



**RADIO TEST REPORT**

Report No: STS2106118H01

Issued for

ShenZhen Aoni Electronic Industry Co., Ltd.

HongHui Industrial Park, 2nd LiuXian Road, Xin'An streets,  
District 68, Bao'an District, ShenZhen, China

<b>Product Name:</b>	Smart Wireless Battery Camera
<b>Brand Name:</b>	N/A
<b>Model Name:</b>	E938
<b>Series Model:</b>	F882, ES04129G, ES06569G, E938J3F, E938J3F-DJ, SE Camera, E938X(X=0-9, A-Z,a-z or blank)
<b>FCC ID:</b>	Z63-E938
<b>Test Standard:</b>	FCC 47CFR §2.1091

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### Test Report Certification

**Applicant's Name**..... : ShenZhen Aoni Electronic Industry Co., Ltd.  
**Address** ..... : HongHui Industrial Park,2nd LiuXian Road, Xin'An streets, District 68, Bao'an District, ShenZhen, China  
**Manufacturer's Name** ..... : ShenZhen Aoni Electronic Industry Co., Ltd.  
**Address** ..... : HongHui Industrial Park,2nd LiuXian Road, Xin'An streets, District 68, Bao'an District, ShenZhen, China

#### Product Description

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**Standards** ..... : FCC 47CFR §2.1091

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#### Date of Test .....

**Date of receipt of test item** ..... : 18 June 2021  
**Date (s) of performance of tests** ..... : 18 June 2021 ~ 22 June 2021  
**Date of Issue**..... : 22 June 2021  
**Test Result**..... : **Pass**

Testing Engineer :

(Chris Chen)

Technical Manager :

(Sean she)

Authorized Signatory :

(Vita Li)





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**Revision History**

Rev.	Issue Date	Report No.	Effect Page	Contents
00	22 June 2021	STS2106118H01	ALL	Initial Issue





## 1. GENERAL INFORMATION

### 1.1 GENERAL DESCRIPTION OF THE EUT

Product Name	Smart Wireless Battery Camera								
Brand Name	N/A								
Model Name	E938								
Series Model	F882, ES04129G, ES06569G, E938J3F, E938J3F-DJ, SE Camera, E938X(X=0-9, A-Z,a-z or blank)								
Model Difference	Only different in model names.								
Product Description	<p>The EUT is Smart Wireless Battery Camera</p> <table border="1"><tr><td>Operation Frequency:</td><td>802.11b/g/n 20: 2412~2462 MHz 802.11n(40MHz):2422~2452MHz</td></tr><tr><td>Modulation Type:</td><td>802.11b(DSSS):CCK,DQPSK,DBPSK 802.11g(OFDM): BPSK,QPSK,16-QAM,64-QAM 802.11n(OFDM): BPSK,QPSK,16-QAM,64-QAM</td></tr><tr><td>Antenna gain:</td><td>3 dBi</td></tr><tr><td>Antenna Designation:</td><td>PIFA Antenna</td></tr></table>	Operation Frequency:	802.11b/g/n 20: 2412~2462 MHz 802.11n(40MHz):2422~2452MHz	Modulation Type:	802.11b(DSSS):CCK,DQPSK,DBPSK 802.11g(OFDM): BPSK,QPSK,16-QAM,64-QAM 802.11n(OFDM): BPSK,QPSK,16-QAM,64-QAM	Antenna gain:	3 dBi	Antenna Designation:	PIFA Antenna
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Modulation Type:	802.11b(DSSS):CCK,DQPSK,DBPSK 802.11g(OFDM): BPSK,QPSK,16-QAM,64-QAM 802.11n(OFDM): BPSK,QPSK,16-QAM,64-QAM								
Antenna gain:	3 dBi								
Antenna Designation:	PIFA Antenna								
Rating	Input: DC 5V 2A								
Battery	Model: 18650 1S2P Rated Voltage: 3.7V Charge Limit Voltage: 4.2V Capacity: 5200mAh Model: 18650-2P 6000mAh 22.2Wh 3.7V Rated Voltage: 3.7V Charge Limit Voltage: 4.2V Capacity: 6000mAh Model: C439-A1-1S2P Rated Voltage: 3.6V Charge Limit Voltage: 4.2V Capacity: 6360mAh Model: C439-B1-1S2P Rated Voltage: 3.65V Charge Limit Voltage: 4.2V Capacity: 6000mAh								
Hardware version number	V1.1								
Software version number	N/A								



1.2 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD

Add. : A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China

FCC test Firm Registration Number: 625569

IC test Firm Registration Number: 12108A

A2LA Certificate No.: 4338.01

2. FCC 47CFR §2.1091 REQUIREMENT

2.1 TEST STANDARDS

The limit for Maximum Permissible Exposure (MPE) specified in FCC 1.1310 is followed. The gain of the antennas used in the product is extracted from the Antenna data sheets provided and also the maximum total power input to the antenna is measured. Through the Friis transmission formula and the maximum gain of the antenna, we can calculate the distance, away from the product, where the limit of MPE is reached.

Although the Friis Transmission formula is far field assumption, the calculated result of that is an over-prediction for near field power density. It is taken as worst case to specify the safety range.

2.2 LIMIT

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environmental impact of the human exposure to radio-frequency (RF) radiation as specified in 1.1307 (b)

Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )
Limits for Occupational / controlled Exposures			
300 - 1500	--	--	F/300
1500 - 100000	--	--	5.0
Limits for General population / Uncontrolled Exposure			
300 - 1500	--	--	F/1500
1500 - 100000	--	--	1.0

F= Frequency in MHz

Friss Formula

Friss Transmission Formula:  $Pd = (Pout * G) / (4 * \pi * r^2)$  Where

Pd = power density in mW/cm<sup>2</sup>

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = Distance between observation point and the center of radiator in cm

If we know the maximum gain of the antenna and the total output power to the antenna, through calculation, we will know MPE value at distance 20cm.



### 2.3 EUT OPERATION CONDITION

EUT was enabled to transmit and receive at lowest, middle and highest channels.

### 2.4 CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. Warning statement to the user for keeping at least 20cm or more separation distance from the antenna should be included in the User manual. So, this device is classified as Mobile device.

### 2.5 TEST RESULT

Turn up

Mode	Detector	Turn up
802.11b	AV	18.59±1dBm
802.11g	AV	13.29±1dBm
802.11n(HT20)	AV	12.00±1dBm
802.11n(HT40)	AV	13.20±1dBm

ANT Gain (G)

2402-2483.5MHz: 3dBi (gain of antenna in linear scale=1.995)

Protocol	Output Power to Antenna (mW)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Result
802.11b	90.99	0.036	1	Pass
802.11g	26.85	0.011	1	Pass
802.11n(HT20)	19.95	0.008	1	Pass
802.11n(HT40)	26.30	0.010	1	Pass

Note: According to the maximum gain of the antenna and the total output power to the antenna, through calculation, we will know max MPE value 0.036 at distance 20cm. This is less than the limit 1. So SAR testing is not required.

※※※※※ END OF THE REPORT ※※※※※