# RF EXPOSURE REPORT

Report No.: 18070685-FCC-H

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|---|---|
| Applicant | Southern Telecom Inc. |
| Product Name | HD WI-FI Security Camera |
| Main Model No. | SVC562 |
| Serial Model No. | SVC563<br>(All models have same circuits diagram, PCB Layout, construction and rated power,only different was model name and appearance.) |
| Test Standard | FCC 2.1091 |
| Test Date | July 9 to July 16, 2018 |
| Issue Date | July 18, 2018 |
| Test Result | ☑ Pass ☐ Fail |
| Equipment complied with the specification | ☑ |
| Equipment did not comply with the specification | ☐ |

| | | |
|---|---|---|
| Aaron Liang | David Huang | |
| Aaron Liang<br>Test Engineer | David Huang<br>Checked By | |

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Test result presented in this test report is applicable to the tested sample only


Issued by:

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# Laboratories Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.


In addition to testing and certification, SIEMIC provides initial design reviews and compliance management throughout a project. Our extensive experience with China, Asia Pacific, North America, European, and International compliance requirements, assures the fastest, most cost effective way to attain regulatory compliance for the global markets.

## Accreditations for Conformity Assessment

| Country/Region | Scope |
| --- | --- |
| USA | EMC, RF/Wireless, SAR, Telecom |
| Canada | EMC, RF/Wireless, SAR, Telecom |
| Taiwan | EMC, RF, Telecom, SAR, Safety |
| Hong Kong | RF/Wireless, SAR, Telecom |
| Australia | EMC, RF, Telecom, SAR, Safety |
| Korea | EMI, EMS, RF, SAR, Telecom, Safety |
| Japan | EMI, RF/Wireless, SAR, Telecom |
| Singapore | EMC, RF, SAR, Telecom |
| Europe | EMC, RF, SAR, Telecom, Safety |

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# 1. Report Revision History

| Report No. | Report Version | Description | Issue Date |
| --- | --- | --- | --- |
| 18070685-FCC-H | NONE | Original | July 18, 2018 |
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# 2. Customer information

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| --- | --- |
| Applicant Name | Southern Telecom Inc. |
| Applicant Add | 5601 1st Ave, 2nd Floor Brooklyn New York United States |
| Manufacturer | Southern Telecom Inc. |
| Manufacturer Add | 5601 1st Ave, 2nd Floor Brooklyn New York United States |

# 3. Test site information

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| --- | --- |
| Lab performing tests | SIEMIC (Shenzhen-China) LABORATORIES |
| Lab Address | Zone A, Floor 1, Building 2 Wan Ye Long Technology Park<br>South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China<br>518108 |
| FCC Test Site No. | 535293 |
| IC Test Site No. | 4842E-1 |
| Test Software | Labview of SIEMIC version 2.0 |

# 4. Equipment under Test (EUT) Information

| | |
| --- | --- |
| Description of EUT: | HD WI-FI Security Camera |
| Main Model: | SVC562 |
| Serial Model: | SVC563<br>(All models have same circuits diagram, PCB Layout, construction and rated power,only different was model name and appearance.) |
| Equipment Category： | DTS |
| Antenna Gain: | WIFI: 2.5dBi |
| Antenna type： | PCB Antenna |
| Input Power: | Adapter:<br>Model: D31-05050100<br>Input: AC100-240V,0.3A<br>Output: DC 5.0V，1000mA |
| Trade Name： | SHARPER IMAGE |
| Port: | Please refer to the user manual |
| FCC ID: | 2ABV4SVC562 |
| Type of Modulation: | 802.11b/g/n: DSSS, OFDM |
| RF Operating Frequency (ies): | WIFI: 802.11b/g/n(20M): 2412-2462 MHz |
| Number of Channels: | WIFI :802.11b/g/n(20M): 11CH |

# 5. FCC §2.1091 - Maximum Permissible exposure (MPE)

## 5.1 Applicable Standard

According to §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.

According to §1.1310 and §2.1091 RF exposure is calculated.

Limits for General Population/Uncontrolled Exposure

| Limits for General Population/Uncontrolled Exposure | | | | |
|---|---|---|---|---|
| Frequency Range (MHz) | Electric Field Strength (V/m) | Magnetic Field Strength (A/m) | Power Density ($mW/cm^2$) | Averaging Time (minutes) |
| 0.3-1.34 | 614 | 1.63 | *(100) | 30 |
| 1.34-30 | 824/f | 2.19/f | *($180/f^2$) | 30 |
| 30-300 | 27.5 | 0.073 | 0.2 | 30 |
| 300-1500 | / | / | f/1500 | 30 |
| 1500-100,000 | / | / | 1.0 | 30 |

f = frequency in MHz

* = Plane-wave equivalent power density

## 5.2 Test Result

| Type | Test mode | CH | Freq (MHz) | Conducted Power (dBm) | Tune Up Power (dBm) |
| --- | --- | --- | --- | --- | --- |
| Output power | 802.11b | Low | 2412 | **4.385** | 4±1 |
| | | Mid | 2437 | 4.235 | 4±1 |
| | | High | 2462 | 4.377 | 4±1 |
| | 802.11g | Low | 2412 | 4.222 | 4±1 |
| | | Mid | 2437 | 3.779 | 4±1 |
| | | High | 2462 | **4.368** | 4±1 |
| | 802.11n (20M) | Low | 2412 | 3.958 | 4±1 |
| | | Mid | 2437 | 3.821 | 4±1 |
| | | High | 2462 | **4.797** | 4±1 |

Predication of MPE limit at a given distance

$$S = \frac{PG}{4\pi R^2}$$

Where: S = power density (in appropriate units, e.g. mW/cm$^2$)

P = power input to the antenna (in appropriate units, e.g., mW).

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain.

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

2.4G WIFI:

For the antenna manufacturer provide only used limited to ERP/EIRP or radiated spurious emission test. The MPE evaluation as below:

Maximum output power at antenna input terminal: 5(dBm)

Maximum output power at antenna input terminal: 3.16(mW)

Prediction distance: >20 (cm)

Predication frequency: 2462 (MHz) High frequency

Antenna Gain (typical):2.5 (numeric)

The worst case is power density at predication frequency at 20 cm: 0.001(mW/cm$^2$)

MPE limit for general population exposure at prediction frequency: 1 (mW/cm$^2$)

$0.001(mW/cm^2) < 1.0 (mW/cm^2)$

**Result:** Pass