



## RF EXPOSURE REPORT

<b>Applicant</b>	:	Mercku Inc.
<b>Address of Applicant</b>	:	3600 Steeles Avenue East, Suite C108B, Markham, Ontario, L3R 9Z7, Canada
<b>Manufacturer</b>	:	Mercku Inc.
<b>Address of Manufacturer</b>	:	3600 Steeles Avenue East, Suite C108B, Markham, Ontario, L3R 9Z7, Canada
<b>Equipment under Test</b>	:	M6s PoE++ Mesh Wi-Fi Router
<b>Model No.</b>	:	MEAA0
<b>FCC ID</b>	:	2APR4-6SPOE
<b>Test Standard(s)</b>	:	KDB447498 D01 General RF Exposure Guidance v06
<b>Report No.</b>	:	DDT-RE24072915-2E08
<b>Issue Date</b>	:	2024/09/24
<b>Issue By</b>	:	Guangdong Dongdian Testing Service Co., Ltd. Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808

# REPORT

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Test Report Declare

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Equipment under Test	:	M6s PoE++ Mesh Wi-Fi Router
Model No.	:	MEAA0
Manufacturer	:	Mercku Inc.
Address of Manufacturer	:	3600 Steeles Avenue East, Suite C108B, Markham, Ontario, L3R 9Z7, Canada

Test Standard Used:  
KDB447498 D01 General RF Exposure Guidance v06

We Declare:  
The equipment described above is tested by Guangdong Dongdian Testing Service Co., Ltd. and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Guangdong Dongdian Testing Service Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

Report No.:	DDT-RE24072915-2E08		
Date of Receipt:	2024/07/31	Date of Test:	2024/07/31~2024/09/24

Prepared By:

Tiger Mo

Tiger Mo/Engineer

Approved By:



Damon Hu/EMC Manager

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Guangdong Dongdian Testing Service Co., Ltd.

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	2024/09/24	

## 1. General Test Information

### 1.1. Description of EUT

EUT Name	: M6s PoE++Mesh Wi-Fi Router
Model Number	: MEAA0
EUT Function Description	: Please reference user manual of this device
Power Supply	: DC 54V =2A or DC 24V = 2A powered by external adapter

Note: This EUT support 2.4 GHz WLAN, 5 GHz WLAN.

Note: The above EUT information is declared by manufacturer and for more detailed features description please refer to the manufacturer's specifications or User's Manual. The above Antenna information is declared by manufacturer and for more detailed features description please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

“☑” means to be chosen or applicable; “☐” means don't to be chosen or not applicable; This note applies to entire report.

### 1.2. Accessories of EUT

Accessories	Manufacturer	Model number	Description
AC/DC ADAPTER	Shenzhen Keyu Power Supply Technology Co., Ltd.	KA120C-5402000Q	Input: 100-240V~50/60Hz 2.0A Max Output: 54.0V 2A 108.0W
AC/DC ADAPTER	Shenzhen Keyu Power Supply Technology Co., Ltd.	KA4801A-2402000US	Input: 100-240V~50/60Hz 1.2A Max Output: 24V=2000mA
RJ 45 cable	/	/	/

### 1.3. Test laboratory

Guangdong Dongdian Testing Service Co., Ltd.

Add.: Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808.

Tel.: +86-0769-38826678, <http://www.dgddt.com>, Email: [ddt@dgddt.com](mailto:ddt@dgddt.com).

CNAS Accreditation No. L6451; A2LA Accreditation Number: 3870.01

FCC Designation Number: CN1182, Test Firm Registration Number: 540522

Innovation, Science and Economic Development Canada Site Registration Number: 10288A

Conformity Assessment Body identifier: CN0048

VCCI facility registration number: C-20087, T-20088, R-20123, R-20155, G-20118

## 2. RF Exposure evaluation for FCC

### 2.1. Assessment procedure

#### Requirement:

Systems operating under the provisions of FCC 47 CFR section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with.

#### 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 <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100000			1.0	30

Note: f= frequency in MHz; \*Plane-wave equivalent power density

#### Calculation method

$$E(\text{V/m}) = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } S(\text{mW/cm}^2) = \frac{E^2}{377}$$

**E** = Electric field (V/m)

**P** = Peak RF output power (mW)

**G** = EUT Antenna numeric gain (numeric)=

**d** = Separation distance between radiator and human body (m)

The formula can be changed to

We can change the formula to:

$$S = \frac{30 \times P \times G}{377 \times d^2} \quad \text{or, } d = \sqrt{\frac{30 \times P \times G}{377 \times S}}$$

From the peak EUT RF output power, the minimum mobile separation distance,  $d=0.2$  m, as well as the gain of the used antenna, the RF power density can be obtained.

## 2.2. Assess result

Mode	Output power (dBm)	Output power (mW)	tune up power (dBm)	tune up power (mW)	Antenna Gain (dBi)	Antenna Gain (linear)	MPE Values ( $\text{mW}/\text{cm}^2$ )	MPE Limit ( $\text{mW}/\text{cm}^2$ )
2.4G WIFI	18.5	70.79	19	79.43	3.9	2.45	0.0388	1
5G WIFI	15.62	36.48	16	39.81	7	5.01	0.0397	1

Simultaneous transmit evaluation result:  $2.4\text{G WIFI}+5\text{G WIFI}=0.0388+0.0397=0.0785<1$ .

Note1: The estimation distance is 20 cm

Conclusion: MPE evaluation required since transmitter power is below FCC threshold

### 3. Photos of the EUT

Please refer to DDT-Q24072915-1E appendix I

-----End Report-----