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

RF EXPOSURE REPORT

For

FHD WiFi Mini Dome Camera

Model:
MDC845xxxxxxxx (the 1st x should be "blank" or "-"; the rest x could be 0 to 9, A to Z, a to z, "blank" or "-" , for marketing purpose)

Trade Name: ADT

Issued to

Sercomm Corporation
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Issued by

Compliance Certification Services Inc.
Wugu Laboratory
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New Taipei City 24891, Taiwan. (R.O.C.)
Issue Date: December 30, 2019

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Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.
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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	December 30, 2019	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
Statements of Conformity	
Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.	

Approved by:

Kevin Tsai
Deputy Manager
Compliance Certification Services Inc.

Reporter:

Doris Chu
Report coordinator
Compliance Certification Services Inc.

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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.

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3. EUT SPECIFICATION

<table>
<tr><td>EUT</td><td>FHD WiFi Mini Dome Camera</td></tr>
<tr><td>Model</td><td>MDC845xxxxxxxx (the 1st x should be "blank" or "-"; the rest x could be 0 to 9, A to Z, a to z, "blank" or "-" , for marketing purpose)</td></tr>
<tr><td>Model Discrepancy</td><td>All the above models are identical except for the designation of model numbers. The suffix of (The 1st x should be "blank" or "-"; the rest x could be 0 to 9, A to Z, a to z, "blank" or "-") on model number is just for marketing purpose only.</td></tr>
<tr><td>Frequency band (Operating)</td><td>☐ Bluetooth: 2402MHz-2480MHz
☒ 802.11b/g/n HT20: 2412MHz ~ 2462 MHz
☒ 802.11n HT40: 2422MHz ~ 2452MHz
☒ 802.11a/n HT20: 5180MHz ~ 5240MHz / 5745MHz ~ 5825MHz
802.11n HT40: 5190MHz ~ 5230MHz / 5755MHz ~ 5795MHz
802.11ac VHT80: 5210MHz / 5775MHz
☐ Others</td></tr>
<tr><td>Device category</td><td>☐ Portable (<20cm separation)
☒ Mobile (>20cm separation)
☐ Others</td></tr>
<tr><td>Exposure classification</td><td>☐ Occupational/Controlled exposure (S = 5mW/cm^2)
☒ General Population/Uncontrolled exposure (S=1mW/cm^2)</td></tr>
<tr><td>Antenna Specification</td><td>2.4G
<table>
<tr><td>Ant No.</td><td>Type</td><td>Peak Gain</td></tr>
<tr><td>Ant 1</td><td>Dipole</td><td>4.7 dBi</td></tr>
<tr><td>Ant 2</td><td>Dipole</td><td>1.9 dBi</td></tr>
</table>
1. Power Directional Gain: 3.52

5G
<table>
<tr><td>Ant No.</td><td>Type</td><td>Peak Gain</td></tr>
<tr><td>Ant 1</td><td>Dipole</td><td>4.3 dBi</td></tr>
<tr><td>Ant 2</td><td>Dipole</td><td>3.8 dBi</td></tr>
</table>
1. Power Directional Gain: 4.06

2.4GHz: Directional Gain : 3.52 dBi (Numeric gain: 2.25) Worst
5GHz: Directional Gain : 4.06 dBi (Numeric gain: 2.55) Worst</td></tr>
</table>

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<table>
<tr><td>Maximum Measurement Average Power</td><td>
<table>
<tr><td>2.4GHz</td><td></td><td></td></tr>
<tr><td>IEEE 802.11b Mode:</td><td>27.03 dBm</td><td>(504.661 mW)</td></tr>
<tr><td>IEEE 802.11g Mode:</td><td>24.69 dBm</td><td>(294.442 mW)</td></tr>
<tr><td>IEEE 802.11n HT 20 Mode:</td><td>22.34 dBm</td><td>(171.396 mW)</td></tr>
<tr><td>IEEE 802.11n HT 40 Mode:</td><td>22.41 dBm</td><td>(174.181 mW)</td></tr>
<tr><td>5GHz</td><td></td><td></td></tr>
<tr><td>IEEE 802.11a Mode:</td><td>22.74 dBm</td><td>(187.932 mW)</td></tr>
<tr><td>IEEE 802.11n HT 20 Mode:</td><td>27.03 dBm</td><td>(504.661 mW)</td></tr>
<tr><td>IEEE 802.11n HT 40 Mode:</td><td>27.21 dBm</td><td>(526.017 mW)</td></tr>
<tr><td>IEEE 802.11ac VHT 80 Mode</td><td>24.02 dBm</td><td>(252.348 mW)</td></tr>
</table>
</td></tr>
<tr><td>Maximum tune up power</td><td>
<table>
<tr><td>2.4GHz</td><td></td><td></td></tr>
<tr><td>IEEE 802.11b Mode:</td><td>28.80 dBm</td><td>(758.578 mW)</td></tr>
<tr><td>IEEE 802.11g Mode:</td><td>26.30 dBm</td><td>(426.580 mW)</td></tr>
<tr><td>IEEE 802.11n HT 20 Mode:</td><td>24.20 dBm</td><td>(263.027 mW)</td></tr>
<tr><td>IEEE 802.11n HT 40 Mode:</td><td>24.20 dBm</td><td>(263.027 mW)</td></tr>
<tr><td>5GHz</td><td></td><td></td></tr>
<tr><td>IEEE 802.11a Mode:</td><td>24.60 dBm</td><td>(288.403 mW)</td></tr>
<tr><td>IEEE 802.11n HT 20 Mode:</td><td>28.60 dBm</td><td>(724.436 mW)</td></tr>
<tr><td>IEEE 802.11n HT 40 Mode:</td><td>29.00 dBm</td><td>(794.328 mW)</td></tr>
<tr><td>IEEE 802.11ac VHT 80 Mode</td><td>26.00 dBm</td><td>(398.107 mW)</td></tr>
</table>
</td></tr>
<tr><td>Evaluation applied</td><td>☒ MPE Evaluation*
☐ SAR Evaluation
☐ N/A</td></tr>
</table>

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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 / cm²

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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 / cm²

IEEE 802.11b mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
1	2412	758.578	2.25	20	0.3397	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	426.580	2.25	20	0.1910	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	263.027	2.25	20	0.1178	1

IEEE 802.11n HT40 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
6	2437	263.027	2.25	20	0.1178	1

IEEE 802.11a mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
149	5745	288.403	2.55	20	0.1464	1

IEEE 802.11n HT20 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
157	5785	724.436	2.55	20	0.3676	1

IEEE 802.11n HT40 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
159	5795	794.328	2.55	20	0.4031	1

IEEE 802.11ac VHT80 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
155	5775	398.107	2.55	20	0.2020	1

--End of Report--

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