

TEST REPORT

Product Name : Gimbal Drone (Drone)
Model Number : DRC448, DRC448-NOC, DRC448-NOC-1
FCC ID : 2AWZK-210601

Prepared for : Guangdong Hengdi Technology Corp., Ltd
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East of Taian Road

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1. TEST RESULT CERTIFICATION

Applicant : Guangdong Hengdi Technology Corp., Ltd

Address: Building C, Jinhui Industrial Building, South of Yuting Road, East of Taian Road

Manufacturer : Guangdong Hengdi Technology Corp., Ltd

Address: No.70, Qiguang Industrial Park, Taian Road, Chenghai District, Shantou City, Guangdong Province, China

EUT : Gimbal Drone (Drone)

Model Name : DRC448, DRC448-NOC, DRC448-NOC-1

Trademark : N/A

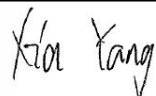
Measurement Procedure Used:

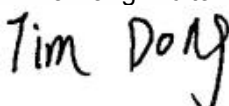
APPLICABLE STANDARDS	
STANDARD	TEST RESULT
FCC 1.1310: §1.1307(b)	PASS

The above equipment was tested by EMTEK(DONGGUAN) CO., LTD. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules FCC 1.1310: §1.1307(b).

The test results of this report relate only to the tested sample identified in this report

Date of Test : November 28, 2022 to January 31, 2023

Prepared by : 
Xia Yang /Editor

Reviewer : 
Tim Dong/ Supervisor

Approved & Authorized Signer :  
Sam Lv / Manager

Modified History

Version	Report No.	Revision Date	Summary
	EDG2211280014E00102R	/	Original Report



2. EUT Specification

Characteristics	Description
Product:	Gimbal Drone (Drone)
Model Number:	DRC448, DRC448-NOC, DRC448-NOC-1 All products are the same, only the model number and color of appearance are different Here we selected DRC448 for all the test
Sample:	2#
Device Type:	2.4G WIFI
Data Rate:	802.11b 802.11g 802.11n(20MHz channel bandwidth) 802.11n(40MHz channel bandwidth)
Modulation:	DSSS with DBPSK/DQPSK/CCK for 802.11b; OFDM with BPSK/QPSK/16QAM/64QAM for 802.11g/n;
Operating Frequency Range(s) :	2412-2462MHz for 802.11b/g/n(HT20); 2422-2452MHz for 802.11n(HT40);
Number of Channels:	11 channels for 802.11b/g/n(HT20);
	7 Channels for 802.11n(HT40);
Transmit Power Max:	19.06 dBm(0.0805W)
Antenna Gain:	2 dBi
Power supply:	DC 7.4V/1200mAh from battery
Evaluation applied:	☒ MPE Evaluation ☐ SAR Evaluation

3. Test Requirement

RF EXPOSURE EVALUATION

According to FCC 1.1310: 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)

Limits for Maximum Permissible Exposure (MPE)

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density(mW/cm ²)	Average Time
(A) Limits for Occupational/Control Exposures				
300-1500	--	--	F/300	6
1500-100000	--	--	5	6
(B) Limits for General Population/Uncontrol Exposures				
300-1500	--	--	F/1500	6
1500-100000	--	--	1	30

Friis transmission formula: $P_d = (P_{out} * G) / (4 * \pi * R^2)$

Where

P_d = Power density in mW/cm²

P_{out} =output power to antenna in mW

G = Numeric gain of the antenna relative to isotropic antenna

π =3.1416

R = distance between observation point and center of the radiator in cm

P_d the limit of MPE, 1mW/cm². If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

4. Measurement Result

Antenna gain: 2 dBi

Operation Mode	Channel Number	Channel Frequency (MHz)	Measurement Level (dBm)	Limit (dBm)	Verdict
802.11b	1	2412	19.06	30	PASS
	6	2437	16.64	30	PASS
	11	2462	16.20	30	PASS
802.11g	1	2412	13.09	30	PASS
	6	2437	11.96	30	PASS
	11	2462	13.87	30	PASS
802.11n (HT20)	1	2412	13.49	30	PASS
	6	2437	12.10	30	PASS
	11	2462	11.85	30	PASS
802.11n (HT40)	3	2422	13.16	30	PASS
	6	2437	12.30	30	PASS
	9	2452	11.60	30	PASS

Operating Mode	Test Channel	Tune up tolerance (dBm)	Max tune up conducted power(dBm)	Output Peak power (mW)	Ant. Gain (dBi)	Ant. Gain (numeric)	Power density at 20cm (mW/cm ²)	Limits (mW/cm ²)
802.11b	1	19±1	20	100.00	2.00	1.584893	0.031530	1
	6	16±1	17	50.12	2.00	1.584893	0.015803	1
	11	16±1	17	50.12	2.00	1.584893	0.015803	1
802.11g	1	13±1	14	25.12	2.00	1.584893	0.007920	1
	6	11±1	12	15.85	2.00	1.584893	0.004997	1
	11	13±1	14	25.12	2.00	1.584893	0.007920	1
802.11n (HT20)	1	13±1	14	25.12	2.00	1.584893	0.007920	1
	6	12±1	13	19.95	2.00	1.584893	0.006291	1
	11	11±1	12	15.85	2.00	1.584893	0.004997	1
802.11n (HT40)	3	13±1	14	25.12	2.00	1.584893	0.007920	1
	6	12±1	13	19.95	2.00	1.584893	0.006291	1
	9	11±1	12	15.85	2.00	1.584893	0.004997	1

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