



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

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Report No.: SHEM161100815803  
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## 1 Cover Page

# RF MPE REPORT

Application No.:	SHEM1611008158CR
Applicant:	Wirepath Home Systems. DBA SnapAV
FCC ID:	2AJAC-300CUBE
<b>Equipment Under Test (EUT):</b> <b>NOTE:</b> The following sample(s) submitted was/were identified on behalf of the client as	
Product Name:	Network Camera
Model No.(EUT):	LUM-300-CUB-IPW-WH
Standards:	FCC Rules 47 CFR §2.109 KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt:	2016-11-03
Date of Test:	2016-11-28 to 2016-12-29
Date of Issue:	2017-02-23
Test Result:	<b>Pass*</b>

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



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. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

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### 3 General Information

#### 3.1 Client Information

Applicant:	Wirepath Home Systems. DBA SnapAV
Address of Applicant:	1800 Continental Blvd Suite 200 Charlotte, NC 28273
Manufacturer:	Wirepath Home Systems. DBA SnapAV
Address of Manufacturer:	1800 Continental Blvd Suite 200 Charlotte, NC 28273
Factory:	Wirepath Home Systems. DBA SnapAV
Address of Factory:	1800 Continental Blvd Suite 200 Charlotte, NC 28273

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

Product Description:	Fixed product with Ethernet port		
Brand Name:	LUMA		
Rated Input:	DC 12V via adapter		
Test Voltage:	AC 120V 50Hz for adapter		
Adapter:	Model No:	DSA-12PFT-12	
	Rated Input:	AC 100V-240V 50/60Hz 0.5A	
	Rated Output:	DC 12V 1.0A	
	Cable length:	AC port:	2 wires
		DC port:	150 cm

#### 3.3 Details of E.U.T.

Operation Frequency:	2412MHz-2472MHz
Modulation Type:	802.11 b DSSS(CCK, DQPSK, DBPSK) 802.11 g/n(HT20)/n(HT40) OFDM(64QAM, 16QAM, QPSK, BPSK)
Number of Channel:	802.11/b/g/n20:11 802.11n40:7
Data Rate:	802.11b: 1/2/5.5/11Mbps, 802.11g: 6/9/12/18/24/36/48/54Mbps 802.11n(HT20/40): MCS0-MCS7
Antenna Type	Integral
Antenna Gain	2.4dBi

### 3.4 Test Location

All tests were performed at:

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

### 3.5 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, C-4336, T-2221, G-830 respectively. Date of Expiry: 2017-11-16.

## 4 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

## 5 Measurement and Calculation

### 5.1 Maximum transmit power

The Power Data is based on the RF Test Report SHEM161100815802.

**For WiFi:**

Test mode	Test Frequency (MHz)	Output Power (dBm)	Output Power (mW)
802.11b	2412	19.56	90.36
	2437	20.56	<b>113.76</b>
	2462	20.43	110.41
802.11g	2412	18.38	68.87
	2437	19.03	79.98
	2462	19.74	94.19
802.11 n(HT20)	2412	18.23	66.53
	2437	19.18	82.79
	2462	19.36	86.30
802.11 n(HT40)	2422	17.22	52.72
	2437	17.77	59.84
	2452	18.34	68.23

## 5.2 MPE Calculation

The Max Conducted Peak Output Power is 113.76mW(0.11376W) in Middle channel of 802.11b;  
The best case gain of the antenna is 2.4dBi. 2.4dB logarithmic terms convert to numeric result is nearly 1.738.

For FCC:

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) =  $10^{(Antenna\ gain\ in\ dBi / 10)}$

3)  $R$  = distance to the center of radiation of antenna (in meter) = 20cm

4) MPE limit = 1mW/cm<sup>2</sup>

$$S = \frac{PG}{4R^2\pi} = \frac{113.76 \times 1.738}{4 \times 400 \times 3.14} = 0.0394\text{ mW/cm}^2$$

So the device is exclusion from SAR test.

## 6 EUT Constructional Details

Refer to the < LUM-300-CUB-IPW-WH \_External Photos > & < LUM-300-CUB-IPW-WH \_Internal Photos>.

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