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RF Exposure Evaluation Report

Report No.:	CQASZ20200700739E-05
Applicant:	SHENZHEN HUBSAN TECHNOLOGYCO., LTD
Address of Applicant:	Unit 2801-2802A, Building F, Xinghe WORLD, Yabao Road, Bantian Street, Longgang District, Shenzhen, China.
Equipment Under Test (EUT):	
EUT Name:	HUBSAN ZINO PRO+
Model No.:	ZINO PRO, Zino Pro, ZINO PRO+
Test Model No.:	Zino Pro
Brand Name:	HUBSAN
Standards:	EN62479:2010
Date of Receipt:	2019-11-20
Date of Test:	2019-11-20 to 2019-11-29
Date of Issue:	2020-08-13
Test Result:	**PASS***

***In the configuration tested, the EUT complied with the standards specified above**

Tested By: Tom Chen. _____
(Tom Chen)

Reviewed By: Sheek Luo _____
(Sheek Luo)

Approved By: _____
(Jack Ai)

SHENZHEN HUAXIA TESTING TECHNOLOGY CO.,LTD APPROVED 华夏准测

CE

1 Version

Revision History of Report

Report No.	Version	Description	Issue Date
CQASZ20191101174E-05	Rev.01	Initial report	2019-11-29
CQASZ20200700739E-05	Rev.02	For specific changes, please refer to the notes below	2020-08-13

Note:

	Before change	After change
Item number	CQASZ20191101174E-05	CQASZ20200700739E-05
Address of Applicant	13th Floor, Bldg 1C, Shenzhen Software Industry Base, Xuefu Road, Nanshan District, Shenzhen, China 518054	Unit 2801-2802A, Building F, Xinghe WORLD, Yabao Road, Bantian Street, Longgang District, Shenzhen, China.
Address of Manufacturer	13th Floor, Bldg 1C, Shenzhen Software Industry Base, Xuefu Road, Nanshan District, Shenzhen, China 518054	Unit 2801-2802A, Building F, Xinghe WORLD, Yabao Road, Bantian Street, Longgang District, Shenzhen, China.
Product Name	Hubsan ZINO PRO	HUBSAN ZINO PRO+
Model No.	ZINO PRO, Zino Pro	ZINO PRO, Zino Pro, ZINO PRO+
Brand Name	Hubsan	HUBSAN

This test report (Ref. No.: CQASZ20200700739E-05) All test data comes from source test reports (Ref. No.: CQASZ20191101174E-05). Only on the basis of the original report change Applicant, Manufacturer, Product Name, Brand Name and add Model No. (ZINO PRO+). The tested samples have not been changed.

Model No.: ZINO PRO, Zino Pro, ZINO PRO+

Only the model Zino Pro was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, with difference being color of appearance and model name and battery of UAV unit.

2 Contents

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3 General Information

3.1 Client Information

Applicant:	SHENZHEN HUBSAN TECHNOLOGYCO., LTD
Address of Applicant:	Unit 2801-2802A, Building F, Xinghe WORLD, Yabao Road, Bantian Street, Longgang District, Shenzhen, China.
Manufacturer:	SHENZHEN HUBSAN TECHNOLOGYCO., LTD
Address of Manufacturer:	Unit 2801-2802A, Building F, Xinghe WORLD, Yabao Road, Bantian Street, Longgang District, Shenzhen, China.

3.2 General Description of EUT

Product Name:	HUBSAN ZINO PRO+	
Mode No.:	ZINO PRO, Zino Pro, ZINO PRO+	
Test Mode No.:	Zino Pro	
Trade Mark:	HUBSAN	
EUT Supports Radios application:	5.8G WIFI	
Sample Type:	Portable production	
Test Software of EUT:	Atheros Radio test 2(manufacturer declare)	
Power Supply:	remote-control unit	Battery: 3.6V 2600 mAh Li-Po
	plane unit	Battery: 11.4 V 3000 mAh Li-Po ADAPTER: Model: P150W1000E OUTPIT: DC15V BALANCA CHARGER: Model: BC007 INPUT: DC15V OUTPUT: DC11.4V

3.3 General Description of 5.8G WIFI

Frequency Range:	5725MHz~5850MHz	
Modulation Type:	IEEE 802.11a: OFDM(64QAM, 16QAM, QPSK, BPSK)	
remote-control unit:	Hardware version:	EA04058099-01
	Software version:	V0.1.1
	Antenna Type:	Integral antenna
	Antenna Gain:	ANT1: 3.0dBi ANT2: 3.0dBi
plane unit:	Hardware version:	EA04058075-03
	Software version:	V0.1.1
	Antenna Type:	Integral antenna
	Antenna Gain:	ANT1: 3.0dBi ANT2: 3.0dBi

EIRP(remote-control unit:):	9.50dBm(8.91mW)*
	The EIRP data refer to the report CQASZ20191101174E-03
EIRP(plane unit):	10.48dBm(11.17mW)*
	The EIRP data refer to the report CQASZ20191101174E-04

Operation Frequency Each of Channel							
Channel	**Frequency**	**Channel**	**Frequency**	**Channel**	**Frequency**	**Channel**	**Frequency**
For IEEE 802.11a/n-HT20 operation in the 5725 MHz to 5850 MHz band							
149	5745 MHz	153	5765 MHz	157	5785 MHz	161	5805 MHz
165	5825 MHz	--	--	--	--	--	--

Using test software was control EUT work in continuous transmitter and receiver mode.and select test channel as below:

Mode	Tx/Rx Frequency	Test RF Channel Lists		
		Lowest(L)	**Middle(M)**	**Highest(H)**
IEEE 802.11a	5725 MHz to 5850 MHz	Channel 149	Channel 157	Channel 165
		5745 MHz	5785 MHz	5825 MHz

3.4 Test Location

All tests were performed at:

Shenzhen Huaxia Testing Technology Co., Ltd.,
1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, China

3.5 Deviation from Standards

None.

3.6 Abnormalities from Standard Conditions

None.

3.7 Other Information Requested by the Customer

None.

4 EQUIPMENT List

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Horn Antenna	R&S	HF906	CQA-012	2019/9/26	2020/9/25
Bilog Antenna	R&S	HL562	CQA-011	2019/9/26	2020/9/25
EMI Test Receiver	R&S	ESR7	CQA-005	2019/10/25	2020/10/24
Spectrum analyzer	R&S	FSU26	CQA-038	2019/10/25	2020/10/24
Preamplifier	MITEQ	AMF-6D-02001800-29-20P	CQA-036	2019/10/25	2020/10/24
Universal Radio Communication Tester	Rohde & Schwarz	CMW500	CQA-022	2019/9/25	2020/9/24
high-low temperature chamber	Auchno	OJN-9606	CQA-S003	2019/9/25	2020/9/24
Signal generator	R&S	SME06	CQA-024	2019/9/26	2020/9/25
Vector signal generator	R&S	SMBV100A	CQA-039	2019/9/25	2020/9/24
DC power	KEYSIGHT	E3631A	CQA-028	2019/9/26	2020/9/25
RF Control Unit	Tonsced	JS0806-2	CQA-057	2019/9/26	2020/9/25
Coaxial Cable (Above 1GHz)	CQA	N/A	C007	2019/9/26	2020/9/25
Coaxial Cable (Below 1GHz)	CQA	N/A	C013	2019/9/26	2020/9/25
RF Cable (9KHz~40GHz)	CQA	N/A	C005	2019/9/26	2020/9/25

5 EN 62479 REQUIREMENT

5.1 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)

5.2 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.

5.3 RF Exposure Evaluation

5.3.1 Limit

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

P max = 20 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.

5.3.2 Test Result

remote-control unit::

The EIRP of the EUT is 8.91 mW which is below the max permitted sending level of 20 mW (13dBm), and then the EUT is not need to conduct SAR measurement.

plane unit:

The EIRP of the EUT is 11.17 mW which is below the max permitted sending level of 20 mW (13dBm), and then the EUT is not need to conduct SAR measurement.

PHOTOGRAPHS OF EUT Constructional Details

Refer to APPENDIX 2 PHOTOGRAPHS OF EUT for CQASZ20200700739E-01.

*** End of Report ***