# TEST REPORT

| | |
|---|---|
| Report No. | CISRR25010905405 |
| Project No. | CISR250109054 |
| FCC ID | 2A4K8-FUN60 |
| Applicant | Shenzhen Yinchen Technology Co., Ltd |
| Address | STE101, 201, 301, 401, Building 1,1st Industrial Zone, Bitou Community, Songgang Street, Bao'an District, Shenzhen, China |
| Manufacturer | Shenzhen Yinchen Technology Co., Ltd |
| Address | STE101, 201, 301, 401, Building 1,1st Industrial Zone, Bitou Community, Songgang Street, Bao'an District, Shenzhen, China |
| Product Name | Mechanical Keyboard |
| Trade Mark | MONSGEEK |
| Model/Type reference | FUN60 |
| Listed Model(s) | FUN60 PRO, FUN60 MAX, FUN60 Ultra |
| Standard | 47 CFR Part 15.247 |
| Test date | January 13, 2025 to January 16, 2025 |
| Issue date | January 17, 2025 |
| **Test result** | **Complied** |

Edward Wang

**Prepared by: Edward Wang**

GenryLong

**Approved by: Genry Long**

The test results relate only to the tested samples.

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# 1. REPORT VERSION

| Version No. | Issue date | Description |
|---|---|---|
| 00 | January 17, 2025 | Original |
| | | |
| | | |

## 2. TEST DESCRIPTION

| No. | Test Item | Standard Requirement | Result |
|---|---|---|---|
| 1 | Antenna Requirement | 47 CFR 15.203 | Pass |
| 2 | Conducted Emission at AC power line | 47 CFR 15.207(a) | Pass |
| 3 | 6dB Bandwidth | 47 CFR 15.247(a)(2) | Pass |
| 4 | Maximum Conducted Output Power | 47 CFR 15.247(b)(3) | Pass |
| 5 | Power Spectral Density | 47 CFR 15.247(e) | Pass |
| 6 | Conducted band edge and spurious emission | 47 CFR 15.247(d), 15.209, 15.205 | Pass |
| 7 | Radiated band edge emission | 47 CFR 15.247(d), 15.209, 15.205 | Pass |
| 8 | Radiated Spurious Emission (below 1GHz) | 47 CFR 15.247(d), 15.209, 15.205 | Pass |
| 9 | Radiated Spurious Emission (Above 1GHz) | 47 CFR 15.247(d), 15.209, 15.205 | Pass |

Note:

– The measurement uncertainty is not included in the test result.

# 3. SUMMARY

## 3.1. Product Description *

| Main unit information: | |
|---|---|
| Product Name: | Mechanical Keyboard |
| Trade Mark: | MONSGEEK |
| Model No.: | FUN60 |
| Listed Model(s): | FUN60 PRO, FUN60 MAX, FUN60 Ultra |
| Model difference: | The shell material and color of the main test model and the series model are different, and the internal principle of the motherboard is the same. FUN60 and FUN60 MAX are plastic shell, FUN60 Ultra is aluminum alloy shell,We added A difference test on the FUN60 Ultra |
| Power supply: | DC 5V |
| Hardware version: | V1.0 |
| Software version: | V1.0 |
| Accessory unit information: | |
| Battery information: | 3.7V |

## 3.2. Radio Specification Description *

| | |
|---|---|
| Modulation type: | GFSK |
| Operation frequency: | 2402MHz to 2480MHz |
| Channel number: | 40 |
| Channel separation: | 2MHz |
| Antenna type: | PCB Antenna |
| Antenna gain: | 3.21dBi |

Note:

1) *: Since the above information is provided by the applicant relevant results or conclusions of this report are only made for these information , Bangce is not responsible for the authenticity, integrity and results of the information and/or the validity of the conclusion.
2) Operation frequency list as follow:

| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---|---|---|---|---|---|---|---|
| 0 | 2402 | 10 | 2422 | 20 | 2442 | 30 | 2462 |
| 1 | 2404 | 11 | 2424 | 21 | 2444 | 31 | 2464 |
| 2 | 2406 | 12 | 2426 | 22 | 2446 | 32 | 2466 |
| 3 | 2408 | 13 | 2428 | 23 | 2448 | 33 | 2468 |
| 4 | 2410 | 14 | 2430 | 24 | 2450 | 34 | 2470 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 5 | 2412 | 15 | 2432 | 25 | 2452 | 35 | 2472 |
| 6 | 2414 | 16 | 2434 | 26 | 2454 | 36 | 2474 |
| 7 | 2416 | 17 | 2436 | 27 | 2456 | 37 | 2476 |
| 8 | 2418 | 18 | 2438 | 28 | 2458 | 38 | 2478 |
| 9 | 2420 | 19 | 2440 | 29 | 2460 | 39 | 2480 |

## 3.3. Modification of EUT

No modifications are made to the EUT during all test items.

## 3.4. Deviation from standards

None

## 3.5. Testing Site

| | |
|---|---|
| Laboratory Name | Shenzhen Bangce Testing Technology Co., Ltd. |
| Laboratory Location | 101, building 10, Yunli Intelligent Park, Shutianpu community, Matian Street, Guangming District, Shenzhen，Guangdong, China |
| Contact information | Tel: 86-755-2319 6848, email: service@cis-cn.net<br>Website: http://www.cis-cn.net/ |
| FCC registration number | 736346 |
| FCC designation number | CN1372 |

# 4. TEST CONFIGURATION

## 4.1. Test frequency list

| Lowest Channel (LCH) (MHz) | Middle Channel (MCH) (MHz) | Highest Channel (HCH) (MHz) |
|---|---|---|
| 2402 | 2440 | 2480 |

## 4.2. Descriptions of test mode

| No | Test mode | Description |
|---|---|---|
| TM1 | TX mode | Keep the EUT in continuously transmitting mode with GFSK modulation at lowest, middle and highest channel. |
| TM2 | Link mode | Keep the EUT in Bluetooth linking mode with AE. |
| TM3 | Charging mode | Keep the EUT in charging mode with AE. |

## 4.3. 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:

| Item | Equipment name | Trade Name | Model No. |
|---|---|---|---|
| 1 | Adapter | Guangdong Sangu Technology Co. ltd | SG-0501000AU |
| 2 | Phone | Huawei | NZONE S7 |

## 4.4. Test sample information

| Type | Sample No. |
|---|---|
| Engineer sample | CISR250109054-S01 |
| Normal sample | CISR250109054-S02 |

## 4.5. Environmental conditions

| Type | Requirement |
|---|---|
| Temperature: | 15~35°C |
| Relative Humidity: | 25~75% |
| Air Pressure: | 860~1060mbar |

## 4.6. Equipment Used during the Test

Conducted Emission at AC power line

| Item | Equipment name | Manufacturer | Model | Serial No. | Calibration date | Due date |
|---|---|---|---|---|---|---|
| 1 | EMI Test Receiver | Rohde&schwarz | ESCI7 | 100853 | 2025-01-08 | 2026-01-07 |
| 2 | Artificial power network | Schwarzbeck | NSLK8127 | 8127-01096 | 2025-01-08 | 2026-01-07 |
| 3 | 8-wire Impedance Stabilization Network | Schwarzbeck | NTFM 8158 | 8158-00337 | 2025-01-08 | 2026-01-07 |
| 4 | Artificial power network | Schwarzbeck | ENV216 | / | 2025-01-08 | 2026-01-07 |

Emissions in non-restricted frequency bands
6dB Bandwidth
Maximum Conducted Output Power
Power Spectral Density

| Item | Equipment name | Manufacturer | Model | Serial No. | Calibration date | Due date |
|---|---|---|---|---|---|---|
| 1 | MXG RF Signal Generator | Agilent | N5181A | MY50145362 | 2025-01-08 | 2026-01-07 |
| 2 | Spectrum analyzer | R&S | FSV-40N | 102130 | 2025-01-08 | 2026-01-07 |
| 3 | Vector Signal Generator | Agilent | N5182A | MY50142364 | 2025-01-08 | 2026-01-07 |
| 4 | Power Meter | WCS | WCS-PM | WCSPM230405A | 2025-01-08 | 2026-01-07 |

Emissions in frequency bands (above 1GHz)
Band edge emissions (Radiated)
Emissions in frequency bands (below 1GHz)

| Item | Equipment name | Manufacturer | Model | Serial No. | Calibration date | Due date |
|---|---|---|---|---|---|---|
| 1 | EMI Test Receiver | Rohde&schwarz | ESCI7 | 100853 | 2025-01-08 | 2026-01-07 |
| 2 | Amplifier | Tonscend | TAP9K3G40 | AP23A8060270 | 2025-01-08 | 2026-01-07 |
| 3 | Prime amplifier | Tonscend | TAP01018050 | AP23A8060280 | 2025-01-08 | 2026-01-07 |
| 4 | 9*6*6 anechoic chamber | SKET | 9.3*6.3*6 | N/A | 2024-09-02 | 2027-09-01 |
| 5 | Spectrum analyzer | Agilent | N9020A | MY50530263 | 2025-01-08 | 2026-01-07 |
| 6 | Spectrum analyzer | R&S | FSV-40N | 102130 | 2025-01-08 | 2026-01-07 |
| 7 | Bilog Antenna | Schwarzbeck | VULB 9163 | 1463 | 2023-01-09 | 2026-01-08 |
| 8 | Horn Antenna | SCHWARZBECK | BBHA 9120 D | 2487 | 2023-01-09 | 2026-01-08 |
| 9 | Active Loop Antenna | SCHWARZBECK | FMZB 1519B | / | 2023-01-09 | 2026-01-08 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 10 | RF Cable | Tonscend | Cable 1 | / | 2025-01-08 | 2026-01-07 |
| 11 | RF Cable | Tonscend | Cable 2 | / | 2025-01-08 | 2026-01-07 |
| 12 | RF Cable | SKET | Cable 3 | / | 2025-01-08 | 2026-01-07 |
| 13 | L.I.S.N.#1 | Schwarzbeck | NSLK8127 | / | 2025-01-08 | 2026-01-07 |
| 14 | L.I.S.N.#2 | ROHDE&SCHWARZ | ENV216 | / | 2025-01-08 | 2026-01-07 |
| 15 | Horn Antenna | SCHWARZBECK | BBHA9170 | 1130 | 2023-01-09 | 2026-01-08 |
| 16 | Preamplifier | Tonscend | TAP18040048 | AP21C806126 | 2025-01-08 | 2026-01-07 |
| 17 | Variable-frequency power source | Pinhong | PH1110 | / | 2025-01-08 | 2026-01-07 |
| 18 | 6dB Attenuator | SKET | DC-6G | / | 2025-01-08 | 2026-01-07 |
| 19 | Antenna tower | SKT | Bk-4AT-BS | AT2021040101-V1 | 2025-01-08 | 2026-01-07 |

# 5. TEST RESULTS

## 5.1. Evaluation Results (Evaluation)

### 5.1.1. Antenna Requirement

| | |
|---|---|
| Test Requirement: | Refer to 47 CFR Part 15.203, 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 shall be considered sufficient to comply with the provisions of this section. |

#### 5.1.1.1. Test Result

Pass

#### 5.1.1.2. Conclusion:

The EUT antenna is PCB Antenna(3.21dBi), the directional gain of the antenna less than 6dBi. It comply with the standard requirement. In case of replacement of broken antenna the same antenna type must be used.Antenna structure please refer to the EUT internal photographs antenna photo.

## 5.2. Radio Spectrum Matter Test Results (RF)

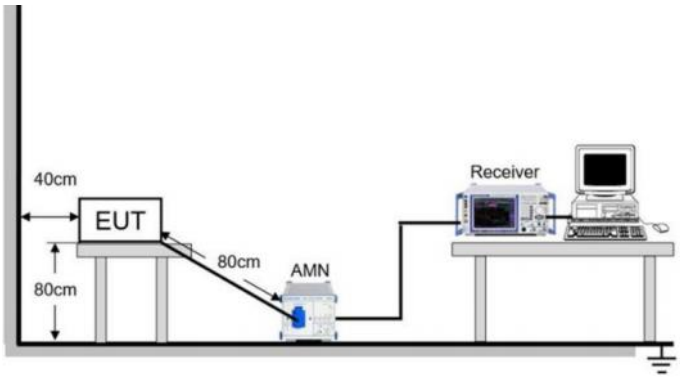
### 5.2.1. Conducted Emission at AC power line

| | |
|---|---|
| Test Requirement: | Refer to 47 CFR 15.207(a), Except as shown in paragraphs (b)and (c)of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). |
| Test Limit: | Frequency of emission (MHz) / Conducted limit (dBμV): Quasi-peak / Average<br>0.15-0.5: 66 to 56* / 56 to 46*<br>0.5-5: 56 / 46<br>5-30: 60 / 50<br>*Decreases with the logarithm of the frequency. |
| Test Method: | ANSI C63.10-2020 section 6.2 |
| Procedure: | 1. The EUT was setup according to ANSI C63.10 requirements.<br>2. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 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 80 cm from any other grounded conducting surface.<br>3. The EUT and simulators are connected to the main power through a line impedances stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment.<br>4. The peripheral devices are also connected to the main power through a LISN. (Refer to the block diagram of the test setup and photographs)<br>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.<br>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.<br>7. Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.<br>8. During the above scans, the emissions were maximized by cable manipulation. |

#### 5.2.1.1. E.U.T. Operation

| Operating Environment: | | | | | |
|---|---|---|---|---|---|
| Temperature: | 23.3 °C | Humidity: | 56 % | Atmospheric Pressure: | 103 kPa |
| Pre test mode: | TM3 | | | | |
| Final test mode: | TM3 | | | | |

#### 5.2.1.2. Test Setup Diagram

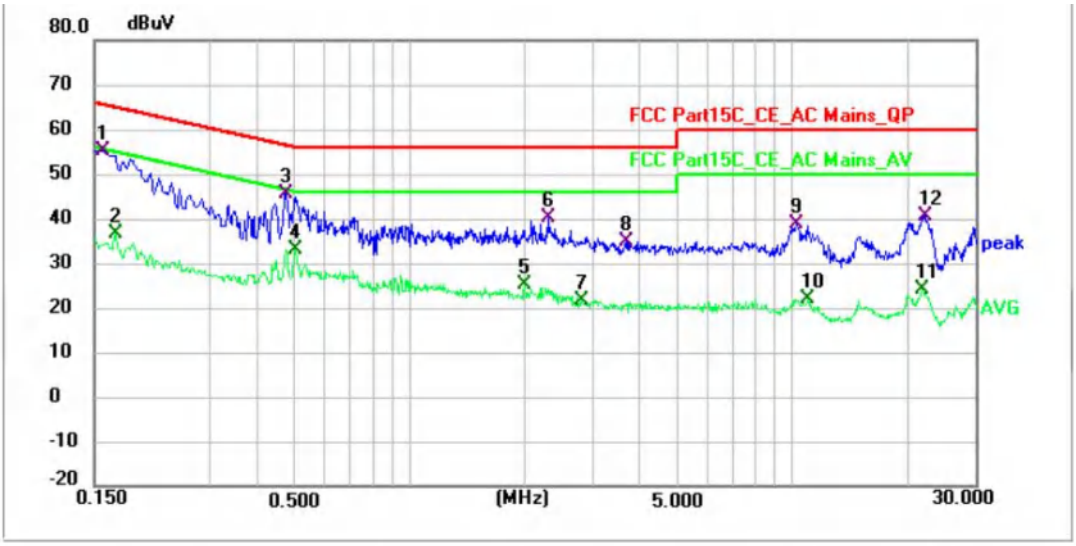


### 5.2.1.3. Test Result

Pass

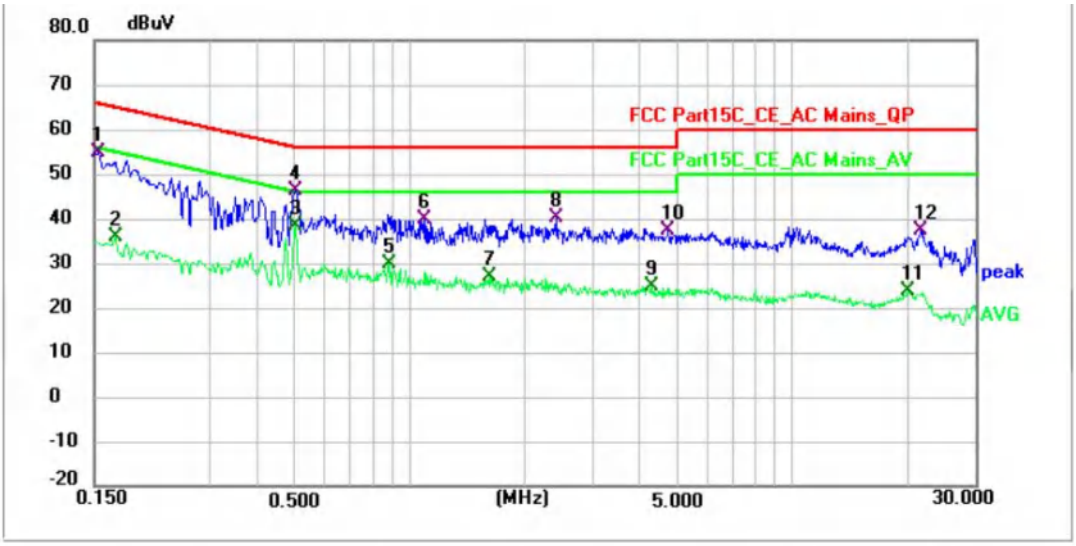
### 5.2.1.4. Test Data

Mode3 / Line: Line




| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 * | 0.158 | 44.99 | 10.32 | 55.31 | 65.57 | -10.26 | QP |
| 2 | 0.170 | 26.17 | 10.32 | 36.49 | 54.96 | -18.47 | AVG |
| 3 | 0.474 | 35.13 | 10.36 | 45.49 | 56.44 | -10.95 | QP |
| 4 | 0.502 | 22.60 | 10.37 | 32.97 | 46.00 | -13.03 | AVG |
| 5 | 2.002 | 14.45 | 10.71 | 25.16 | 46.00 | -20.84 | AVG |
| 6 | 2.302 | 29.27 | 10.79 | 40.06 | 56.00 | -15.94 | QP |
| 7 | 2.826 | 10.81 | 10.93 | 21.74 | 46.00 | -24.26 | AVG |
| 8 | 3.686 | 23.50 | 11.25 | 34.75 | 56.00 | -21.25 | QP |
| 9 | 10.246 | 25.00 | 13.74 | 38.74 | 60.00 | -21.26 | QP |
| 10 | 10.974 | 7.92 | 14.12 | 22.04 | 50.00 | -27.96 | AVG |
| 11 | 21.742 | 8.72 | 15.40 | 24.12 | 50.00 | -25.88 | AVG |
| 12 | 22.310 | 25.20 | 15.36 | 40.56 | 60.00 | -19.44 | QP |

Mode3 / Line: Neutral




| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 0.154 | 44.36 | 10.33 | 54.69 | 65.79 | -11.10 | QP |
| 2 | 0.170 | 25.60 | 10.32 | 35.92 | 54.96 | -19.04 | AVG |
| 3 * | 0.502 | 28.10 | 10.38 | 38.48 | 46.00 | -7.52 | AVG |
| 4 | 0.506 | 36.01 | 10.38 | 46.39 | 56.00 | -9.61 | QP |
| 5 | 0.882 | 19.56 | 10.41 | 29.97 | 46.00 | -16.03 | AVG |
| 6 | 1.094 | 29.54 | 10.45 | 39.99 | 56.00 | -16.01 | QP |
| 7 | 1.614 | 16.19 | 10.60 | 26.79 | 46.00 | -19.21 | AVG |
| 8 | 2.414 | 29.28 | 10.82 | 40.10 | 56.00 | -15.90 | QP |
| 9 | 4.282 | 13.20 | 11.50 | 24.70 | 46.00 | -21.30 | AVG |
| 10 | 4.730 | 25.61 | 11.69 | 37.30 | 56.00 | -18.70 | QP |
| 11 | 19.990 | 7.94 | 15.96 | 23.90 | 50.00 | -26.10 | AVG |
| 12 | 21.702 | 21.51 | 15.75 | 37.26 | 60.00 | -22.74 | QP |

Note:
1). Result = Reading +Correct (Insertion Loss + Cable Loss + Attenuator Factor)
2). Margin = Result - Limit

## 5.2.2. 6dB Bandwidth

| | |
|---|---|
| Test Requirement: | 47 CFR 15.247(a)(2) |
| Test Limit: | Refer to 47 CFR 15.247(a)(2), Systems using digital modulation techniques may operate in the 902-928 MHz, and 2400-2483.5 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz. |
| Test Method: | ANSI C63.10-2020, section 11.8 |
| Procedure: | 11.8.1 Option 1<br>The steps for the first option are as follows:<br>a) Set RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz.<br>b) Set the VBW ≥ [3 × RBW].<br>c) Detector = peak.<br>d) Trace mode = max-hold.<br>e) Sweep = No faster than coupled (auto) time.<br>f) Allow the trace to stabilize.<br>g) Measure the maximum width of the emission by placing two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the “−6 dB down amplitude”. If a marker is below this “−6 dB down amplitude” value, then it shall be as close as possible to this value.<br><br>11.8.2 Option 2<br>The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described in 11.8.1 (i.e., RBW = 100 kHz, VBW ≥ 3 × RBW, and peak detector with maximum hold) is implemented by the instrumentation function.<br>When using this capability, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be ≥ 6 dB. |

### 5.2.2.1. E.U.T. Operation

| Operating Environment: | | | | | |
|---|---|---|---|---|---|
| Temperature: | 23.3 °C | Humidity: | 56.7 % | Atmospheric Pressure: | 102 kPa |
| Pre test mode: | TM1 | | | | |
| Final test mode: | TM1 | | | | |

### 5.2.2.2. Test Setup Diagram

### 5.2.2.3. Test Result

Pass

### 5.2.2.4. Test Data

Please Refer to Appendix for Details.

### 5.2.3. Maximum Conducted Output Power

| | |
|---|---|
| Test Requirement: | 47 CFR 15.247(b)(3) |
| Test Limit: | Refer to 47 CFR 15.247(b)(3), For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode. |
| Test Method: | ANSI C63.10-2020 section 11.9.1 |
| Procedure: | ANSI C63.10-2020, section 11.9.1 Maximum peak conducted output power |

#### 5.2.3.1. E.U.T. Operation

| Operating Environment: | | | | | |
|---|---|---|---|---|---|
| Temperature: | 23.3 °C | Humidity: | 56.7 % | Atmospheric Pressure: | 102 kPa |
| Pre test mode: | TM1 | | | | |
| Final test mode: | TM1 | | | | |

#### 5.2.3.2. Test Setup Diagram

#### 5.2.3.3. Test Result

Pass

#### 5.2.3.4. Test Data

Please Refer to Appendix for Details.

## 5.2.4. Power Spectral Density

| | |
|---|---|
| Test Requirement: | 47 CFR 15.247(e) |
| Test Limit: | Refer to 47 CFR 15.247(e), For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density. |
| Test Method: | ANSI C63.10-2020, section 11.10 |
| Procedure: | ANSI C63.10-2020, section 11.10, Maximum power spectral density level in the fundamental emission |

### 5.2.4.1. E.U.T. Operation

| Operating Environment: | | | | | |
|---|---|---|---|---|---|
| Temperature: | 23.3 °C | Humidity: | 56.7 % | Atmospheric Pressure: | 102 kPa |
| Pre test mode: | TM1 | | | | |
| Final test mode: | TM1 | | | | |

### 5.2.4.2. Test Setup Diagram

### 5.2.4.3. Test Result

Pass

### 5.2.4.4. Test Data

Please Refer to Appendix for Details.

## 5.2.5. Conducted band edge and spurious emission

| | |
|---|---|
| Test Requirement: | 47 CFR 15.247(d), 15.209, 15.205 |
| Test Limit: | Refer to 47 CFR 15.247(d), In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in § 15.209(a) is not required. |
| Test Method: | ANSI C63.10-2020 section 11.11 |
| Procedure: | ANSI C63.10-2020<br>Section 11.11.1, Section 11.11.2, Section 11.11.3 |

### 5.2.5.1. E.U.T. Operation

| Operating Environment: | | | | | |
|---|---|---|---|---|---|
| Temperature: | 23.3 °C | Humidity: | 56.7 % | Atmospheric Pressure: | 102 kPa |
| Pre test mode: | TM1 | | | | |
| Final test mode: | TM1 | | | | |

### 5.2.5.2. Test Setup Diagram

### 5.2.5.3. Test Result

Pass

### 5.2.5.4. Test Data

Please Refer to Appendix for Details.

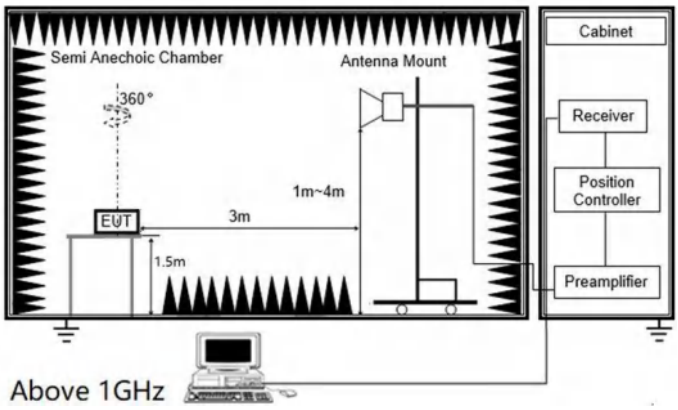
## 5.2.6. Radiated band edge emission

<table>
<tr><td>Test Requirement:</td><td>Refer to 47 CFR 15.247(d), In addition, 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)).`</td></tr>
<tr><td>Test Limit:</td><td>
<table>
<tr><td>Frequency (MHz)</td><td>Field strength (microvolts/meter)</td><td>Measurement distance (meters)</td></tr>
<tr><td>0.009-0.490</td><td>2400/F(kHz)</td><td>300</td></tr>
<tr><td>0.490-1.705</td><td>24000/F(kHz)</td><td>30</td></tr>
<tr><td>1.705-30.0</td><td>30</td><td>30</td></tr>
<tr><td>30-88</td><td>100 **</td><td>3</td></tr>
<tr><td>88-216</td><td>150 **</td><td>3</td></tr>
<tr><td>216-960</td><td>200 **</td><td>3</td></tr>
<tr><td>Above 960</td><td>500</td><td>3</td></tr>
</table>
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.<br>In the emission table above, the tighter limit applies at the band edges.<br>The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for 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.
</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10-2020 section 6.10</td></tr>
<tr><td>Procedure:</td><td>1. EUT was setup and tested according to ANSI C63.10 .<br>2. The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level.<br>3. The EUT waspositioned such that the distance from antenna to the EUT was 3 meters.<br>4. 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. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10 on radiated measurement.<br>5. Use the following spectrum analyzer settings:<br>a) Span shall wide enough to fully capture the emission being measured<br>b) Set RBW=1MHz, VBW=3MHz for >1GHz, Sweep time=auto, Detector=peak, Trace=max hold for Peak measurement<br>For average measurement: use duty cycle correction factor method (DCCF), Averager level = Peak level + DCCF</td></tr>
</table>

### 5.2.6.1. E.U.T. Operation

<table>
<tr><td colspan="6">Operating Environment:</td></tr>
<tr><td>Temperature:</td><td>23.5 °C</td><td>Humidity:</td><td>55 %</td><td>Atmospheric Pressure:</td><td>102 kPa</td></tr>
<tr><td colspan="2">Pre test mode:</td><td colspan="4">TM1</td></tr>
<tr><td colspan="2">Final test mode:</td><td colspan="4">TM1</td></tr>
</table>

### 5.2.6.2. Test Setup Diagram



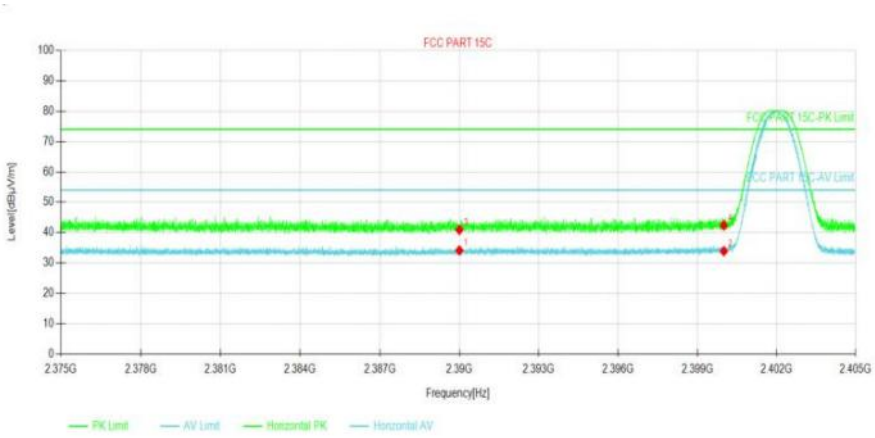

### 5.2.6.3. Test Result

Pass

### 5.2.6.4. Test Data

Have pre-scan all test mode, found GFSK 1M mode which it was worst case, so only show the worst case’s data on this report.

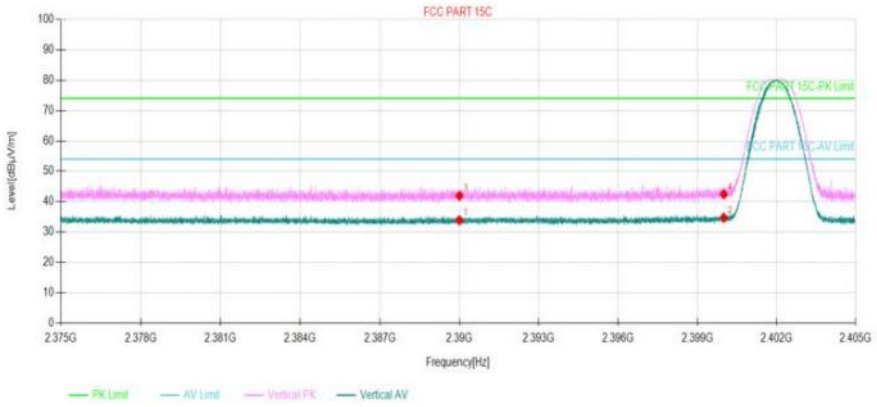
Mode1 / Polarization: Horizontal / CH: L




**Suspected Data List**

| NO. | Freq. [MHz] | Reading [dBµV/m] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Polarity | Verdict |
|---|---|---|---|---|---|---|---|---|
| 1 | 2390 | 27.59 | 34.15 | 6.56 | 54.00 | 19.85 | Horizontal | PASS |
| 2 | 2400.00 | 27.32 | 33.93 | 6.61 | 54.00 | 20.07 | Horizontal | PASS |
| 3 | 2390 | 34.40 | 40.96 | 6.56 | 74.00 | 33.04 | Horizontal | PASS |
| 4 | 2400.00 | 35.79 | 42.40 | 6.61 | 74.00 | 31.60 | Horizontal | PASS |

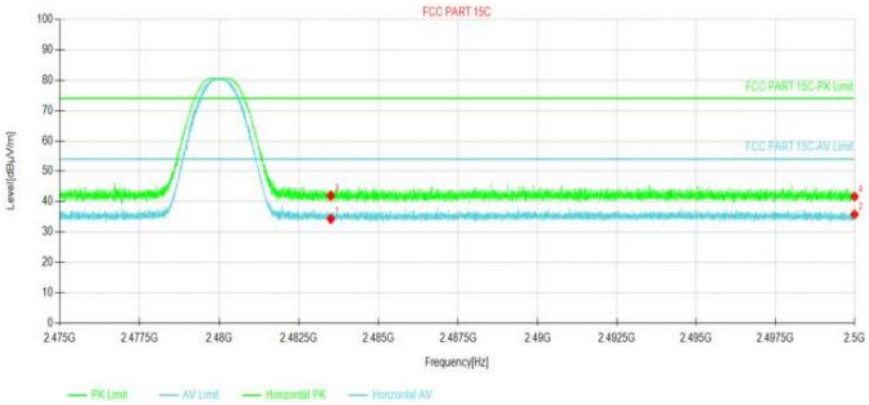
Mode1 / Polarization: Vertical / CH: L




**Suspected Data List**

| NO. | Freq. [MHz] | Reading [dBµV/m] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Polarity | Verdict |
|---|---|---|---|---|---|---|---|---|
| 1 | 2390 | 27.30 | 33.86 | 6.56 | 54.00 | 20.14 | Vertical | PASS |
| 2 | 2400.00 | 28.12 | 34.73 | 6.61 | 54.00 | 19.27 | Vertical | PASS |
| 3 | 2390 | 35.38 | 41.94 | 6.56 | 74.00 | 32.06 | Vertical | PASS |
| 4 | 2400.00 | 35.85 | 42.46 | 6.61 | 74.00 | 31.54 | Vertical | PASS |

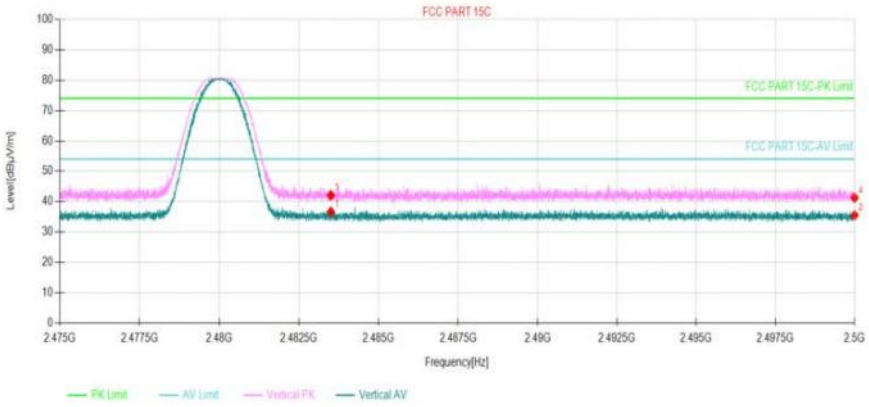
## Mode1 / Polarization: Horizontal / CH: H




**Suspected Data List**

| NO. | Freq. [MHz] | Reading [dBµV/m] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Polarity | Verdict |
|---|---|---|---|---|---|---|---|---|
| 1 | 2483.5 | 27.76 | 34.32 | 6.56 | 54.00 | 19.68 | Horizontal | PASS |
| 2 | 2500 | 29.25 | 35.80 | 6.55 | 54.00 | 18.20 | Horizontal | PASS |
| 3 | 2483.5 | 35.44 | 42.00 | 6.56 | 74.00 | 32.00 | Horizontal | PASS |
| 4 | 2500 | 35.15 | 41.70 | 6.55 | 74.00 | 32.30 | Horizontal | PASS |

## Mode1 / Polarization: Vertical / CH: H




**Suspected Data List**

| NO. | Freq. [MHz] | Reading [dBµV/m] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Polarity | Verdict |
|---|---|---|---|---|---|---|---|---|
| 1 | 2483.5 | 30.11 | 36.67 | 6.56 | 54.00 | 17.33 | Vertical | PASS |
| 2 | 2500 | 29.00 | 35.55 | 6.55 | 54.00 | 18.45 | Vertical | PASS |
| 3 | 2483.5 | 35.52 | 42.08 | 6.56 | 74.00 | 31.92 | Vertical | PASS |
| 4 | 2500 | 34.70 | 41.25 | 6.55 | 74.00 | 32.75 | Vertical | PASS |

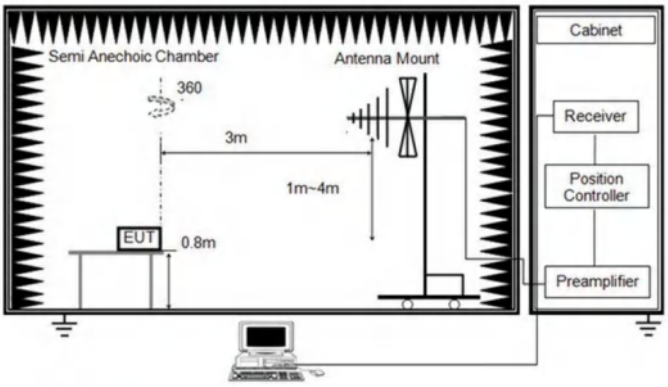
## 5.2.7. Radiated Spurious Emission (below 1GHz)

| | |
|---|---|
| Test Requirement: | Refer to 47 CFR 15.247(d), In addition, 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)).` |
| Test Limit: | <table><tr><th>Frequency (MHz)</th><th>Field strength (microvolts/meter)</th><th>Measurement distance (meters)</th></tr><tr><td>0.009-0.490</td><td>2400/F(kHz)</td><td>300</td></tr><tr><td>0.490-1.705</td><td>24000/F(kHz)</td><td>30</td></tr><tr><td>1.705-30.0</td><td>30</td><td>30</td></tr><tr><td>30-88</td><td>100 **</td><td>3</td></tr><tr><td>88-216</td><td>150 **</td><td>3</td></tr><tr><td>216-960</td><td>200 **</td><td>3</td></tr><tr><td>Above 960</td><td>500</td><td>3</td></tr></table> ** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.<br>In the emission table above, the tighter limit applies at the band edges.<br>The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for 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. |
| Test Method: | ANSI C63.10-2020 section 6.6.4 |
| Procedure: | 1. The EUT was setup and tested according to ANSI C63.10.<br>2. The EUT is placed on a turn table which is 0.8 meter above ground for below 1 GHz, and 1.5 m for above 1 GHz. The turn table is rotated 360 degrees to determine the position of the maximum emission level.<br>3. The EUT was set 3 meters from the receiving antenna, which was mounted on the top of a variable height antenna tower.<br>4. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.<br>5. Set to the maximum power setting and enable the EUT transmit continuously.<br>6. Use the following spectrum analyzer settings<br>a) Span shall wide enough to fully capture the emission being measured;<br>b) RBW=120 kHz, VBW=300 kHz, Sweep=auto, Detector function=peak, Trace=max hold;<br>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. |

### 5.2.7.1. E.U.T. Operation

| Operating Environment: | | | | | |
|---|---|---|---|---|---|
| Temperature: | 23.5 °C | Humidity: | 55 % | Atmospheric Pressure: | 102 kPa |
| Pre test mode: | TM1,TM2,TM3 | | | | |
| Final test mode: | TM1,TM2,TM3 | | | | |

### 5.2.7.2. Test Setup Diagram




Below 1 GHz and above 30 MHz

### 5.2.7.3. Test Result

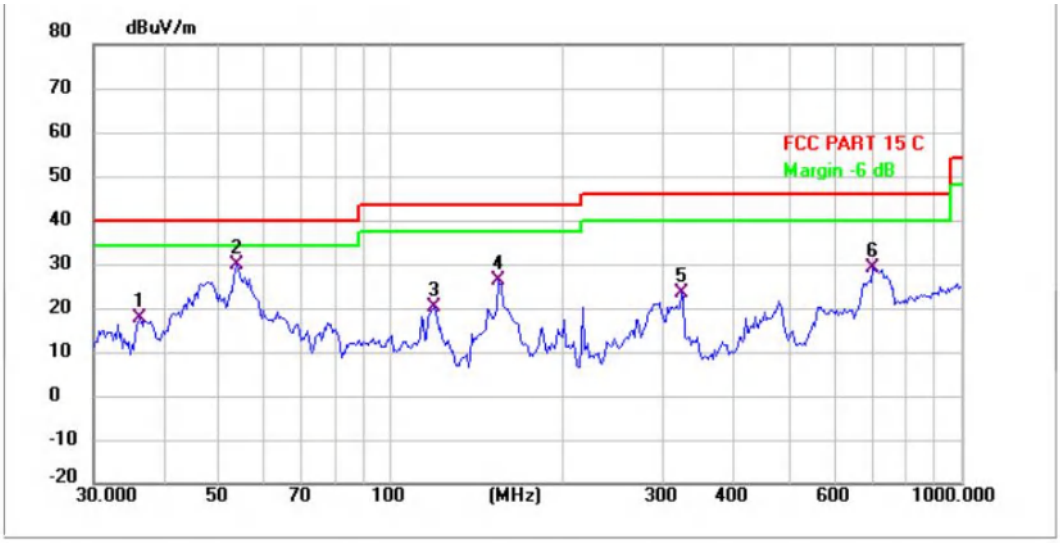
Pass

### 5.2.7.4. Test Data

Have pre-scan all test channel, found CH00(GFSK 1M) mode which it was worst case, so only show the worst case's data on this report.

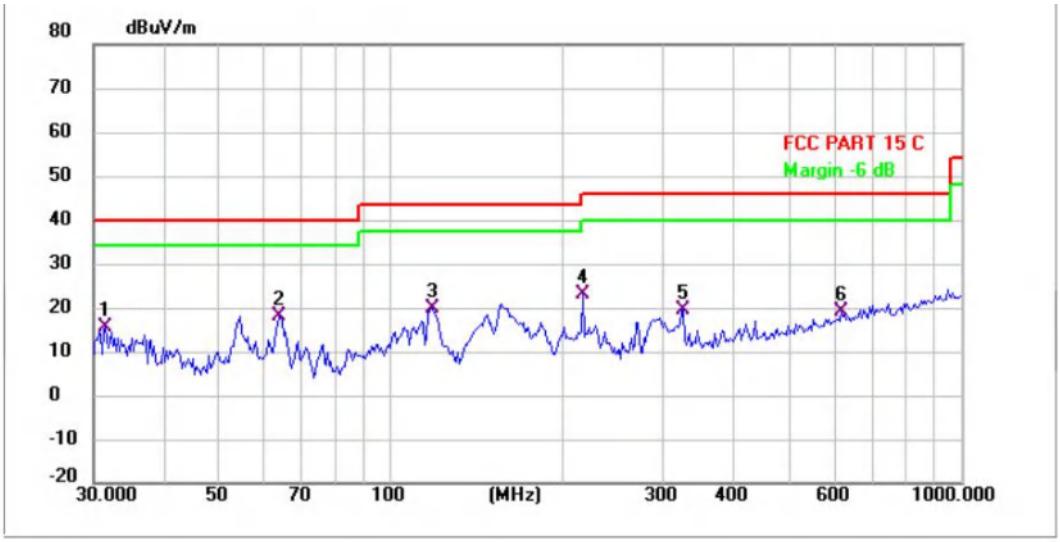
Model:FUN60

Mode1 / Polarization: Horizontal / CH: L




| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 36.254 | 49.25 | -31.60 | 17.65 | 40.00 | -22.35 | QP |
| 2 * | 53.693 | 59.94 | -29.97 | 29.97 | 40.00 | -10.03 | QP |
| 3 | 118.601 | 52.07 | -31.93 | 20.14 | 43.50 | -23.36 | QP |
| 4 | 153.738 | 59.59 | -33.25 | 26.34 | 43.50 | -17.16 | QP |
| 5 | 323.320 | 49.84 | -26.62 | 23.22 | 46.00 | -22.78 | QP |
| 6 | 699.304 | 45.95 | -16.87 | 29.08 | 46.00 | -16.92 | QP |

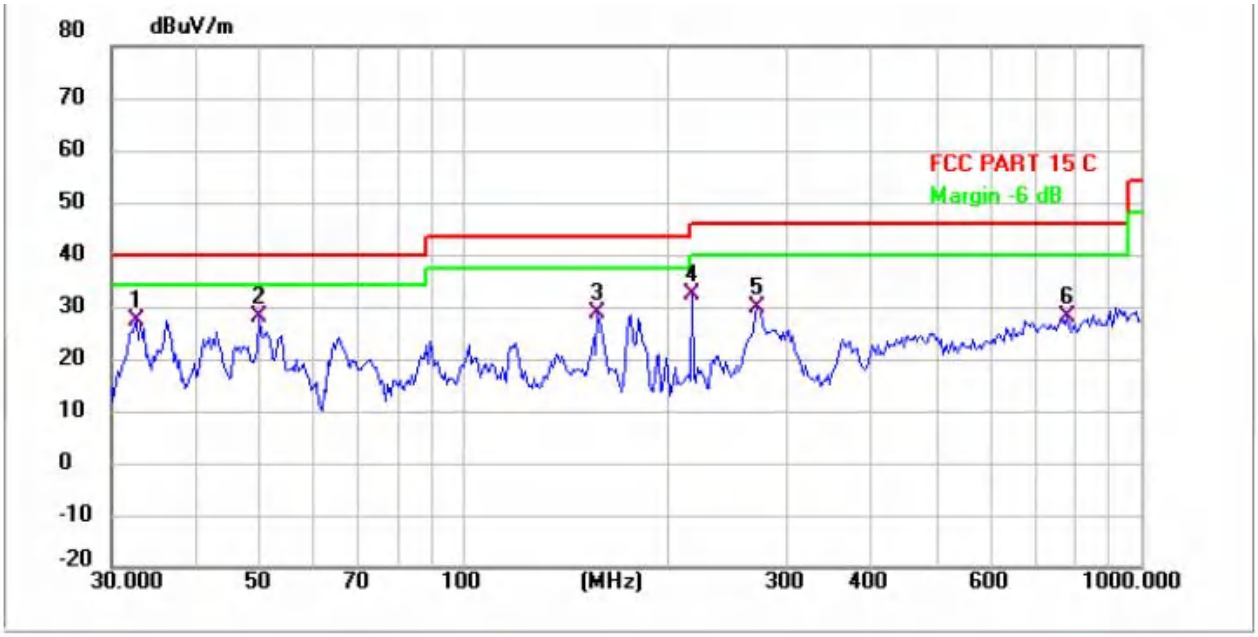
Mode1 / Polarization: Vertical / CH: L




| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 31.509 | 47.31 | -31.90 | 15.41 | 40.00 | -24.59 | QP |
| 2 * | 63.536 | 49.54 | -31.43 | 18.11 | 40.00 | -21.89 | QP |
| 3 | 117.772 | 51.55 | -31.84 | 19.71 | 43.50 | -23.79 | QP |
| 4 | 216.783 | 52.56 | -29.58 | 22.98 | 46.00 | -23.02 | QP |
| 5 | 325.596 | 46.09 | -26.56 | 19.53 | 46.00 | -26.47 | QP |
| 6 | 616.372 | 37.86 | -18.81 | 19.05 | 46.00 | -26.95 | QP |

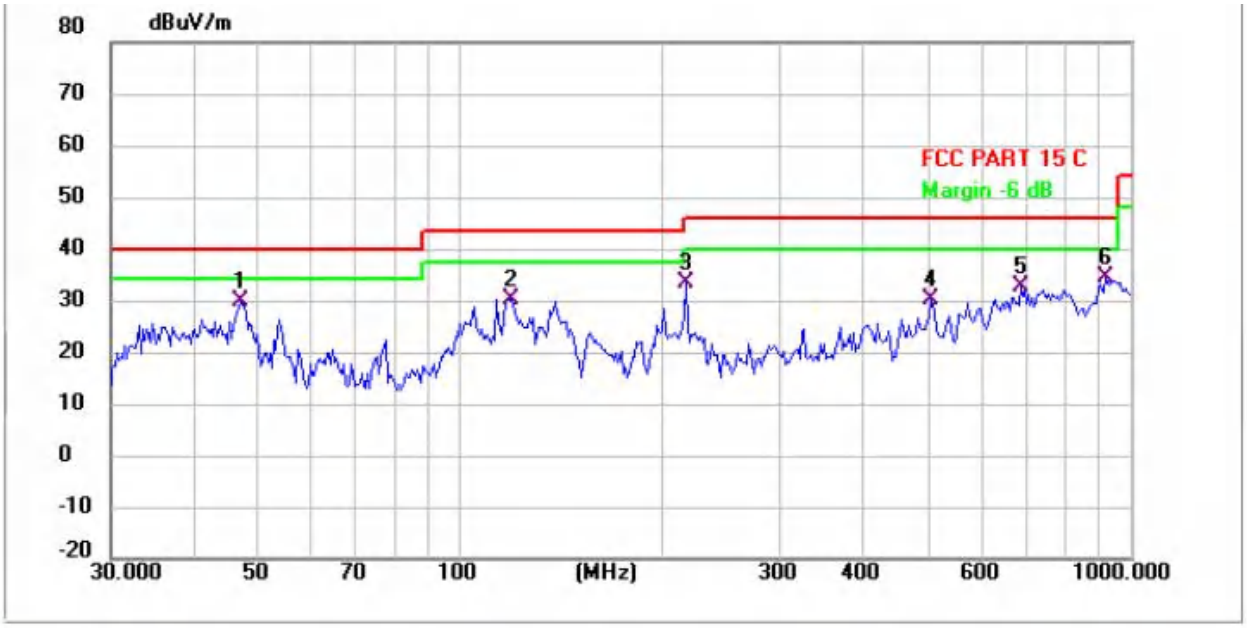
Model:FUN60 Ultra

Mode1 / Polarization: Horizontal / CH: L




| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 | 32.634 | 59.15 | -31.90 | 27.25 | 40.00 | -12.75 | QP |
| 2 * | 49.707 | 57.01 | -29.12 | 27.89 | 40.00 | -12.11 | QP |
| 3 | 157.007 | 61.91 | -33.12 | 28.79 | 43.50 | -14.71 | QP |
| 4 | 216.783 | 61.85 | -29.58 | 32.27 | 46.00 | -13.73 | QP |
| 5 | 271.325 | 58.09 | -28.23 | 29.86 | 46.00 | -16.14 | QP |
| 6 | 776.878 | 44.70 | -16.78 | 27.92 | 46.00 | -18.08 | QP |

Mode1 / Polarization: Vertical / CH: L




| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 * | 46.995 | 58.95 | -29.24 | 29.71 | 40.00 | -10.29 | QP |
| 2 | 118.601 | 62.08 | -31.93 | 30.15 | 43.50 | -13.35 | QP |
| 3 | 216.783 | 63.10 | -29.58 | 33.52 | 46.00 | -12.48 | QP |
| 4 | 502.940 | 52.03 | -21.89 | 30.14 | 46.00 | -15.86 | QP |
| 5 | 684.745 | 49.79 | -17.15 | 32.64 | 46.00 | -13.36 | QP |
| 6 | 919.287 | 48.99 | -14.70 | 34.29 | 46.00 | -11.71 | QP |

Note:
1) For 9 kHz ~ 30 MHz Measurement
The EUT was pre-scanned this frequency band, found the radiated level 20dB lower than the limit, so don't show data on this report.
2) Level= Reading + Factor; Factor =Antenna Factor+ Cable Loss- Preamp Factor
3) Margin = Limit – Level

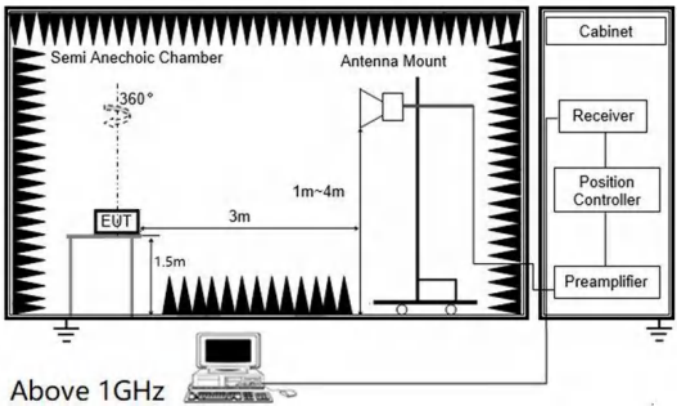
## 5.2.8. Radiated Spurious Emission (Above 1GHz)

| | |
|---|---|
| Test Requirement: | In addition, 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)).` |
| Test Limit: | <table><tr><th>Frequency (MHz)</th><th>Field strength (microvolts/meter)</th><th>Measurement distance (meters)</th></tr><tr><td>0.009-0.490</td><td>2400/F(kHz)</td><td>300</td></tr><tr><td>0.490-1.705</td><td>24000/F(kHz)</td><td>30</td></tr><tr><td>1.705-30.0</td><td>30</td><td>30</td></tr><tr><td>30-88</td><td>100 **</td><td>3</td></tr><tr><td>88-216</td><td>150 **</td><td>3</td></tr><tr><td>216-960</td><td>200 **</td><td>3</td></tr><tr><td>Above 960</td><td>500</td><td>3</td></tr></table> ** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.<br>In the emission table above, the tighter limit applies at the band edges.<br>The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for 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. |
| Test Method: | ANSI C63.10-2020 section 6.6.4 |
| Procedure: | 1. The EUT was setup and tested according to ANSI C63.10.<br>2. The EUT is placed on a turn table which is 0.8 meter above ground for below 1 GHz, and 1.5 m for above 1 GHz. The turn table is rotated 360 degrees to determine the position of the maximum emission level.<br>3. The EUT was set 3 meters from the receiving antenna, which was mounted on the top of a variable height antenna tower.<br>4. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.<br>5. Set to the maximum power setting and enable the EUT transmit continuously.<br>6. Use the following spectrum analyzer settings<br>a) Span shall wide enough to fully capture the emission being measured;<br>b) Set RBW=1MHz, VBW=3MHz for >1GHz, Sweep time=auto, Detector=peak, Trace=max hold for Peak measurement<br>For average measurement: use duty cycle correction factor method (DCCF)Averager level = Peak level + DCCF |

### 5.2.8.1. E.U.T. Operation

| Operating Environment: | | | | | |
|---|---|---|---|---|---|
| Temperature: | 23.5 °C | Humidity: | 55 % | Atmospheric Pressure: | 102 kPa |
| Pre test mode: | TM1,TM2,TM3 | | | | |
| Final test mode: | TM1,TM2,TM3 | | | | |

### 5.2.8.2. Test Setup Diagram




### 5.2.8.3. Test Result

Pass

## 5.2.8.4. Test Data

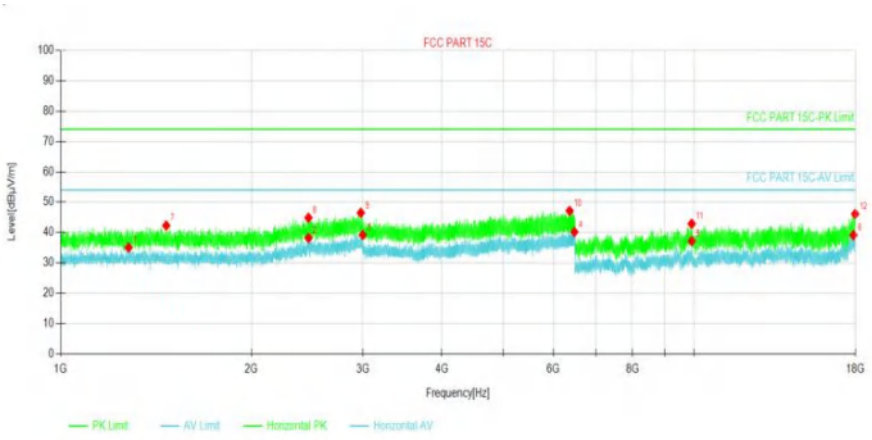
Note:

1. In order to prevent the amplifier from saturating, we add a band-stop filter that filters out the main frequency.

2.18GHz-25GHz is the background of the site, there is no radiated spurious.

3.Have pre-scan all test mode, found GFSK 1M which it was worst case, so only show the worst case’s data on this report.

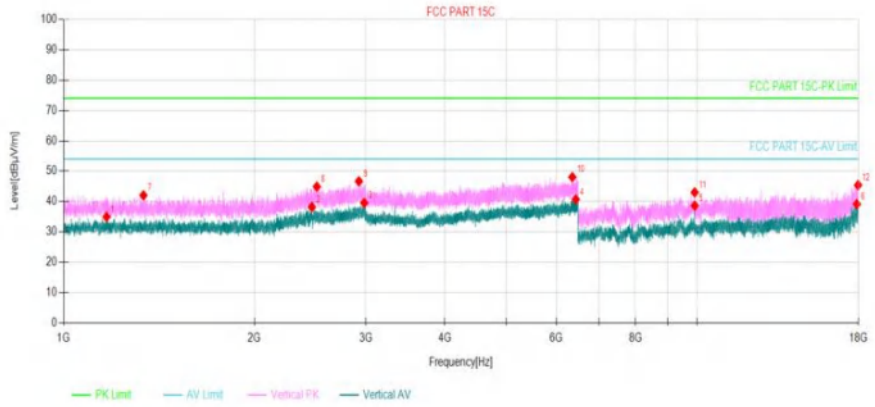
Mode1 / Polarization: Horizontal / CH: L




**Suspected Data List**

| NO. | Freq. [MHz] | Reading [dBµV/m] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Polarity | Verdict |
|---|---|---|---|---|---|---|---|---|
| 1 | 1280.4 | 32.78 | 35.06 | 2.28 | 54.00 | 18.94 | Horizontal | PASS |
| 2 | 2462.6 | 30.76 | 38.22 | 7.46 | 54.00 | 15.78 | Horizontal | PASS |
| 3 | 2999.4 | 29.24 | 39.20 | 9.96 | 54.00 | 14.80 | Horizontal | PASS |
| 4 | 6473.75 | 33.67 | 40.20 | 6.53 | 54.00 | 13.80 | Horizontal | PASS |
| 5 | 9921.25 | 33.81 | 37.22 | 3.41 | 54.00 | 16.78 | Horizontal | PASS |
| 6 | 17863.1 | 26.17 | 39.15 | 12.98 | 54.00 | 14.85 | Horizontal | PASS |
| 7 | 1467.8 | 39.19 | 42.33 | 3.14 | 74.00 | 31.67 | Horizontal | PASS |
| 8 | 2462.4 | 37.42 | 44.88 | 7.46 | 74.00 | 29.12 | Horizontal | PASS |
| 9 | 2978.6 | 36.71 | 46.50 | 9.79 | 74.00 | 27.50 | Horizontal | PASS |
| 10 | 6363.85 | 40.84 | 47.14 | 6.30 | 74.00 | 26.86 | Horizontal | PASS |
| 11 | 9920.1 | 39.48 | 42.89 | 3.41 | 74.00 | 31.11 | Horizontal | PASS |
| 12 | 17971.2 | 32.78 | 46.13 | 13.35 | 74.00 | 27.87 | Horizontal | PASS |

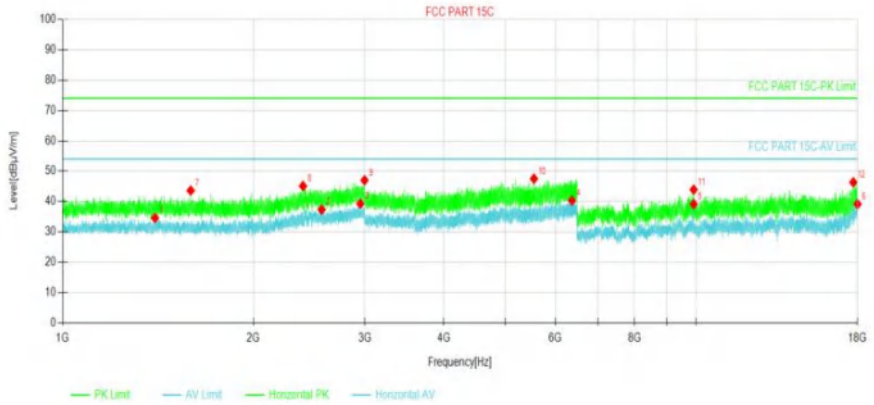
## Mode1 / Polarization: Vertical / CH: L




**Suspected Data List**

| NO. | Freq. [MHz] | Reading [dBµV/m] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Polarity | Verdict |
|---|---|---|---|---|---|---|---|---|
| 1 | 1168.4 | 33.42 | 34.98 | 1.56 | 54.00 | 19.02 | Vertical | PASS |
| 2 | 2466.4 | 30.69 | 38.18 | 7.49 | 54.00 | 15.82 | Vertical | PASS |
| 3 | 2982.6 | 29.73 | 39.55 | 9.82 | 54.00 | 14.45 | Vertical | PASS |
| 4 | 6435.95 | 34.19 | 40.72 | 6.53 | 54.00 | 13.28 | Vertical | PASS |
| 5 | 9921.25 | 35.21 | 38.62 | 3.41 | 54.00 | 15.38 | Vertical | PASS |
| 6 | 17889.6 | 26.22 | 39.14 | 12.92 | 54.00 | 14.86 | Vertical | PASS |
| 7 | 1336.2 | 39.45 | 42.05 | 2.60 | 74.00 | 31.95 | Vertical | PASS |
| 8 | 2510.8 | 37.23 | 44.92 | 7.69 | 74.00 | 29.08 | Vertical | PASS |
| 9 | 2925 | 37.37 | 46.70 | 9.33 | 74.00 | 27.30 | Vertical | PASS |
| 10 | 6356.85 | 41.82 | 48.07 | 6.25 | 74.00 | 25.93 | Vertical | PASS |
| 11 | 9920.1 | 39.62 | 43.03 | 3.41 | 74.00 | 30.97 | Vertical | PASS |
| 12 | 17965.5 | 32.13 | 45.44 | 13.31 | 74.00 | 28.56 | Vertical | PASS |

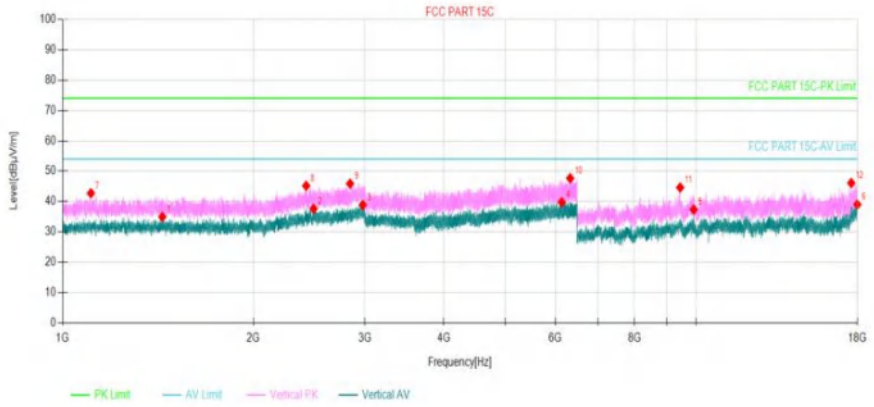
## Mode1 / Polarization: Horizontal / CH: M




**Suspected Data List**

| NO. | Freq. [MHz] | Reading [dBµV/m] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Polarity | Verdict |
|---|---|---|---|---|---|---|---|---|
| 1 | 1398.8 | 31.68 | 34.60 | 2.92 | 54.00 | 19.40 | Horizontal | PASS |
| 2 | 2564.2 | 29.92 | 37.35 | 7.43 | 54.00 | 16.65 | Horizontal | PASS |
| 3 | 2951.4 | 29.73 | 39.29 | 9.56 | 54.00 | 14.71 | Horizontal | PASS |
| 4 | 6372.95 | 33.98 | 40.33 | 6.35 | 54.00 | 13.67 | Horizontal | PASS |
| 5 | 9921.25 | 35.74 | 39.15 | 3.41 | 54.00 | 14.85 | Horizontal | PASS |
| 6 | 17996.5 | 25.64 | 39.15 | 13.51 | 54.00 | 14.85 | Horizontal | PASS |
| 7 | 1592.6 | 40.41 | 43.64 | 3.23 | 74.00 | 30.36 | Horizontal | PASS |
| 8 | 2396 | 38.16 | 45.13 | 6.97 | 74.00 | 28.87 | Horizontal | PASS |
| 9 | 2996.8 | 37.09 | 47.03 | 9.94 | 74.00 | 26.97 | Horizontal | PASS |
| 10 | 5549.05 | 44.22 | 47.54 | 3.32 | 74.00 | 26.46 | Horizontal | PASS |
| 11 | 9920.1 | 40.52 | 43.93 | 3.41 | 74.00 | 30.07 | Horizontal | PASS |
| 12 | 17724 | 34.26 | 46.37 | 12.11 | 74.00 | 27.63 | Horizontal | PASS |

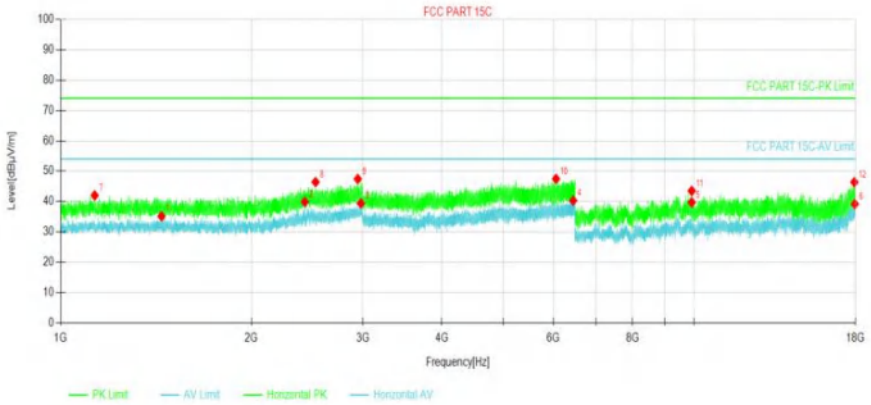
## Mode1 / Polarization: Vertical / CH: M




**Suspected Data List**

| NO. | Freq. [MHz] | Reading [dBµV/m] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Polarity | Verdict |
|---|---|---|---|---|---|---|---|---|
| 1 | 1436.8 | 31.92 | 34.96 | 3.04 | 54.00 | 19.04 | Vertical | PASS |
| 2 | 2490.6 | 29.99 | 37.66 | 7.67 | 54.00 | 16.34 | Vertical | PASS |
| 3 | 2977.6 | 29.11 | 38.89 | 9.78 | 54.00 | 15.11 | Vertical | PASS |
| 4 | 6140.55 | 34.29 | 39.78 | 5.49 | 54.00 | 14.22 | Vertical | PASS |
| 5 | 9921.25 | 33.99 | 37.40 | 3.41 | 54.00 | 16.60 | Vertical | PASS |
| 6 | 17985.0 | 25.60 | 39.04 | 13.44 | 54.00 | 14.96 | Vertical | PASS |
| 7 | 1108 | 41.60 | 42.74 | 1.14 | 74.00 | 31.26 | Vertical | PASS |
| 8 | 2424 | 38.02 | 45.19 | 7.17 | 74.00 | 28.81 | Vertical | PASS |
| 9 | 2843.4 | 37.16 | 45.89 | 8.73 | 74.00 | 28.11 | Vertical | PASS |
| 10 | 6331.3 | 41.59 | 47.67 | 6.08 | 74.00 | 26.33 | Vertical | PASS |
| 11 | 9442.85 | 41.53 | 44.63 | 3.10 | 74.00 | 29.37 | Vertical | PASS |
| 12 | 17590.6 | 33.76 | 46.12 | 12.36 | 74.00 | 27.88 | Vertical | PASS |

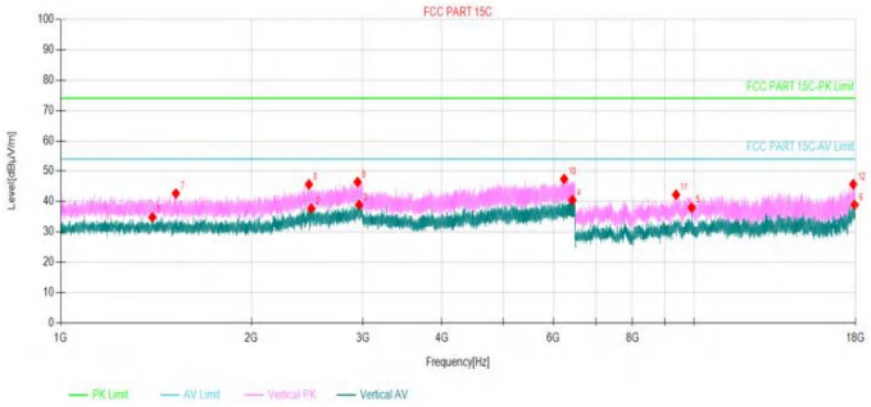
## Mode1 / Polarization: Horizontal / CH: H




**Suspected Data List**

| NO. | Freq. [MHz] | Reading [dBµV/m] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Polarity | Verdict |
|---|---|---|---|---|---|---|---|---|
| 1 | 1443 | 32.10 | 35.16 | 3.06 | 54.00 | 18.84 | Horizontal | PASS |
| 2 | 2429.8 | 32.69 | 39.90 | 7.21 | 54.00 | 14.10 | Horizontal | PASS |
| 3 | 2978.8 | 29.64 | 39.43 | 9.79 | 54.00 | 14.57 | Horizontal | PASS |
| 4 | 6445.75 | 33.80 | 40.33 | 6.53 | 54.00 | 13.67 | Horizontal | PASS |
| 5 | 9921.25 | 36.33 | 39.74 | 3.41 | 54.00 | 14.26 | Horizontal | PASS |
| 6 | 17951.7 | 25.97 | 39.19 | 13.22 | 54.00 | 14.81 | Horizontal | PASS |
| 7 | 1131.6 | 40.72 | 42.02 | 1.30 | 74.00 | 31.98 | Horizontal | PASS |
| 8 | 2526.2 | 38.83 | 46.44 | 7.61 | 74.00 | 27.56 | Horizontal | PASS |
| 9 | 2945 | 37.94 | 47.44 | 9.50 | 74.00 | 26.56 | Horizontal | PASS |
| 10 | 6056.2 | 42.15 | 47.48 | 5.33 | 74.00 | 26.52 | Horizontal | PASS |
| 11 | 9920.1 | 40.10 | 43.51 | 3.41 | 74.00 | 30.49 | Horizontal | PASS |
| 12 | 17920.6 | 33.36 | 46.39 | 13.03 | 74.00 | 27.61 | Horizontal | PASS |

Mode1 / Polarization: Vertical / CH: H




**Suspected Data List**

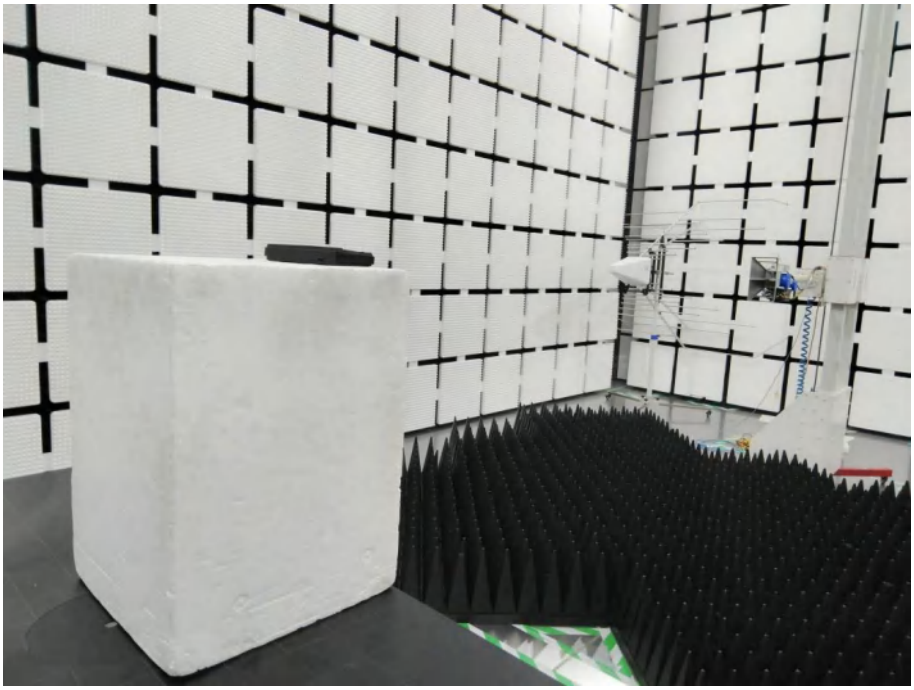
| NO. | Freq. [MHz] | Reading [dBµV/m] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Polarity | Verdict |
|---|---|---|---|---|---|---|---|---|
| 1 | 1395.8 | 31.90 | 34.81 | 2.91 | 54.00 | 19.19 | Vertical | PASS |
| 2 | 2487.4 | 30.09 | 37.74 | 7.65 | 54.00 | 16.26 | Vertical | PASS |
| 3 | 2960.4 | 29.29 | 38.92 | 9.63 | 54.00 | 15.08 | Vertical | PASS |
| 4 | 6427.55 | 33.94 | 40.47 | 6.53 | 54.00 | 13.53 | Vertical | PASS |
| 5 | 9921.25 | 34.61 | 38.02 | 3.41 | 54.00 | 15.98 | Vertical | PASS |
| 6 | 17945.9 | 25.75 | 38.94 | 13.19 | 54.00 | 15.06 | Vertical | PASS |
| 7 | 1520.4 | 39.42 | 42.65 | 3.23 | 74.00 | 31.35 | Vertical | PASS |
| 8 | 2466.6 | 38.17 | 45.66 | 7.49 | 74.00 | 28.34 | Vertical | PASS |
| 9 | 2943.4 | 36.96 | 46.45 | 9.49 | 74.00 | 27.55 | Vertical | PASS |
| 10 | 6237.85 | 41.72 | 47.45 | 5.73 | 74.00 | 26.55 | Vertical | PASS |
| 11 | 9370.4 | 39.33 | 42.24 | 2.91 | 74.00 | 31.76 | Vertical | PASS |
| 12 | 17853.9 | 32.73 | 45.73 | 13.00 | 74.00 | 28.27 | Vertical | PASS |

Note:
1) Level= Reading + Factor; Factor =Antenna Factor+ Cable Loss- Preamp Factor
2) Margin = Limit – Level
3) Average measurement was not performed if peak level is lower than average limit (54dBuV/m) for above 1GHz.

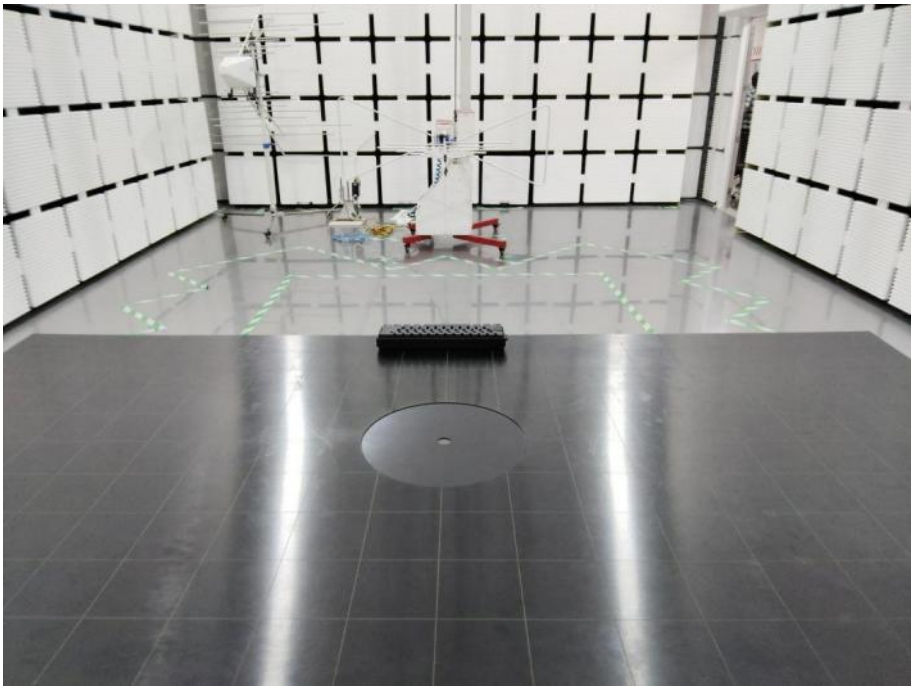
# 6. TEST SETUP PHOTOS

Conducted Emission at AC power line

Radiated band edge emission
Radiated Spurious Emission (Above 1GHz)



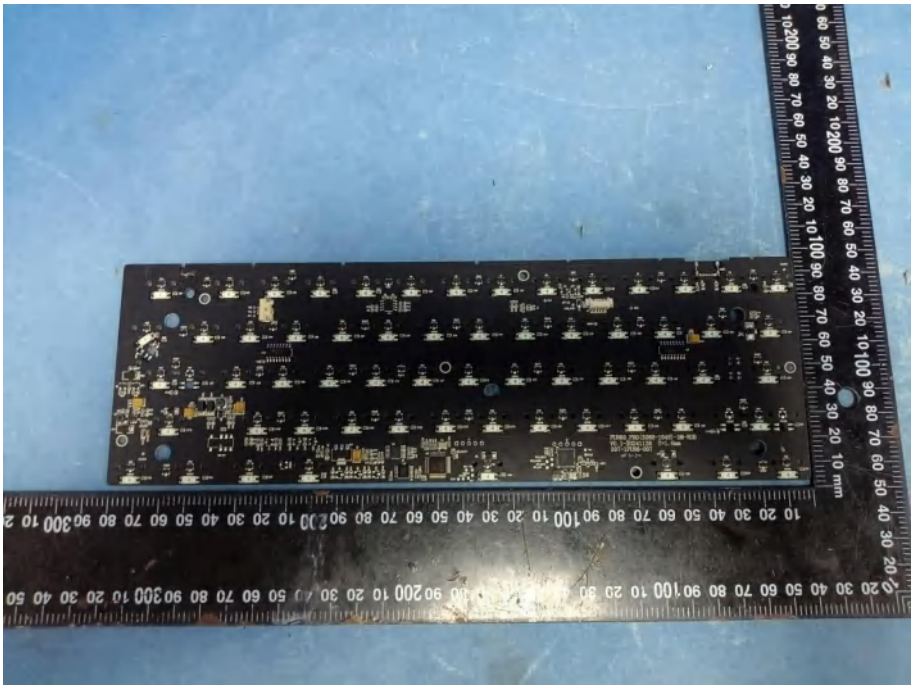
Radiated Spurious Emission (below 1GHz)

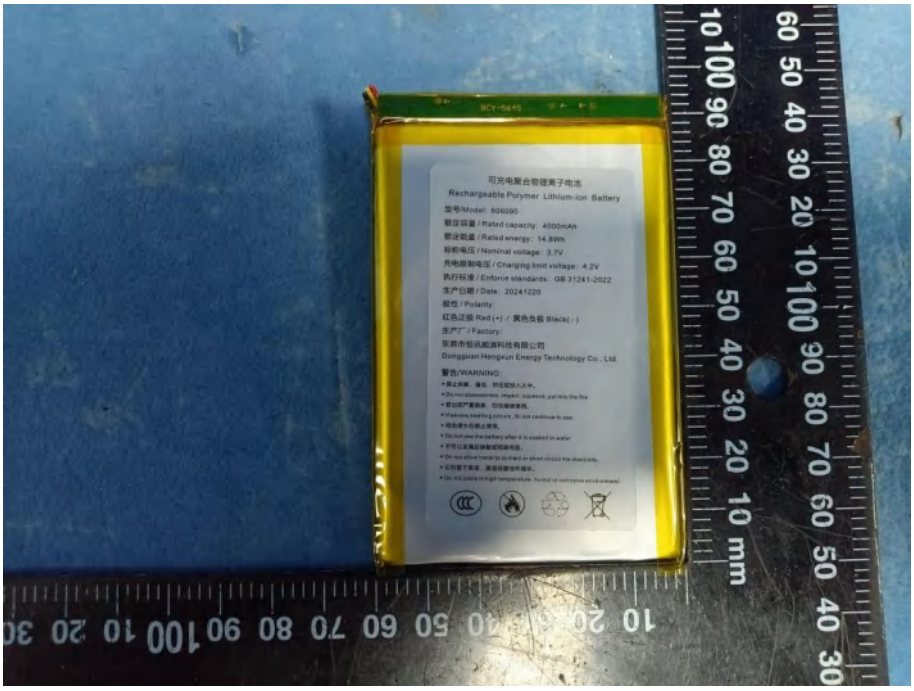


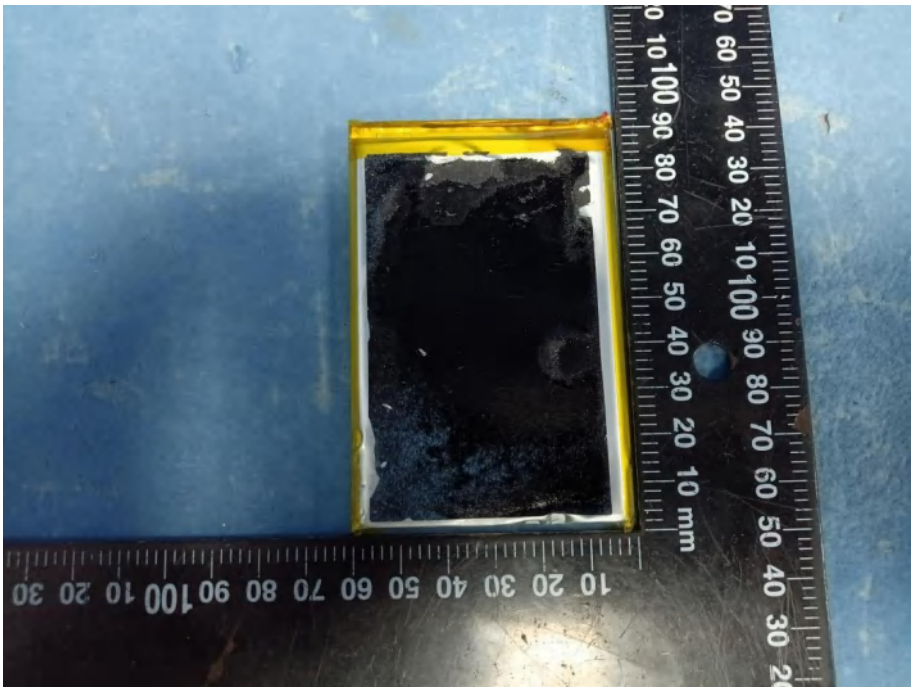
# 7. EXTERNAL AND INTERNAL PHOTOS

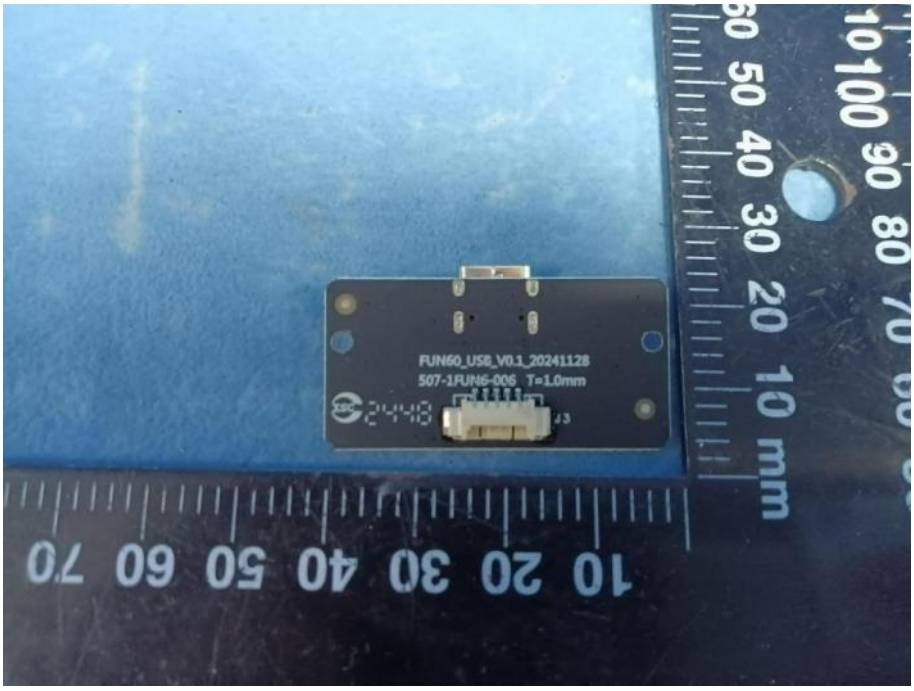
## 7.1. External Photos

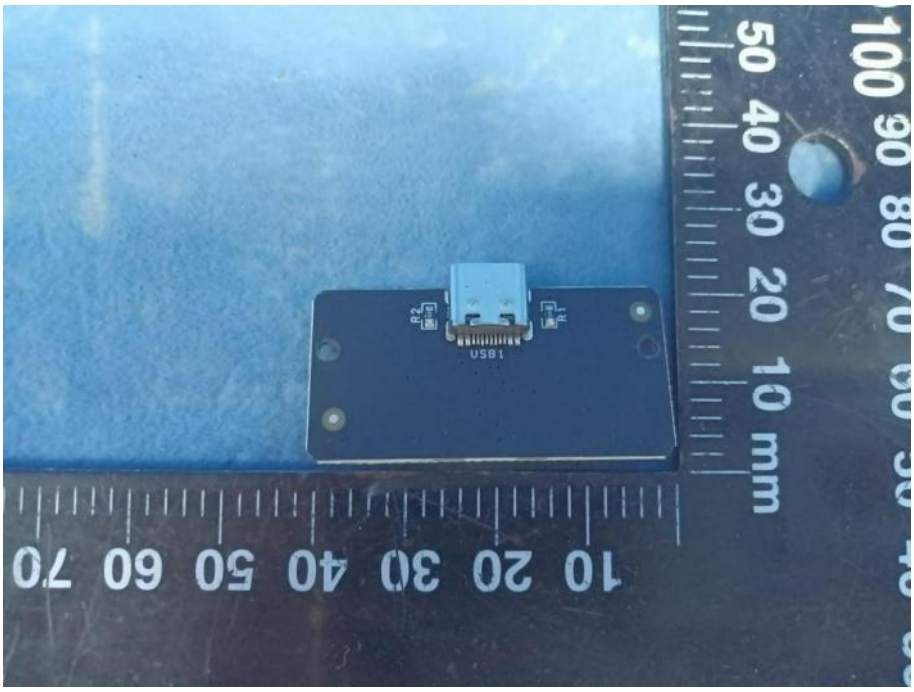
## 7.2. Internal Photos

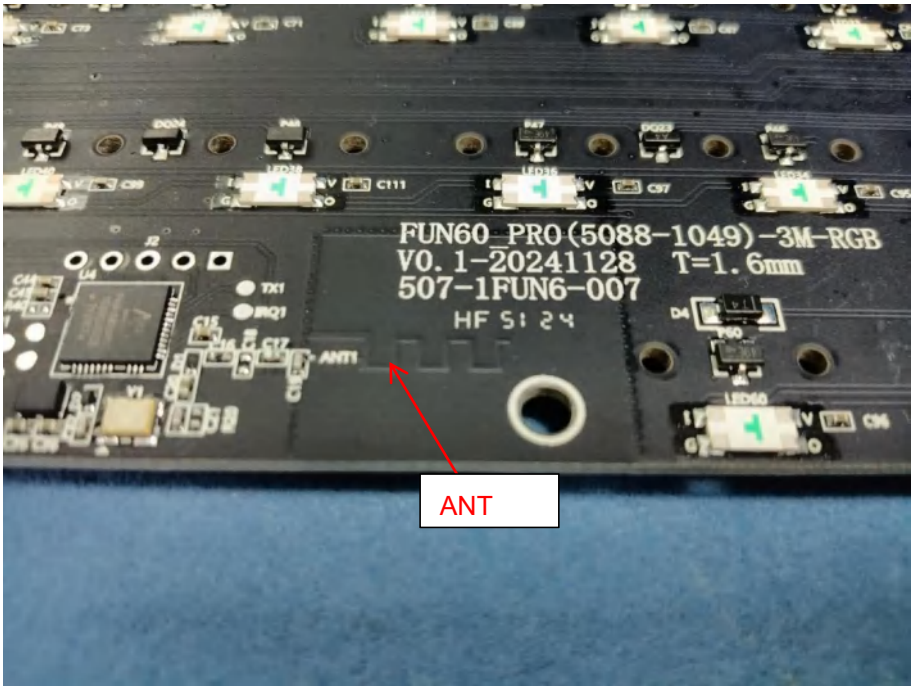


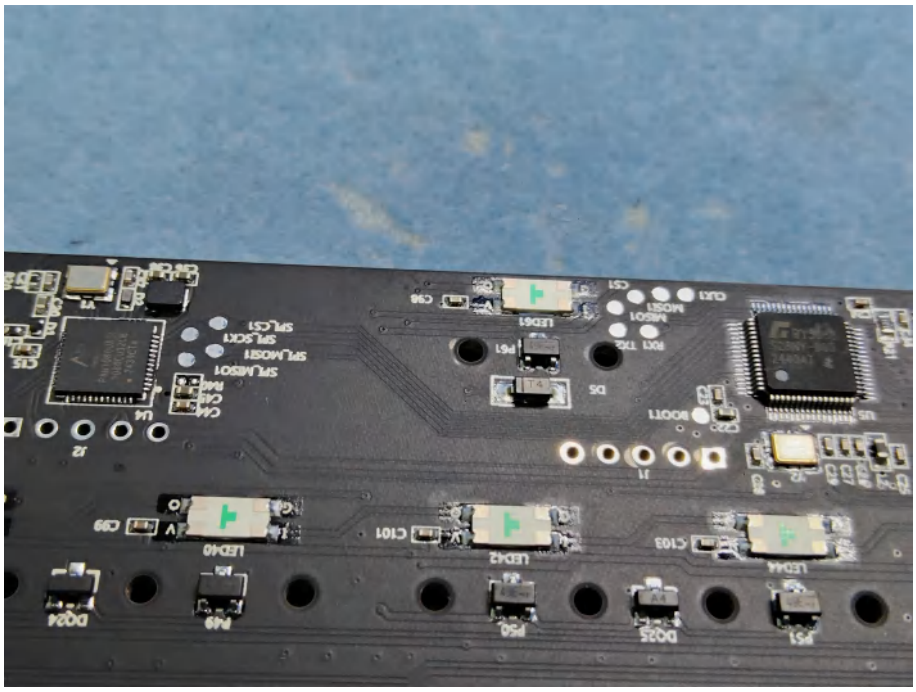

可充电聚合物锂离子电池
Rechargeable Polymer Lithium-ion Battery
Dongguan Hengxun Energy Technology Co., Ltd.



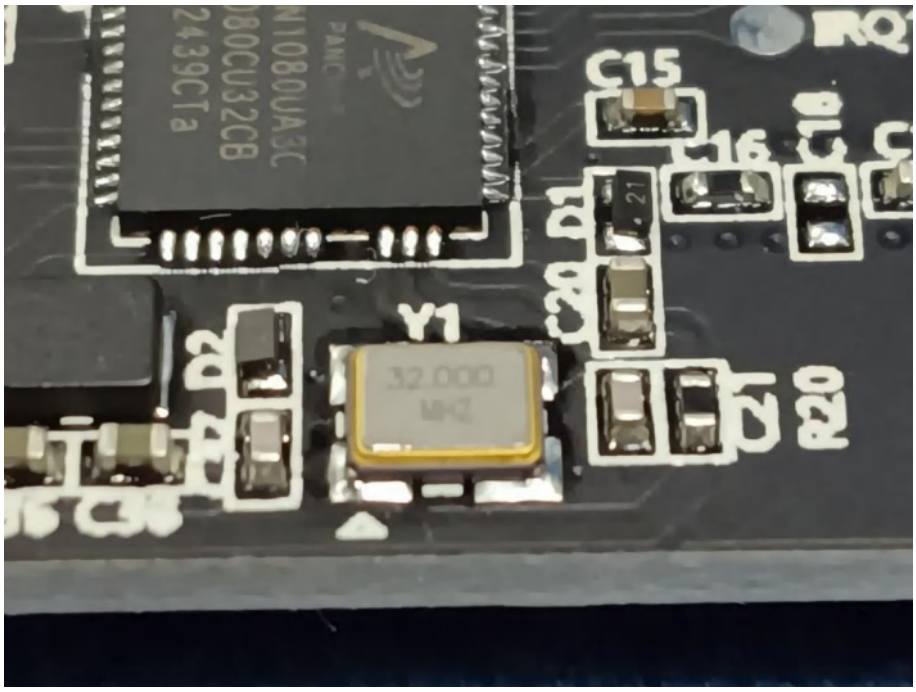

FUN60_USB_V0.1_20241128
507-1FUN6-006 T=1.0mm

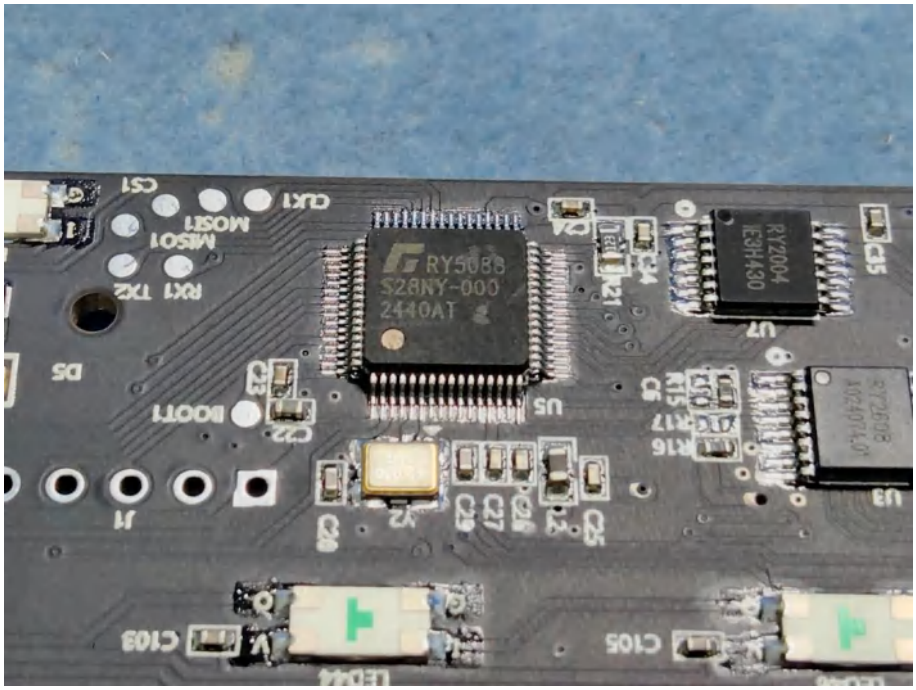

USB1
10 20 30 40 50 60 70
50 40 30 20 10 mm
100 90 80 70


FUN60_PRO(5088-1049)-3M-RGB
V0.1-20241128 T=1.6mm
507-1FUN6-007
HF 51 24
ANT1
ANT



PAN1080UA3C
1080CU32CB
2439CTa


C15
C16
C18
D1
C20
Y1
32.000
MHZ
C21
R20


RY5088
S28NY-000
2440AT
RY2004
E3H430
U7
U5
U3
J1
C103
C105