



FCC ID: P27MDC845  
Report No.: T191003D02-MF

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Rev.: 01

**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*

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*Issued by*

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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.	

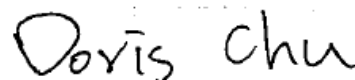
Approved by:



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Kevin Tsai  
Deputy Manager  
Compliance Certification Services Inc.

Reporter:



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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

EUT	FHD WiFi Mini Dome Camera		
Model	MDC845xxxxxxx (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)		
Model Discrepancy	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.		
Frequency band (Operating)	<div><input type="checkbox"/> Bluetooth: 2402MHz-2480MHz</div> <div><input checked="" type="checkbox"/> 802.11b/g/n HT20: 2412MHz ~ 2462 MHz</div> <div><input checked="" type="checkbox"/> 802.11n HT40: 2422MHz ~ 2452MHz</div> <div><input checked="" type="checkbox"/> 802.11a/n HT20: 5180MHz ~ 5240MHz / 5745MHz ~ 5825MHz</div> <div>802.11n HT40: 5190MHz ~ 5230MHz / 5755MHz ~ 5795MHz</div> <div>802.11ac VHT80: 5210MHz / 5775MHz</div> <div><input type="checkbox"/> Others</div>		
Device category	<div><input type="checkbox"/> Portable (&lt;20cm separation)</div> <div><input checked="" type="checkbox"/> Mobile (&gt;20cm separation)</div> <div><input type="checkbox"/> Others</div>		
Exposure classification	<div><input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm<sup>2</sup>)</div> <div><input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm<sup>2</sup>)</div>		
Antenna Specification	<b>2.4G</b>		
	Ant No.	Type	Peak Gain
	Ant 1	Dipole	4.7 dBi
	Ant 2	Dipole	1.9 dBi
	1. Power Directional Gain: 3.52		
	<b>5G</b>		
	Ant No.	Type	Peak Gain
	Ant 1	Dipole	4.3 dBi
	Ant 2	Dipole	3.8 dBi
	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		

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

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = d \text{ (m)} / 100$$

Yields

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

Where  $d$  = Distance in cm

$P$  = Power in mW

$G$  = Numeric antenna gain

$S$  = Power density in mW / cm<sup>2</sup>



## 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<sup>2</sup>

### IEEE 802.11b mode:

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

--End of Report--