

# TEST REPORT

**Product Name** : Tablet  
**Model Number** : LNG-PRN-0137  
**Contains FCC ID** : 2AAGE9260NG

**Prepared for** : Chengdu Vantron Technology Co., Ltd.  
**Address** : No.5 GaoPeng Road, Hi-Tech Zone, Chengdu, SiChuan,  
ChengDu, China

**Prepared by** : EMTEK (SHENZHEN) CO., LTD.  
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**Report Number** : ENS2208310090W00202R  
**Date(s) of Tests** : January 4, 2023 to January 11, 2023  
**Date of issue** : January 11, 2023

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## 1 TEST RESULT CERTIFICATION

Applicant : Chengdu Vantron Technology Co., Ltd.  
Address : No.5 GaoPeng Road, Hi-Tech Zone, Chengdu, SiChuan, ChengDu, China  
Manufacturer : Chengdu Vantron Technology Co., Ltd.  
Address : No.5 GaoPeng Road, Hi-Tech Zone, Chengdu, SiChuan, ChengDu, China  
EUT : Tablet  
Model Name : LNG-PRN-0137  
Trademark : Vantron

Measurement Procedure Used:

| APPLICABLE STANDARDS                                                                |             |
|-------------------------------------------------------------------------------------|-------------|
| STANDARD                                                                            | TEST RESULT |
| FCC 47 CFR Part 2, Subpart J<br>FCC 47 CFR Part 15, Subpart C                       | PASS        |
| IC RSS-GEN, Issue 5(04-2018)+A1(03-2019)+A2(02-2021)<br>IC RSS-247 Issue 2(02-2017) | PASS        |

The above equipment was tested by EMTEK(SHENZHEN) CO., LTD. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 2, Part 15.247, IC RSS-247 Issue 2 and IC RSS-GEN, Issue 5.

The test results of this report relate only to the tested sample identified in this report

Date of Test : January 4, 2023 to January 11, 2023

Prepared by : Luo peiye.  
Luo peiye/Editor

Reviewer : Joe Xia  
Joe Xia/Supervisor

Approve & Authorized Signer : Lisa Wang  
Lisa Wang/Manager

## Modified History

| Version | Report No.           | Revision Date | Summary         |
|---------|----------------------|---------------|-----------------|
| Ver.1.0 | ENS2208310090W00202R | /             | Original Report |
|         |                      |               |                 |

Note: This change is to request approval for Portable category specific host Tablet, Antenna Type is FPC antenna, According to the requirements for antenna Change in KDB178919 D01 Permissive Change Policy v06, the antenna types are different and the gain value becomes smaller, Radiated Spurious Emission tests were performed to verify RF compliance, and the results of other test items remained unchanged based on the original report:170524-01.TR05



## 2 EUT TECHNICAL DESCRIPTION

| Characteristics                | Description                                                                                    |
|--------------------------------|------------------------------------------------------------------------------------------------|
| Product:                       | Tablet                                                                                         |
| Model Number:                  | LNG-PRN-0137                                                                                   |
| Sample:                        | 2#                                                                                             |
| Device Type:                   | Bluetooth V5.1                                                                                 |
| Data Rate:                     | 1Mbps for GFSK modulation<br>2Mbps for $\pi/4$ -DQPSK modulation<br>3Mbps for 8DPSK modulation |
| Modulation:                    | GFSK, $\pi/4$ -DQPSK, 8DPSK                                                                    |
| Operating Frequency Range(s) : | 2402-2480MHz                                                                                   |
| Number of Channels:            | 79 channels                                                                                    |
| Antenna Type:                  | FPC Antenna                                                                                    |
| Antenna Gain:                  | 1.64 dBi                                                                                       |
| Test Voltage:                  | AC 120V/60Hz                                                                                   |
| Date of Received:              | January 4, 2023                                                                                |
| Temperature Range:             | 0-40°C                                                                                         |

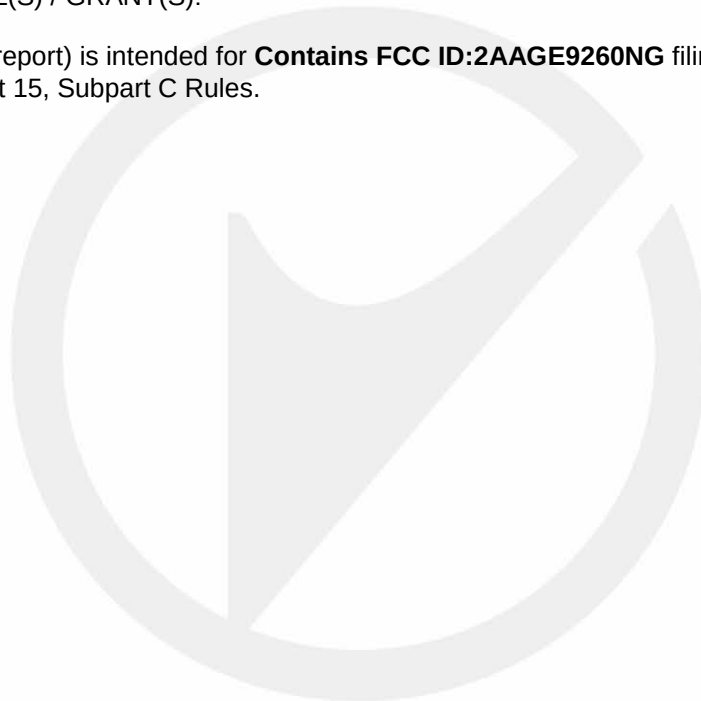
**Note:** for more details, please refer to the User's manual of the EUT.

### 3 SUMMARY OF TEST RESULT

| FCC Part Clause                                                                                                                                                                                                                                                                                              | IC Part Clause                                                              | Test Parameter              | Verdict | Remark |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------|---------|--------|
| 15.247(d)<br>15.209<br>15.205                                                                                                                                                                                                                                                                                | RSS-Gen 8.9<br>RSS-Gen 8.10<br>RSS-Gen 6.13<br>RSS-247, 3.3<br>RSS-247, 5.5 | Radiated Spurious Emissions | PASS    |        |
| <p>NOTE1: N/A (Not Applicable)</p> <p>NOTE2: According to FCC OET KDB 558074, the report use radiated measurements in the restricted frequency bands. In addition, the radiated test is also performed to ensure the emissions emanating from the device cabinet also comply with the applicable limits.</p> |                                                                             |                             |         |        |

#### RELATED SUBMITTAL(S) / GRANT(S):

This submittal(s) (test report) is intended for **Contains FCC ID:2AAGE9260NG** filing to comply with Section 15.247 of the FCC Part 15, Subpart C Rules.



## 4 TEST METHODOLOGY

### 4.1 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC 47 CFR Part 2, Subpart J

FCC 47 CFR Part 15, Subpart C

IC RSS-GEN, Issue 5(04-2018)+A1(03-2019)+A2(02-2021)

IC RSS-247 Issue 2(02-2017)

FCC KDB 558074 D01 15.247 Meas Guidance v05r02

### 4.2 MEASUREMENT EQUIPMENT USED

#### Conducted Emission Test Equipment

| Equipment         | Manufacturer    | Model No. | Serial No. | Last Cal. | Cal. Interval |
|-------------------|-----------------|-----------|------------|-----------|---------------|
| EMI Test Receiver | Rohde & Schwarz | ESCI      | 101384     | 2022/5/14 | 1Year         |
| AMN               | Rohde & Schwarz | ENV216    | 101161     | 2022/5/14 | 1Year         |
| AMN               | Kyoritsu        | KNW-407   | 8-1492-9   | 2022/5/15 | 1Year         |

#### For Spurious Emissions Test

| Equipment                | Manufacturer    | Model No.                    | Serial No.         | Last Cal. | Cal. Interval |
|--------------------------|-----------------|------------------------------|--------------------|-----------|---------------|
| Pre-Amplifier            | HP              | 8447F                        | 2944A07999         | 2022/5/14 | 1Year         |
| EMI Test Receiver        | Rohde & Schwarz | ESCI                         | 101414             | 2022/5/14 | 1Year         |
| Bilog Antenna            | Schwarzbeck     | VULB9163                     | 712                | 2022/7/5  | 2 Year        |
| Horn antenna             | Schwarzbeck     | BBHA9120D                    | 9120D-1178         | 2022/7/4  | 2 Year        |
| Pre-Amplifie             | Lunar EM        | LNA1G18-48                   | J101113101000<br>1 | 2022/5/15 | 1Year         |
| Spectrum Analyzer        | Rohde & Schwarz | FSV40                        | 100967             | 2022/5/14 | 1Year         |
| Horn antenna             | Schwarzbeck     | BBHA9170                     | 9170-399           | 2021/6/12 | 2 Year        |
| Cable                    | H+B             | NmSm-05-C15052               | N/A                | 2022/5/15 | 1 Year        |
| Cable                    | H+B             | NmSm-2-C15201                | N/A                | 2022/5/15 | 1 Year        |
| Cable                    | H+B             | NmNm-7-C15702                | N/A                | 2022/5/15 | 1 Year        |
| Cable                    | H+B             | SAC-40G-1                    | 414                | 2022/5/15 | 1 Year        |
| Cable                    | H+B             | SUCOFLEX104                  | MY14871/4          | 2022/5/15 | 1 Year        |
| Cable                    | H+B             | BLU18A-NmSm-650<br>0         | D8501              | 2022/5/15 | 1 Year        |
| Band reject Filter(50dB) | WI/DE           | WRCGV-2400(2400-<br>2485MHz) | 2                  | 2022/5/15 | 1 Year        |

#### For other test items:

| Equipment               | Manufacturer | Model No.  | Serial No. | Last Cal. | Cal. Interval |
|-------------------------|--------------|------------|------------|-----------|---------------|
| Signal Analyzer         | Agilent      | N9010A     | MY53470879 | 2022/5/14 | 1Year         |
| Vector Signal Generater | Agilent      | N5182B     | MY53050878 | 2022/5/14 | 1Year         |
| Analog Signal Generator | Agilent      | N5171B     | MY53050553 | 2022/5/14 | 1Year         |
| Power Meter             | Agilent      | PS-X10-100 | \          | 2022/5/15 | 1Year         |
| Blocking Box            | THEDA        | AD211      | TW5451140  | 2022/5/14 | 1Year         |

|                              |       |                |           |          |        |
|------------------------------|-------|----------------|-----------|----------|--------|
| Switchgroup                  | THEDA | ETF-025(VASC6) | TW5451008 | N/A      | N/A    |
| MIMO Matrix Switch           | THEDA | 4P5TM18        | TW5451009 | N/A      | N/A    |
| Temperature&Humidity Chamber | ESPEC | EL-02KA        | 12107166  | 2022/7/3 | 1 Year |



### 4.3 DESCRIPTION OF TEST MODES

The EUT has been tested under its typical operating condition.

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

Test of channel included the lowest and middle and highest frequency to perform the test, then record on this report.

Those data rates (1Mbps for GFSK modulation(DH5); 2Mbps for  $\pi/4$ -DQPSK modulation(2DH5); 3Mbps for 8DPSK modulation(3DH5);)were used for all test.

Pre-defined engineering program for regulatory testing used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

Frequency and Channel list for Bluetooth

| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---------|-----------------|---------|-----------------|---------|-----------------|
| 0       | 2402            | 39      | 2441            | ...     | ...             |
| 1       | 2403            | 40      | 2442            | 76      | 2478            |
| 2       | 2404            | 41      | 2443            | 77      | 2479            |
| ...     | ...             | ...     | ...             | 78      | 2480            |

Note:  $f_c = 2402\text{MHz} + (k-1) \times 1\text{MHz}$   $k=1$  to 79

Test Frequency and channel for Bluetooth

| Lowest Frequency |                 | Middle Frequency |                 | Highest Frequency |                 |
|------------------|-----------------|------------------|-----------------|-------------------|-----------------|
| Channel          | Frequency (MHz) | Channel          | Frequency (MHz) | Channel           | Frequency (MHz) |
| 0                | 2402            | 39               | 2441            | 78                | 2480            |

## 5 FACILITIES AND ACCREDITATIONS

### 5.1 FACILITIES

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

EMTEK (Shenzhen) Co., Ltd.

Building 69, Majialong Industry Zone District, Nanshan District, Shenzhen, China

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

### 5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with preselectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

### 5.3 LABORATORY ACCREDITATIONS AND LISTINGS

#### Site Description

EMC Lab.

: **Accredited by CNAS**

The Certificate Registration Number is L2291.

The Laboratory has been assessed and proved to be in compliance with CNAS-CL01 (identical to ISO/IEC 17025:2017)

**Accredited by FCC**

Designation Number: CN1204

Test Firm Registration Number: 882943

**Accredited by A2LA**

The Certificate Number is 4321.01.

Accredited by Industry Canada

The Conformity Assessment Body Identifier is CN0008

Name of Firm

: EMTEK (SHENZHEN) CO., LTD.

Site Location

: Building 69, Majialong Industry Zone,  
Nanshan District, Shenzhen, Guangdong, China

## 6 TEST SYSTEM UNCERTAINTY

The following measurement uncertainty levels have been estimated for tests performed on the apparatus:

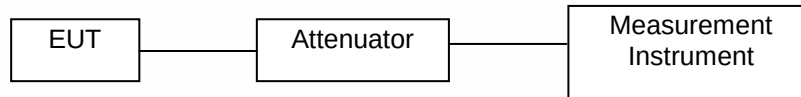
| Test Parameter                 | Measurement Uncertainty |
|--------------------------------|-------------------------|
| Radio Frequency                | $\pm 1 \times 10^{-5}$  |
| Maximum Peak Output Power Test | $\pm 1.0\text{dB}$      |
| Conducted Emissions Test       | $\pm 2.0\text{dB}$      |
| Radiated Emission Test         | $\pm 2.0\text{dB}$      |
| Power Density                  | $\pm 2.0\text{dB}$      |
| Occupied Bandwidth Test        | $\pm 1.0\text{dB}$      |
| Band Edge Test                 | $\pm 3\text{dB}$        |
| All emission, radiated         | $\pm 3\text{dB}$        |
| Antenna Port Emission          | $\pm 3\text{dB}$        |
| Temperature                    | $\pm 0.5^\circ\text{C}$ |
| Humidity                       | $\pm 3\%$               |

Measurement Uncertainty for a level of Confidence of 95%

## 7 SETUP OF EQUIPMENT UNDER TEST

### 7.1 RADIO FREQUENCY TEST SETUP 1

The Bluetooth component's antenna port(s) of the EUT are connected to the measurement instrument per an appropriate attenuator. The EUT is controlled by PC/software to emit the specified signals for the purpose of measurements.



### 7.2 RADIO FREQUENCY TEST SETUP 2

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.10. The test distance is 3m. The setup is according to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 and CAN/CSA-CEI/IEC CISPR 22.

Below 30MHz:

The EUT is placed on a turntable 0.8meters above the ground in the chamber, 3 meter away from the antenna (loop antenna). The Antenna should be positioned with its plane vertical at the specified distance from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. The center of the loop shall be 1 m above the ground. For certain applications, the loop antenna plane may also need to be positioned horizontally at the specified distance from the EUT.

Above 30MHz:

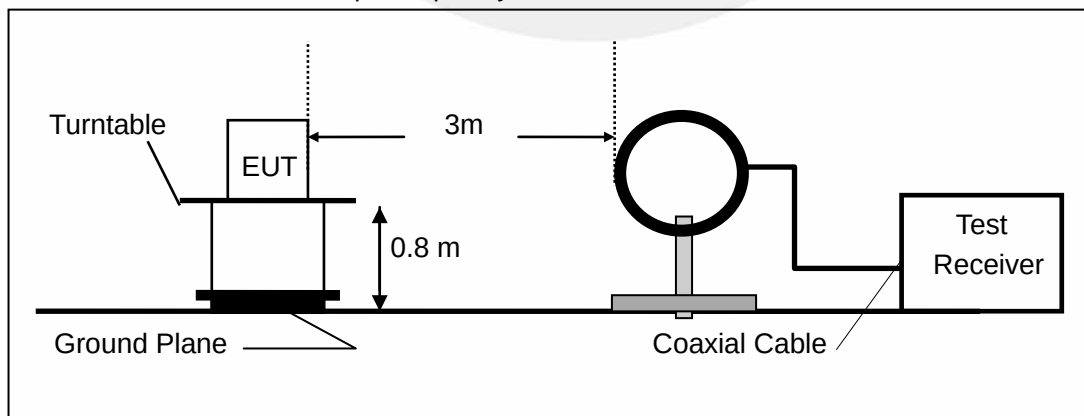
The EUT is placed on a turntable 0.8meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).

Above 1GHz:

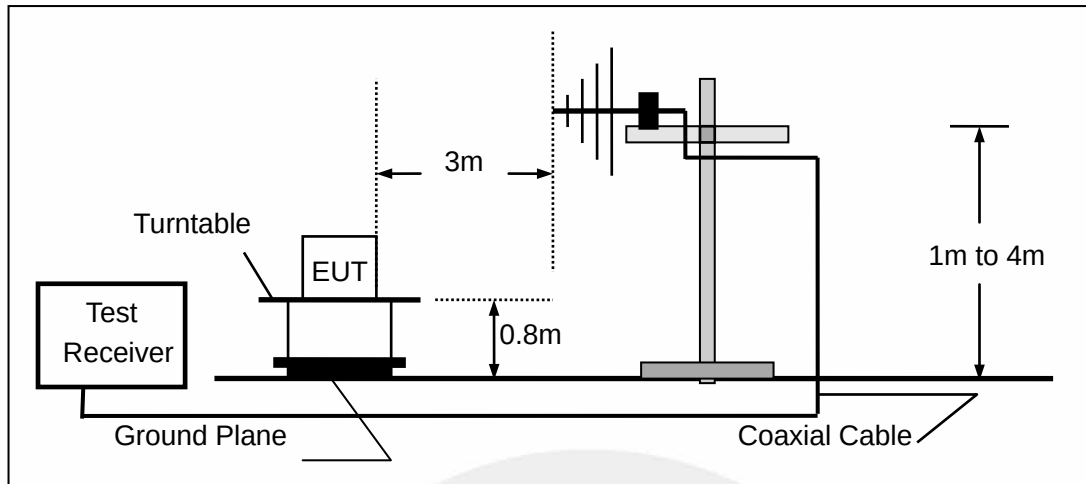
(Note: the FCC's permission to use 1.5m as an alternative per TCBC Conf call of Dec. 2, 2014.)

The EUT is placed on a turntable 1.5 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).

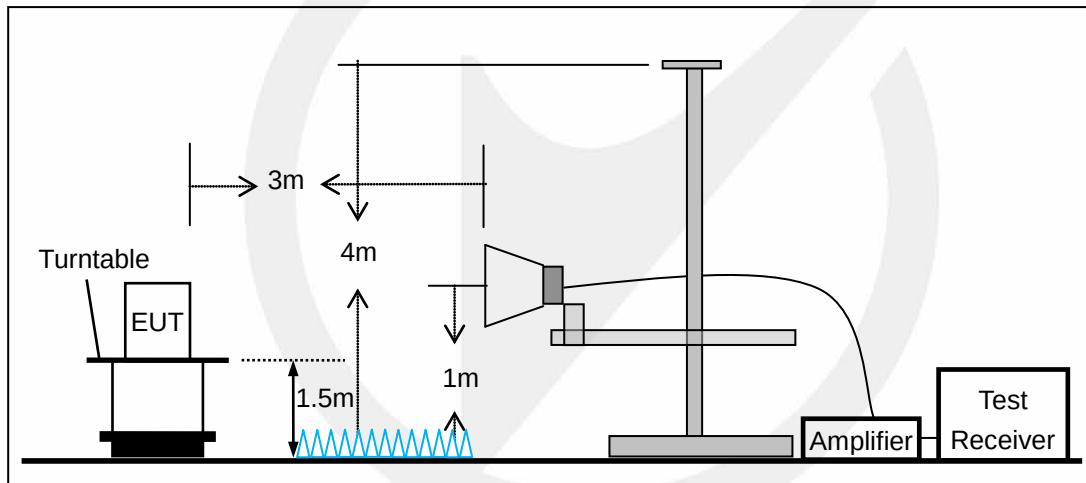
(a) Radiated Emission Test Set-Up, Frequency Below 30MHz



(b) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(c) Radiated Emission Test Set-Up, Frequency above 1000MHz

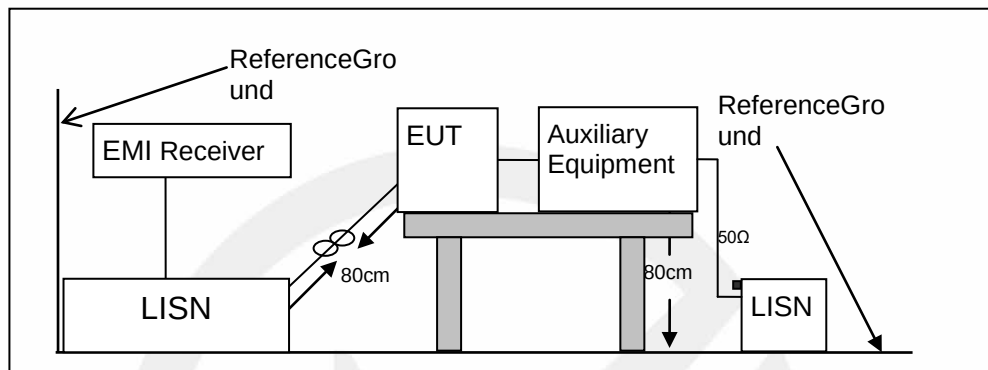


### 7.3 CONDUCTED EMISSION TEST SETUP

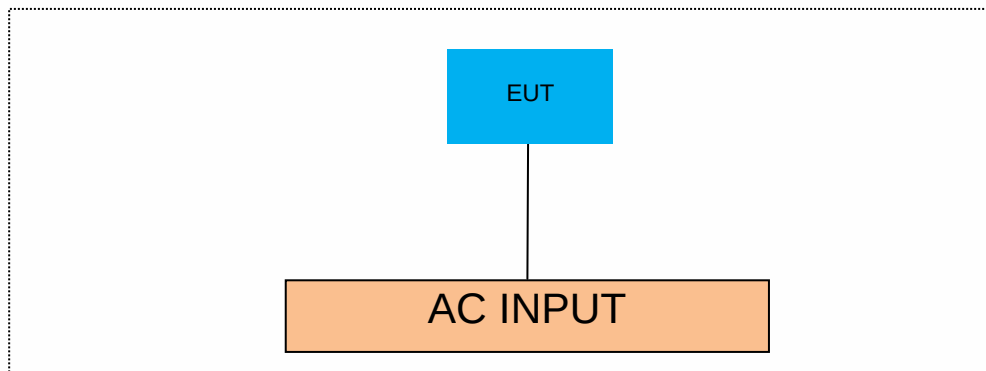
The mains cable of the EUT (Perfect Share Mini) must be connected to LISN. The LISN shall be placed 0.8m from the boundary of EUT and bonded to a ground reference plane for LISN mounted on top of the ground reference plane. This distance is between the closest points of the LISN and the EUT. All other units of the EUT and associated equipment shall be at least 0.8m from the LISN.

Ground connections, where required for safety purposes, shall be connected to the reference ground point of the LISN and, where not otherwise provided or specified by the manufacturer, shall be of same length as the mains cable and run parallel to the mains connection at a separation distance of not more than 0.8m.

According to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode.



#### 7.4 BLOCK DIAGRAM CONFIGURATION OF TEST SYSTEM



#### 7.5 SUPPORT EQUIPMENT

| EUT Cable List and Details |            |                     |                        |
|----------------------------|------------|---------------------|------------------------|
| Cable Description          | Length (m) | Shielded/Unshielded | With / Without Ferrite |
| /                          | /          | /                   | /                      |

| Auxiliary Cable List and Details |            |                     |                        |
|----------------------------------|------------|---------------------|------------------------|
| Cable Description                | Length (m) | Shielded/Unshielded | With / Without Ferrite |
| /                                | /          | /                   | /                      |

| Auxiliary Equipment List and Details |              |       |               |
|--------------------------------------|--------------|-------|---------------|
| Description                          | Manufacturer | Model | Serial Number |
| /                                    | /            | /     | /             |

**Notes:**

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

## 7.6 RADIATED SPURIOUS EMISSION

### 7.6.1 Applicable Standard

According to FCC Part 15.247(d), 15.205, 15.209 and KDB 558074 D01 15.247 MEAS GUIDANCE v05r02  
According to IC RSS-Gen and RSS-247

### 7.6.2 Conformance Limit

According to FCC Part 15.247(d): radiated emissions 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) (see §15.205(c)).

According to FCC Part 15.205, Restricted bands

| MHz               | MHz                 | MHz           | GHz         |
|-------------------|---------------------|---------------|-------------|
| 0.090-0.110       | 16.42-16.423        | 399.9-410     | 4.5-5.15    |
| 10.495-0.505      | 16.69475-16.69525   | 608-614       | 5.35-5.46   |
| 2.1735-2.1905     | 16.80425-16.80475   | 960-1240      | 7.25-7.75   |
| 4.125-4.128       | 25.5-25.67          | 1300-1427     | 8.025-8.5   |
| 4.17725-4.17775   | 37.5-38.25          | 1435-1626.5   | 9.0-9.2     |
| 4.20725-4.20775   | 73-74.6             | 1645.5-1646.5 | 9.3-9.5     |
| 6.215-6.218       | 74.8-75.2           | 1660-1710     | 10.6-12.7   |
| 6.26775-6.26825   | 123-138             | 2200-2300     | 14.47-14.5  |
| 8.291-8.294       | 149.9-150.05        | 2310-2390     | 15.35-16.2  |
| 8.362-8.366       | 156.52475-156.52525 | 2483.5-2500   | 17.7-21.4   |
| 8.37625-8.38675   | 156.7-156.9         | 2690-2900     | 22.01-23.12 |
| 8.41425-8.41475   | 162.0125-167.17     | 3260-3267     | 23.6-24.0   |
| 12.29-12.293      | 167.72-173.2        | 3332-3339     | 31.2-31.8   |
| 12.51975-12.52025 | 240-285             | 3345.8-3358   | 36.43-36.5  |
| 12.57675-12.57725 | 322-335.4           | 3600-4400     | (2)         |
| 13.36-13.41       |                     |               |             |

According to FCC Part 15.205, the level of any transmitter spurious emission in Restricted bands shall not exceed the level of the emission specified in the following table

| Restricted Frequency(MHz) | Field Strength (μV/m) | Field Strength (dBμV/m) | Measurement Distance |
|---------------------------|-----------------------|-------------------------|----------------------|
| 0.009-0.490               | 2400/F(KHz)           | 20 log (uV/m)           | 300                  |
| 0.490-1.705               | 24000/F(KHz)          | 20 log (uV/m)           | 30                   |
| 1.705-30                  | 30                    | 29.5                    | 30                   |
| 30-88                     | 100                   | 40                      | 3                    |
| 88-216                    | 150                   | 43.5                    | 3                    |
| 216-960                   | 200                   | 46                      | 3                    |
| Above 960                 | 500                   | 54                      | 3                    |

### 7.6.3 Test Configuration

Test according to clause 7.2 radio frequency test setup 2

### 7.6.4 Test Procedure

This test is required for any spurious emission that falls in a Restricted Band, as defined in Section 15.205. It must be performed with the highest gain of each type of antenna proposed for use with the EUT. Use the following spectrum analyzer settings:

For Above 1GHz:

The EUT was placed on a turn table which is 1.5m above ground plane.

Maximum procedure was performed on the highest emissions to ensure EUT compliance.

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz

VBW ≥ RBW

Sweep = auto

Detector function = peak

Trace = max hold

For Below 1GHz:

The EUT was placed on a turn table which is 0.8m above ground plane.

Maximum procedure was performed on the highest emissions to ensure EUT compliance.

Span = wide enough to fully capture the emission being measured

RBW = 100 kHz for

VBW  $\geq$  RBW

Sweep = auto

Detector function = peak

Trace = max hold

For Below 30MHz:

The EUT was placed on a turn table which is 0.8m above ground plane.

Maximum procedure was performed on the highest emissions to ensure EUT compliance.

Span = wide enough to fully capture the emission being measured

RBW = 9kHz

VBW  $\geq$  RBW

Sweep = auto

Detector function = peak

Trace = max hold

For Below 150KHz:

The EUT was placed on a turn table which is 0.8m above ground plane.

Maximum procedure was performed on the highest emissions to ensure EUT compliance.

Span = wide enough to fully capture the emission being measured

RBW = 200Hz

VBW  $\geq$  RBW

Sweep = auto

Detector function = peak

Trace = max hold

Follow the guidelines in ANSI C63.10-2013 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization, etc. A pre-amp and a high pass filter are required for this test, in order to provide the measuring system with sufficient sensitivity. Allow the trace to stabilize. The peak reading of the emission, after being corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength, which must comply with the limit specified in Section 15.35(b). Submit this data.

Now set the VBW to 10 Hz, while maintaining all of the other instrument settings. This peak level, once corrected, must comply with the limit specified in Section 15.209. If the dwell time per channel of the hopping signal is less than 100 ms, then the reading obtained with the 10 Hz VBW may be further adjusted by a "duty cycle correction factor", derived from  $20\log(\text{dwell time}/100 \text{ ms})$ , in an effort to demonstrate compliance with the 15.209 limit. Submit this data.

Repeat above procedures until all frequency measured was complete.

## 7.6.5 Test Results

### ■ Spurious Emission below 30MHz(9KHz to 30MHz)

|                    |           |
|--------------------|-----------|
| Temperature:       | 22° C     |
| Relative Humidity: | 45%       |
| ATM Pressure:      | 1011 mbar |

| Freq.<br>(MHz) | Ant.Pol.<br>H/V | Emission<br>Level(dBuV/m) |    | Limit 3m(dBuV/m) |    | Over(dB) |    |
|----------------|-----------------|---------------------------|----|------------------|----|----------|----|
|                |                 | PK                        | AV | PK               | AV | PK       | AV |
| --             | --              | --                        | -- | --               | -- | --       | -- |

Note: the amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.

Distance extrapolation factor =  $40\log(\text{Specific distance}/\text{test distance})$  (dB);

Limit line = Specific limits(dBuV) + distance extrapolation factor

# Spurious Emission Above 1GHz(1GHz to 25GHz)

All the antenna(Antenna 1) and modes(GFSK,  $\pi/4$ -DQPSK, 8DPSK) mode have been tested, and the worst(Antenna 1,GFSK) result recorded was report as below:

Test mode: GFSK Frequency: Channel 0: 2402MHz

| Freq.<br>(MHz) | Ant.Pol. | Emission Level(dBuV/m) |       | Limit 3m(dBuV/m) |       | Over(dB) |       |
|----------------|----------|------------------------|-------|------------------|-------|----------|-------|
|                | H/V      | PK                     | AV    | PK               | AV    | PK       | AV    |
| 11476.87       | V        | 61.28                  | 46.57 | 74.00            | 54.00 | -12.72   | -7.43 |
| 14553.75       | V        | 64.15                  | 48.02 | 74.00            | 54.00 | -9.85    | -5.98 |
| 17608.12       | V        | 69.43                  | 50.16 | 74.00            | 54.00 | -4.57    | -3.84 |
| 11529.37       | H        | 60.80                  | 60.80 | 74.00            | 54.00 | -13.20   | -7.75 |
| 14630.62       | H        | 65.04                  | 65.04 | 74.00            | 54.00 | -8.96    | -4.77 |
| 17606.25       | H        | 68.94                  | 68.94 | 74.00            | 54.00 | -5.06    | -3.88 |

Test mode: GFSK Frequency: Channel 39: 2441MHz

| Freq.<br>(MHz) | Ant.Pol. | Emission Level(dBuV/m) |       | Limit 3m(dBuV/m) |       | Over(dB) |       |
|----------------|----------|------------------------|-------|------------------|-------|----------|-------|
|                | H/V      | PK                     | AV    | PK               | AV    | PK       | AV    |
| 11499.37       | V        | 60.42                  | 47.43 | 74.00            | 54.00 | -13.58   | -6.57 |
| 14720.62       | V        | 63.59                  | 47.57 | 74.00            | 54.00 | -10.41   | -6.43 |
| 17649.37       | V        | 69.87                  | 49.67 | 74.00            | 54.00 | -4.13    | -4.33 |
| 11495.62       | H        | 60.57                  | 47.27 | 74.00            | 54.00 | -13.43   | -6.73 |
| 14613.75       | H        | 64.75                  | 49.38 | 74.00            | 54.00 | -9.25    | -4.62 |
| 17962.5        | H        | 69.38                  | 48.83 | 74.00            | 54.00 | -4.62    | -5.17 |

Test mode: GFSK Frequency: Channel 78: 2480MHz

| Freq.<br>(MHz) | Ant.Pol. | Emission Level(dBuV/m) |       | Limit 3m(dBuV/m) |       | Over(dB) |       |
|----------------|----------|------------------------|-------|------------------|-------|----------|-------|
|                | H/V      | PK                     | AV    | PK               | AV    | PK       | AV    |
| 11497.5        | V        | 60.39                  | 46.76 | 74.00            | 54.00 | -13.61   | -7.24 |
| 14728.12       | V        | 64.49                  | 48.03 | 74.00            | 54.00 | -9.51    | -5.97 |
| 17598.75       | V        | 69.93                  | 50.15 | 74.00            | 54.00 | -4.07    | -3.85 |
| 11368.12       | H        | 60.58                  | 45.85 | 74.00            | 54.00 | -13.42   | -8.15 |
| 14694.37       | H        | 64.02                  | 47.61 | 74.00            | 54.00 | -9.98    | -6.39 |
| 17970          | H        | 69.06                  | 47.56 | 74.00            | 54.00 | -4.94    | -6.44 |

- Note:**
- (1) All Readings are Peak Value (VBW=3MHz) and Average Value (VBW=10Hz).
  - (2) Emission Level= Reading Level+Correct Factor.
  - (3) Correct Factor= Ant\_F + Cab\_L - Preamp
  - (4) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

# ■ Spurious Emission in Restricted Band 2310-2390MHz and 2483.5-2500MHz

All the antenna(Antenna 1) and modes(GFSK,  $\pi/4$ -DQPSK, 8DPSK, Hopping) mode have been tested, and the worst(Antenna 1,GFSK, Hopping) result recorded was report as below:

Test mode: GFSK Frequency: Channel 0: 2402MHz

| Frequency (MHz) | Polarity H/V | PK(dBuV/m) (VBW=3MHz) | Limit 3m (dBuV/m) | AV(dBuV/m) (VBW=10Hz) | Limit 3m (dBuV/m) |
|-----------------|--------------|-----------------------|-------------------|-----------------------|-------------------|
| 2312.91         | H            | 44.97                 | 74.00             | 41.56                 | 54.00             |
| 2312.47         | V            | 44.62                 | 74.00             | 41.54                 | 54.00             |

Test mode: GFSK Frequency: Channel 78: 2480MHz

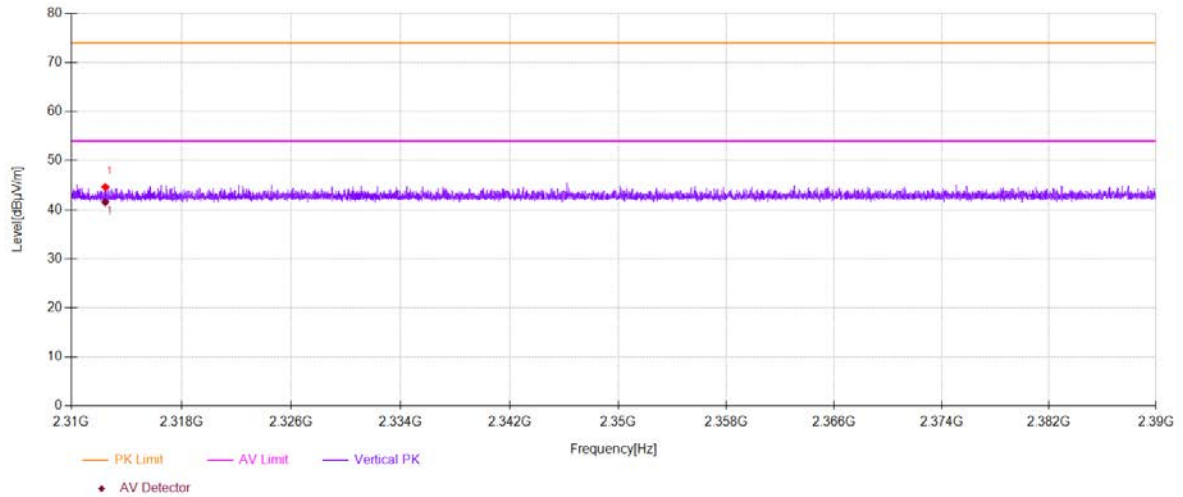
| Frequency (MHz) | Polarity H/V | PK(dBuV/m) (VBW=3MHz) | Limit 3m (dBuV/m) | AV(dBuV/m) (VBW=10Hz) | Limit 3m (dBuV/m) |
|-----------------|--------------|-----------------------|-------------------|-----------------------|-------------------|
| 2484.98         | H            | 46.21                 | 74.00             | 42.19                 | 54.00             |
| 2484.61         | V            | 46.65                 | 74.00             | 40.85                 | 54.00             |

Test mode: GFSK Frequency: Hopping

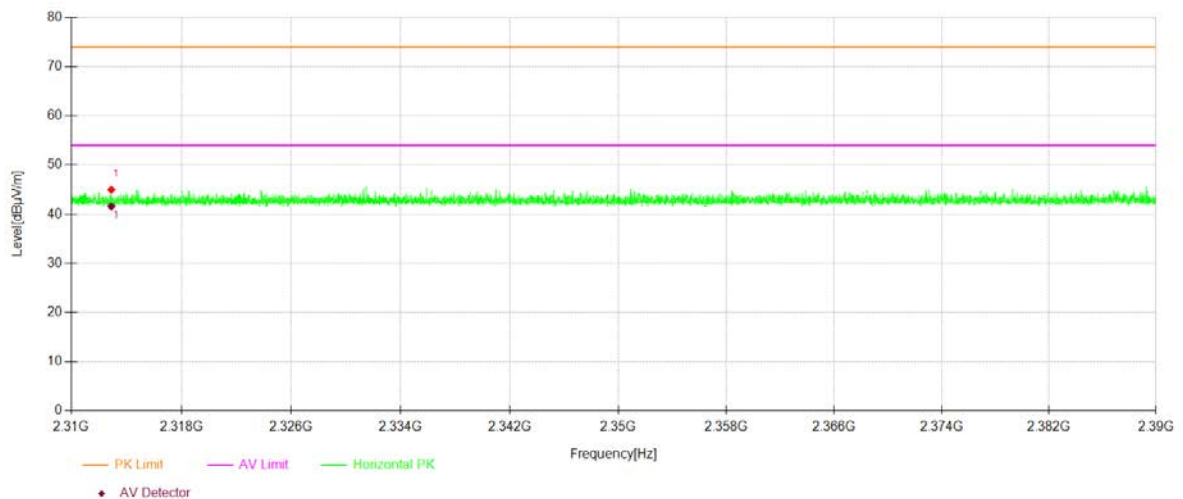
| Frequency (MHz) | Polarity H/V | PK(dBuV/m) (VBW=3MHz) | Limit 3m (dBuV/m) | AV(dBuV/m) (VBW=10Hz) | Limit 3m (dBuV/m) |
|-----------------|--------------|-----------------------|-------------------|-----------------------|-------------------|
| 2400.0          | H            | 47.18                 | 74.00             | 41.21                 | 54.00             |
| 2483.5          | H            | 50.79                 | 74.00             | 43.23                 | 54.00             |
| 2400.0          | V            | 45.97                 | 74.00             | 41.23                 | 54.00             |
| 2483.5          | V            | 46.88                 | 74.00             | 41.26                 | 54.00             |

- Note:**
- (1) All Readings are Peak Value (VBW=3MHz) and Average Value (VBW=10Hz).
  - (2) Emission Level= Reading Level+Correct Factor.
  - (3) Correct Factor= Ant\_F + Cab\_L - Preamp
  - (4) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

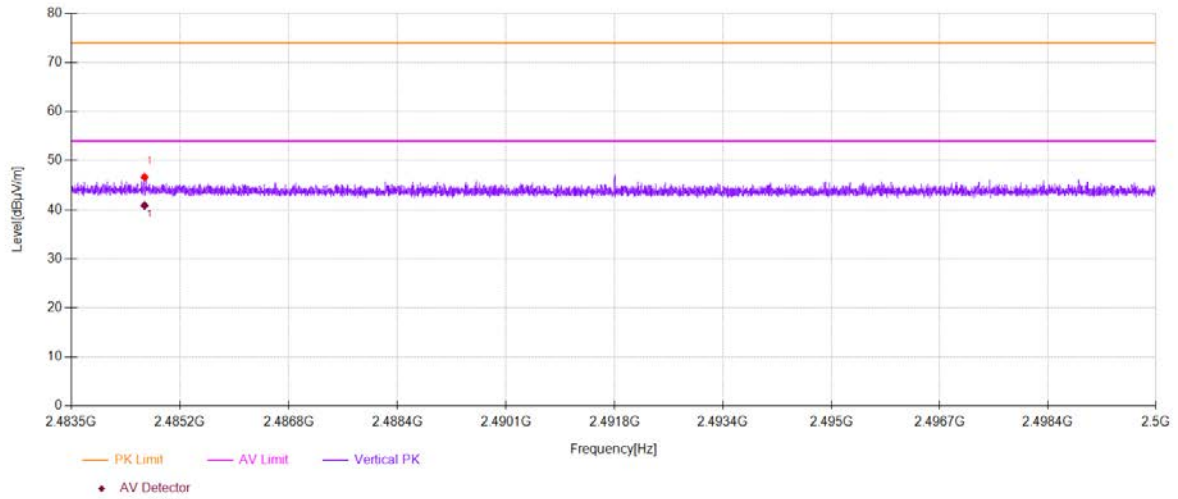
|            |                                                                         |      |   |
|------------|-------------------------------------------------------------------------|------|---|
| Test Model | Spurious Emission in Restricted Band 2310-2390MHz<br>Channel 0: 2402MHz | GFSK | V |
|------------|-------------------------------------------------------------------------|------|---|



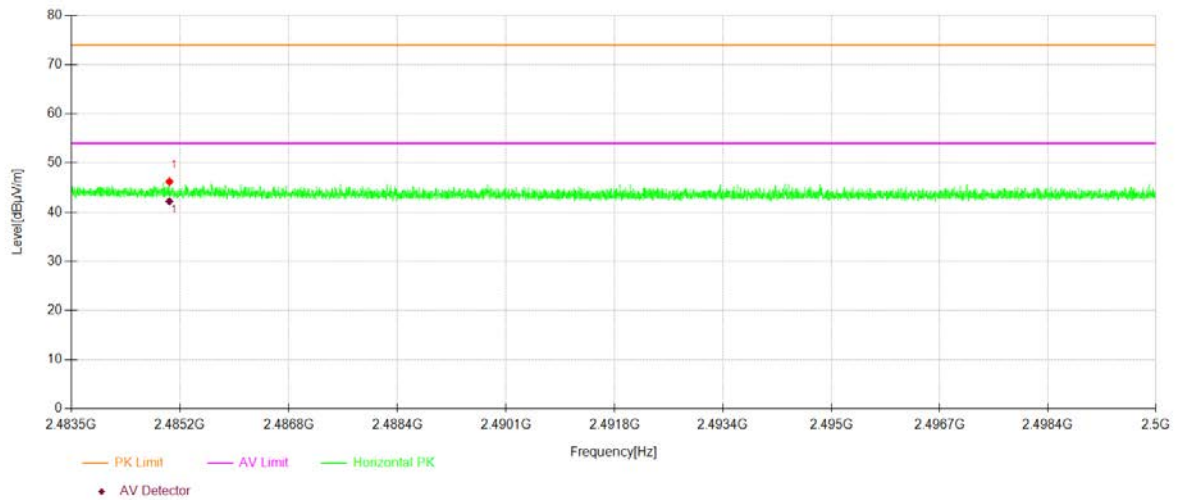
|            |                                                                         |      |   |
|------------|-------------------------------------------------------------------------|------|---|
| Test Model | Spurious Emission in Restricted Band 2310-2390MHz<br>Channel 0: 2402MHz | GFSK | H |
|------------|-------------------------------------------------------------------------|------|---|



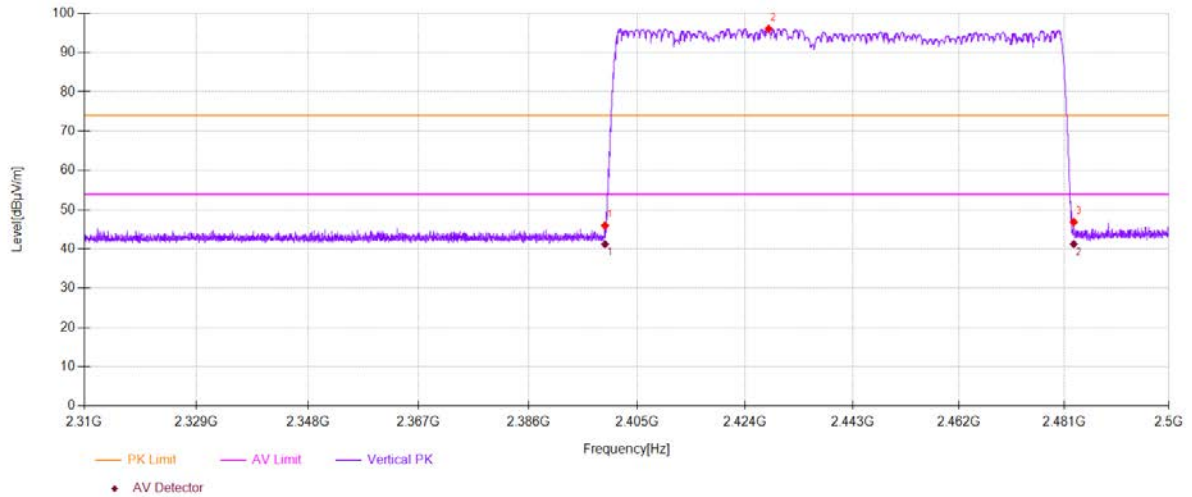
|            |                                                                            |      |   |
|------------|----------------------------------------------------------------------------|------|---|
| Test Model | Spurious Emission in Restricted Band 2483.5-2500MHz<br>Channel 78: 2480MHz | GFSK | V |
|------------|----------------------------------------------------------------------------|------|---|



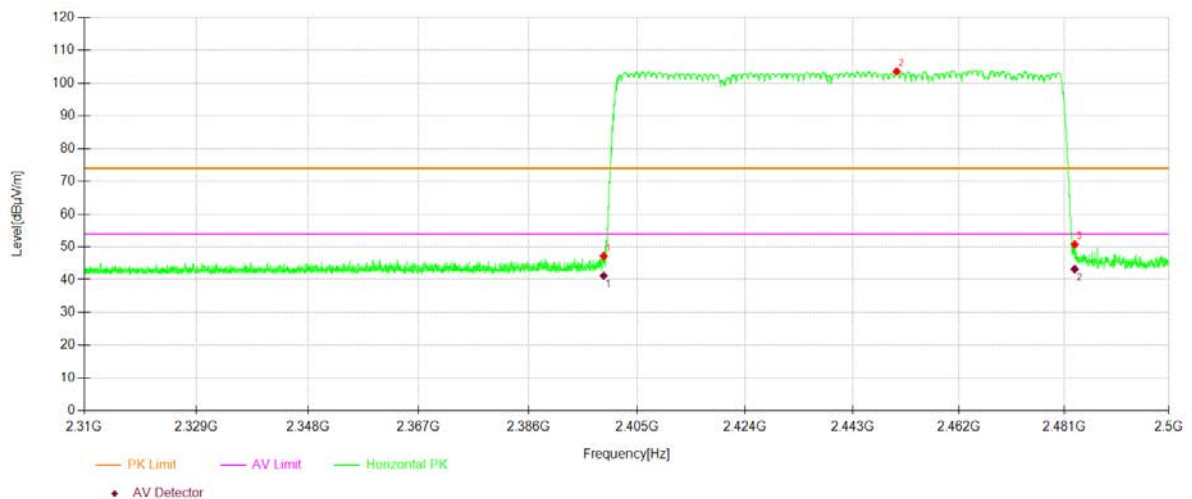
|            |                                                                            |      |   |
|------------|----------------------------------------------------------------------------|------|---|
| Test Model | Spurious Emission in Restricted Band 2483.5-2500MHz<br>Channel 78: 2480MHz | GFSK | H |
|------------|----------------------------------------------------------------------------|------|---|



|            |                                      |                                 |
|------------|--------------------------------------|---------------------------------|
| Test Model | Spurious Emission in Restricted Band | 2310-2390MHz and 2400-2483.5MHz |
|            | Hopping                              | GFSK V                          |

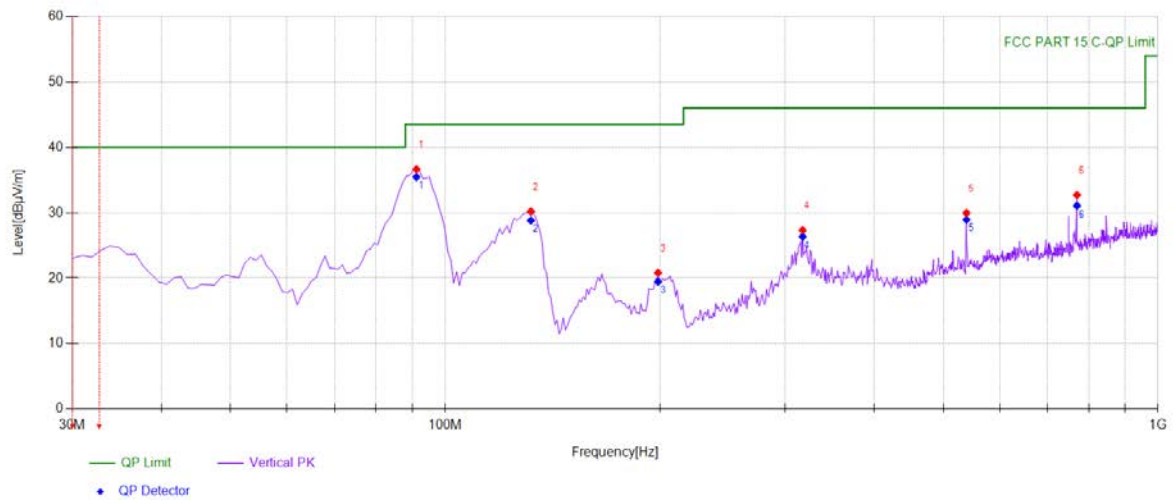


|            |                                      |                                 |
|------------|--------------------------------------|---------------------------------|
| Test Model | Spurious Emission in Restricted Band | 2310-2390MHz and 2400-2483.5MHz |
|            | Hopping                              | GFSK H                          |



- Spurious Emission below 1GHz(30MHz to 1GHz)
- All the antenna(Antenna 1) and modes(GFSK,  $\pi/4$ -DQPSK, 8DPSK) mode have been tested, and the worst(Antenna 1,GFSK) result recorded was report as below:

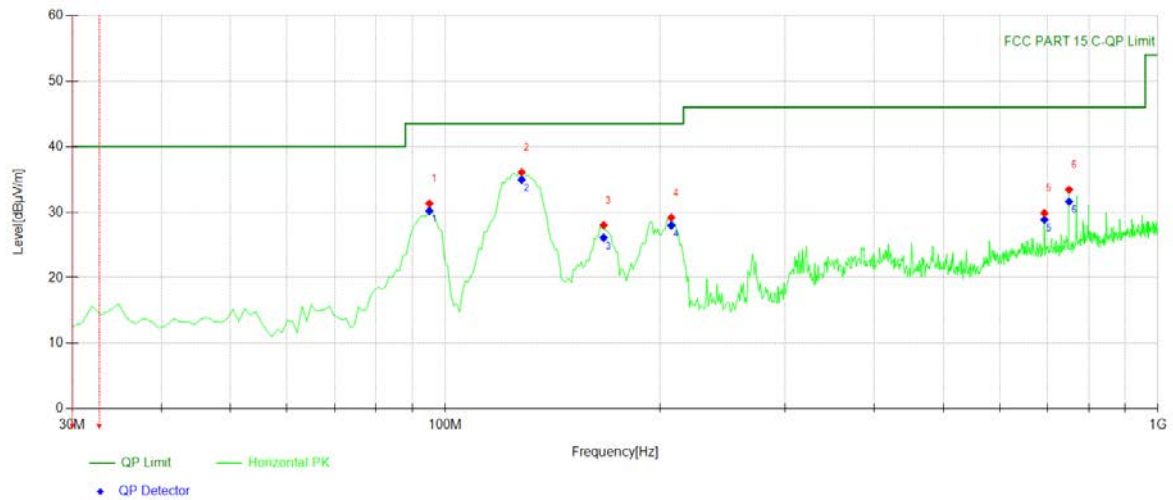
|       |         |
|-------|---------|
| Mode: | BT 2402 |
|-------|---------|



#### Suspected Data List

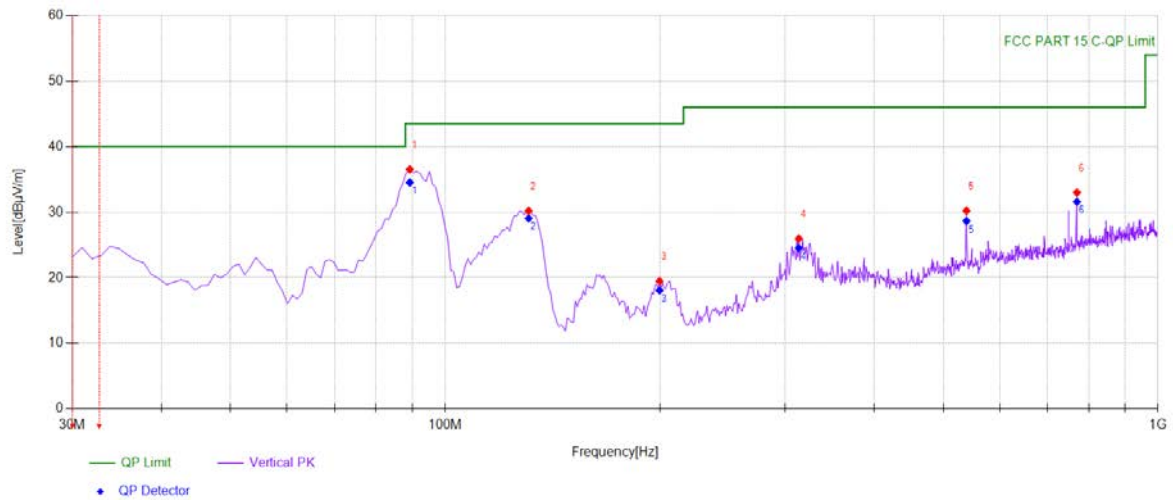
| NO. | Freq. [MHz] | Reading [dBμV] | Factor [dB/m] | Level [dBμV/m] | Detector | Limit [dBμV/m] | Margin [dB] | Polarity | Angle[°] | Height[cm] |
|-----|-------------|----------------|---------------|----------------|----------|----------------|-------------|----------|----------|------------|
| 1   | 91.1712     | 55.53          | -18.88        | 36.65          | PK       | 43.50          | 6.85        | Vertical | 93       | 100        |
| 2   | 131.952     | 49.39          | -19.19        | 30.20          | PK       | 43.50          | 13.30       | Vertical | 170      | 100        |
| 3   | 198.9489    | 38.04          | -17.20        | 20.84          | PK       | 43.50          | 22.66       | Vertical | 46       | 100        |
| 4   | 317.4074    | 41.49          | -14.14        | 27.35          | PK       | 46.00          | 18.65       | Vertical | 274      | 100        |
| 5   | 538.7888    | 39.22          | -9.26         | 29.96          | PK       | 46.00          | 16.04       | Vertical | 107      | 100        |
| 6   | 769.8799    | 37.71          | -5.01         | 32.70          | PK       | 46.00          | 13.30       | Vertical | 28       | 100        |

|       |         |
|-------|---------|
| Mode: | BT 2402 |
|-------|---------|



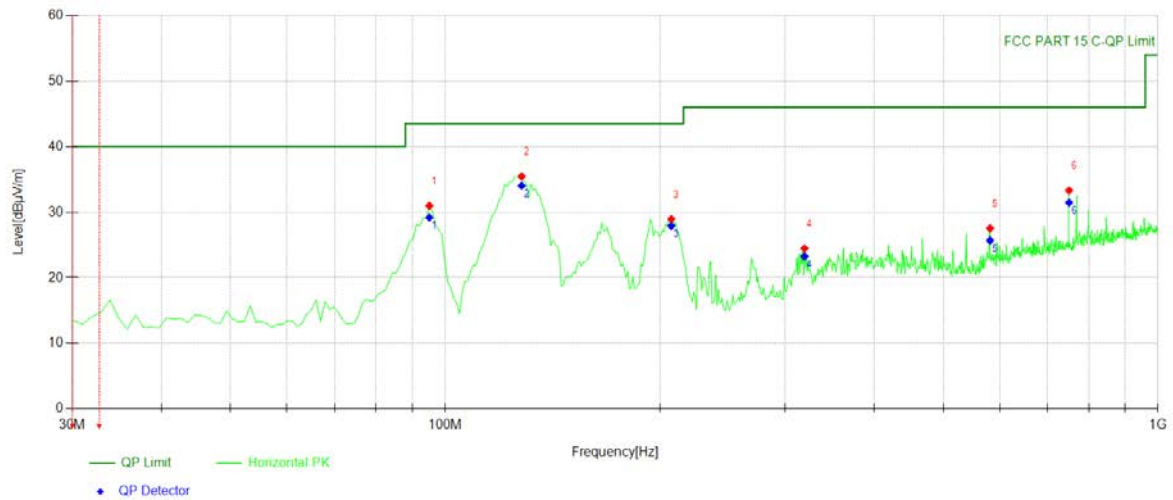
| Suspected Data List |             |                |               |                |          |                |             |            |          |            |
|---------------------|-------------|----------------|---------------|----------------|----------|----------------|-------------|------------|----------|------------|
| NO.                 | Freq. [MHz] | Reading [dBμV] | Factor [dB/m] | Level [dBμV/m] | Detector | Limit [dBμV/m] | Margin [dB] | Polarity   | Angle[°] | Height[cm] |
| 1                   | 95.0551     | 49.28          | -17.97        | 31.31          | PK       | 43.50          | 12.19       | Horizontal | 113      | 100        |
| 2                   | 128.0681    | 54.86          | -18.79        | 36.07          | PK       | 43.50          | 7.43        | Horizontal | 313      | 100        |
| 3                   | 166.9069    | 47.17          | -19.16        | 28.01          | PK       | 43.50          | 15.49       | Horizontal | 31       | 100        |
| 4                   | 207.6877    | 46.31          | -17.13        | 29.18          | PK       | 43.50          | 14.32       | Horizontal | 90       | 100        |
| 5                   | 693.1732    | 35.87          | -6.00         | 29.87          | PK       | 46.00          | 16.13       | Horizontal | 31       | 100        |
| 6                   | 750.4605    | 38.75          | -5.33         | 33.42          | PK       | 46.00          | 12.58       | Horizontal | 258      | 100        |

|       |         |
|-------|---------|
| Mode: | BT 2441 |
|-------|---------|



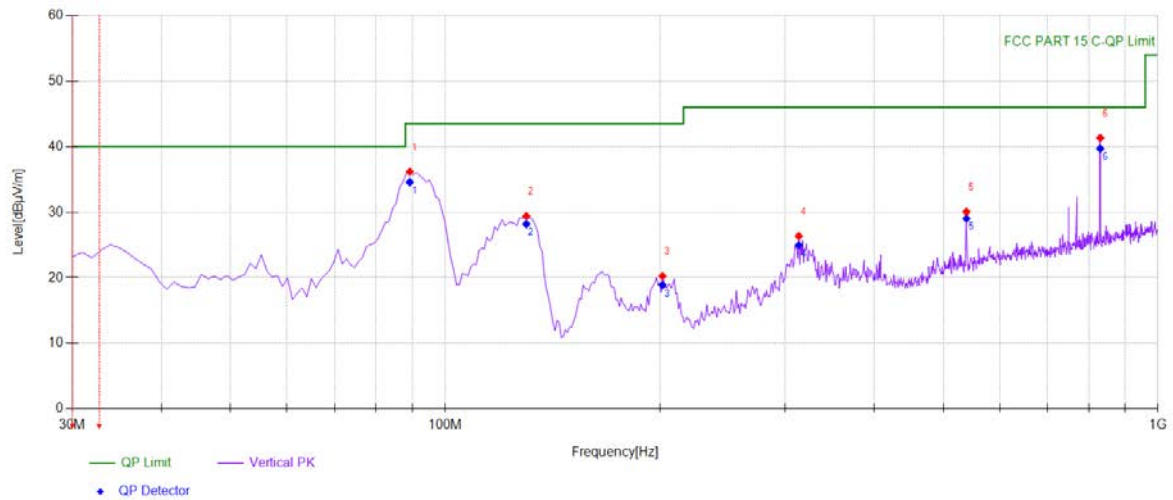
| Suspected Data List |             |                |               |                |          |                |             |          |          |            |
|---------------------|-------------|----------------|---------------|----------------|----------|----------------|-------------|----------|----------|------------|
| NO.                 | Freq. [MHz] | Reading [dBμV] | Factor [dB/m] | Level [dBμV/m] | Detector | Limit [dBμV/m] | Margin [dB] | Polarity | Angle[°] | Height[cm] |
| 1                   | 89.2292     | 55.86          | -19.34        | 36.52          | PK       | 43.50          | 6.98        | Vertical | 37       | 100        |
| 2                   | 130.981     | 49.30          | -19.10        | 30.20          | PK       | 43.50          | 13.30       | Vertical | 183      | 100        |
| 3                   | 199.9199    | 36.62          | -17.13        | 19.49          | PK       | 43.50          | 24.01       | Vertical | 28       | 100        |
| 4                   | 313.5235    | 40.10          | -14.14        | 25.96          | PK       | 46.00          | 20.04       | Vertical | 288      | 100        |
| 5                   | 538.7888    | 39.49          | -9.26         | 30.23          | PK       | 46.00          | 15.77       | Vertical | 111      | 100        |
| 6                   | 769.8799    | 37.98          | -5.01         | 32.97          | PK       | 46.00          | 13.03       | Vertical | 37       | 100        |

|       |         |
|-------|---------|
| Mode: | BT 2441 |
|-------|---------|



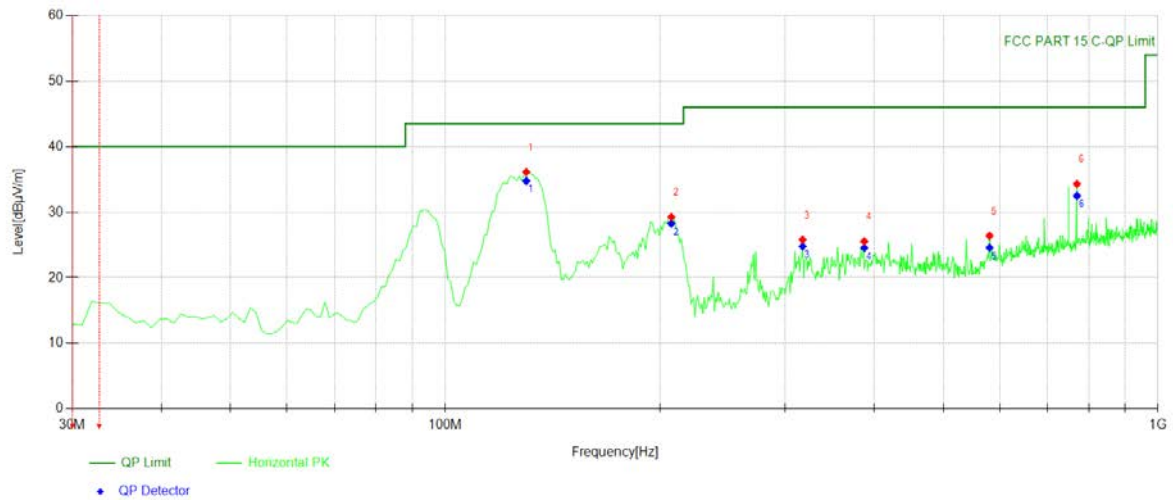
| Suspected Data List |             |                |               |                |          |                |             |            |          |            |
|---------------------|-------------|----------------|---------------|----------------|----------|----------------|-------------|------------|----------|------------|
| NO.                 | Freq. [MHz] | Reading [dBμV] | Factor [dB/m] | Level [dBμV/m] | Detector | Limit [dBμV/m] | Margin [dB] | Polarity   | Angle[°] | Height[cm] |
| 1                   | 95.0551     | 48.92          | -17.97        | 30.95          | PK       | 43.50          | 12.55       | Horizontal | 95       | 100        |
| 2                   | 128.0681    | 54.23          | -18.79        | 35.44          | PK       | 43.50          | 8.06        | Horizontal | 327      | 100        |
| 3                   | 207.6877    | 46.09          | -17.13        | 28.96          | PK       | 43.50          | 14.54       | Horizontal | 113      | 100        |
| 4                   | 319.3493    | 38.60          | -14.13        | 24.47          | PK       | 46.00          | 21.53       | Horizontal | 58       | 100        |
| 5                   | 581.5115    | 34.68          | -7.14         | 27.54          | PK       | 46.00          | 18.46       | Horizontal | 31       | 100        |
| 6                   | 750.4605    | 38.63          | -5.33         | 33.30          | PK       | 46.00          | 12.70       | Horizontal | 259      | 100        |

|       |         |
|-------|---------|
| Mode: | BT 2480 |
|-------|---------|



| Suspected Data List |             |                |               |                |          |                |             |          |          |            |
|---------------------|-------------|----------------|---------------|----------------|----------|----------------|-------------|----------|----------|------------|
| NO.                 | Freq. [MHz] | Reading [dBμV] | Factor [dB/m] | Level [dBμV/m] | Detector | Limit [dBμV/m] | Margin [dB] | Polarity | Angle[°] | Height[cm] |
| 1                   | 89.2292     | 55.50          | -19.34        | 36.16          | PK       | 43.50          | 7.34        | Vertical | 41       | 100        |
| 2                   | 130.01      | 48.41          | -19.00        | 29.41          | PK       | 43.50          | 14.09       | Vertical | 329      | 100        |
| 3                   | 201.8619    | 37.39          | -17.13        | 20.26          | PK       | 43.50          | 23.24       | Vertical | 46       | 100        |
| 4                   | 313.5235    | 40.49          | -14.14        | 26.35          | PK       | 46.00          | 19.65       | Vertical | 284      | 100        |
| 5                   | 538.7888    | 39.31          | -9.26         | 30.05          | PK       | 46.00          | 15.95       | Vertical | 141      | 100        |
| 6                   | 830.0801    | 45.45          | -4.12         | 41.33          | PK       | 46.00          | 4.67        | Vertical | 297      | 100        |

|       |         |
|-------|---------|
| Mode: | BT 2480 |
|-------|---------|



| Suspected Data List |             |                |               |                |          |                |             |            |          |            |
|---------------------|-------------|----------------|---------------|----------------|----------|----------------|-------------|------------|----------|------------|
| NO.                 | Freq. [MHz] | Reading [dBμV] | Factor [dB/m] | Level [dBμV/m] | Detector | Limit [dBμV/m] | Margin [dB] | Polarity   | Angle[°] | Height[cm] |
| 1                   | 130.01      | 55.12          | -19.00        | 36.12          | PK       | 43.50          | 7.38        | Horizontal | 112      | 100        |
| 2                   | 207.6877    | 46.40          | -17.13        | 29.27          | PK       | 43.50          | 14.23       | Horizontal | 112      | 100        |
| 3                   | 317.4074    | 39.93          | -14.14        | 25.79          | PK       | 46.00          | 20.21       | Horizontal | 58       | 100        |
| 4                   | 387.3173    | 37.39          | -11.83        | 25.56          | PK       | 46.00          | 20.44       | Horizontal | 149      | 100        |
| 5                   | 580.5405    | 33.54          | -7.14         | 26.40          | PK       | 46.00          | 19.60       | Horizontal | 31       | 100        |
| 6                   | 769.8799    | 39.31          | -5.01         | 34.30          | PK       | 46.00          | 11.70       | Horizontal | 122      | 100        |

\*\*\* End of Report \*\*\*