

Japan Specified Radio Test Report

Report No. : 1812C50019812502

Applicant : Shenzhen Qianhai Biguan electronic
Technology Co.LTD

Address : A201,203, Building A2, Fuhai International
Science Park, 306 Qiao He Road, Heping
Community, Fuhai Street, Baoan District,
Shenzhen, China

Product Name : Wireless bluetooth mouse

Report Date : 2025-12-05



Shenzhen Anbotek Compliance Laboratory Limited



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TEST REPORT

Applicant : Shenzhen Qianhai Biguan electronic Technology Co.LTD

Manufacturer : Dongguan ShangGui Electronics Co.,Ltd.

Product Name : Wireless bluetooth mouse

Model No. : WGM837(OGM Cloud XS)

Trade Mark : Waizowl

Rating(s) : Input: 5V $\approx$ 138mA(with DC 3.7V, 300mAh Battery inside)

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

2025-01-14

Date of Test

2025-01-14 to 2025-01-23

Prepared By



(Lene Chen)

Approved & Authorized Signer



(Hugo Chen)



Revision History

Report Version	Description	Issued Date
R00	Original Issue.	2025-12-05



1. General Information

1.1. Client Information

Applicant	:	Shenzhen Qianhai Biguan electronic Technology Co.LTD
Address	:	A201,203, Building A2, Fuhai International Science Park, 306 Qiao He Road, Heping Community, Fuhai Street, Baoan District, Shenzhen, China
Manufacturer	:	Dongguan ShangGui Electronics Co.,Ltd.
Address	:	No.7, 7th Str. YinCheng Rd., Xiabian Village, Chang'an Town, Dongguan City, China
Factory	:	Dongguan ShangGui Electronics Co.,Ltd.
Address	:	No.7, 7th Str. YinCheng Rd., Xiabian Village, Chang'an Town, Dongguan City, China

1.2. Description of Device (EUT)

Product Name	:	Wireless bluetooth mouse
Model No.	:	WGM837(OGM Cloud XS)
Trade Mark	:	Waizowl
Test Power Supply	:	DC 3.7V battery inside
Test Sample No.	:	1-2-1(Normal Sample), 1-2-2(Engineering Sample)
Hardware Version	:	V1.0
Software Version	:	V1.0
Adapter	:	N/A

RF Specification

Operation Mode	:	☐ DSSS ☒ FHSS
Operation Frequency	:	2403~2477MHz
Number of Channel	:	38 Channels
Modulation Type	:	GFSK
Antenna Type	:	Ceramic Antenna
Antenna Gain(Peak)	:	2.67dBi
Rated output Power	:	2.5mW/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

Operation Band:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2403	11	2423	21	2443	31	2463
2	2405	12	2425	22	2445	32	2465
3	2407	13	2427	23	2447	33	2467
4	2409	14	2429	24	2449	34	2469
5	2411	15	2431	25	2451	35	2471
6	2413	16	2433	26	2453	36	2473
7	2415	17	2435	27	2455	37	2475
8	2417	18	2437	28	2457	38	2477
9	2419	19	2439	29	2459	/	/
10	2421	20	2441	30	2461	/	/

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	DC 3.7V	DC 4.07V	DC 3.33V
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	2024-02-04	2025-02-03

Note:

The above test equipment is calibrated by Guangzhou LiSai Metrology & Test Co.,Ltd.
Calibration method reference Article 24-2, Paragraph 4 of the Radio Act. (method c)

4	Constant Temperature Humidity Chamber	ZHONGJIAN	ZJ-KHWS80B	N/A	2024-10-14	2025-10-13
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Note:

The test equipment is calibrated by GUANGZHOU NEM METROLOGY&TEST TECHNOLOGY CO.,LTD
Calibration method reference Article 24-2, Paragraph 4 of the Radio Act. (method c)

5	DC Power Supply	IVYTECH	IV3605	1804D360510	2024-09-09	2025-09-08
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Note:

The test equipment is calibrated by Centre Testing International Group Co., Ltd. (CTI)
Calibration method reference Article 24-2, Paragraph 4 of the Radio Act. (method c)

6	Oscilloscope	Tektronix	MDO3012	C020298	2024-10-10	2025-10-09
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Note:

The test equipment is calibrated by Ti Testing & Certification Group Co., Ltd. Shenzhen Branch
Calibration method reference Article 24-2, Paragraph 4 of the Radio Act. (method c)



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.

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	925Hz
Conducted Output Power	0.76dB
Conducted Spurious Emission	1.24dB
Frequency tolerance	74.60Hz
Dwell Time	2%
The measurement uncertainty and decision risk evaluated according to AB/WI-RF-F-032. 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 No.88 Appendix No.43 Article 2 Paragraph 1 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
	Carrier sensing function 1	N/A**
	Carrier sensing function 2	N/A***
	Interference prevention function	Complies
	Secondary Radiated Emissions	Complies
	Dwell Time	Complies
	Transmission Radiated Angle Width (3dB Beam Bandwidth)	N/A*
	Antenna Absolute Gain	N/A*

Note:

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

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

*: Application to Antenna Gain more than 2.14dBi.

** : Application to transmitting devices which EIRP is less than (2.14dBi + antenna power limit) and the shortage of EIRP is compensated by the antenna power. Not applicable to this product.

***: Application to transmitting devices with OFDM modulation and the occupied bandwidth greater than 26MHz.



3. Frequency Tolerance Test

3.1. Test Limit

Test Limit	±50 ppm
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3.2. Test Setup



3.3. Test Procedure

Test Frequency= test channel

RBW=VBW=10kHz

Span=1MHz

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

1. Measure the total power by the Power Meter in a state of hopping mode.
 2. Calculate the mean power per 1MHz by dividing the reading level by spread bandwidth.
- Output power Density (Mw/MHz) = Total power (mW) / spread bandwidth(MHz)

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
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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.

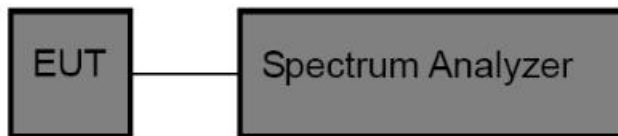


7. Spurious Emissions Intensity Test

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.

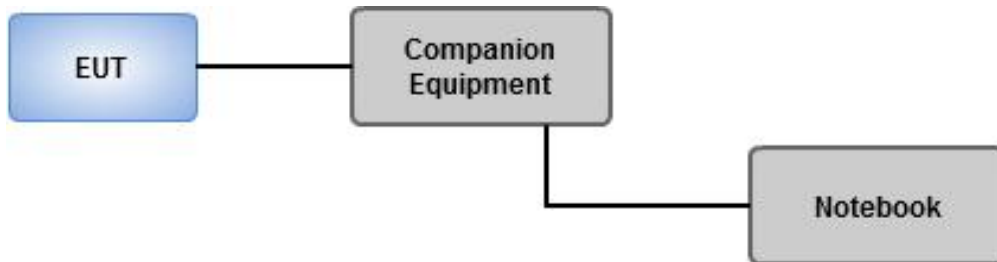


8. Interference Prevention Function

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
2.4G	25:13:F1:30:57:44	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.

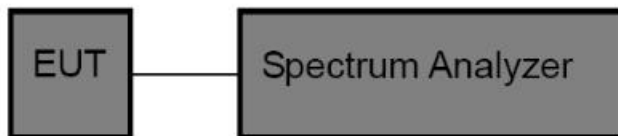


10. Dwell Time Measurement

10.1. Test Limit

Test Limit	0.4 second or less
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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 -----

