

TEST REPORT

Product Name : Vivitar Promo GPS Drone--aerobat
Model Number : DRC442-BLK
FCC ID : 2AWZK-221501

Prepared for : Guangdong Hengdi Technology Corp., Ltd
Address : Building C, Jinhui Industrial Building, South of Yuting Road,
East of Taian Road

Prepared by : EMTEK (SHENZHEN) CO., LTD.
Address : Building 69, Majialong Industry Zone, Nanshan District,
Shenzhen, Guangdong, China

Tel: (0755) 26954280
Fax: (0755) 26954282

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Date(s) of Tests : June 30, 2023 to July 31, 2023
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Table of Contents

1. TEST RESULT CERTIFICATION	3
2. EUT SPECIFICATION	5
3. TEST REQUIREMENT:	6
RF EXPOSURE EVALUATION	6
4. MEASUREMENT RESULT	7



1. TEST RESULT CERTIFICATION

Applicant : Guangdong Hengdi Technology Corp., Ltd
Address : Building C, Jinhui Industrial Building, South of Yuting Road, East of Taian Road
EUT : Vivitar Promo GPS Drone--aerobat
Model Name : DRC442-BLK
Trademark : VIVITAR

Measurement Procedure Used:

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
§ 15.247(i), § 2.1093	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 § 15.247(i), § 2.1093.

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

Date of Test : June 30, 2023 to July 31, 2023

Prepared by : 
Una Yu /Editor

Reviewer : 
Joe Xia/Supervisor

Approve & Authorized Signer : 
Lisa Wang/Manager



Modified History

Version	Report No.	Revision Date	Summary
	ENS2306250192W00304R	/	Original Report



2. EUT Specification

Characteristics	Description
Product:	Vivitar Promo GPS Drone--aerobat
Model Number:	DRC442-BLK
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:	10.14 dBm(0.010328 W)
Antenna Gain:	Antenna: 2 dBi
Power supply:	DC 5V 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: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2)$

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:
2.4G: 2 dBi

802.11b: Antenna A

Channel	Channel Freq. (MHz)	Measured power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Max tune up power tolerance (mW)	Antenna Gain Numeric	Power Density at R=20cm (mW/cm2)	Power density Limits (mW/cm2)
1	2412	10.12	10±1	11	12.59	1.584893	0.003969	1
6	2437	9.52	9±1	10	10.00	1.584893	0.003153	1
11	2462	9.92	9±1	10	10.00	1.584893	0.003153	1

802.11g: Antenna A

Channel	Channel Freq. (MHz)	Measured power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Max tune up power tolerance (mW)	Antenna Gain Numeric	Power Density at R=20cm (mW/cm2)	Power density Limits (mW/cm2)
1	2412	8.47	8±1	9	7.94	1.584893	0.002505	1
6	2437	6.91	6±1	7	5.01	1.584893	0.001580	1
11	2462	8.89	8±1	9	7.94	1.584893	0.002505	1

802.11n HT20: Antenna A

Channel	Channel Freq. (MHz)	Measured power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Max tune up power tolerance (mW)	Antenna Gain Numeric	Power Density at R=20cm (mW/cm2)	Power density Limits (mW/cm2)
1	2412	8.94	8±1	9	7.94	1.584893	0.002505	1
6	2437	9.61	9±1	10	10.00	1.584893	0.003153	1
11	2462	10.14	10±1	11	12.59	1.584893	0.003969	1

802.11n HT40 : Antenna A

Channel	Channel Freq. (MHz)	Measured power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Max tune up power tolerance (mW)	Antenna Gain Numeric	Power Density at R=20cm (mW/cm2)	Power density Limits (mW/cm2)
3	2422	9.14	9±1	10	10.00	1.584893	0.003153	1
6	2437	8.23	8±1	9	7.94	1.584893	0.002505	1
9	2452	8.98	8±1	9	7.94	1.584893	0.002505	1

According to KDB 447498, no stand-alone required for WIFI antenna, and no simultaneous SAR measurement is required.

*** End of Report ***