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Report No.: SZEM151200792306
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RF Exposure Evaluation Report

Application No.: SZEM1512007923CR
Applicant: Shenzhen Hubsan Intelligent Co., Ltd.
Manufacturer: Shenzhen Hubsan Intelligent Co., Ltd.
Factory: DONGGUAN TENGSHENG INDUSTRIAL CO., LTD.
Product Name: HUBSAN FPV X4 BRUSHLESS
Model No.(EUT): H501S
Add Model No.: 23899
Trade Mark: HUBSAN
Standards: EN 62479:2010
Date of Receipt: 2015-12-28
Date of Test: 2016-01-19 to 2016-04-05
Date of Issue: 2016-04-08

Test Result:	PASS *
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* In the configuration tested, the EUT detailed in this report complied with the standards specified above.

The CE mark as shown below can be used, under the responsibility of the manufacturer, after completion of an EC Declaration of Conformity and compliance with all relevant EC Directives.

Authorized Signature:



Jack Zhang
EMC Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

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REVISION HISTORY

Revision Record				
Version	Chapter	Date	Modifier	Remark
00		2016-04-08		Original

Authorized for issue by:			
		<i>Peter Geng</i>	2016-04-05
Tested By		<u>(Peter Geng) /Project Engineer</u>	Date
		<i>Iris Zhou</i>	2016-04-08
Prepared By		<u>(Iris Zhou) /Clerk</u>	Date
		<i>Eric Fu</i>	2016-04-08
Checked By		<u>(Eric Fu) /Reviewer</u>	Date



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1 General Information

1.1 Client Information

Applicant:	Shenzhen Hubsan Intelligent Co., Ltd.
Address of Applicant:	13th Floor, Bldg 1C, Shenzhen Software Industry Base, Xuefu Road, Nanshan District, Shenzhen, China.
Manufacturer:	Shenzhen Hubsan Intelligent Co., Ltd.
Address of Manufacturer:	13th Floor, Bldg 1C, Shenzhen Software Industry Base, Xuefu Road, Nanshan District, Shenzhen, China.
Factory:	DONGGUAN TENGSHENG INDUSTRIAL CO., LTD.
Address of Factory:	A22# Luyi Street, Tianxin Village, Tangxia Town, Dong guan, China

1.2 General Description of EUT

Product Name:	HUBSAN FPV X4 BRUSHLESS
Model No.:	H501S
Trade Mark:	HUBSAN
Frequency Range:	5730MHz-5845MHz
Modulation Type:	FM
Sample Type:	Fixed production
Antenna Type:	Integral
Antenna Gain:	4.0dBi
Power Supply:	Rechargeable battery DC 7.4V, 2700mAh Battery: charge by adapter Adapter model:TDX-1201000 Input: AC 100-240V, 50/60Hz Output: DC 12V, 1A
EIRP:	8.77dBm(7.534mW)*
*	The EIRP data refer to the report SZEM151200792305.

Remark:

Model No.: H501S, 23899

Only the model H501S was tested, since the electrical circuit design, layout, components used and internal wiring were identical for all above models, only different on model No..





1.3 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch E&E Lab

No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China
518057

Telephone: +86 (0) 755 2601 2053 Fax: +86 (0) 755 2671 0594

No tests were sub-contracted.

1.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• **CNAS (No. CNAS L2929)**

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

• **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

• **VCCI**

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-823, R-4188, T-1153 and C-2383 respectively.

• **FCC – Registration No.: 556682**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 556682.

• **Industry Canada (IC)**

The 3m Semi-anechoic chambers and the 10m Semi-anechoic chambers of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-2, 4620C-3.

1.5 Deviation from Standards

None.

1.6 Abnormalities from Standard Conditions

None.

1.7 Other Information Requested by the Customer

None.

2 Equipment List

RF test system						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date (yyyy-mm-dd)	Cal.Due date (yyyy-mm-dd)
1	Power Meter	Agilent Technologies	U2021XA_Ch1	SEL0320	2015-10-12	2016-10-12
2	Power Meter	Agilent Technologies	U2021XA_Ch2	SEL0321	2015-10-17	2016-10-17
3	Power Meter	Agilent Technologies	U2021XA_Ch3	SEL0322	2015-10-17	2016-10-17
4	Power Meter	Agilent Technologies	U2021XA_Ch4	SEL0323	2015-10-12	2016-10-12
5	SGSREF, Adaptivity Unit	Top Precision Technologies	N/A	N/A	N/A	N/A
6	DAQ Device	Agilent Technologies	U2531A	SEL0325	2015-10-13	2016-10-13
7	EXG Analog Signal Generator	KEYSIGHT	N5171B	SEL0326	2014-08-27	2017-08-27
8	EXA Signal Analyzer	Agilent Technologies	N9010A	SEL0329	2015-07-18	2016-07-18
9	ESG vector signal generator	Agilent Technologies	E4483C	SEL0330	2015-07-18	2016-07-18



3 EN 62479 REQUIREMENT

3.1 General Description of Applied Standards

Assessment of the compliance of low power electronic and electrical equipment with the basic restrictions related to human exposure to electromagnetic fields (10 MHz to 300 GHz)

3.2 Human exposure to the Electromagnetic fields

This International Standard provides simple conformity assessment methods for low-power electronic and electrical equipment to an exposure limit relevant to electromagnetic fields (EMF). If such equipment cannot be shown to comply with the applicable EMF exposure requirements using the methods included in this standard for EMF assessment, then other standards, including IEC 62311 or other (EMF) product standards, may be used for conformity assessment.

3.3 RF Exposure Evaluation

3.3.1 Limit

According to EN 62479 clause 4.2 Low-power electronic and electrical equipment is deemed to comply with the provisions of this standard if it can be demonstrated using routes B, C or D that the available antenna power and/or the average total radiated power is less than or equal to the applicable low-power exclusion level P_{max} .

$P_{max} = 20 \text{ mW}$ (13 dBm) according to ICNIRP guidelines, since the EUT is General public used.

Remark:

- B: The input power level to electrical or electronic components that are capable of radiating electromagnetic energy in the relevant frequency range is so low that the available antenna power and/or the average total radiated power cannot exceed the low-power exclusion level defined in EN 62479 clause 4.2
- C: The available antenna power and/or the average total radiated power are limited by product standards for transmitters to levels below the low-power exclusion level defined in EN 62479 clause 4.2
- D: Measurements or calculations show that the available antenna power and/or the average total radiated power are below the low-power exclusion level defined in EN 62479 clauses 4.2.

3.3.2 Test Result

The EIRP of the EUT is 8.77dBm(7.534mW) which is below the max permitted sending level of 20 mW, and then the EUT is not need to conduct SAR measurement.

4 EUT Photos

Refer to Report No.SZEM151200792304 for EUT external and internal photos.