IEEE C95.1 2005
KDB 447498 D01 V06
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

HD Wi-Fi Mini Dome Camera

Model:
MDC83xxxxxxxx (where "x" may be any alphanumeric character , "-" or blank)

Trade Name: ADT , Icontrol, Sercomm

Issued to

Sercomm Corporation
8F, No. 3-1, YuanQu St., NanKang, Taipei 115, Taiwan, R.O.C.

Issued by

Compliance Certification Services Inc.
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Testing Laboratory
1309

Revision History

Rev.		Issue Date		Revisions	Effect Page	Revised By
00		August 2, 2016		Initial Issue	ALL	Doris Chu

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1. TEST RESULT CERTIFICATION

We hereby certify that:

The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10: 2013 and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 15.207, 15.209, 15.247.

The test results of this report relate only to the tested sample EUT identified in this report.

APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
IEEE C95.1 2005 KDB 447498 D03 47 C.F.R. Part 1, Subpart I, Section 1.1310 47 C.F.R. Part 2, Subpart J, Section 2.1091	No non-compliance noted

Approved by:

Miller Lee
Manager
Compliance Certification Services Inc.

Test by:

Doris Chu
Report coordinator
Compliance Certification Services Inc.

2. 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.

3. EUT SPECIFICATION

Product	HD Wi-Fi Mini Dome Camera
Model Number	MDC83xxxxxxxx (where "x" may be any alphanumeric character , "-" or blank)
Model Discrepancy	All the above models are identical except for the designation of model numbers. The suffix of (where "x" may be any alphanumeric character , "-" or blank) on model number is just for marketing purpose only.
Trade Name	ADT , Icontrol, Sercomm
Frequency band (Operating)	☒ 802.11b/g/n HT 20: 2.412GHz ~ 2.462GHz 802.11n HT 40: 2.422GHz ~ 2.452GHz ☐ Others
Device category	☐ Portable (<20cm separation) ☒ Mobile (>20cm separation) ☐ Others
Exposure classification	☐ Occupational/Controlled exposure (S = 5mW/cm^2) ☒ General Population/Uncontrolled exposure (S=1mW/cm^2)
Antenna Specification	**2.4G** PIFI Antenna Antenna 1: Gain: 1.76dBi Antenna 2: Gain: 1.68dBi 2.4GHz: Antenna Gain : 1.76 dBi (Numeric gain: 1.50) Worst 2.4GHz: Directional gain = 1.76 dBi +10log (2) = 4.77 dBi (Numeric gain: 3.00)
Maximum Average output power	IEEE 802.11b Mode: 21.85 dBm (153.109 mW) IEEE 802.11g Mode: 20.13 dBm (103.039 mW) IEEE 802.11n HT 20 Mode: 21.94 dBm (156.315 mW) IEEE 802.11n HT 40 Mode: 15.44 dBm (34.995 mW)
Maximum Tune up Power	IEEE 802.11b Mode: 23.00 dBm (199.526 mW) IEEE 802.11g Mode: 22.00 dBm (158.489 mW) IEEE 802.11n HT 20 Mode: 24.00 dBm (251.189 mW) IEEE 802.11n HT 40 Mode: 17.00 dBm (50.119 mW)
Evaluation applied	☒ MPE Evaluation* ☐ SAR Evaluation ☐ N/A

4. 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

5. 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)
6	2437	199.526	1.5	20	0.0596	1

IEEE 802.11g mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
6	2437	158.489	1.5	20	0.0473	1

IEEE 802.11n HT 20 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
6	2437	251.189	3	20	0.1500	1

IEEE 802.11n HT 40 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
6	2437	50.119	3	20	0.0299	1