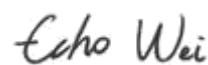


TEST REPORT

| | | |
|-------------------------------------|---|---|
| Report No..... | CHTEW21040109 | Report Verification: |
| Project No..... | SHT2101077005EW |  Report ID: CHTEW21040109 |
| FCC ID | 2APPUD21000 | |
| Applicant's name | A Beep, LLC | |
| Address..... | 710 W JEFFERSON ST, Joliet, IL, 60435, United States | |
| Test item description | Digital Mobile Radio | |
| Trade Mark |  | |
| Model/Type reference..... | D2-1000U | |
| Listed Model(s) | - | |
| Standard | FCC CFR Title 47 Part 15 Subpart B | |
| Date of receipt of test sample..... | Feb.20, 2021 | |
| Date of testing..... | Feb.20, 2021- Apr.20, 2021 | |
| Date of issue..... | Apr.21, 2021 | |
| Result..... | PASS | |

Compiled by
(position+printed name+signature)..
File administrators Echo Wei



Supervised by
(position+printed name+signature)..
Project Engineer Aaron Fang



Approved by
(position+printed name+signature)..
RF Manager Hans Hu



Testing Laboratory Name

Shenzhen Huatongwei International Inspection Co., Ltd.

Address.....

1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao,
Gongming, Shenzhen, China

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The test report merely corresponds to the test sample.

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1. TEST STANDARDS AND REPORT VERSION

1.1. Test Standards

The tests were performed according to following standards:

[FCC CFR Title 47 Part 15 Subpart B](#) - Unintentional Radiators

[ANSI C63.4: 2014](#) – American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40GHz

1.2. Report version

| Revision No. | Date of issue | Description |
|--------------|---------------|-------------|
| N/A | 2021-04-21 | Original |
| | | |
| | | |
| | | |
| | | |

2. TEST DESCRIPTION

| Test Item | Section in CFR 47 | Result | Test Engineer |
|---------------------|-------------------|--------|---------------|
| Conducted Emissions | 15.107(a) | N/A | N/A |
| Radiated Emissions | 15.109(a) | Pass | Jianquan Wu |

Note: The measurement uncertainty is not included in the test result.

3. **SUMMARY**

3.1. Client Information

| | |
|---------------|--|
| Applicant: | A Beep, LLC |
| Address: | 710 W JEFFERSON ST, Joliet, IL, 60435, United States |
| Manufacturer: | A Beep, LLC |
| Address: | 710 W JEFFERSON ST, Joliet, IL, 60435, United States |
| Factory: | Shenzhen HQT Science & Technology Co., Ltd. |
| Address: | Room 1705 & 1706, 17th Floor, Weisheng Technology Building, No.9966, Shennan Road, Maling Community, Yuehai Sub-district, Nanshan District, Shenzhen City, China |

3.2. Product Description

| Main unit | |
|-----------------------|---|
| Name of EUT: | Digital Mobile Radio |
| Trade Mark: |  |
| Model/Type reference: | D2-1000U |
| Listed Model(s) | - |
| Power supply: | DC 13.6V |
| Hardware version: | D2-1000CPS |
| Software version: | D2-1000U |

3.3. Radio Specification Description

| | | |
|-----------------------------|---|--|
| Support Frequency Range: | 400-480MHz | |
| Rated Output Power: | <input checked="" type="checkbox"/> High Power: 45W | <input checked="" type="checkbox"/> Low Power: 5W |
| Modulation Type: | Analog: | FM |
| | Digital : | 4FSK |
| Supported Digital Protocol: | DMR | |
| Channel Separation: | Analog: | <input checked="" type="checkbox"/> 12.5kHz <input type="checkbox"/> 25kHz |
| | Digital : | <input type="checkbox"/> 6.25kHz <input checked="" type="checkbox"/> 12.5kHz |
| Emission Designator: | Analog: | 11K0F3E |
| | Digital: | 7K60FXW, 7K60FXD |
| Support data rate: | 9.6kbps | |
| Antenna Type: | External | |

3.4. Testing Laboratory Information

| Laboratory Name | Shenzhen Huatongwei International Inspection Co., Ltd. | |
|----------------------|--|----------------------|
| Laboratory Location | 1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China | |
| Connect information: | <p>Tel: 86-755-26715499</p> <p>E-mail: cs@szhtw.com.cn</p> <p>http://www.szhtw.com.cn</p> | |
| Qualifications | Type | Accreditation Number |
| | FCC | 762235 |

4. TEST CONFIGURATION

4.1. EUT operation mode

| Test mode | Describe |
|--------------|--------------------------------|
| Receive mode | Keep the EUT in receiving mode |

Receive frequency: 481MHz.

| Test item | Pretest mode | Worse case mode |
|--------------------|--------------|-----------------|
| Radiated emissions | receive mode | receive mode |

Only show the test data for worse case mode on the test report.

4.2. Support unit used in test configuration

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

The following peripheral devices and interface cables were connected during the measurement:

| Whether support unit is used? | | | | | |
|--|-----------|------------|-----------|--------|------------|
| <input checked="" type="checkbox"/> No | | | | | |
| Item | Equipment | Trade Name | Model No. | FCC ID | Power cord |
| 1 | | | | | |
| 2 | | | | | |

4.3. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

| | |
|--------------------|-------------|
| Temperature: | 15~35°C |
| Relative Humidity: | 30~60 % |
| Air Pressure: | 950~1050mba |

4.4. Statement of the measurement uncertainty

| Test | Frequency range | Measurement uncertainty |
|-----------------------|-----------------|-------------------------|
| Radiated Emission | 30~1000MHz | 4.90 dB |
| Radiated Emission | 1~18GHz | 4.96 dB |
| Conducted Disturbance | 0.15~30MHz | 3.02 dB |

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=1.96$.

4.5. Equipments Used during the Test

| ● Radiated Emission-6th test site | | | | | | | |
|-----------------------------------|-------------------------|--------------------|---------------|--------------|------------|---------------------------|---------------------------|
| Used | Test Equipment | Manufacturer | Equipment No. | Model No. | Serial No. | Last Cal. Date (YY-MM-DD) | Next Cal. Date (YY-MM-DD) |
| ● | Semi-Anechoic Chamber | Albatross projects | HTWE0127 | SAC-3m-02 | C11121 | 2018/09/30 | 2021/09/29 |
| ● | EMI Test Receiver | R&S | HTWE0099 | ESCI | 100900 | 2020/10/19 | 2021/10/18 |
| ● | Ultra-Broadband Antenna | SCHWARZBEC K | HTWE0119 | VULB9163 | 546 | 2020/04/28 | 2023/04/27 |
| ● | Pre-Amplifier | SCHWARZBEC K | HTWE0295 | BBV 9742 | N/A | 2020/11/13 | 2021/11/12 |
| ● | RF Connection Cable | HUBER+SUHN ER | HTWE0062-01 | N/A | N/A | 2020/05/27 | 2021/05/26 |
| ● | RF Connection Cable | HUBER+SUHN ER | HTWE0062-02 | SUCOFLEX10 4 | 501184/4 | 2020/05/27 | 2021/05/26 |
| ● | Test Software | R&S | N/A | ES-K1 | N/A | N/A | N/A |

| ● Radiated emission-7th test site | | | | | | | |
|-----------------------------------|-------------------------|--------------------|---------------|-----------|------------|---------------------------|---------------------------|
| Used | Test Equipment | Manufacturer | Equipment No. | Model No. | Serial No. | Last Cal. Date (YY-MM-DD) | Next Cal. Date (YY-MM-DD) |
| ● | Semi-Anechoic Chamber | Albatross projects | HTWE0122 | SAC-3m-01 | N/A | 2018/09/27 | 2021/09/26 |
| ● | Spectrum Analyzer | R&S | HTWE0098 | FSP40 | 100597 | 2020/10/20 | 2021/10/19 |
| ● | Horn Antenna | SCHWARZBEC K | HTWE0126 | 9120D | 1011 | 2020/04/01 | 2023/03/31 |
| ● | Broadband Pre-amplifier | SCHWARZBEC K | HTWE0201 | BBV 9718 | 9718-248 | 2020/05/23 | 2021/05/22 |
| ● | RF Connection Cable | HUBER+SUHN ER | HTWE0121-01 | RE-7-FH | N/A | 2020/05/10 | 2021/05/09 |
| ● | Test Software | Audix | N/A | E3 | N/A | N/A | N/A |

5. TEST CONDITIONS AND RESULTS

5.1. Conducted Emissions

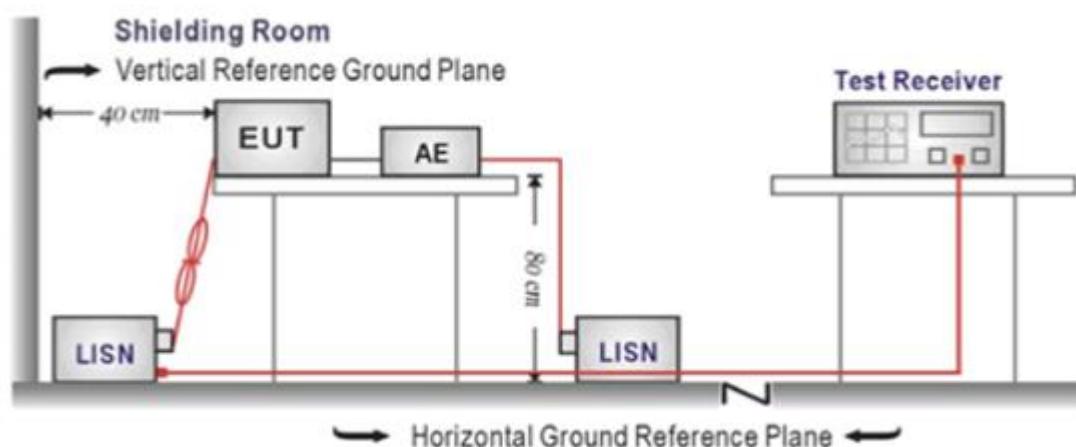
LIMIT

FCC CFR Title 47 Part 15 Subpart B Section 15.107:

| Frequency range (MHz) | Limit (dBuV) | |
|-----------------------|--------------|-----------|
| | Quasi-peak | Average |
| 0.15-0.5 | 66 to 56* | 56 to 46* |
| 0.5-5 | 56 | 46 |
| 5-30 | 60 | 50 |

* Decreases with the logarithm of the frequency.

TEST CONFIGURATION



TEST PROCEDURE

1. The EUT was setup according to ANSI C63.4:2014
2. The EUT was placed on a plat form of nominal size, 1 m by 1.5 m, raised 10 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 10 cm from any other grounded conducting surface.
3. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50ohm / 50uH coupling impedance for the measuring equipment.
4. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)
5. Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.
6. The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
7. Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.
8. During the above scans, the emissions were maximized by cable manipulation.

TEST MODE:

Please refer to the clause 4.1

TEST RESULTS

Passed Not Applicable

5.2. Radiated Emissions

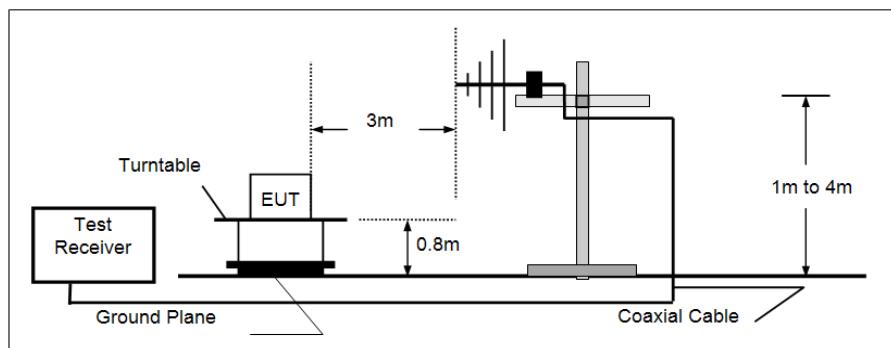
LIMIT

FCC CFR Title 47 Part 15 Subpart B Section 15.109

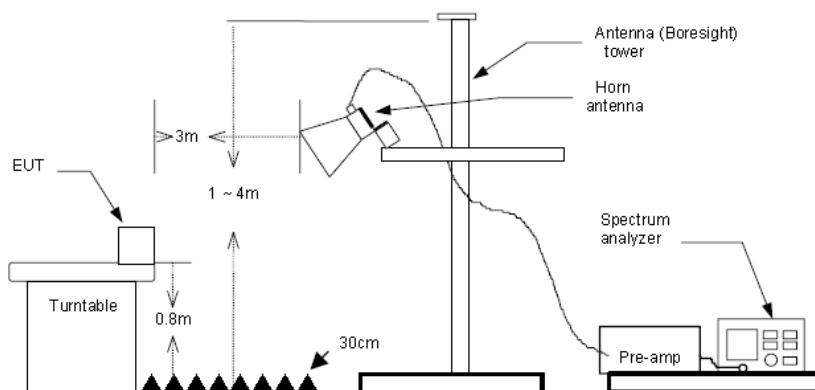
| Frequency | Limit (dBuV/m @3m) | Value |
|---------------|--------------------|------------|
| 30MHz-88MHz | 40.00 | Quasi-peak |
| 88MHz-216MHz | 43.50 | Quasi-peak |
| 216MHz-960MHz | 46.00 | Quasi-peak |
| 960MHz-1GHz | 54.00 | Quasi-peak |
| Above 1GHz | 54.00 | Average |
| | 74.00 | Peak |

TEST CONFIGURATION

- 30MHz ~ 1GHz



- Above 1GHz



TEST PROCEDURE

- The EUT was tested according to ANSI C63.4:2014.
- The EUT is placed on a turn table which is 0.8 meter above ground.
- The turn table is rotated 360 degrees to determine the position of the maximum emission level.
- The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
- The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna.
- Use the following spectrum analyzer settings
 - Span shall wide enough to fully capture the emission being measured;
 - Below 1GHz, RBW=120KHz, VBW=300KHz, Sweep=auto, Detector function=peak, Trace=max hold; If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
 - From 1GHz to 5th harmonic, RBW=1MHz, VBW=3MHz

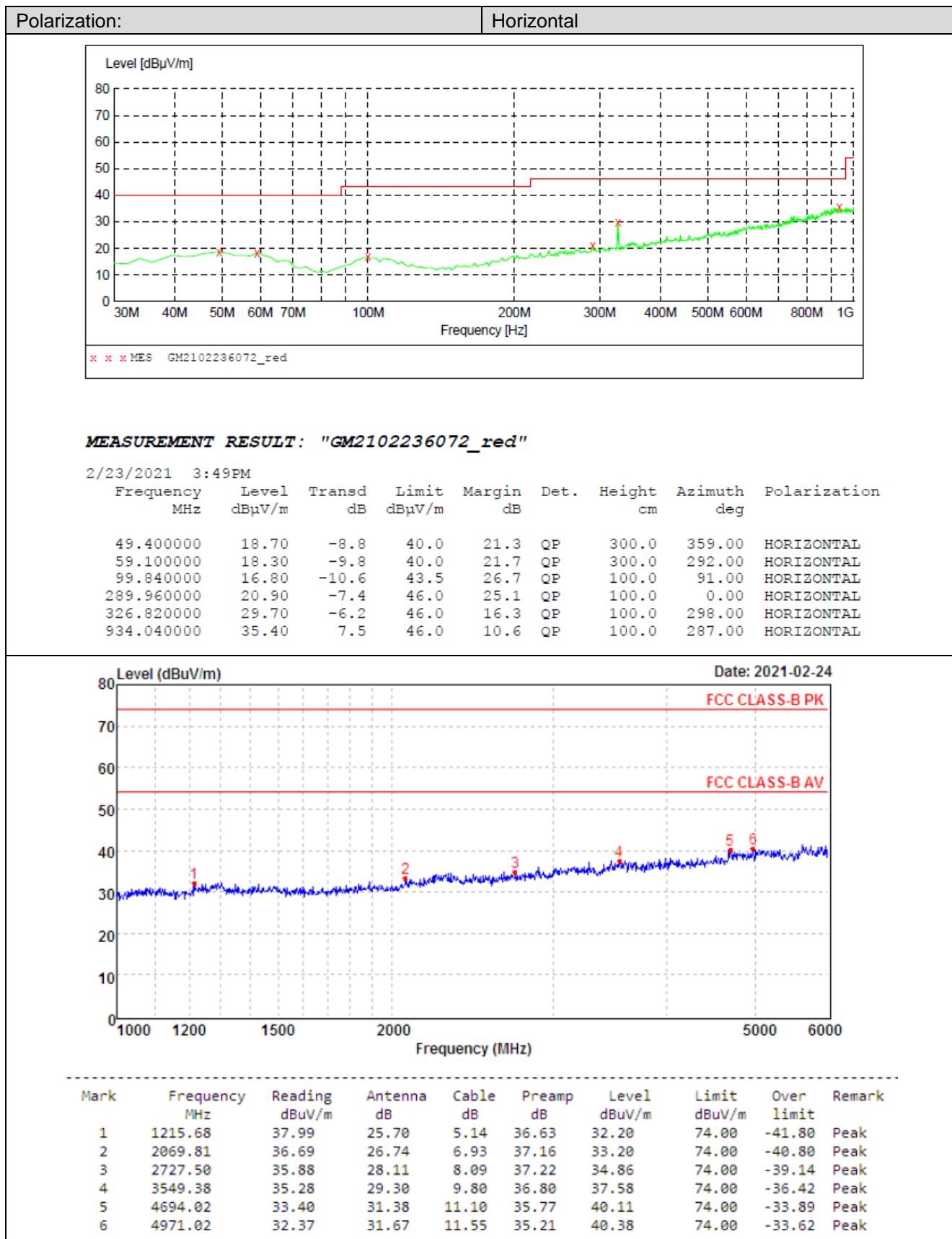
TEST MODE:

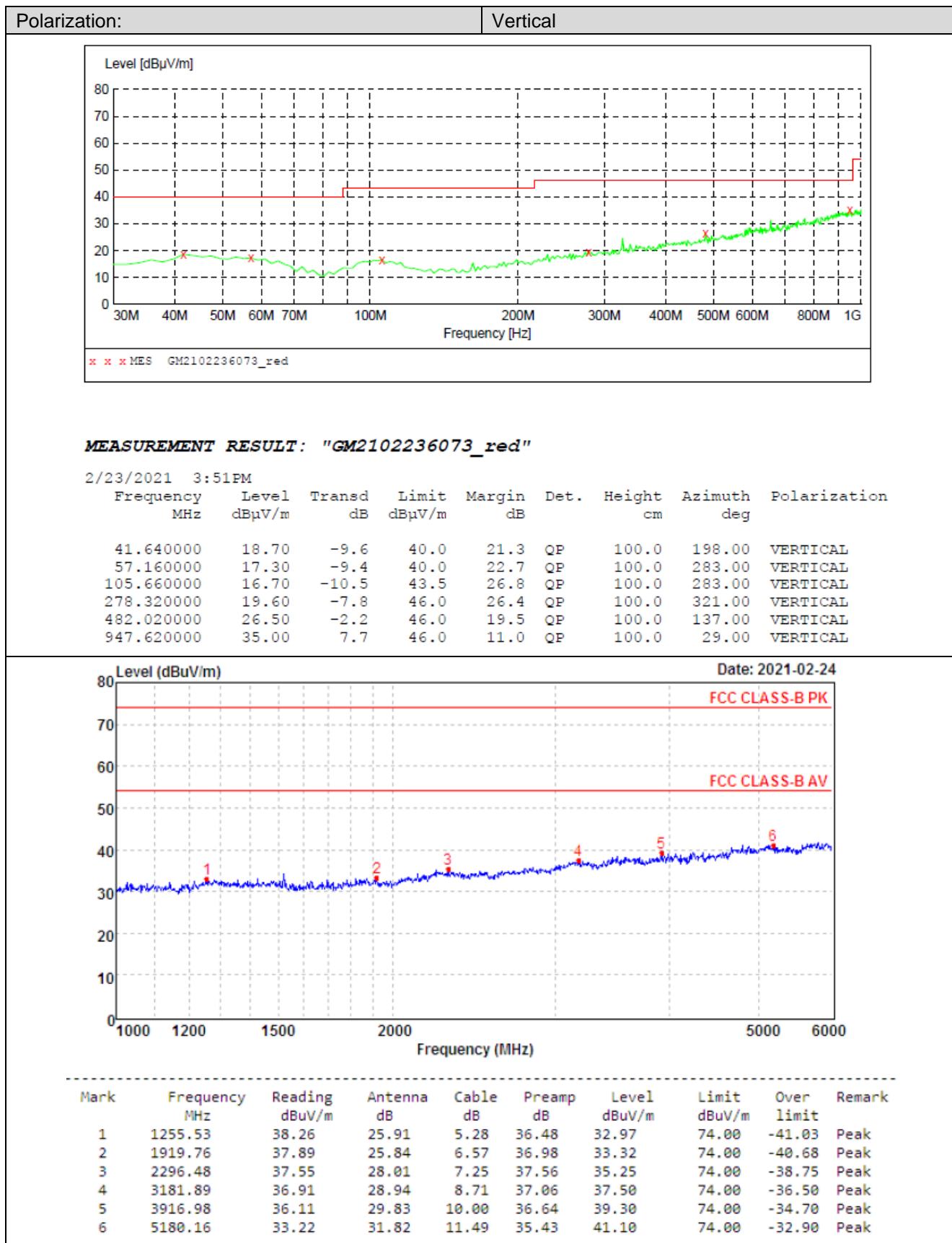
Please refer to the clause 4.1

TEST RESULTS

Passed **Not Applicable**

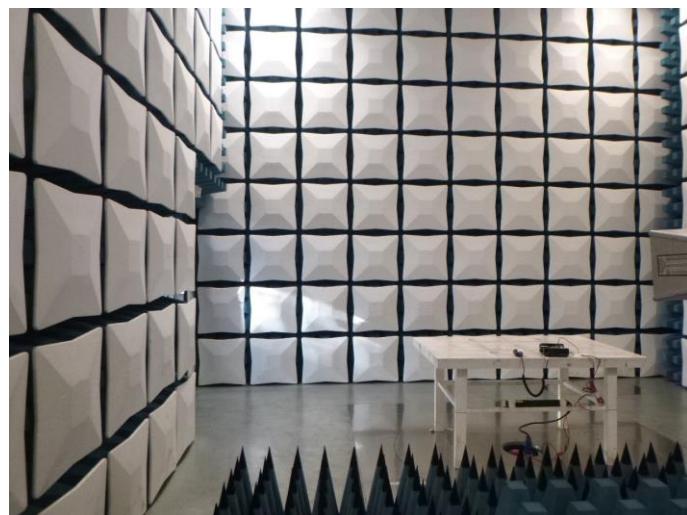
Note: Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
The emission levels of frequency above 6GHz are very lower than limit and not show in test report.





6. TEST SETUP PHOTOS OF THE EUT

Radiated Emissions



7. EXTERNAL AND INTERNAL PHOTOS OF THE EUT

Reference to the test report No.: CHTEW21040108.

-----End of Report-----