

# TEST REPORT

**Reference No.**..... : WTS18S11130344-2W  
**FCC ID** ..... : 2AN97-DF-T4  
**Applicant**..... : Shen Zhen Top-Peak Electronics Co., Ltd.  
**Address**..... : 201-A Block A, No.2 Tengfeng 5th Road, Fenghuang, Baoan, Shenzhen, China  
**Manufacturer** ..... : The same as above  
**Address**..... : The same as above  
**Product**..... : Agriculture Drone  
**Model(s)** ..... : DF-T4  
**Brand Name**..... : SINOCHIP  
**Standards**..... : FCC Part 2.1093  
**Date of Receipt sample** .... : 2018-11-27  
**Date of Test** ..... : 2018-11-28 to 2018-12-23  
**Date of Issue**..... : 2018-12-24  
**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, the certification number is 4243.01) of USA, CNAS (China National Accreditation Service for Conformity Assessment, the registration number is L3110) of China. 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), ISED (Innovation, Science and Economic Development 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	Scope Covered By	Scope	Note
USA	ISO/IEC 17025	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		WPC	-
Thailand		NTC	-
Singapore		IDA	-
Note:			
1. FCC Designation No.: CN1201. Test Firm Registration No.: 523476.			
2. ISED 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

## 2 Contents

	<b>Page</b>
<b>1 COVER PAGE.....</b>	<b>1</b>
<b>2 LABORATORIES INTRODUCTION.....</b>	<b>2</b>
<b>2 CONTENTS .....</b>	<b>4</b>
<b>3 REVISION HISTORY .....</b>	<b>5</b>
<b>4 GENERAL INFORMATION.....</b>	<b>6</b>
4.1 GENERAL DESCRIPTION OF E.U.T. ....	6
4.2 DETAILS OF E.U.T. ....	6
<b>5 TEST SUMMARY .....</b>	<b>7</b>
<b>6 RF EXPOSURE.....</b>	<b>8</b>
6.1 PROCEDURES AND REQUIREMENTS .....	8
6.2 CALCULATION METHOD.....	8
6.3 TEST RESULT .....	8

### 3 Revision History

Test report No.	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTS18S11130 344-2W	2018-11-27	2018-11-28 to 2018-12- 23	2018-12-24	original	-	Valid

## 4 General Information

### 4.1 General Description of E.U.T.

Product:	Agriculture Drone
Model(s):	DF-T4
Model Description:	N/A

### 4.2 Details of E.U.T.

Operation Frequency:	2402-2480MHz
Max. RF output power:	MIMO:9.00dBm
Type of Modulation:	GFSK
Antenna installation:	Monopole antenna
Antenna Gain:	ANT 1: -2.0dBi ANT 2: -2.0dBi
Ratings:	Battery DC 3.7V 3000mAh

## 5 Test Summary

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

## 6 RF Exposure

Test Requirement: FCC Part 2.1093

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

### 6.1 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*  $\leq 50$  mm are determined by:

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

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

The test exclusions are applicable only when the minimum *test separation distance* is  $\leq 50$  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.

### 6.2 Calculation Method

FCC Part 2.1093:

$$\text{result} = P \sqrt{F} / D$$

P= Maximum turn-up power in mW

F= Channel frequency in GHz

D= Minimum test separation distance in 5mm

### 6.3 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(MIMO)	Low	2.406	9.00	$8.0 \pm 1$	9.0	7.94	2.46	3
GFSK(MIMO)	Mid	2.441	8.70	$8.0 \pm 1$	9.0	7.94	2.48	3
GFSK(MIMO)	High	2.476	7.33	$8.0 \pm 1$	9.0	7.94	2.50	3

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