

FCC RF EXPOSURE REPORT

For

VA-2900 HD Video Drone

MODEL NUMBER: SC-6635

REPORT NUMBER: 4791774465-1-RF-4

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Prepared for

**AMAX INDUSTRIAL GROUP CHINA CO.,LTD
OFFICE NO.3 10/F WITTY COMMERCIAL BUILDING 1A-1L TUNG CHOI STREET
MONGKOK KOWLOON HONG KONG**

Prepared by

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Revision History

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V0	May 26, 2025	Initial Issue	

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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name: AMAX INDUSTRIAL GROUP CHINA CO.,LTD
Address: OFFICE NO.3 10/F WITTY COMMERCIAL BUILDING 1A-1L
TUNG CHOI STREET MONGKOK KOWLOON HONG KONG

Manufacturer Information

Company Name: AMAX INDUSTRIAL GROUP CHINA CO.,LTD
Address: OFFICE NO.3 10/F WITTY COMMERCIAL BUILDING 1A-1L
TUNG CHOI STREET MONGKOK KOWLOON HONG KONG

EUT Information

EUT Name: VA-2900 HD Video Drone
Model: SC-6635
Sample Received Date: April 23, 2025
Sample Status: Normal
Sample ID: 8512218
Date of Tested: April 24, 2025 to May 26, 2025

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC 47CFR§2.1091	PASS
KDB 447498 D04	PASS

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with 47 CFR FCC Part 1 Subpart I, section 1.1307 and KDB 447498 D04 Interim General RF Exposure Guidance v01.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	<p>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.</p> <p>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.</p> <p>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.</p>
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Note 1:

All tests measurement facilities use to collect the measurement data are located at Room 101, Building 2, Zhihui City Phase I, 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. DESCRIPTION OF EUT

EUT Name	VA-2900 HD Video Drone	
Model	SC-6635	

Product Description (2.4G Wireless)	Frequency Range:	2420 MHz to 2460 MHz
	Type of Modulation:	GFSK
Product Description (5G WLAN)	Frequency Range:	5805 MHz
	Type of Modulation:	IEEE 802.11a: OFDM(64QAM, 16QAM, QPSK, BPSK)
	Radio Technology:	IEEE802.11a
Normal Test Voltage:		DC 7.6 V

5. REQUIREMENT

LIMIT AND CALCULATION METHOD

According to 447498 D04 Interim General RF Exposure Guidance v01,

2.1.4 MPE-Based Exemption

An alternative to the SAR-based exemption is provided in § 1.1307(b)(3)(i)(C), for a much wider frequency range, from 300 kHz to 100 GHz, applicable for separation distances greater or equal to $\lambda/2\pi$, where λ is the free-space operating wavelength in meters. The MPE-based test exemption condition is in terms of ERP, defined as the product of the maximum antenna gain and the delivered maximum time-averaged power.¹⁰ For this case, a RF source is an RF exempt device if its ERP (watts) is no more than a frequency-dependent value, as detailed tabular form in Appendix B. These limits have been derived based on the basic specifications on Maximum Permissible Exposure (MPE) considered for the FCC rules in § 1.1310(e)(1).

B.4 SAR-based Exemption

SAR-based thresholds are derived based on frequency, power, and separation distance of the RF source. The formula defines the thresholds in general for either available maximum time-averaged power or maximum time-averaged ERP, whichever is greater.

If the ERP of a device is not easily determined, such as for a portable device with a small form factor, the applicant may use the available maximum time-averaged power exclusively if the device antenna or radiating structure does not exceed an electrical length of $\lambda/4$.

As for devices with antennas of length greater than $\lambda/4$ where the gain is not well defined, but always less than that of a half-wave dipole (length $\lambda/2$), the available maximum time-averaged power generated by the device may be used in place of the maximum time-averaged ERP, where that value is not known.

The separation distance is the smallest distance from any part of the antenna or radiating structure for all persons, during operation at the applicable ERP. In the case of mobile or portable devices, the separation distance is from the outer housing of the device where it is closest to the antenna.

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 (B.2).

MPE-based Exemption

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

$$P_{\text{th}} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}}(d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases} \quad (\text{B.2})$$

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). The example values shown in Table B.2 are for illustration only.

Table B.2—Example Power Thresholds (mW)

Frequency (MHz)	Distance (mm)									
	5	10	15	20	25	30	35	40	45	50
300	39	65	88	110	129	148	166	184	201	217
450	22	44	67	89	112	135	158	180	203	226
835	9	25	44	66	90	116	145	175	207	240
1900	3	12	26	44	66	92	122	157	195	236
2450	3	10	22	38	59	83	111	143	179	219
3600	2	8	18	32	49	71	96	125	158	195
5800	1	6	14	25	40	58	80	106	136	169

Fixed RF sources operating in the same time-averaging period- § 1.1307(b)(3)(ii)(B)

Either SAR-based or MPE-based exemption may be considered for test exemption for fixed, mobile, or portable device exposure conditions; therefore, the contributions from each exemption in conjunction with the measured SAR (Evaluated_k term) shall be used to determine exemption for simultaneous transmission according to Formula (C.1) [repeated from § 1.1307(b)(3)(ii)(B)].

$$\sum_{i=1}^a \frac{P_i}{P_{\text{th},i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{\text{th},j}} + \sum_{k=1}^c \frac{\text{Evaluated}_k}{\text{Exposure Limit}_k} \leq 1 \quad (\text{C.1})$$

CALCULATED RESULTS

For Single RF Source

Operating Mode	Average Field Strength	ERP		ERP	Distance	Limit Threshold
	(dBuV/m)	(dBm)	(mW)	(cm)	(mW)	
2.4G Wireless	72.45	-24.95	0.00320	20	3060	

Operating Mode	Max. Tune up Power	Max. Antenna Gain	EIRP	ERP	ERP	Distance	Limit Threshold
	(dBm)	(dBi)	(dBm)	(dBm)	(mW)	(cm)	(mW)
WIFI5G	20.5	1.35	21.85	19.7	93.33	20	3060

Note:

1. The maximum power of 2.4G Wireless comes from test report 4791774465-1-RF-2.
2. The maximum power of WIFI5G comes from test report 4791774465-1-RF-1
3. ERP= Average Field Strength-97.4
4. The power of WIFI2.4G comes from operation description.
5. The assess distance is 20 cm.
6. 2.4G Wireless & WLAN 5G can't transmit simultaneously (Declared by client)

END OF REPORT