

FCC RF EXPOSURE REPORT

For

Sensor System

MODEL NUMBER: FRD2488_25

REPORT NUMBER: 4791826590-6-RF-3

ISSUE DATE: July 28, 2025

FCC ID: 2A46G-FRD248825

Prepared for

**Guangzhou Xaircraft Technology CO.,LTD
Block C, No.115, Gaopu Road, Tianhe District, GuangzhouCity, Guangdong, P.R.
510663 China**

Prepared by

**UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch
Room 101, Building 2, No.4, Information Road, Songshan Lake, Dongguan,
Guangdong, China**

Tel: +86 769 22038881

Fax: +86 769 33244054

Website: www.ul.com

Revision History

Rev.	Issue Date	Revisions	Revised By
V0	July 28, 2025	Initial Issue	

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS.....	4
2. TEST METHODOLOGY	5
3. FACILITIES AND ACCREDITATION.....	5
4. REQUIREMENT	6

1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name: Guangzhou Xaircraft Technology CO.,LTD
Address: Block C, No.115, Gaopu Road, Tianhe District, GuangzhouCity,
Guangdong, P.R.
510663 China

Manufacturer Information

Company Name: Guangzhou Xaircraft Technology CO.,LTD
Address: Block C, No.115, Gaopu Road, Tianhe District, GuangzhouCity,
Guangdong, P.R.
510663 China

EUT Information

EUT Name: Sensor System
Model: FRD2488_25
Brand: XAG
Sample Received Date: June 9, 2025
Sample Status: Normal
Sample ID: 8564579
Date of Tested: June 10, 2025 to July 27, 2025

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC 47CFR§2.1091	PASS
KDB447498 D01 V06	PASS

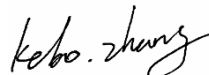
Prepared By:



Daniel Zhang

Project Engineer

Checked By:



Kebo Zhang

Senior Project Engineer

Approved By:



Stephen Guo

Operations Manager

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 and KDB 447498 D01 General RF Exposure Guidance v06.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	A2LA (Certificate No.: 4102.01) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA. FCC (FCC Designation No.: CN1187) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules. ISED (Company No.: 21320) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with ISED. The Company Number is 21320 and the test lab Conformity Assessment Body Identifier (CABID) is CN0046. VCCI (Registration No.: C-20202, G-20240, R-20248 and T-20202) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the Membership No. is 3793. Facility Name: Chamber E, the VCCI registration No. is G-20240 and R-20248 Shielding Room F, the VCCI registration No. is C-20202 and T-20202
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Note 1:

All tests measurement facilities use to collect the measurement data are located at Room 101, Building 2, No.4, Information Road, Songshan Lake, Dongguan, Guangdong, China.

Note 2:

The test anechoic chamber in UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.

Note 3:

For below 30 MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. And these measurements below 30 MHz had been correlated to measurements performed on an OFS.

4. REQUIREMENT

LIMIT AND CALCULATION METHOD

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 0.2m 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

RF EXPOSURE LIMIT

Frequency Range (MHz)	E-field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (Minutes)
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

CALCULATION METHOD

$$S = PG / 4\pi R^2$$

Where:

S=power density

P=power input to antenna

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

R=distance to the center of radiation of the antenna

CALCULATED RESULTS

Radio Frequency Radiation Exposure Evaluation

FPV Board

2.4GHz WiFi (Worst case)				
Operating Mode	Max. Tune up Power	Max. Directional Antenna Gain	Power density	Limit
	(dBm)	(dBi)	(mW/ cm ²)	
2.4GHz WiFi	21	3.11	0.05125	1

Radar Board

2.4GHz WiFi (Worst case)				
Operating Mode	Max. Tune up Power	Max. Directional Antenna Gain	Power density	Limit
	(dBm)	(dBi)	(mW/ cm ²)	
2.4GHz WiFi	20	3.11	0.04071	1

(Worst case)			
Operating Mode	Max. EIRP	Power density	Limit
	(dBm)	(mW/ cm ²)	
Radar FMCW	-0.35	0.00021	1

Note:

1. The Power comes from operation description.
2. All the modes had been tested, but only the worst data was recorded in the report.
3. The assess distance is 20 cm.
4. Max. EIRP of Radar FMCW = $94.85\text{dBuV/m}@3\text{m} - 95.2 = -0.35\text{dBm}$
5. FPV WIFI & Radar WIFI & Radar can transmit simultaneously. (declare by manufacturer)
 $2.4\text{GHz WIFI}(\text{FPV Board}) + 2.4\text{GHz WIFI}(\text{Radar Board}) + \text{Radar FMCW} = 0.05125 + 0.04071 + 0.01948 = 0.11144 \text{ (mW/cm}^2\text{)}$

Therefor the maximum calculations of above situations are less than the “1” limit.

END OF REPORT