# FCC Test Report

| | | |
|---|---|---|
| **FCC ID** | : | **R3USCBT20** |
| **Product Description** | : | **True Wireless Gaming Earbuds** |
| **Model No.** | : | **SCBT20** |
| **Brand Name** | : | **EPOS** |
| **Applicant** | : | **DSEA A/S** |
| **Address** | : | **Kongebakken 9, DK-2765 Smoerum, Denmark** |
| **Standard** | : | **47 CFR FCC Part 15.209** |
| **Received Date** | : | **Jun. 05, 2020** |
| **Tested Date** | : | **Jun. 19 ~ Jul. 14, 2020** |

**We, International Certification Corp., would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.**

**Reviewed by:** **Approved by:**

**Along Chen / Assistant Manager** **Gary Chang / Manager**

Testing Laboratory 2732

# Table of Contents

# Release Record

| Report No. | Version | Description | Issued Date |
|---|---|---|---|
| FR060501NF | Rev. 01 | Initial issue | Aug. 20, 2020 |
| FR060501NF | Rev. 02 | Updating applicant's information. | Nov. 06, 2020 |
| FR060501NF | Rev. 03 | 1. Adding antenna brand & model.<br>2. Updating charging box rating.<br>3. Adding limit extrapolation for frequency below 30 MHz | Dec. 07, 2020 |

# Summary of Test Results

| FCC Rules | Test Items | Measured | Result |
|---|---|---|---|
| 15.207 | Conducted Emissions | Meet the requirement of limit | Pass |
| 15.209 | Radiated Emissions | Meet the requirement of limit | Pass |
| 15.215 (c) | 20dB bandwidth | Meet the requirement of limit | Pass |
| 15.203 | Antenna Requirement | Meet the requirement of limit | Pass |

| **Declaration of Conformity:** |
|---|
| The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers. |
| **Comments and Explanations:** |
| The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification. |

# 1 General Description

## 1.1 Information

### 1.1.1 Specification of the Equipment under Test (EUT)

| RF General Information | | |
|---|---|---|
| **Modulation** | **Ch. Frequency (MHz)** | **Channel Number** |
| 8-DPSK | 10.579 | 1 |

### 1.1.2 Antenna Details

| Ant. No. | Brand | Model | Type | Connector | Antenna Gain (dBi) |
|---|---|---|---|---|---|
| 1 | PulseGM | GF5520-72XJLC(3.7uH) | coil antenna | - | - |

### 1.1.3 EUT Operational Condition

| | | | |
|---|---|---|---|
| **Power Supply Type** | Battery 3.7Vdc | | |
| | Master earbud: Max charge current: 60mA , Max discharge current: 14mA | | |
| | Slave earbud: Max charge current: 60mA, Max discharge current: 4mA | | |
| | Chargebox: Max charge current: 560mA , Max discharge current: 200mA | | |
| **Operational Voltage** | ☒ Vnom (3.7 V) | ☒ Vmax (4.2 V) | ☒ Vmin (3.5V) |
| **Operational Climatic** | ☒ Tnom (20°C) | ☒ Tmax (45°C) | ☒ Tmin (5°C) |

### 1.1.4 Accessories

| No. | Equipment | Description |
|---|---|---|
| 1 | Battery | Brand: Guangdong Mic Power New Energy Co. Ltd.<br>Model: M1254S2<br>Rating: 3.7Vdc, 60mAh |
| 2 | USB cable | Brand: EPOS<br>Model: EPUL57<br>Line: 0.57m shielded without core |
| 3 | Charging box | Brand: EPOS<br>Model: SCBT20<br>Rating: 5V ⎓ 600mA |
| 4 | Bluetooth dongle | Brand: EPOS<br>Model: SCBT16 |
| 5 | USB-C to USB-A extension cable | Brand: SENNHEISER<br>Model: TB011<br>Line:1.35m shielded without core |

### 1.1.5 Test Tool and Power Setting

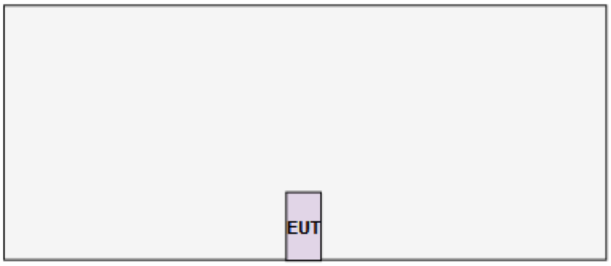
| | |
|---|---|
| **Test tool** | NvsApp, Version:: 3.2.2 |
| **Setting** | Default |

## 1.2 Local Support Equipment List

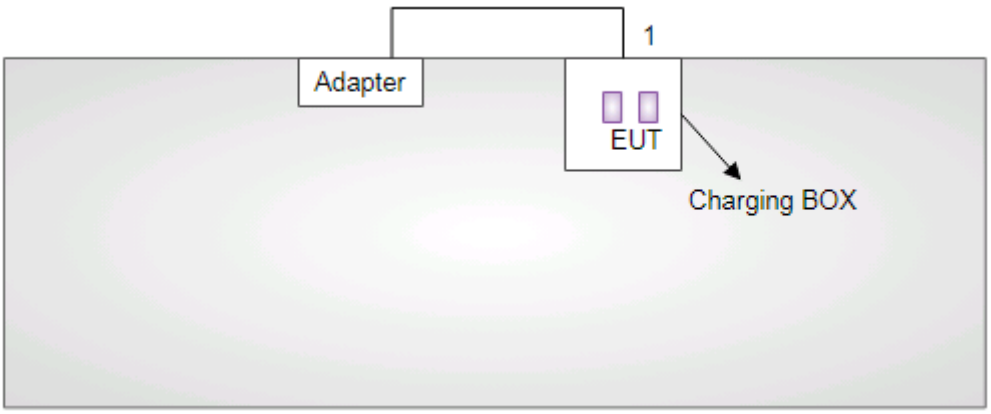
| Support Equipment List | | | | | |
|---|---|---|---|---|---|
| **No.** | **Equipment** | **Brand** | **Model** | **FCC ID** | **Remarks** |
| 1 | Notebook | DELL | Latitude E5470 | DoC | --- |
| 2 | Adapter | Samsung | ETA-U90JWS | --- | --- |

## 1.3 Test Setup Chart

**Test Setup Diagram (Battery Mode)**




**Test Setup Diagram (Charging Mode)**




| No. | Signal cable / Length (m) |
|---|---|
| 1 | USB, 0.57m shielded. |

Note: The notebook is disconnected from EUT and removed from test table when EUT is set to transmit continuously.

## 1.4 The Equipment List

| Test Item | Conducted Emission | | | | |
|---|---|---|---|---|---|
| Test Site | Conduction room 1 / (CO01-WS) | | | | |
| **Instrument** | **Brand** | **Model No.** | **Serial No.** | **Calibration Date** | **Calibration Until** |
| Receiver | R&S | ESR3 | 101658 | Dec. 12, 2019 | Dec. 11, 2020 |
| LISN | R&S | ENV216 | 101579 | Mar. 12, 2020 | Mar. 11, 2021 |
| RF Cable-CON | Woken | CFD200-NL | CFD200-NL-001 | Oct. 22, 2019 | Oct. 21, 2020 |
| Measurement Software | AUDIX | e3 | 6.120210k | NA | NA |
| Note: Calibration Interval of instruments listed above is one year. | | | | | |

| Test Item | Radiated Emission | | | | |
|---|---|---|---|---|---|
| Test Site | 966 chamber1 / (03CH01-WS) | | | | |
| **Instrument** | **Brand** | **Model No.** | **Serial No.** | **Calibration Date** | **Calibration Until** |
| Spectrum Analyzer | R&S | FSV40 | 101498 | Dec. 17, 2019 | Dec. 16, 2020 |
| Receiver | R&S | ESR3 | 101657 | Feb. 14, 2020 | Feb. 13, 2021 |
| Bilog Antenna | SCHWARZBECK | VULB9168 | VULB9168-523 | Dec. 26, 2019 | Dec. 25, 2020 |
| Horn Antenna 1G-18G | SCHWARZBECK | BBHA 9120 D | BBHA 9120 D 1096 | Dec. 12, 2019 | Dec. 11, 2020 |
| Horn Antenna 18G-40G | SCHWARZBECK | BBHA 9170 | BBHA 9170517 | Nov. 15, 2019 | Nov. 14, 2020 |
| Loop Antenna | R&S | HFH2-Z2 | 100330 | Nov. 13, 2019 | Nov. 12, 2020 |
| Loop Antenna Cable | KOAX KABEL | 101354-BW | 101354-BW | Oct. 07, 2019 | Oct. 06, 2020 |
| Preamplifier | EMC | EMC02325 | 980194 | Sep. 18, 2019 | Sep. 17, 2020 |
| Preamplifier | Agilent | 83017A | MY39501308 | Oct. 08, 2019 | Oct. 07, 2020 |
| Preamplifier | EMC | EMC184045B | 980192 | Aug. 01, 2019 | Jul. 31, 2020 |
| RF Cable | EMC | EMC104-SM-SM-8000 | 181106 | Oct. 07, 2019 | Oct. 06, 2020 |
| RF Cable | HUBER+SUHNER | SUCOFLEX104 | MY16019/4 | Oct. 07, 2019 | Oct. 06, 2020 |
| RF Cable | HUBER+SUHNER | SUCOFLEX104 | MY16014/4 | Oct. 07, 2019 | Oct. 06, 2020 |
| LF cable 1M | EMC | EMCCFD400-NM-NM-1000 | 160502 | Oct. 07, 2019 | Oct. 06, 2020 |
| LF cable 3M | Woken | CFD400NL-LW | CFD400NL-001 | Oct. 07, 2019 | Oct. 06, 2020 |
| LF cable 10M | Woken | CFD400NL-LW | CFD400NL-002 | Oct. 07, 2019 | Oct. 06, 2020 |
| Measurement Software | AUDIX | e3 | 6.120210g | NA | NA |
| Note: Calibration Interval of instruments listed above is one year. | | | | | |

| Test Item | RF Conducted | | | | |
|---|---|---|---|---|---|
| Test Site | (TH01-WS) | | | | |
| **Instrument** | **Brand** | **Model No.** | **Serial No.** | **Calibration Date** | **Calibration Until** |
| Spectrum Analyzer | R&S | FSV40 | 101499 | Jan. 09, 2020 | Jan. 08, 2021 |
| Power Meter | Anritsu | ML2495A | 1241002 | Oct. 23, 2019 | Oct. 22, 2020 |
| Power Sensor | Anritsu | MA2411B | 1207366 | Oct. 23, 2019 | Oct. 22, 2020 |
| AC POWER SOURCE | APC | AFC-500W | F312060012 | Dec. 02, 2019 | Dec. 01, 2020 |
| Measurement Software | -- | SENSE-15247_FS | V5.10.1 | NA | NA |
| Note: Calibration Interval of instruments listed above is one year. | | | | | |

## 1.5 Test Standards

47 CFR FCC Part 15.209
ANSI C63.10-2013

## 1.6 Deviation from Test Standard and Measurement Procedure

None

## 1.7 Measurement Uncertainty

The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)).

| Measurement Uncertainty | |
|---|---|
| **Parameters** | **Uncertainty** |
| Bandwidth | ±34.130 Hz |
| Conducted power | ±0.808 dB |
| Conducted emission | ±2.715 dB |
| AC conducted emission | ±2.92 dB |
| Radiated emission ≤ 1GHz | ±3.41 dB |
| Radiated emission > 1GHz | ±4.59 dB |

# 2 Test Configuration

## 2.1 Testing Facility

| | |
|---|---|
| **Test Laboratory** | International Certification Corp. |
| **Test Site** | CO01-WS, 03CH01-WS, TH01-WS |
| **Address of Test Site** | No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan District, Tao Yuan City 333, Taiwan, R.O.C. |

- FCC Designation No.: TW2732
- FCC site registration No.: 181692
- ISED#: 10807A
- CAB identifier: TW2732

## 2.2 The Worst Test Modes and Channel Details

| Test item | Mode | Test Frequency (MHz) | Test Configuration |
|---|---|---|---|
| AC Conducted Emissions | Charging | --- | 2 |
| Radiated Emissions | 8-DPSK | 10.579 | 1 |
| | Charging | --- | 2 |
| 20dB bandwidth | 8-DPSK | 10.579 | 1 |

**NOTE:**

1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **Z-plane** results were found as the worst case and were shown in this report.
2. The EUT had been tested by following test configurations.
   1) Configuration 1 : Battery mode
   2) Configuration 2 : Charging mode

# 3 Transmitter Test Results

## 3.1 Conducted Emissions

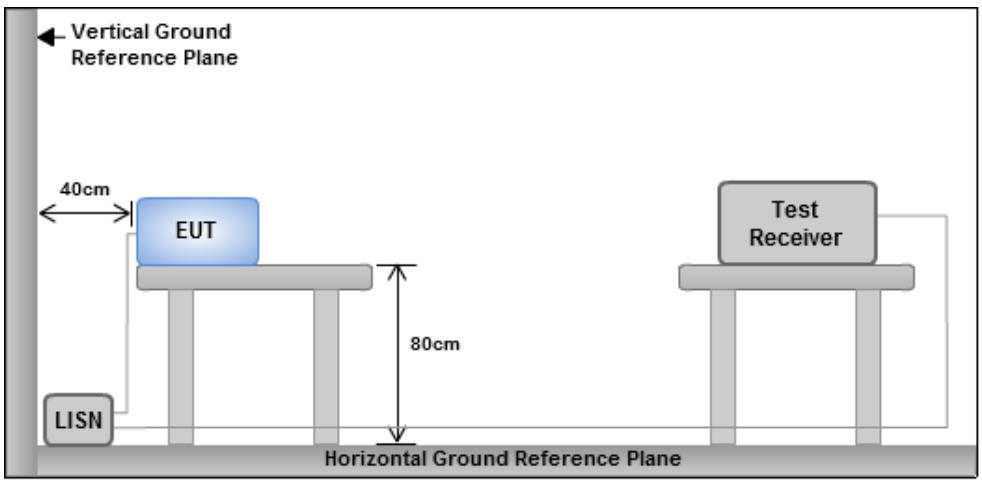
### 3.1.1 Limit of Conducted Emissions

| Conducted Emissions Limit | | |
|---|---|---|
| **Frequency Emission (MHz)** | **Quasi-Peak** | **Average** |
| 0.15-0.5 | 66 - 56 * | 56 - 46 * |
| 0.5-5 | 56 | 46 |
| 5-30 | 60 | 50 |
| Note 1: * Decreases with the logarithm of the frequency. | | |

### 3.1.2 Test Procedures

1. The device is placed on a test table, raised 80 cm above the reference ground plane. The vertical conducting plane is located 40 cm to the rear of the device.
2. The device is connected to line impedance stabilization network (LISN) and other accessories are connected to other LISN. Measured levels of AC power line conducted emission are across the 50 Ω LISN port.
3. AC conducted emission measurements is made over frequency range from 150 kHz to 30 MHz.
4. This measurement was performed with AC 120V / 60Hz.

### 3.1.3 Test Setup



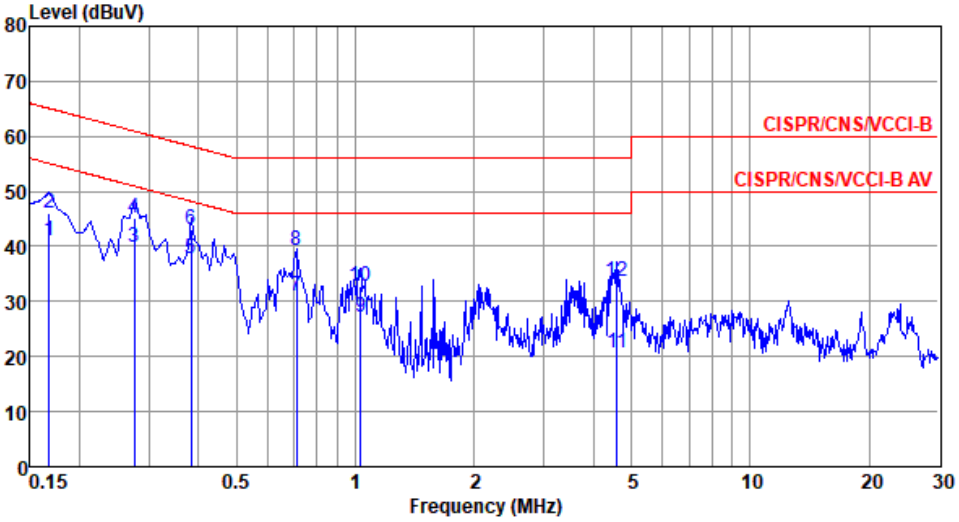

Note: 1. Support units were connected to second LISN.

2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

### 3.1.4 Test Result of Conducted Emissions

| Ambient Condition | 24°C / 59% | Tested By | Alex Tsai |
|---|---|---|---|

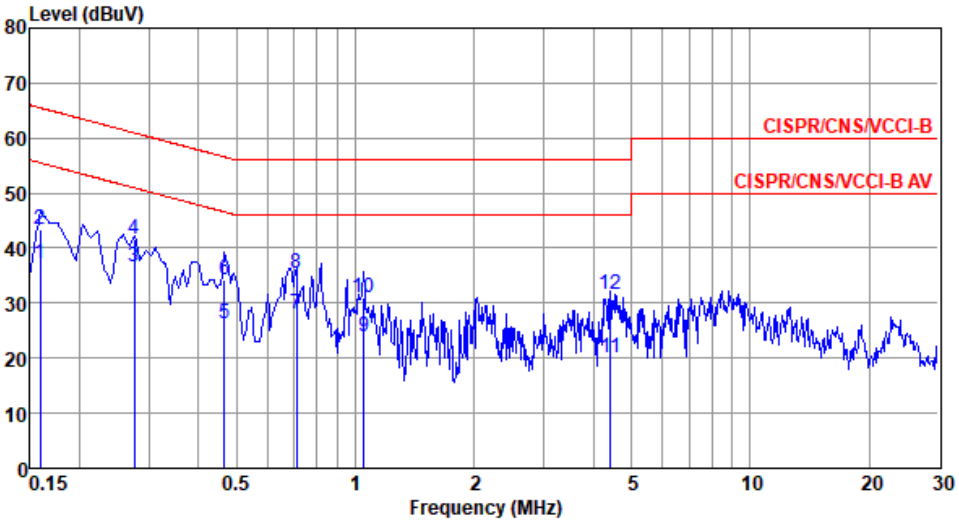
| Modulation Mode | Charging | Test Freq. (MHz) | --- |
|---|---|---|---|
| Power Phase | Line | | |




| | Freq | Level | Limit Line | Over Limit | Read Level | LISN factor | cable loss | Remark |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dBuV | dB | dBuV | dB | dB | |
| 1 | 0.168 | 40.97 | 55.08 | -14.11 | 31.11 | 9.64 | 0.05 | Average |
| 2 | 0.168 | 46.09 | 65.08 | -18.99 | 36.23 | 9.64 | 0.05 | QP |
| 3 | 0.276 | 40.00 | 50.94 | -10.94 | 30.08 | 9.63 | 0.07 | Average |
| 4 | 0.276 | 45.08 | 60.94 | -15.86 | 35.16 | 9.63 | 0.07 | QP |
| 5* | 0.383 | 37.66 | 48.21 | -10.55 | 27.70 | 9.63 | 0.08 | Average |
| 6 | 0.383 | 43.02 | 58.21 | -15.19 | 33.06 | 9.63 | 0.08 | QP |
| 7 | 0.708 | 31.07 | 46.00 | -14.93 | 21.05 | 9.63 | 0.10 | Average |
| 8 | 0.708 | 39.40 | 56.00 | -16.60 | 29.38 | 9.63 | 0.10 | QP |
| 9 | 1.032 | 27.19 | 46.00 | -18.81 | 17.12 | 9.63 | 0.12 | Average |
| 10 | 1.032 | 32.67 | 56.00 | -23.33 | 22.60 | 9.63 | 0.12 | QP |
| 11 | 4.598 | 20.59 | 46.00 | -25.41 | 10.25 | 9.66 | 0.31 | Average |
| 12 | 4.598 | 33.73 | 56.00 | -22.27 | 23.39 | 9.66 | 0.31 | QP |

Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).
2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

| Modulation Mode | Charging | Test Freq. (MHz) | --- |
|---|---|---|---|
| Power Phase | Neutral | | |




| | Freq | Level | Limit Line | Over Limit | Read Level | LISN factor | cable loss | Remark |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dBuV | dB | dBuV | dB | dB | |
| 1 | 0.159 | 37.28 | 55.52 | -18.24 | 27.44 | 9.66 | 0.05 | Average |
| 2 | 0.159 | 43.39 | 65.52 | -22.13 | 33.55 | 9.66 | 0.05 | QP |
| 3* | 0.276 | 36.54 | 50.94 | -14.40 | 26.66 | 9.65 | 0.07 | Average |
| 4 | 0.276 | 41.58 | 60.94 | -19.36 | 31.70 | 9.65 | 0.07 | QP |
| 5 | 0.466 | 26.31 | 46.58 | -20.27 | 16.39 | 9.65 | 0.09 | Average |
| 6 | 0.466 | 34.25 | 56.58 | -22.33 | 24.33 | 9.65 | 0.09 | QP |
| 7 | 0.708 | 28.08 | 46.00 | -17.92 | 18.14 | 9.65 | 0.10 | Average |
| 8 | 0.708 | 35.33 | 56.00 | -20.67 | 25.39 | 9.65 | 0.10 | QP |
| 9 | 1.049 | 24.02 | 46.00 | -21.98 | 14.05 | 9.65 | 0.12 | Average |
| 10 | 1.049 | 30.89 | 56.00 | -25.11 | 20.92 | 9.65 | 0.12 | QP |
| 11 | 4.430 | 20.18 | 46.00 | -25.82 | 9.93 | 9.68 | 0.30 | Average |
| 12 | 4.430 | 31.73 | 56.00 | -24.27 | 21.48 | 9.68 | 0.30 | QP |

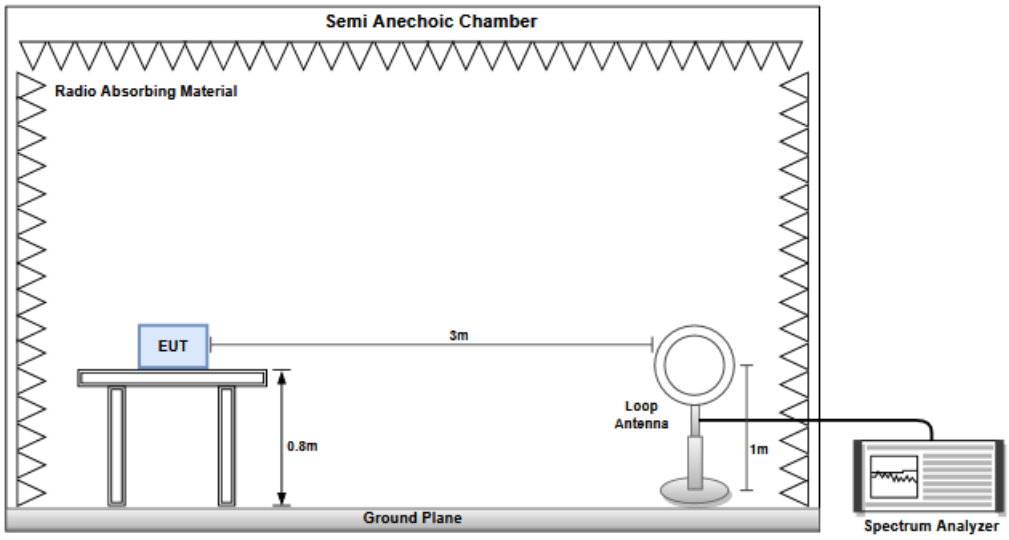
Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB).
2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).

## 3.2 20dB and Occupied Bandwidth

### 3.2.1 Test Procedures

1. Set resolution bandwidth (RBW) = 10 kHz, Video bandwidth = 30 kHz.
2. Detector = Peak, Trace mode = max hold.
3. Sweep = auto couple, Allow the trace to stabilize.
4. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 20dB relative to the maximum level measured in the fundamental emission.

### 3.2.2 Test Setup

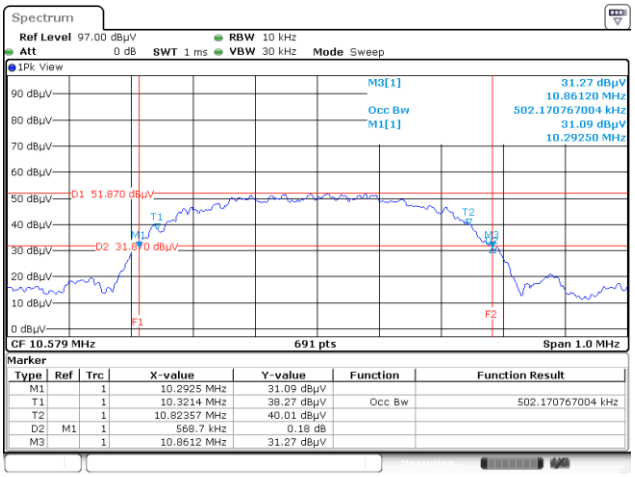


### 3.2.3 Test Result of 20dB and Occupied Bandwidth

| Ambient Condition | 24°C / 64% | Tested By | Akun Chung |
|---|---|---|---|

| Modulation Mode | Freq. (MHz) | 20dB Bandwidth (kHz) | $F_L$ at 20dB BW (MHz) | $F_H$ at 20dBBW (MHz) | 99% Bandwidth (kHz) |
|---|---|---|---|---|---|
| 8-DPSK | 10.579 | 568.7 | 10.2925 | 10.8612 | 502.170767 |

**20dB Bandwidth**



## 3.3 Radiated Emissions

### 3.3.1 Limit of Radiated Emissions

| Restricted Band Emissions Limit | | | |
|---|---|---|---|
| **Frequency Range (MHz)** | **Field Strength (uV/m)** | **Field Strength (dBuV/m)** | **Measure Distance (m)** |
| 0.009~0.490 | 2400/F(kHz) | 48.5 - 13.8 | 300 |
| 0.490~1.705 | 24000/F(kHz) | 33.8 - 23 | 30 |
| 1.705~30.0 | 30 | 29.54 | 30 |
| 30~88 | 100 | 40 | 3 |
| 88~216 | 150 | 43.5 | 3 |
| 216~960 | 200 | 46 | 3 |
| Above 960 | 500 | 54 | 3 |

**Note 1:**
Qusai-Peak value is measured for frequency below 1GHz except for 9–90 kHz, 110–490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit
**Note 2:**
Measurements may be performed at a distance other than what is specified provided. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor as below, Frequency at or above 30 MHz: 20 dB/decade Frequency below 30 MHz: 40 dB/decade.

Limit Extrapolation

Measurement distance below 30 MHz is not at 30 meters thus the limit is extrapolated as below formula

$$FS_{limit} = FS_{max} - 40\log\left(\frac{d_{near\ field}}{d_{measure}}\right) - 20\log\left(\frac{d_{limit}}{d_{near\ field}}\right)$$

$FS_{limit}$ is the calculation of field strength at the limit distance, expressed in dBμV/m

$FS_{max}$ is the measured field strength, expressed in dBμV/m

$d_{near\ field}$ is the λ/2π distance

$d_{measure}$ is the distance of the measurement point from the EUT

$d_{limit}$ is the reference limit distance

### 3.3.2 Test Procedures

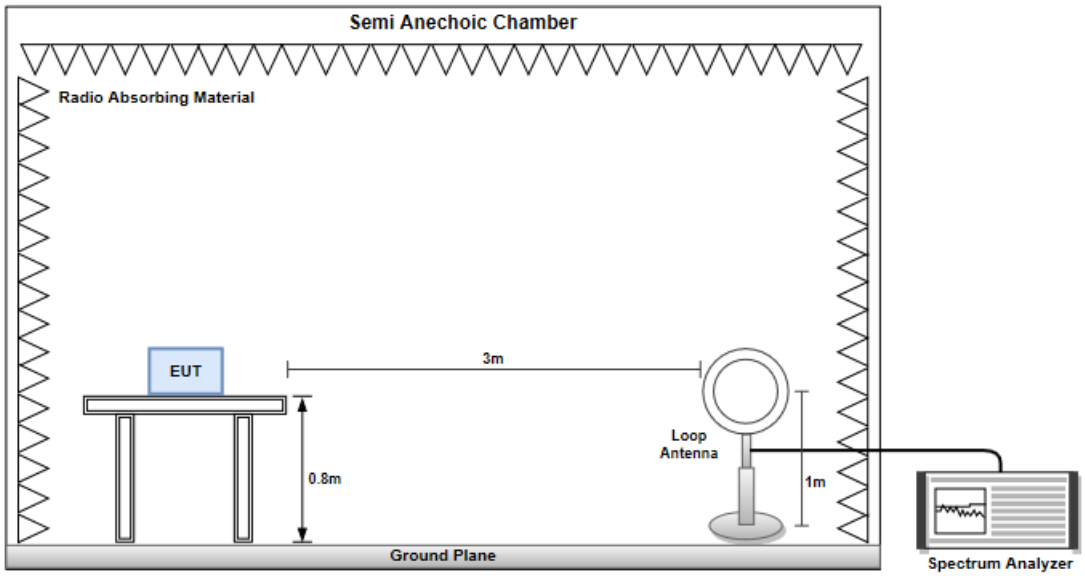
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at a height of 0.8 m test table above the ground plane.
2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
3. This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

Note:

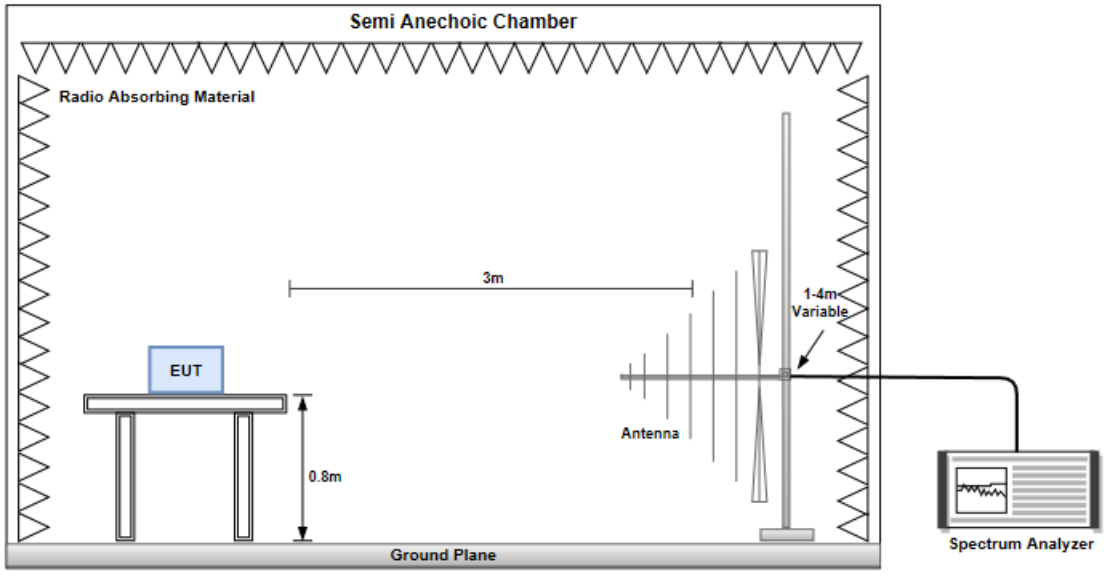
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.

### 3.3.3 Test Setup

**Radiated Emissions below 30MHz**




**Radiated Emissions below 1 GHz**



***Test Configuration 1: Battery mode***

## 3.3.4 Transmitter Radiated Unwanted Emissions (9kHz ~ 30MHz)

| **Ambient Condition** | 24°C / 64% | **Tested By** | Akun Chung |
|---|---|---|---|

| **Polarization** | | Loop Open | | | | | |
|---|---|---|---|---|---|---|---|
| **Frequency (MHz)** | | **Emission Level dBuV/m** | **Limit (dBuV/m)** | **Margin (dB)** | **SA Reading (dBuV/m)** | **Factor** | **Remark** |
| 1 | 7.26 | 34.88 | 56.36 | -21.48 | 12.93 | 21.95 | QP |
| 2 | 10.579 | 41.20 | 53.09 | -11.89 | 18.21 | 22.99 | QP |
| 3 | 21.05 | 33.15 | 49.54 | -16.39 | 11.50 | 21.65 | QP |

| **Polarization** | | Loop Close | | | | | |
|---|---|---|---|---|---|---|---|
| **Frequency (MHz)** | | **Emission Level dBuV/m** | **Limit (dBuV/m)** | **Margin (dB)** | **SA Reading (dBuV/m)** | **Factor** | **Remark** |
| 1 | 7.23 | 34.58 | 56.40 | -21.82 | 12.64 | 21.94 | QP |
| 2 | 10.579 | 37.67 | 53.09 | -15.42 | 14.68 | 22.99 | QP |
| 3 | 21.22 | 33.44 | 49.54 | -16.10 | 11.84 | 21.60 | QP |

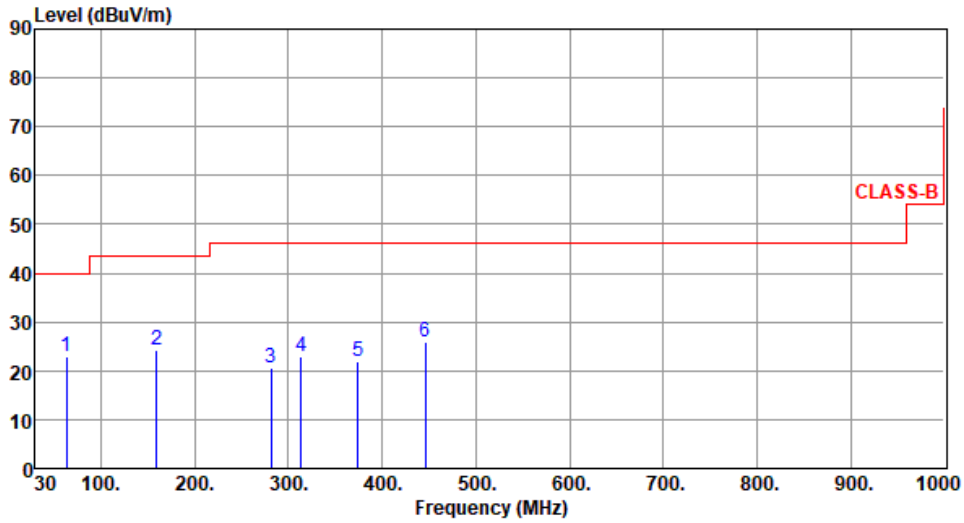
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB).
*Factor includes antenna factor and cable loss.
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

***Test Configuration 1: Battery mode***

## 3.3.5 Transmitter Radiated Unwanted Emissions (Above 30MHz)

| **Polarization** | Horizontal | **Test Freq. (MHz)** | 10.579 |
|---|---|---|---|

Test By :Akun Chung Temperature(℃):25 Humidity(%):65

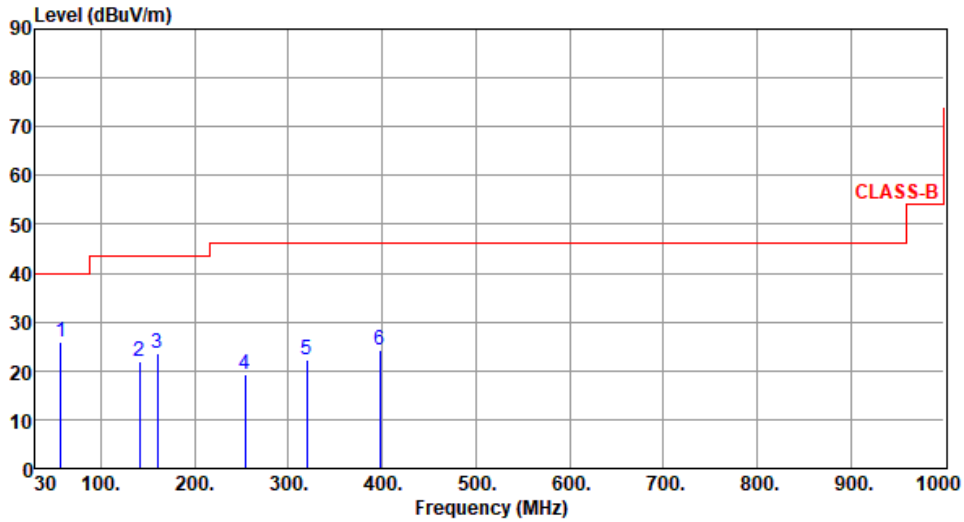



| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 63.25 | 22.85 | 40.00 | -17.15 | 32.43 | -9.58 | Peak | --- | --- |
| 2 | 159.21 | 24.25 | 43.50 | -19.25 | 32.97 | -8.72 | Peak | --- | --- |
| 3 | 281.25 | 20.63 | 46.00 | -25.37 | 29.53 | -8.90 | Peak | --- | --- |
| 4 | 313.58 | 22.83 | 46.00 | -23.17 | 30.87 | -8.04 | Peak | --- | --- |
| 5 | 374.26 | 22.02 | 46.00 | -23.98 | 28.53 | -6.51 | Peak | --- | --- |
| 6 | 445.85 | 25.87 | 46.00 | -20.13 | 29.88 | -4.01 | Peak | --- | --- |

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m)

| Polarization | Vertical | Test Freq. (MHz) | 10.579 |
|---|---|---|---|

Test By :Akun Chung Temperature(℃):25 Humidity(%):65




| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 57.22 | 25.96 | 40.00 | -14.04 | 34.83 | -8.87 | Peak | --- | --- |
| 2 | 141.52 | 21.85 | 43.50 | -21.65 | 30.93 | -9.08 | Peak | --- | --- |
| 3 | 159.85 | 23.63 | 43.50 | -19.87 | 32.35 | -8.72 | Peak | --- | --- |
| 4 | 254.25 | 19.33 | 46.00 | -26.67 | 29.33 | -10.00 | Peak | --- | --- |
| 5 | 319.52 | 22.22 | 46.00 | -23.78 | 30.07 | -7.85 | Peak | --- | --- |
| 6 | 397.52 | 24.36 | 46.00 | -21.64 | 30.16 | -5.80 | Peak | --- | --- |

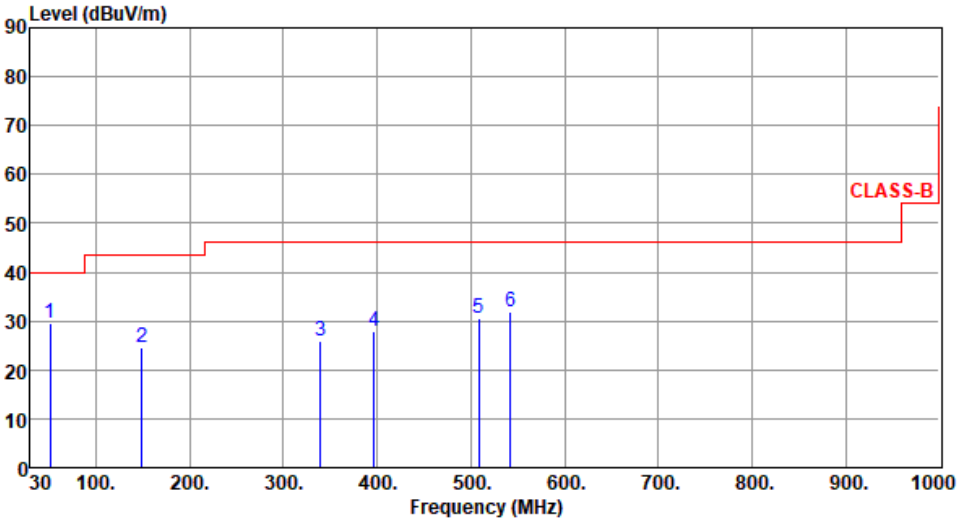
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m)

***Test Configuration 2: Charging mode***

## 3.3.6 Transmitter Radiated Unwanted Emissions (Above 30MHz)

| Polarization | Horizontal | Test Freq. (MHz) | 10.579 |
|---|---|---|---|

Test By :BRAD WU Temperature(℃):24 Humidity(%):63

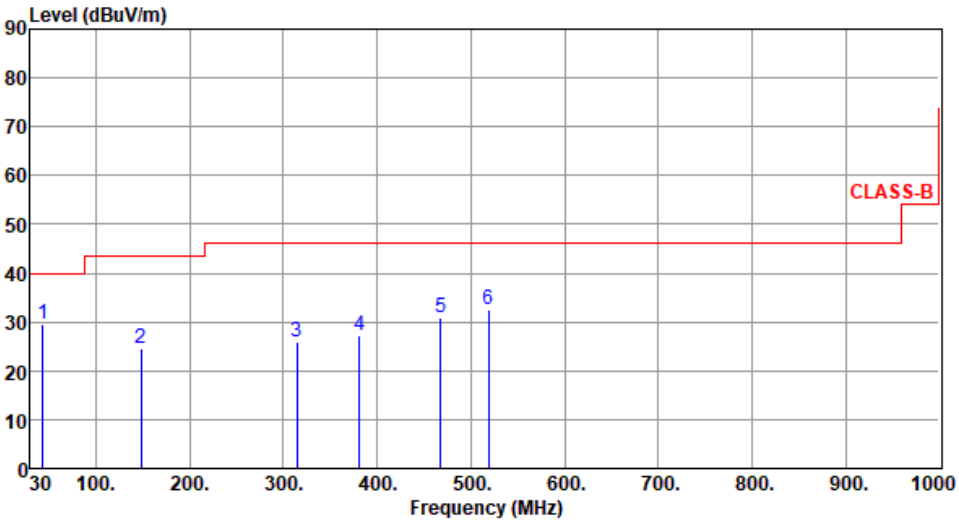



| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 51.34 | 29.71 | 40.00 | -10.29 | 38.51 | -8.80 | Peak | --- | --- |
| 2 | 149.31 | 24.52 | 43.50 | -18.98 | 33.30 | -8.78 | Peak | --- | --- |
| 3 | 339.43 | 25.85 | 46.00 | -20.15 | 33.10 | -7.25 | Peak | --- | --- |
| 4 | 396.66 | 27.90 | 46.00 | -18.10 | 33.74 | -5.84 | Peak | --- | --- |
| 5 | 508.21 | 30.53 | 46.00 | -15.47 | 33.55 | -3.02 | Peak | --- | --- |
| 6 | 542.16 | 31.77 | 46.00 | -14.23 | 34.43 | -2.66 | Peak | --- | --- |

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

| Polarization | Vertical | Test Freq. (MHz) | 10.579 |
|---|---|---|---|

Test By :BRAD WU Temperature(℃):24 Humidity(%):63




| | Freq. MHz | Emission level dBuV/m | Limit dBuV/m | Margin dB | SA reading dBuV | Factor dB | Remark | ANT High cm | Turn Table deg |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 43.58 | 29.40 | 40.00 | -10.60 | 37.98 | -8.58 | Peak | --- | --- |
| 2 | 148.34 | 24.67 | 43.50 | -18.83 | 33.49 | -8.82 | Peak | --- | --- |
| 3 | 314.21 | 25.84 | 46.00 | -20.16 | 33.84 | -8.00 | Peak | --- | --- |
| 4 | 381.14 | 27.35 | 46.00 | -18.65 | 33.60 | -6.25 | Peak | --- | --- |
| 5 | 467.47 | 30.90 | 46.00 | -15.10 | 34.64 | -3.74 | Peak | --- | --- |
| 6 | 518.88 | 32.69 | 46.00 | -13.31 | 35.44 | -2.75 | Peak | --- | --- |

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

# 4 Photographs of EUT

Please refer to Photographs of EUT, reference No. EP060501.

# 5 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corp (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website http://www.icertifi.com.tw.

| **Linkou** | **Kwei Shan** | **Kwei Shan Site II** |
|---|---|---|
| Tel: 886-2-2601-1640 | Tel: 886-3-271-8666 | Tel: 886-3-271-8640 |
| No. 30-2, Ding Fwu Tsuen, Lin Kou District, New Taipei City, Taiwan, R.O.C. | No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan District, Tao Yuan City 333, Taiwan, R.O.C. | No. 14-1, Lane 19, Wen San 3rd St., Kwei Shan District, Tao Yuan City 333, Taiwan, R.O.C. |

If you have any suggestion, please feel free to contact us as below information.

Tel: 886-3-271-8666
Fax: 886-3-318-0155
Email: ICC_Service@icertifi.com.tw

**END**