# FCC TEST REPORT
# FCC ID:2BALN-OBZ10-AC-3P32

| | |
|---|---|
| **Report Number.....:** | **ZHT-240618020E-2** |
| Date of Test.....: | June 18, 2024 to June 28, 2024 |
| Date of issue.....: | June 28, 2024 |
| Test Result ..... : | PASS |
| **Testing Laboratory.....:** | **Guangdong Zhonghan Testing Technology Co., Ltd** |
| Address ..... : | Room 104, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China |
| **Applicant's name .....:** | **Shenzhen Feyree Technology Co., Ltd** |
| Address ..... : | 2 buildings A seat The second floor 201, Hisense industrial park in, Saxo road no. 2, South bay street, Longgang District, Shenzhen |
| **Manufacturer's name .....:** | **Shenzhen Feyree Technology Co., Ltd** |
| Address ..... : | 2 buildings A seat The second floor 201, Hisense industrial park in, Saxo road no. 2, South bay street, Longgang District, Shenzhen |
| Standard.....: | FCC CFR Title 47 Part 15 Subpart C Section 15.225<br>ANSI C63.10:2013 |

This device described above has been tested by ZHT, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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| | |
|---|---|
| **Product name.....:** | **EV Charger station** |
| Trademark .....: | 菲尔雷® feyree® feyree |
| Model/Type reference..... : | F-OBZ10-AC-3P32,<br>F-OBZ10-AC-1P32, F-OBZ10-AC-3P16, F-GBZ10-AC-1P32, F-GBZ10-AC-3P16, F-GBZ10-AC-3P32, F-MBZ10-AC-1P32, F-MBZ10-AC-1P40, F-MBZ10-AC-1P50, F-TSZ10-AC-1P32, F-TSZ10-AC-1P40, F-TSZ10-AC-1P50 |
| Model Difference.....: | F-OBZ10-AC-3P32 is tested model, other models are derivative models .The models are identical in circuit and product material and RF Chip and PCB Layout and Components and appearance and antenna, Only the model name differ, So the test data of F-OBZ10-AC-3P32 can represent the remaining models. |
| Ratings..... : | Input: 100 - 240 V~, 50 / 60 Hz, 32 A<br>Output: 100 - 240V~, 50 / 60Hz, 16 / 32A<br>/ Input: 400 V~, 50 / 60 Hz<br>Output: 400 V~, 50 / 60 Hz, 16 / 32 A |

**Testing procedure and testing location:**

| | |
|---|---|
| **Testing Laboratory.....:** | **Guangdong Zhonghan Testing Technology Co., Ltd** |
| Address.....: | Room 104, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China |
| Tested by (name + signature).....: | Kevin Yang |
| Reviewer (name + signature).....: | Baret Wu |
| Approved (name + signature).....: | Levi Lee |

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## 1.VERSION

| Report No. | Version | Description | Approved |
|---|---|---|---|
| ZHT-23081014E | Rev.01 | Initial issue of report | June 28, 2024 |
| | | | |

## 2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

| FCC Part15 (15.225) , Subpart C | | | |
|---|---|---|---|
| Standard Section | Test Item | Judgment | Remark |
| FCC part 15.203 | Antenna requirement | PASS | |
| FCC part 15.207 | AC Power Line Conducted Emission | PASS | |
| FCC part 15.225(a)(b)(c)(d) | Fundamental &Radiated Spurious Emission Measurement | PASS | |
| FCC part 15.215 | Channel Bandwidth | PASS | |
| FCC part 15.225(e) | Frequency Tolerance | PASS | |

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report

## 2.1 TEST FACILITY

Guangdong Zhonghan Testing Technology Co., Ltd.
Add. : Room 104, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District Shenzhen, Guangdong, China

FCC Registration Number:255941
Designation Number: CN0325
IC Registered No.: 29832
CAB identifier: CN0143

## 2.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement y ± U · where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2 · providing a level of confidence of approximately 95 %。

| No. | Item | Uncertainty |
|---|---|---|
| 1 | Conducted Emission Test | ±1.38dB |
| 2 | RF power conducted | ±0.16dB |
| 3 | Spurious emissions conducted | ±0.21dB |
| 4 | All emissions radiated(9k-30MHz) | ±4.68dB |
| 5 | All emissions radiated(<1G) | ±4.68dB |
| 6 | All emissions radiated(>1G) | ±4.89dB |
| 7 | Temperature | ±0.5°C |
| 8 | Humidity | ±2% |
| 9 | Occupied Bandwidth | ±4.96% |

## 3. GENERAL INFORMATION

### 3.1 GENERAL DESCRIPTION OF EUT

| | |
|---|---|
| Product Name: | EV Charger station |
| Test Model No.: | F-OBZ10-AC-3P32 |
| Hardware Version: | V1.0 |
| Software Version: | V1.0 |
| Sample(s) Status: | Engineer sample |
| Operation Frequency: | 13.56MHz |
| Channel Numbers: | 1 |
| Channel Separation: | N/A |
| Modulation Type: | ASK |
| Antenna Type: | PCB antenna |
| Antenna gain: | 0dBi |

## 3.2 DESCRIPTION OF TEST MODES

| | |
|---|---|
| Transmitting mode | Keep the EUT in continuously transmitting NFC mode |
| Remark: EUT use new battery during the test, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data. | |

## 3.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

EUT

## 3.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

| Item | Equipment | Mfr/Brand | Model/Type No. | Series No. | Note |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

| Item | Shielded Type | Ferrite Core | Length | Note |
|---|---|---|---|---|
| | | | | |
| | | | | |

Note:

(1) The support equipment was authorized by Declaration of Confirmation.

(2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

## 3.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

| Item | Equipment | Manufacturer | Model | Last Cal. | Next Cal. |
|---|---|---|---|---|---|
| 1 | Receiver | R&S | ESCI | May 10, 2024 | May 09, 2025 |
| 2 | Loop antenna | EMCI | LAP600 | May 10, 2024 | May 09, 2025 |
| 3 | Amplifier | Schwarzbeck | BBV 9743 B | May 10, 2024 | May 09, 2025 |
| 4 | Amplifier | Schwarzbeck | BBV 9718 B | May 10, 2024 | May 09, 2025 |
| 5 | Bilog Antenna | Schwarzbeck | VULB9168 | Aug. 04, 2023 | Aug. 03, 2024 |
| 6 | Horn Antenna | Schwarzbeck | BBHA9120D | May 16, 2024 | May 15, 2025 |
| 7 | Horn Antenna | A.H.SYSTEMS | SAS574 | May 10, 2024 | May 09, 2025 |
| 8 | Amplifier | AEROFLEX | 100KHz-40GHz | May 10, 2024 | May 09, 2025 |
| 9 | Spectrum Analyzer | R&S | FSV40 | May 10, 2024 | May 09, 2025 |
| 10 | 966 Anechoic Chamber | EMToni | 9m6m6m | May 10, 2024 | May 09, 2025 |
| 11 | Spectrum Analyzer | KEYSIGHT | N9020A | May 10, 2024 | May 09, 2025 |
| 12 | WIDBAND RADIO COMMUNICATI ON TESTER | R&S | CMW500 | May 10, 2024 | May 09, 2025 |
| 13 | Single Generator | Agilent | N5182A | May 10, 2024 | May 09, 2025 |
| 14 | Power Sensor | MWRFtest | MW100-RFCB | May 10, 2024 | May 09, 2025 |
| 15 | Audio analyzer | R&S | UPL | May 10, 2024 | May 09, 2025 |
| 16 | Single Generator | R&S | SMB100A | May 10, 2024 | May 09, 2025 |
| 17 | Power Amplifier Shielding Room | EMToni | 2m3m3m | Nov. 25, 2021 | Nov. 24, 2024 |

Conduction Test equipment

| Equipment | Manufacturer | Model | Last Cal. | Next Cal. |
|---|---|---|---|---|
| Receiver | R&S | ESCI | May 10, 2024 | May 09, 2025 |
| LISN | R&S | ENV216 | May 10, 2024 | May 09, 2025 |
| ISN CAT 6 | Schwarzbeck | NTFM 8158 | May 10, 2024 | May 09, 2025 |
| ISN CAT 5 | Schwarzbeck | CAT5 8158 | May 10, 2024 | May 09, 2025 |
| Capacitive Voltage Probe | Schwarzbeck | CVP 9222 C | May 10, 2024 | May 09, 2025 |
| Current Transformer Clamp | Schwarzbeck | SW 9605 | May 10, 2024 | May 09, 2025 |
| CE Shielding Room | EMToni | 9m4m3m | Nov. 25, 2021 | Nov. 24, 2024 |

## 4. EMC EMISSION TEST

### 4.1 CONDUCTED EMISSION MEASUREMENT

| | |
|---|---|
| Test Requirement: | FCC Part15 C Section 15.207 |
| Test Method: | ANSI C63.10:2013 |
| Test Frequency Range: | 150KHz to 30MHz |
| Receiver setup: | RBW=9KHz, VBW=30KHz, Sweep time=auto |

#### 4.1.1 POWER LINE CONDUCTED EMISSION Limits

| FREQUENCY (MHz) | Limit (dBuV) | | Standard |
|---|---|---|---|
| | Quas-peak | Average | |
| 0.15 -0.5 | 66 - 56 * | 56 - 46 * | FCC |
| 0.50 -5.0 | 56.00 | 46.00 | FCC |
| 5.0 -30.0 | 60.00 | 50.00 | FCC |

Note:

(1) *Decreases with the logarithm of the frequency.

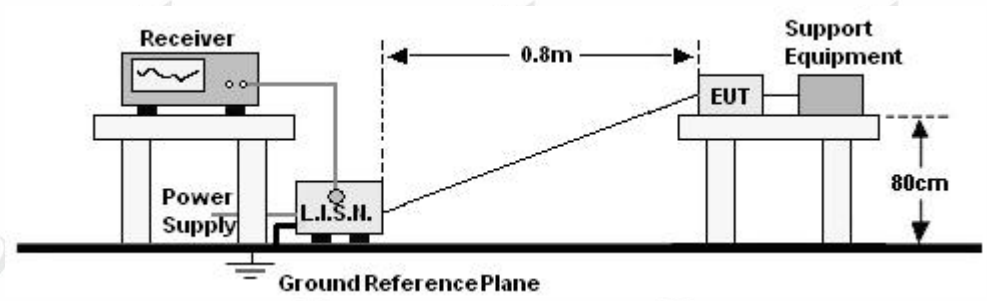
#### 4.1.2 TEST PROCEDURE

a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN at least 80 cm from nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

#### 4.1.3 DEVIATION FROM TEST STANDARD

No deviation

4.1.4 TEST SETUP

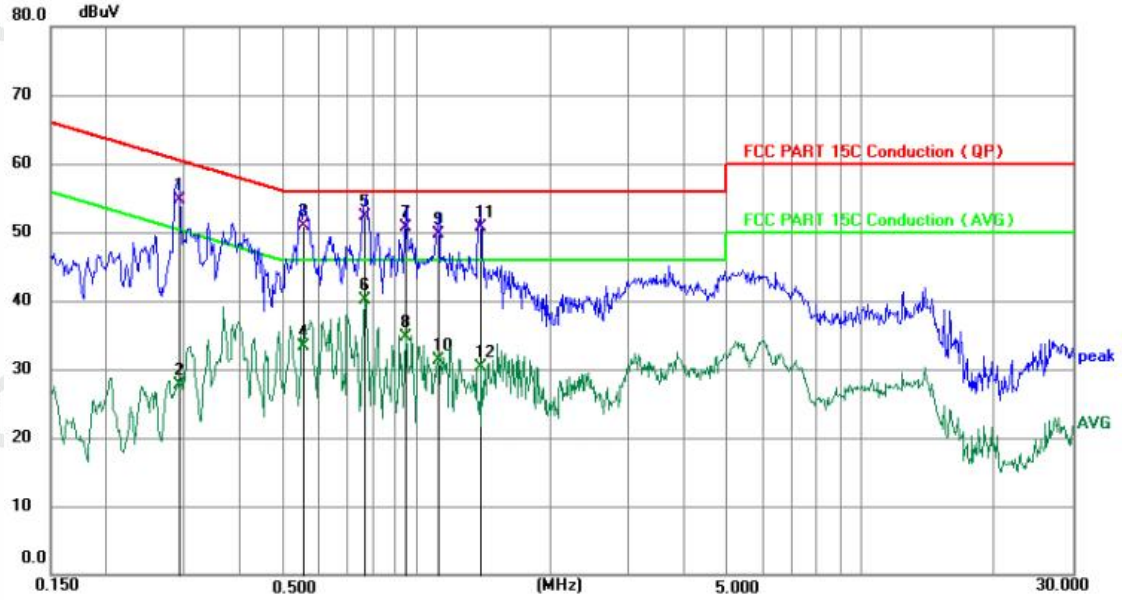



4.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

4.1.6 TEST RESULTS

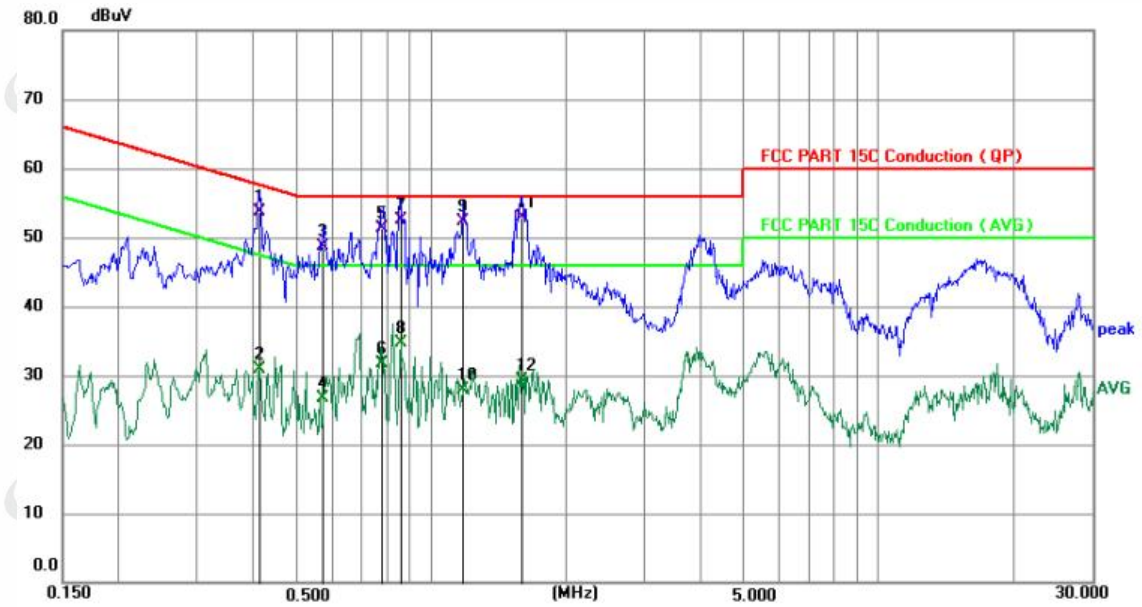
| | | | |
|---|---|---|---|
| Temperature: | 25.1℃ | Relative Humidity : | 50% |
| Pressure: | 101kPa | Phase : | L |
| Test Voltage: | AC 120 V/ 60 Hz | | |




| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 0.2923 | 45.06 | 9.60 | 54.66 | 60.46 | -5.80 | QP |
| 2 | 0.2923 | 18.14 | 9.60 | 27.74 | 50.46 | -22.72 | AVG |
| 3 | 0.5550 | 41.30 | 9.70 | 51.00 | 56.00 | -5.00 | QP |
| 4 | 0.5550 | 23.55 | 9.70 | 33.25 | 46.00 | -12.75 | AVG |
| 5 * | 0.7669 | 42.52 | 9.72 | 52.24 | 56.00 | -3.76 | QP |
| 6 | 0.7669 | 30.39 | 9.72 | 40.11 | 46.00 | -5.89 | AVG |
| 7 | 0.9465 | 40.91 | 9.74 | 50.65 | 56.00 | -5.35 | QP |
| 8 | 0.9465 | 24.98 | 9.74 | 34.72 | 46.00 | -11.28 | AVG |
| 9 | 1.1170 | 39.93 | 9.74 | 49.67 | 56.00 | -6.33 | QP |
| 10 | 1.1170 | 21.48 | 9.74 | 31.22 | 46.00 | -14.78 | AVG |
| 11 | 1.3965 | 40.95 | 9.76 | 50.71 | 56.00 | -5.29 | QP |
| 12 | 1.3965 | 20.51 | 9.76 | 30.27 | 46.00 | -15.73 | AVG |

Notes:
1.An initial pre-scan was performed on the line and neutral lines with peak detector.
2.Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission
3.Mesurement Level = Reading level + Correct Factor

| | | | |
|---|---|---|---|
| Temperature: | 25.1℃ | Relative Humidity : | 50% |
| Pressure: | 101kPa | Phase : | N |
| Test Voltage: | AC 120 V/ 60 Hz | | |




| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 0.4110 | 44.03 | 9.65 | 53.68 | 57.63 | -3.95 | QP |
| 2 | 0.4110 | 21.22 | 9.65 | 30.87 | 47.63 | -16.76 | AVG |
| 3 | 0.5730 | 38.91 | 9.70 | 48.61 | 56.00 | -7.39 | QP |
| 4 | 0.5730 | 17.09 | 9.70 | 26.79 | 46.00 | -19.21 | AVG |
| 5 | 0.7799 | 41.58 | 9.71 | 51.29 | 56.00 | -4.71 | QP |
| 6 | 0.7799 | 21.98 | 9.71 | 31.69 | 46.00 | -14.31 | AVG |
| 7 | 0.8565 | 42.85 | 9.72 | 52.57 | 56.00 | -3.43 | QP |
| 8 | 0.8565 | 25.05 | 9.72 | 34.77 | 46.00 | -11.23 | AVG |
| 9 | 1.1805 | 42.61 | 9.73 | 52.34 | 56.00 | -3.66 | QP |
| 10 | 1.1805 | 18.12 | 9.73 | 27.85 | 46.00 | -18.15 | AVG |
| 11 * | 1.5990 | 43.20 | 9.75 | 52.95 | 56.00 | -3.05 | QP |
| 12 | 1.5990 | 19.64 | 9.75 | 29.39 | 46.00 | -16.61 | AVG |

Notes:
1.An initial pre-scan was performed on the line and neutral lines with peak detector.
2.Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3.Mesurement Level = Reading level + Correct Factor

## 4.2 RADIATED EMISSION MEASUREMENT

| | |
|---|---|
| Test Requirement: | FCC Part15 C Section 15.209 |
| Test Method: | ANSI C63.10:2013 |
| Test Frequency Range: | 9kHz to 1GHz |
| Test site: | Measurement Distance: 3m |
| Receiver setup: | |

| Frequency | Detector | RBW | VBW | Value |
|---|---|---|---|---|
| 9KHz-150KHz | Quasi-peak | 200Hz | 600Hz | Quasi-peak |
| 150KHz-30MHz | Quasi-peak | 9KHz | 30KHz | Quasi-peak |
| 30MHz-1GHz | Quasi-peak | 100KHz | 300KHz | Quasi-peak |
| Above 1GHz | Peak | 1MHz | 3MHz | Peak |
| | Peak | 1MHz | 10Hz | Average |

Note: According to § 15.209, the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

### 4.2.1 RADIATED EMISSION LIMITS

| Frequencies (MHz) | Field Strength (micorvolts/meter) | Measurement Distance (meters) |
|---|---|---|
| 0.009~0.490 | 2400/F(KHz) | 300 |
| 0.490~1.705 | 24000/F(KHz) | 30 |
| 1.705~30.0 | 30 | 30 |
| 30~88 | 100 | 3 |
| 88~216 | 150 | 3 |
| 216~960 | 200 | 3 |
| Above 960 | 500 | 3 |

Field Strength of Fundamental Limit:
a. The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters. 15,848 microvolts/meter at 3 meters=124 dBuV/m.
b. Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters. 334 microvolts/meter at 3 meters=90.47 dBuV/m.

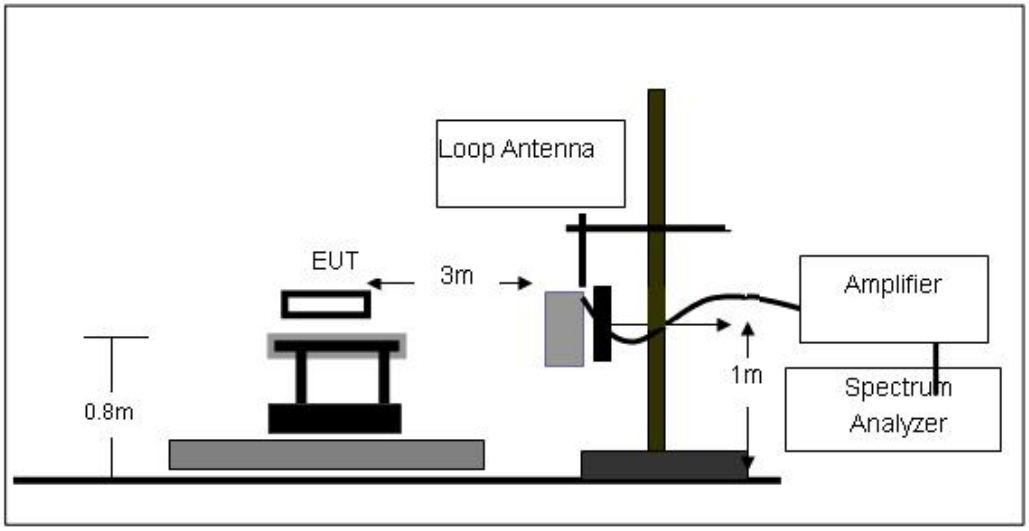
### 4.2.2 TEST PROCEDURE

a. The measuring distance of at 3 m shall be used for measurements at frequency up to 25GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-chamber test. The table was rotated 360 degrees to determine the position of the highest radiation.
c. The height of the equipment or of the substitution antenna shall be 0.8m; above 1GHz, the height was 1.5m, the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

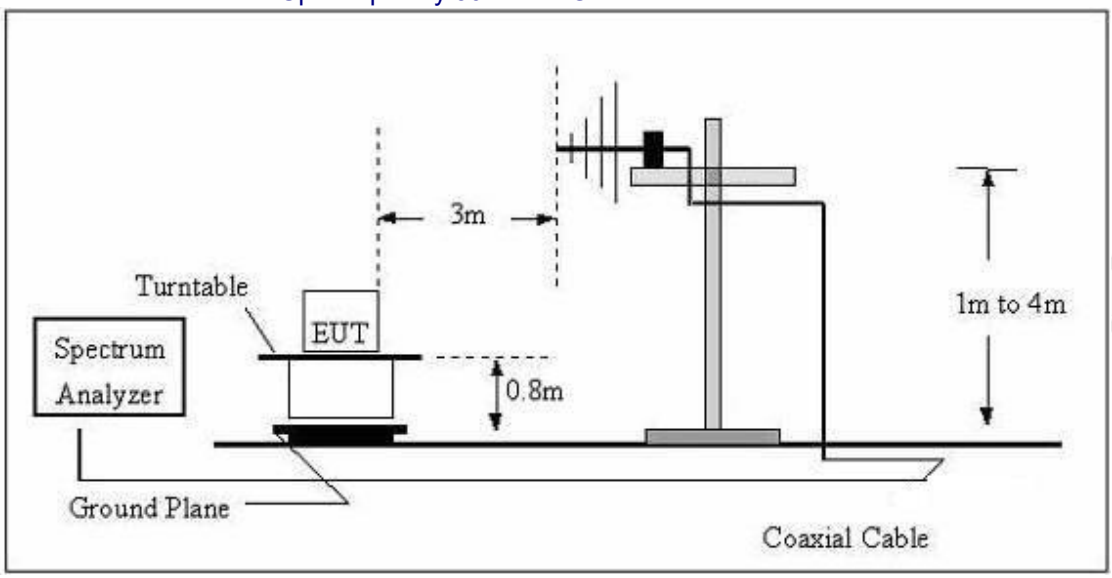
d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
f. For the actual test configuration, please refer to the related Item –EUT Test Photos.
g. For the radiated emission test above 1GHz:
Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response.
The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
Note:
Both horizontal and vertical antenna polarities were tested
and performed pretest to three orthogonal axis. The worst case emissions were reported

4.2.3 DEVIATION FROM TEST STANDARD
No deviation

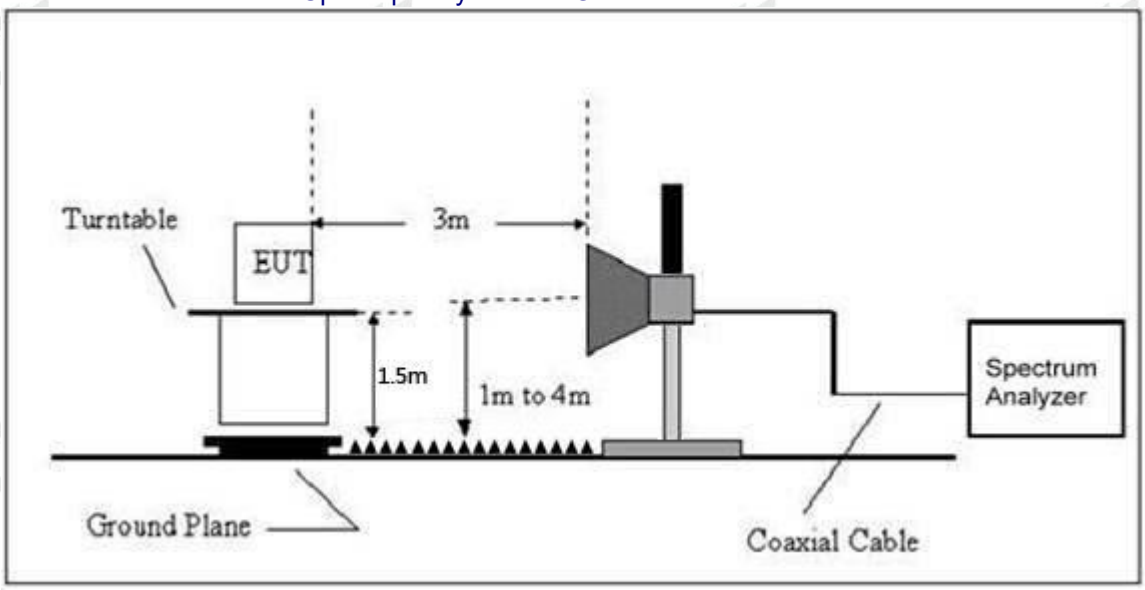
4.2.4 TEST SETUP
（A）Radiated Emission Test-Up Frequency Below 30MHz



（B）Radiated Emission Test-Up Frequency 30MHz~1GHz




（C）Radiated Emission Test-Up Frequency Above 1GHz




4.2.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

4.2.6 TEST RESULTS

Field Strength of Fundamental

| Frequency (MHz) | Reading (dBuV/m) | Correction Factor(dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Polar (H/V) | Detector |
|---|---|---|---|---|---|---|---|
| 13.462 | 56.53 | 15.82 | 72.35 | 90.47 | -18.12 | H | QP |
| 13.462 | 57.28 | 15.82 | 73.1 | 90.47 | -17.37 | V | QP |
| 13.551 | 53.80 | 15.61 | 69.41 | 90.47 | -21.06 | H | QP |
| 13.551 | 57.09 | 15.61 | 72.7 | 90.47 | -17.77 | V | QP |
| 13.56 | 90.14 | 12.33 | 102.47 | 124 | -21.53 | H | Peak |
| 13.56 | 92.76 | 12.33 | 105.09 | 124 | -18.91 | V | Peak |
| 13.564 | 56.72 | 12.33 | 69.05 | 90.47 | -21.42 | H | QP |
| 13.564 | 58.17 | 12.33 | 70.5 | 90.47 | -19.97 | V | QP |
| 13.652 | 54.68 | 15.82 | 70.5 | 90.47 | -19.97 | H | QP |
| 13.652 | 58.16 | 15.82 | 73.98 | 90.47 | -16.49 | V | QP |

Between 9KHz – 30 MHz

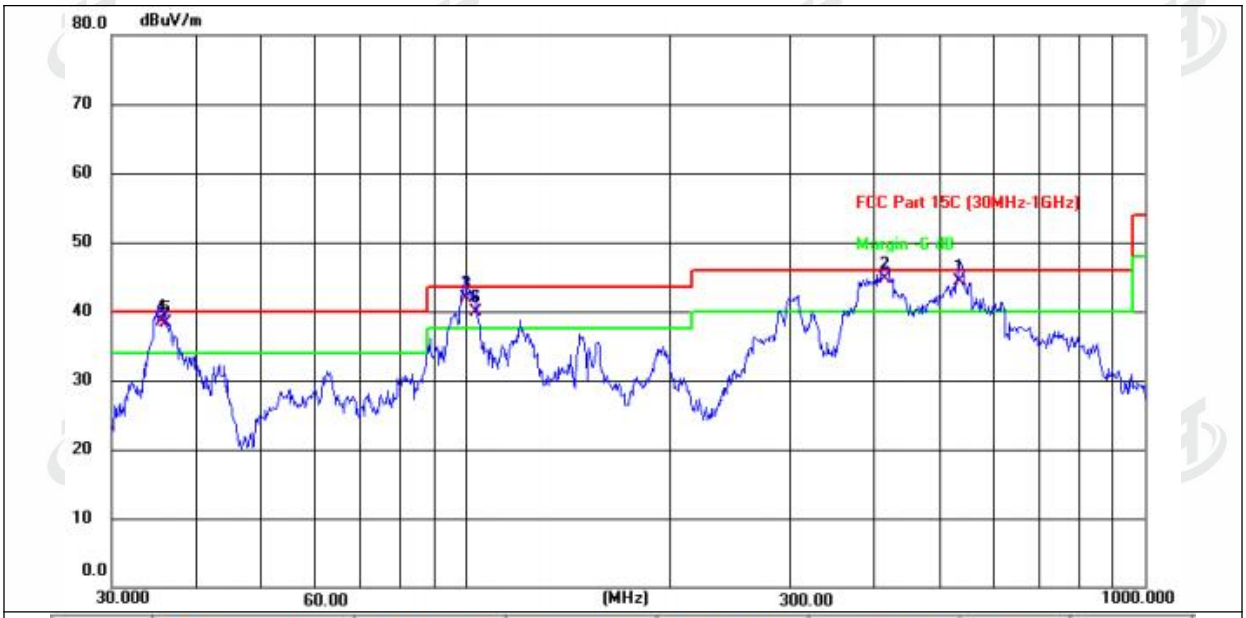
Note: Limit dBuV/m @3m = Limit dBuV/m @300m+ 80
Limit dBuV/m @3m = Limit dBuV/m @30m + 40
9 kHz~30 MHz

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (kHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 40.12 | 55.51 | 15.15 | 70.66 | 115.76 | -45.1 | AVG |
| 85.21 | 51.54 | 15.2 | 66.74 | 108.75 | -42.01 | AVG |
| 301.18 | 52.83 | 16.33 | 69.16 | 97.94 | -28.78 | AVG |
| 1258.53 | 33.25 | 16.87 | 50.12 | 65.4 | -15.28 | QP |
| 2423.28 | 26.38 | 17.62 | 44 | 69.54 | -25.54 | QP |
| 4819.11 | 23.26 | 18.32 | 41.58 | 69.54 | -27.96 | QP |
| 6313.34 | 21.88 | 18.64 | 40.52 | 69.54 | -29.02 | QP |
| 8365.51 | 17.94 | 19.26 | 37.2 | 69.54 | -32.34 | QP |
| 12558.38 | 18.38 | 19.32 | 37.7 | 69.54 | -31.84 | QP |

Note:
Pre-scan in the all of mode, the worst case in of was recorded.
Factor = antenna factor + cable loss – pre-amplifier.
Margin = Emission Level- Limit.

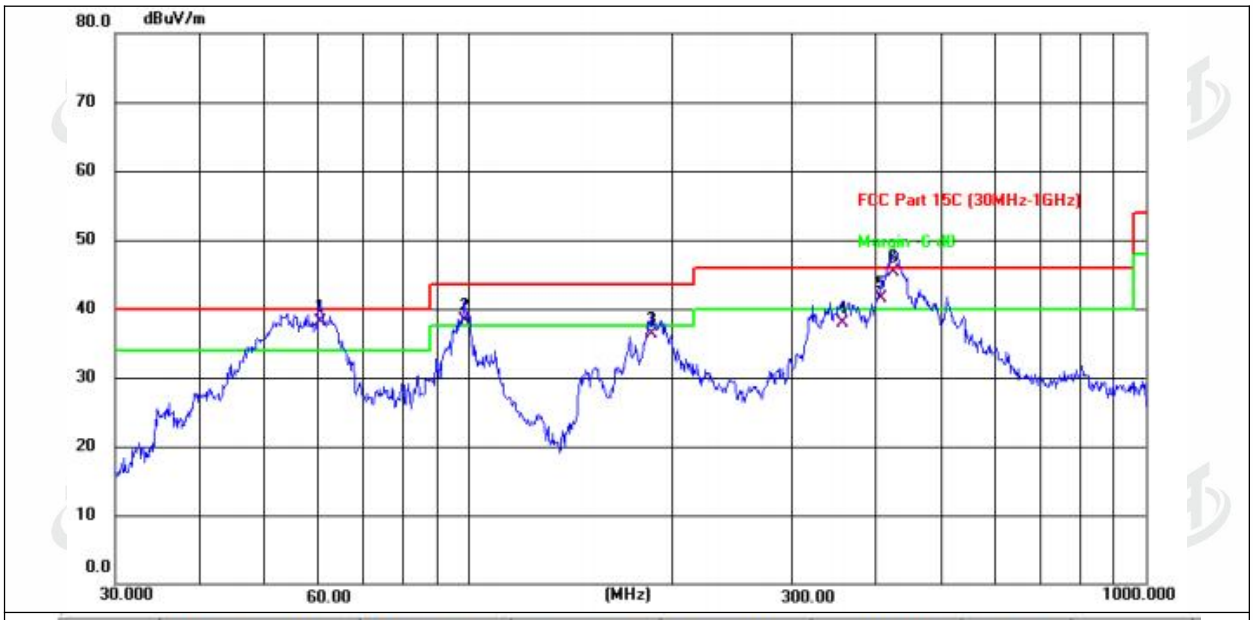
Between 30MHz – 1GHz

| | | | |
|---|---|---|---|
| Temperature : | 25.1℃ | Relative Humidity : | 50% |
| Pressure : | 101kPa | Polarization : | Horizontal |
| Test Voltage : | AC 120V | | |




| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 ! | 533.8320 | 47.65 | -3.37 | 44.28 | 46.00 | -1.72 | QP |
| 2 * | 414.7223 | 50.06 | -5.41 | 44.65 | 46.00 | -1.35 | QP |
| 3 ! | 99.8777 | 52.70 | -10.85 | 41.85 | 43.50 | -1.65 | QP |
| 4 ! | 35.4992 | 48.82 | -10.29 | 38.53 | 40.00 | -1.47 | QP |
| 5 ! | 36.0007 | 48.47 | -10.21 | 38.26 | 40.00 | -1.74 | QP |
| 6 ! | 103.0800 | 51.13 | -11.14 | 39.99 | 43.50 | -3.51 | QP |

| | | | |
|---|---|---|---|
| Temperature : | 25.1℃ | Relative Humidity : | 50% |
| Pressure : | 101kPa | Polarization : | Vertical |
| Test Voltage : | AC 120V | | |




| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 ! | 60.2800 | 48.06 | -9.91 | 38.15 | 40.00 | -1.85 | QP |
| 2 ! | 98.4865 | 49.35 | -11.07 | 38.28 | 43.50 | -5.22 | QP |
| 3 | 185.7880 | 48.05 | -11.81 | 36.24 | 43.50 | -7.26 | QP |
| 4 | 356.6757 | 44.64 | -6.65 | 37.99 | 46.00 | -8.01 | QP |
| 5 ! | 406.0880 | 47.02 | -5.56 | 41.46 | 46.00 | -4.54 | QP |
| 6 * | 423.5402 | 50.51 | -5.26 | 45.25 | 46.00 | -0.75 | QP |

Remarks:
1.Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2.The emission levels of other frequencies are very lower than the limit and not show in test report.

## 5. FREQUENCY TOLERANCE

| | |
|---|---|
| Test Requirement: | FCC Part15 C Section 15.225(e) |
| Test Method: | ANSI C63.10:2013 |

### 5.1 LIMIT

The frequency tolerance of the carrier signal shall be maintained within ±0.01% of the operating frequency over a temperature variation of −20 degrees to + 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment,
the equipment tests shall be performed using a new battery.

Limit: ±0.01% of 13.56MHz=±1356Hz

### 5.2 TEST PROCEDURE

1. Set RBW = 10 kHz.
2. Set the video bandwidth (VBW) ≥RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. The transmitter output (antenna port) was connected to the spectrum analyzer.

### 5.3 DEVIATION FROM TEST STANDARD
No deviation

### 5.4 TEST SETUP

### 5.5 TEST RESULT

| Test Conditions | | | Frequency Deviation | | Limit |
|---|---|---|---|---|---|
| Frequency MHz | Power(Vdc) | Temperature (℃) | Measured Freq. (MHz) | Deviation (%) | |
| 13.56 | Normal | -20 | 13.56180 | 0.013274 | ±0.01% |
| | Normal | -10 | 13.56164 | 0.012094 | |
| | Normal | 0 | 13.56172 | 0.012684 | |
| | Normal | 10 | 13.56180 | 0.013274 | |
| | Normal | 20 | 13.56151 | 0.011136 | |
| | Normal | 30 | 13.56168 | 0.012389 | |
| | Normal | 40 | 13.56173 | 0.012758 | |
| | Normal | 50 | 13.56183 | 0.013496 | |
| | Normal*85% | 20 | 13.56165 | 0.012168 | |
| | Normal *115% | 20 | 13.56167 | 0.012316 | |

## 6. CHANNEL BANDWIDTH

| | |
|---|---|
| Test Requirement: | FCC Part15 C Section 15.215 |
| Test Method: | ANSI C63.10: 2013 |

### 6.1 APPLIED PROCEDURES / LIMIT

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§15.217 through 15.257 and in subpart E of this part, must be designed to ensure that 20dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equip compliance with the 20dB attenuation specification may base on measurement at the intentional radiator's antenna output terminal unless the intentional radiator uses a permanently attached antenna, in which case compliance shall be deomonstrated by measuring the radiated emissions.

### 6.2 TEST PROCEDURE

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

### 6.3 DEVIATION FROM STANDARD

No deviation.

### 6.4 TEST SETUP

### 6.5 EUT OPERATION CONDITIONS

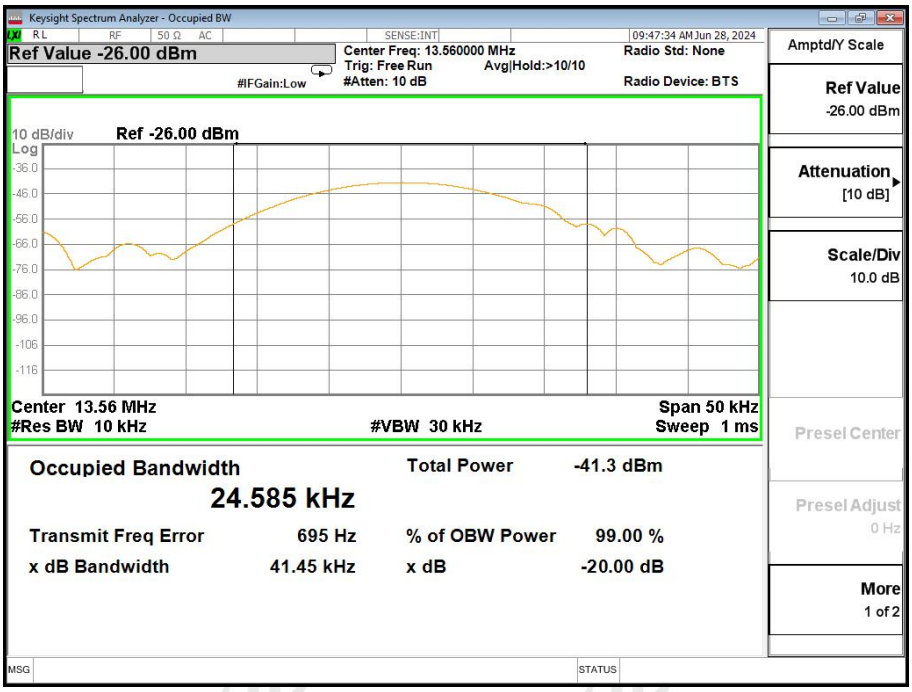
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

## 6.6 TEST RESULT

| | | | |
|---|---|---|---|
| Temperature： | 25.8℃ | Relative Humidity： | 52% |
| Test Mode ： | ASK | Test Voltage ： | AC 120V |

| Test channel | 20dB Channel Bandwidth (KHz) | Result |
|---|---|---|
| 1 | 41.45 | Pass |

CH 01



## 7.ANTENNA REQUIREMENT

| Standard requirement: | FCC Part15 C Section 15.203 |
|---|---|
| 15.203 requirement:<br>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. | |
| EUT Antenna: | |
| The antennas is PCB antenna, the best case gain of the antennas is 0dBi, reference to the appendix II for details | |

## 8. TEST SETUP PHOTO

Reference to the appendix I for details.

## 9. EUT CONSTRUCTIONAL DETAILS

Reference to the appendix II for details.

**※※※※※ END OF REPORT ※※※※※**