




RF EXPOSURE EVALUATION REPORT

APPLICANT : Hohem Technology Co., Ltd.
PRODUCT NAME : 3-AXIS HANDHELD STABILIZING GIMBAL FOR DSLR
MODEL NAME : DG1/DG3500/DGS
BRAND NAME : Hohem
FCC ID : 2AIB7DG1
STANDARD(S) : 47CFR 2.1093
KDB 447498 D01 General RF Exposure Guidance v06
ISSUE DATE : 2017-11-17

Tested by: 
Peng Fuwei (Test engineer)

Approved by: 
Peng Huarui (Supervisor)

NOTE: This document is issued by MORLAB, the test report shall not be reproduced except in full without prior written permission of the company. The test results apply only to the particular sample(s) tested and to the specific tests carried out which is available on request for validation and information confirmed at our website.





DIRECTORY

- 1. Technical Information..... 3
- 1.1. Applicant and Manufacturer Information 3
- 1.2. Equipment Under Test (EUT) Description..... 3
- 1.3. Photographs of the EUT..... 4
- 1.4. Applied Reference Documents 4
- 2. DEVICE CATEGORY AND RF EXPOSURE LIMIT 5
- 3. MEASUREMENT OF CONDUCTED PEAK OUTPUT POWER 6
- 4. RF EXPOSURE EVALUATION 6
- Annex A General Information 7

Change History		
Issue	Date	Reason for change
1.0	2017-11-17	First edition



1. Technical Information

Note: Provide by manufacturer.

1.1. Applicant and Manufacturer Information

Applicant:	Hohem Technology Co., Ltd.
Applicant Address:	B106,University Creative Park,Xili,Nanshan,Shenzhen P.R.China
Manufacturer:	Hohem Technology Co., Ltd.
Manufacturer Address:	B106,University Creative Park,Xili,Nanshan,Shenzhen P.R.China

1.2. Equipment Under Test (EUT) Description

EUT Type:	3-AXIS HANDHELD STABILIZING GIMBAL FOR DSLR
Hardware Version:	V1.00
Software Version:	V1.00
Frequency Bands:	Bluetooth 4.0:2402-2480MHz;
Modulation Mode:	Bluetooth 4.0: GFSK;
Antenna type:	PCB Antenna

Note:

1. According to the designer, Hohem Technology Co., Ltd. They hereby declare that the models (DG1\DG3500\DGS) are the same both in hardware and software.

The only difference is that the roll angle and the size of motors is different:

Difference item	DG1	DG3500	DGS
motor	5210	5210	3510

The numbers (10) in the model name of the motor stands for the thickness, and the (52 and 35) stand for the diameter of the rotor.

1.3. Photographs of the EUT

1. EUT view



1.3.1. Identification of all used EUT

The EUT identity consists of numerical and letter characters, the letter character indicates the test sample, and the following two numerical characters indicate the software version of the test sample.

EUT Identity	Hardware Version	Software Version
1#	V1.00	V1.00

1.4. Applied Reference Documents

Leading reference documents for testing:

No.	Identity	Document Title
1	47 CFR§2.1093	Radiofrequency Radiation Exposure Evaluation: portable devices
2	KDB 447498 D01v06	General RF Exposure Guidance



2. DEVICE CATEGORY AND RF EXPOSURE LIMIT

Per user manual, this device is a HANDHELD STABILIZING GIMBA. Based on 47CFR 2.1093, this device belongs to portable device category with General Population/Uncontrolled exposure.

Portable Devices:

47CFR 2.1093(b)

For purposes of this section, a portable device is defined as a transmitting device designed to be used so that the radiating structure(s) of the device is/are within 20 centimeters of the body of the user.

GENERAL POPULATION / UNCONTROLLED EXPOSURE

47CFR 2.1093(d) (2)

Limits for General Population/Uncontrolled exposure: 0.08 W/kg as averaged over the whole-body and spatial peak SAR not exceeding 1.6 W/kg as averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the hands, wrists, feet and ankles where the spatial peak SAR shall not exceed 4 W/kg, as averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). General Population/Uncontrolled limits apply when the general public may be exposed, or when persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or do not exercise control over their exposure. Warning labels placed on consumer devices such as cellular telephones will not be sufficient reason to allow these devices to be evaluated subject to limits for occupational/controlled exposure in paragraph (d)(1) of this section.



3. MEASUREMENT OF CONDUCTED PEAK OUTPUT POWER

1. Bluetooth Peak output power

Band	Channel	Frequency (MHz)	Output Power(dBm)
			GFSK
BT	0	2402	0.56
	19	2440	-1.11
	39	2480	-3.43

4. RF EXPOSURE EVALUATION

The device only incorporates a Bluetooth transmitter, so standalone SAR evaluation is required for Bluetooth and simultaneous SAR is not required.

Standalone transmission SAR evaluation

According to KDB 447498 section 4.3.1, the 1-g SAR test exclusion thresholds at test separation Distances ≤ 50 mm are determined by:

$$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$$

The maximum tune-up limit power is **1.26mW @ 2.402GHz**

When HANDHELD STABILIZING GIMBA is used on the hand, so use **5mm** as the most conservative minimum test separation distance,

$$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] = \mathbf{0.390} \leq 3.0$$

So SAR evaluation is not required for this device.



Annex A General Information

1. Identification of the Responsible Testing Laboratory

Company Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Department:	Morlab Laboratory
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
Responsible Test Lab Manager:	Mr. Su Feng
Telephone:	+86 755 36698555
Facsimile:	+86 755 36698525

2. Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China

————— END OF REPORT —————