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# **RF Exposure Evaluation Report**

**Product** : Merlyn USB Dongle

Trade mark : N/A

Model/Type reference : MUDG1, MUDG2

Serial Number : N/A

Report Number : EED32P81691802

FCC ID : 2AYDX-MUDG1

**Date of Issue** : Nov. 15, 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:

Merlyn Mind, Inc. 8 West 40th Street, Floor 20, New York, NY 10018, USA

Prepared by:

Centre Testing International Group Co., Ltd. Hongwei Industrial Zone, Bao'an 70 District, Shenzhen, Guangdong, China

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Nov. 15, 2023

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# 1 Version

Version No.	Date	Description				
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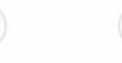


















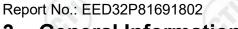














### 3.1 Client Information

Applicant:	Merlyn Mind, Inc.				
Address of Applicant:	8 West 40th Street, Floor 20, New York, NY 10018, USA				
Manufacturer:	Shenzhen C&D Electronics Co.,Ltd				
Address of Manufacturer:	9/F, Block A Building 9, Baoneng S&T Park, Qing Xiang Rd., Longhua, Shenzhen 518110,China				
Factory:	Huizhou C&D Industry Co.,Ltd.				
Address of Factory:	C&D Industrial Park, Liantangmian Village, Sanhe Street, Huiyang District, Huizhou, Guangdong, China				

### 3.2 General Description of EUT

Product Name:	Merlyn USB Dongle	(	(A)	
Model No.(EUT):	MUDG1, MUDG2	- 1		
Test Model No.:	MUDG1			
Trade Mark:	N/A			
Device type:	Portable			\
Power Supply:	USB port: DC 5V		67	)
Test Voltage:	DC 5.0V			
Sample Received Date:	Oct. 25, 2023			-0
Sample tested Date:	Oct. 25, 2023 to Nov. 03, 20	023	3(1)	
	THE STATE OF THE S			187.7

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: MUDG1, MUDG2

Only the model MUDG1 was tested. Their electrical circuit design, layout, components used and internal wiring are identical. Only the color of the appearance is different.

# 3.3 General Description of BLE

Operation Frequency:	2402MHz~2480MHz				
Modulation Type:	GFSK				
Transfer Rate:	⊠1Mbps ⊠2Mbps	(6,7)	(6,1)		
Number of Channel:	40				
Antenna Type:	PCB Antenna				
Antenna Gain:	2.12dBi	C'S	(2)		
Max Conducted Peak	-7.25dBm		(2.5)		
Output Power:	The Max Conducted Peak Output Power data refer to the report EED32P81691801				











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### 3.4 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

### 3.5 Deviation from Standards

None.

# 3.6 Abnormalities from Standard Conditions

None.

# 3.7 Other Information Requested by the Customer

None.















































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### 4 SAR Evaluation

## 4.1 RF Exposure Compliance Requirement

### **4.1.1 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

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

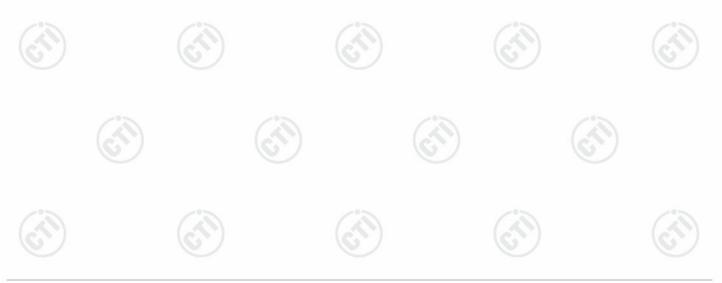
and f is in GHz, d is the separation distance (cm), and ERP20cm is per Formula (B.1).

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

#### 4.1.2 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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### 4.1.3 EUT RF Exposure Evaluation

### For Stand alone:

#### For BLE

		P. 1	7 70	9.1		40, 77 1		1 46 41
	6.	Max.	6,	/	1			(0,)
Frequency (MHz)	Separation distance (cm)	Conducted Output power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	ERP (dBm)	ERP (mW)	Limit (mW)	Result
2402	0.5	-7.25	2.12	-5.03	-7.18	0.191	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.

\*\*\* End of Report \*\*\*

