# FCC TEST REPORT

# FCC ID: 2A595YH-667

| | | |
|---|---|---|
| Product | : | LED remote controller |
| Model Name | : | YH-667 |
| Additional Model | : | YH-686,YH-690 |
| Brand | : | N/A |
| Report No. | : | PTC26052218105E-FC01 |

**Prepared for**

Dongguan Yihong Hardware electronics Co., LTD

Room 901, No. 2, Shangheng Road, Chang'an Town, Dongguan City, Guangdong Province, 523880 China

**Prepared by**

Precise Testing & Certification Co., Ltd.

Building 1, No. 6, Tongxin Road, Dongcheng Street, Dongguan, Guangdong, China

# 1 TEST RESULT CERTIFICATION

| | | |
|---|---|---|
| Applicant's name | : | Dongguan Yihong Hardware electronics Co., LTD |
| Address | : | Room 901, No. 2, Shangheng Road, Chang'an Town, Dongguan City, Guangdong Province, 523880 China |
| Manufacture's name | : | Dongguan Yihong Hardware electronics Co., LTD |
| Address | : | Room 901, No. 2, Shangheng Road, Chang'an Town, Dongguan City, Guangdong Province, 523880 China |
| Product name | : | LED remote controller |
| Model Name | : | YH-667 |
| Additional Model | : | YH-686, YH-690 |
| Standards | : | FCC Part15 Subpart C, Paragraph 15.249 |
| Test procedure | : | ANSI C63.10-2020+Cor.1-2023 |
| Test Date | : | June 01, 2026 to June 24, 2026 |
| Date of Issue | : | June 28, 2026 |
| Test Result | : | Pass |

This device described above has been tested by PTC, 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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Test Engineer:

Jack zhou / Engineer

Technical Manager:

Simon Pu / Manager

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# 2 Test Summary

| Standard Section | Test Item | Result |
|---|---|---|
| 15.203 | Antenna Requirement | PASS |
| 15.207 | Conducted Emission | N/A |
| 15.249 | Radiated Emission | PASS |
| 15.215(c) | 20dB Bandwidth | PASS |
| 15.249(d) | Band Edge | PASS |
| **Remark:** “N/A” is an abbreviation for Not Applicable. | | |

Remark:N/A

## 2.1 Test Site

Precise Testing & Certification Co., Ltd.

Address: Building 1, No. 6, Tongxin Road, Dongcheng Street, Dongguan, Guangdong, China

FCC Registration Number: 790290

A2LA Certificate No.: 4408.01

IC Registration Number: 12191A

FCC Designation Number: CN1219

# 3 General Information

## 3.1 General Description of E.U.T.

| | | |
|---|---|---|
| Product Name | : | LED remote controller |
| Model Name | : | YH-667,YH-686,YH-690 |
| Operating frequency | : | 2402MHz-2480MHz |
| Data Rate | : | 1Mbps |
| Channels | : | 40 Channels |
| Antenna installation: | : | PCB antenna |
| Type of Modulation | : | GFSK |
| Antenna Gain | : | 5.3 dBi |
| Power supply | : | DC 3V(1.5 V*2 AAA dry battery) |
| Hardware version | : | YH-10667 |
| Software version | : | YH-667.02 |

Models Difference:
Only the external panel is different because the devices are designed to adjust different parameters of LED lights.

## 3.2 Channel List

The EUT has been tested under its typical operating condition. Pre-defined engineering program for regulatory testing used to control the EUT for staying in continuous transmitting.Unless otherwise specified, this only reflects the data for the worst-case mode of 2440 MHz.

The EUT has been associated with peripherals pursuant to ANSI C63.10-2020+Cor.1-2023 and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: radiation (9 KHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

The details of test channels and bandwidth were for RF conductive measurement.

Channel List:

| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---|---|---|---|---|---|
| 00 | **2402** | 14 | 2430 | 28 | 2458 |
| 01 | 2404 | 15 | 2432 | 29 | 2460 |
| 02 | 2406 | 16 | 2434 | 30 | 2462 |
| 03 | 2408 | 17 | 2436 | 31 | 2464 |
| 04 | 2410 | 18 | 2438 | 32 | 2466 |
| 05 | 2412 | 19 | **2440** | 33 | 2468 |
| 06 | 2414 | 20 | 2442 | 34 | 2470 |
| 07 | 2416 | 21 | 2444 | 35 | 2472 |
| 08 | 2418 | 22 | 2446 | 36 | 2474 |
| 09 | 2420 | 23 | 2448 | 37 | 2476 |
| 10 | 2422 | 24 | 2450 | 38 | 2478 |
| 11 | 2424 | 25 | 2452 | 39 | **2480** |
| 12 | 2426 | 26 | 2454 | | |
| 13 | 2428 | 27 | 2456 | | |

Note:

1. Test of channel was included the lowest 2402MHz, middle 2440MHz and highest frequency 2480MHz in 1Mbps data rate and to perform the test, Unless otherwise specified, this only reflects the data for the worst-case mode of 2440 MHz.

2. EUT used the new batteries during test.

# 4 Equipment During Test

## 4.1 Equipments List

RF Conducted Test

| Name of Equipment | Manufacturer | Model | Serial No. | Characteristics | Last Calibration | Calibration Interval |
|---|---|---|---|---|---|---|
| MXG Signal Analyzer | Agilent | N9020A | SER MY5111038 | 10Hz-26.5GHz | Aug.14, 2025 | 1 Year |
| Coaxial Cable | CDS | 79254 | 46107086 | 10Hz-30GHz | Aug.14, 2025 | 1 Year |
| Power Meter | Anritsu | ML2495A | 0949003 | 300MHz-40GHz | Aug.14, 2025 | 1 Year |
| Power Sensor | Anritsu | MA2411B | 0917017 | 300MHz-40GHz | Aug.14, 2025 | 1 Year |
| Test S/W | Tonscend | JS1120-3 | / | / | / | / |

Remark: The temporary antenna connector is soldered on the PCB board in order to perform conducted tests and this temporary antenna connector is listed in the equipment list.

| Name of Equipment | Manufacturer | Model | Serial No. | Characteristics | Last Calibration | Calibration Interval |
|---|---|---|---|---|---|---|
| EMI Test Receiver | Rohde&Schwarz | ESPI7 | 101671 | 9KHz-7GHz | Aug.14, 2025 | 1 Year |
| Loop Antenna | Schwarzbeck | FMZB 1519 | 192 | 9 KHz -30MHz | Aug.14, 2025 | 1 Year |
| Bilog Antenna | SCHWARZBECK | VULB9160 | 9160-3355 | 25MHz-2GHz | Sep.09, 2025 | 1 Year |
| Preamplifier (low frequency) | SCHWARZBECK | BBV 9475 | 9745-0013 | 1MHz-1GHz | Aug.14, 2025 | 1 Year |
| Cable | IMRO | AK-9515E(9m) | Cable-L | 9KHz-3GHz | Aug.14, 2025 | 1 Year |
| Spectrum Analyzer | Rohde&Schwarz | FSV40 | 6625-01-588-5515 | 9KHz-40GHz | Aug.14, 2025 | 1 Year |
| Horn Antenna | SCHWARZBECK | 9120D | 9120D-1246 | 1GHz-18GHz | Aug.14, 2025 | 1 Year |
| Power Amplifier | ZHINAN | ZN3380C | 15002 | 1GHz-26.5GHz | Aug.14, 2025 | 1 Year |
| Horn Antenna | SCHWARZBECK | BBHA 9170 | 9170-1066 | 15GHz-40GHz | Jul. 18, 2025 | 1 Year |

| | | | | | | |
|---|---|---|---|---|---|---|
| Amplifier | SCHWARZBECK | BBV 9721 | 9721-205 | 18GHz-40GHz | Jul. 18, 2025 | 1 Year |
| Cable | H+S | CBL-26 | N/A | 1GHz-26.5GHz | Aug.14, 2025 | 1 Year |
| RF Cable | R&S | R204 | R21X | 1GHz-40GHz | Aug.14, 2025 | 1 Year |
| Test S/W | Tonscend | TS+ | / | / | / | / |

Conducted Emissions

| Name of Equipment | Manufacturer | Model | Serial No. | Characteristics | Calibration Date | Calibration Interval |
|---|---|---|---|---|---|---|
| EMI Test Receiver | Rohde&Schwarz | ESCI | 101417 | 9KHz-3GHz | Aug.14, 2025 | 1 Year |
| Artificial Mains Network | Rohde&Schwarz | ENV216 | 102453 | 9KHz-300MHz | Aug.14, 2025 | 1 Year |
| Artificial Mains Network | Rohde&Schwarz | ENV216 | 101342 | 9KHz-300MHz | Aug.14, 2025 | 1 Year |
| Limiter | R&S | ESH3-Z2 | 0357.8810.54-102808-NB | 0Hz-30MHz | Aug.14, 2025 | 1 Year |
| RF Switch | DIAMOND ANTENNA | CX-210 | / | 0.09MHz-6GHz | Mar. 22,2026 | 1 Year |
| Test S/W | Tonscend | JS32-CE | / | / | / | / |

## 4.2 Measurement Uncertainty

| Parameter | Uncertainty |
|---|---|
| RF output power, conducted | ±1.0dB |
| Power Spectral Density, conducted | ±2.2dB |
| Radio Frequency | ± 1 x $10^{-6}$ |
| Bandwidth | ± 1.5 x $10^{-6}$ |
| Time | ±2% |
| Duty Cycle | ±2% |
| Temperature | ±1°C |
| Humidity | ±5% |
| DC and low frequency voltages | ±3% |
| Conducted Emissions (150kHz~30MHz) | ±3.64dB |
| Radiated Emission(30MHz~1GHz) | ±5.03dB |
| Radiated Emission(1GHz~25GHz) | ±4.74dB |
| Radiated Emission(9KHz~30MHz) | ±3.15dB |

## 4.3 Description of Support Units

| Equipment | Model No. | Series No. |
|---|---|---|
| N/A | N/A | N/A |

# 5 Conducted Emission

| | | |
|---|---|---|
| Test Requirement | : | FCC CFR 47 Part 15 Section 15.207 |
| Test Method | : | ANSI C63.10-2020+Cor.1-2023 |
| Test Result | : | PASS |
| Frequency Range | : | 150kHz to 30MHz |
| Class/Severity | : | Class B |

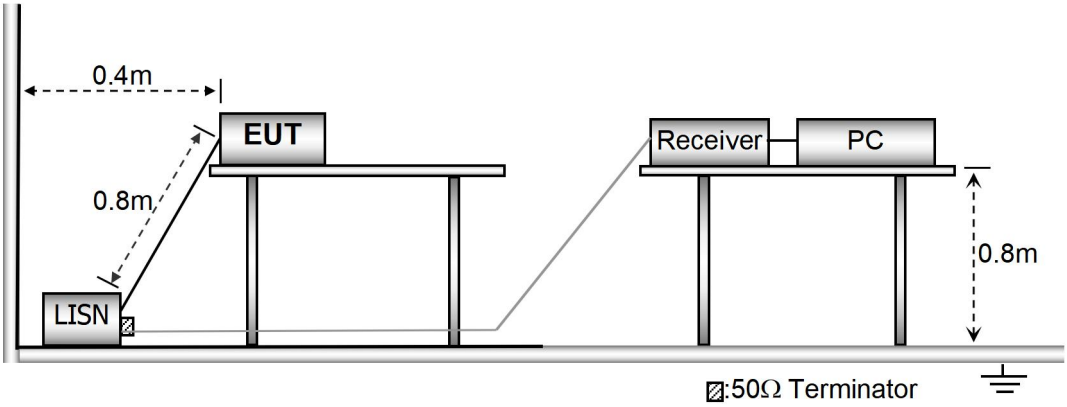
## 5.1 E.U.T. Operation

Operating Environment :

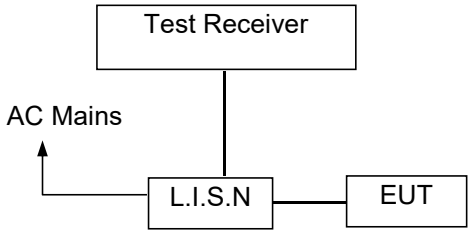
| | | |
|---|---|---|
| Temperature | : | 25.5 °C |
| Humidity | : | 51 % RH |
| Atmospheric Pressure | : | 101.2kPa |

## 5.2 EUT Setup

The conducted emission tests were performed using the setup accordance with the ANSI C63.10-2020+Cor.1-2023.



## 5.3 Test SET-UP (Block Diagram of Configuration)




## 5.4 Measurement Procedure

1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured was complete.

## 5.5 Conducted Emission Limit

**Conducted Emission**

| Frequency(MHz) | Quasi-peak | Average |
|---|---|---|
| 0.15-0.5 | 66-56 | 56-46 |
| 0.5-5.0 | 56 | 46 |
| 5.0-30.0 | 60 | 50 |

**Note:**
1. The lower limit shall apply at the transition frequencies
2.The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

## 5.6 Measurement Description

The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

## 5.7 Conducted Emission Test Result

N/A.

# 6 Radiated Emission and Band Edge

## 6.1 Test Standard and Limit

| Test Standard | FCC Part15 C Section 15.209 and 15.205 | | | | |
|---|---|---|---|---|---|
| Test Limit | Frequency (MHz) | Field strength (microvolt/meter) | Limit (dBuV/m) | Remark | Measurement distance (m) |
| | 0.009MHz~0.490MHz | 2400/F(kHz) | - | - | 300 |
| | 0.490MHz-1.705MHz | 24000/F(kHz) | - | - | 30 |
| | 1.705MHz-30MHz | 30 | - | - | 30 |
| | 30MHz~88MHz | 100 | 40.0 | Quasi-peak | 3 |
| | 88MHz~216MHz | 150 | 43.5 | Quasi-peak | 3 |
| | 216MHz~960MHz | 200 | 46.0 | Quasi-peak | 3 |
| | 960MHz~1000MHz | 500 | 54.0 | Quasi-peak | 3 |
| | Above 1000MHz | 500 | 54.0 | Average | 3 |
| | | - | 74.0 | Peak | 3 |

**Remark:**

(1)The lower limit shall apply at the transition frequency.

(2) 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

| Test Standard | FCC Part15 C Section 15.249 | | | | | |
|---|---|---|---|---|---|---|
| Test Limit | Frequency (MHz) | Field Strength of fundamental ((millivolts /meter) | Field Strength of Harmonics (microvolts/meter) | Limit (dBuV/m) | Remark | Measurement distance (m) |
| | 2400~2483.5 | 50 | - | 114.0 | Peak | 3 |
| | 2400~2483.5 | 50 | - | 94.0 | Average | 3 |
| | 2400~2483.5 | - | 500 | 74.0 | Peak | 3 |
| | 2400~2483.5 | - | 500 | 54.0 | Average | 3 |

Remark:

(1) 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

(2) § 15.249(d) Emissions radiated outside of the specified frequency bands, except for harmonicsshall be attenuated by at least 50 dB below the level of the fundamental or to the general radiatedemission limits in § 15.209,whichever is the lesser attenuation.

## 6.2 Test Setup

Figure 1. Below 30MHz

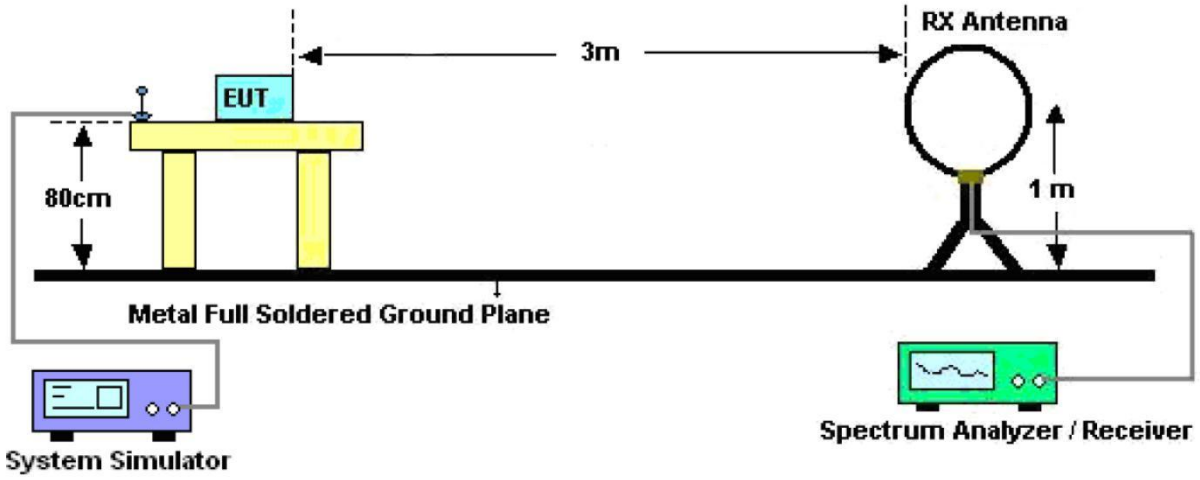



Figure 2. 30MHz to 1GHz

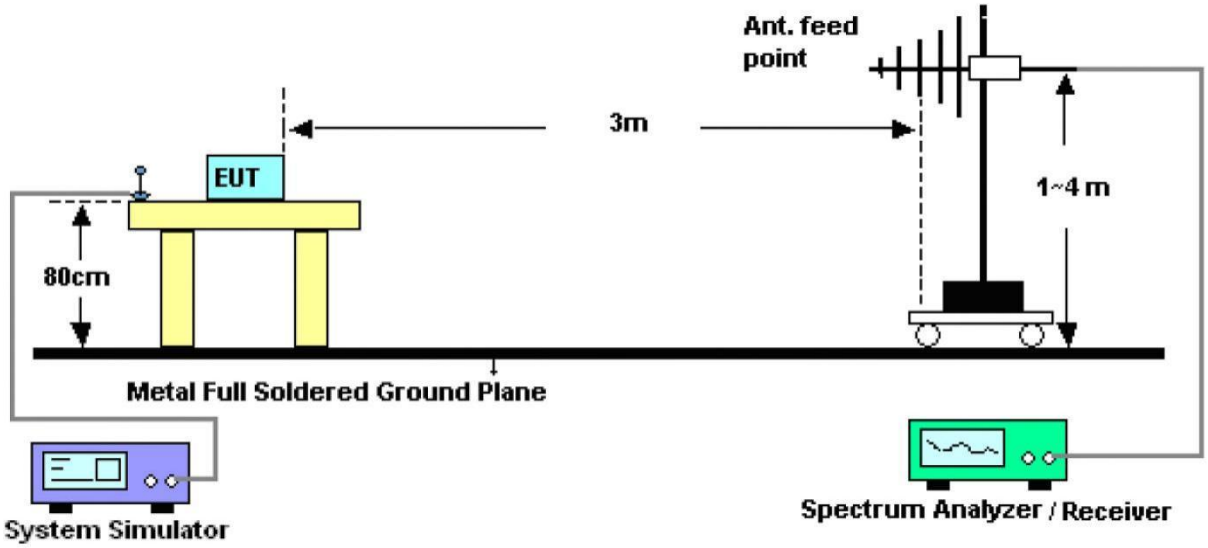
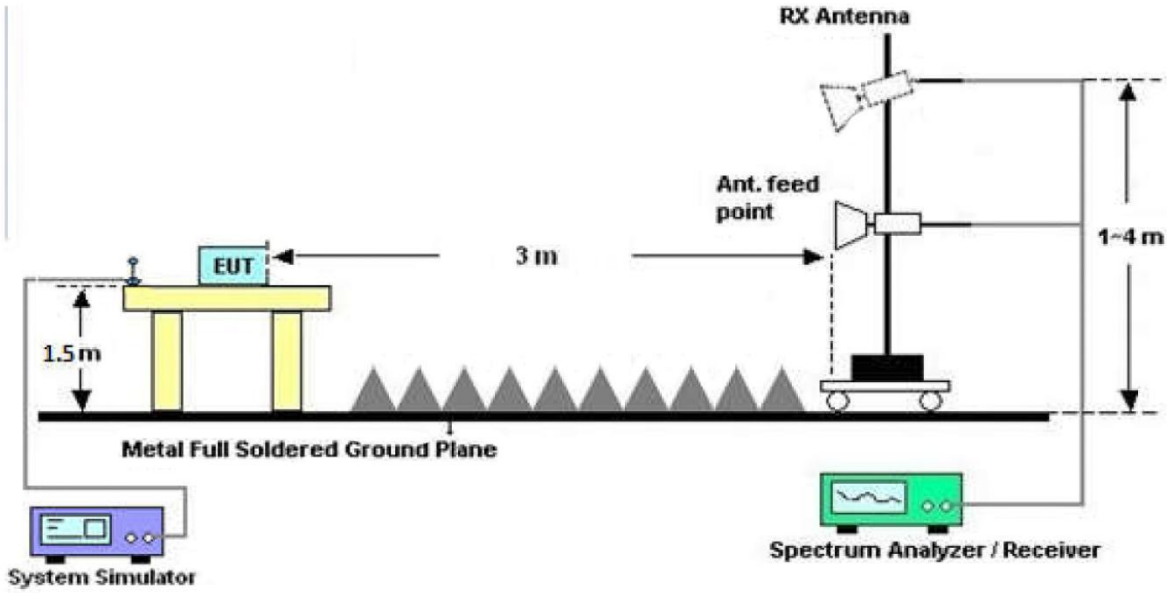


Figure 3. Above 1 GHz




## 6.3 Test Procedure

For below 1GHz: The EUT is placed on a turntable, which is 0.8m above the ground plane.

For above 1GHz: The EUT is placed on a turntable, which is 1.5m above the ground plane.

The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Rotated the EUT through three orthogonal axes to determine the maximum emissions, both horizontal and vertical polarization of the antenna are set on test. The EUT is tested in 9*6*6 Chamber. The device is evaluated in xyz orientation.

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.

For 9kHz to 150kHz, Set the spectrum analyzer as:

RBW = 200Hz, VBW =1kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For 150kHz to 30MHz, Set the spectrum analyzer as:

RBW = 9KHz, VBW =30kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For 30MHz to 1000MHz, Set the spectrum analyzer as:

RBW = 100kHz, VBW =300kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

.

For above 1GHz,Set the spectrum analyzer as:

RBW =1MHz, VBW =1MHz, Detector= Peak, Trace mode= Max hold, Sweep- auto couple.

RBW =1MHz, VBW =10Hz, Detector= Average, Trace mode= Max hold, Sweep- auto couple.

## 6.4 Test Data

**PASS**

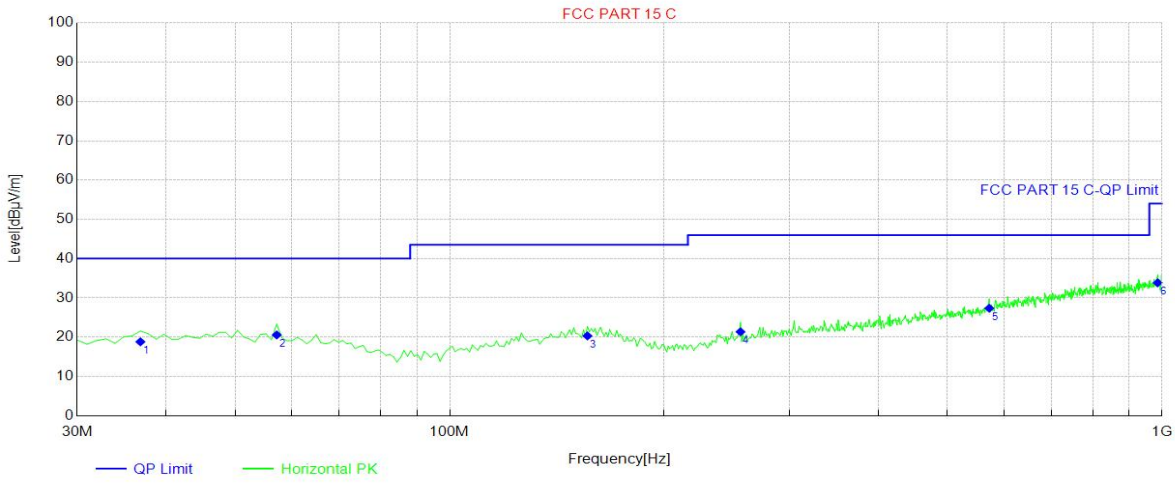
During the test, Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the X-axis is the worst case.

The test results of 9kHz-30MHz was attenuated more than 20dB below the permissible limits, so the results don't record in the report.

During the test, pre-scan all the modes, and found the Middle channel which is the worst case, only the worst case is recorded in the report

All the modulation modes were tested the data of the worst mode ( GFSK TX 2440MHz) are recorded in the following pages and the others modulation methods do not exceed the limits.

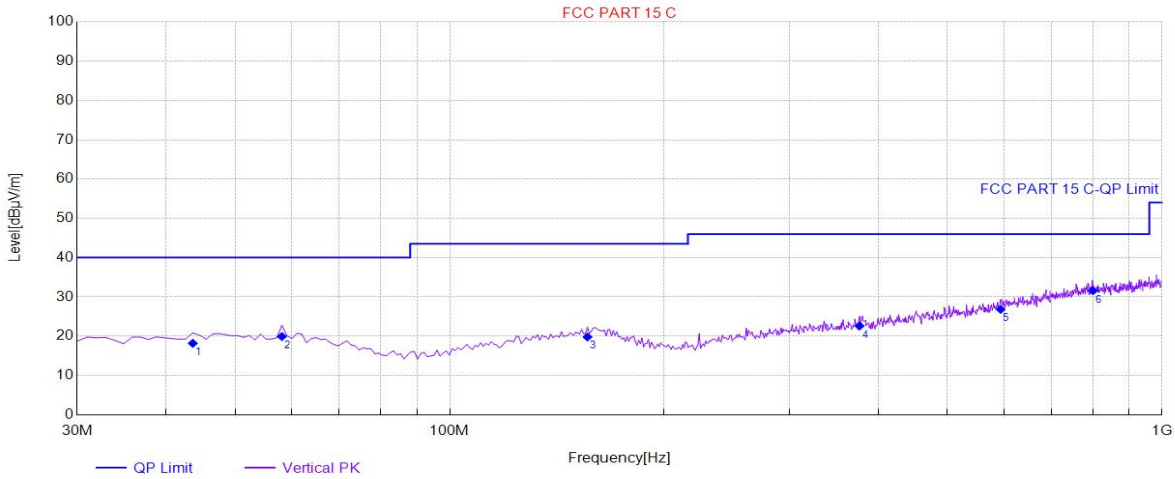
Test plot for Horizontal




| Final Data List[QP] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | QP Reading [dBμV] | Factor [dB/m] | QP Value [dBμV/m] | QP Limit [dBμV/m] | QP Margin [dB] | Polarity | Verdict |
| 1 | 36.79 | 28.90 | -10.09 | 18.81 | 40.00 | 21.19 | Horizontal | PASS |
| 2 | 57.16 | 30.58 | -10.02 | 20.56 | 40.00 | 19.44 | Horizontal | PASS |
| 3 | 156.10 | 29.16 | -8.85 | 20.31 | 43.50 | 23.19 | Horizontal | PASS |
| 4 | 256.01 | 31.92 | -10.56 | 21.36 | 46.00 | 24.64 | Horizontal | PASS |
| 5 | 572.23 | 30.75 | -3.39 | 27.36 | 46.00 | 18.64 | Horizontal | PASS |
| 6 | 986.42 | 30.65 | 3.19 | 33.84 | 54.00 | 20.16 | Horizontal | PASS |

Remark:Emission Level=Reading+Cable Loss+ANT Factor-AMP Factor

Test plot for Vertical




| Final Data List[QP] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | QP Reading [dBμV] | Factor [dB/m] | QP Value [dBμV/m] | QP Limit [dBμV/m] | QP Margin [dB] | Polarity | Verdict |
| 1 | 43.58 | 27.77 | -9.61 | 18.16 | 40.00 | 21.84 | Vertical | PASS |
| 2 | 58.13 | 29.56 | -9.66 | 19.90 | 40.00 | 20.10 | Vertical | PASS |
| 3 | 156.10 | 28.63 | -8.85 | 19.78 | 43.50 | 23.72 | Vertical | PASS |
| 4 | 376.29 | 29.99 | -7.40 | 22.59 | 46.00 | 23.41 | Vertical | PASS |
| 5 | 593.57 | 29.32 | -2.50 | 26.82 | 46.00 | 19.18 | Vertical | PASS |
| 6 | 800.18 | 30.35 | 1.21 | 31.56 | 46.00 | 14.44 | Vertical | PASS |

Remark:Emission Level=Reading+Cable Loss+ANT Factor-AMP Factor

## Test Frequency 1GHz-25GHz

| Test Mode: CH00 (Low channel) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit (dBuV/m) | Over Limit (dB) | Pol. | Detector |
| 2402.00 | 95.01 | 31.12 | 2.18 | 35.33 | 92.98 | 114 | -21.02 | V | Peak |
| 2402.00 | 83.57 | 31.12 | 2.18 | 35.33 | 81.94 | 94 | -12.06 | V | AVG |
| 4804.00 | 48.80 | 34.01 | 2.58 | 34.65 | 50.74 | 74 | -23.26 | V | Peak |
| 4804.00 | 37.12 | 34.01 | 2.58 | 34.65 | 39.45 | 54 | -14.55 | V | AVG |
| 7206.00 | 47.46 | 36.16 | 2.97 | 35.07 | 51.52 | 74 | -22.48 | V | Peak |
| 7206.00 | 35.25 | 36.16 | 2.97 | 35.07 | 36.34 | 54 | -17.66 | V | AVG |
| | | | | | | | | | |
| 2402.00 | 95.87 | 31.12 | 2.18 | 35.33 | 93.84 | 114 | -20.16 | H | Peak |
| 2402.00 | 83.03 | 31.12 | 2.18 | 35.33 | 81.40 | 94 | -12.60 | H | AVG |
| 4804.00 | 48.07 | 34.01 | 2.58 | 34.65 | 50.01 | 74 | -23.99 | H | Peak |
| 4804.00 | 36.95 | 34.01 | 2.58 | 34.65 | 39.28 | 54 | -14.72 | H | AVG |
| 7206.00 | 46.99 | 36.16 | 2.97 | 35.07 | 51.05 | 74 | -22.95 | H | Peak |
| 7206.00 | 36.67 | 36.16 | 2.97 | 35.07 | 37.76 | 54 | -16.24 | H | AVG |

| Test Mode: CH19 (Middle channel) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit (dBuV/m) | Over Limit (dB) | Pol. | Detector |
| 2440.00 | 94.40 | 31.12 | 2.2 | 34.51 | 93.21 | 114 | -20.79 | V | Peak |
| 2440.00 | 84.11 | 31.22 | 2.2 | 34.51 | 83.02 | 94 | -10.98 | V | AVG |
| 4880.00 | 48.14 | 34.98 | 2.49 | 34.14 | 51.47 | 74 | -22.53 | V | Peak |
| 4880.00 | 36.03 | 34.98 | 2.49 | 34.14 | 39.36 | 54 | -14.64 | V | AVG |
| 7320.00 | 46.87 | 36.01 | 3.01 | 34.56 | 51.33 | 74 | -22.67 | V | Peak |
| 7320.00 | 36.70 | 36.01 | 3.01 | 34.56 | 41.16 | 54 | -12.84 | V | AVG |
| | | | | | | | | | |
| 2440.00 | 95.44 | 31.12 | 2.2 | 34.51 | 94.25 | 114 | -19.75 | H | Peak |
| 2440.00 | 83.54 | 31.12 | 2.2 | 34.51 | 82.35 | 94 | -11.65 | H | AVG |
| 4880.00 | 49.99 | 34.98 | 2.49 | 34.14 | 53.32 | 74 | -20.68 | H | Peak |
| 4880.00 | 37.32 | 34.98 | 2.49 | 34.14 | 40.65 | 54 | -13.35 | H | AVG |
| 7320.00 | 46.28 | 36.01 | 3.01 | 34.56 | 50.74 | 74 | -23.26 | H | Peak |
| 7320.00 | 36.74 | 36.01 | 3.01 | 34.56 | 41.20 | 54 | -12.80 | H | AVG |

| Test Mode: CH39(High channel) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit (dBuV/m) | Over Limit (dB) | Pol. | Detector |
| 2480.00 | 93.34 | 31.65 | 2.23 | 36.07 | 91.15 | 114 | -22.85 | V | Peak |
| 2480.00 | 83.87 | 31.65 | 2.23 | 36.07 | 81.68 | 94 | -12.32 | V | AVG |
| 4960.00 | 48.77 | 35.06 | 2.6 | 34.93 | 51.50 | 74 | -22.50 | V | Peak |
| 4960.00 | 36.47 | 35.06 | 2.6 | 34.93 | 39.20 | 54 | -14.80 | V | AVG |
| 7440.00 | 47.30 | 36.19 | 3.12 | 35.11 | 51.50 | 74 | -22.50 | V | Peak |
| 7440.00 | 36.02 | 36.19 | 3.12 | 35.11 | 40.22 | 54 | -13.78 | V | AVG |
| | | | | | | | | | |
| 2480.00 | 93.90 | 31.65 | 2.23 | 36.07 | 91.71 | 114 | -22.29 | H | Peak |
| 2480.00 | 83.09 | 31.65 | 2.23 | 36.07 | 80.90 | 94 | -13.10 | H | AVG |
| 4960.00 | 49.99 | 35.06 | 2.6 | 34.93 | 52.72 | 74 | -21.28 | H | Peak |
| 4960.00 | 37.01 | 35.06 | 2.6 | 34.93 | 39.74 | 54 | -14.26 | H | AVG |
| 7440.00 | 46.47 | 36.19 | 3.12 | 35.11 | 50.67 | 74 | -23.33 | H | Peak |
| 7440.00 | 35.81 | 36.19 | 3.12 | 35.11 | 40.01 | 54 | -13.99 | H | AVG |

Note: 1. The testing has been conformed to 10*2402MHz=24020MHz. 10*2440MHz=24400MHz. 10*2480MHz=24800MHz.

2. All other emissions more than 30dB below the limit.

3. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
Emission Level = Reading + Factor
Margin=Emission Level-Limit

## Band Edge 2310-2400MHz and 2483.5-2500MHz

| Test Mode: Low Channel 2402MHz | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit (dBuV/m) | Over Limit (dB) | Polarity H/V | Test Value |
| 2310.00 | 40.75 | 29.15 | 3.41 | 34.01 | 39.30 | 74 | -34.70 | H | Peak |
| 2400.00 | 57.08 | 29.16 | 3.43 | 34.01 | 55.66 | 74 | -18.34 | H | Peak |
| 2310.00 | 40.79 | 29.15 | 3.41 | 34.01 | 39.34 | 74 | -34.66 | V | Peak |
| 2400.00 | 56.93 | 29.16 | 3.43 | 34.01 | 55.51 | 74 | -18.49 | V | Peak |
| 2310.00 | 34.85 | 29.15 | 3.41 | 34.01 | 33.40 | 54 | -20.60 | H | AV |
| 2400.00 | 40.32 | 29.16 | 3.43 | 34.01 | 38.90 | 54 | -15.10 | H | AV |
| 2310.00 | 35.78 | 29.15 | 3.41 | 34.01 | 34.33 | 54 | -19.67 | V | AV |
| 2400.00 | 43.81 | 29.16 | 3.43 | 34.01 | 42.39 | 54 | -11.61 | V | AV |

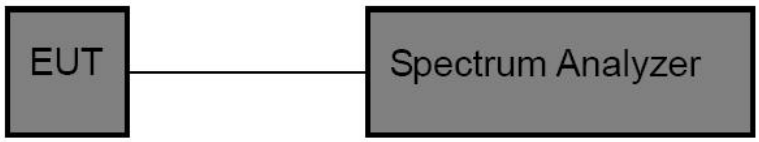
| Test Mode: High Channel 2480MHz | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit (dBuV/m) | Over Limit (dB) | Polarity H/V | Test Value |
| 2483.50 | 47.35 | 29.28 | 3.53 | 34.03 | 46.13 | 74 | -27.87 | H | Peak |
| 2500.00 | 41.10 | 29.30 | 3.56 | 34.03 | 39.93 | 74 | -34.07 | H | Peak |
| 2483.50 | 48.34 | 29.28 | 3.53 | 34.03 | 47.12 | 74 | -26.88 | V | Peak |
| 2500.00 | 40.54 | 29.30 | 3.56 | 34.03 | 39.37 | 74 | -34.63 | V | Peak |
| 2483.50 | 38.53 | 29.28 | 3.53 | 34.03 | 37.31 | 54 | -16.69 | H | AV |
| 2500.00 | 34.44 | 29.30 | 3.56 | 34.03 | 33.27 | 54 | -20.73 | H | AV |
| 2483.50 | 39.29 | 29.28 | 3.53 | 34.03 | 38.07 | 54 | -15.93 | V | AV |
| 2500.00 | 33.32 | 29.30 | 3.56 | 34.03 | 32.15 | 54 | -21.85 | V | AV |

# 7 20dB Bandwidth Test

## 7.1 Test Standard and Limit

| | |
|---|---|
| Test Standard | FCC Part15 C Section 15.215(c) |

## 7.2 Test Setup




## 7.3 Test Procedure

1. Place the EUT on the table and set it in the transmitting mode.

2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.

3. Set the spectrum analyzer as:

   RBW = 1% to 5% of the OBW, VBW≥3*RBW,

   Detector= Average

   Trace mode= Max hold.

   Sweep- auto couple.

4. Mark the peak frequency and –20dB (upper and lower) frequency.

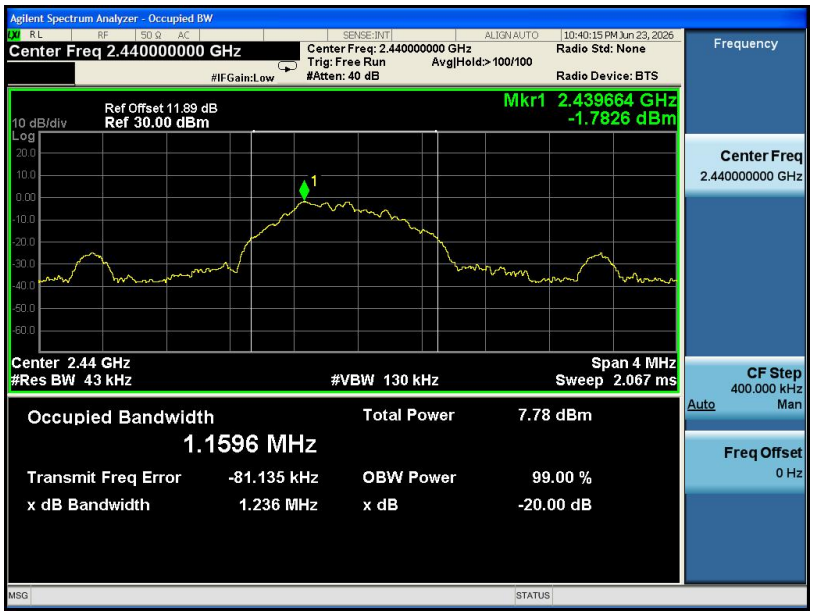
5. Repeat until all the rest channels are investigated.

## 7.4 Test Data

| | | | | | |
|---|---|---|---|---|---|
| Test Item | : | 20dB Bandwidth | Test Mode | : | TX |
| Test Voltage | : | DC 3V | Temperature | : | 22.4℃ |
| Test Result | : | PASS | Humidity | : | 55%RH |

| | Frequency (MHz) | Bandwidth (MHz) | Result |
|---|---|---|---|
| SRD_1M | 2402 | 1.213 | PASS |
| SRD_1M | 2440 | 1.236 | PASS |
| SRD_1M | 2480 | 1.228 | PASS |

Test Mode:SRD_1M Low




Test Mode: SRD_1M Middle

Test Mode: SRD_1M High

# 8 Antenna Requirement

## 8.1 Test Standard and Requirement

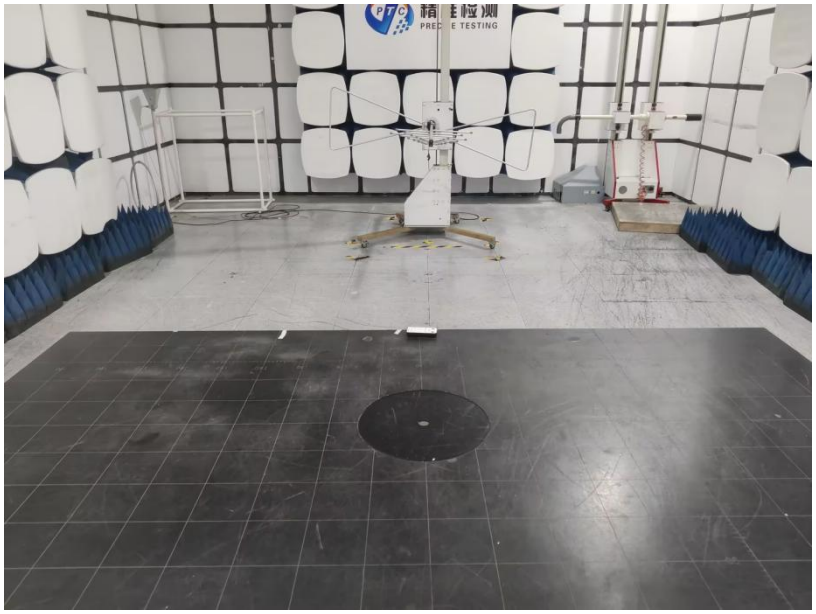
| | |
|---|---|
| Test Standard | FCC Part15 Section 15.203 |
| Requirement | 1) 15.203 requirement:<br><br>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or 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. |

## 8.2 Antenna Connected Construction

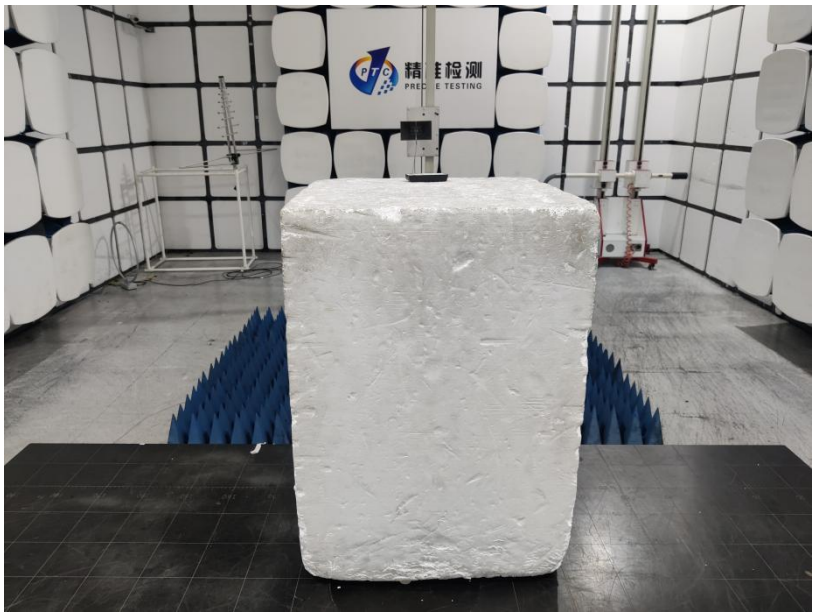
The antenna is a PCB Antenna which permanently attached, and the best case gain of the antenna is 5.3 dBi. It complies with the standard requirement.

# 9 APPENDIX I -- TEST SETUP PHOTOGRAPH

RADIATED EMISSION TEST(Below 1G)



RADIATED EMISSION TEST(Above 1G)



# 10 APPENDIX II -- EUT PHOTOGRAPH

Model:YH-667

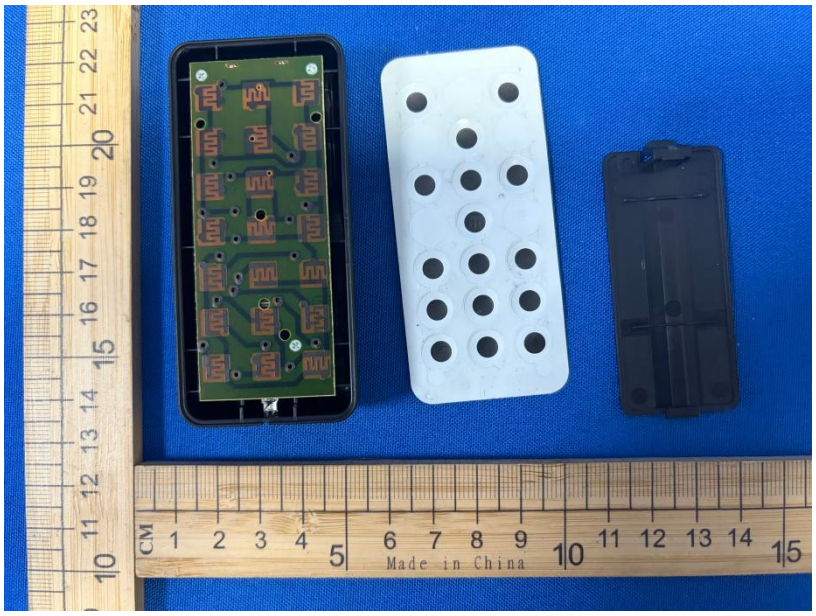
CM
Made in China

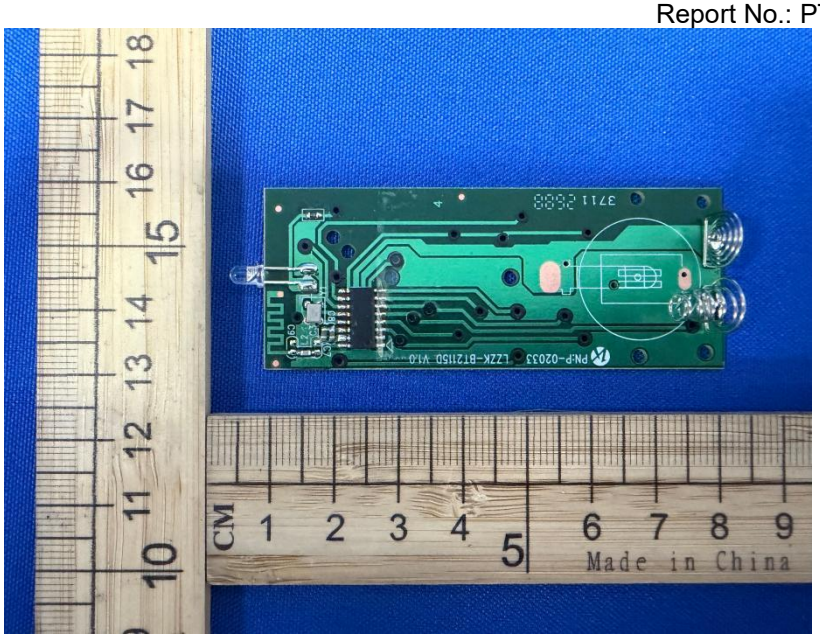
CM
Made in Ch

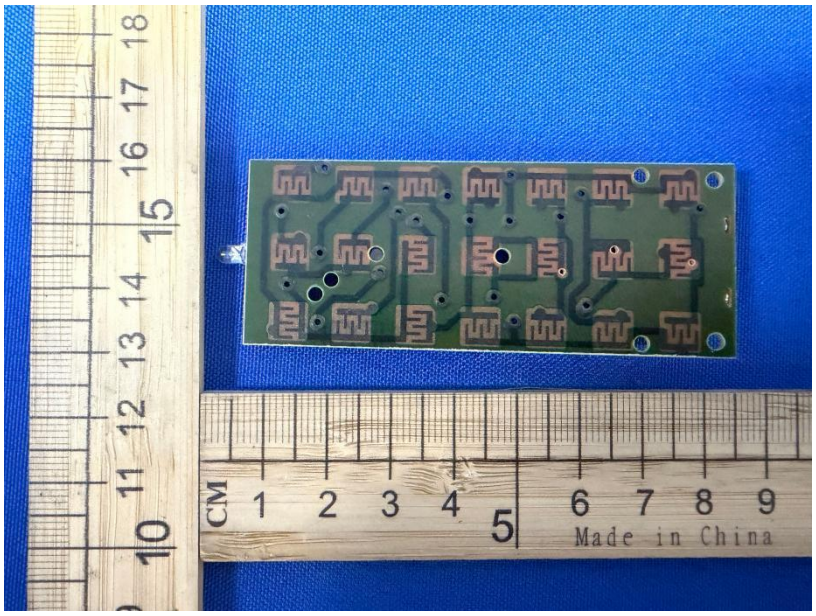
CM
Made in China

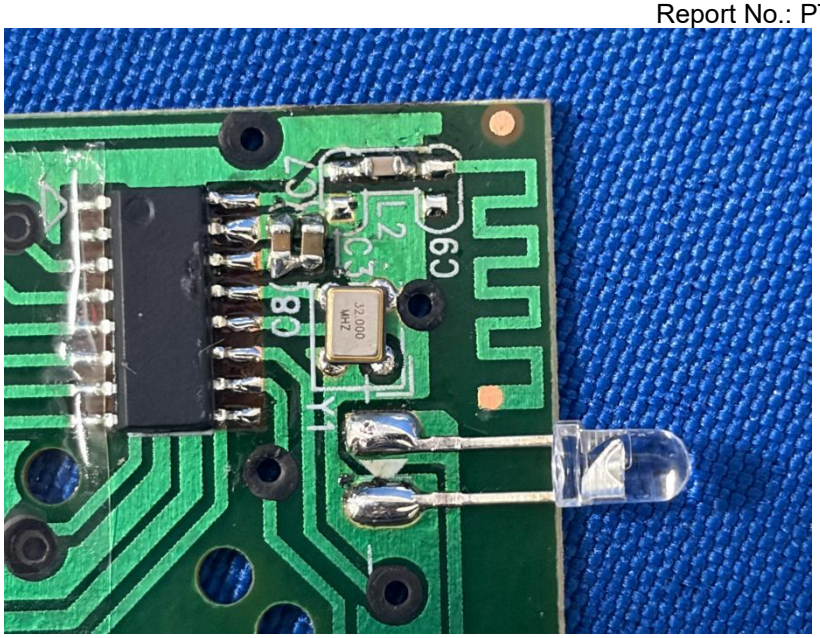
CM
Made in China

Made in China


Made in China


CM
Made in China


CM
Made in China

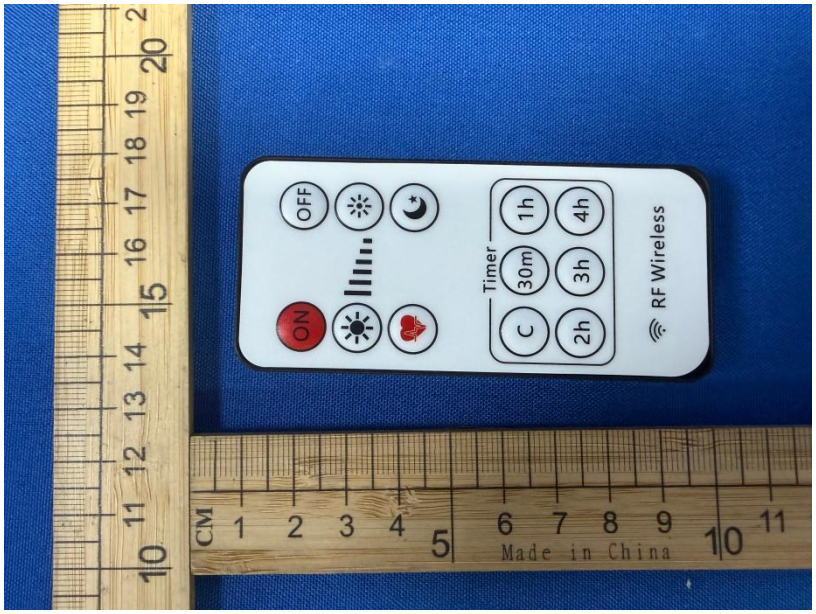

C9
L2
C3
C7
C8
32.000
MHZ

Model:YH-686

SPEED +
BRIGHT +
BRIGHT -
MODE +
DEMO
MODE -
SPEED -
COLOR +
COLOR -
RF Wireless
CM
Made in China

CM
Made in China

Model:YH-690


OFF
ON
Timer
1h
4h
30m
3h
C
2h
RF Wireless
CM
Made in China

********THE END REPORT********