

## 1 Cover Page

# **FCC MPE REPORT**

<b>Application No.:</b>	SHEM1409002345RF
<b>Applicant:</b>	iSmart Alarm, Inc.
<b>FCC ID:</b>	SENISC3
<b>IC:</b>	10970A-ISC3
<b>Equipment Under Test (EUT):</b>	
<b>NOTE:</b> The following sample(s) submitted was/were identified on behalf of the client as	
<b>Product Name:</b>	iCamera KEEP
<b>Model No.(EUT):</b>	iSC3
<b>Standards:</b>	FCC Rules 47 CFR §2.1091 KDB447498 D01 General RF Exposure Guidance
<b>Date of Receipt:</b>	September 15, 2014
<b>Date of Test:</b>	September 29, 2014 to October 09, 2014
<b>Date of Issue:</b>	October 23, 2014
<b>Test Result:</b>	<b>Pass*</b>

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

  
Tony Wu

E&E Section Manager

**SGS-CSTC (Shanghai) Co., Ltd.**

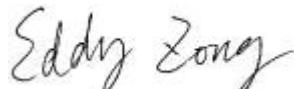
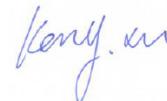
The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

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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## 2 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
00	/	October 23, 2014	/	Original

<b>Authorized for issue by:</b>				
<b>Engineer</b>		Eddy Zong		
		<b>Print Name</b>		
<b>Clerk</b>		Susie Liu		
		<b>Print Name</b>		
<b>Reviewer</b>		Keny Xu		
		<b>Print Name</b>		

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## 4 General Information

### 4.1 Client Information

Applicant: iSmart Alarm, Inc.  
Address of Applicant: 1290 Kifer Road Suite 306, Sunnyvale, CA 94086, USA  
Manufacturer: iSmart Alarm, Inc.  
Address of Manufacturer: 1290 Kifer Road Suite 306, Sunnyvale, CA 94086, USA  
Factory: Andon Health Co., Ltd.  
Address of Factory: No.3, JinPing Street, YaAn Road, Nankai District, Tianjin, China

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

Product Description: Fixed product  
Brand Name: iCamera  
USB Input: DC5.0V 2.0A via adapter  
Adapter: Model No.: OH-1015E050200U1  
Rated Input: AC 100V-240V 50-60Hz 350A  
Rated Output: DC 5.0V 2.0A  
Cable length: AC port: 2 wires  
DC port: 150 cm

### 4.3 Details of E.U.T.

Operation Frequency: 802.11 b/g/n20: 2412MHz-2462MHz  
802.11 n40: 2422MHz-2452MHz  
Modulation Type: 802.11b: DSSS(CCK, DQPSK, DBPSK)  
802.11g/n20/n40: OFDM(64QAM, 16QAM, QPSK, BPSK)  
Data Rate: 802.11b: 1Mbps, 5.5Mbps, 11Mbps,  
802.11g: 6Mbps, 9Mbps, 12Mbps, 18Mbps, 36Mbps, 48Mbps, 54Mbps  
802.11 n20/n40: MCS0 - MCS7  
Number of Channel: 802.11 b/g/n20: 11  
802.11 n40 7  
Antenna Type: Integral  
Antenna Gain: 2 dBi

#### **4.4 Test Location**

All tests were performed at SGS E&E EMC lab

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

No.588 West Jindu Road, Songjiang District, Shanghai, China. 201612.

Tel: +86 21 6191 5666 Fax: +86 21 6191 5678

#### **4.5 Test Facility**

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

- CNAS (No. CNAS L0599)**

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. 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. Date of expiry: 2017-07-14.

- FCC – Registration No.: 402683**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered and fully described in a report filed with the Federal Communications Commission (FCC). The acceptance letter from the FCC is maintained in our files. Registration No.: 402683, Expiry Date: 2017-09-16.

- Industry Canada (IC) – IC Assigned Code: 8617A**

The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 8617A-1. Expiry Date: 2017-06-18.

- VCCI (Member No.: 3061)**

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-3868 and C-4336 respectively. Date of Registration: 2012-05-29. Date of Expiry: 2015-05-28.

## 5 Test Standards and Limits

According to §1.1310 Radiofrequency radiation exposure limits:

The limit for general population/uncontrolled exposures

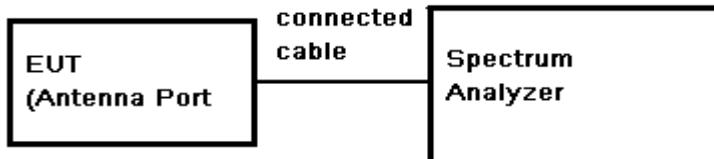
Frequency	Power density(mW/cm <sup>2</sup> )	Averaging time(minutes)
300MHz~1.5GHz	f/1500	30
1.5GHz~100GHz	1.0	30

## 6 Measurement and Calculation

### 6.1 Maximum transmit power

**EUT Operation:** Test in fixing frequency operating mode at lowest, middle and highest frequency.

**Test Configuration:**



**Test Data:**

Test mode	Test Channel	Reading Power (dBm)	Cable Loss (dB)	Output Power (dBm)	Output Power (mW)	Power Limit (dBm)	Result
802.11b	Lowest	18.86	0.5	19.36	86.30	30	PASS
	Middle	18.87	0.5	19.37	86.50	30	PASS
	Highest	18.83	0.5	19.33	85.70	30	PASS
802.11g	Lowest	20.93	0.5	21.43	139.00	30	PASS
	Middle	21.32	0.5	21.82	152.05	30	PASS
	Highest	21.38	0.5	21.88	154.17	30	PASS
802.11n20	Lowest	18.72	0.5	19.22	83.56	30	PASS
	Middle	19.06	0.5	19.56	90.36	30	PASS
	Highest	19.26	0.5	19.76	94.62	30	PASS
802.11n40	Lowest	21.30	0.5	21.80	151.36	30	PASS
	<b>Middle</b>	<b>21.70</b>	<b>0.5</b>	<b>22.20</b>	<b>165.96</b>	30	PASS
	Highest	21.65	0.5	22.15	164.06	30	PASS

## 6.2 MPE Calculation

According to the formula  $S = \frac{PG}{4R^2\pi}$ , we can calculate S which is MPE.

Note:

- 1) P (Watts) = Power Input to antenna =  $10^{\frac{dBm}{10}} / 1000$
- 2) G (Antenna gain in numeric) =  $10^{\frac{Antenna\ gain\ in\ dBi}{10}}$
- 3) R = distance to the center of radiation of antenna (in meter) = 20cm
- 4) MPE limit = 1mW/cm<sup>2</sup>

The Max Conducted Peak Output Power is 165.96mW in 802.11n40;

The best case gain of the antenna is 2dBi. 2dB logarithmic terms convert to numeric result is nearly 1.58

$$So, S = \frac{PG}{4R^2\pi} = \frac{165.96 \times 1.58}{4 \times 400 \times 3.14} = 0.05235 \text{ mW/cm}^2$$

The BT and the DTS modules can't simultaneous transmitting at frequency 2.4GHz band, according to the KDB447498 D01 section 7.2 determine the device is exclusion from SAR test.

## 7 EUT Constructional Details

Refer to the < iSC3\_External Photos > & < iSC3\_Internal Photos >.

**--End of the Report--**