

Project No: TM-2207000359P  
Report No.: TMWK2207002979KR

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# RADIO TEST REPORT

## FCC 47 CFR PART 15 SUBPART C

|                          |                                                                                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Standard            | FCC Part 15.247                                                                                                                                     |
| FCC ID                   | 2A9FH-IZDOSE001                                                                                                                                     |
| Product name             | InsulCheck DOSE                                                                                                                                     |
| Brand Name               | InsulCheck                                                                                                                                          |
| Model No.                | IC-Dose                                                                                                                                             |
| Test Result              | Pass                                                                                                                                                |
| Statements of Conformity | Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty. |

The test Result was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were given in ANSI C63.10: 2013 and compliance standards.

The test results of this report relate only to the tested sample (EUT) identified in this report.

The test Report of full or partial shall not copy. Without written approval of Compliance Certification Services Inc. (Wugu Laboratory)

Approved by:



---

Dally Hong  
Sr. Engineer

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

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**Revision History**

| Rev. | Issue Date       | Revisions     | Effect Page | Revised By   |
|------|------------------|---------------|-------------|--------------|
| 00   | February 9, 2023 | Initial Issue | ALL         | Allison Chen |

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## 1. GENERAL INFORMATION

### 1.1 EUT INFORMATION

|                            |                                                                                                                                |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| <b>Applicant</b>           | Innovation Zed Ltd.<br>NovaUCD Belfield Innovation Park, Belfield, Dublin 4, Ireland                                           |
| <b>Manufacturer</b>        | Innovation Zed Ltd.<br>NovaUCD Belfield Innovation Park, Belfield, Dublin 4, Ireland                                           |
| <b>Equipment</b>           | InsulCheck DOSE                                                                                                                |
| <b>Model Name</b>          | IC-Dose                                                                                                                        |
| <b>Product Discrepancy</b> | N/A                                                                                                                            |
| <b>Brand Name</b>          | InsulCheck                                                                                                                     |
| <b>Received Date</b>       | October 25, 2022                                                                                                               |
| <b>Date of Test</b>        | October 27 ~ November 1, 2022                                                                                                  |
| <b>Power Supply</b>        | 1. Power from Host System. (DC 5V)<br>2. Power from Battery.<br>Brand / Model: GLOSO/LP521120<br>Rating: DC 3.7V, 80mAh, 0.3Wh |

**Remark:**

1. For more details, please refer to the User's manual of the EUT.
2. Disclaimer: Antenna information is provided by the applicant, test results of this report are applicable to the sample EUT received.

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## 1.2 EUT CHANNEL INFORMATION

|                    |                     |
|--------------------|---------------------|
| Frequency Range    | 2402MHz-2480MHz     |
| Modulation Type    | GFSK for BLE 1 Mbps |
| Number of channels | 40 Channels         |

**Remark:**

Refer as ANSI C63.10: 2013 clause 5.6.1 Table 4 for test channels

| Number of frequencies to be tested                   |                       |                                              |
|------------------------------------------------------|-----------------------|----------------------------------------------|
| Frequency range in which device operates             | Number of frequencies | Location in frequency range of operation     |
| <input type="checkbox"/> 1 MHz or less               | 1                     | Middle                                       |
| <input type="checkbox"/> 1 MHz to 10 MHz             | 2                     | 1 near top and 1 near bottom                 |
| <input checked="" type="checkbox"/> More than 10 MHz | 3                     | 1 near top, 1 near middle, and 1 near bottom |

## 1.3 ANTENNA INFORMATION

|                       |                                                                                                                                      |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Antenna Specification | <input type="checkbox"/> PIFA <input checked="" type="checkbox"/> PCB <input type="checkbox"/> Dipole <input type="checkbox"/> Coils |
| Antenna Gain          | Gain: 0.5 dBi                                                                                                                        |
| Brand / Model         | Johanson Technology Inc. / 2450AT18B100E                                                                                             |

**Notes:**

1.The antenna(s) of the EUT are permanently attached and there are no provisions for connection to an external antenna. So the EUT complies with the requirements of §15.203.



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## 1.4 MEASUREMENT UNCERTAINTY

| PARAMETER                                    | UNCERTAINTY  |
|----------------------------------------------|--------------|
| AC Powerline Conducted Emission              | $\pm 2.1183$ |
| Channel Bandwidth                            | $\pm 2.1863$ |
| RF output power (Power Meter + Power sensor) | $\pm 1.2688$ |
| Power Spectral density                       | $\pm 2.1855$ |
| Conducted Bandedge                           | $\pm 2.1866$ |
| Conducted Spurious Emission                  | $\pm 2.1859$ |
| Radiated Emission_9kHz-30MHz                 | $\pm 3.814$  |
| Radiated Emission_30MHz-200MHz               | $\pm 4.272$  |
| Radiated Emission_200MHz-1GHz                | $\pm 4.619$  |
| Radiated Emission_1GHz-6GHz                  | $\pm 5.522$  |
| Radiated Emission_6GHz-18GHz                 | $\pm 5.228$  |
| Radiated Emission_18GHz-26GHz                | $\pm 4.089$  |
| Radiated Emission_26GHz-40GHz                | $\pm 4.019$  |

**Remark:**

1. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of  $k=2$
2. ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report.

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## 1.5 FACILITIES AND TEST LOCATION

All measurement facilities used to collect the measurement data are located at

☒ No.11, Wugong 6th Rd., Wugu Dist., New Taipei City, Taiwan

☐ No. 12, Ln. 116, Wugong 3rd Rd., Wugu Dist., New Taipei City, Taiwan

CAB identifier: TW1309

| Test site          | Test Engineer | Remark |
|--------------------|---------------|--------|
| AC Conduction Room | Tony Chao     | -      |
| Radiation          | Ray Li        | -      |
| RF Conducted       | Jack Chen     | -      |

**Remark:** The lab has been recognized as the FCC accredited lab. under the KDB 974614 D01 and is listed in the FCC public Access Link (PAL) database, FCC Registration No. :444940, the FCC Designation No.:TW1309

## 1.6 INSTRUMENT CALIBRATION

| RF Conducted Test Site |                             |         |               |                  |                 |
|------------------------|-----------------------------|---------|---------------|------------------|-----------------|
| Name of Equipment      | Manufacturer                | Model   | Serial Number | Calibration Date | Calibration Due |
| Power Meter            | Anritsu                     | ML2496A | 2136002       | 2021-12-06       | 2022-12-05      |
| EXA Signal Analyzer    | Keysight                    | N9010B  | MY60242460    | 2022-01-30       | 2023-01-29      |
| Power Sensor           | Anritsu                     | MA2411B | 1911386       | 2022-08-08       | 2023-08-07      |
| Power Sensor           | Anritsu                     | MA2411B | 1911387       | 2022-08-08       | 2023-08-07      |
| Software               | Radio Test Software Ver. 21 |         |               |                  |                 |

| AC Power-line Conducted Test Room |                         |           |               |                  |                 |
|-----------------------------------|-------------------------|-----------|---------------|------------------|-----------------|
| Name of Equipment                 | Manufacturer            | Model     | Serial Number | Calibration Date | Calibration Due |
| CABLE                             | EMCI                    | CFD300-NL | CERF          | 06/27/2022       | 06/26/2023      |
| EMI Test Receiver                 | R&S                     | ESCI      | 100064        | 06/17/2022       | 06/16/2023      |
| LISN                              | SCHAFFNER               | NNB 41    | 03/10013      | 02/15/2022       | 02/14/2023      |
| Software                          | EZ-EMC(CCS-3A1-CE-wugu) |           |               |                  |                 |

**Remark:**

- Each piece of equipment is scheduled for calibration once a year.
- N.C.R. = No Calibration Required.

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| 3M 966 Chamber Test Site |                   |                    |                    |                  |                 |
|--------------------------|-------------------|--------------------|--------------------|------------------|-----------------|
| Name of Equipment        | Manufacturer      | Model              | Serial Number      | Calibration Date | Calibration Due |
| K-Type Cable             | Huber+Suhner      | SUCOFLEX 102       | 29406/2            | 2021-12-05       | 2022-12-04      |
| Bi-Log Antenna           | Sunol Sciences    | JB3                | A030105            | 2022-08-03       | 2023-08-02      |
| Spectrum Analyzer        | Agilent           | E4446A             | MY46180323         | 2021-12-06       | 2022-12-05      |
| Thermo-Hygro Meter       | WISEWIND          | 1206               | D07                | 2021-12-28       | 2022-12-27      |
| Loop Antenna             | COM-POWER         | AL-130             | 121051             | 2022-04-13       | 2023-04-12      |
| Coaxial Cable            | EMCI              | EMC101G-KM-KM-500  | 211041             | 2021-12-23       | 2022-12-22      |
| Coaxial Cable            | EMC               | EMC101G-KM-KM-9000 | 211042             | 2021-12-23       | 2022-12-22      |
| Horn Antenna             | ETS LINDGREN      | 3116               | 00026370           | 2021-11-30       | 2022-11-29      |
| Cable                    | Woken             | J-1099             | 201709090004       | 2021-12-23       | 2022-12-22      |
| Preamplifier             | EMEC              | EM330              | 060609             | 2022-02-23       | 2023-02-22      |
| Preamplifier             | HP                | 8449B              | 3008A00965         | 2021-12-24       | 2022-12-23      |
| Band Reject Filter       | MICRO TRONICS     | BRM 50702          | 112                | 2021-11-23       | 2022-11-22      |
| Cable                    | Huber+Suhner      | 104PEA             | 20995+11112+182330 | 2022-02-23       | 2023-02-22      |
| Coaxial Cable            | EMCI              | EMC105             | 190914+33953       | 2022-06-15       | 2023-06-14      |
| Horn Antenna             | ETC               | MCTD 1209          | DRH13M02003        | 2022-01-25       | 2023-01-24      |
| Turn Table               | CCS               | CC-T-1F            | N/A                | N.C.R            | N.C.R           |
| Controller               | CCS               | CC-C-1F            | N/A                | N.C.R            | N.C.R           |
| Antenna Tower            | CCS               | CC-A-1F            | N/A                | N.C.R            | N.C.R           |
| Software                 | e3 6.11-20180419c |                    |                    |                  |                 |

**Remark:**

- Each piece of equipment is scheduled for calibration once a year.
- N.C.R. = No Calibration Required.

## 1.7 SUPPORT AND EUT ACCESSORIES EQUIPMENT

| EUT Accessories Equipment |           |       |       |            |        |    |
|---------------------------|-----------|-------|-------|------------|--------|----|
| No.                       | Equipment | Brand | Model | Series No. | FCC ID | IC |
|                           | N/A       |       |       |            |        |    |

| Support Equipment |            |        |              |            |        |     |
|-------------------|------------|--------|--------------|------------|--------|-----|
| No.               | Equipment  | Brand  | Model        | Series No. | FCC ID | IC  |
| 1                 | NB(C)      | Lenovo | T470         | N/A        | N/A    | N/A |
| 2                 | NB(G)      | Lenovo | IBM 1951     | N/A        | N/A    | N/A |
| 3                 | NB Adapter | Lenovo | ADLX65CDGU2A | N/A        | N/A    | N/A |

## 1.8 TEST METHODOLOGY AND APPLIED STANDARDS

The test methodology, setups and results comply with all requirements in accordance with ANSI C63.10:2013, FCC Part 2, FCC Part 15.247 and KDB 558074 D01.



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## 2. TEST SUMMARY

| FCC Standard Section | Report Section | Test Item                   | Result |
|----------------------|----------------|-----------------------------|--------|
| 15.203               | 1.3            | Antenna Requirement         | Pass   |
| 15.207(a)            | 4.1            | AC Conducted Emission       | Pass   |
| 15.247(a)(2)         | 4.2            | 6 dB Bandwidth              | Pass   |
| -                    | 4.2            | Occupied Bandwidth (99%)    | Pass   |
| 15.247(b)(3)         | 4.3            | Output Power Measurement    | Pass   |
| 15.247(e)            | 4.4            | Power Spectral Density      | Pass   |
| 15.247(d)            | 4.5            | Conducted Band Edge         | Pass   |
| 15.247(d)            | 4.5            | Conducted Spurious Emission | Pass   |
| 15.247(d)            | 4.6            | Radiation Band Edge         | Pass   |
| 15.247(d)            | 4.6            | Radiation Spurious Emission | Pass   |



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### 3. DESCRIPTION OF TEST MODES

#### 3.1 THE WORST MODE OF OPERATING CONDITION

|                          |                                                                                            |
|--------------------------|--------------------------------------------------------------------------------------------|
| Operation mode           | BLE Mode (1Mbps)                                                                           |
| Test Channel Frequencies | 1.Lowest Channel : 2402 MHz<br>2.Middle Channel : 2440 MHz<br>3.Highest Channel : 2480 MHz |

**Remark:**

1. EUT pre-scanned data rate of output power for each mode, the worst data rate were recorded in this report.

### 3.2 THE WORST MODE OF MEASUREMENT

| AC Power Line Conducted Emission |                                                                                                                                            |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Test Condition                   | AC Power line conducted emission for line and neutral                                                                                      |
| Power supply Mode                | Mode 1: EUT power by Notebook                                                                                                              |
| Worst Mode                       | <input checked="" type="checkbox"/> Mode 1 <input type="checkbox"/> Mode 2 <input type="checkbox"/> Mode 3 <input type="checkbox"/> Mode 4 |

| Radiated Emission Measurement Below 1G |                                                                                                                                            |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Test Condition                         | Radiated Emission Below 1G                                                                                                                 |
| Power supply Mode                      | Mode 1: EUT power by Battery                                                                                                               |
| Worst Mode                             | <input checked="" type="checkbox"/> Mode 1 <input type="checkbox"/> Mode 2 <input type="checkbox"/> Mode 3 <input type="checkbox"/> Mode 4 |

| Radiated Emission Measurement Above 1G |                                                                                                                                                                                                                                                                                               |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Condition                         | Radiated Emission Above 1G                                                                                                                                                                                                                                                                    |
| Power supply Mode                      | Mode 1: EUT power by Battery                                                                                                                                                                                                                                                                  |
| Worst Mode                             | <input checked="" type="checkbox"/> Mode 1 <input type="checkbox"/> Mode 2 <input type="checkbox"/> Mode 3 <input type="checkbox"/> Mode 4                                                                                                                                                    |
| Worst Position                         | <input type="checkbox"/> Placed in fixed position.<br><input checked="" type="checkbox"/> Placed in fixed position at X-Plane (E2-Plane)<br><input type="checkbox"/> Placed in fixed position at Y-Plane (E1-Plane)<br><input type="checkbox"/> Placed in fixed position at Z-Plane (H-Plane) |

**Remark:**

1. The worst mode was record in this test report.
2. EUT pre-scanned in three axis ,X,Y, Z and two polarity, for radiated measurement. The worst case(X-Plane) were recorded in this report.
3. AC power line conducted emission and for below 1G radiation emission were performed the EUT transmit at the highest output power channel as worse case.

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### 3.3 EUT DUTY CYCLE

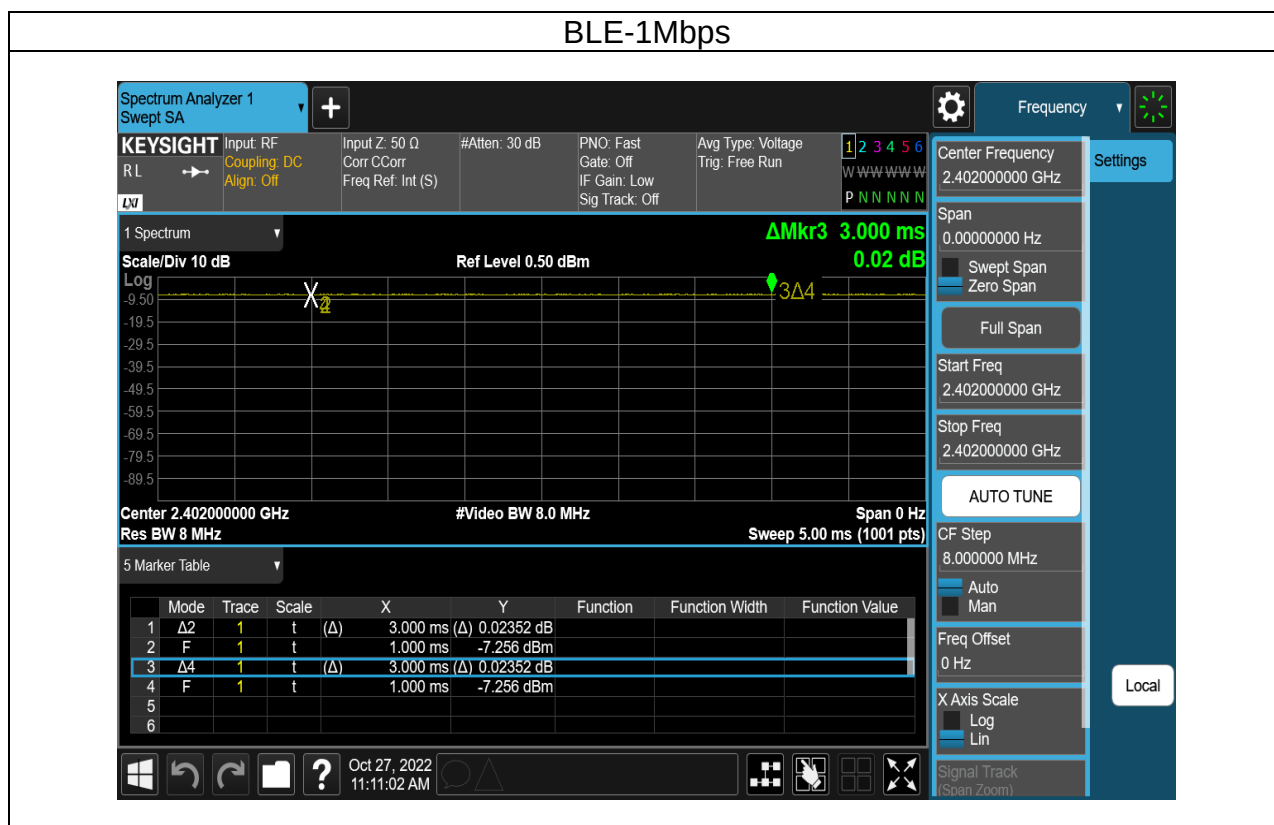
Temperature: 22.8°C

Test date: October 27, 2022

Humidity: 53% RH

Tested by: David Li

| Duty Cycle    |                                      |                                              |           |                      |
|---------------|--------------------------------------|----------------------------------------------|-----------|----------------------|
| Configuration | Duty Cycle (%)<br>= Ton / (Ton+Toff) | Duty Factor (dB)<br>=10*log ( 1/Duty Cycle ) | 1/T (kHz) | VBW setting<br>(kHz) |
| BLE 1M        | 100.00                               | 0.00                                         | 1.00      | 0.01                 |



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## 4. TEST RESULT

### 4.1 AC POWER LINE CONDUCTED EMISSION

#### 4.1.1 Test Limit

According to §15.207(a),

| Frequency Range<br>(MHz) | Limits(dB $\mu$ V) |           |
|--------------------------|--------------------|-----------|
|                          | Quasi-peak         | Average   |
| 0.15 to 0.50             | 66 to 56*          | 56 to 46* |
| 0.50 to 5                | 56                 | 46        |
| 5 to 30                  | 60                 | 50        |

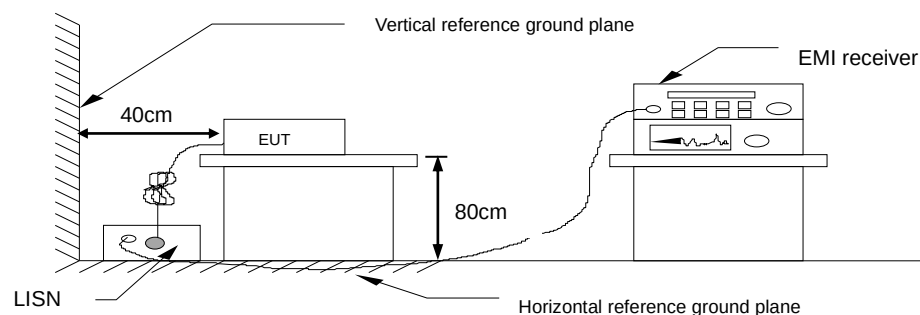
\* Decreases with the logarithm of the frequency.

#### 4.1.2 Test Procedure

Test method Refer as ANSI C63.10: 2013 clause 6.2,

1. The EUT was placed above horizontal ground plane and 0.4m above vertical ground plane
2. EUT connected to the line impedance stabilization network (LISN)
3. Receiver set RBW of 9kHz and Detector Peak, and note as quasi-peak and average.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. Recorded Line for Neutral and Line.

#### 4.1.3 Test Setup



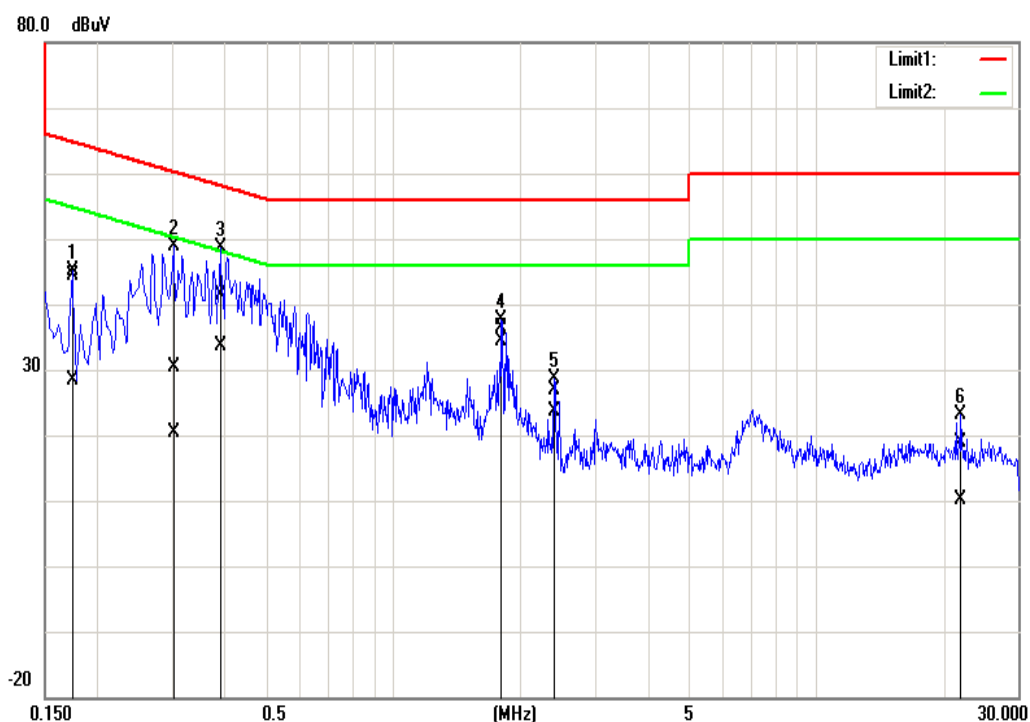
#### 4.1.4 Test Result

Pass.

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## Test Data

|               |              |               |                  |
|---------------|--------------|---------------|------------------|
| Test Mode:    | BLE 1M       | Temp/Hum      | 24.3(°C)/ 52%RH  |
| Phase:        | Line         | Test Date     | November 1, 2022 |
| Test Voltage: | 120Vac, 60Hz | Test Engineer | Tony Chao        |

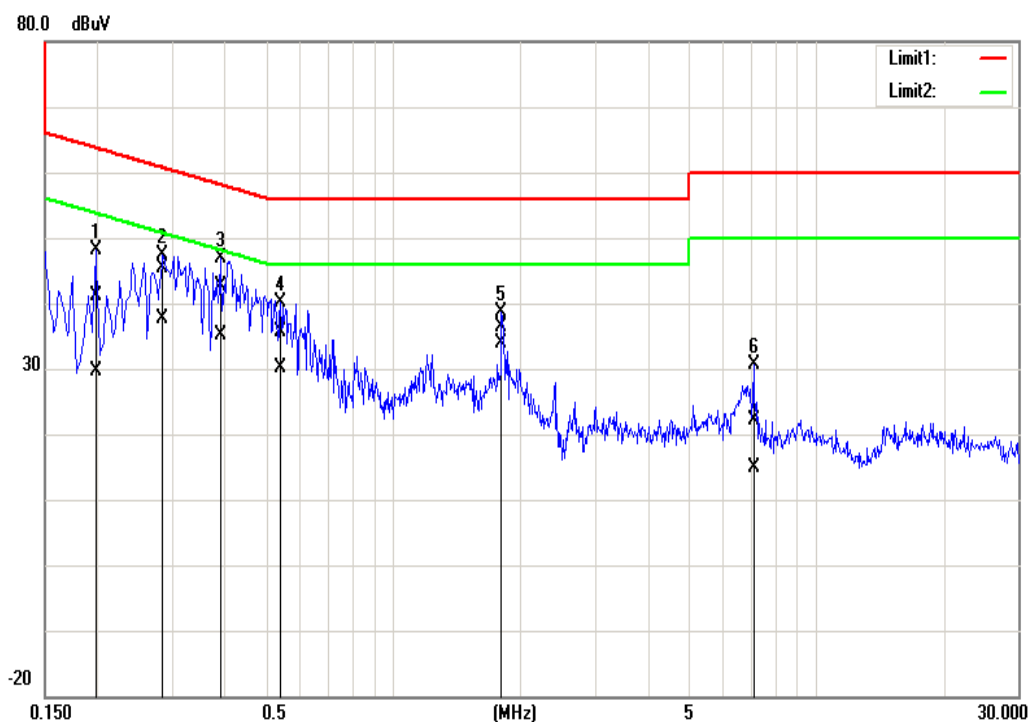


| Frequency (MHz) | Quasi Peak reading (dBuV) | Average reading (dBuV) | Correction factor (dB) | Quasi Peak result (dBuV) | Average result (dBuV) | Quasi Peak limit (dBuV) | Average limit (dBuV) | Quasi Peak margin (dB) | Average margin (dB) | Remark |
|-----------------|---------------------------|------------------------|------------------------|--------------------------|-----------------------|-------------------------|----------------------|------------------------|---------------------|--------|
| 0.1740          | 34.27                     | 18.14                  | 10.17                  | 44.44                    | 28.31                 | 64.77                   | 54.77                | -20.33                 | -26.46              | Pass   |
| 0.3020          | 20.29                     | 10.18                  | 10.19                  | 30.48                    | 20.37                 | 60.19                   | 50.19                | -29.71                 | -29.82              | Pass   |
| 0.3900          | 31.15                     | 23.47                  | 10.19                  | 41.34                    | 33.66                 | 58.06                   | 48.06                | -16.72                 | -14.40              | Pass   |
| 1.8060          | 26.06                     | 24.09                  | 10.25                  | 36.31                    | 34.34                 | 56.00                   | 46.00                | -19.69                 | -11.66              | Pass   |
| 2.4060          | 16.73                     | 13.38                  | 10.26                  | 26.99                    | 23.64                 | 56.00                   | 46.00                | -29.01                 | -22.36              | Pass   |
| 22.0140         | 8.52                      | -0.24                  | 10.31                  | 18.83                    | 10.07                 | 60.00                   | 50.00                | -41.17                 | -39.93              | Pass   |

Note: Correction factor = LISN loss + Cable loss.

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|               |              |               |                  |
|---------------|--------------|---------------|------------------|
| Test Mode:    | BLE 1M       | Temp/Hum      | 24.3(°C)/ 52%RH  |
| Phase:        | Neutral      | Test Date     | November 1, 2022 |
| Test Voltage: | 120Vac, 60Hz | Test Engineer | Tony Chao        |



| Frequency (MHz) | Quasi Peak reading (dBuV) | Average reading (dBuV) | Correction factor (dB) | Quasi Peak result (dBuV) | Average result (dBuV) | Quasi Peak limit (dBuV) | Average limit (dBuV) | Quasi Peak margin (dB) | Average margin (dB) | Remark |
|-----------------|---------------------------|------------------------|------------------------|--------------------------|-----------------------|-------------------------|----------------------|------------------------|---------------------|--------|
| 0.1980          | 31.07                     | 19.35                  | 10.17                  | 41.24                    | 29.52                 | 63.69                   | 53.69                | -22.45                 | -24.17              | Pass   |
| 0.2860          | 35.23                     | 27.37                  | 10.17                  | 45.40                    | 37.54                 | 60.64                   | 50.64                | -15.24                 | -13.10              | Pass   |
| 0.3900          | 32.43                     | 24.98                  | 10.18                  | 42.61                    | 35.16                 | 58.06                   | 48.06                | -15.45                 | -12.90              | Pass   |
| 0.5420          | 25.49                     | 20.02                  | 10.18                  | 35.67                    | 30.20                 | 56.00                   | 46.00                | -20.33                 | -15.80              | Pass   |
| 1.8060          | 26.07                     | 23.67                  | 10.23                  | 36.30                    | 33.90                 | 56.00                   | 46.00                | -19.70                 | -12.10              | Pass   |
| 7.1140          | 11.85                     | 4.56                   | 10.32                  | 22.17                    | 14.88                 | 60.00                   | 50.00                | -37.83                 | -35.12              | Pass   |

Note: Correction factor = LISN loss + Cable loss.

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## 4.2 6dB BANDWIDTH AND OCCUPIED BANDWIDTH (99%)

### 4.2.1 Test Limit

According to §15.247(a)(2),

**6 dB Bandwidth** :

|       |                          |
|-------|--------------------------|
| Limit | Shall be at least 500kHz |
|-------|--------------------------|

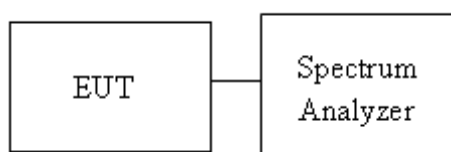
**Occupied Bandwidth(99%)** : For reporting purposes only.

### 4.2.2 Test Procedure

Test method Refer as ANSI C63.10: 2013,

1. The EUT RF output connected to the spectrum analyzer by RF cable.
2. Setting maximum power transmit of EUT.
3. SA set RBW = 100KHz, VBW = 300KHz and Detector = Peak, to measurement 6dB Bandwidth.
4. SA set RBW = 1% ~ 5% OBW, VBW = three times the RBW and Detector = Peak, to measurement 99% Bandwidth.
5. Measure and record the result of 6 dB Bandwidth and 99% Bandwidth. in the test report.

### 4.2.3 Test Setup



#### 4.2.4 Test Result

Temperature: 22.8°C

Test date: October 27, 2022

Humidity: 53% RH

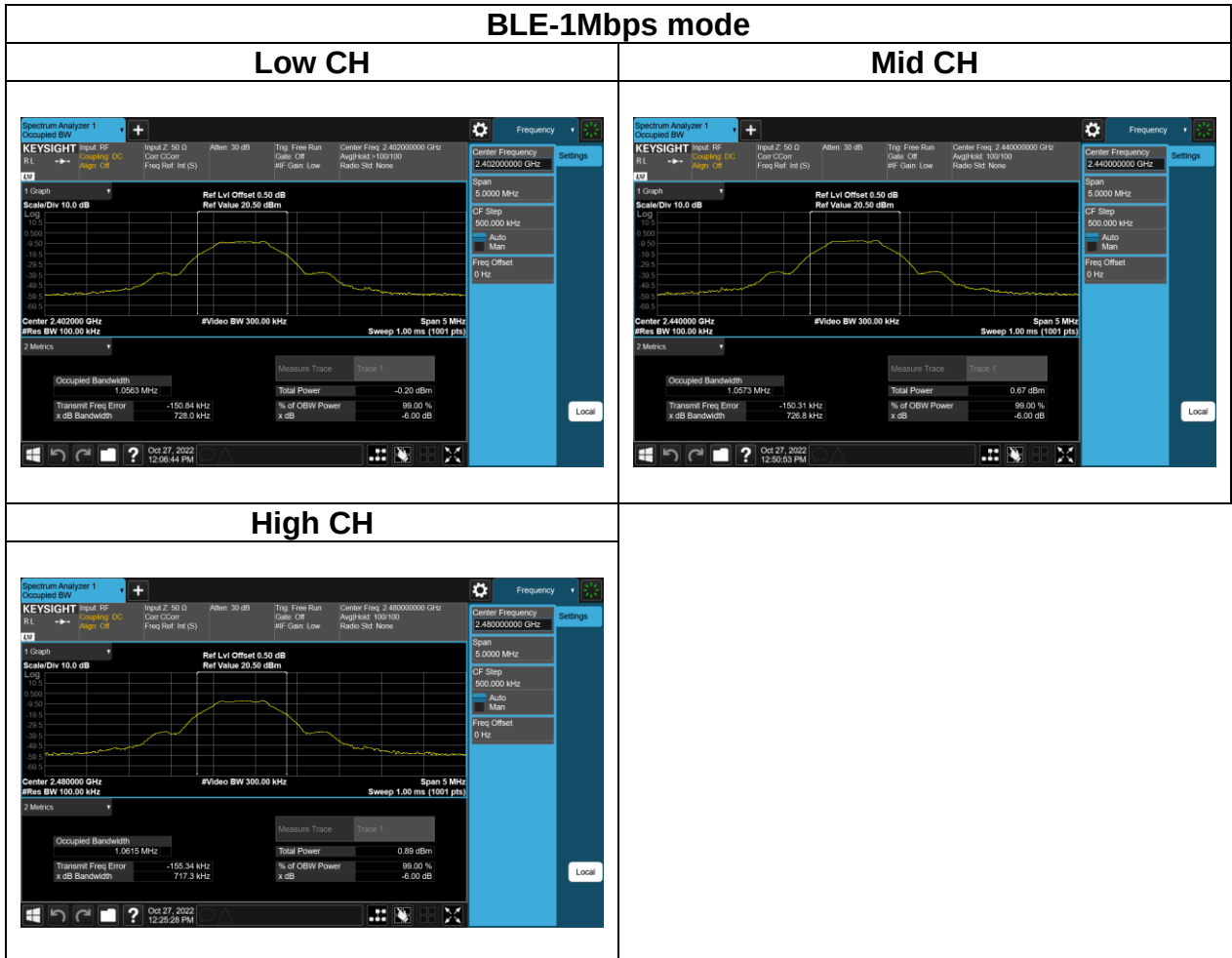
Tested by: David Li

| Test mode: BLE-1Mbps mode / 2402-2480 MHz |                 |                 |              |                 |
|-------------------------------------------|-----------------|-----------------|--------------|-----------------|
| Channel                                   | Frequency (MHz) | OBW (99%) (MHz) | 6dB BW (MHz) | 6dB limit (kHz) |
| Low                                       | 2402            | 1.0381          | 0.728        | ≥500            |
| Mid                                       | 2440            | 1.0376          | 0.7268       |                 |
| High                                      | 2480            | 1.0441          | 0.7173       |                 |

Report No.: TMWK2207002979KR

## Test Data

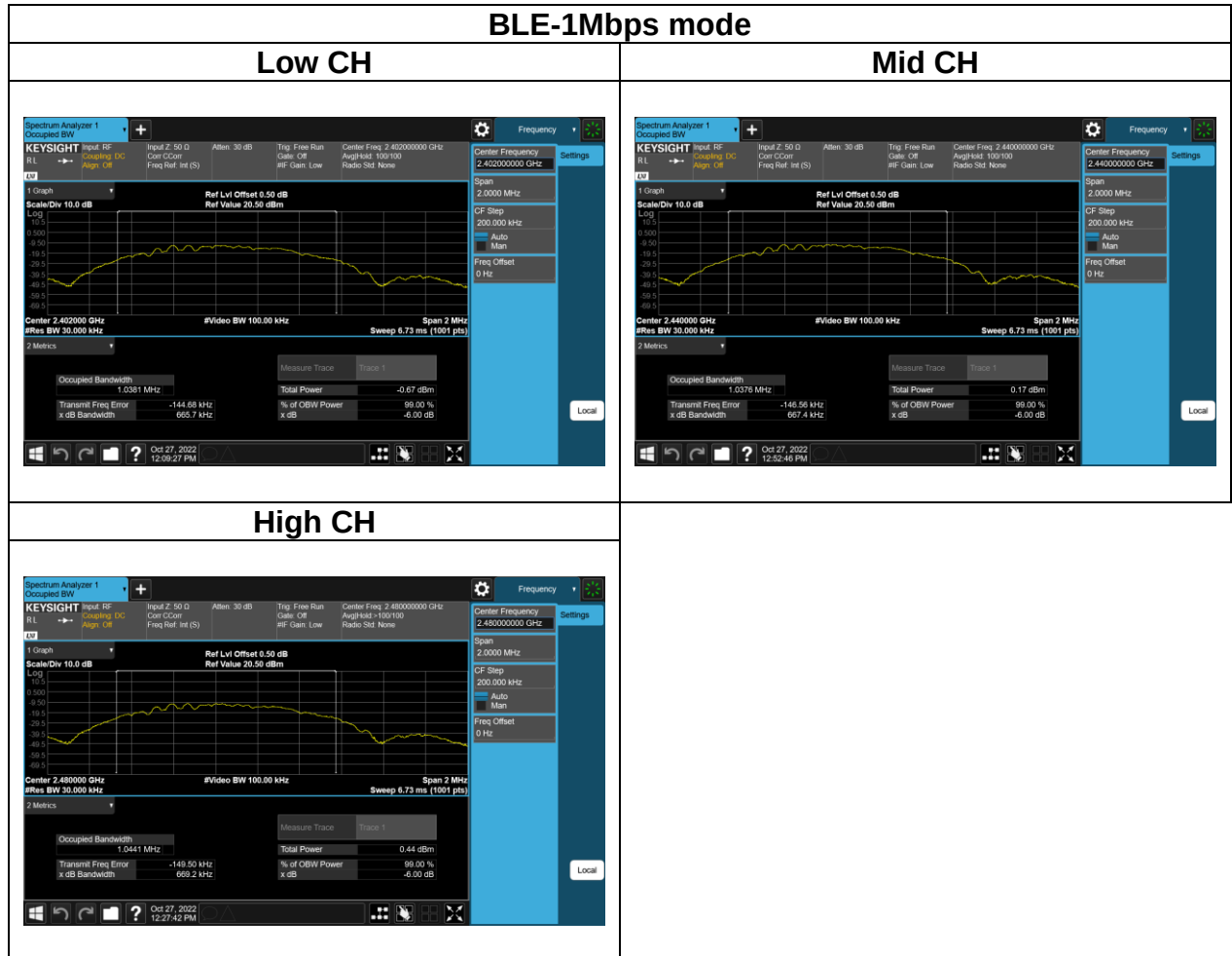
### 6dB BANDWIDTH



Report No.: TMWK2207002979KR

## Test Data

### BANDWIDTH (99%)



## 4.3 OUTPUT POWER MEASUREMENT

### 4.3.1 Test Limit

According to §15.247(b)(3)

#### Peak output power :

#### FCC

For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement,

|       |                                                                                                                                                                                                                       |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Limit | <input checked="" type="checkbox"/> Antenna not exceed 6 dBi : 30dBm<br><input type="checkbox"/> Antenna with DG greater than 6 dBi<br>[ Limit = 30 – (DG – 6) ]<br><input type="checkbox"/> Point-to-point operation |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

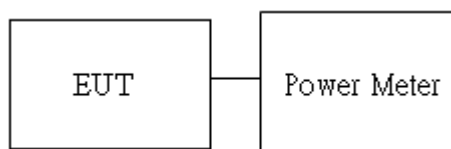
Average output power : For reporting purposes only.

### 4.3.2 Test Procedure

Test method Refer as ANSI C63.10:2013.

1. The EUT RF output connected to the power meter by RF cable.
2. Setting maximum power transmit of EUT.
3. The path loss was compensated to the results for each measurement.
4. Measure and record the result of Peak output power and Average output power. in the test report.

### 4.3.3 Test Setup



Report No.: TMWK2207002979KR

#### 4.3.4 Test Result

Temperature: 22.8°C

Test date: October 27, 2022

Humidity: 53% RH

Tested by: David Li

##### Peak output power :

BLE 1M mode:

| CH   | Frequency (MHz) | Power set | Peak Power Output (dBm) | Required Limit (dBm) |
|------|-----------------|-----------|-------------------------|----------------------|
| Low  | 2402            | default   | -6.53                   | 30                   |
| Mid  | 2440            | default   | -6.02                   | 30                   |
| High | 2480            | default   | -5.42                   | 30                   |

##### Average output power :

BLE 1M mode:

| CH   | Frequency (MHz) | Power set | Max. Avg. Output Power (dBm) | Required Limit (dBm) |
|------|-----------------|-----------|------------------------------|----------------------|
| Low  | 2402            | default   | -6.64                        | 30                   |
| Mid  | 2440            | default   | -6.13                        | 30                   |
| High | 2480            | default   | -5.51                        | 30                   |

Report No.: TMWK2207002979KR

## 4.4 POWER SPECTRAL DENSITY

### 4.4.1 Test Limit

According to §15.247(e)

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

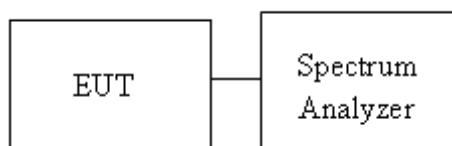
|       |                                                                                                                                                                                                                        |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Limit | <input checked="" type="checkbox"/> Antenna not exceed 6 dBi : 8 dBm<br><input type="checkbox"/> Antenna with DG greater than 6 dBi<br>[ Limit = 8 – (DG – 6) ]<br><input type="checkbox"/> Point-to-point operation : |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### 4.4.2 Test Procedure

Test method Refer as ANSI C63.10:2013.

1. The EUT RF output connected to the spectrum analyzer by RF cable.
2. Setting maximum power transmit of EUT
3. SA set RBW = 3kHz, VBW = 10kHz, Span = 1.5 times DTS Bandwidth (6 dB BW), Detector = Peak, Sweep Time = Auto and Trace = Max hold.
4. The path loss and Duty Factor were compensated to the results for each measurement by SA.
5. Mark the maximum level.
6. Measure and record the result of power spectral density. in the test report.

### 4.4.3 Test Setup



#### 4.4.4 Test Result

**Temperature:** 22.8°C

**Test date:** October 27, 2022

**Humidity:** 53% RH

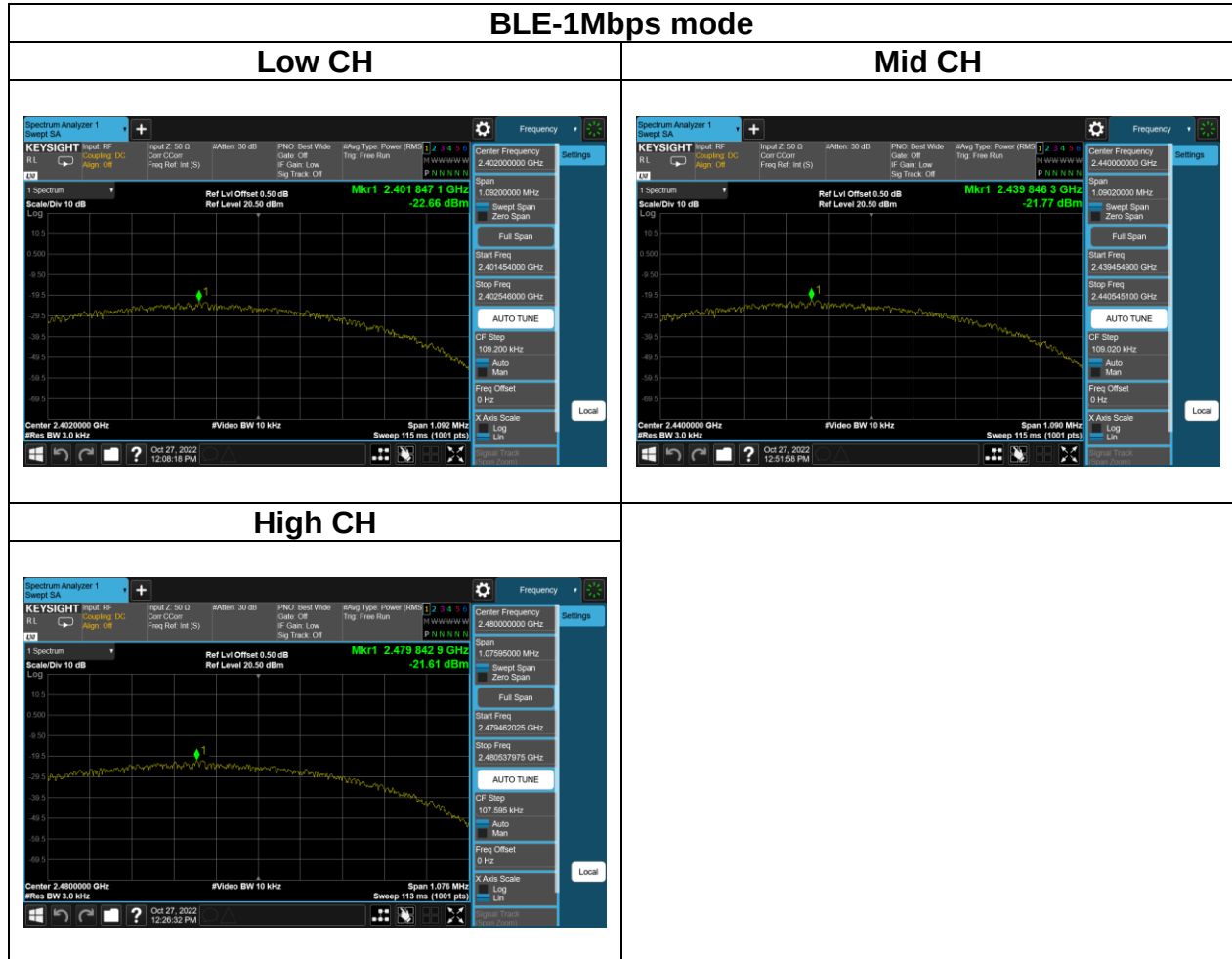
**Tested by:** David Li

##### BLE 1M mode

| Frequency<br>(MHz) | RF Power Density<br>(dBm/3kHz) | Maximum Limit<br>(dBm/3kHz) | Result |
|--------------------|--------------------------------|-----------------------------|--------|
| 2402               | -22.660                        | 8                           | PASS   |
| 2440               | -21.770                        | 8                           | PASS   |
| 2480               | -21.610                        | 8                           | PASS   |

Report No.: TMWK2207002979KR

## Test Data



## 4.5 CONDUCTED BAND EDGE AND SPURIOUS EMISSION

### 4.5.1 Test Limit

According to §15.247(d)

**FCC:** In any 100 kHz bandwidth outside the authorized frequency band,

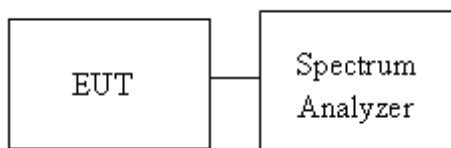
Non-restricted bands shall be attenuated at least 20 dB/30 dB relative to the maximum PSD level in 100 kHz by RF conducted or a radiated measurement which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

### 4.5.2 Test Procedure

Test method Refer as ANSI C63.10:2013.

1. EUT RF output port connected to the SA by RF cable, and the path loss was compensated to result.
2. SA setting, RBW=100kHz, VBW=300kHz, Detector=Peak, Trace mode = max hold, SWT = Auto.
3. In any 100 kHz bandwidth outside the authorized frequency band, shall be attenuated at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when conducted power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

### 4.5.3 Test Setup



Report No.: TMWK2207002979KR

## 4.5.4 Test Result

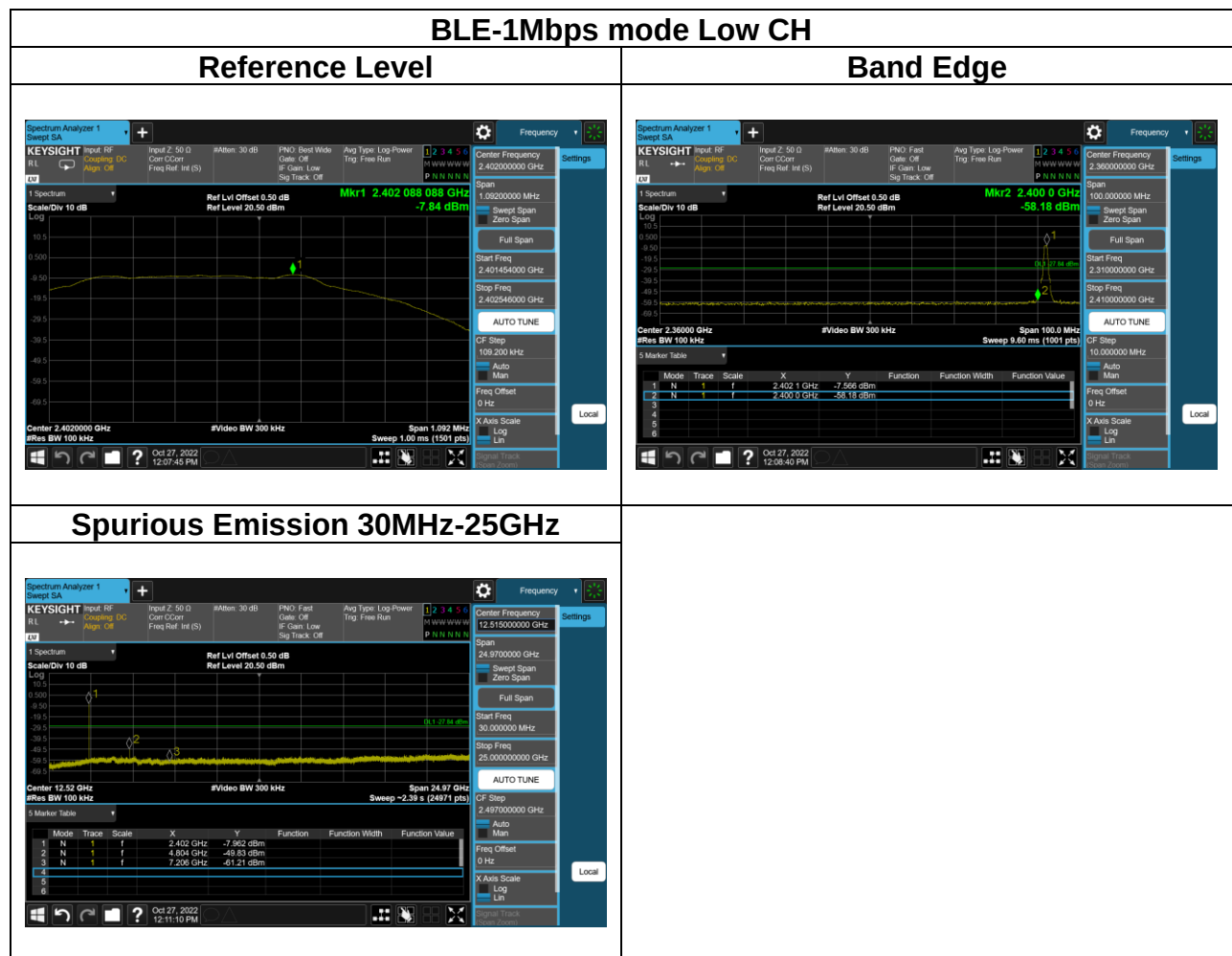
### Test Data

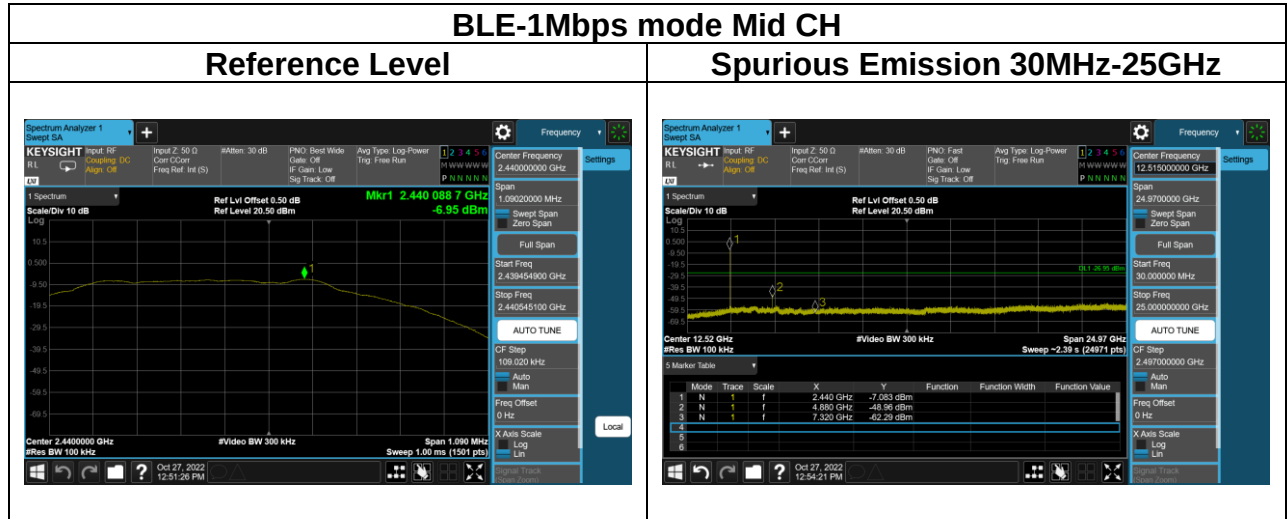
Temperature: 22.8°C

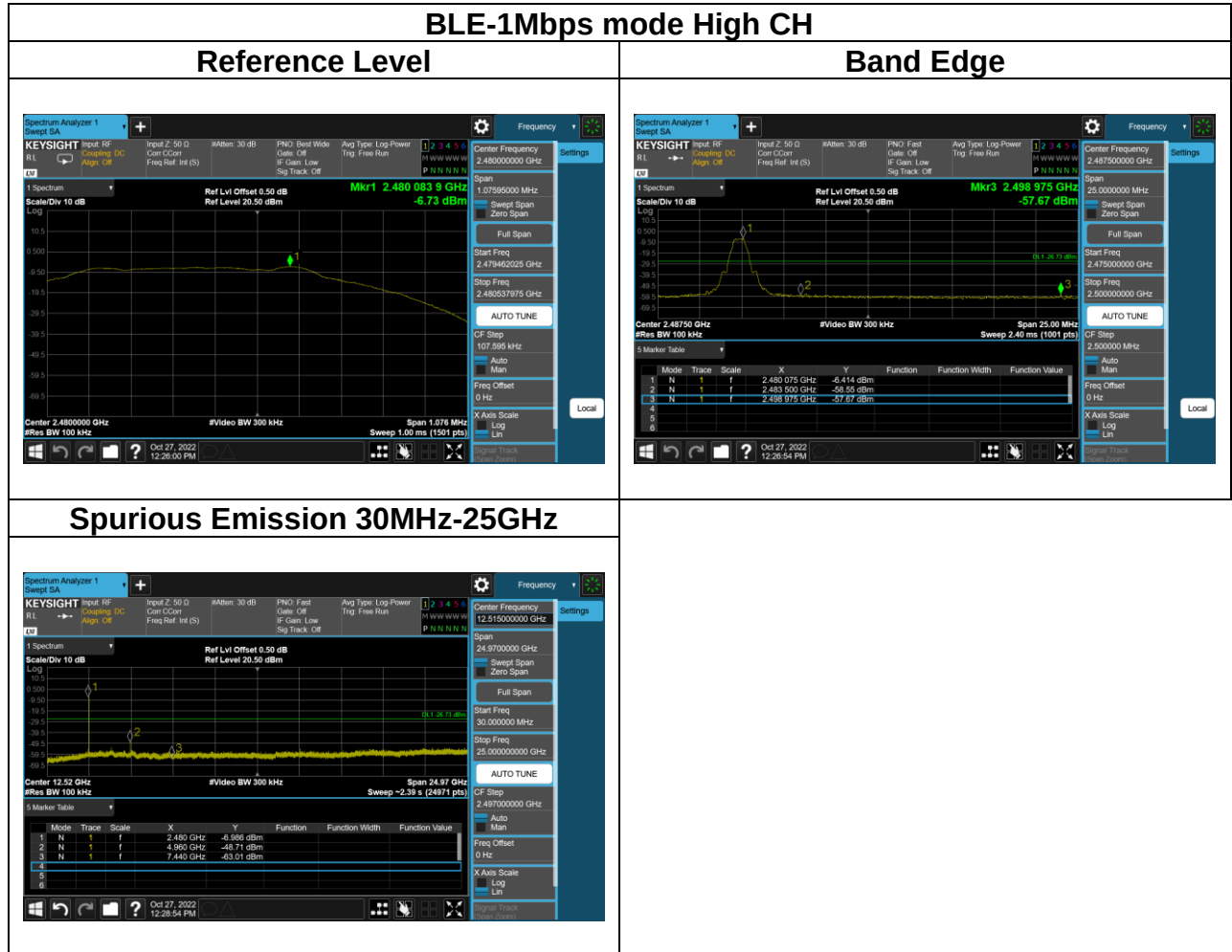
Test date: October 27, 2022

Humidity: 53% RH

Tested by: David Li







## 4.6 RADIATION BANDEDGE AND SPURIOUS EMISSION

### 4.6.1 Test Limit

FCC according to §15.247(d), §15.209 and §15.205,

In any 100 kHz bandwidth outside the authorized frequency band, all harmonic and spurious must be least 20 dB below the highest emission level with the authorized frequency band. Radiation emission which fall in the restricted bands must also follow the FCC section 15.209 as below limit in table.

#### Below 30 MHz

| Frequency     | Field Strength<br>(microvolts/m) | Magnetic<br>H-Field<br>(microamperes/m) | Measurement<br>Distance<br>(metres) |
|---------------|----------------------------------|-----------------------------------------|-------------------------------------|
| 9-490 kHz     | 2,400/F (F in kHz)               | 2,400/F (F in kHz)                      | 300                                 |
| 490-1,705 kHz | 24,000/F (F in kHz)              | 24,000/F (F in kHz)                     | 30                                  |
| 1.705-30 MHz  | 30                               | N/A                                     | 30                                  |

#### Above 30 MHz

| Frequency<br>(MHz) | Field Strength<br>microvolts/m at 3 metres (watts, e.i.r.p.) |              |
|--------------------|--------------------------------------------------------------|--------------|
|                    | Transmitters                                                 | Receivers    |
| 30-88              | 100 (3 nW)                                                   | 100 (3 nW)   |
| 88-216             | 150 (6.8 nW)                                                 | 150 (6.8 nW) |
| 216-960            | 200 (12 nW)                                                  | 200 (12 nW)  |
| Above 960          | 500 (75 nW)                                                  | 500 (75 nW)  |

Remark:

Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open area test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.

Report No.: TMWK2207002979KR

## 4.6.2 Test Procedure

Test method Refer as ANSI C63.10:2013.

1. The EUT is placed on a turntable, Above 1 GHz is 1.5m and below 1 GHz is 0.8m above ground plane. The EUT Configured un accordance with ANSI C63.10: 2013, and the EUT set in a continuous mode.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level. And EUT is set 3m away from the receiving antenna, which is scanned from 1m to 4m above the ground plane to find out the highest emissions. Measurement are made polarized in both the vertical and the horizontal positions with antenna.
3. Span shall wide enough to full capture the emission measured. The SA from 9KHz to 26.5GHz set to the low, Mid and High channels with the EUT transmit.

Remark:

1. Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open are test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.
2. No emission found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz).

3. The SA setting following :

- (1) Below 1G : RBW = 100kHz, VBW  $\geq$  3 RBW, Sweep = Auto, Detector = Peak, Trace = Max hold.
- (2) Above 1G :
  - (2.1) For Peak measurement : RBW = 1MHz, VBW  $\geq$  3 RBW, Sweep = Auto, Detector = Peak, Trace = Max hold.
  - (2.2) For Average measurement : RBW = 1MHz, VBW
    - \*If Duty Cycle  $\geq$  98%, VBW=10Hz.
    - \*If Duty Cycle < 98%, VBW=1/T.

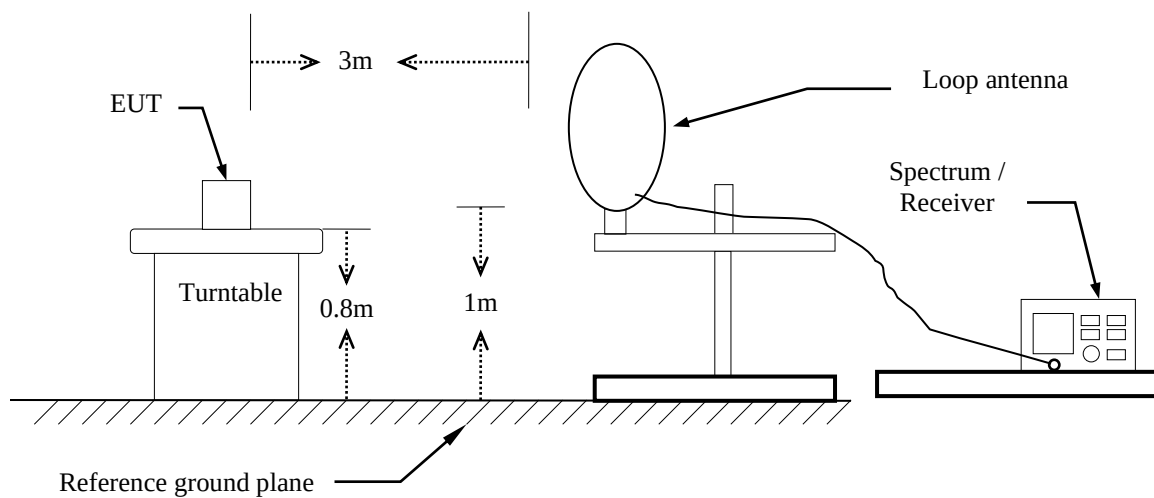
4. Data result

Actual FS=Spectrum Reading Level+Factor

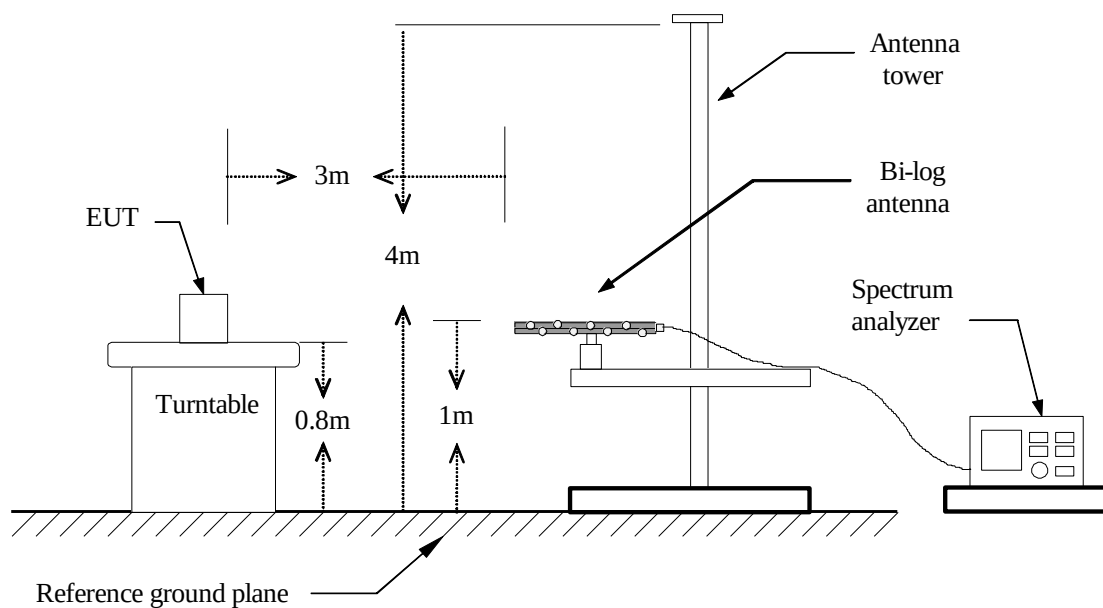
Margin=Actual FS- Limit

## 4.6.3 Test Setup

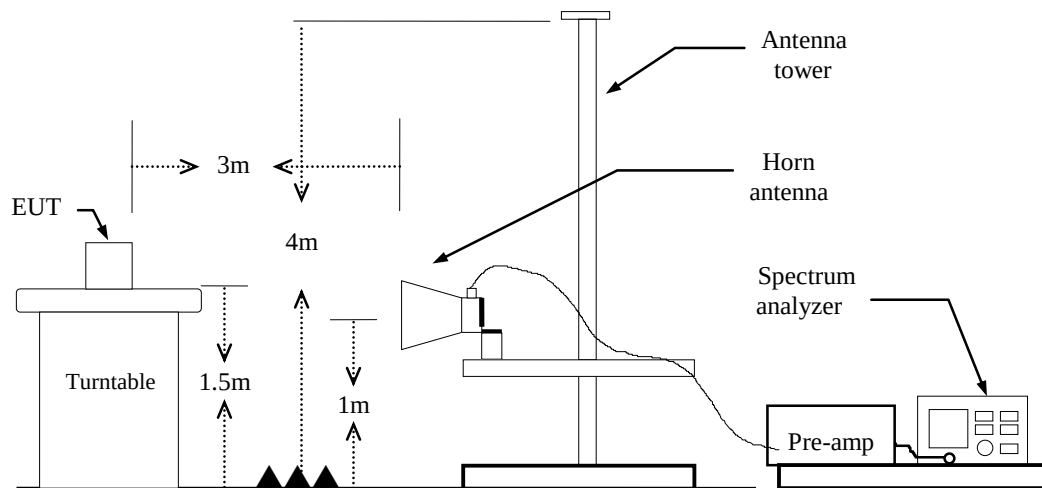
### 9kHz ~ 30MHz



### 30MHz ~ 1GHz



## Above 1 GHz

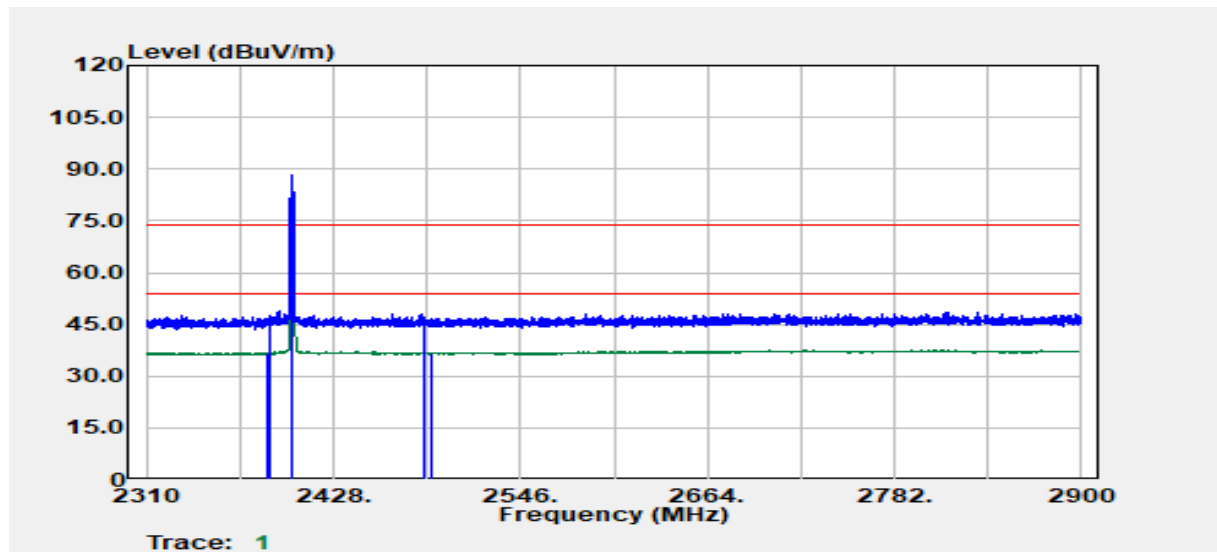


Report No.: TMWK2207002979KR

#### 4.6.4 Test Result

##### Band Edge Test Data

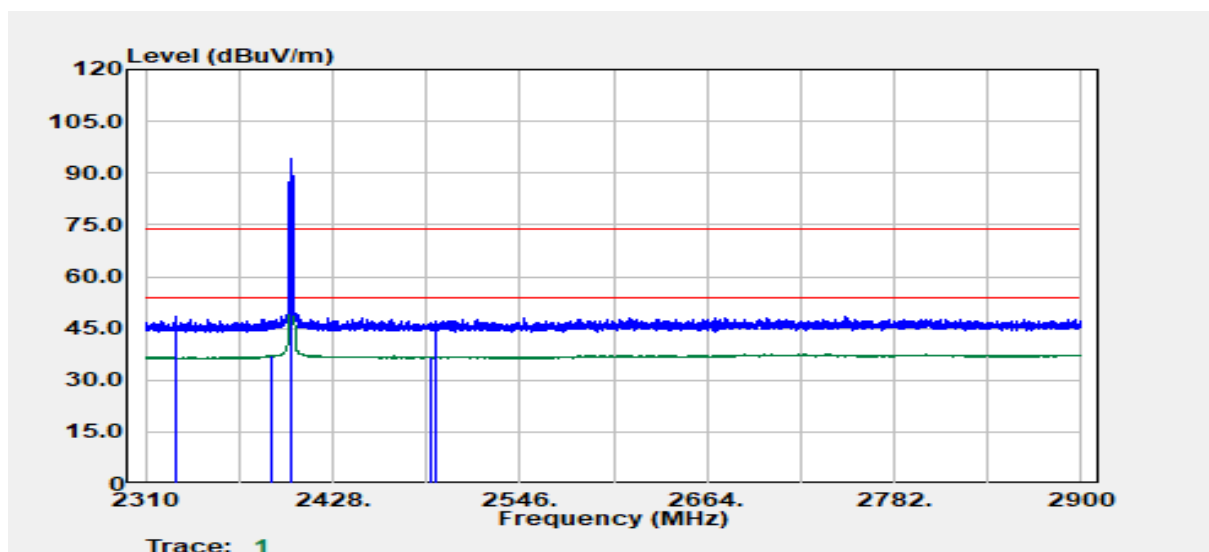
|            |                  |               |                  |
|------------|------------------|---------------|------------------|
| Test Mode: | BLE-1Mbps Low CH | Temp/Hum      | 24.5(°C) / 62%RH |
| Test Item  | Band Edge        | Test Date     | October 28, 2022 |
| Polarize   | Vertical         | Test Engineer | Ray Li           |
| Detector   | Peak / Average   |               |                  |



| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 2386.46        | Average                        | 29.11                               | 7.74           | 36.86                    | 54.00                    | -17.14         |
| 2388.23        | Peak                           | 40.01                               | 7.75           | 47.75                    | 74.00                    | -26.25         |
| 2402.00        | Peak                           | 80.38                               | 7.79           | 88.18                    | --                       | --             |
| 2402.00        | Average                        | 79.68                               | 7.79           | 87.47                    | --                       | --             |
| 2485.82        | Peak                           | 38.75                               | 8.27           | 47.02                    | 74.00                    | -26.98         |
| 2489.24        | Average                        | 28.61                               | 8.29           | 36.90                    | 54.00                    | -17.10         |

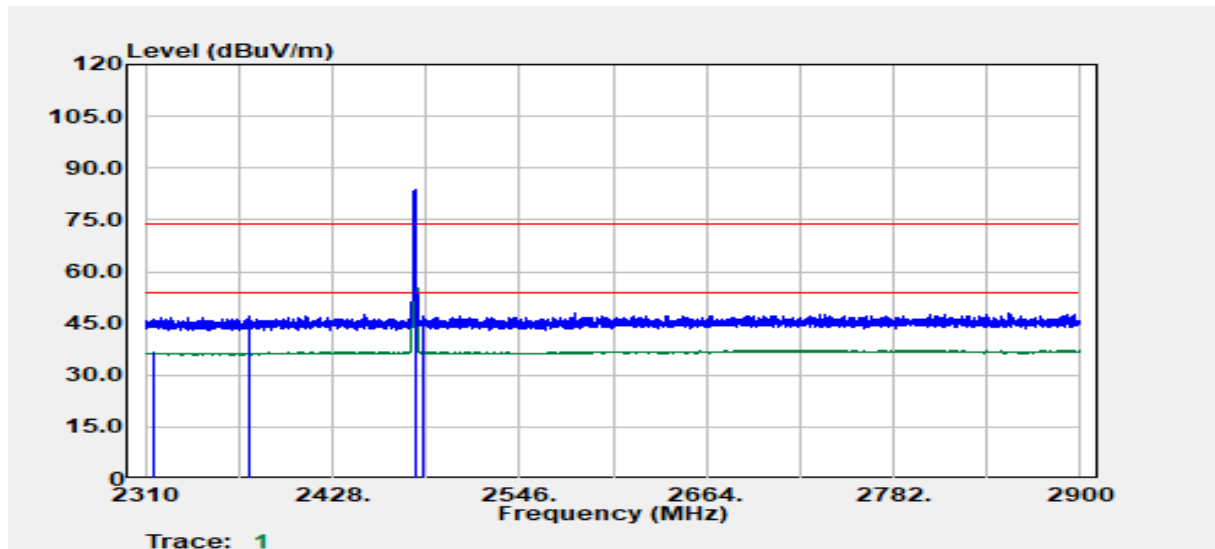
Report No.: TMWK2207002979KR

|            |                  |               |                  |
|------------|------------------|---------------|------------------|
| Test Mode: | BLE-1Mbps Low CH | Temp/Hum      | 24.5(°C) / 62%RH |
| Test Item  | Band Edge        | Test Date     | October 28, 2022 |
| Polarize   | Horizontal       | Test Engineer | Ray Li           |
| Detector   | Peak / Average   |               |                  |



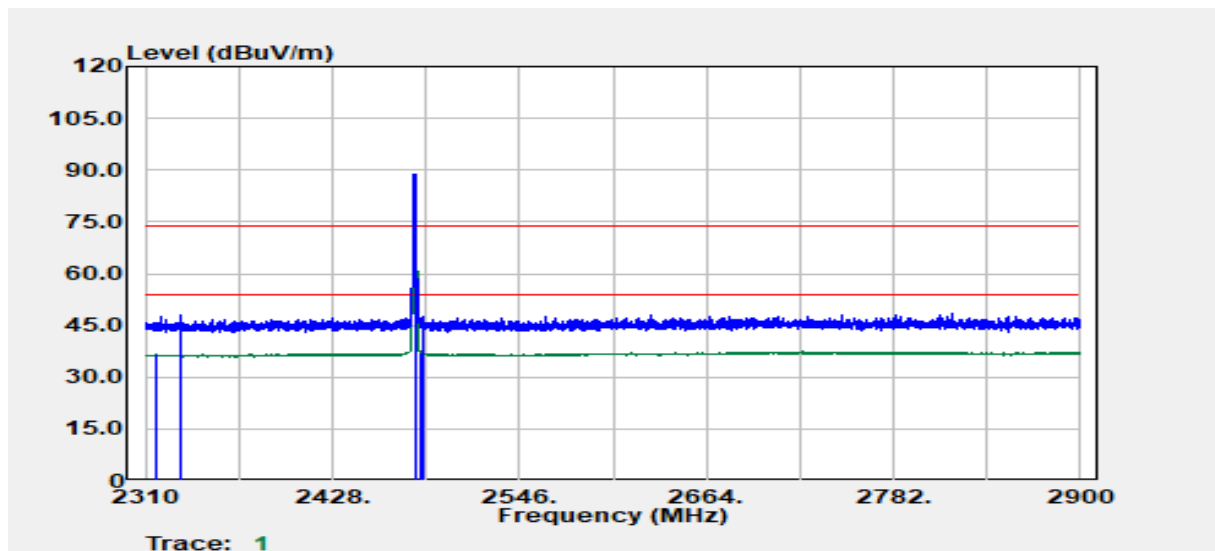
| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 2328.64        | Peak                           | 40.75                               | 7.61           | 48.36                    | 74.00                    | -25.64         |
| 2389.77        | Average                        | 29.17                               | 7.75           | 36.93                    | 54.00                    | -17.07         |
| 2402.00        | Peak                           | 86.21                               | 7.79           | 94.00                    | --                       | --             |
| 2402.00        | Average                        | 85.52                               | 7.79           | 93.31                    | --                       | --             |
| 2490.30        | Average                        | 28.47                               | 8.29           | 36.77                    | 54.00                    | -17.23         |
| 2493.25        | Peak                           | 38.83                               | 8.31           | 47.14                    | 74.00                    | -26.86         |

|            |                   |               |                  |
|------------|-------------------|---------------|------------------|
| Test Mode: | BLE-1Mbps High CH | Temp/Hum      | 24.5(°C) / 62%RH |
| Test Item  | Band Edge         | Test Date     | October 28, 2022 |
| Polarize   | Vertical          | Test Engineer | Ray Li           |
| Detector   | Peak / Average    |               |                  |



| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 2315.07        | Average                        | 28.90                               | 7.58           | 36.48                    | 54.00                    | -17.52         |
| 2375.37        | Peak                           | 39.36                               | 7.71           | 47.07                    | 74.00                    | -26.93         |
| 2480.00        | Peak                           | 75.31                               | 8.24           | 83.56                    | --                       | --             |
| 2480.00        | Average                        | 74.59                               | 8.24           | 82.83                    | --                       | --             |
| 2484.76        | Average                        | 28.46                               | 8.27           | 36.72                    | 54.00                    | -17.28         |
| 2485.58        | Peak                           | 39.01                               | 8.27           | 47.28                    | 74.00                    | -26.72         |

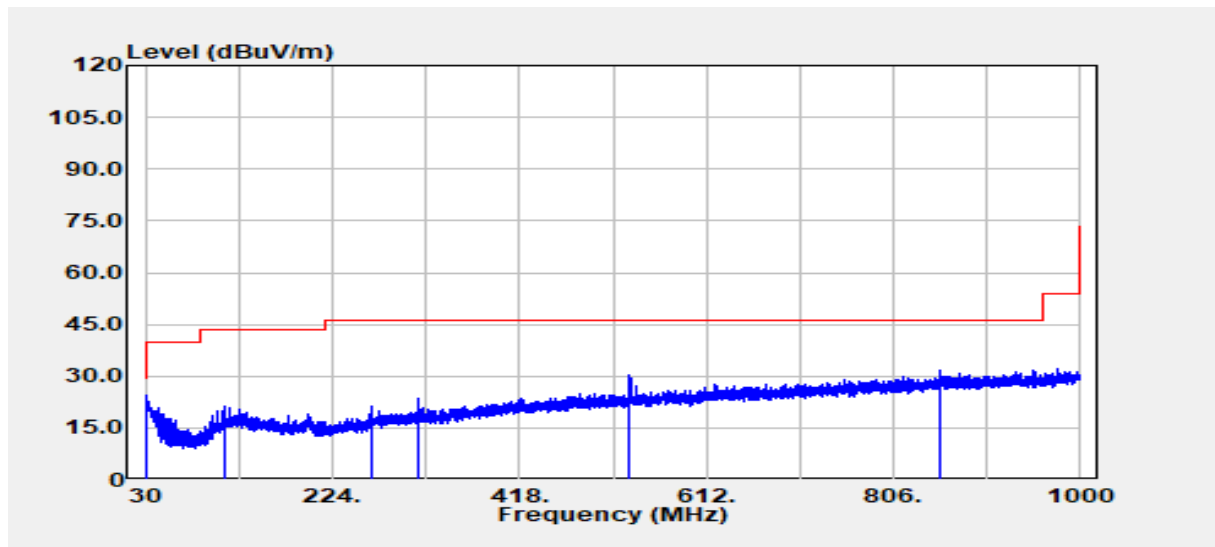
|            |                   |               |                  |
|------------|-------------------|---------------|------------------|
| Test Mode: | BLE-1Mbps High CH | Temp/Hum      | 24.5(°C) / 62%RH |
| Test Item  | Band Edge         | Test Date     | October 28, 2022 |
| Polarize   | Horizontal        | Test Engineer | Ray Li           |
| Detector   | Peak / Average    |               |                  |



| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBUV/m) | Limit<br>@3m<br>(dBUV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 2316.02        | Average                        | 28.90                               | 7.59           | 36.49                    | 54.00                    | -17.51         |
| 2332.89        | Peak                           | 40.21                               | 7.61           | 47.82                    | 74.00                    | -26.18         |
| 2480.00        | Peak                           | 80.60                               | 8.24           | 88.85                    | --                       | --             |
| 2480.00        | Average                        | 79.94                               | 8.24           | 88.18                    | --                       | --             |
| 2484.17        | Average                        | 28.92                               | 8.26           | 37.18                    | 54.00                    | -16.82         |
| 2484.99        | Peak                           | 39.31                               | 8.27           | 47.58                    | 74.00                    | -26.42         |

### Below 1G Test Data

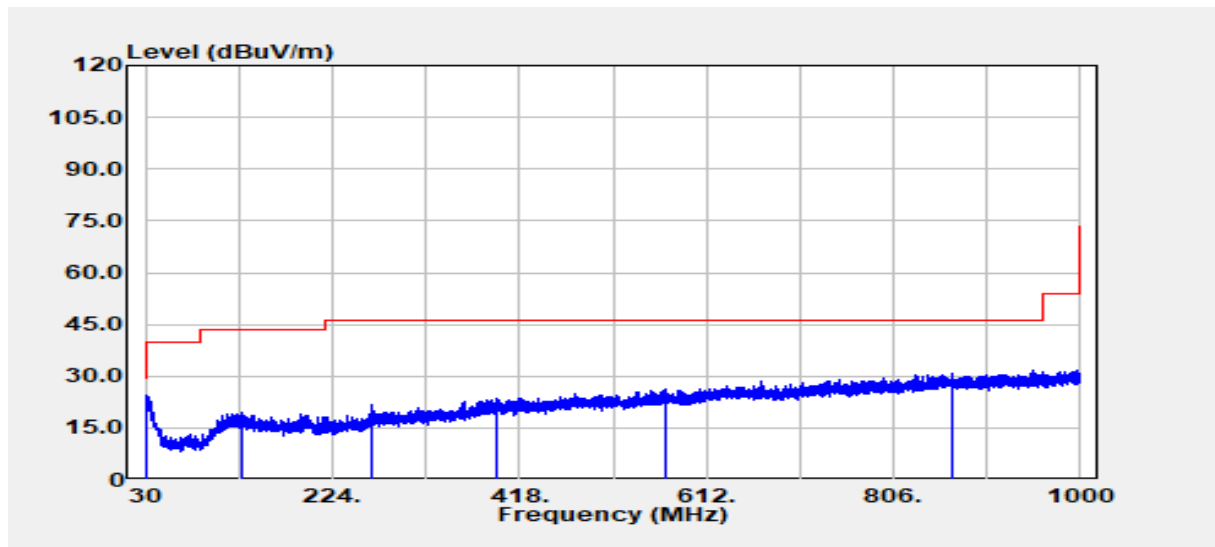
|            |                |               |                  |
|------------|----------------|---------------|------------------|
| Test Mode: | BLE-1Mbps Mode | Temp/Hum      | 24.5(°C) / 62%RH |
| Test Item  | 30MHz-1GHz     | Test Date     | October 28, 2022 |
| Polarize   | Vertical       | Test Engineer | Ray Li           |
| Detector   | Peak           |               |                  |



| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 31.94          | Peak                           | 28.15                               | -3.73          | 24.42                    | 40.00                    | -15.58         |
| 112.69         | Peak                           | 31.31                               | -10.15         | 21.16                    | 43.50                    | -22.34         |
| 264.86         | Peak                           | 30.60                               | -9.28          | 21.33                    | 46.00                    | -24.67         |
| 312.03         | Peak                           | 32.16                               | -8.57          | 23.59                    | 46.00                    | -22.41         |
| 532.46         | Peak                           | 33.85                               | -3.33          | 30.52                    | 46.00                    | -15.48         |
| 855.11         | Peak                           | 29.84                               | 2.03           | 31.87                    | 46.00                    | -14.13         |

Note: No emission found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz).

|            |                |               |                  |
|------------|----------------|---------------|------------------|
| Test Mode: | BLE-1Mbps Mode | Temp/Hum      | 24.5(°C) / 62%RH |
| Test Item  | 30MHz-1GHz     | Test Date     | October 28, 2022 |
| Polarize   | Horizontal     | Test Engineer | Ray Li           |
| Detector   | Peak           | EUT           |                  |

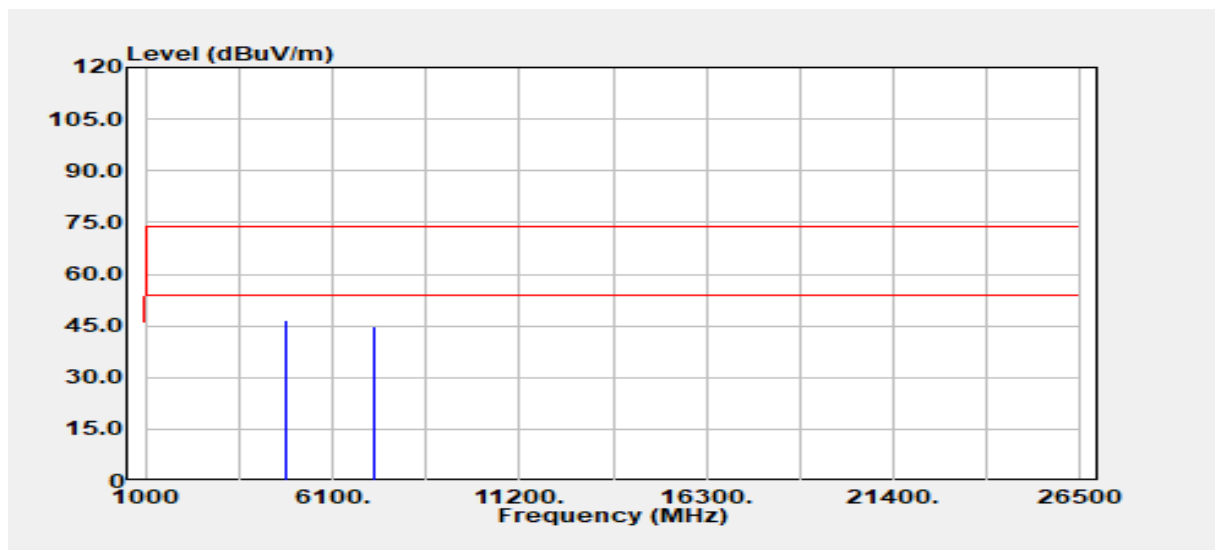


| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 31.94          | Peak                           | 28.29                               | -3.73          | 24.56                    | 40.00                    | -15.44         |
| 130.40         | Peak                           | 28.70                               | -9.40          | 19.30                    | 43.50                    | -24.20         |
| 265.83         | Peak                           | 31.02                               | -9.23          | 21.80                    | 46.00                    | -24.20         |
| 393.87         | Peak                           | 29.81                               | -6.24          | 23.57                    | 46.00                    | -22.43         |
| 569.68         | Peak                           | 28.59                               | -2.39          | 26.20                    | 46.00                    | -19.80         |
| 866.75         | Peak                           | 28.46                               | 2.17           | 30.63                    | 46.00                    | -15.37         |

Note: No emission found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz).

### Above 1G Test Data

|            |                  |               |                  |
|------------|------------------|---------------|------------------|
| Test Mode: | BLE-1Mbps Low CH | Temp/Hum      | 24.5(°C) / 62%RH |
| Test Item  | Harmonic         | Test Date     | October 28, 2022 |
| Polarize   | Vertical         | Test Engineer | Ray Li           |
| Detector   | Peak / Average   |               |                  |

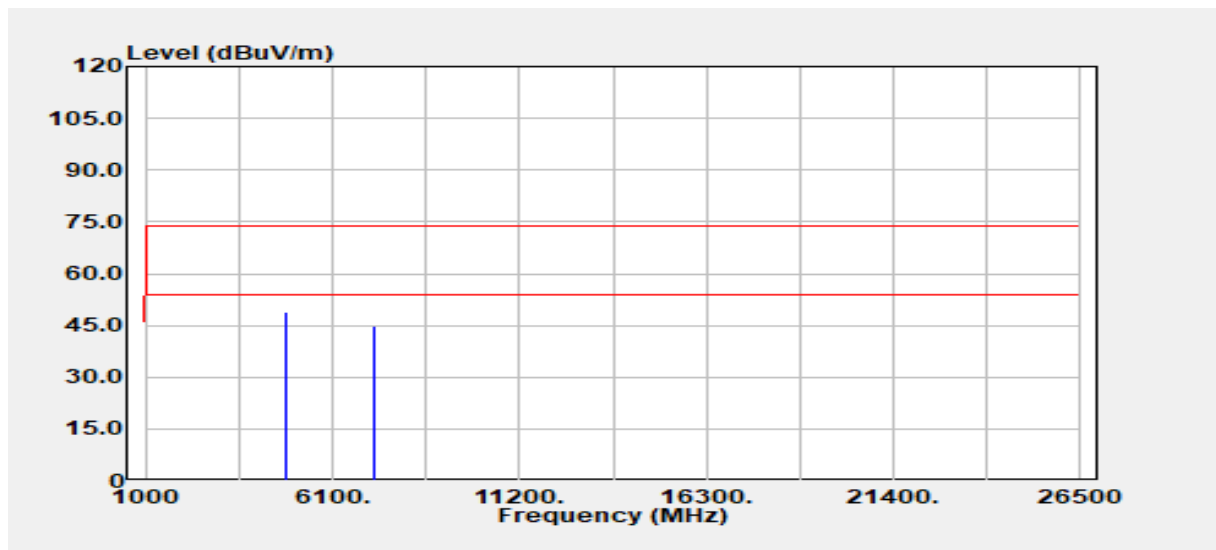


| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBUV) | Factor<br>(dB) | Actual<br>FS<br>(dBUV/m) | Limit<br>@3m<br>(dBUV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 4804.00        | Peak                           | 40.71                               | 5.87           | 46.57                    | 74.00                    | -27.43         |
| 4804.00        | Average                        | 38.49                               | 5.87           | 44.35                    | 54.00                    | -9.65          |
| 7206.00        | Peak                           | 31.50                               | 13.25          | 44.75                    | 74.00                    | -29.25         |
| 7206.00        | Average                        | 24.20                               | 13.25          | 37.46                    | 54.00                    | -16.54         |
| N/A            |                                |                                     |                |                          |                          |                |
|                |                                |                                     |                |                          |                          |                |

### Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

|            |                  |               |                  |
|------------|------------------|---------------|------------------|
| Test Mode: | BLE-1Mbps Low CH | Temp/Hum      | 24.5(°C) / 62%RH |
| Test Item  | Harmonic         | Test Date     | October 28, 2022 |
| Polarize   | Horizontal       | Test Engineer | Ray Li           |
| Detector   | Peak / Average   |               |                  |

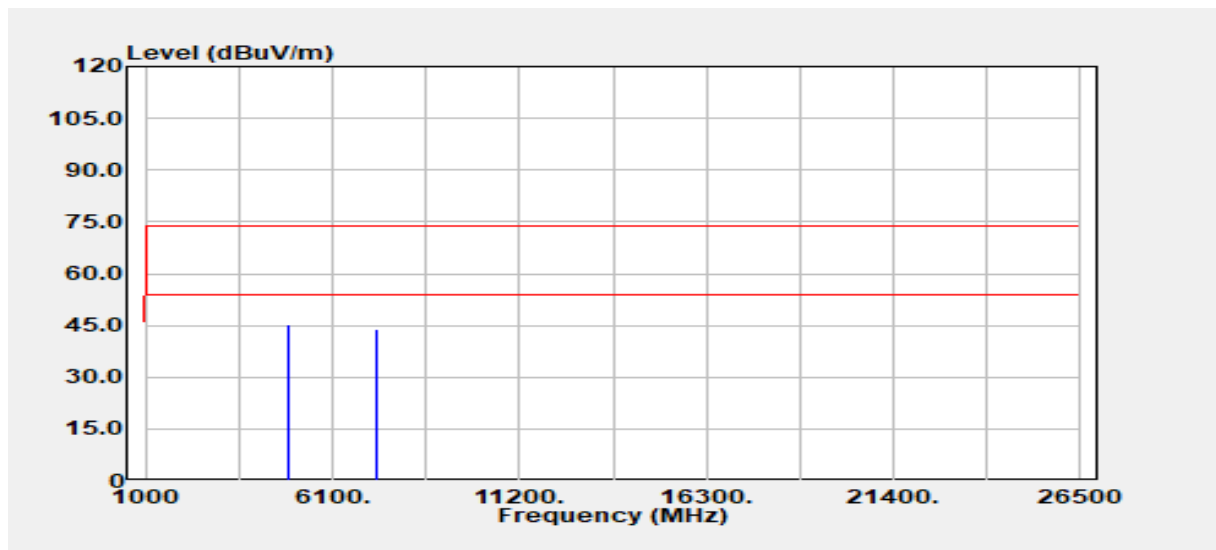


| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 4804.00        | Peak                           | 42.90                               | 5.87           | 48.76                    | 74.00                    | -25.24         |
| 4804.00        | Average                        | 41.26                               | 5.87           | 47.12                    | 54.00                    | -6.88          |
| 7206.00        | Peak                           | 31.73                               | 13.25          | 44.98                    | 74.00                    | -29.02         |
| 7206.00        | Average                        | 24.73                               | 13.25          | 37.98                    | 54.00                    | -16.02         |
| N/A            |                                |                                     |                |                          |                          |                |
|                |                                |                                     |                |                          |                          |                |

**Remark:**

- Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

|            |                  |               |                  |
|------------|------------------|---------------|------------------|
| Test Mode: | BLE-1Mbps Mid CH | Temp/Hum      | 24.5(°C) / 62%RH |
| Test Item  | Harmonic         | Test Date     | October 28, 2022 |
| Polarize   | Vertical         | Test Engineer | Ray Li           |
| Detector   | Peak / Average   |               |                  |

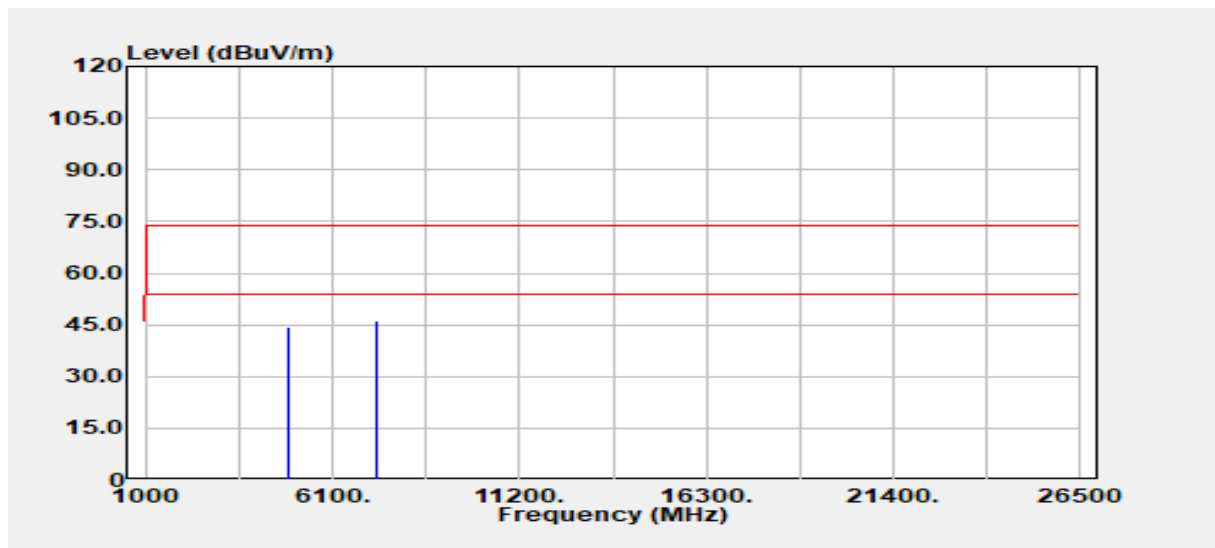


| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 4880.00        | Peak                           | 39.34                               | 6.13           | 45.46                    | 74.00                    | -28.54         |
| 4880.00        | Average                        | 34.45                               | 6.13           | 40.58                    | 54.00                    | -13.42         |
| 7320.00        | Peak                           | 30.70                               | 13.35          | 44.05                    | 74.00                    | -29.95         |
| 7320.00        | Average                        | 22.33                               | 13.35          | 35.68                    | 54.00                    | -18.32         |
| N/A            |                                |                                     |                |                          |                          |                |
|                |                                |                                     |                |                          |                          |                |

**Remark:**

- Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

|            |                  |               |                  |
|------------|------------------|---------------|------------------|
| Test Mode: | BLE-1Mbps Mid CH | Temp/Hum      | 24.5(°C) / 62%RH |
| Test Item  | Harmonic         | Test Date     | October 28, 2022 |
| Polarize   | Horizontal       | Test Engineer | Ray Li           |
| Detector   | Peak / Average   |               |                  |

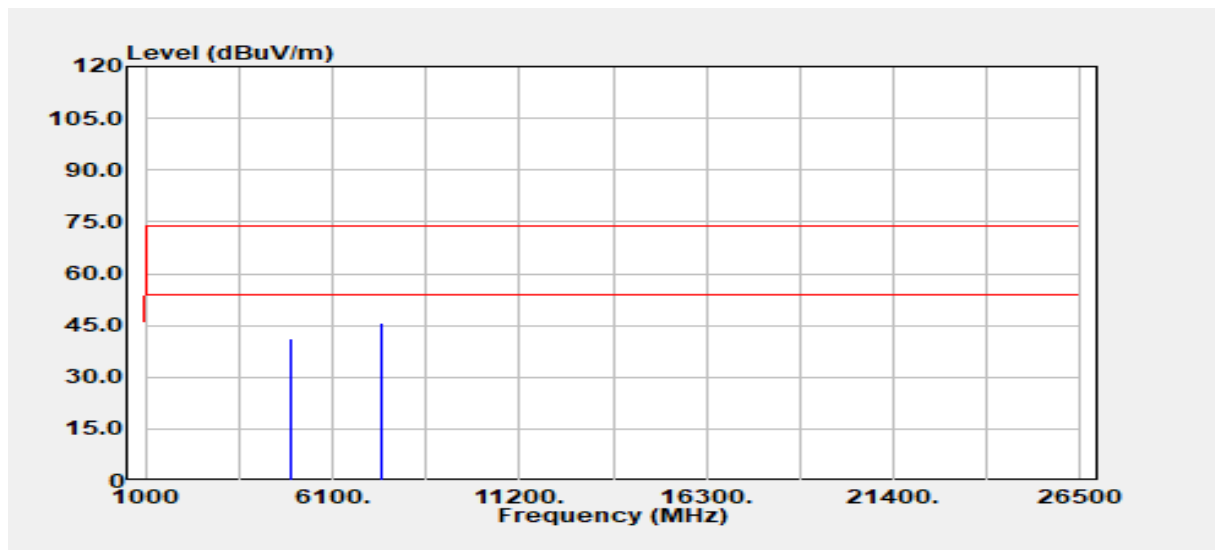


| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 4880.00        | Peak                           | 38.41                               | 6.13           | 44.54                    | 74.00                    | -29.46         |
| 4880.00        | Average                        | 34.31                               | 6.13           | 40.44                    | 54.00                    | -13.56         |
| 7320.00        | Peak                           | 32.90                               | 13.35          | 46.25                    | 74.00                    | -27.75         |
| 7320.00        | Average                        | 22.24                               | 13.35          | 35.59                    | 54.00                    | -18.41         |
| N/A            |                                |                                     |                |                          |                          |                |
|                |                                |                                     |                |                          |                          |                |

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

|            |                   |               |                  |
|------------|-------------------|---------------|------------------|
| Test Mode: | BLE-1Mbps High CH | Temp/Hum      | 24.5(°C) / 62%RH |
| Test Item  | Harmonic          | Test Date     | October 28, 2022 |
| Polarize   | Vertical          | Test Engineer | Ray Li           |
| Detector   | Peak / Average    |               |                  |

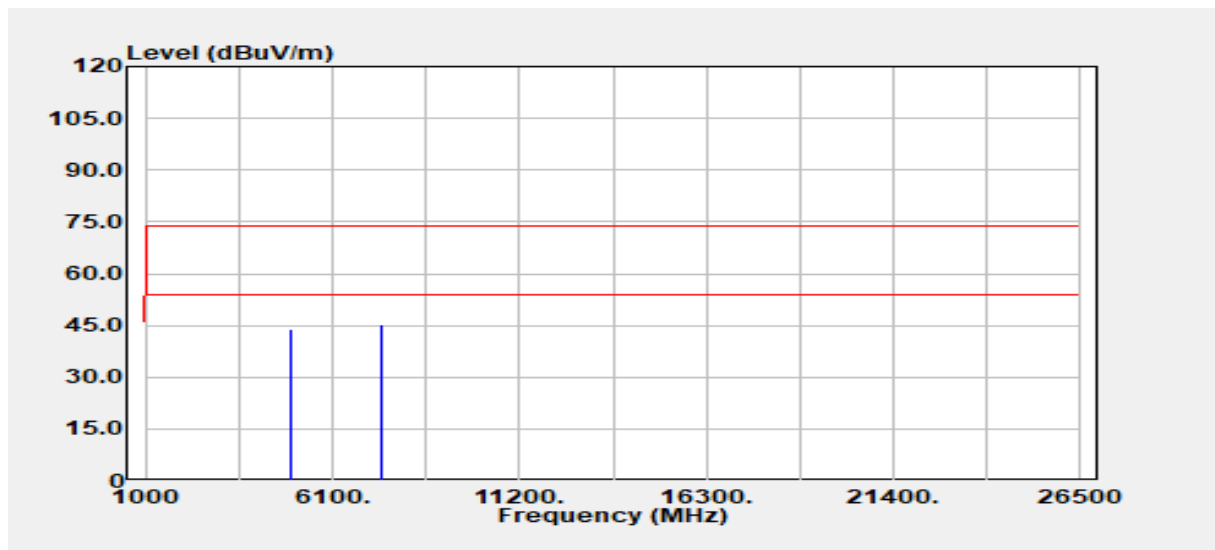


| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 4960.00        | Peak                           | 34.13                               | 6.91           | 41.04                    | 74.00                    | -32.96         |
| 4960.00        | Average                        | 30.30                               | 6.91           | 37.21                    | 54.00                    | -16.79         |
| 7440.00        | Peak                           | 32.49                               | 13.22          | 45.71                    | 74.00                    | -28.29         |
| 7440.00        | Average                        | 24.32                               | 13.22          | 37.54                    | 54.00                    | -16.46         |
| N/A            |                                |                                     |                |                          |                          |                |
|                |                                |                                     |                |                          |                          |                |

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

|            |                   |               |                  |
|------------|-------------------|---------------|------------------|
| Test Mode: | BLE-1Mbps High CH | Temp/Hum      | 24.5(°C) / 62%RH |
| Test Item  | Harmonic          | Test Date     | October 28, 2022 |
| Polarize   | Horizontal        | Test Engineer | Ray Li           |
| Detector   | Peak / Average    |               |                  |



| Freq.<br>(MHz) | Detector<br>Mode<br>(PK/QP/AV) | Spectrum<br>Reading Level<br>(dBμV) | Factor<br>(dB) | Actual<br>FS<br>(dBμV/m) | Limit<br>@3m<br>(dBμV/m) | Margin<br>(dB) |
|----------------|--------------------------------|-------------------------------------|----------------|--------------------------|--------------------------|----------------|
| 4960.00        | Peak                           | 37.06                               | 6.91           | 43.98                    | 74.00                    | -30.02         |
| 4960.00        | Average                        | 34.87                               | 6.91           | 41.78                    | 54.00                    | -12.22         |
| 7440.00        | Peak                           | 32.08                               | 13.22          | 45.30                    | 74.00                    | -28.70         |
| 7440.00        | Average                        | 25.16                               | 13.22          | 38.38                    | 54.00                    | -15.62         |
| N/A            |                                |                                     |                |                          |                          |                |
|                |                                |                                     |                |                          |                          |                |

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

--End of Test Report--