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# RF Exposure Evaluation Report

**Product** : Bluetooth controller

Trade mark : UBTECH

Model/Type reference : UKBTC01

Serial Number : N/A

Report Number : EED32P81612802 FCC ID : 2AHJX-UKBTC01 Date of Issue : Nov. 02, 2023

Test Standards : 47 CFR Part 1.1307

47 CFR Part 1.1310 47 CFR Part 2.1093

447498 D04 Interim General RF

Exposure Guidance v01

Test result : PASS

Prepared for:

### **UBTECH ROBOTICS CORP LTD**

Room 2201, Building C1, Nanshan Smart Park, No. 1001 Xueyuan Avenue, Changyuan Community, Taoyuan Street, Nanshan District, Shenzhen, PRC

Prepared by:

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Date:

Nov. 02, 2023

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## 4.1 Client Information

Applicant:	UBTECH ROBOTICS CORP LTD				
Address of Applicant:	Room 2201,Building C1, Nanshan Smart Park, No.1001 Xueyuan Avenue, Changy uan Community, Taoyuan Street, Nanshan District, Shenzhen, PRC				
Manufacturer:	UBTECH ROBOTICS CORP LTD				
Address of Manufacturer:	Room 2201,Building C1, Nanshan Smart Park, No.1001 Xueyuan Avenue, Changy uan Community, Taoyuan Street, Nanshan District, Shenzhen, PRC				

# 4.2 General Description of EUT

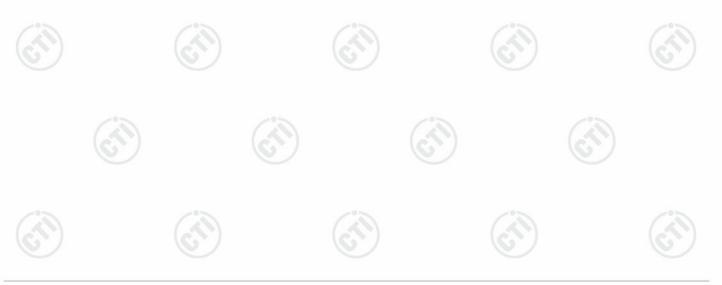
Product Name:	Bluetooth controller		
Model No.(EUT):	UKBTC01		
Trade Mark:	UBTECH		
Device type:	Portable	(0,)	(0,)

### 4.3 Product Specification subjective to this standard

Fraguenay Danger	24021417-24901417	-0-		-0-	
Frequency Range:	2402MHz~2480MHz				
Modulation Type:	GFSK	(6.7.)		(c3)	
Test Power Grade:	Default				
Test Software of EUT:	Broadcom BlueTool				
Antenna Type:	PCB Antenna		-0.5		
Antenna Gain:	1.5dBi				
Power Supply:	DC 3.7V		6		6.
Sample Received Date:	Oct. 11, 2023				
Sample tested Date:	Oct. 11, 2023 to Oct. 17, 202	23			

Remark:

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.







### 4.4 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

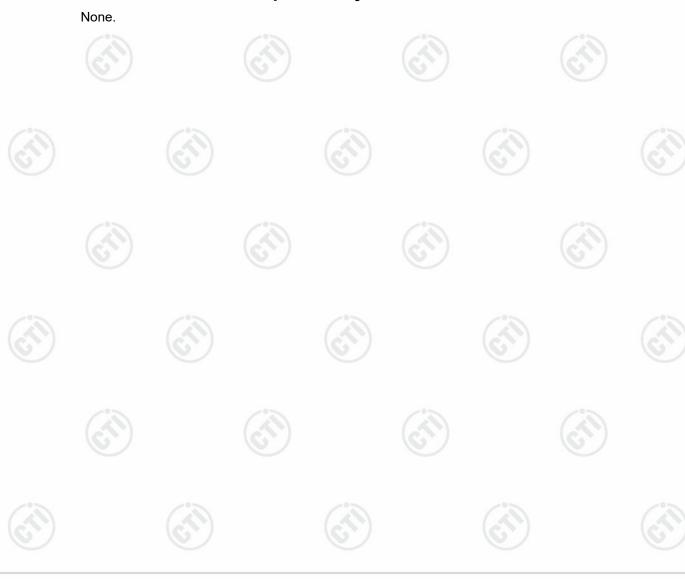
### 4.5 Deviation from Standards

None.

### 4.6 Abnormalities from Standard Conditions

None.

# 4.7 Other Information Requested by the Customer





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### 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

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

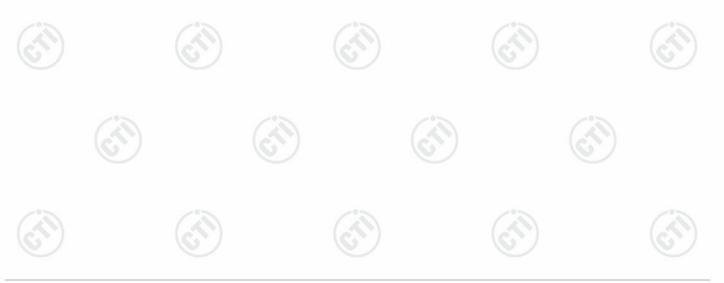
and f is in GHz, d is the separation distance (cm), and ERP20cm is per Formula (B.1).

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





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### 5.1.3 EUT RF Exposure Evaluation

### For Stand alone:

#### For BLE

	f - 470. 1	P. 1	7 70	9.1		40, 77 1		1 40 41
	6.	Max.	6,	/	/	6.0		(0,0)
Frequency (MHz)	Separation distance (cm)	Conducted Output power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	ERP (dBm)	ERP (mW)	Limit (mW)	Result
2402	0.50	3.94	1.5	5.44	3.29	2.13	2.788	PASS

#### Note:

- ①EIRP=conducted power+antenna gain;
- ②ERP=EIRP-2.15
- ③Only the worst case data was recorded in the report.

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.

