# KDB 447498 D03
# IEEE C95.1
# 47 C.F.R. Part 1, Subpart I, Section 1.1310
# 47 C.F.R. Part 2, Subpart J, Section 2.1091

# RF EXPOSURE REPORT

## For

## Smart Cloud Camera

## Model:
## SMC-86, TX-57, SMC-86X (X=0~9, A~Z or blank)

## Trade Name: Technaxx、SALIX

*Issued to*

**SALIX TECHNOLOGY CO., LTD.**
**5F, NO. 16, LANE 77, HSING AI RD., NEI-HU, TAIPEI 114, TAIWAN, R.O.C.**

*Issued by*

**Compliance Certification Services Inc.**
**No.11, Wugong 6th Rd., Wugu Dist.,**
**New Taipei City 24891, Taiwan. (R.O.C.)**
**http://www.ccsrf.com**
**service@ccsrf.com**
**Issued Date: September 22, 2015**

Testing Laboratory
1309

# Revision History

| Rev. | Issue Date | Revisions | Effect Page | Revised By |
|---|---|---|---|---|
| 00 | 2015/09/22 | Initial Issue | ALL | Kelly Cheng |

# TABLE OF CONTENTS

# 1. LIMIT

According to §15.247(i), 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 levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this chapter.

# 2. EUT SPECIFICATION

| | |
|---|---|
| **EUT** | Smart Cloud Camera |
| **Model** | SMC-86, TX-57, SMC-86X (X=0~9, A~Z or blank) |
| **Model Discrepancy** | All the specification and layout are identical except they come with different model numbers for marketing purposes. |
| **Frequency band (Operating)** | ☒ 802.11b/g/n HT20: 2.412GHz ~ 2.462GHz<br>☐ Others |
| **Device category** | ☐ Portable (<20cm separation)<br>☒ Mobile (>20cm separation)<br>☐ Others |
| **Exposure classification** | ☐ Occupational/Controlled exposure (S = 5mW/cm$^2$)<br>☒ General Population/Uncontrolled exposure (S=1mW/cm$^2$) |
| **Antenna Specification** | PCB Antenna：<br>Ethertronics / Salix SMC-86<br>2.4GHz: Antenna Gain : 3.6 dBi (Numeric gain 2.29) |
| **Maximum Average output power** | IEEE 802.11g Mode: 17.13 dBm (51.642 mW)<br>IEEE 802.11n HT 20 Mode: 15.23 dBm (33.343 mW)<br>IEEE 802.11n HT 40 Mode: 14.39 dBm (27.479 mW) |
| **Maximum Tune up Power** | IEEE 802.11b Mode: 19.00 dBm (79.433 mW)<br>IEEE 802.11g Mode: 17.00 dBm (50.119 mW)<br>IEEE 802.11n HT 20 Mode: 16.00 dBm (39.811 mW) |
| **Evaluation applied** | ☒ MPE Evaluation*<br>☐ SAR Evaluation<br>☐ N/A |

# 3. TEST RESULTS

## No non-compliance noted.

**Calculation**

Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{377}$

*Where E = Field strength in Volts / meter*
*P = Power in Watts*
*G = Numeric antenna gain*
*d = Distance in meters*
*S = Power density in milliwatts / square centimeter*

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{377 d^2}$$

Changing to units of mW and cm, using:

*P (mW) = P (W) / 1000 and*

*d (cm) = d(m) / 100*

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2}$$ ***Equation 1***

*Where d = Distance in cm*
*P = Power in mW*
*G = Numeric antenna gain*
*S = Power density in mW / cm$^2$*

# 4. MAXIMUM PERMISSIBLE EXPOSURE

Substituting the MPE safe distance using d = 20 cm into Equation 1:

$$S = 0.000199 \times P \times G$$

*Where P = Power in mW*

*G = Numeric antenna gain*

*S = Power density in mW / cm$^2$*

**IEEE 802.11b mode:**

| Ch. | Frq.(MHz) | P (mW) | Gain (num.) | D (cm) | Power density in mW / cm$^2$ | Limit (mW/cm2) |
|---|---|---|---|---|---|---|
| 1 | 2412 | 79.433 | 2.29 | 20 | 0.0362 | 1 |

**IEEE 802.11g mode:**

| Ch. | Frq.(MHz) | P (mW) | Gain (num.) | D (cm) | Power density in mW / cm$^2$ | Limit (mW/cm2) |
|---|---|---|---|---|---|---|
| 1 | 2412 | 50.119 | 2.29 | 20 | 0.0228 | 1 |

**IEEE 802.11n HT20 mode:**

| Ch. | Frq.(MHz) | P (mW) | Gain (num.) | D (cm) | Power density in mW / cm$^2$ | Limit (mW/cm2) |
|---|---|---|---|---|---|---|
| 1 | 2412 | 39.811 | 2.29 | 20 | 0.0181 | 1 |