

# Japan Specified Radio Test Report

Report No. : 1812C50098612501

Applicant : GUANGZHOU RANTION TECHNOLOGY CO., LTD.

Address : Room 7002 and 7003, 7th Floor, Digital Entertainment Industrial Park, Greater Bay Area, No. 28 Huangpu Park West Road, Huangpu District, Guangzhou, China.

Product Name : Amplifier

Report Date : 2025-05-15

Shenzhen Anbotek Compliance Laboratory Limited



Shenzhen Anbotek Compliance Laboratory Limited

Code:AB-RF-05-b

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## TEST REPORT

Applicant : GUANGZHOU RANTION TECHNOLOGY CO., LTD.  
Manufacturer : GUANGZHOU RANTION TECHNOLOGY CO., LTD.  
Product Name : Amplifier  
Model No. : MAMP6, MAMP8, MAMP9, MAMP10, MAMP2, MAMP3, MAMP4  
Trade Mark : DONNER, MouKey  
Rating(s) : Input: 100-120V~, 60Hz, 7A

Test Standard(s) : MIC Notice No.88 Appendix No.43  
Article 2, paragraph 1, item 19

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the MIC Notice No.88 Appendix No.43 and Certificate regulation article 2, paragraph 1, item 19 requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

Date of Receipt

2025-03-19

Date of Test

2025-03-19 to 2025-05-15

Prepared By

Cecilia Chen

(Cecilia Chen)

Approved & Authorized Signer

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(Kingkong Jin)



Revision History

| Report Version | Description     | Issued Date |
|----------------|-----------------|-------------|
| R00            | Original Issue. | 2025-05-15  |
|                |                 |             |
|                |                 |             |



## 1. General Information

### 1.1. Client Information

|              |   |                                                                                                                                                            |
|--------------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Applicant    | : | GUANGZHOU RANTION TECHNOLOGY CO., LTD.                                                                                                                     |
| Address      | : | Room 7002 and 7003, 7th Floor, Digital Entertainment Industrial Park, Greater Bay Area, No. 28 Huangpu Park West Road, Huangpu District, Guangzhou, China. |
| Manufacturer | : | GUANGZHOU RANTION TECHNOLOGY CO., LTD.                                                                                                                     |
| Address      | : | Room 7002 and 7003, 7th Floor, Digital Entertainment Industrial Park, Greater Bay Area, No. 28 Huangpu Park West Road, Huangpu District, Guangzhou, China. |

### 1.2. Description of Device (EUT)

|                   |   |                                                                                                                                                    |
|-------------------|---|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name      | : | Amplifier                                                                                                                                          |
| Model No.         | : | MAMP6, MAMP8, MAMP9, MAMP10, MAMP2, MAMP3, MAMP4<br>(Note: All samples are the same except the model number, so we prepare "MAMP6" for test only.) |
| Trade Mark        | : | DONNER, MouKey                                                                                                                                     |
| Test Power Supply | : | AC 100V/50Hz                                                                                                                                       |
| Test Sample No.   | : | 1-2-1(Normal Sample), 1-2-2(Engineering Sample)                                                                                                    |
| Hardware Version  | : | MP3-100-2025-2-18                                                                                                                                  |
| Software Version  | : | MAMP6-MP3-20250402                                                                                                                                 |
| Adapter           | : | N/A                                                                                                                                                |

#### RF Specification

|                     |   |                                                                                           |
|---------------------|---|-------------------------------------------------------------------------------------------|
| Operation Mode      | : | <input checked="" type="checkbox"/> BT BDR <input checked="" type="checkbox"/> BT EDR     |
| Operation Frequency | : | 2402~2480MHz                                                                              |
| Number of Channel   | : | 79 Channels                                                                               |
| Modulation Type     | : | GFSK, $\pi/4$ -DQPSK, 8DPSK                                                               |
| Antenna Type        | : | PCB Antenna                                                                               |
| Antenna Gain(Peak)  | : | 3.38dBi                                                                                   |
| Rated output Power  | : | Bluetooth BDR: 2mW/MHz Max.<br>Bluetooth EDR: 2mW/MHz Max.<br>Bluetooth EDR: 2mW/MHz Max. |

**Remark:** (1) All of the RF specification are provided by customer. (2) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.



### 1.3. Auxiliary Equipment Used During Test

| Title | Manufacturer | Model No. | Serial No. |
|-------|--------------|-----------|------------|
| /     | /            | /         | /          |

### 1.4. Description of Test Configuration

The EUT has been tested under typical operating condition. The Applicant provides software to control the EUT for staying in continuous transmitting and receiving mode for testing.

| Channel | Freq.<br>(MHz) | Channel | Freq.<br>(MHz) | Channel | Freq.<br>(MHz) | Channel | Freq.<br>(MHz) | Channel | Freq.<br>(MHz) |
|---------|----------------|---------|----------------|---------|----------------|---------|----------------|---------|----------------|
| 00      | 2402           | 17      | 2419           | 34      | 2436           | 51      | 2453           | 68      | 2470           |
| 01      | 2403           | 18      | 2420           | 35      | 2437           | 52      | 2454           | 69      | 2471           |
| 02      | 2404           | 19      | 2421           | 36      | 2438           | 53      | 2455           | 70      | 2472           |
| 03      | 2405           | 20      | 2422           | 37      | 2439           | 54      | 2456           | 71      | 2473           |
| 04      | 2406           | 21      | 2423           | 38      | 2440           | 55      | 2457           | 72      | 2474           |
| 05      | 2407           | 22      | 2424           | 39      | 2441           | 56      | 2458           | 73      | 2475           |
| 06      | 2408           | 23      | 2425           | 40      | 2442           | 57      | 2459           | 74      | 2476           |
| 07      | 2409           | 24      | 2426           | 41      | 2443           | 58      | 2460           | 75      | 2477           |
| 08      | 2410           | 25      | 2427           | 42      | 2444           | 59      | 2461           | 76      | 2478           |
| 09      | 2411           | 26      | 2428           | 43      | 2445           | 60      | 2462           | 77      | 2479           |
| 10      | 2412           | 27      | 2429           | 44      | 2446           | 61      | 2463           | 78      | 2480           |
| 11      | 2413           | 28      | 2430           | 45      | 2447           | 62      | 2464           |         |                |
| 12      | 2414           | 29      | 2431           | 46      | 2448           | 63      | 2465           |         |                |
| 13      | 2415           | 30      | 2432           | 47      | 2449           | 64      | 2466           |         |                |
| 14      | 2416           | 31      | 2433           | 48      | 2450           | 65      | 2467           |         |                |
| 15      | 2417           | 32      | 2434           | 49      | 2451           | 66      | 2468           |         |                |
| 16      | 2418           | 33      | 2435           | 50      | 2452           | 67      | 2469           |         |                |

Note: EUT was tested with channel 0, 39 and 78.

### 1.5. Test Conditions

|                   | Normal Test Conditions |
|-------------------|------------------------|
| Temperature       | 15°C - 35°C            |
| Relative Humidity | 45% - 75%              |
| Pressure Range    | 86-106kPa              |



## 1.6. Test Voltage

### Power Supply Voltage Fluctuation Test

| Voltage Fluctuation Test | Normal Voltage | High Voltage +10% of Normal Voltage | Low Voltage -10% of Normal Voltage |
|--------------------------|----------------|-------------------------------------|------------------------------------|
| Input To EUT             | AC 100V        | AC 100V                             | AC 100V                            |
| Output To RF Module      | DC 3.30V       | DC 3.30V                            | DC 3.30V                           |
| Voltage Variation (%)    | --             | 0.00%                               | 0.00%                              |

Note: Voltage Variation (%)=(Output high or Low Voltage - Output Normal Voltage)/ Output Normal Voltage\* 100

For extreme voltage test, we have tested the relationship between the external power supply and RF IC power supply. Base on the test results, only the normal voltage was selected to perform all items.

## 1.7. Test Equipment List

| Item | Equipment                             | Manufacturer    | Model No.   | Serial No.  | Last Cal.  | Cal.Due Date |
|------|---------------------------------------|-----------------|-------------|-------------|------------|--------------|
| 1    | Spectrum Analyzer                     | Rohde & Schwarz | FSV40-N     | 102150      | 2024-05-06 | 2025-05-05   |
| 2    | MXA Spectrum Analysis                 | KEYSIGHT        | N9020A      | MY50531823  | 2024-09-09 | 2025-09-08   |
| 3    | MXG RF Vector Signal Generator        | Agilent         | N5182A      | MY47420647  | 2025-01-14 | 2026-01-13   |
| 4    | Constant Temperature Humidity Chamber | ZHONGJIAN       | ZJ-KHWS8 0B | N/A         | 2024-10-14 | 2025-10-13   |
| 5    | DC Power Supply                       | IVYTECH         | IV3605      | 1804D360510 | 2024-09-09 | 2025-09-08   |
| 6    | Oscilloscope                          | Tektronix       | MDO3012     | C020298     | 2024-10-10 | 2025-10-09   |

### Remark:

(a) Calibration conducted by the National Institute of Information and Communications Technology (NICT) in Japan (hereinafter referred to as "NICT") or a designated calibration agency under Article 102-18 paragraph (1) in JRL.

(b) Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Act (Act No. 51 of 1992).

(c) Calibration conducted in countries except Japan, which shall be equivalent to the calibration conducted by the NICT or a designated calibration agency under Article 102-18 paragraph (1).

(d) Calibration, etc., conducted by using measuring instruments and other equipment listed in the right column of appended table No. 3, which shall have been given any type of calibration, etc., listed above from (a) to (c).

From JRL Article 24 .2, paragraph 4, Item 2



### 1.8. Description of Test Facility

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

**FCC-Registration No.: 434132**

Shenzhen Anbotek Compliance Laboratory Limited, 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. 434132.

**ISED-Registration No.: 8058A**

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A.

**Test Location**

Shenzhen Anbotek Compliance Laboratory Limited.

Sogood Industrial Zone Laboratory & 1/F. of Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Subdistrict, Bao'an District, Shenzhen, Guangdong, China.

### 1.9. Disclaimer

1. The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
2. The test report is invalid if there is any evidence and/or falsification.
3. The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.
4. This document may not be altered or revised in any way unless done so by Anbotek and all revisions are duly noted in the revisions section.
5. Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
6. The authenticity of the information provided by the customer is the responsibility of the customer and the laboratory is not responsible for its authenticity.
7. The data in this report will be synchronized with the corresponding national market supervision and management departments and cross-border e-commerce platforms as required by regulatory agencies.

The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.



**1.10. Measurement Uncertainty**

| Parameter                                                                                                                                                                                                                       | Uncertainty |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Occupied Bandwidth                                                                                                                                                                                                              | 1%          |
| Conducted Output Power                                                                                                                                                                                                          | 0.76dB      |
| Conducted Spurious Emission                                                                                                                                                                                                     | 1.24dB      |
| Frequency tolerance                                                                                                                                                                                                             | 1%          |
| Dwell Time                                                                                                                                                                                                                      | 2%          |
| The measurement uncertainty and decision risk evaluated according to AB/WI-RF-F-032.<br>This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2. |             |



## 2. Summary of Test Results

| Test Standard                                                                   | Description of Test                                    | Result          |
|---------------------------------------------------------------------------------|--------------------------------------------------------|-----------------|
| MIC Notice<br>No.88<br>Appendix<br>No.43<br>Article 2<br>Paragraph 1<br>Item 19 | Frequency Tolerance                                    | Complies        |
|                                                                                 | Antenna power                                          | Complies        |
|                                                                                 | EIRP                                                   | Complies*       |
|                                                                                 | Antenna Power Tolerance                                | Complies        |
|                                                                                 | Occupied Bandwidth                                     | Complies        |
|                                                                                 | Spread Bandwidth                                       | Just for report |
|                                                                                 | Spurious Emissions                                     | Complies        |
|                                                                                 | Interference prevention function                       | Complies        |
|                                                                                 | Secondary Radiated Emissions                           | Complies        |
|                                                                                 | Dwell Time                                             | Complies        |
|                                                                                 | Transmission Radiated Angle Width (3dB Beam Bandwidth) | N/A*            |
|                                                                                 | Antenna Absolute Gain                                  | Complies*       |

Note:

(1) N/A is an abbreviation for Not Applicable.

(2) This device have more than 1 subcarrier in 1MHz, compliance with the requirement.

N/A\*: Due to EIRP is less than 6.91dBm/MHz.



### 3. Frequency Tolerance Test

#### 3.1. Test Limit

|            |              |
|------------|--------------|
| Test Limit | $\pm 50$ ppm |
|------------|--------------|

#### 3.2. Test Setup



#### 3.3. Test Procedure

Test Frequency= test channel

RBW=VBW=10kHz

Span=3.0MHz

Sweep time=Auto

Detector mode=Positive peak

Indication mode=Max hold

#### 3.4. Test Data

**PASS**

Please refer to Appendix A of the Appendix Test Data.



## 4. Antenna Power Test

### 4.1. Test Limit

| No. | Modulation Method                                            | Frequency Range                          | Antenna Power    | E.I.R.P               |
|-----|--------------------------------------------------------------|------------------------------------------|------------------|-----------------------|
| 1.  | FHSS(Compound method with DSSS or OFDM) (OBW within 83.5MHz) | 2427-2470.75 MHz                         | 3mW/MHz or less  | 6.91-16.91dBm/MHz     |
|     |                                                              | 2400-2483.5 MHz (except 2427-2470.75MHz) | 10mW/MHz or less | 12.14-22.14dBm/MHz    |
| 2.  | DSSS (OBW within 26MHz)                                      | 2400 - 2483.5 MHz                        | 10mW/MHz or less | 12.14-22.14dBm/MHz    |
| 3.  | OFDM (OBW within 26MHz)                                      |                                          | 10mW/MHz or less | 12.14- - 22.14dBm/MHz |
| 4.  | OFDM (OBW 26-40MHz)                                          |                                          | 5mW/MHz or less  | 9.13-19.13dBm/MHz     |
| 5.  | Other Digital methods (OBW within 26MHz)                     |                                          | 10mW or less     | 12.14-22.14dBm        |
| 6.  | Tolerance                                                    | +20%                                     |                  |                       |

### 4.2. Test Setup



### 4.3. Test Configuration

- To measure the Total Power  
Test Frequency: test channel,  
RBW=VBW=1MHz, Span=200MHz, Sweep time=Auto, Detector mode =Positive peak
- Antenna power= Total power/spread bandwidth

### 4.4. Test Data

Pass

Please refer to Appendix B of the Appendix Test Data.



## 5. Occupied Bandwidth (99%) Test

### 5.1. Test Limit

| Modulation type | Limit           |
|-----------------|-----------------|
| FH:             | 83.5MHz or less |
| FH + DS:        | 83.5MHz or less |
| FH + OFDM:      | 83.5MHz or less |
| OFDM:           | 40MHz or less   |
| Others:         | 26MHz or less   |

### 5.2. Test Setup



### 5.3. Test Procedure

#### Hopping:

Test Frequency=test channel

RBW=VBW=1MHz

Span=200MHz

Sweep time=Auto

Detector mode=Positive peak

Indication mode=Max hold

### 5.4. Test Data

**PASS**

Please refer to Appendix C of the Appendix Test Data.

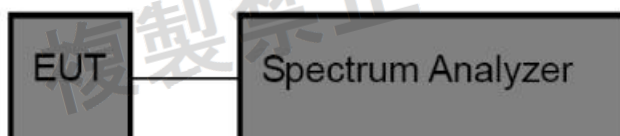


## 6. Spread-Spectrum Bandwidth (90%) Test

### 6.1. Test Limit

|            |     |
|------------|-----|
| Test Limit | N/A |
|------------|-----|

### 6.2. Test Setup



### 6.3. Test Procedure

Test Frequency= test channel

RBW=VBW=1MHz

Span=200MHz

Sweep time=Auto

Detector mode=Positive peak

Indication mode=Max hold

### 6.4. Test Data

Pass

Please refer to Appendix D of the Appendix Test Data.



## 7. Spurious Emissions Intensity Test

### 7.1. Test Limit

| Frequency Range         | Test Limit                             |
|-------------------------|----------------------------------------|
| $\leq 2387\text{MHz}$   | $\leq 2.5\mu\text{W/MHz}$ (-26dBm/MHz) |
| 2387MHz to 2400MHz      | $\leq 25\mu\text{W/MHz}$ (-16dBm/MHz)  |
| 2483.5MHz to 2496.5MHz  | $\leq 25\mu\text{W/MHz}$ (-16dBm/MHz)  |
| $\geq 2496.5\text{MHz}$ | $\leq 2.5\mu\text{W/MHz}$ (-26dBm/MHz) |

### 7.2. Test Setup



### 7.3. Test Procedure

Test Frequency: test channel,

RBW=VBW=1MHz, Sweep time=Auto, Detector mode=Positive peak

### 7.4. Test Data

Pass

Please refer to Appendix E of the Appendix Test Data.

Note: SA set to from 2.4965GHz to 13GHz, plot shows from 2.497GHz to 13GHz as of SA's default format.

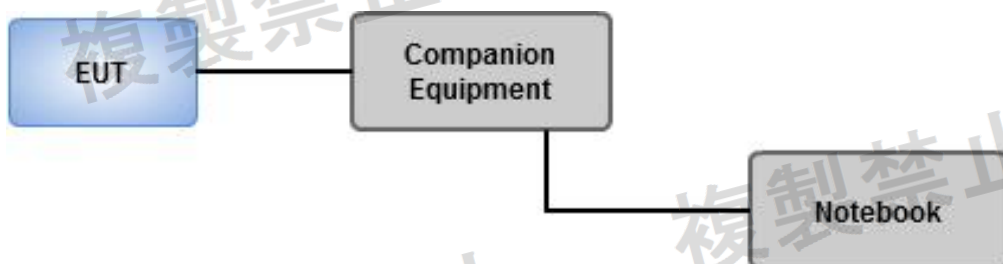


## 8. Interference Prevention Function

### 8.1. Test Limit

|            |                                               |
|------------|-----------------------------------------------|
| Test Limit | The identification code shall be 48 bits long |
|------------|-----------------------------------------------|

### 8.2. Test Setup



### 8.3. Test Configuration

1. Set EUT under operating mode and link up with companion equipment
2. Check communication status between EUT and companion equipment is normal
3. Record the max. reading.
4. Confirm the MAC address of EUT

### 8.4. Test Data

| Test Mode | ID Code           | Test Results |
|-----------|-------------------|--------------|
| BDR+EDR   | 8C:B2:85:38:A6:19 | Complies     |



## 9. Secondary Radiated Emissions Test

### 9.1. Test Limit

| Frequency Range | Test Limit                   |
|-----------------|------------------------------|
| 30~ 1000MHz     | $\leq 4.0\text{nW}$ (-54dBm) |
| 1000~ 12500MHz  | $\leq 20\text{nW}$ (-47dBm)  |

### 9.2. Test Setup



### 9.3. Test Configuration

Test Frequency: test channel,  
Below 1GHz, RBW=VBW=100kHz;  
Above 1GHz, RBW=VBW=1MHz,  
Sweep time=Auto, Detector mode=Positive peak

### 9.4. Test Data

Pass

Please refer to Appendix F of the Appendix Test Data.

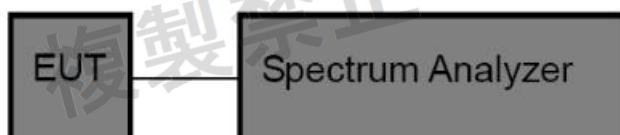


## 10. Dwell Time Measurement

### 10.1. Test Limit

|            |                    |
|------------|--------------------|
| Test Limit | 0.4 second or less |
|------------|--------------------|

### 10.2. Test Setup



### 10.3. Test Configuration

Test Frequency: test channel,

RBW=1MHz, VBW=3MHz, Span=0MHz, Detector mode=Positive peak

Total Dwell Time = On time Burst x On time Burst number in 31.6s

$31.6 = (0.4 \times \text{Number of hopping channels})$  [Notes]

a. Numerical Coefficient (0.4) is a dimensionless number defined in the technical standard

### 10.4. Test Data

Pass

Please refer to Appendix G of the Appendix Test Data.



## APPENDIX I -- TEST SETUP PHOTOGRAPH

Please refer to separated files Appendix I -- Test Setup Photograph\_RF

## APPENDIX II -- EXTERNAL PHOTOGRAPH

Please refer to separated files Appendix II -- External Photograph

## APPENDIX III -- INTERNAL PHOTOGRAPH

Please refer to separated files Appendix III -- Internal Photograph

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

