

RF Exposure Evaluation Report

Product : H2D Pro
Trade mark : bambulab
Model/Type reference : PF003-E
Serial Number : N/A
Report Number : EED32R80632604
FCC ID : 2A6J8-PF003E
Date of Issue : Jul. 22, 2025
Test Standards : 47 CFR Part 1.1307
47 CFR Part 1.1310
47 CFR Part 2.1091
47 CFR Part 2.1093
KDB 447498 D04 Interim General RF
Exposure Guidance v01
Test result : PASS

Prepared for:

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903, West Zone, Hengchang Science and Technology Building,
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Check No.: 5232270425

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2 General Information

2.1 Client Information

Applicant:	Shenzhen Tuozhu Technology Co., Ltd.
Address of Applicant:	903, West Zone, Hengchang Science and Technology Building, No. 2228 Linhai Avenue, Nanshan Street, Qianhai Shengang Cooperation Zone, Shenzhen
Manufacturer:	Shenzhen Tuozhu Technology Co., Ltd.
Address of Manufacturer:	903, West Zone, Hengchang Science and Technology Building, No. 2228 Linhai Avenue, Nanshan Street, Qianhai Shengang Cooperation Zone, Shenzhen
Factory:	Shenzhen Zhuhe Technology Co., Ltd.
Address of Factory:	Building M, No.28 Dayang Road, Rentian Community, Fuhai Street, Bao'an District, Shenzhen City, Guangdong Province

2.2 General Description of EUT

Product Name:	H2D Pro
Model No.(EUT):	PF003-E
Trade Mark:	bambulab

2.3 Product Specification subjective to this standard

Frequency Range:	2.4G Wi-Fi: IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz IEEE 802.11n(HT40): 2422MHz to 2452MHz 5G Wi-Fi: U-NII-1: 5150-5250MHz U-NII-2A: 5250-5350MHz U-NII-2C:5500-5700MHz U-NII-3:5745-5825MHz
Modulation Type:	2.4G Wi-Fi: IEEE for 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE for 802.11g :OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE for 802.11n(HT20 and HT40) : OFDM (64QAM, 16QAM,QPSK, BPSK) 5G Wi-Fi: IEEE 802.11a: OFDM (BPSK, QPSK, 16QAM, 64QAM) IEEE 802.11n(HT20/HT40): OFDM (BPSK, QPSK, 16QAM, 64QAM)
Test Power Grade:	Default
Test Software of EUT:	MQTTX
Antenna Type:	Internal Antenna
Antenna Gain:	2.4G Wi-Fi: 2dBi 5G Wi-Fi: U-NII-1: 5150-5250MHz 1 dBi U-NII-2A: 5250-5350MHz 1 dBi U-NII-2C:5500-5700MHz 1.2 dBi U-NII-3:5745-5825MHz 1.1dBi
Power Supply:	Model: MS-TA460J240-350B0 INPUT: 100-240V~ 50/60Hz 5A max. OUTPUT: 350.4W 24.0V/14.6A
	Model: PMR-24V320W1AT INPUT: 100-240V~ 50/60Hz 4A OUTPUT: 24.0V/13.4A

	Model: A-350FKD-24P-B0 INPUT: 100-240V~ 50/60Hz 4.5A OUTPUT: 24.0V/14.6A
Sample Received Date:	May 30, 2025
Sample tested Date:	May 30, 2025 to Jul. 08, 2025

2.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Hongwei Industrial Park, Zone 70, Bao'an District, Shenzhen, Guangdong, China

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

No tests were sub-contracted.

FCC Designation No.: CN1164

2.5 Deviation from Standards

None.

2.6 Abnormalities from Standard Conditions

None.

2.7 Other Information Requested by the Customer

None.

3 SAR Evaluation

3.1 RF Exposure Compliance Requirement

3.1.1 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 P_{th} (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). P_{th} is given by Formula

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

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 $ERP_{20 \text{ cm}}$ is per Formula (B.1).

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

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.

3.1.2 Test Procedure

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

3.1.3 EUT RF Exposure Evaluation

For Stand alone:

Frequency (MHz)	Estimation distance (cm)	Max. Conducted Output power (dBm)	Antenna Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (mW)	MPE ratio	Result
@2.4GHz	20	15.74	2.00	15.59	36.2243	3060	0.0118	Pass

Frequency (MHz)	Estimation distance (cm)	Max. Conducted Output power (dBm)	Antenna Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (mW)	MPE ratio	Result
@5GHz	20	16.85	1.20	15.90	38.9045	3060	0.0127	Pass

Note:

- ① EIRP=conducted power+antenna gain;
- ② $ERP = EIRP - 2.15$;
- ③ $EIRP(dBm) = \text{Field strength of the fundamental signal}(dBuV/m@3m) - 95.23$;
- ④ $ERP(mW) = 10^{(ERP(dBm)/10)}$;
- ⑤ The estimation distance is 20cm;
- ⑥ The test data please refer to the report of EED32R80632601, EED32R80632602 and only the worst case data was recorded in the report.

Statement

1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. The Company Name shown on Report and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified;
3. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule stated in ILAC-G8:09/2019/CNAS-GL015:2022;
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*** End of Report ***