

RF Exposure Evaluation Report

Product : Wireless Gateway
Trade mark : BH
Model/Type reference : BH3002
Serial Number : N/A
Report Number : EED32N80703602
FCC ID : 2A3REBJBHXZ20060602
Date of Issue : Dec. 02, 2021
Test Standards : 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06
Test result : PASS

Prepared for:

Beijing Bohua Xinzhi Technology, Inc.
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2 Version

Version No.	Date	Description
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4 General Information

4.1 Client Information

Applicant:	Beijing Bohua Xinzhi Technology, Inc.
Address of Applicant:	6rd Floor, xihuaxin Building No.5 Cherry Park Street Chaoyang District, Beijing
Manufacturer:	Beijing Bohua Xinzhi Technology, Inc.
Address of Manufacturer:	6rd Floor, xihuaxin Building No.5 Cherry Park Street Chaoyang District, Beijing
Factory:	Beijing Bohua Xinzhi Technology, Inc.
Address of Factory:	6rd Floor, xihuaxin Building No.5 Cherry Park Street Chaoyang District, Beijing

4.2 General Description of EUT

Product Name:	Wireless Gateway
Mode No.:	BH3002
Trade mark:	BH
Power Supply:	DC 24V, 5A
Test Voltage:	DC 24V
Sample Received Date:	Aug. 09, 2021
Sample tested Date:	Sep. 08, 2021 to Sep. 10, 2021
Company Name and Address shown on Report, the sample(s) and sample information was/ were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.	

4.3 General Description of BT Classic

Operation Frequency:	2405MHz~2475MHz
Modulation Type:	O-QPSK
Number of Channel:	15
Product Type:	☐ Mobile ☐ Portable ☒ Fix Location
Antenna Type:	External antenna
Antenna Gain:	9dBi

4.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 RF Exposure Evaluation

5.1 RF Exposure Compliance Requirement

Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{377}$

Where E = Field strength in Volts / meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{377 d^2}$$

Changing to units of mW and cm, using:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = d \text{ (m)} / 100$$

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

5.2 Maximum Permissible Exposure

Substituting the MPE safe distance using $d = 20$ cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

Zigbee:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm ²)
0	2405	42.7169267476	7.94	20	0.0675	1

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32N80703601 for EUT external and internal photos.

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.

*** End of Report ***