RF EXPOSURE REPORT

Applicant	:	EFY Intelligent Control (Tianjin) Technology Co., Ltd.
Address	:	No. 24 Tongchang, No.156 Nanhai Rd., TEDA Tianjin, China
Equipment under Test	:	Formation performance multi-rotor UAV
Model No.	:	Agile Bee 3
Trade Mark	:	N/A
FCC ID	:	2BMFY-AGILE-BEE-3
Contains FCC ID	:	2ALPH-E22900T30S
Report No.	:	DDT-B24112619-1E03
Issue Date	:	Dec. 10, 2024
Issued By	:	Tianjin Dongdian Testing Service Co., Ltd.
Address	:	Building D-1, No. 19, Weisi Road, Microelectronics Industrial Park, Development Area, Tianjin, China. Tel: +86-022-58903808, E-mail: ddt@dgddt.com, http://www.ddttest.com

REPORT

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TEST REPORT DECLARE

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Manufacturer	:	EFY Intelligent Control (Tianjin) Technology Co., Ltd.
Address	:	No. 24 Tongchang, No.156 Nanhai Rd., TEDA Tianjin, China

Standard Used: KDB447498 D01 General RF Exposure Guidance v06

We Declare:
The equipment described above is assessed by Tianjin Dongdian Testing Service Co., Ltd and in the configuration assessed the equipment complied with the standards specified above. The assessed results are contained in this report and Tianjin Dongdian Testing Service Co., Ltd is assumed of full responsibility for the accuracy and completeness of these assess.
After evaluation, our opinion is that the equipment In Accordance with above standard.

Report No:	DDT-B24112619-1E03		
Date of Receipt:	Nov. 28, 2024	**Date of Test:**	Nov. 28, 2024 ~ Dec 10, 2024

Prepared By: ***Approved By:***

Novak Wei Aaron Zhang

Novak Wei/Engineer ***Aaron Zhang/RF Manager***

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Tianjin Dongdian Testing Service Co., Ltd.
The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	Dec 10, 2024	

1. General information

1.1. Description of Equipment

EUT* Name	:	Formation performance multi-rotor UAV
Model Number	:	Agile Bee 3
EUT function description	:	Please reference user manual of this device
Power supply	:	DC 14.54V by Polymer Li-ion built-in battery
Radio Technology	:	IEEE 802.11b/g/n
Operation Frequency	:	IEEE 802.11b: 2412MHz-2462MHz IEEE 802.11g: 2412MHz-2462MHz IEEE 802.11n HT20: 2412MHz-2462MHz
Modulation	:	IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Transmitter Rate	:	IEEE 802.11b: 1, 2, 5.5, 11 Mbps IEEE 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps IEEE 802.11n: MCS0~MCS7
Antenna Type	:	FPC antenna 1, maximum PK gain: 4.20 dBi FPC antenna 2, maximum PK gain: 3.69 dBi
SISO Mode	:	☒11b ☒11g ☒11n ☐11ax
MIMO Mode	:	☐11b ☐11g ☐11n ☐11ax
Exposure category	:	General population/uncontrolled environment
Device Type	:	Mobile Device
Target power and tolerance	:	23±2dBm

EUT* Name	:	Formation performance multi-rotor UAV
Model Number	:	Agile Bee 3
EUT function description	:	Please reference user manual of this device
Power supply	:	DC 14.54V by Polymer Li-ion built-in battery
Radio Technology	:	IEEE 802.11a/n/ac
FCC Operation frequency	:	IEEE 802.11a: 5180MHz-5240MHz, 5260MHz-5320MHz, 5500MHz-5700MHz, 5745MHz-5825MHz IEEE 802.11n HT20: 5180MHz-5240MHz, 5260MHz-5320MHz, 5500MHz-5700MHz, 5745MHz-5825MHz IEEE 802.11ac HT20: 5180MHz-5240MHz, 5260MHz-5320MHz,5500MHz-5700MHz, 5745MHz-5825MHz
Modulation	:	IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)
Transmitter rate	:	IEEE 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps IEEE 802.11n HT20: MCS0~MCS7 IEEE 802.11ac VHT20: MCS0~MCS9
Antenna Type	:	FPC antenna 1, maximum PK gain: 4.80 dBi FPC antenna 2, maximum PK gain: 4.97 dBi
SISO Mode	:	☒11a ☒11n ☒11ac ☐11ax
MIMO Mode	:	☐11a ☐11n ☐11ac ☐11ax
Exposure category	:	General population/uncontrolled environment
Device Type	:	Mobile Device
Target power and tolerance	:	18±2dBm

1.2. Assess laboratory

Tianjin Dongdian Testing Service Co., Ltd.
Address: Building D-1, No. 19, Weisi Road, Microelectronics Industrial Park Development Area, Tianjin, China.
Tel: +86-22-58038033, http://www.ddttest.com, Email: ddt@dgddt.com
NVLAP (National Voluntary Laboratory Accreditation Program) CODE: 500036-0
CNAS (China National Accreditation Service for Conformity Assessment) CODE: L13402
FCC Designation Number: CN5004; FCC Test Firm Registration Number: 368676
ISED (Innovation, Science and Economic Development Canada) Company Number: 27768
Conformity Assessment Body Identifier: CN0125
VCCI Facility Registration Number: C-20089, T-20093, R-20125, G-20122

2. RF Exposure Evaluation

2.1. Requirement

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 0.2 m 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

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric 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)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

2.2. Calculation method

$$E(V/m) = \frac{\sqrt{30 \times P \times G}}{d} \qquad \text{Power Density: } S(mW/cm^2) = \frac{E^2}{377}$$

E = Electric field (V/m)
P = Peak RF output power (mW)
G = EUT Antenna numeric gain (numeric)=
d = Separation distance between radiator and human body (m)
The formula can be changed to

We can change the formula to:

$$S = \frac{30 \times P \times G}{377 \times d^2} \quad \text{or, } d = \sqrt{\frac{30 \times P \times G}{377 \times S}}$$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2 m, as well as the gain of the used antenna, the RF power density can be obtained.

2.3. Estimation result

Worst Mode	Max. Tune Up power (dBm)	Output power (mW)	Antenna Gain (dBi)	Antenna Gain (linear)	MPE Values (mW/cm^2)	MPE Limit (mW/cm^2)
2.4G WiFi	25.00	316.23	4.20	2.63	0.1655	1
5G WiFi	20.00	100.00	4.97	3.14	0.0624	1
Lora	12.00	15.85	0	1.0	0.0032	1

Maximum Simultaneous transmission MPE Ratio for Lora and 2.4G WiFi：

Maximum MPE 2.4G WiFi	Maximum MPE Lora	∑MPE ratios	Limit	Results
0.1655	0.0032	0.1687	1.000	Pass

Maximum Simultaneous transmission MPE Ratio for Lora and 5G WiFi：

Maximum MPE 5G WiFi	Maximum MPE Lora	∑MPE ratios	Limit	Results
0.0624	0.0032	0.0656	1.000	Pass

Note: The estimation distance is 20 cm

Conclusion: The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

END OF REPORT