RF Exposure Evaluation Report

Product	:	BLE Dongle
Trade mark	:	Qbic
Model/Type reference	:	BDG-100, BDG-10X(where X = 0-9, a-z, A-Z, "-", or blank for marketing purpose)
Serial Number	:	N/A
Report Number	:	EED32P80651002
FCC ID	:	2AF82-BDG100
Date of Issue	:	May 30, 2023
Test Standards	:	47 CFR Part 1.1307 47 CFR Part 1.1310 47 CFR Part 2.1091 47 CFR Part 2.1093 447498 D04 Interim General RF Exposure Guidance v01
Test result	:	PASS

Prepared for:

Qbic Technology Co., Ltd.
26 F.-12, No. 99, Sec. 1, Xintai 5th Rd., Xizhi Dist., New Taipei City 221416, Taiwan, China

Prepared by:

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Approved by: Aaron Ma Date: May 30, 2023

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Check No.: 1638060523

2 Version

Version No.	Date	Description
00	May 30, 2023	Original

3 Contents

4 General Information

4.1 Client Information

Applicant:	Qbic Technology Co., Ltd.
Address of Applicant:	26 F.-12, No. 99, Sec. 1, Xintai 5th Rd., Xizhi Dist., New Taipei City 221416, Taiwan, China
Manufacturer:	Qbic Technology Co., Ltd.
Address of Manufacturer:	26 F.-12, No. 99, Sec. 1, Xintai 5th Rd., Xizhi Dist., New Taipei City 221416, Taiwan, China
Factory 1:	Jiangxi Xingtai Technology Inc.
Address of Factory 1:	Jizhou District industrial park, Ji'an, Jiangxi, China
Factory 2:	Qbic Technology Co., Ltd.
Address of Factory 2:	26 F.-10, No. 99, Sec. 1, Xintai 5th Rd., Xizhi Dist., New Taipei City 221416, Taiwan, China
Factory 3:	Lih Rong Electronic Enterprise Co., Ltd.
Address of Factory 3:	No. 486, Sec. 1, Wanshou Rd., Guishan Dist., Taoyuan City 333026, Taiwan, China
Factory 4:	Lih Rong Electronic Enterprise Co., Ltd
Address of Factory 4:	No. 1, Gaoxia Rd., Zhongli Dist., Taoyuan City 320030, Taiwan, China

4.2 General Description of EUT

Product Name:	BLE Dongle
Model No.(EUT):	BDG-100, BDG-10X(where X = 0-9, a-z, A-Z, "-", or blank for marketing purpose)
Test Model No.:	BDG-100
Trade Mark:	Qbic

4.3 Product Specification subjective to this standard

Frequency Range:	BT Single mode, 2402MHz~2480MHz
Modulation Type:	GFSK
Test Power Grade:	Default
Test Software of EUT:	Direct Test Mode
Antenna Type:	External Antenna
Antenna Gain:	3dBi
Power Supply:	DC 5V
Max Conducted Peak Output Power:	6.48dBm
	The Max Conducted Peak Output Power data refer to the report EED32P80651001
Sample Received Date:	May 06, 2023
Sample tested Date:	May 06, 2023 to May 15, 2023
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. Model: BDG-100, BDG-10X(where X = 0-9, a-z, A-Z, "-", or blank for marketing purpose) Only the model BDG-100 was tested. They have same electrical, PCB and layout, only the model names are different for marketing requirements.	

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 SAR Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Limits

The SAR-based exemption formula of § 1.1307(b)(3)(i)(B), repeated here as Formula (B.2), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold Pth (mW).
This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). Pth is given by Formula

$$P_{\text{th}}\,(\text{mW}) = \begin{cases} ERP_{20\text{ cm}}(d/20\text{ cm})^{x} & d \le 20\text{ cm} \\ ERP_{20\text{ cm}} & 20\text{ cm} < d \le 40\text{ cm} \end{cases}$$

where

$$x = -\log_{10}\left(\frac{60}{ERP_{20\text{ cm}}\sqrt{f}}\right)$$

and f is in GHz, d is the separation distance (cm), and ERP20cm is per Formula (B.1).

$$P_{\text{th}}\,(\text{mW}) = ERP_{20\text{ cm}}\,(\text{mW}) = \begin{cases} 2040f & 0.3\text{ GHz} \le f < 1.5\text{ GHz} \\ 3060 & 1.5\text{ GHz} \le f \le 6\text{ GHz} \end{cases} \qquad \text{(B.1)}$$

The 1 mW Blanket Exemption of § 1.1307(b)(3)(i)(A) applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power of no more than 1 mW, regardless of separation distance.

5.1.2 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

5.1.3 EUT RF Exposure Evaluation

For Stand alone:

For BLE

Frequency (MHz)	Max. Conducted Output power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	ERP (dBm)	ERP (mW)	Limit (mW)	Result
2480	6.48	3	9.48	7.33	5.408	3060	PASS

Note：

① EIRP=conducted power + antenna gain；

② ERP=EIRP-2.15

③ Only the worst case data was recorded in the report.

*** End of Report ***