)</li><li>The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.</li></ol> |                   |              |

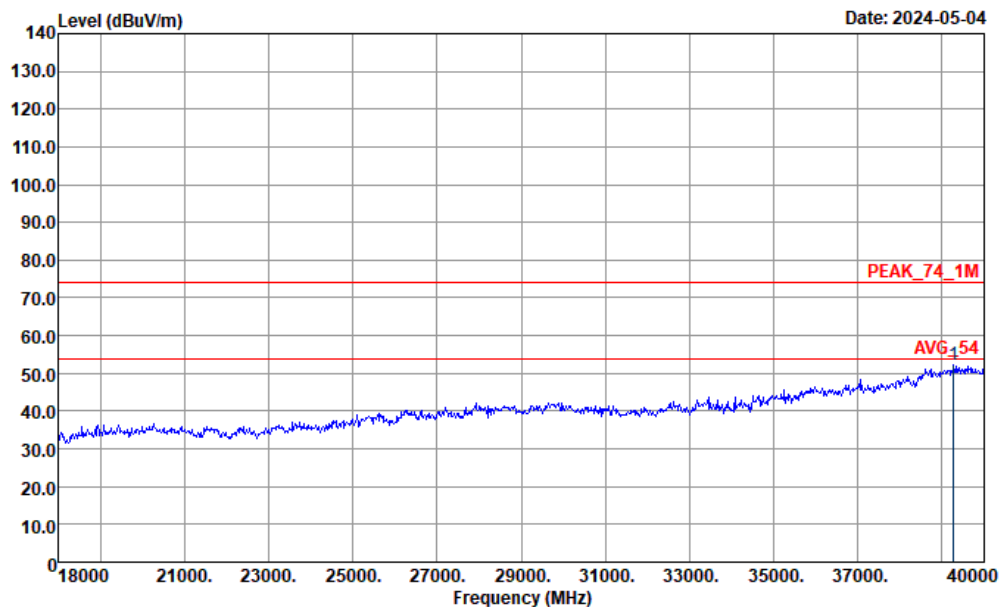


Site : 03CH11-HY  
Condition : PEAK\_74\_1M 1m SHF\_00993\_231124 HORIZONTAL  
Detector : Peak  
Project : 432213

| Mark | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Margin<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark |
|------|----------------------|---------------------|------------------|-----------------------------|---------------------------|-----------------------------|------------------------|----------------------------|----------------------|-------------------------|--------|
| 1    | 39076                | 63.27               | -10.73           | 74                          | 39.73                     | 44.26                       | 36.03                  | 56.75                      | -                    | -                       | Peak   |



|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                   |              |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|
| Temperature        | 20.1 ~ 22.6℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Relative Humidity | 55.3 ~ 66.5% |
| Test Engineer      | Troye Hsieh, Yuan Lee and Sam Chou                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Test Distance     | 1m           |
| Test Range         | 18GHz to 40GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Test Polarization | Vertical     |
| Test Configuration | Mode 1: 60GHz FMCW mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                   |              |
| Remark             | <ol style="list-style-type: none"><li>Level ( dBμV/m ) = Read Level (dBμV) + Antenna Factor (dB) + Path Loss(dB) - Preamp Factor (dB)</li><li>Average Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Distance extrapolation factor (dB).</li><li>Peak Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Distance extrapolation factor (dB) + desensitization correction factor(See section 3.7.5)</li><li>The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.</li></ol> |                   |              |



Site : 03CH11-HY  
Condition : PEAK\_74\_1M 1m SHF\_00993\_231124 VERTICAL  
:.  
Detector : Peak  
Project : 432213

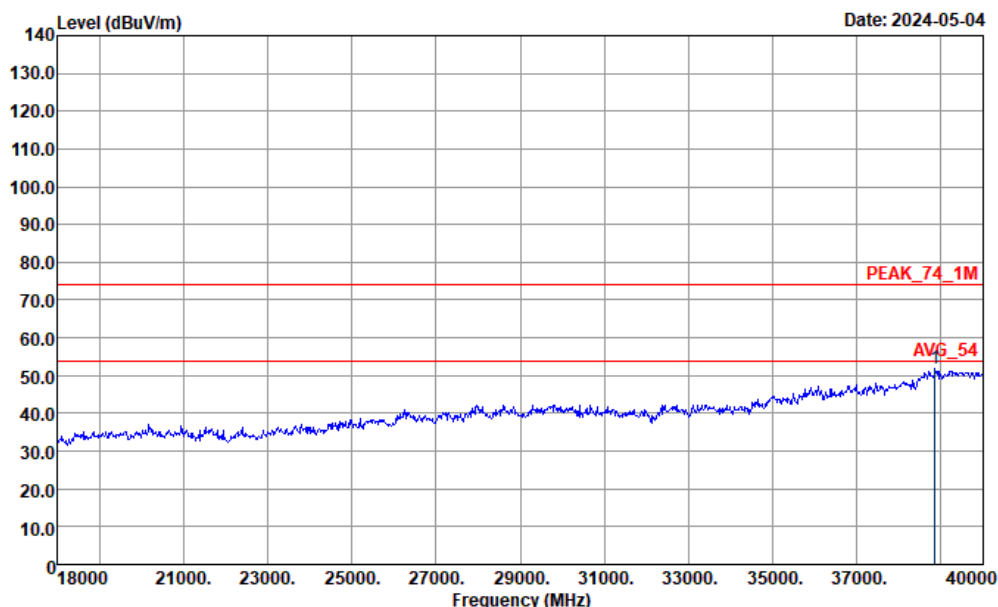
| Mark | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Margin<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>(dB) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark |
|------|----------------------|---------------------|------------------|-----------------------------|-------------------------|-----------------------------|------------------------|--------------------------|----------------------|-------------------------|--------|
| 1    | 39272                | 63.47               | -10.53           | 74                          | 39.28                   | 44.87                       | 35.96                  | 56.64                    | -                    | -                       | Peak   |



|                       | Mode 1: 60GHz FMCW mode                                                                                                                    |                                                                                                                                          |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
|                       | Horizontal                                                                                                                                 | Vertical                                                                                                                                 |
| 38.6G<br>~40G<br>Avg. | <div><p>Level (dBuV/m)</p><p>Date: 2024-05-04</p><p>Site : 03CH11-HY<br/>Condition : AV6_54 1m SHF_00993_Z31124 HORIZONTAL<br/>.</p></div> | <div><p>Level (dBuV/m)</p><p>Date: 2024-05-04</p><p>Site : 03CH11-HY<br/>Condition : AV6_54 1m SHF_00993_Z31124 VERTICAL<br/>.</p></div> |



|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                   |              |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|
| Temperature        | 20.1 ~ 22.6℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Relative Humidity | 55.3 ~ 66.5% |
| Test Engineer      | Troye Hsieh, Yuan Lee and Sam Chou                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Test Distance     | 1m           |
| Test Range         | 18GHz to 40GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Test Polarization | Horizontal   |
| Test Configuration | Mode 2: 60GHz FMCW mode + WLAN module (11n Ch48 Setting 19 + BLE Ch00 Setting 18)                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                   |              |
| Remark             | <ol style="list-style-type: none"><li>Level ( dBμV/m ) = Read Level (dBμV) + Antenna Factor (dB) + Path Loss(dB) - Preamp Factor (dB)</li><li>Average Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Distance extrapolation factor (dB).</li><li>Peak Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Distance extrapolation factor (dB) + desensitization correction factor(See section 3.7.5)</li><li>The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.</li></ol> |                   |              |

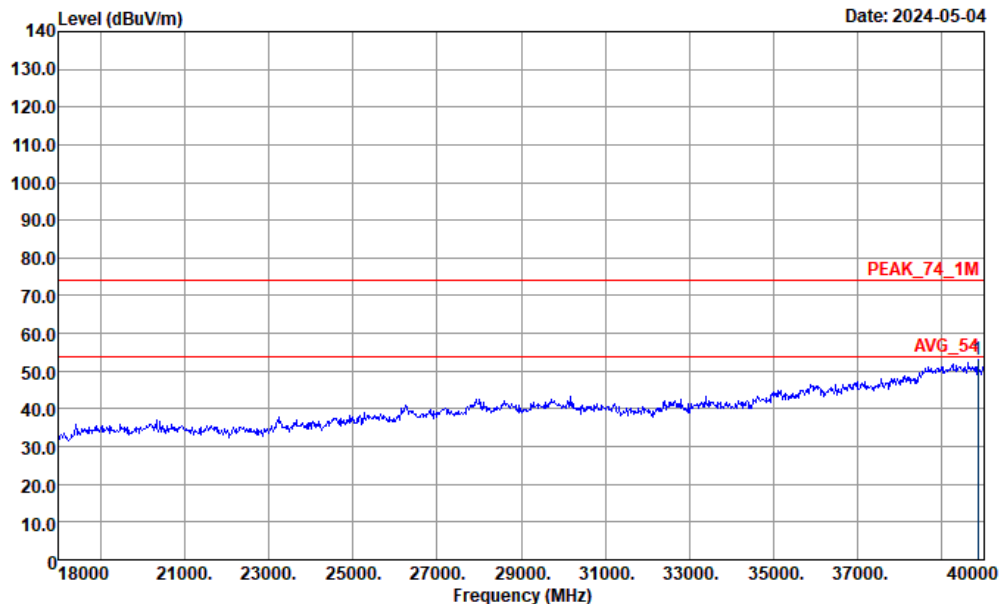


Site : 03CH11-HY  
Condition : PEAK\_74\_1M 1m SHF\_00993\_231124 HORIZONTAL  
Detector : Peak  
Project : 432213

| Mark | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Margin<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>(dB) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark |
|------|----------------------|---------------------|------------------|-----------------------------|-------------------------|-----------------------------|------------------------|--------------------------|----------------------|-------------------------|--------|
| 1    | 38852                | 63.11               | -10.89           | 74                          | 40.51                   | 43.59                       | 35.90                  | 56.89                    | -                    | -                       | Peak   |



|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                   |              |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|
| Temperature        | 20.1 ~ 22.6℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Relative Humidity | 55.3 ~ 66.5% |
| Test Engineer      | Troye Hsieh, Yuan Lee and Sam Chou                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Test Distance     | 1m           |
| Test Range         | 18GHz to 40GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Test Polarization | Vertical     |
| Test Configuration | Mode 2: 60GHz FMCW mode + WLAN module (11n Ch48 Setting 19 + BLE Ch00 Setting 18)                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                   |              |
| Remark             | <ol style="list-style-type: none"><li>Level ( dBμV/m ) = Read Level (dBμV) + Antenna Factor (dB) + Path Loss(dB) - Preamp Factor (dB)</li><li>Average Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Distance extrapolation factor (dB).</li><li>Peak Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Distance extrapolation factor (dB) + desensitization correction factor(See section 3.7.5)</li><li>The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.</li></ol> |                   |              |



Site : 03CH11-HY  
Condition : PEAK\_74\_1M 1m SHF\_00993\_231124 VERTICAL  
Detector : Peak  
Project : 432213

| Mark | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Margin<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Remark |
|------|----------------------|---------------------|------------------|-----------------------------|---------------------------|-----------------------------|------------------------|----------------------------|----------------------|-------------------------|--------|
| 1    | 39846                | 63.94               | -10.06           | 74                          | 39.51                     | 44.76                       | 35.75                  | 56.08                      | -                    | -                       | Peak   |



|                       |                                                                                                                                                    |                                                                                                                                                  |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
|                       | Mode 2: 60GHz FMCW mode + WLAN module (11n Ch48 Setting 19 + BLE Ch00 Setting 18)                                                                  |                                                                                                                                                  |
|                       | Horizontal                                                                                                                                         | Vertical                                                                                                                                         |
| 38.6G<br>~40G<br>Avg. | <div><p>Level (dBm/Vm) <span>Date: 2024-05-04</span></p><p>Site : 03CHI1-HY<br/>Condition : AV6_54 1m SHF_00993_Z31124 HORIZONTAL<br/>..</p></div> | <div><p>Level (dBm/Vm) <span>Date: 2024-05-04</span></p><p>Site : 03CHI1-HY<br/>Condition : AV6_54 1m SHF_00993_Z31124 VERTICAL<br/>..</p></div> |





## &lt;40GHz to 200GHz&gt;

|                    |                         |                   |                 |
|--------------------|-------------------------|-------------------|-----------------|
| Temperature        | 20~25℃                  | Relative Humidity | 50~60%          |
| Test Engineer      | Eric Jeng and Yu Wang   | Test Range        | 40GHz to 200GHz |
| Test Configuration | Mode 1: 60GHz FMCW mode |                   |                 |

| Test Frequency (GHz) | Rx Antenna Gain (dBi)      | Measurement Distance (m)            | Read Worse Frequency (GHz)  | Read Level (dBm) |
|----------------------|----------------------------|-------------------------------------|-----------------------------|------------------|
| 40 - 57              | 22.64                      | 0.87                                | 42.1074                     | -95.47           |
| EIRP (dBm)           | Specification Distance (m) | Power Density (pW/cm <sup>2</sup> ) | Limit (pW/cm <sup>2</sup> ) | Test Result      |
| -51.33               | 3                          | 0.006509                            | 90                          | PASS             |

Note: Path Loss = 0.43 dB; the calculate of  $\lambda$  using 57GHz as f.

| Test Frequency (GHz) | Rx Antenna Gain (dBi)      | Measurement Distance (m)            | Read Worse Frequency (GHz)  | Read Level (dBm) |
|----------------------|----------------------------|-------------------------------------|-----------------------------|------------------|
| 71 - 90              | 22.4                       | 0.6                                 | 89.6385                     | -82.83           |
| EIRP (dBm)           | Specification Distance (m) | Power Density (pW/cm <sup>2</sup> ) | Limit (pW/cm <sup>2</sup> ) | Test Result      |
| -37.71               | 3                          | 0.149812                            | 90                          | PASS             |

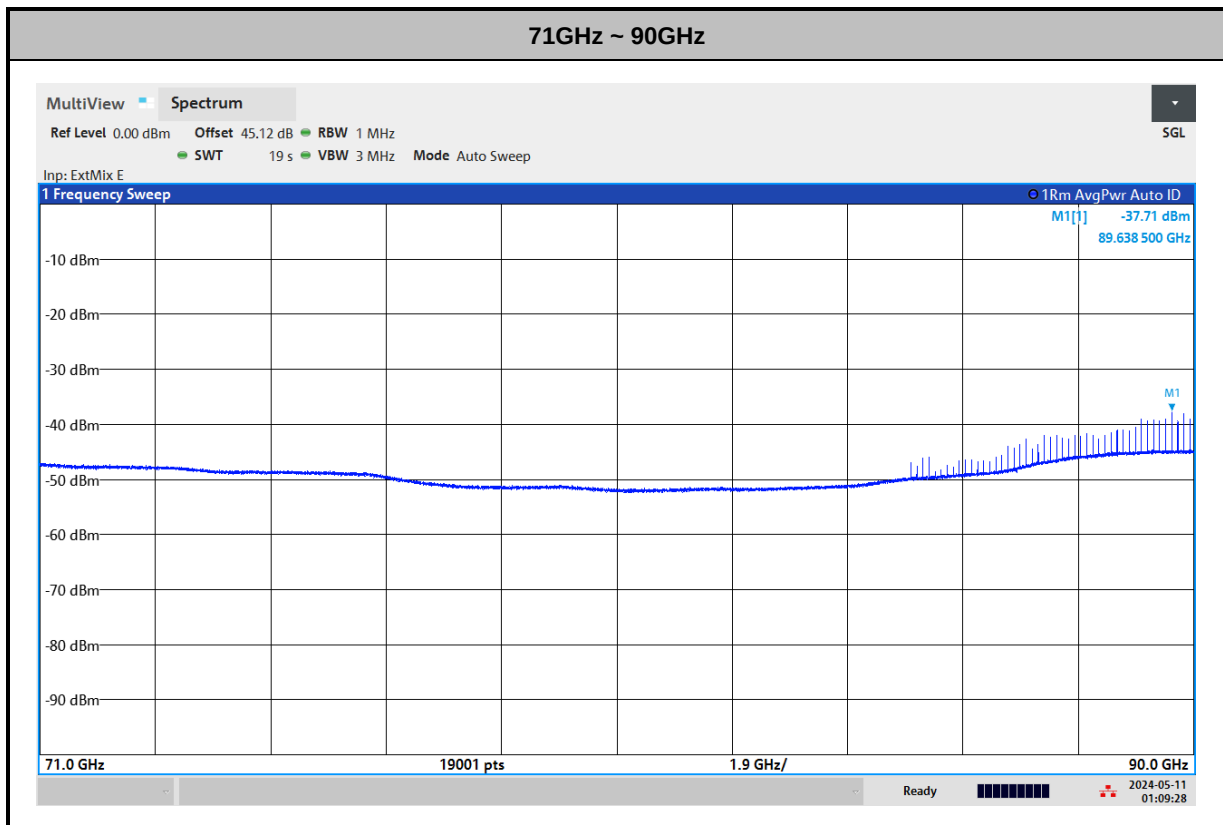
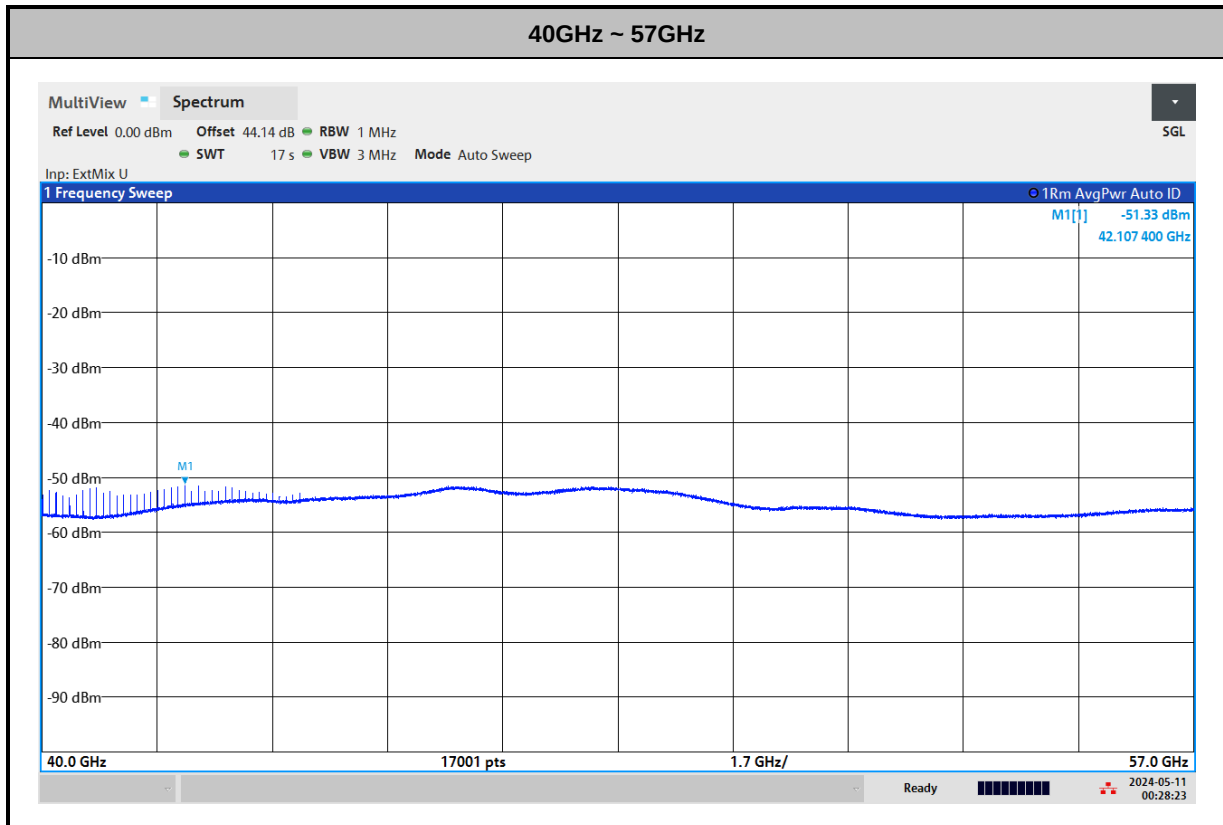
Note: Path Loss = 0.43 dB; the calculate of  $\lambda$  using 90GHz as f.

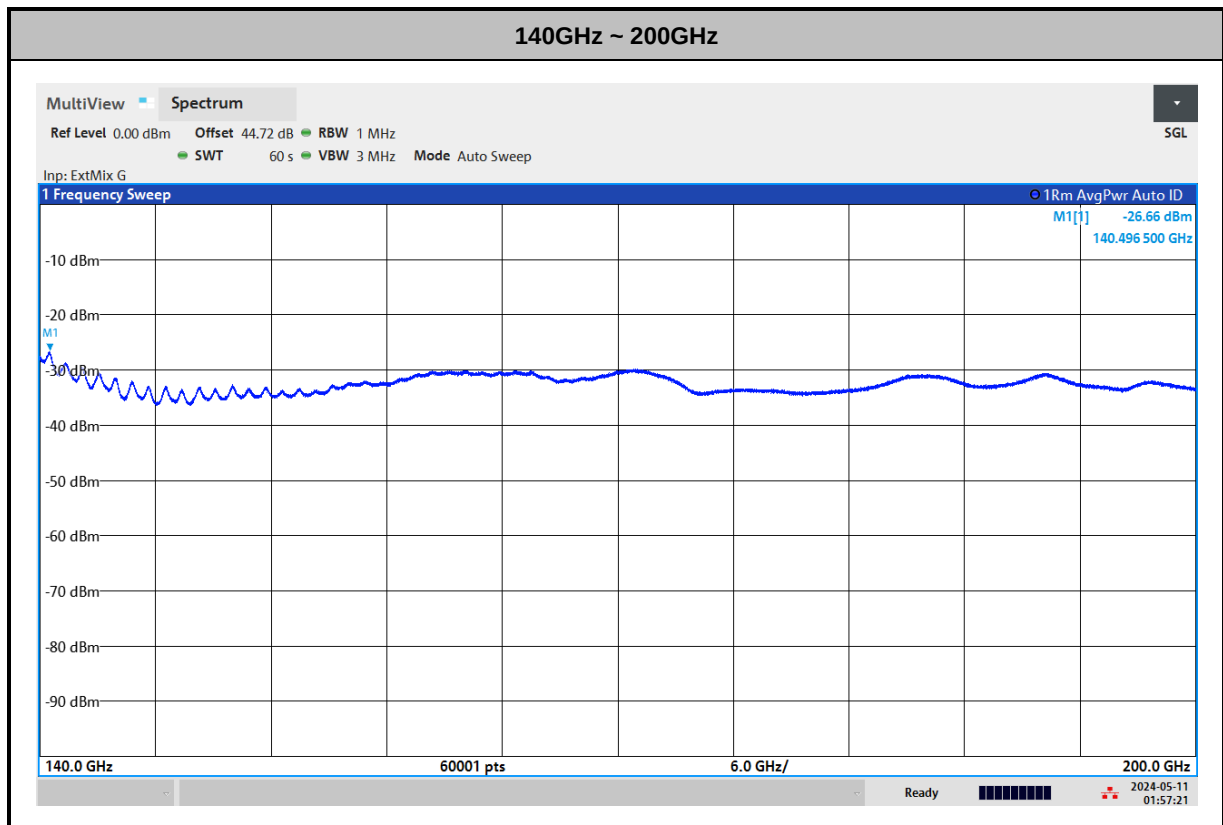
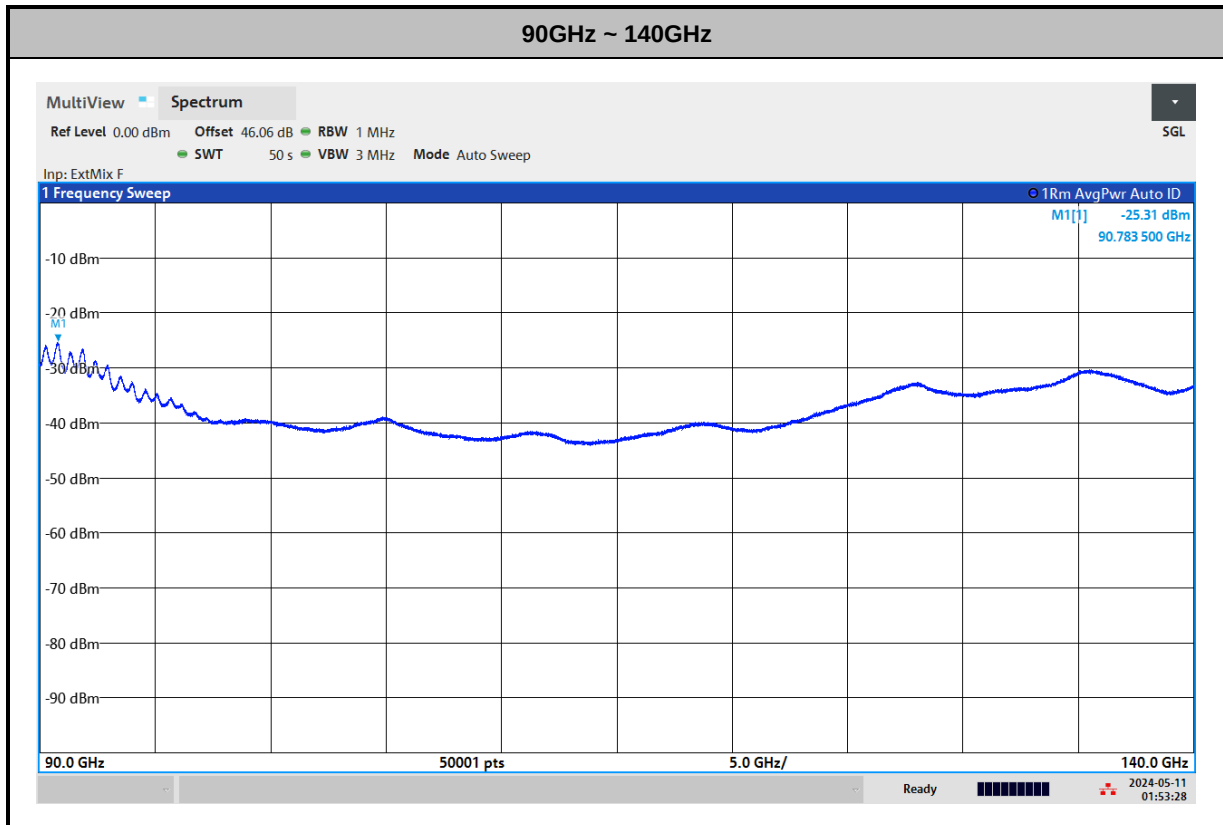
| Test Frequency (GHz) | Rx Antenna Gain (dBi)      | Measurement Distance (m)            | Read Worse Frequency (GHz)  | Read Level (dBm) |
|----------------------|----------------------------|-------------------------------------|-----------------------------|------------------|
| 90 - 140             | 22.4                       | 0.43                                | 90.7835                     | -71.37           |
| EIRP (dBm)           | Specification Distance (m) | Power Density (pW/cm <sup>2</sup> ) | Limit (pW/cm <sup>2</sup> ) | Test Result      |
| -25.31               | 3                          | 2.603440                            | 90                          | PASS             |

Note: Path Loss = 0.43 dB; the calculate of  $\lambda$  using 140GHz as f.

| Test Frequency (GHz) | Rx Antenna Gain (dBi)      | Measurement Distance (m)            | Read Worse Frequency (GHz)  | Read Level (dBm) |
|----------------------|----------------------------|-------------------------------------|-----------------------------|------------------|
| 140 - 200            | 22.8                       | 0.27                                | 140.4965                    | -71.38           |
| EIRP (dBm)           | Specification Distance (m) | Power Density (pW/cm <sup>2</sup> ) | Limit (pW/cm <sup>2</sup> ) | Test Result      |
| -26.66               | 3                          | 1.907865                            | 90                          | PASS             |

Note: Path Loss = 0.43 dB; the calculate of  $\lambda$  using 200GHz as f.







|                           |                                                                                   |                          |                 |
|---------------------------|-----------------------------------------------------------------------------------|--------------------------|-----------------|
| <b>Temperature</b>        | 20~25℃                                                                            | <b>Relative Humidity</b> | 50~60%          |
| <b>Test Engineer</b>      | Eric Jeng and Yu Wang                                                             | <b>Test Range</b>        | 40GHz to 200GHz |
| <b>Test Configuration</b> | Mode 2: 60GHz FMCW mode + WLAN module (11n Ch48 Setting 19 + BLE Ch00 Setting 18) |                          |                 |

| Test Frequency (GHz) | Rx Antenna Gain (dBi)      | Measurement Distance (m)            | Read Worse Frequency (GHz)  | Read Level (dBm) |
|----------------------|----------------------------|-------------------------------------|-----------------------------|------------------|
| 40 - 57              | 22.64                      | 0.87                                | 42.0864                     | -95.65           |
| EIRP (dBm)           | Specification Distance (m) | Power Density (pW/cm <sup>2</sup> ) | Limit (pW/cm <sup>2</sup> ) | Test Result      |
| -51.51               | 3                          | 0.006245                            | 90                          | PASS             |

**Note:** Path Loss = 0.43 dB; the calculate of  $\lambda$  using 57GHz as f.

| Test Frequency (GHz) | Rx Antenna Gain (dBi)      | Measurement Distance (m)            | Read Worse Frequency (GHz)  | Read Level (dBm) |
|----------------------|----------------------------|-------------------------------------|-----------------------------|------------------|
| 71 - 90              | 22.4                       | 0.6                                 | 89.6545                     | -83.36           |
| EIRP (dBm)           | Specification Distance (m) | Power Density (pW/cm <sup>2</sup> ) | Limit (pW/cm <sup>2</sup> ) | Test Result      |
| -38.24               | 3                          | 0.132601                            | 90                          | PASS             |

**Note:** Path Loss = 0.43 dB; the calculate of  $\lambda$  using 90GHz as f.

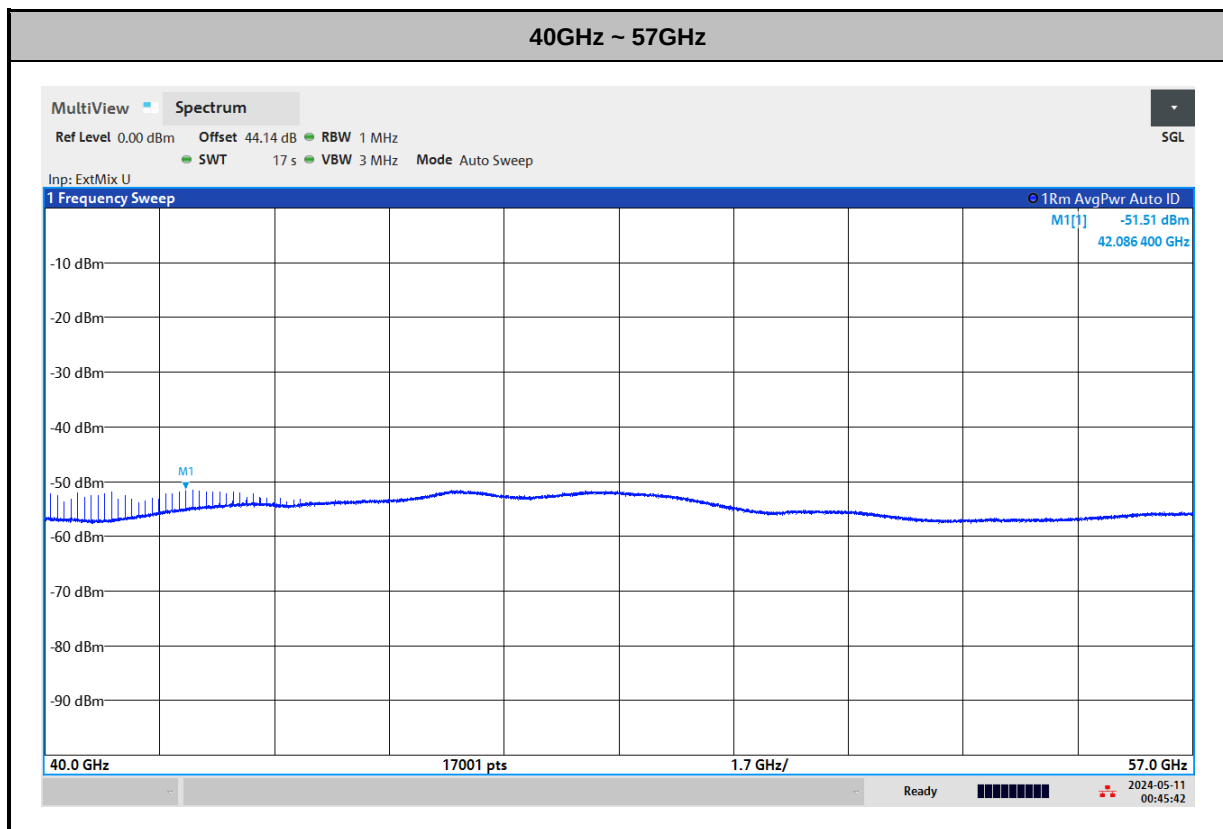
| Test Frequency (GHz) | Rx Antenna Gain (dBi)      | Measurement Distance (m)            | Read Worse Frequency (GHz)  | Read Level (dBm) |
|----------------------|----------------------------|-------------------------------------|-----------------------------|------------------|
| 90 - 140             | 22.4                       | 0.43                                | 90.7715                     | -71.38           |
| EIRP (dBm)           | Specification Distance (m) | Power Density (pW/cm <sup>2</sup> ) | Limit (pW/cm <sup>2</sup> ) | Test Result      |
| -25.32               | 3                          | 2.597453                            | 90                          | PASS             |

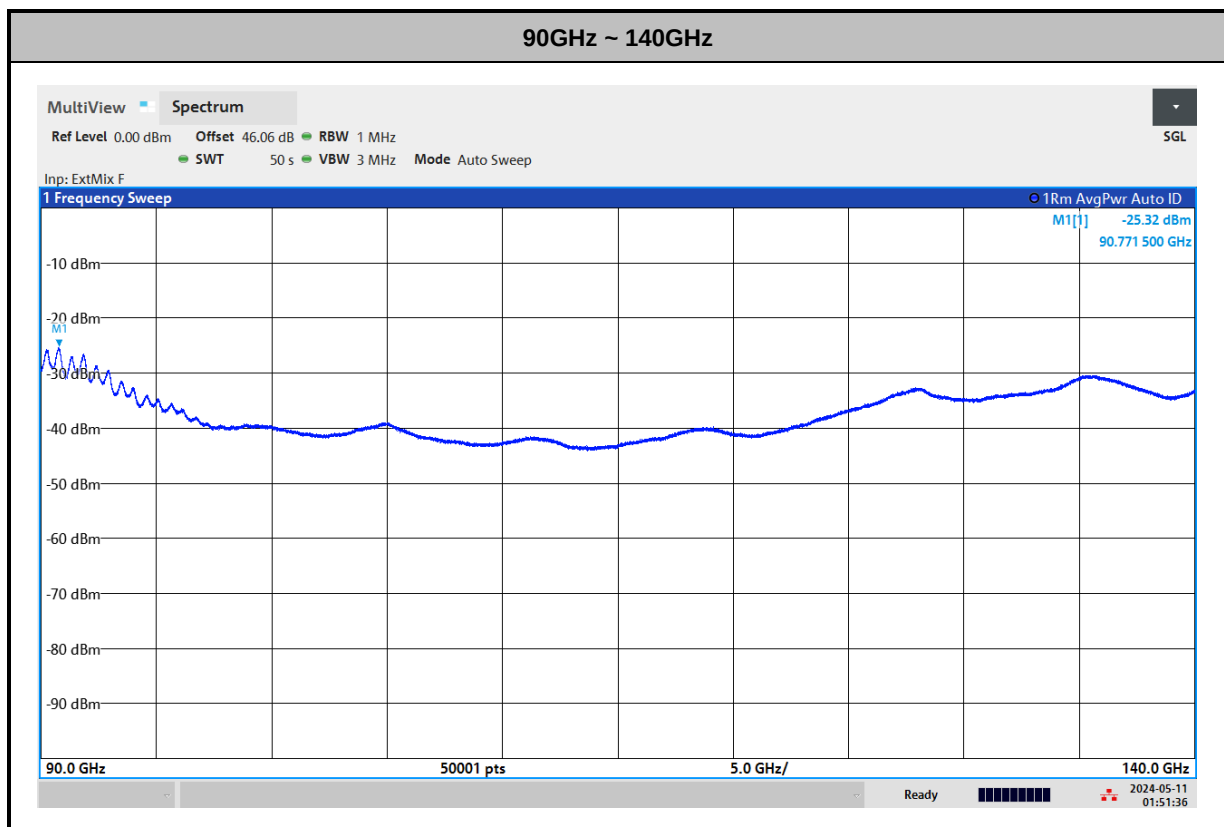
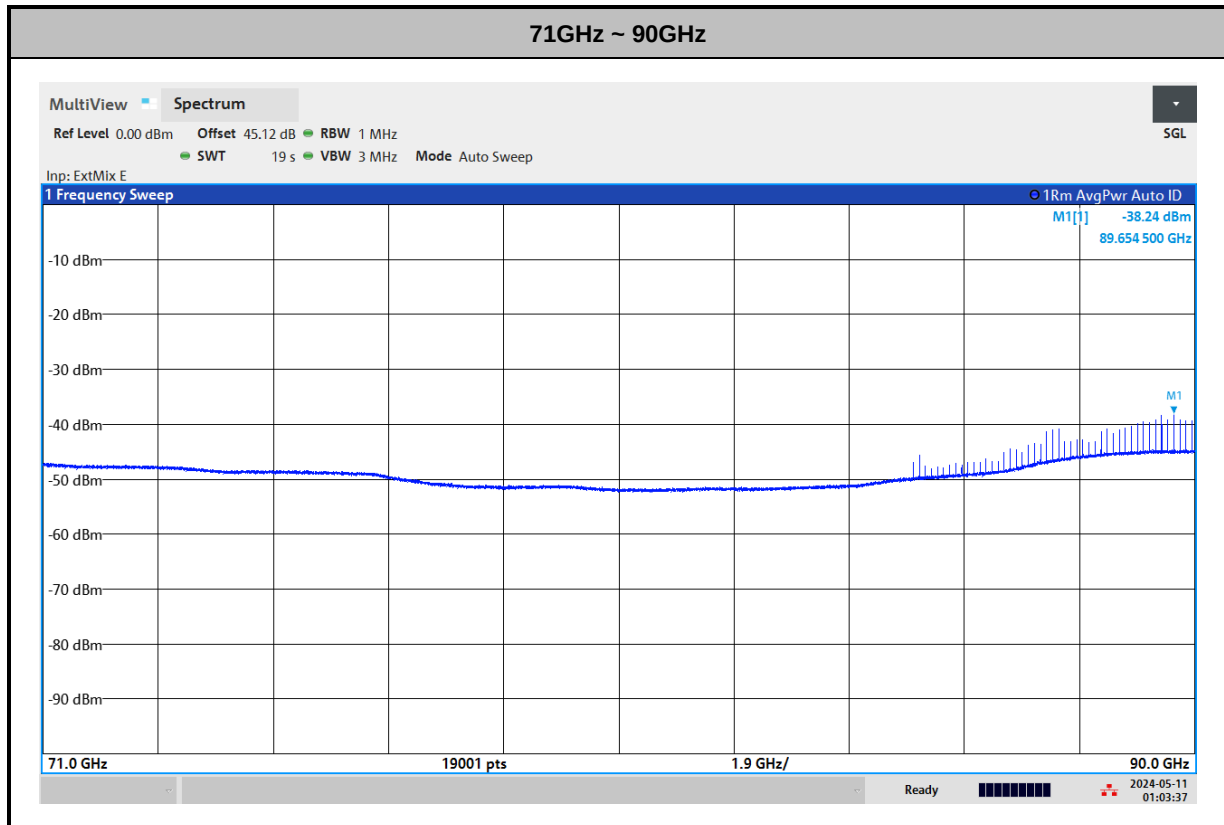
**Note:** Path Loss = 0.43 dB; the calculate of  $\lambda$  using 140GHz as f.

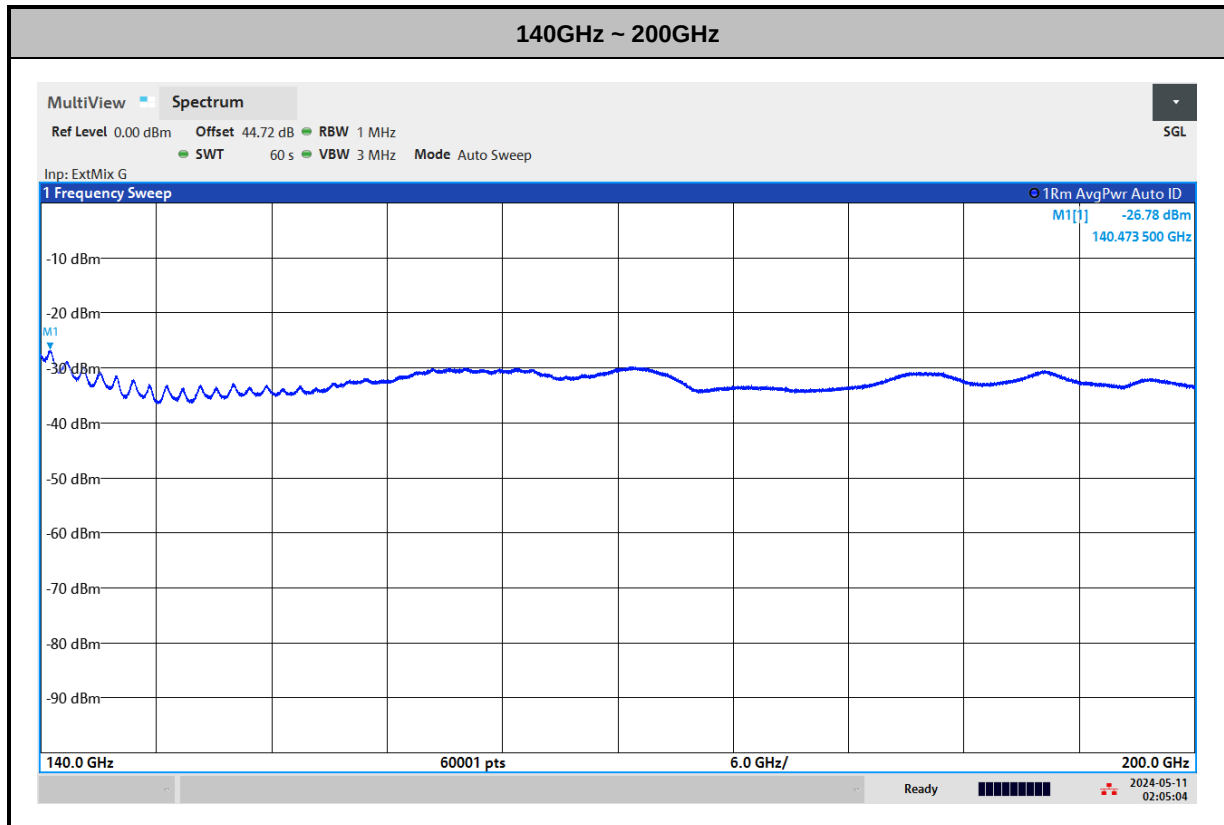


| Test Frequency (GHz) | Rx Antenna Gain (dBi)      | Measurement Distance (m)            | Read Worse Frequency (GHz)  | Read Level (dBm) |
|----------------------|----------------------------|-------------------------------------|-----------------------------|------------------|
| 140 - 200            | 22.8                       | 0.27                                | 140.4735                    | -71.5            |
| EIRP (dBm)           | Specification Distance (m) | Power Density (pW/cm <sup>2</sup> ) | Limit (pW/cm <sup>2</sup> ) | Test Result      |
| -26.78               | 3                          | 1.855870                            | 90                          | PASS             |

**Note:** Path Loss = 0.43 dB; the calculate of  $\lambda$  using 200GHz as f.





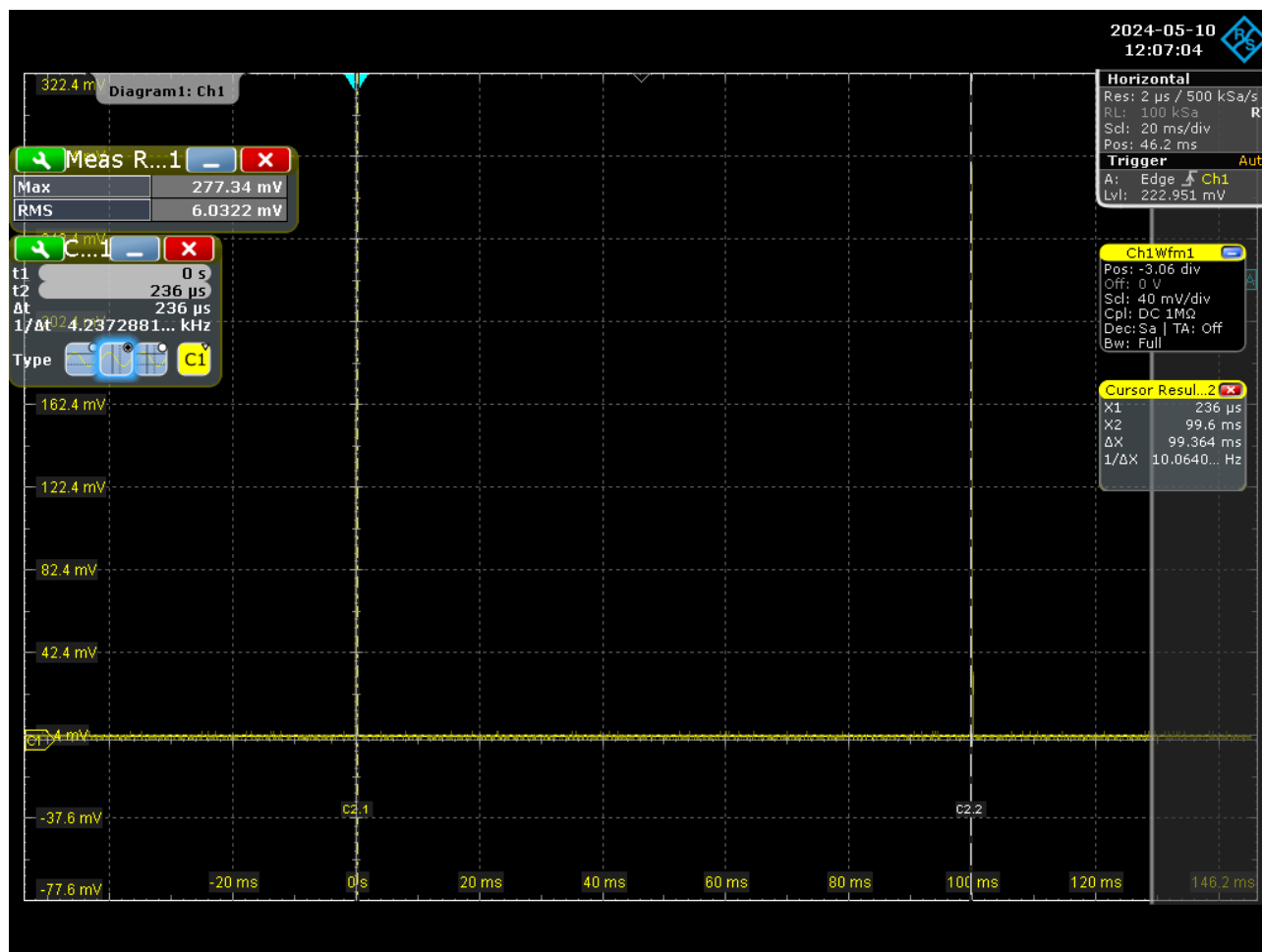




### 3.7.5 Desensitization correction factor

The desensitization factor is used for compensating peak value, while signal with frequency swept is used during transmitter spurious emissions test according to the ANSI C63.10-2020 clause 4.1.5.2.8 and Annex L.

#### Single ramp time (Chirp on)



| Start Freq | Stop Freq | Cntr Freq | FMCW Width, (Fs) | Ramp Time, (Ts) | Sweep Rate | Sweep Rate | RBW   | RBW     | Normalized Sweep Rate | Desensitization correction factor | Desensitization correction factor |
|------------|-----------|-----------|------------------|-----------------|------------|------------|-------|---------|-----------------------|-----------------------------------|-----------------------------------|
| (GHz)      | (GHz)     | (GHz)     | (MHz)            | (us)            | (MHz/us)   | (Hz/s)     | (MHz) | (Hz)    | (lin)                 | (lin)                             | (dB)                              |
| 57.1       | 63.9      | 60.5      | 6800             | 236             | 28.81      | 2.88E+13   | 1.00  | 1.00E+6 | 28.81                 | 0.28                              | 11.059                            |





Note:

1. Cntr Freq = (Start Freq + Stop Freq) / 2
2. FMCW Width, (Fs) = (Stop Freq - Start Freq) \* 1000
3. Sweep Rate (MHz/us) = FMCW Width, (Fs) / Ramp Time, (Ts)
4. Normalized Sweep Rate (lin) = Sweep Rate (Hz/s) / [RBW (Hz)<sup>2</sup>]
5. Desensitization correction factor (lin) =  $1/((1+(((2*\text{LN}(2))/3.14)^2*(\text{Normalized Sweep Rate (lin)}^2)))^{0.25})$
6. Desensitization correction factor (dB) =  $|20*\log(\text{Desensitization correction factor (lin)})|$

Ex:

1. Cntr Freq = (57.1 + 63.9) / 2 = 60.5
2. FMCW Width, (Fs) = (63.9 - 57.1) \* 1000 = 6800
3. Sweep Rate (MHz/us) = 6800 / 236 = 28.81
4. Normalized Sweep Rate (lin) =  $2.88\text{E}+13 / [1.00\text{E}+06^2] = 28.81$
5. Desensitization correction factor (lin) =  $1/((1+(((2*\text{LN}(2))/3.14)^2*(28.81^2)))^{0.25}) = 0.28$
6. Desensitization correction factor (dB) =  $|20*\log(0.28)| = 11.059$



## 3.8 Frequency Stability

### 3.8.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency range, 57GHz – 64GHz.

### 3.8.2 Measuring Instruments

See list of measuring equipment of this test report.

### 3.8.3 Test Procedures

The testing follows ANSI C63.10-2020 Section 9.5.

### 3.8.4 Test Result

| Test Engineer         | Eric Jeng and Yu Wang |                     |                      |                      |        |
|-----------------------|-----------------------|---------------------|----------------------|----------------------|--------|
| Test Temperature (°C) | Voltage (Volt)        | Low Frequency (GHz) | High Frequency (GHz) | Limit                | Result |
| 50                    | 5                     | 57.1188             | 63.8559              | Within<br>57 ~ 64GHz | pass   |
| 40                    | 5                     | 57.1193             | 63.8554              |                      |        |
| 30                    | 5                     | 57.1408             | 63.8549              |                      |        |
| 20                    | 5                     | 57.1229             | 63.8508              |                      |        |
| 10                    | 5                     | 57.1252             | 63.8474              |                      |        |
| 0                     | 5                     | 57.1144             | 63.8520              |                      |        |
| -10                   | 5                     | 57.1173             | 63.8545              |                      |        |
| -20                   | 5                     | 57.1156             | 63.8545              |                      |        |
| 20                    | 5.5                   | 57.1385             | 63.8528              |                      |        |
| 20                    | 4.5                   | 57.1481             | 63.8460              |                      |        |

**Note:**

1. Normal Voltage =5 Vdc. ; Low Voltage =4.5 Vdc. ; Maximum Voltage =5.5 Vdc.
2. The frequency fundamental emissions stay within the operation band.

## 4 AC conducted Emission Measurement

### 4.1 Limit of AC Conducted Emission

For equipment 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.

| 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.

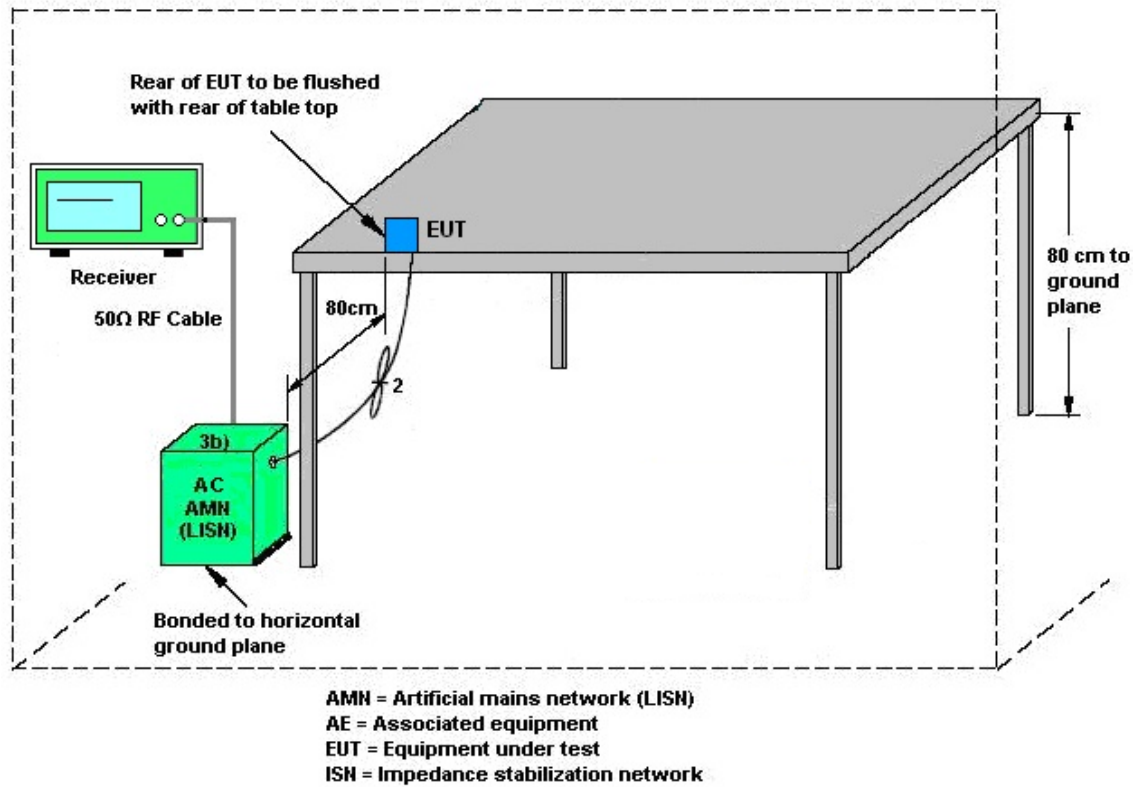
### 4.2 Measuring Instruments

See list of measuring equipment of this test report.

### 4.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

## 4.4 Test Setup



## 4.5 Test Result of AC Conducted Emission

Please refer to Appendix A.



## 5 List of Measuring Equipment

| Instrument           | Brand Name         | Model No.                            | Serial No.           | Characteristics                  | Calibration Date | Test Date                     | Due Date      | Remark                   |
|----------------------|--------------------|--------------------------------------|----------------------|----------------------------------|------------------|-------------------------------|---------------|--------------------------|
| Amplifier            | SONOMA             | 310N                                 | 187312               | 9kHz~1GHz                        | Dec. 08, 2023    | May 01, 2024~<br>May 06, 2024 | Dec. 07, 2024 | Radiation<br>(03CH11-HY) |
| Preamplifier         | Jet-Power          | JPA0118-55-3<br>03                   | 1710001800<br>055007 | 1GHz~18GHz                       | Jun. 14, 2023    | May 01, 2024~<br>May 06, 2024 | Jun. 13, 2024 | Radiation<br>(03CH11-HY) |
| Preamplifier         | EMEC               | EM18G40G                             | 060801               | 18GHz~40GHz                      | Jun. 27, 2023    | May 01, 2024~<br>May 06, 2024 | Jun. 26, 2024 | Radiation<br>(03CH11-HY) |
| EMI Test Receiver    | Keysight           | N9038A(MXE)                          | MY5413008<br>5       | 20MHz~8.4GHz                     | Oct. 06, 2023    | May 01, 2024~<br>May 06, 2024 | Oct. 05, 2024 | Radiation<br>(03CH11-HY) |
| Bilog Antenna        | TESEQ              | CBL 6111D &<br>N-6-06                | 35414 &<br>AT-N0602  | 30MHz~1GHz                       | Oct. 07, 2023    | May 01, 2024~<br>May 06, 2024 | Oct. 06, 2024 | Radiation<br>(03CH11-HY) |
| Horn Antenna         | SCHWARZBE<br>CK    | BBHA 9120 D                          | 9120D-0162<br>0      | 1GHz~18GHz                       | Aug. 17, 2023    | May 01, 2024~<br>May 06, 2024 | Aug. 16, 2024 | Radiation<br>(03CH11-HY) |
| SHF-EHF Horn Antenna | SCHWARZBE<br>CK    | BBHA9170                             | 00993                | 18GHz~40GHz                      | Nov. 24, 2023    | May 01, 2024~<br>May 06, 2024 | Nov. 23, 2024 | Radiation<br>(03CH11-HY) |
| Loop Antenna         | Rohde &<br>Schwarz | HFH2-Z2                              | 100488               | 9 kHz~30 MHz                     | Sep. 12, 2023    | May 01, 2024~<br>May 06, 2024 | Sep. 11, 2024 | Radiation<br>(03CH11-HY) |
| Preamplifier         | Keysight           | 83017A                               | MY5327008<br>0       | 1GHz~26.5GHz                     | Mar. 25, 2024    | May 01, 2024~<br>May 06, 2024 | Mar. 24, 2025 | Radiation<br>(03CH11-HY) |
| Spectrum Analyzer    | Keysight           | N9010A                               | MY5420048<br>6       | 10Hz~44GHz                       | Oct. 05, 2023    | May 01, 2024~<br>May 06, 2024 | Oct. 04, 2024 | Radiation<br>(03CH11-HY) |
| Filter               | Wainwright         | WHKX12-2700<br>-3000-18000-6<br>0SS  | SN3                  | 3GHz High Pass Filter            | Sep. 11, 2023    | May 01, 2024~<br>May 06, 2024 | Sep. 10, 2024 | Radiation<br>(03CH11-HY) |
| Filter               | Wainwright         | WLK4-1000-15<br>30-8000-40SS         | SN11                 | 1.53G Low Pass                   | Sep. 11, 2023    | May 01, 2024~<br>May 06, 2024 | Sep. 10, 2024 | Radiation<br>(03CH11-HY) |
| Filter               | Wainwright         | WHKX8-5872.<br>5-6750-18000-<br>40SS | SN3                  | 6.75GHz High Pass Filter         | Sep. 11, 2023    | May 01, 2024~<br>May 06, 2024 | Sep. 10, 2024 | Radiation<br>(03CH11-HY) |
| Attenuator           | HONOVA             | 5910<br>SMA-50-005                   | 0028                 | N/A                              | Jul. 10, 2023    | May 01, 2024~<br>May 06, 2024 | Jul. 09, 2024 | Radiation<br>(03CH11-HY) |
| RF Cable             | HUBER +<br>SUHNER  | SUCOFLEX<br>102                      | MY2859/2             | 30MHz~40GHz                      | Mar. 06, 2024    | May 01, 2024~<br>May 06, 2024 | Mar. 05, 2025 | Radiation<br>(03CH11-HY) |
| RF Cable             | HUBER +<br>SUHNER  | SUCOFLEX<br>102                      | 801595/2             | 30MHz~40GHz                      | Mar. 06, 2024    | May 01, 2024~<br>May 06, 2024 | Mar. 05, 2025 | Radiation<br>(03CH11-HY) |
| RF Cable             | HUBER +<br>SUHNER  | SUCOFLEX<br>102                      | 803951/2             | 9K~30M                           | Mar. 06, 2024    | May 01, 2024~<br>May 06, 2024 | Mar. 05, 2025 | Radiation<br>(03CH11-HY) |
| RF Cable             | HUBER +<br>SUHNER  | SUCOFLEX<br>102                      | 803951/2             | 30M~40G                          | Mar. 06, 2024    | May 01, 2024~<br>May 06, 2024 | Mar. 05, 2025 | Radiation<br>(03CH11-HY) |
| Controller           | EMEC               | EM 1000                              | N/A                  | Control Turn<br>table & Ant Mast | N/A              | May 01, 2024~<br>May 06, 2024 | N/A           | Radiation<br>(03CH11-HY) |
| Antenna Mast         | EMEC               | AM-BS-4500-B                         | N/A                  | 1~4m                             | N/A              | May 01, 2024~<br>May 06, 2024 | N/A           | Radiation<br>(03CH11-HY) |
| Turn Table           | EMEC               | TT 2000                              | N/A                  | 0~360 Degree                     | N/A              | May 01, 2024~<br>May 06, 2024 | N/A           | Radiation<br>(03CH11-HY) |
| Software             | Audix              | E3<br>6.2009-8-24                    | RK-001053            | N/A                              | N/A              | May 01, 2024~<br>May 06, 2024 | N/A           | Radiation<br>(03CH11-HY) |



| Instrument                  | Brand Name      | Model No.             | Serial No.    | Characteristics   | Calibration Date | Test Date                  | Due Date      | Remark                |
|-----------------------------|-----------------|-----------------------|---------------|-------------------|------------------|----------------------------|---------------|-----------------------|
| SHF-EHF Horn Antenna        | SCHWARZBECK     | BBHA9170              | BBHA9170584   | 18GHz-40GHz       | Dec. 13, 2023    | May 08, 2024~ May 14, 2024 | Dec. 12, 2024 | Radiation (03CH18-HY) |
| Spectrum Analyzer           | Rohde & Schwarz | FSV3044               | 101009        | 9kHz to 44GHz     | Nov. 17, 2023    | May 08, 2024~ May 14, 2024 | Nov. 16, 2024 | Radiation (03CH18-HY) |
| Harmonic Mixer*             | Rohde & Schwarz | RPG FS-Z60            | 100986        | 40GHz to 60GHz    | Oct. 31, 2023    | May 08, 2024~ May 14, 2024 | Oct. 30, 2026 | Radiation (03CH18-HY) |
| Harmonic Mixer              | Rohde & Schwarz | RPG FS-Z75            | 101557        | 50 GHz to 75 GHz  | Jan. 04, 2024    | May 08, 2024~ May 14, 2024 | Jan. 03, 2027 | Radiation (03CH18-HY) |
| Harmonic Mixer*             | Rohde & Schwarz | FSZ-90                | 101811        | 60GHz to 90GHz    | Oct. 31, 2023    | May 08, 2024~ May 14, 2024 | Oct. 30, 2026 | Radiation (03CH18-HY) |
| Harmonic Mixer*             | Rohde & Schwarz | RPG FS-Z140           | 101128        | 90GHz to 140GHz   | Oct. 27, 2023    | May 08, 2024~ May 14, 2024 | Oct. 26, 2026 | Radiation (03CH18-HY) |
| Harmonic Mixer              | Rohde & Schwarz | RPG FS-Z220           | 101014        | 140GHz to 220GHz  | Oct. 27, 2023    | May 08, 2024~ May 14, 2024 | Oct. 26, 2026 | Radiation (03CH18-HY) |
| Antenna                     | Quinstar        | QWH-UPRR00            | QWH-UPRR00-01 | 40-60 GHz         | Jul. 06, 2021    | May 08, 2024~ May 14, 2024 | Jul. 05, 2024 | Radiation (03CH18-HY) |
| Antenna                     | Quinstar        | QWH-VPRR00            | 1371800008    | 50-75 GHz         | Jul. 06, 2021    | May 08, 2024~ May 14, 2024 | Jul. 05, 2024 | Radiation (03CH18-HY) |
| Antenna                     | Quinstar        | QWH-VPRR00            | 1371800009    | 50-75 GHz         | Jul. 06, 2021    | May 08, 2024~ May 14, 2024 | Jul. 05, 2024 | Radiation (03CH18-HY) |
| Antenna                     | Quinstar        | QWH-EPRR00            | 1372000000    | 60-90 GHz         | Jul. 06, 2021    | May 08, 2024~ May 14, 2024 | Jul. 05, 2024 | Radiation (03CH18-HY) |
| Antenna                     | Quinstar        | QWH-FPRR00            | 1011500008    | 90-140 GHz        | Jul. 06, 2021    | May 08, 2024~ May 14, 2024 | Jul. 05, 2024 | Radiation (03CH18-HY) |
| Antenna                     | Quinstar        | QWH-GPRR00            | QWH-GPRR00-01 | 140-220 GHz       | Jul. 06, 2021    | May 08, 2024~ May 14, 2024 | Jul. 05, 2024 | Radiation (03CH18-HY) |
| RF Cable                    | HUBER + SUHNER  | SUCOFLEX 102          | 801607/2      | N/A               | Nov. 28, 2023    | May 08, 2024~ May 14, 2024 | Nov. 27, 2024 | Radiation (03CH18-HY) |
| RF Cable                    | HUBER + SUHNER  | SUCOFLEX 102          | 519231/2      | N/A               | Nov. 28, 2023    | May 08, 2024~ May 14, 2024 | Nov. 27, 2024 | Radiation (03CH18-HY) |
| Detector                    | Quinstars       | QEA-FBFBVP            | 2672009       | 50 ~ 75 GHz       | Jul. 06, 2021    | May 08, 2024~ May 14, 2024 | Jul. 05, 2024 | Radiation (03CH18-HY) |
| Oscilloscope                | Rohde & Schwarz | RTO 1002              | 400025        | 600MHz, 10GSa/sec | Sep. 20, 2023    | May 08, 2024~ May 14, 2024 | Sep. 19, 2024 | Radiation (03CH18-HY) |
| Power Meter                 | Agilent         | E4416A                | GB43312306    | N/A               | Apr. 17, 2024    | May 08, 2024~ May 14, 2024 | Apr. 16, 2025 | Radiation (03CH18-HY) |
| Power Sensor                | Keysight        | V8486A                | MY60170002    | 50 ~ 75 GHz       | Jul. 06, 2021    | May 08, 2024~ May 14, 2024 | Jul. 05, 2024 | Radiation (03CH18-HY) |
| Signal Generator            | Anritsu         | MG3694C               | 163401        | 8MHz~40GHz        | Jan. 22, 2024    | May 08, 2024~ May 14, 2024 | Jan. 21, 2025 | Radiation (03CH18-HY) |
| Active Frequency Multiplier | Eravant         | SFA-503753416-15KF-E1 | 03099-01      | 50 ~ 75 GHz       | Jul. 06, 2021    | May 08, 2024~ May 14, 2024 | Jul. 05, 2024 | Radiation (03CH18-HY) |
| Attenuator                  | SAGE            | STA-30-15-M2          | 18953-02      | 50 ~ 75 GHz       | Jul. 06, 2021    | May 08, 2024~ May 14, 2024 | Jul. 05, 2024 | Radiation (03CH18-HY) |
| Thermal Chamber             | ESPEC           | SU-641                | 92013721      | -30℃ ~70℃         | Oct. 11, 2023    | May 08, 2024~ May 14, 2024 | Oct. 10, 2024 | Radiation (03CH18-HY) |
| AC Power Source             | AC POWER        | AFC-500W              | F104070011    | 50Hz~60Hz         | Sep. 22, 2023    | May 08, 2024~ May 14, 2024 | Sep. 21, 2024 | Radiation (03CH18-HY) |



| Instrument          | Brand Name      | Model No.    | Serial No.   | Characteristics | Calibration Date | Test Date     | Due Date      | Remark               |
|---------------------|-----------------|--------------|--------------|-----------------|------------------|---------------|---------------|----------------------|
| AC Power Source     | ACPOWER         | AFC-11003G   | F317040033   | N/A             | N/A              | Apr. 22, 2024 | N/A           | Conduction (CO07-HY) |
| Software            | Rohde & Schwarz | EMC32 V10.30 | N/A          | N/A             | N/A              | Apr. 22, 2024 | N/A           | Conduction (CO07-HY) |
| Pulse Limiter       | SCHWARZBECK     | VTSD 9561-FN | 9561-FN00373 | 9kHz-200MHz     | Oct. 20, 2023    | Apr. 22, 2024 | Oct. 19, 2024 | Conduction (CO07-HY) |
| RF Cable            | HUBER + SUHNER  | RG 214/U     | 1358175      | 9kHz~30MHz      | Mar. 14, 2024    | Apr. 22, 2024 | Mar. 13, 2025 | Conduction (CO07-HY) |
| Two-Line V-Network  | TESEQ           | NNB 51       | 45051        | N/A             | Mar. 10, 2024    | Apr. 22, 2024 | Mar. 09, 2025 | Conduction (CO07-HY) |
| Four-Line V-Network | TESEQ           | NNB 52       | 36122        | N/A             | Mar. 07, 2024    | Apr. 22, 2024 | Mar. 06, 2025 | Conduction (CO07-HY) |
| EMI Test Receiver   | Rohde & Schwarz | ESR3         | 102317       | 9kHz~3.6GHz     | Sep. 20, 2023    | Apr. 22, 2024 | Sep. 19, 2024 | Conduction (CO07-HY) |

**Note:** (\*) Equipment manufacturer's Calibration Certificate.

## 6 Measurement Uncertainty

| Test Item                                                  | Uncertainty |
|------------------------------------------------------------|-------------|
| AC Power Conducted Emission Measurement (150 kHz ~ 30 MHz) | ±3.44dB     |
| Radiated Emission Measurement (9 kHz ~ 30 MHz)             | ±3.8dB      |
| Radiated Emission Measurement (30 MHz ~ 1000 MHz)          | ±6.1dB      |
| Radiated Emission Measurement (1 GHz ~ 6 GHz)              | ±4.3dB      |
| Radiated Emission Measurement (6 GHz ~ 18 GHz)             | ±4.3dB      |
| Radiated Emission Measurement (18 GHz ~ 40 GHz)            | ±5.3dB      |
| Radiated Emission Measurement (40 GHz ~ 140 GHz)           | ±5.59dB     |
| Radiated Emission Measurement (140 GHz ~ 200 GHz)          | ±6.57dB     |
| 99% Occupied Bandwidth                                     | ±1.324 MHz  |
| 6dB Bandwidth                                              | ±0.676 MHz  |
| Frequency Stability                                        | ±0.671 MHz  |
| Temperature                                                | ±0.58 °C    |

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )





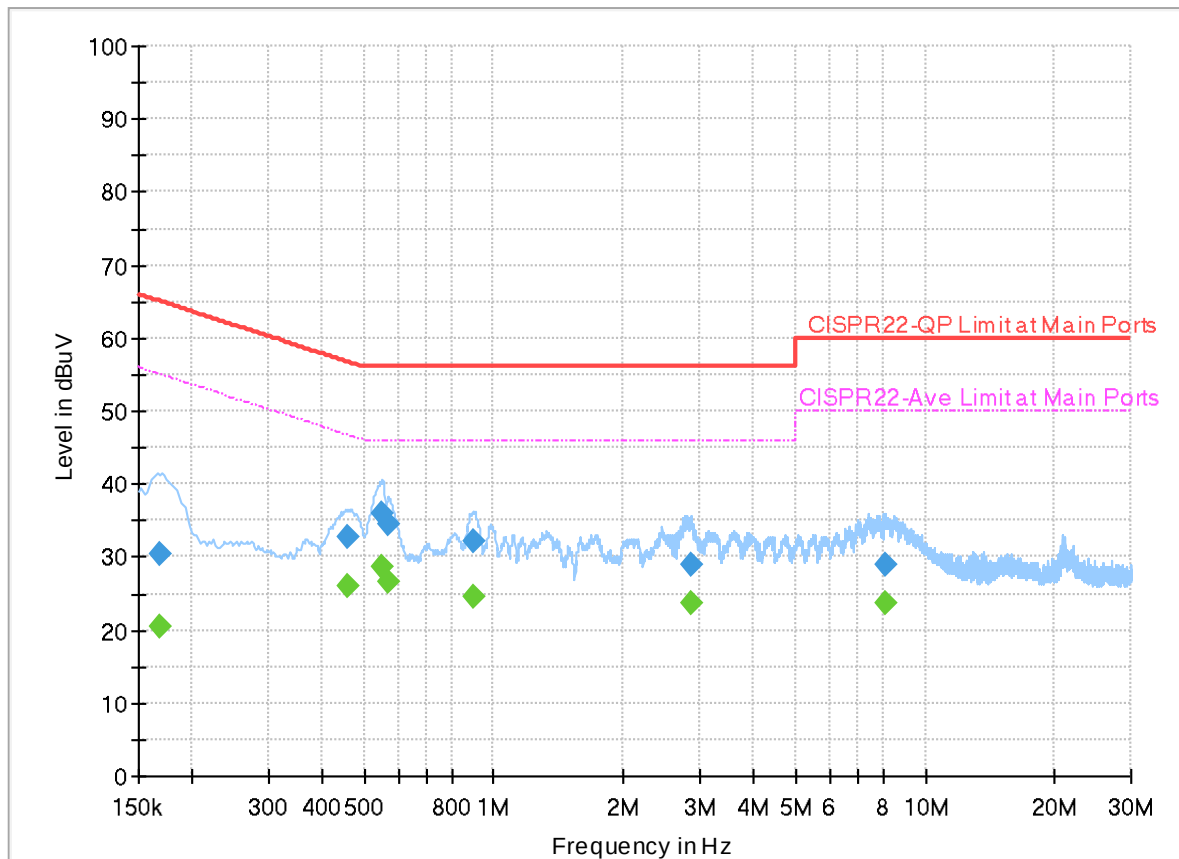
## Appendix A. AC Conducted Emission Test Results

|                 |             |                     |            |
|-----------------|-------------|---------------------|------------|
| Test Engineer : | Louis Chung | Temperature :       | 21.3~24.9℃ |
|                 |             | Relative Humidity : | 42.3~53.5% |

## EUT Information

Report NO : 432213  
Test Mode : Mode 1  
Test Voltage : 120Vac/60Hz  
Phase : Line

Full Spectrum



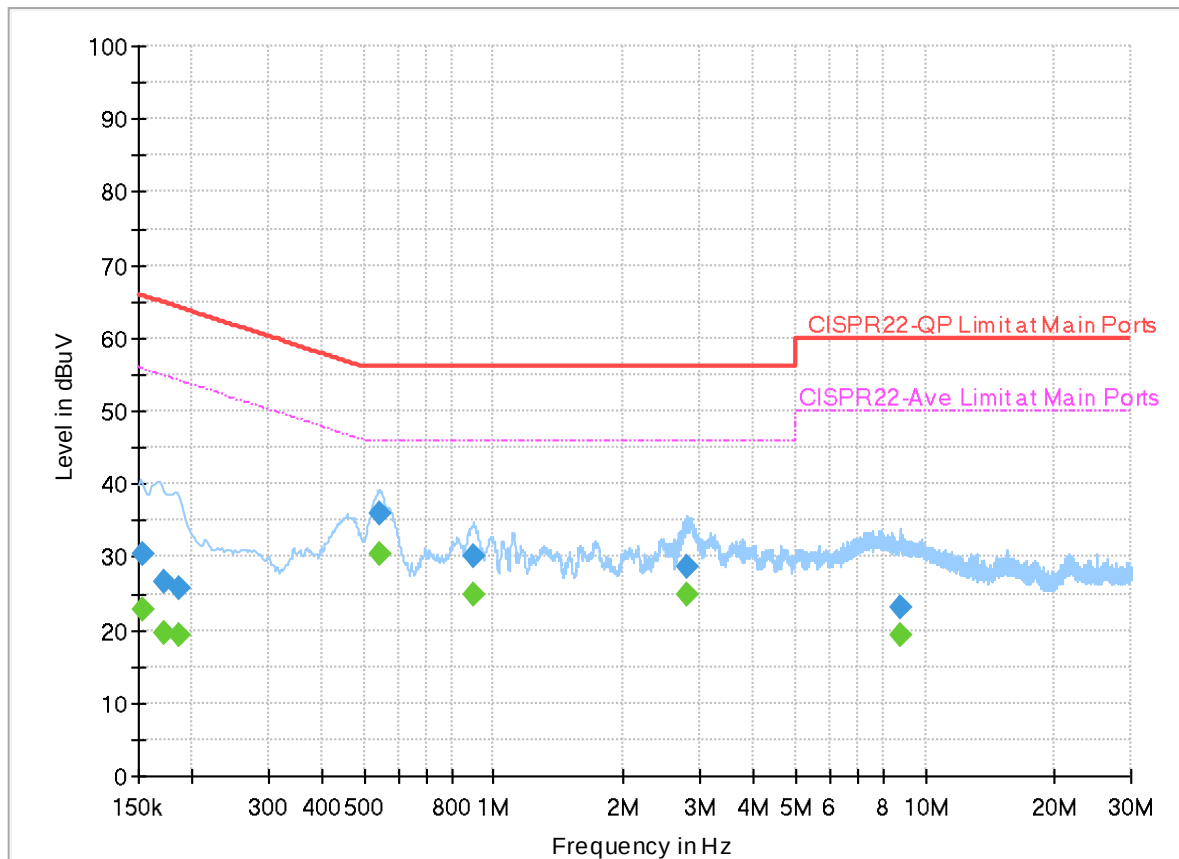
## Final\_Result

| Frequency (MHz) | QuasiPeak (dBuV) | CAverage (dBuV) | Limit (dBuV) | Margin (dB) | Line | Filter | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|------|--------|------------|
| 0.168000        | ---              | 20.54           | 55.06        | 34.52       | L1   | OFF    | 19.9       |
| 0.168000        | 30.36            | ---             | 65.06        | 34.70       | L1   | OFF    | 19.9       |
| 0.456540        | ---              | 26.13           | 46.76        | 20.63       | L1   | OFF    | 19.9       |
| 0.456540        | 32.76            | ---             | 56.76        | 24.00       | L1   | OFF    | 19.9       |
| 0.552210        | ---              | 28.58           | 46.00        | 17.42       | L1   | OFF    | 19.9       |
| 0.552210        | 36.11            | ---             | 56.00        | 19.89       | L1   | OFF    | 19.9       |
| 0.569310        | ---              | 26.66           | 46.00        | 19.34       | L1   | OFF    | 19.9       |
| 0.569310        | 34.52            | ---             | 56.00        | 21.48       | L1   | OFF    | 19.9       |
| 0.892680        | ---              | 24.62           | 46.00        | 21.38       | L1   | OFF    | 19.9       |
| 0.892680        | 32.07            | ---             | 56.00        | 23.93       | L1   | OFF    | 19.9       |
| 2.871060        | ---              | 23.61           | 46.00        | 22.39       | L1   | OFF    | 20.0       |
| 2.871060        | 28.87            | ---             | 56.00        | 27.13       | L1   | OFF    | 20.0       |
| 8.119500        | ---              | 23.70           | 50.00        | 26.30       | L1   | OFF    | 20.0       |
| 8.119500        | 28.85            | ---             | 60.00        | 31.15       | L1   | OFF    | 20.0       |

## EUT Information

Report NO : 432213  
Test Mode : Mode 1  
Test Voltage : 120Vac/60Hz  
Phase : Neutral

Full Spectrum



## Final\_Result

| Frequency (MHz) | QuasiPeak (dBuV) | CAverage (dBuV) | Limit (dBuV) | Margin (dB) | Line | Filter | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|------|--------|------------|
| 0.154118        | ---              | 22.68           | 55.78        | 33.10       | N    | OFF    | 19.9       |
| 0.154118        | 30.36            | ---             | 65.78        | 35.42       | N    | OFF    | 19.9       |
| 0.171240        | ---              | 19.61           | 54.90        | 35.29       | N    | OFF    | 19.9       |
| 0.171240        | 26.50            | ---             | 64.90        | 38.40       | N    | OFF    | 19.9       |
| 0.186180        | ---              | 19.40           | 54.21        | 34.81       | N    | OFF    | 19.9       |
| 0.186180        | 25.69            | ---             | 64.21        | 38.52       | N    | OFF    | 19.9       |
| 0.546000        | ---              | 30.47           | 46.00        | 15.53       | N    | OFF    | 19.9       |
| 0.546000        | 35.92            | ---             | 56.00        | 20.08       | N    | OFF    | 19.9       |
| 0.899250        | ---              | 24.92           | 46.00        | 21.08       | N    | OFF    | 19.9       |
| 0.899250        | 30.05            | ---             | 56.00        | 25.95       | N    | OFF    | 19.9       |
| 2.796900        | ---              | 24.81           | 46.00        | 21.19       | N    | OFF    | 20.0       |
| 2.796900        | 28.79            | ---             | 56.00        | 27.21       | N    | OFF    | 20.0       |
| 8.732310        | ---              | 19.16           | 50.00        | 30.84       | N    | OFF    | 20.1       |
| 8.732310        | 22.96            | ---             | 60.00        | 37.04       | N    | OFF    | 20.1       |