

RF Exposure Evaluation Report

Report No.: JYTSZ-R12-2400358

Applicant: PICA Product Development

Address of Applicant: 4 Ash Street Extension, Derry, NH 03038 USA

Equipment Under Test (EUT)

Product Name: Skyhawk Hub

Model No.: HUB3VZW

Trade mark: N/A

FCC ID: UOXS SKYHAWK HUB TYP3

Applicable standards: FCC CFR Title 47 Part 2 (§2.1091)

Date of sample receipt: 15 Mar., 2024

Date of Test: 16 Mar., to 09 May, 2024

Date of report issue: 23 May, 2024

Test Result: PASS

Project by: _____

Date: 23 May, 2024

Reviewed by: _____

Date: 23 May, 2024

Approved by: _____

Date: 23 May, 2024

Manager

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in above the application standard version. Test results reported herein relate only to the item(s) tested.

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1 Version

Version No.	Date	Description
00	10 May, 2024	Original
01	23 May, 2024	1. Updated page 6

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3 General Information

3.1 Client Information

Applicant:	PICA Product Development
Address:	4 Ash Street Extension, Derry, NH 03038 USA
Manufacturer:	PICA Product Development
Address:	4 Ash Street Extension, Derry, NH 03038 USA

3.2 General Description of E.U.T.

Product Name:	Skyhawk Hub
Model No.:	HUB3VZW
Operation Frequency:	LoRa: 906 MHz – 923.5 MHz
Modulation technology:	FSK
Antenna Type:	PCB Antenna
Antenna gain:	3.42 dBi (declare by Applicant)
Test Sample Condition:	The test samples were provided in good working order with no visible defects.

3.3 Operating Modes

Operating mode	Detail description
LoRa mode	Keep the EUT in continuously transmitting in LoRa mode

3.4 Additions to, deviations, or exclusions from the method

No

3.5 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations:

● **FCC - Designation No.: CN1211**

JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.

● **ISED – CAB identifier.: CN0021**

The 3m Semi-anechoic chamber and 10m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

● **CNAS - Registration No.: CNAS L15527**

JianYan Testing Group Shenzhen Co., Ltd. is accredited to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L15527.

● **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: <https://portal.a2la.org/scopepdf/4346-01.pdf>

3.6 Laboratory Location

JianYan Testing Group Shenzhen Co., Ltd.

Address: No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China.

Tel: +86-755-23118282, Fax: +86-755-23116366

Email: info-JYTee@lets.com, Website: <http://jyt.lets.com>

4 Technical Requirements Specification

4.1 Limits

The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f ²)	6
30–300	61.4	0.163	1.0	6
300–1500			f/300	6
1500–100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f ²)	30
30–300	27.5	0.073	0.2	30
300–1500			f/1500	30
1500–100,000			1.0	30

4.2 Test Procedure

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = \frac{P \times G}{4 \times \pi \times R^2}$$

Where:

S = power density

P = power input to the antenna

G = numeric gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the centre of radiation of the antenna

4.3 Result

Frequency (MHz)	Maximum Output power (dBm)	Maximum Output power (mW)	Antenna Gain (dBi)	Antenna Gain (numeric)	Distance (cm)	Result (mW/cm ²)	Limits for General Population/ Uncontrolled Exposure (mW/cm ²)	Verdict
LoRa								
906	12.78	18.97	3.42	2.20	20.00	0.0083	0.6	Pass
EMTC: LTE								
LTE Band5	22.99	199.07	2.6	1.82	20.00	0.0721	0.55	Pass
LTE Band12	22.74	187.93	2.6	1.82	20.00	0.0681	0.47	Pass
LTE Band25	22.99	199.07	4.4	2.75	20.00	0.1091	1.0	Pass
LTE Band66	22.88	194.09	4.4	2.75	20.00	0.0681	1.0	Pass

Note: Just the worst case mode was shown in report.

1. The LTE maximum output power reference report:

NIE: 59675RRF001 & 59675RRF003 FCC ID: 2ANPO00NRF9160,

Which is issued by DEKRA Testing and Certification, S.A.U.

Simultaneous transmission(Worse mode):

Mode	Ratio	Total Ratio	Limit	Verdict
EMTC LTE Band 25	0.1091	0.1174	1.00	Pass
LoRa	0.0083			

4.4 Conclusion

The device is exempt from the SAR test and satisfies RF exposure evaluation.

-----End of report-----