

MPE REPORT

Report No.: SRTC2023-9004(F)-23010501(I)
Product Name: Bluetooth Module
Model Name: BR2602e-u2
Applicant: CHONGQING BARROT TECHNOLOGY LIMITED
FCC ID: 2AOXV-BR2602E-U2

Reference Specification
FCC Part §1.1310

The State Radio_monitoring_center Testing Center (SRTC)

15th Building, No.30 Shixing Street, ShijingshanDistrict, Beijing,P.R.China

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1 GENERAL INFORMATION

1.1 Notes of the test report

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The certification and accreditation identifiers used in this report shall not be applicable to the tested or calibrated samples thereof. The manufacturer shall not mark the tested samples or items (or a separate part of the item) with the identifiers of certification and accreditation to mislead relevant parties about the tested samples or items.

1.2 Information about the testing laboratory

Company:	The State Radio_monitoring_center Testing Center (SRTC)
Designation number:	CN1267
Registration number:	239125
Certificate Number:	5055.02
Address:	15th Building, No.30 Shixing Street, Shijingshan District, Beijing P.R.China
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1.3 Applicant's details

Company:	CHONGQING BARROT TECHNOLOGY LIMITED
Address:	1st Floor,B1-1 Building,No.99 Shujugu zhong road, Xiantao Street, Yubei District, Chongqing, China.

1.4 Manufacturer's details

Company:	CHONGQING BARROT TECHNOLOGY LIMITED
Address:	1st Floor,B1-1 Building,No.99 Shujugu zhong road, Xiantao Street, Yubei District, Chongqing, China.

1.5 Test environment

Testing Start Date:	2023/1/5
Testing End Date:	2023/1/14

Environmental Data:	Temperature (°C)	Humidity (%)
Ambient:	22	35

2 DESCRIPTION OF THE EQUIPMENT UNDER TEST

2.1 Final equipment build status

Frequency Range:	2402-2480
Mode:	BLE:1M/2M/Coded
Antenna gain:	0dB
Hardware Version:	V2.0
Software Version:	BR2602e_00_220704_r8519
IMEI/SN:	NA

3 SPECIFICATION

Specification	Version	Title
Part 1.1310	Latest	Radio frequency radiation exposure limits.

4 RESULT SUMMARY

Case	Verdict
MPE	Pass

This Test Report Is Issued by: Mr. Peng Zhen 彭振	Checked by: Mr. Li Bin 李彬
Tested by: Ms. Li Jin 李晋	Issued date: 2023/1/16

5 CALCULATION RESULT

5.1 Average output power

BLE

Modulation type	Conducted Power (dBm)			Tune up
GFSK (1Mbps)	-0.44	-0.81	-0.66	0
GFSK (2Mbps)	-2.95	-3.32	-3.17	-2.5
GFSK (500Kbps)	1.36	1.28	1.24	1.5
GFSK (125Kbps)	0.94	0.59	0.72	1.0

5.2 Maximum permissible exposure (MPE)

Limit:

(A) Limits for Occupational/Controlled Exposure ☐

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

(B) Limits for General Population/Uncontrolled Exposure ☒

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz *Plane-wave equivalent power density

Result:

According to §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines.

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

The $S = PG / (4\pi R^2)$

Where S = power density in mW/cm²

P = transmit power in mW

G = numeric gain of transmit antenna

R = distance (cm)

Standalone Transmission Result

Band	Freq. (MHz)	Maximum Power (dBm)	Maximum EIRP (dBm)	Average EIRP (mW)	Power Density at 20cm (mW/cm ²)	Limit (mW/cm ²)
GFSK (500Kbps)	2402	1.5	1.5	1.41	0.0003	1