TEST REPORT

| | |
|---|---|
| Report No.: | TW2310101E |
| Applicant: | Shenzhen Xinrui Weiye Electronics Co., Ltd. |
| Product: | 2.4G Remote control |
| Model No.: | XR24-02 |
| Trademark: | N/A |
| Test Standards: | FCC Part 15.247 |
| Test Result: | It is herewith confirmed and found to comply with the requirements set up by ANSI C63.10, FCC Part 15.247 for the evaluation of electromagnetic compatibility |

Approved By:

Terry Tang

Manager

Dated: October 17, 2023

**Results appearing herein relate only to the sample tested**
**The technical reports is issued errors and omissions exempt and is subject to withdrawal at**


## SHENZHEN TIMEWAY TESTING LABORATORIES

Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le Village, Nanshan District, Shenzhen, China
Tel (755) 83448688, Fax (755) 83442996, E-Mail:info@timeway-lab.com

## Special Statement:

The testing quality ability of our laboratory meet with “Quality Law of People’s Republic of China” Clause 19.

The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAL. This approval result is accepted by MRA of APLAC.

Our test facility is recognized, certified, or accredited by the following organizations:

**CNAL-LAB Code: L2292**

The EMC Laboratory has been assessed and in compliance with CNAL/AC01:2002 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:2017 General Requirements) for the Competence of testing Laboratories.

**FCC-Registration No.: 744189**

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 744189.

**Industry Canada (IC) —Registration No.:5205A**

The EMC Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 5205A.

**A2LA (Certification Number:5013.01)**

The EMC Laboratory has been accredited by the American Association for Laboratory Accreditation (A2LA). Certification Number:5013.01

Test Report Conclusion

Content

## 1.0 General Details

### 1.1 Test Lab Details

Name: SHENZHEN TIMEWAY TESTING LABORATORIES.
Address: Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le Village, Nanshan District, Shenzhen, China
Telephone: (755) 83448688
Fax: (755) 83442996

### 1.2 Applicant Details

Applicant: Shenzhen Xinrui Weiye Electronics Co., Ltd.
Address: 301, Building B, No. 163, Huawang Road, Langkou Community, Dalang Street, Longhua District, Shenzhen
Telephone: 0755-21019656
Fax: 0755-21019656

### 1.3 Description of EUT

Product: 2.4G Remote control
Manufacturer: Shenzhen Xinrui Weiye Electronics Co., Ltd.
Address: 301, Building B, No. 163, Huawang Road, Langkou Community, Dalang Street, Longhua District, Shenzhen
Trademark: N/A
Additional Trademark: N/A
Model Number: XR24-02
Additional Model Number: N/A
Hardware Version: 2.4G-V01
Software Version: TX_V01
Serial No.: 20230910001TX
Type of Modulation GFSK
Frequency range 2402-2480MHz (Bluetooth Low Energy)
Channel Separation: 2MHz
Channel Number: 40MHz
Input Voltage: DC3.0V, 0.018A (1pc CR2032 button battery)

### 1.4 Submitted Sample: 4 Samples

### 1.5 Test Duration

2023-10-10 to 2023-10-17

1.6 Test Uncertainty

Conducted Emissions Uncertainty =3.6dB

Radiated Emissions below 1GHz Uncertainty =4.7dB

Radiated Emissions above 1GHz Uncertainty =6.0dB

Conducted Power Uncertainty =6.0dB

Occupied Channel Bandwidth Uncertainty =5%

Note: The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.

1.7 Test Engineer

The sample tested by

Print Name: Andy Xing

| **2.0 Test Equipment** | | | | | |
|---|---|---|---|---|---|
| Instrument Type | Manufacturer | Model | Serial No. | Date of Cal. | Due Date |
| ESPI Test Receiver | R&S | ESPI 3 | 100379 | 2023-07-14 | 2024-07-13 |
| LISN | R&S | EZH3-Z5 | 100294 | 2023-07-14 | 2024-07-13 |
| LISN | R&S | EZH3-Z5 | 100253 | 2023-07-14 | 2024-07-13 |
| Impuls-Begrenzer | R&S | ESH3-Z2 | 100281 | 2023-07-14 | 2024-07-13 |
| Loop Antenna | EMCO | 6507 | 00078608 | 2022-07-18 | 2025-07-17 |
| Spectrum | R&S | FSIQ26 | 100292 | 2023-07-14 | 2024-07-13 |
| Horn Antenna | A-INFO | LB-180400-KF | J211060660 | 2022-07-18 | 2025-07-17 |
| Horn Antenna | R&S | BBHA 9120D | 9120D-631 | 2022-07-18 | 2024-07-17 |
| Power meter | Anritsu | ML2487A | 6K00003613 | 2023-07-14 | 2024-07-13 |
| Power sensor | Anritsu | MA2491A | 32263 | 2023-07-14 | 2024-07-13 |
| Bilog Antenna | Schwarebeck | VULB9163 | 9163/340 | 2022-07-18 | 2025-07-17 |
| 9*6*6 Anechoic | -- | -- | N/A | 2022-07-26 | 2025-07-25 |
| EMI Test Receiver | RS | ESVB | 826156/011 | 2023-07-14 | 2024-07-13 |
| EMI Test Receiver | RS | ESCS 30 | 834115/006 | 2023-07-14 | 2024-07-13 |
| Spectrum | HP/Agilent | E4407B | MY50441392 | 2023-07-14 | 2024-07-13 |
| Spectrum | RS | FSP | 1164.4391.38 | 2023-07-14 | 2024-07-13 |
| RF Cable | Zhengdi | ZT26-NJ-NJ-8M/FA | -- | 2023-07-14 | 2024-07-13 |
| RF Cable | Zhengdi | 7m | -- | 2023-07-14 | 2024-07-13 |
| Pre-Amplifier | Schwarebeck | BBV9743 | #218 | 2023-07-14 | 2024-07-13 |
| Pre-Amplifier | HP/Agilent | 8449B | 3008A00160 | 2023-07-14 | 2024-07-13 |
| LISN | SCHAFFNER | NNB42 | 00012 | 2023-07-14 | 2024-07-13 |
| ESPI Test Receiver | R&S | ESPI 3 | 100379 | 2023-07-14 | 2024-07-13 |
| LISN | R&S | EZH3-Z5 | 100294 | 2023-07-14 | 2024-07-13 |

2.2 Automation Test Software

For Conducted Emission Test

| Name | Version |
|---|---|
| EZ-EMC | Ver.EMC-CON 3A1.1 |

For Radiated Emissions

| Name | Version |
|---|---|
| EMI Test Software BL410-EV18.91 | V18.905 |
| EMI Test Software BL410-EV18.806 High Frequency | V18.06 |

## 3.0 Technical Details

### 3.1 Summary of test results

**The EUT has been tested according to the following specifications:**

| Standard | Test Type | Result | Notes |
|---|---|---|---|
| FCC Part 15, Paragraph 15.207 | Conducted Emission Test | N/A | Complies |
| FCC Part 15 Subpart C Paragraph 15.247(a)(2) Limit | Spectrum bandwidth of a Orthogonal Frequency Division Multiplex System Limit: 6dB bandwidth>500kHz | Pass | Complies |
| FCC Part 15, Paragraph 15.247(b) | Maximum peak output power Limit: max. 30dBm | Pass | Complies |
| FCC Part 15, Paragraph 15.205 & 15.209 | Transmitter Radiated Emission Limit: Table 15.209 | Pass | Complies |
| FCC Part 15, Paragraph 15.247(e) | Power Spectral Density Limit: max. 8dBm | Pass | Complies |
| FCC Part 15, Paragraph 15.247(d) | Out of Band Emission and Restricted Band Radiation Limit: 20dB less than peak value of fundamental frequency Restricted band limit: Table 15.209 | Pass | Complies |

### 3.2 Test Standards

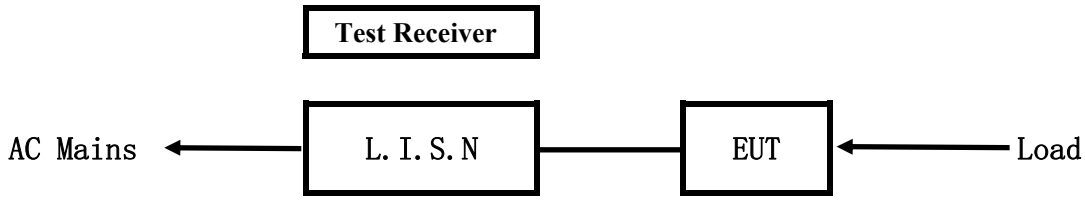
**FCC Part 15 Subpart & Subpart C, Paragraph 15.247**

## 4.0 EUT Modification

**No modification by SHENZHEN TIMEWAY TESTING LABORATORIES.**

## 5.0 Power Line Conducted Emission Test

5.1 Schematics of the test



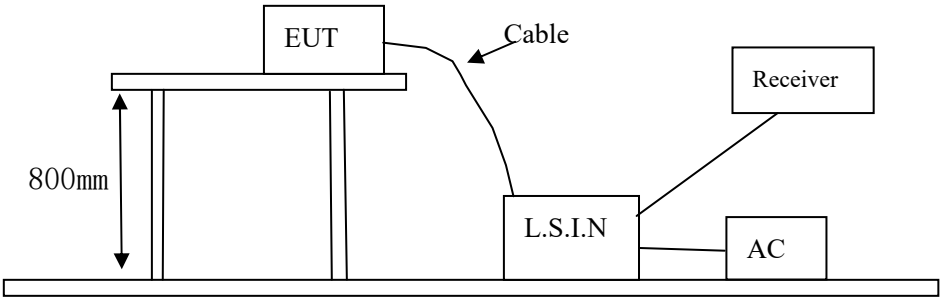

EUT: Equipment Under Test

5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.10-2013.The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.10 –2013.

Test Voltage: 120V~, 60Hz

Block diagram of Test setup




5.3 Configuration of the EUT

The EUT was configured according to ANSI C63.10-2013. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

A. EUT

| Device | Manufacturer | Model | FCC ID |
|---|---|---|---|
| 2.4G Remote control | Shenzhen Xinrui Weiye Electronics Co., Ltd. | XR24-02 | 2BCTA-YKQ24 |

B. Internal Device

| Device | Manufacturer | Model | Rating |
|---|---|---|---|
| | | | |

C. Peripherals

| Device | Manufacturer | Model | Rating |
|---|---|---|---|
| N/A | | | |

5.4 EUT Operating Condition

Operating condition is according to ANSI C63.10-2013.

A Setup the EUT and simulators as shown on follow

B Enable AF signal and confirm EUT active to normal condition

5.5 Power line conducted Emission Limit according to Paragraph 15.207

| Frequency (MHz) | Limits (dB μ V) | |
|---|---|---|
| | Quasi-peak Level | Average Level |
| 0.15 ～ 0.50 | 66.0～56.0* | 56.0～46.0* |
| 0.50 ～ 5.00 | 56.0 | 4 .0 |
| 5.00 ～ 30.00 | 60.0 | 50.0 |

Notes: 1. *Decreasing linearly with logarithm of frequency.

2. The tighter limit shall apply at the transition frequencies

5.6 Test Results N/A

The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

**Note: EUT powered by button battery, this test item not applicable.**

## 6 Radiated Emission Test

6.1 Test Method and test Procedure:

(1) The EUT was tested according to ANSI C63.10-2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No.744189

(2) The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.10-2013.

(3) The frequency spectrum from 30 MHz to 25 GHz was investigated. All readings from 30 MHz to 1 GHz are Quasi-peak values with a resolution bandwidth of 120 kHz. For measurement above 1GHz, peak values with RBW=1MHz VBW=3MHz and PK detector. AV value with RBW=1MHz, VBW=3MHz and RMS detector. Measurements were made at 3 meters.

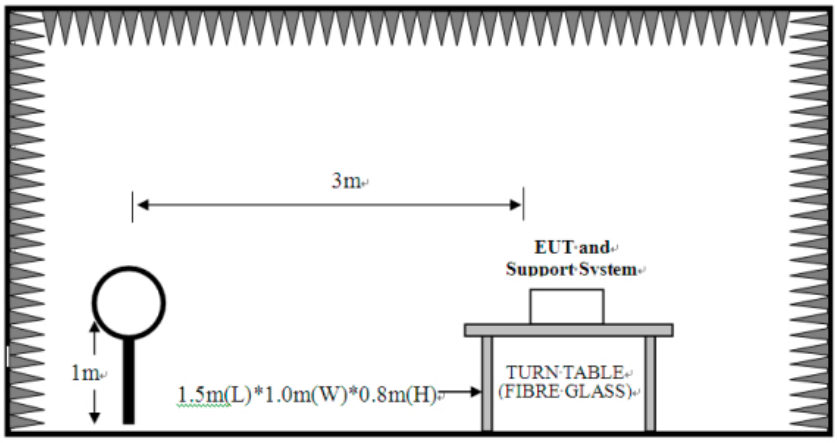
(4) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.

(5) Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance is with all installation combinations. All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dB of specification limit), and are distinguished with a "**QP**" in the data table.

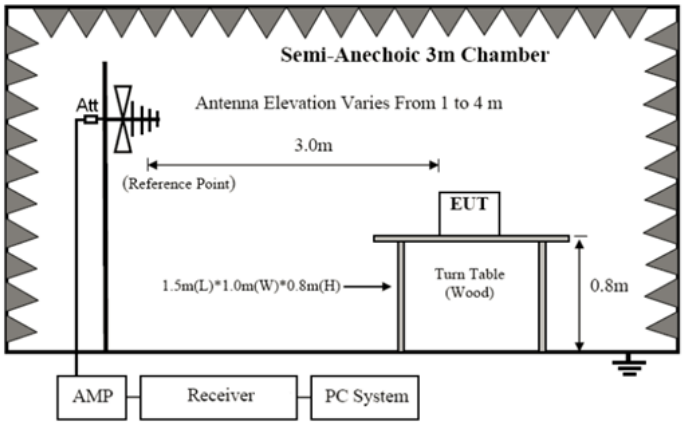
(6) The antenna polarization: Vertical polarization and Horizontal polarization.

**Block diagram of Test setup**

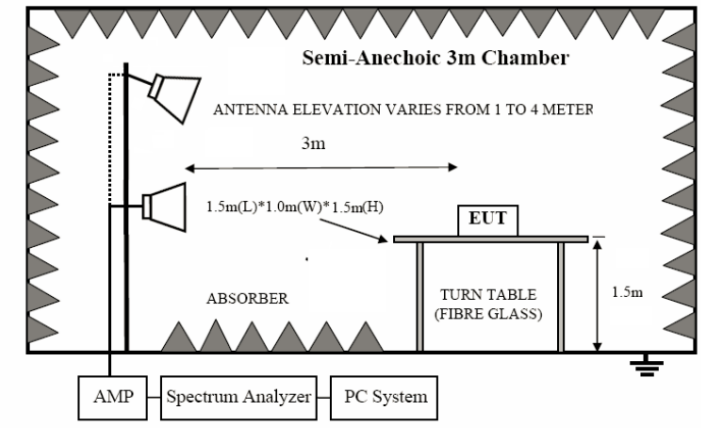
For radiated emissions from 9kHz to 30MHz



For radiated emissions from 30MHz to1GHz




For radiated emissions above 1GHz




6.2 Configuration of the EUT

Same as section 5.3 of this report

6.3 EUT Operating Condition

Same as section 5.4 of this report.

6.4 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below:

**Frequencies in restricted band are complied to limit on Paragraph 15.209**

| Frequency Range (MHz) | Distance (m) | Field strength (dB μ V/m) |
|---|---|---|
| 30-88 | 3 | 40.0 |
| 88-216 | 3 | 43.5 |
| 216-960 | 3 | 46.0 |
| Above 960 | 3 | 54.0 |

Note: 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)

2. In the Above Table, the higher limit applies at the band edges.

3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT

4. This is a handhold device. The radiated emissions should be tested under 3-axes position (Lying, Side, and Stand), After pre-test. It was found that the worse radiated emission was get at the lying position.

5. New Battery was used during the test.

**Test result**

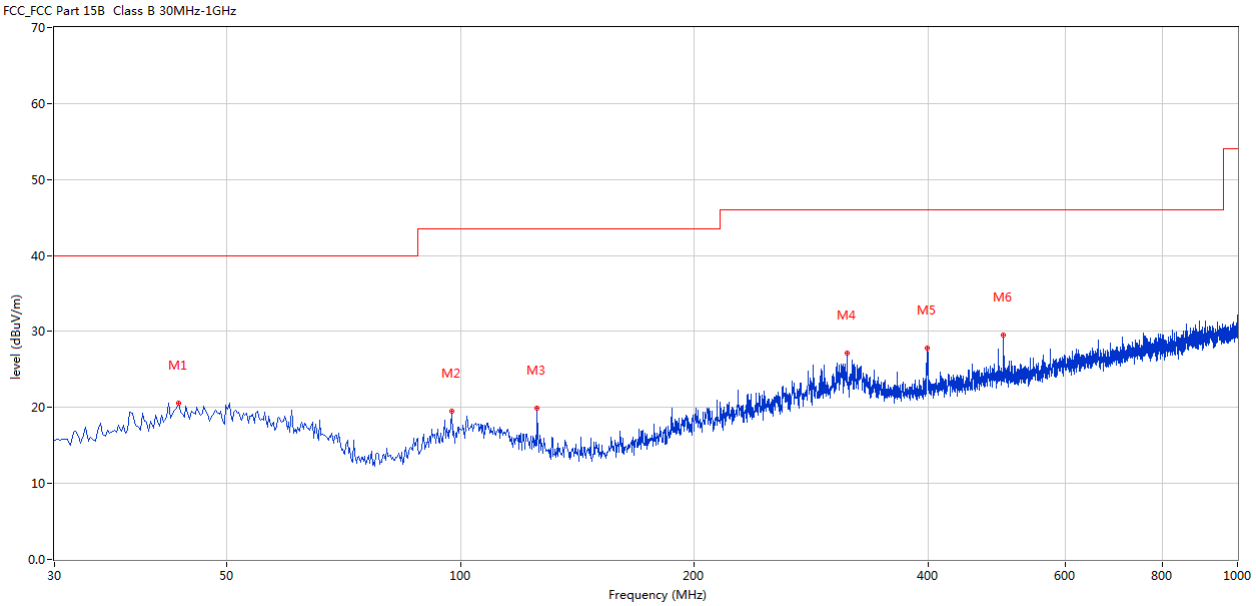
**General Radiated Emission Data and Harmonics Radiated Emission Data**

**Radiated Emission In Horizontal (30MHz----1000MHz)**

**EUT set Condition:** **Keep Bluetooth Transmitting**

**Results:** **Pass**

Test Figure:




| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Over Limit (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 43.334 | 20.53 | -11.49 | 40.0 | -19.47 | Peak | 142.00 | 100 | Horizontal | Pass |
| 2 | 97.398 | 19.55 | -13.85 | 43.5 | -23.95 | Peak | 50.00 | 100 | Horizontal | Pass |
| 3 | 125.521 | 19.94 | -16.40 | 43.5 | -23.56 | Peak | 233.00 | 100 | Horizontal | Pass |
| 4 | 314.381 | 27.13 | -10.85 | 46.0 | -18.87 | Peak | 257.00 | 100 | Horizontal | Pass |
| 5 | 398.993 | 27.88 | -8.62 | 46.0 | -18.12 | Peak | 166.00 | 100 | Horizontal | Pass |
| 6 | 499.848 | 29.52 | -6.90 | 46.0 | -16.48 | Peak | 299.00 | 100 | Horizontal | Pass |

**Test result**

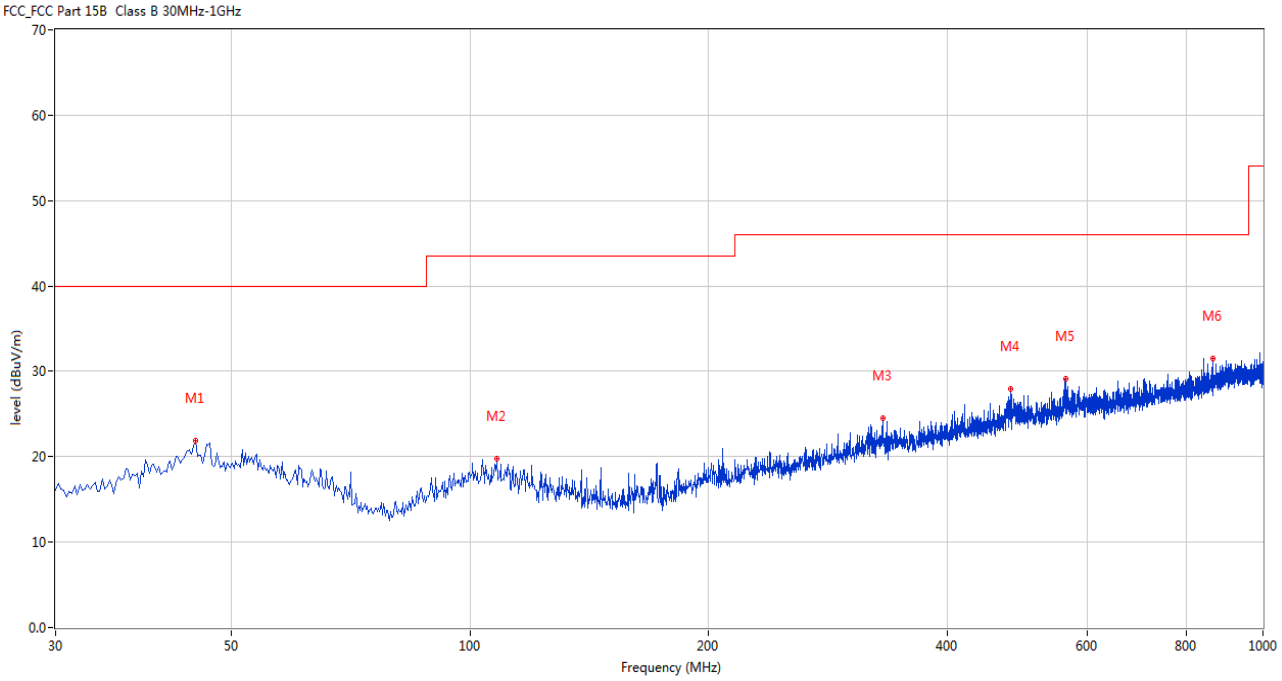
**General Radiated Emission Data and Harmonics Radiated Emission Data**

**Radiated Emission In Vertical (30MHz----1000MHz)**

EUT set Condition: **Keep Transmitting**

**Results:** **Pass**

Test Figure:

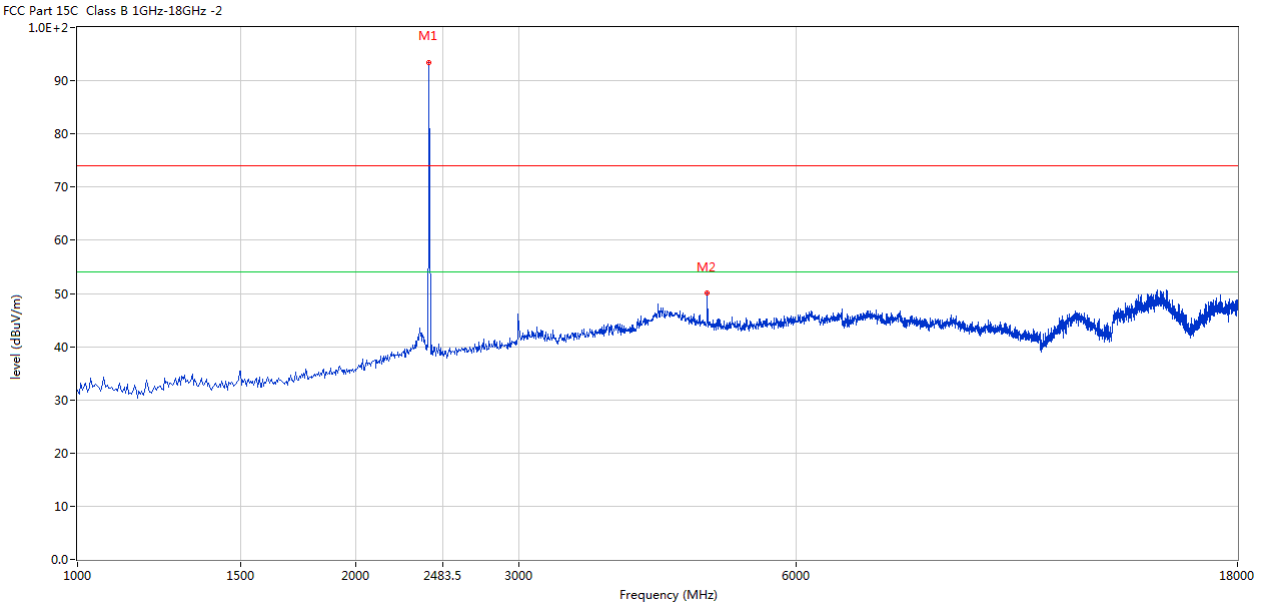



| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Over Limit (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 45.031 | 21.94 | -11.41 | 40.0 | -18.06 | Peak | 276.00 | 100 | Vertical | Pass |
| 2 | 108.065 | 19.73 | -13.42 | 43.5 | -23.77 | Peak | 46.00 | 100 | Vertical | Pass |
| 3 | 331.837 | 24.54 | -10.12 | 46.0 | -21.46 | Peak | 360.00 | 100 | Vertical | Pass |
| 4 | 480.695 | 27.94 | -7.37 | 46.0 | -18.06 | Peak | 340.00 | 100 | Vertical | Pass |
| 5 | 563.367 | 29.19 | -6.08 | 46.0 | -16.81 | Peak | 0.00 | 100 | Vertical | Pass |
| 6 | 864.961 | 31.50 | -2.36 | 46.0 | -14.50 | Peak | 190.00 | 100 | Vertical | Pass |

**Test Figures above 1GHz:**

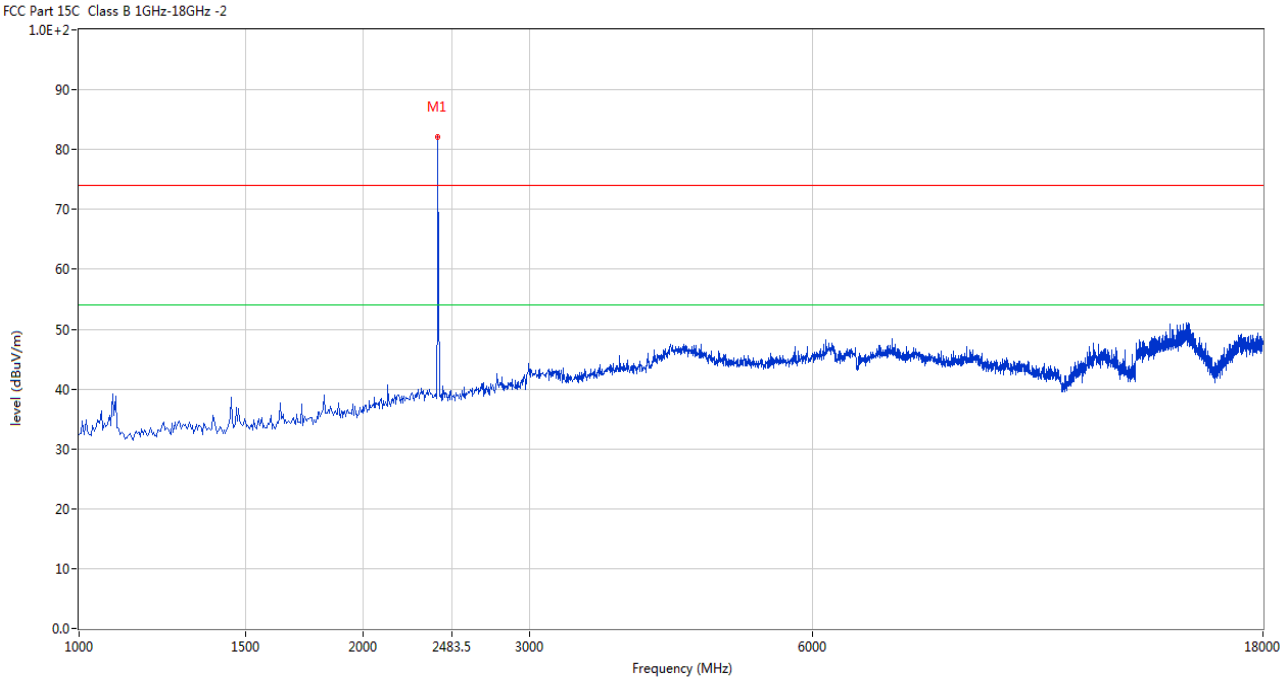
Please refer to the following test plots for details:

**Low Channel: Horizontal**



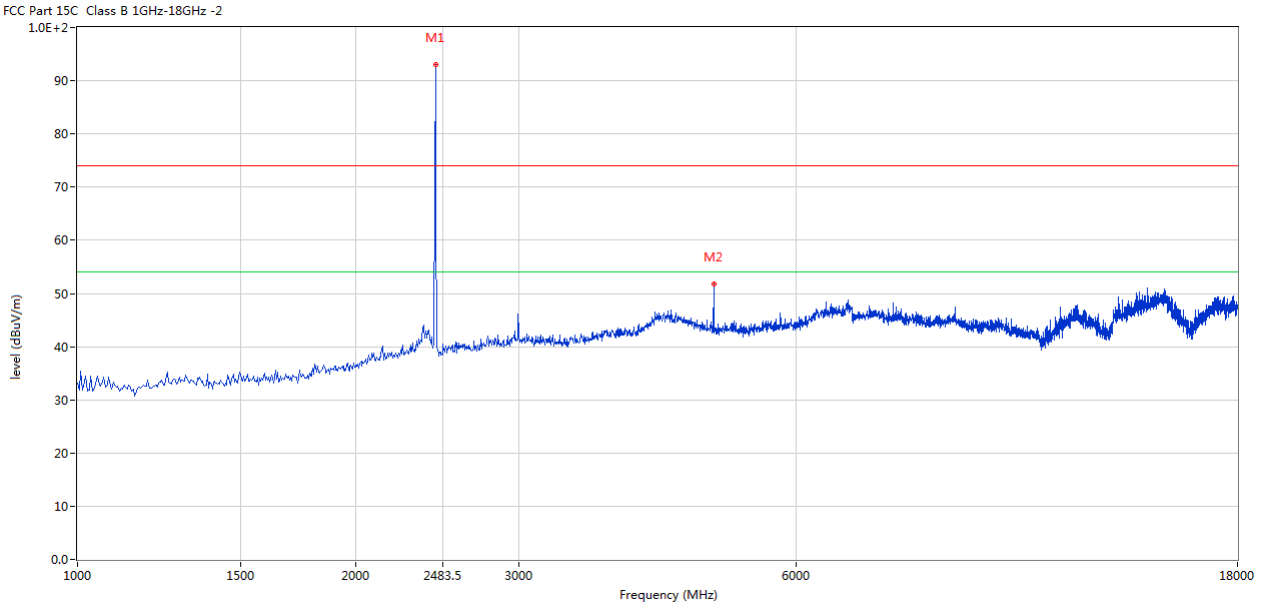

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Over Limit (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2402 | 93.49 | -3.57 | 74.0 | 19.49 | Peak | 112.00 | 100 | Horizontal | N/A |
| 2 | 4802.799 | 50.01 | 3.12 | 74.0 | -23.99 | Peak | 308.00 | 100 | Horizontal | Pass |

**Low Channel: Vertical**



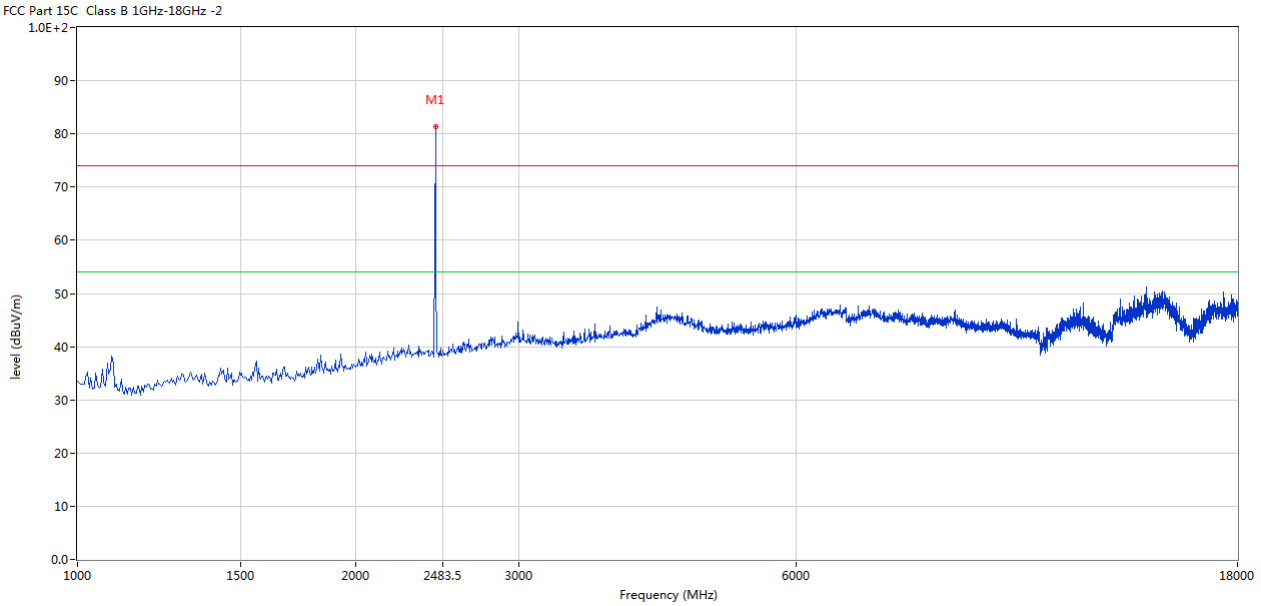

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Over Limit (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2402 | 82.16 | -3.57 | 74.0 | 8.16 | Peak | 34.00 | 100 | Vertical | N/A |

## Middle Channel: Horizontal



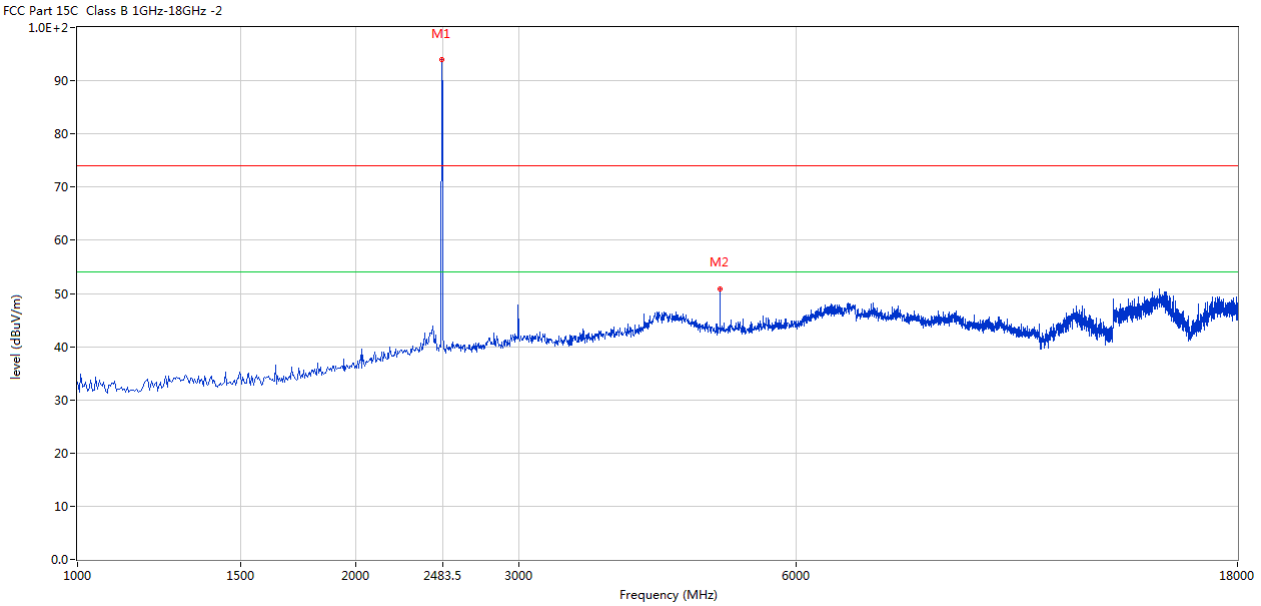

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Over Limit (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2440 | 93.09 | -3.57 | 74.0 | 19.09 | Peak | 275.00 | 100 | Horizontal | N/A |
| 2 | 4879.280 | 51.88 | 3.20 | 74.0 | -22.12 | Peak | 286.00 | 100 | Horizontal | Pass |

**Middle Channel: Vertical**



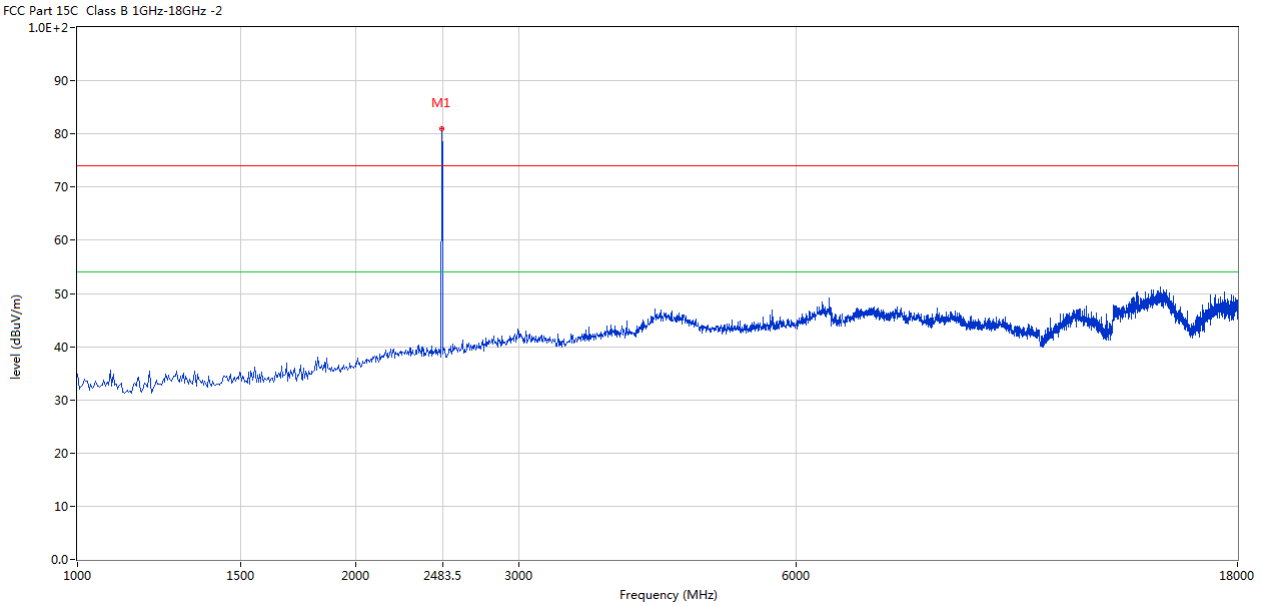

| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Over Limit (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2440 | 81.38 | -3.57 | 74.0 | 7.38 | Peak | 348.00 | 100 | Vertical | N/A |

## High Channel: Horizontal




| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Over Limit (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2480 | 93.91 | -3.57 | 74.0 | 19.91 | Peak | 279.00 | 100 | Horizontal | N/A |
| 2 | 4960.010 | 50.85 | 3.36 | 74.0 | -23.15 | Peak | 279.00 | 100 | Horizontal | Pass |

**High Channel: Vertical**




| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Over Limit (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2480 | 80.96 | -3.57 | 74.0 | 6.96 | Peak | 190.00 | 100 | Vertical | N/A |

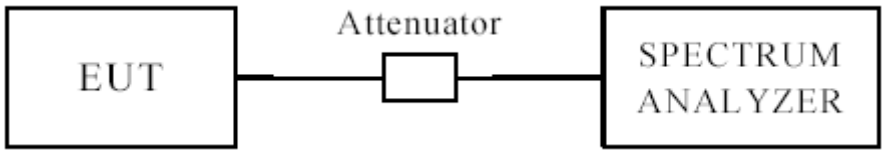
Note: 1. Level = Reading + AF + Cable - Preamp

2. For the radiated emissions above 18G, it is the floor noise.

3. The measured PK value less than the AV limit, no necessary to take down the AV measurement result.

## 7.0 6dB Bandwidth Measurement

### 7.1 Test Setup




### 7.2 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is >500 kHz

### 7.3 Test Procedure

1. Set resolution bandwidth (RBW) = 100 kHz
2. Set the video bandwidth (VBW) ≥ 3 x 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) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

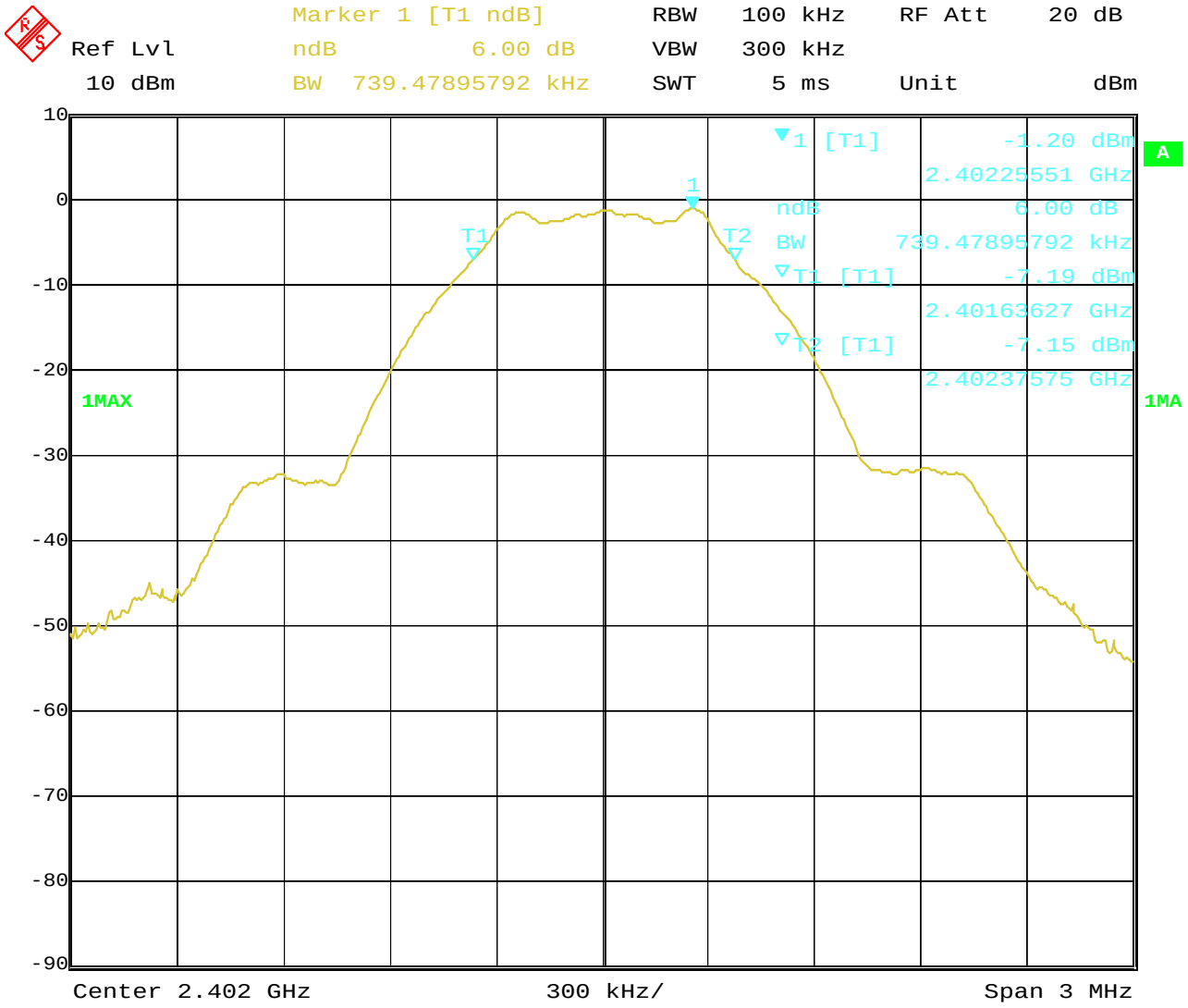
### 7.4 Test Result

| EUT | 2.4G Remote control | Model | XR24-02 |
|---|---|---|---|
| Mode | Keep Transmitting | Input Voltage | DC3.0V |
| Temperature | 24 deg. C, | Humidity | 56% RH |

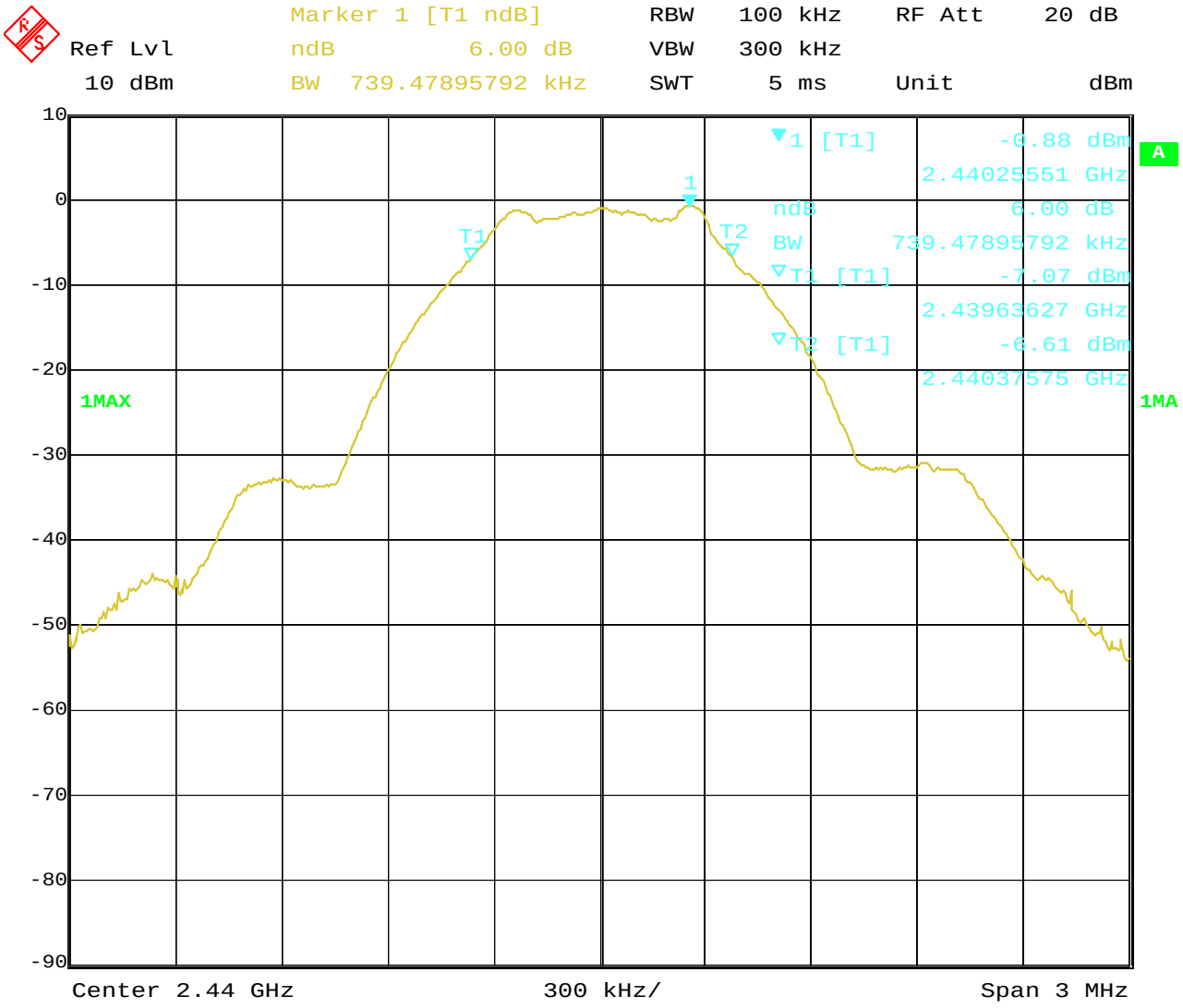
| Channel | Channel Frequency (MHz) | 6 dB Bandwidth (kHz) | Minimum Limit (kHz) | Pass/ Fail |
|---|---|---|---|---|
| Low | 2402 | 739.48 | 500 | Pass |
| Middle | 2440 | 739.48 | 500 | Pass |
| High | 2480 | 721.44 | 500 | Pass |

Test Figure:

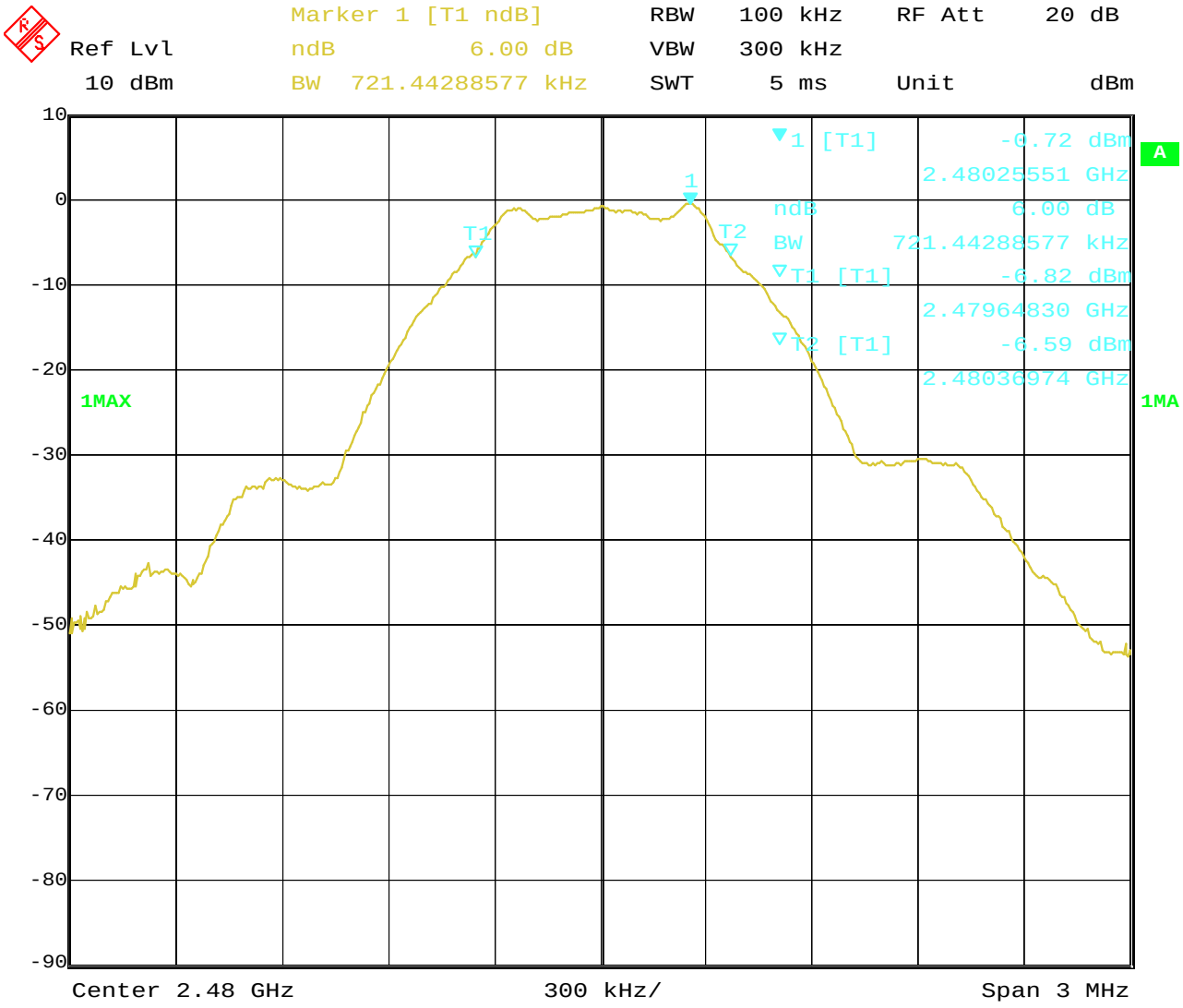
**1. Condition: Low Channel**



**2. Condition: Middle Channel**

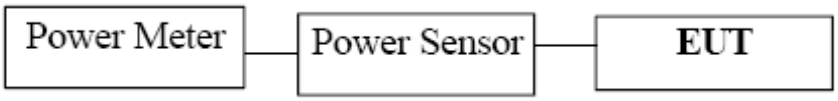


### 3. High Channel



## 8. Maximum Output Power

### 8.1 Test Setup




### 8.2 Limits of Maximum Output Power

The Maximum Output Power Measurement is 30dBm.

### 8.3 Test Procedure

The RF power output was measured with a Power meter connected to the RF Antenna connector (conducted measurement) while EUT was operating in transmit mode at the appropriate centre frequency.

**Note: the Peak power were measured.**

**8.4Test Results**

| EUT | 2.4G Remote control | Model | XR24-02 |
|---|---|---|---|
| Mode | Keep Transmitting | Input Voltage | DC3.0V |
| Temperature | 24 deg. C, | Humidity | 56% RH |

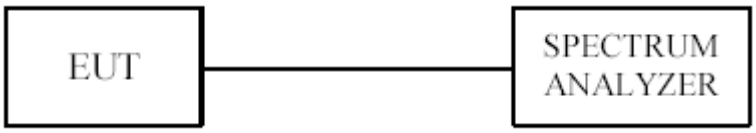
| Channel | Channel Frequency (MHz) | Max. Power Output (dBm) | Peak Power Limit (dBm) | Pass/ Fail |
|---|---|---|---|---|
| | | Peak | | |
| Low | 2402 | 0.23 | 30 | Pass |
| Middle | 2440 | 0.53 | 30 | Pass |
| High | 2480 | 0.72 | 30 | Pass |

Note: 1. the result basic equation calculation as follow:

Max. Power Output = Power Reading + Cable loss + Attenuator

## 9. Power Spectral Density Measurement

### 9.1 Test Setup




### 9.2 Limits of Power Spectral Density Measurement

The Maximum Power Spectral Density Measurement is 8dBm/3kHz.

### 9.3 Test Procedure

1. Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance.
2. Set the RBW = 10 kHz.
3. Set the VBW ≥ 30 kHz.
4. Set the span to 1.5 times the DTS channel bandwidth.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.
11. The resulting peak PSD level must be ≤ 8 dBm/3kHz.

**9.4Test Result**

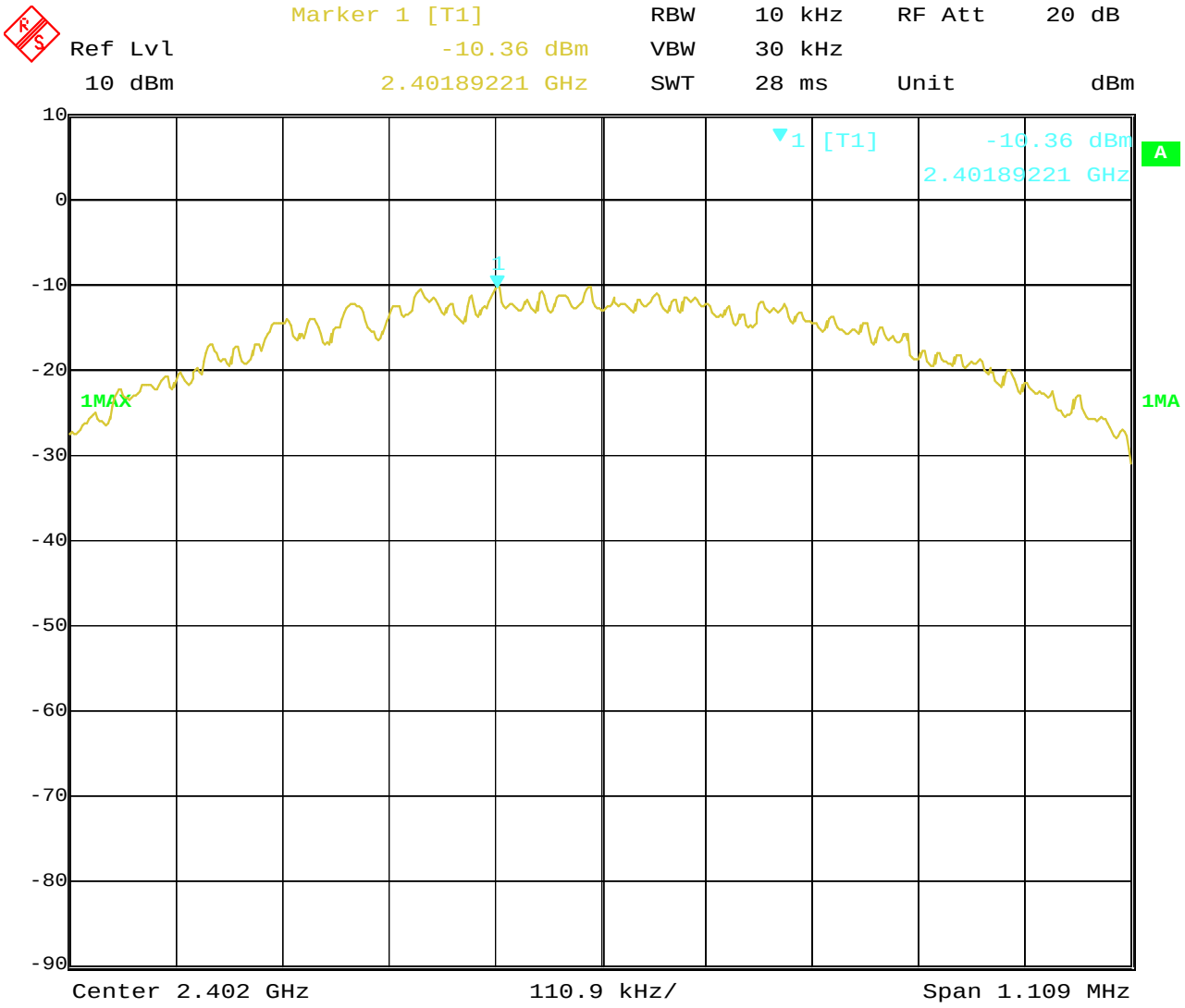
| EUT | 2.4G Remote control | | | Model | XR24-02 |
|---|---|---|---|---|---|
| Mode | Keep Transmitting | | | Input Voltage | DC3.0V |
| Temperature | 24 deg. C, | | | Humidity | 56% RH |
| Channel | Peak Power Reading (dBm) | Cable Loss (dB) | Final Power Spectral Density (dBm/10kHz) | Maximum Limit (dBm/3kHz) | Pass/ Fail |
| | | | | | |
| Low | -10.36 | 0.2 | -10.16 | 8 | Pass |
| Middle | -10.04 | 0.2 | -9.84 | 8 | Pass |
| High | -9.73 | 0.2 | -9.53 | 8 | Pass |

Note: The result basic equation calculation as follow:

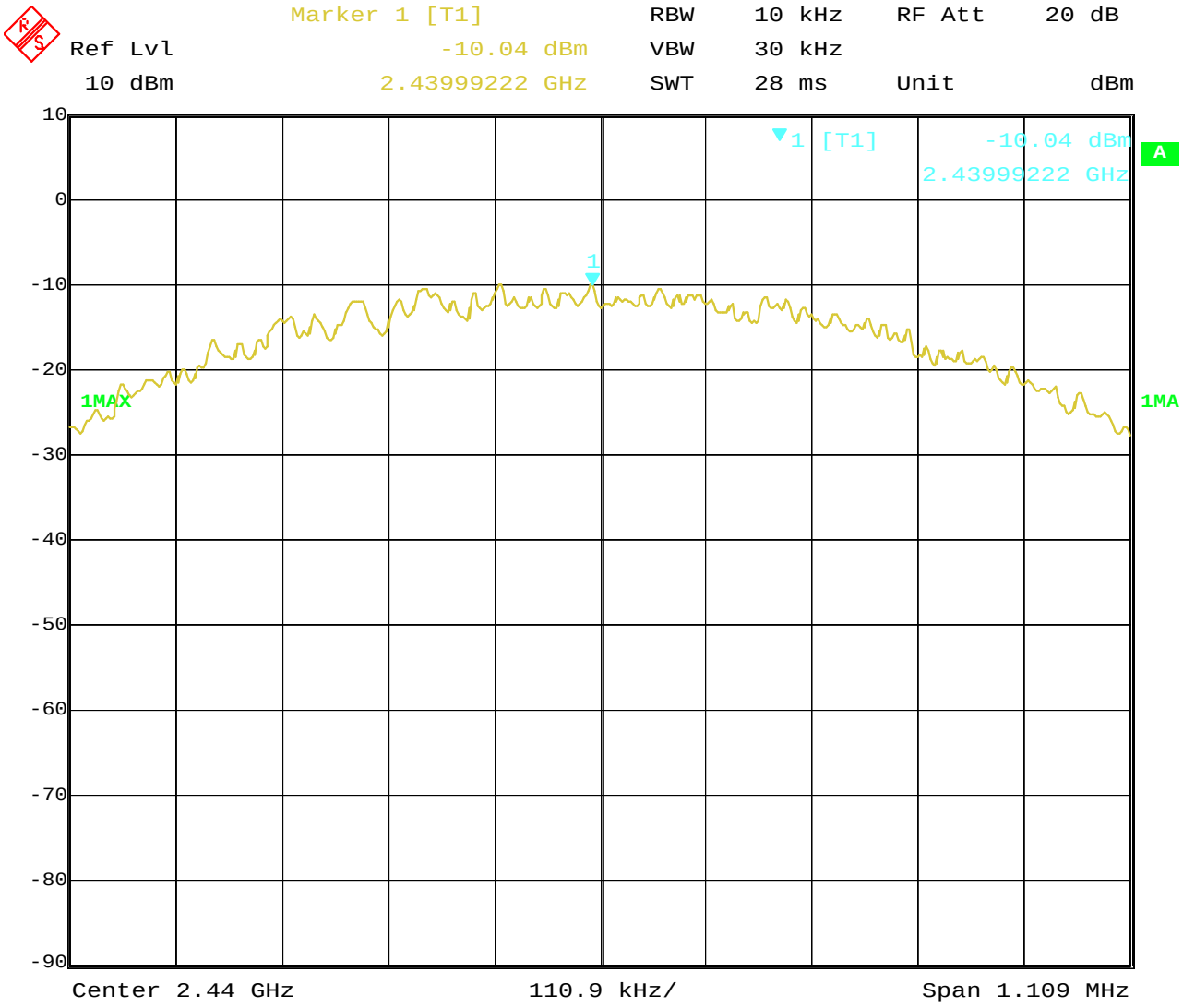
Peak Power Output = Peak Power Reading + Cable loss

Test Figure:

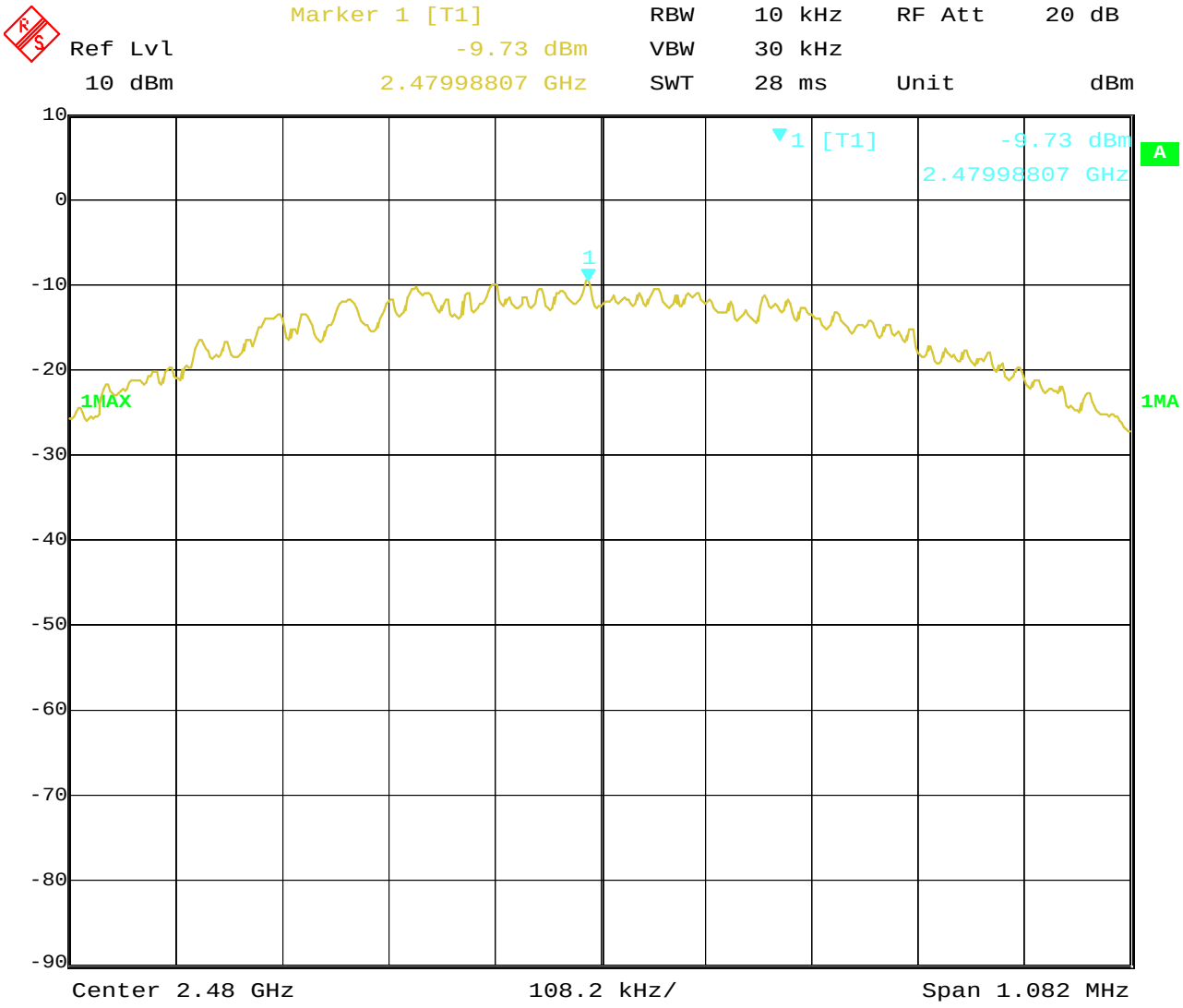
**1. Condition: Low Channel**



**2. Condition: Middle Channel**

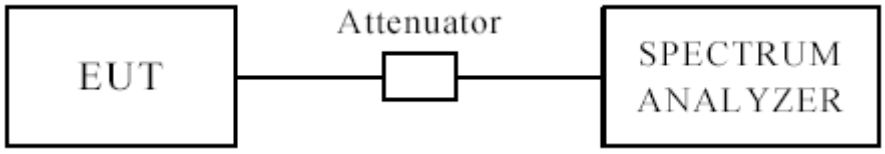


### 3. High Channel



# 10 Out of Band Measurement

## 10.1 Test Setup for band edge




**The restricted band requirement based on radiated emission test; please see the clause 6 for the test setup**

## 10.2 Limits of Out of Band Emissions Measurement

1. Below –20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).
2. Fall in the restricted bands listed in section 15.205. The maximum permitted average field strength is listed in section 15.209.

## 10.3 Test Procedure

For signals in the restricted bands above and below the 2.4-2.483GHz allocated band a measurement was made of Radiated emission test. (Peak values with RBW=1MHz, VBW=3MHz and PK detector. AV value with RBW=1MHz, VBW=3MHz and RMS detector)

For bandage test, the spectrum set as follows: RBW=100 kHz, VBW=300 kHz. A conducted measurement used

## 10.4 Test Result

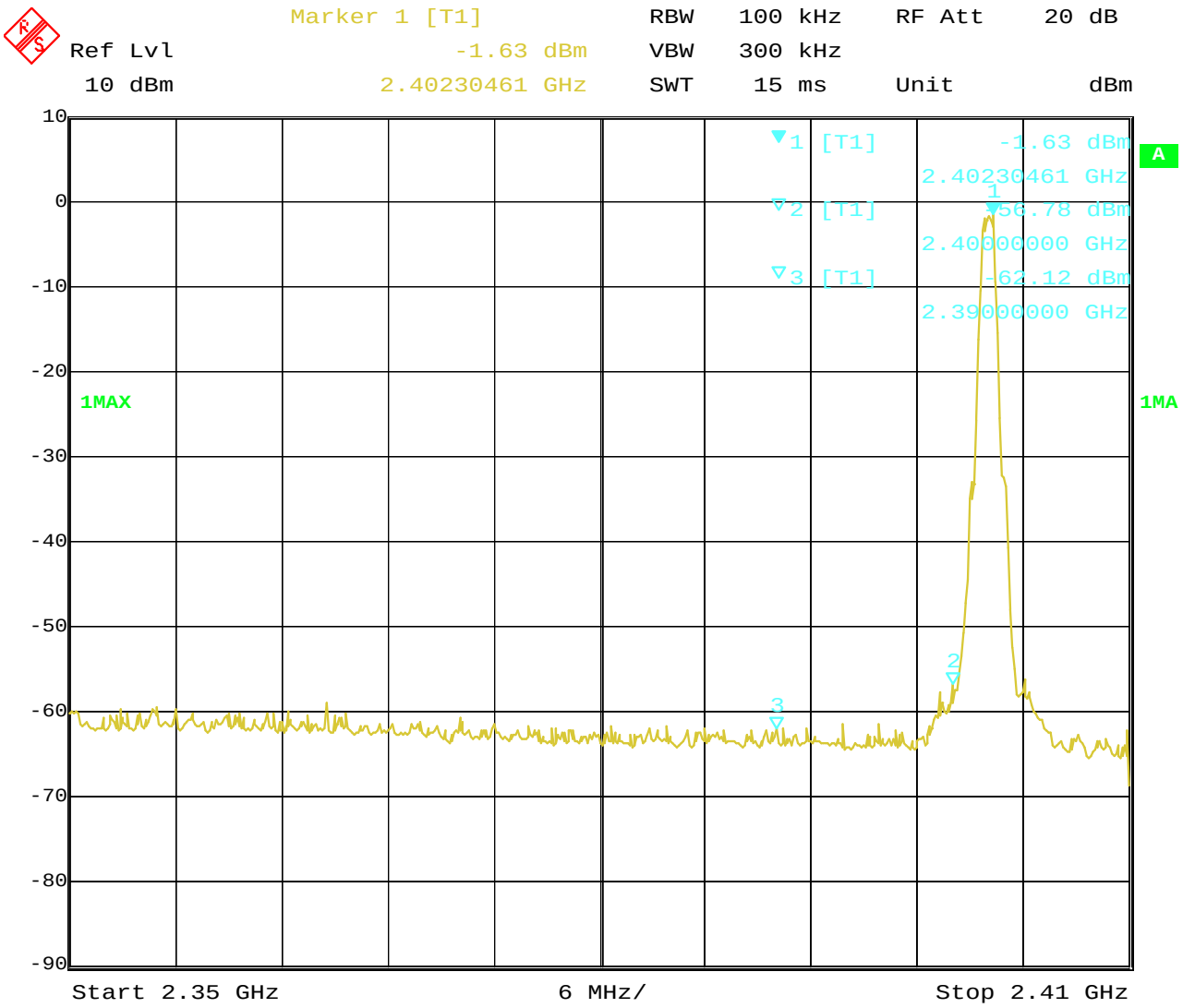
Please see next pages

Note: 1. For band-edge measurement, the frequency from 30MHz-25GHz was tested. And It met the FCC rule.

**10.4** Band-edge Measurement

| EUT | 2.4G Remote control | Model | XR24-02 |
|---|---|---|---|
| Mode | Keep Transmitting | Input Voltage | DC3.0V |
| Temperature | 24 deg. C, | Humidity | 56% RH |
| Test Result: | Pass | Detector | PK |

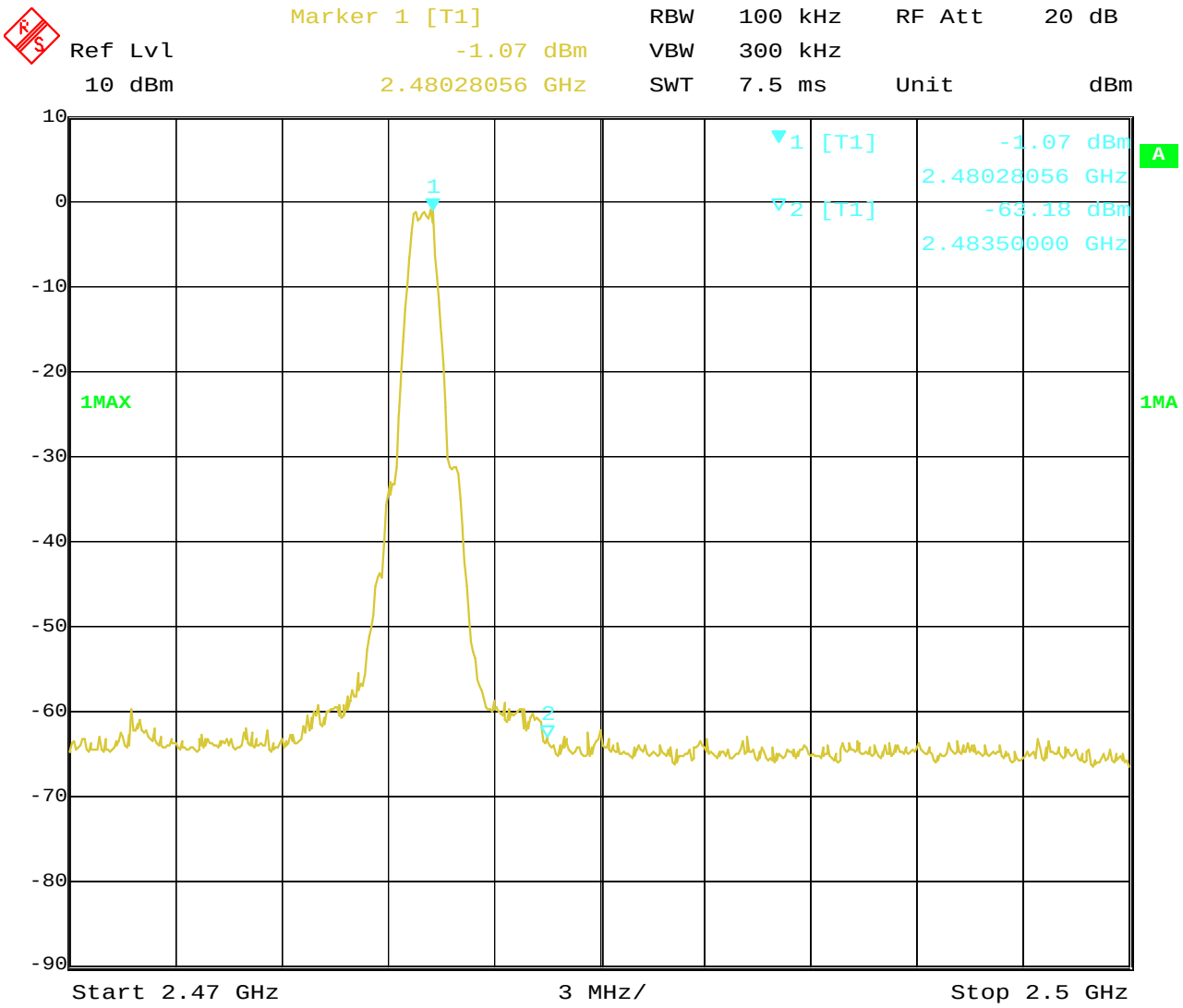
**Test Figure:**



**10.4** Band-edge Measurement

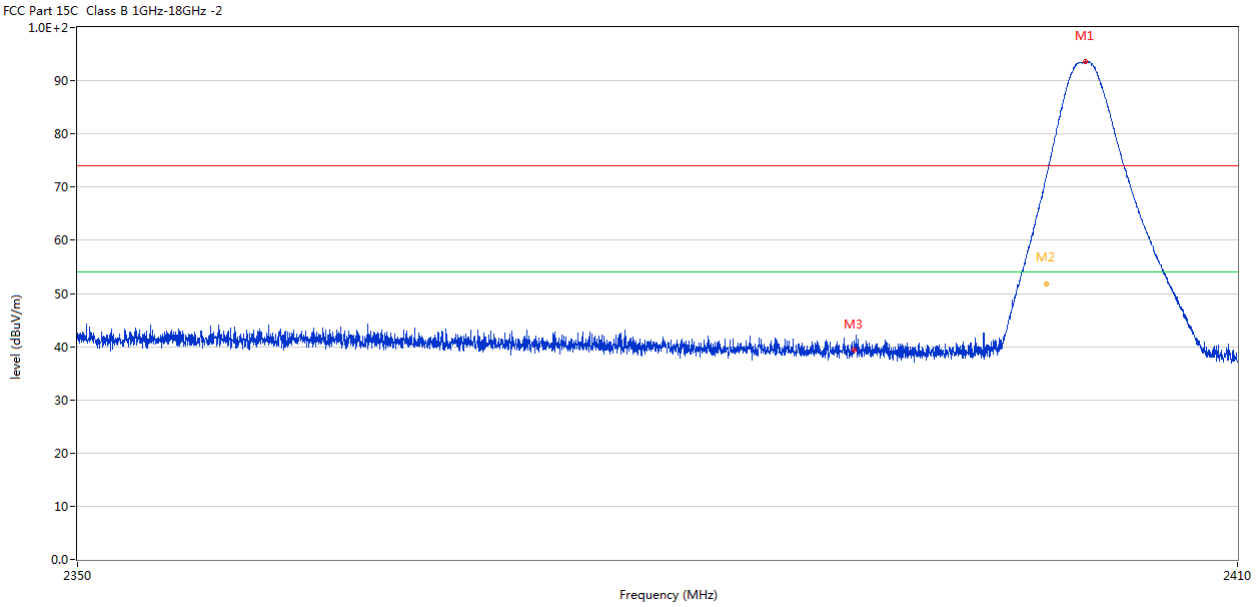
| EUT | 2.4G Remote control | Model | XR24-02 |
|---|---|---|---|
| Mode | Keeping Transmitting | Input Voltage | DC3.0V |
| Temperature | 24 deg. C, | Humidity | 56% RH |
| Test Result: | Pass | Detector | PK |

**Test Figure:**



**10.4** Restrict Band Measurement

| EUT | 2.4G Remote control | Model | XR24-02 |
|---|---|---|---|
| Mode | Keep Transmitting | Input Voltage | DC3.0V |
| Temperature | 24 deg. C, | Humidity | 56% RH |
| Test Result: | Pass | | |

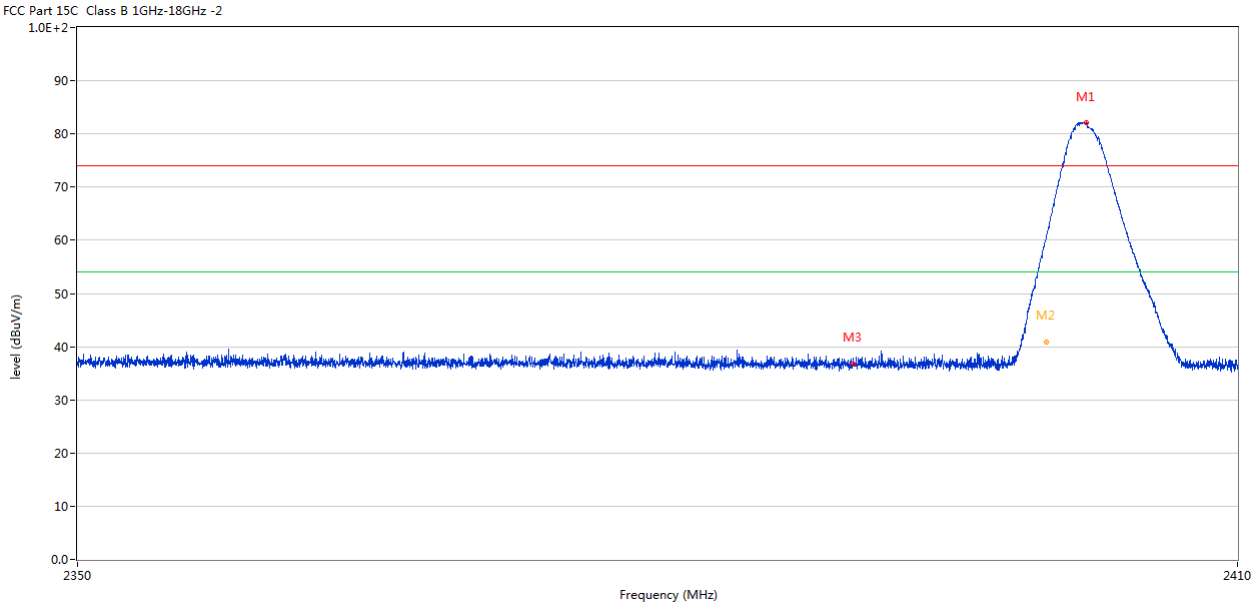



| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Over Limit (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2402.052 | 93.53 | -3.57 | 74.0 | 19.53 | Peak | 110.00 | 100 | Horizontal | N/A |
| 2 | 2400.000 | 71.75 | -3.57 | 74.0 | -2.25 | Peak | 283.00 | 100 | Horizontal | Pass |
| 2** | 2400.000 | 51.73 | -3.57 | 54.0 | -2.27 | AV | 283.00 | 100 | Horizontal | Pass |
| 3 | 2390.000 | 39.32 | -3.53 | 74.0 | -34.68 | Peak | 150.33 | 100 | Horizontal | Pass |

Note: The measured PK value less than the AV limit, no necessary to take down the AV measurement result.

**10.4** Restrict Band Measurement

| EUT | 2.4G Remote control | Model | XR24-02 |
|---|---|---|---|
| Mode | Keep Transmitting | Input Voltage | DC3.0V |
| Temperature | 24 deg. C, | Humidity | 56% RH |
| Test Result: | Pass | | |

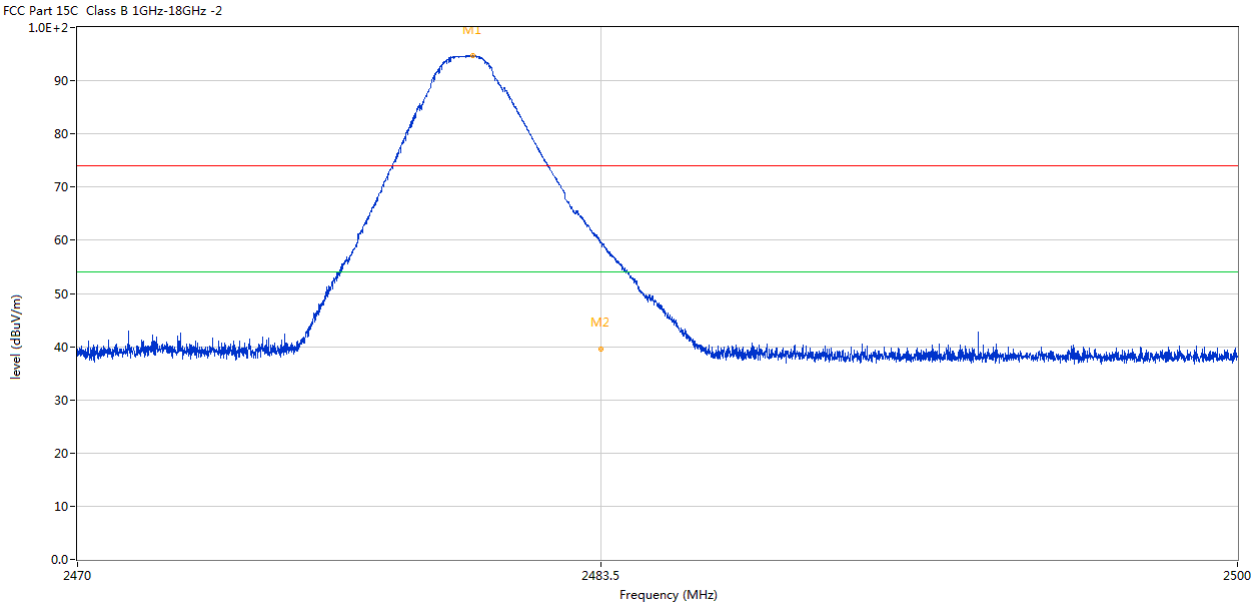



| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Over Limit (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2402.112 | 82.07 | -3.57 | 74.0 | 8.07 | Peak | 138.00 | 100 | Vertical | N/A |
| 2 | 2400.000 | 60.86 | -3.57 | 74.0 | -13.14 | Peak | 138.00 | 100 | Vertical | Pass |
| 2** | 2400.000 | 40.84 | -3.57 | 54.0 | -13.16 | AV | 138.00 | 100 | Vertical | Pass |
| 3 | 2390.000 | 36.75 | -3.53 | 74.0 | -37.25 | Peak | 238.33 | 100 | Vertical | Pass |

Note: The measured PK value less than the AV limit, no necessary to take down the AV measurement result.

**10.4** Restrict Band Measurement

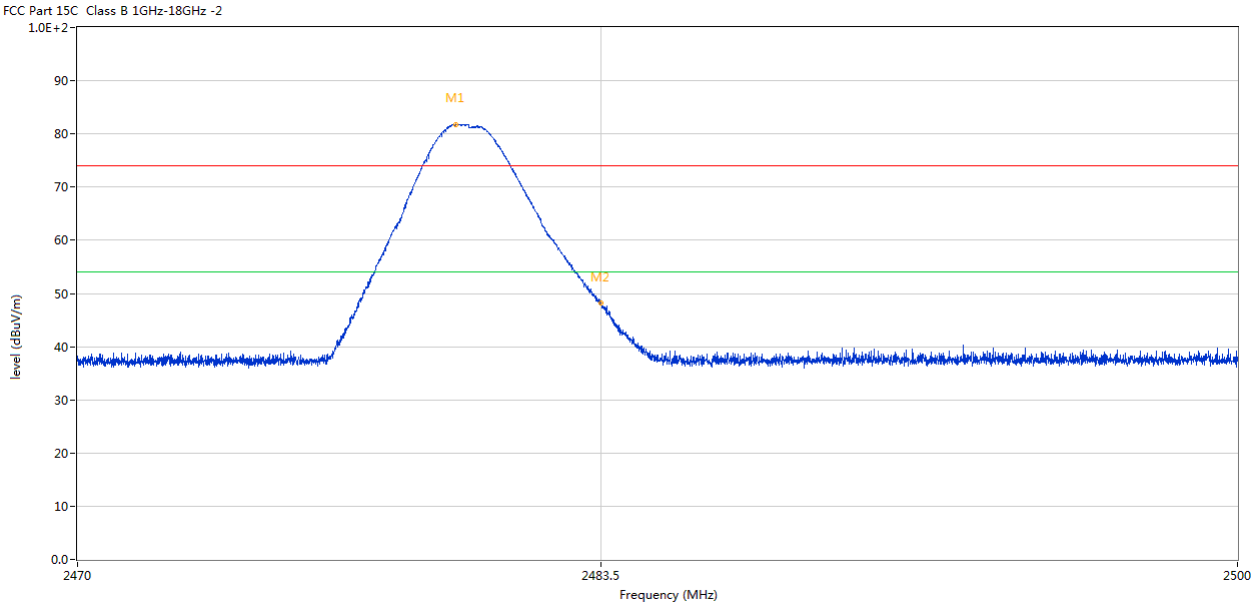
| EUT | 2.4G Remote control | Model | XR24-02 |
|---|---|---|---|
| Mode | Keep Transmitting | Input Voltage | DC3.0V |
| Temperature | 24 deg. C, | Humidity | 56% RH |
| Test Result: | Pass | | |




| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Over Limit (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2480.175 | 94.67 | -3.57 | 74.0 | 20.67 | Peak | 114.00 | 100 | Horizontal | N/A |
| 2 | 2483.500 | 59.56 | -3.57 | 74.0 | -14.44 | Peak | 114.00 | 100 | Horizontal | Pass |
| 2** | 2483.500 | 39.54 | -3.57 | 54.0 | -14.46 | AV | 114.00 | 100 | Horizontal | Pass |

**10.4** Restrict Band Measurement

| EUT | 2.4G Remote control | Model | XR24-02 |
|---|---|---|---|
| Mode | Keep Transmitting | Input Voltage | DC3.0V |
| Temperature | 24 deg. C, | Humidity | 56% RH |
| Test Result: | Pass | | |




| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Over Limit (dB) | Detector | Table (o) | Height (cm) | ANT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2479.733 | 81.81 | -3.57 | 74.0 | 7.81 | Peak | 344.00 | 100 | Vertical | N/A |
| 2 | 2483.500 | 48.13 | -3.57 | 74.0 | -25.87 | Peak | 344.00 | 100 | Vertical | Pass |

## 11.0 Antenna Requirement

### 11.1 Standard Applicable

For intentional device, according to FCC 47 CFR Section 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.

And according to FCC 47 CFR Section 15.247 (b), if transmitter antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the mount in dB that the directional gain of the antenna exceeds 6 dBi.

### 11.2 Antenna Connected construction

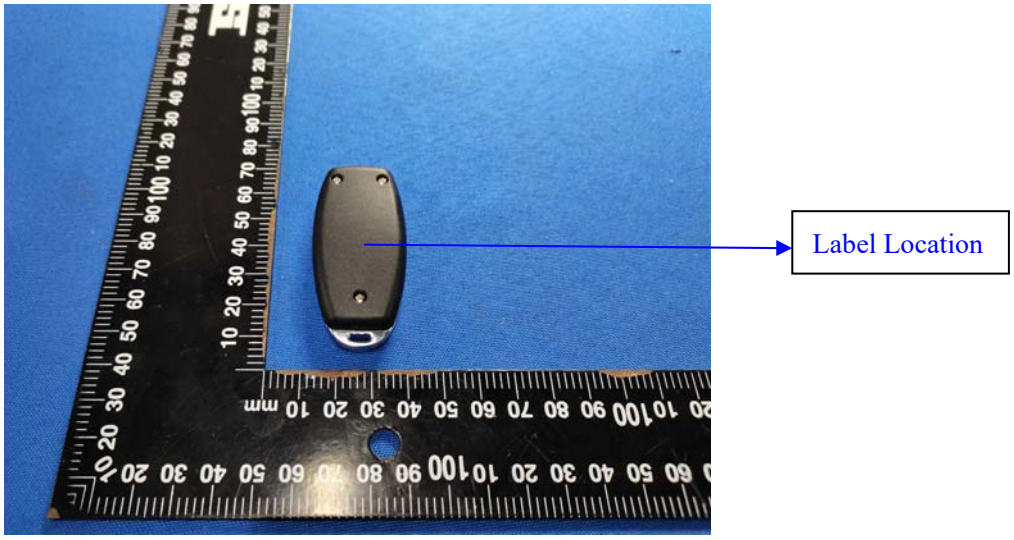
PCB antenna used. The gain of the antennas is -0.62dBi (Get from the antenna specification provided the manufacturer)

## 12.0 FCC ID Label

**FCC ID: 2BCTA-YKQ24**

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

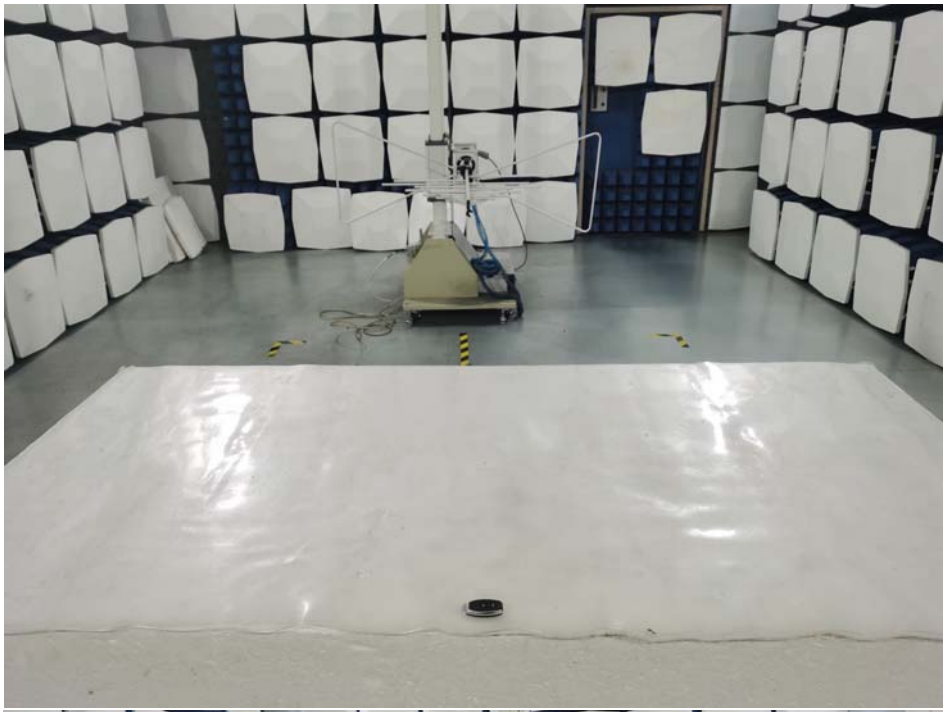
**Mark Location:**



## 13.0 Photo of testing

Conducted Emission Test Setup: N/A

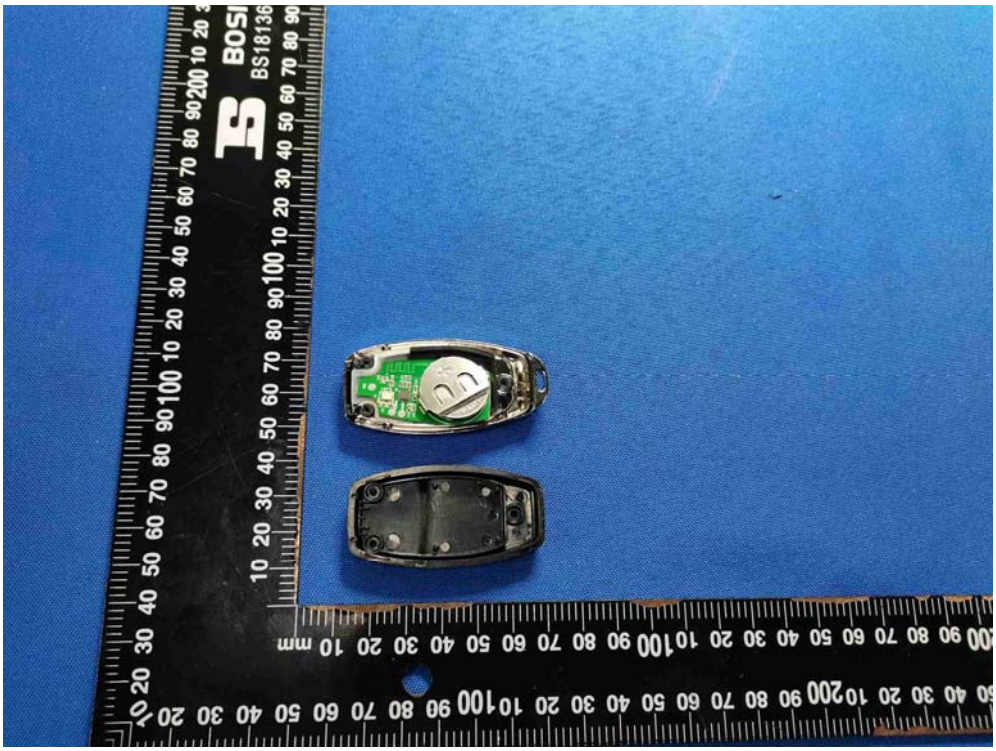
Radiated Emission Test Setup:

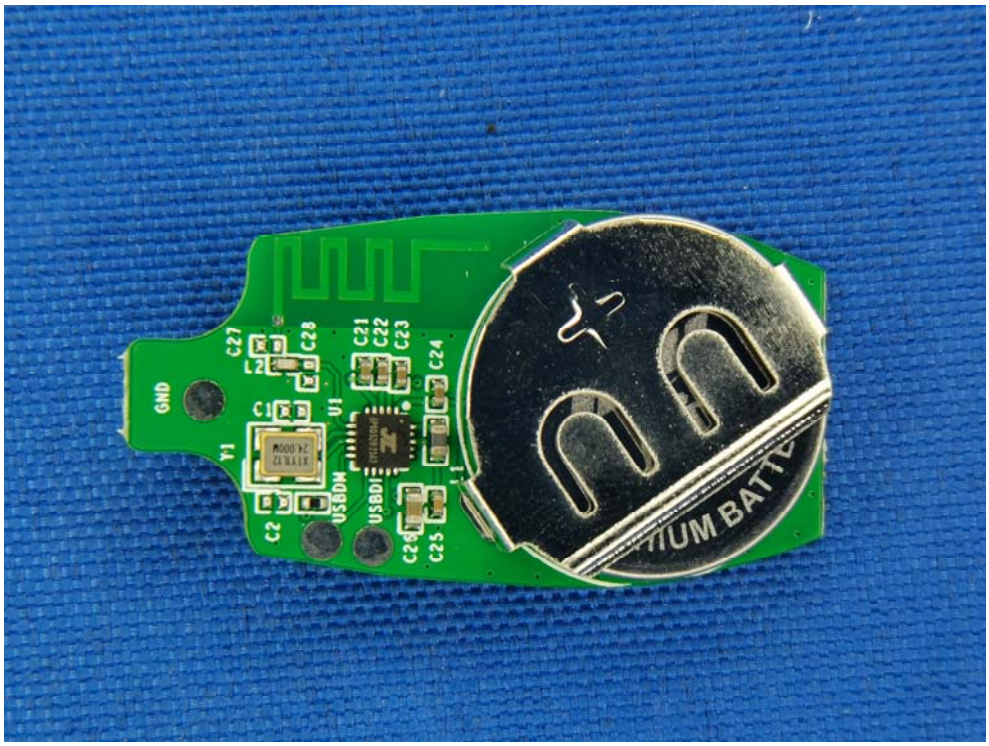


**Photographs – EUT**

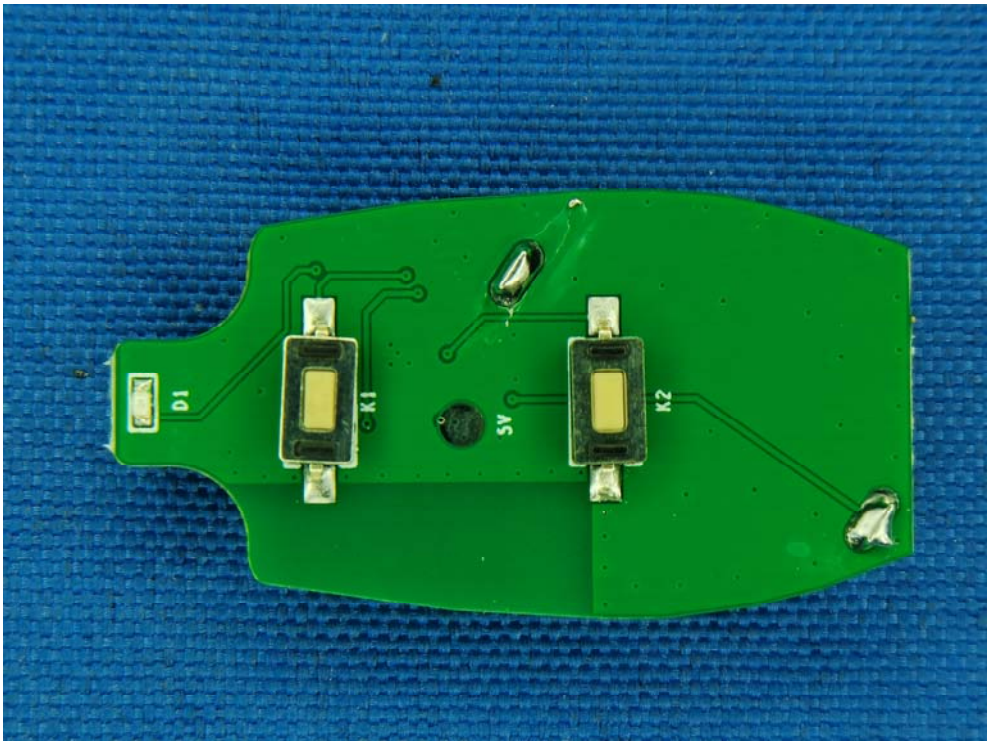

**Photographs – EUT**


**Photographs – EUT**





**Photographs – EUT**




**End of the report**