



RF Exposure Evaluation Report

Report No.: JYTSZ-R12-2400354
Applicant: PICA Product Development
Address of Applicant: 4 Ash Street Extension, Derry, NH 03038 USA

Equipment Under Test (EUT)
Product Name: Skyhawk THW Sensor
Model No.: SHTHWW
Trade mark: N/A

FCC ID: UOXSKYHAWKTHWSEN1
Applicable standards: FCC CFR Title 47 Part 2 (§2.1091)
Date of sample receipt: 15 Mar., 2024
Date of Test: 16 Mar., to 24 Apr., 2024
Date of report issue: 25 Apr., 2024
Test Result: PASS

Project by:	<u>June Li</u> Project Engineer	Date:	<u>25 Apr., 2024</u>
Reviewed by:	<u>Victor Chang</u> Senior Engineer	Date:	<u>25 Apr., 2024</u>
Approved by:	<u>James Wei</u> Manager	Date:	<u>25 Apr., 2024</u>

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.

This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

1 Version

Version No.	Date	Description
00	25 Apr., 2024	Original

2 Contents

	Page
Cover Page	1
1 Version	2
2 Contents.....	3
3 General Information	4
3.1 Client Information	4
3.2 General Description of E.U.T.	4
3.3 Operating Modes.....	4
3.4 Additions to, deviations, or exclusions from the method.....	4
3.5 Laboratory Facility	4
3.6 Laboratory Location.....	4
4 Technical Requirements Specification	5
4.1 Limits	5
4.2 Test Procedure	5
4.3 Result	6
4.4 Conclusion.....	6

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 THW Sensor
Model No.:	SHTHWW
Operation Frequency:	ISM :906 MHz – 923.5 MHz
Modulation technology:	Frequency Hopping Spread Spectrum
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

<p>The test facility is recognized, certified, or accredited by the following organizations:</p> <ul style="list-style-type: none"> ● 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

<p>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</p>

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)
LoRa							
906	12.62	18.28	3.42	2.20	20.00	0.0080	0.6

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

4.4 Conclusion

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

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