TEST REPORT

Reference No.	:	WTS17S0990532-2E V1
FCC ID	:	2AN97-DF-M3
Applicant	:	Shen Zhen Top-Peak Electronics Co., Ltd.
Address	:	103 Huayuan Technology Park Block D, Xixiang, Baoan, Shenzhen, China
Manufacturer	:	The same as above
Address	:	The same as above
Product	:	Robomb
Model(s)	:	DF-M3
Brand Name	:	SINOCHIP
Standards	:	FCC Part 2.1093
Date of Receipt sample	:	2017-10-14
Date of Test	:	2017-12-12 to 2017-12-25
Date of Issue	:	2017-1-25
Test Result	:	**Pass**

Remarks:
The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

Prepared By:
Waltek Services (Shenzhen) Co., Ltd.
Address: 1/F., Fukangtai Building, West Baima Road, Songgang Street, Baoan District, Shenzhen, Guangdong, China
Tel :+86-755-83551033
Fax:+86-755-83552400

Compiled by:

Ford Wang

Ford Wang / Project Engineer

Approved by:

Philo Zhong

Philo Zhong / Manager

2 Laboratories Introduction

Waltek Services (Shenzhen) Co., Ltd is a professional third-party testing and certification laboratory with multi-year product testing and certification experience, established strictly in accordance with ISO/IEC 17025 requirements, and accredited by ILAC (International Laboratory Accreditation Cooperation) member. A2LA (American Association for Laboratory Accreditation) of USA, Meanwhile, Waltek has got recognition as registration and accreditation laboratory from EMSD (Electrical and Mechanical Services Department), and American Energy star, FCC(The Federal Communications Commission), CEC(California energy efficiency), IC(Industry Canada). It's the strategic partner and data recognition laboratory of international authoritative organizations, such as Intertek(ETL-SEMKO), TÜV Rheinland, TÜV SÜD, etc.

Waltek Services (Shenzhen) Co., Ltd is one of the largest and the most comprehensive third party testing laboratory in China. Our test capability covered four large fields: safety test. Electro Magnetic Compatibility (EMC), and energy performance, wireless radio. As a professional, comprehensive, justice international test organization, we still keep the scientific and rigorous work attitude to help each client satisfy the international standards and assist their product enter into globe market smoothly.

Test Facility:

A. Accreditations for Conformity Assessment (International)

Country/Region	Accreditation Body	Scope	Note
USA	**A2LA (Certificate No.: 4243.01)**	FCC ID \ DOC \ VOC	1
Canada		IC ID \ VOC	2
Japan		MIC-T \ MIC-R	-
Europe		EMCD \ RED	-
Taiwan		NCC	-
Hong Kong		OFCA	-
Australia		RCM	-
India	**International Services**	WPC	-
Thailand		NTC	-
Singapore		IDA	-

Note:

1. FCC Designation No.: CN1201. Test Firm Registration No.: 523476.
2. IC Canada Registration No.: 7760A

B. TCBs and Notify Bodies Recognized Testing Laboratory.

Recognized Testing Laboratory of …	Notify body number
TUV Rheinland	Optional.
Intertek	
TUV SUD	
SGS	
Phoenix Testlab GmbH	0700
Element Materials Technology Warwick Ltd	0891
Timco Engineering, Inc.	1177
Eurofins Product Service GmbH	0681

3 Contents

Page

4 Revision History

Test report No.	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTS17S0990532-2E	2017-10-14	2017-12-12 to 2017-12-25	2017-12-26	original	-	Replaced
WTS17S0990532-2E V1	2017-10-14	2017-12-12 to 2017-12-25	2017-1-25	Version 1	Updated	Vaild

5 General Information

5.1 General Description of E.U.T.

Product:	Robomb
Model(s):	DF-M3
Model Description:	N/A
Hardware Version:	HT-F802/F803
Software Version:	F803 v3.0

5.2 Details of E.U.T.

Operation Frequency:	2420~2475MHz
Max. RF output power:	-3.11dBm
Type of Modulation:	GFSK
Antenna installation:	internal permanent antenna
Antenna Gain:	4.0dBi
Ratings:	Battery 1.5A*4

6 Test Summary

Test Items	Test Requirement	Result
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	2.1093	PASS

2 RF Exposure

Test Requirement: FCC Part 2.1093

Test Mode: The EUT work in test mode(Tx).

2.1 Procedures and Requirements

According to §15.247 (i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:

[(*max. power of channel, including tune-up tolerance, mW*)/(*min. test separation distance, mm*)] · [$\sqrt{f_{(GHz)}}$] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,[16] where

- $f_{(GHz)}$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation[17]
- The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum *test separation distance* is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum *test separation distance* is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval.

2.2 Calculation Method

447498 D01 General RF Exposure Guidance v06:

Exclusion Thresholds = $P\sqrt{F}/D$

P= Maximum turn-up power in mW

F= Channel frequency in GHz

D= Minimum test separation distance in mm

2.3 Test Result

FCC Part 2.1093:

A distance of 5mm normally can be maintained between the user and the device.

Modulation	CH	Freq. (GHz)	Conducted Power (dBm)	Tune Up Power (dBm)	Max Tune Up Power (dBm)	Max Tune Up Power (mW)	Result	Limit
GFSK	Low	2.420	-3.11	-3.5±1	-2.5	0.562	0.18	3
GFSK	Mid	2.445	-3.90	-3.5±1	-2.5	0.562	0.18	3
GFSK	High	2.475	--4.81	-3.5±1	-2.5	0.562	0.18	3

======End of Report======