



MPE Report

Applicant : Amcrest Technologies LLC

Address : 16727 Park Row Dr.Houston, TX 77084

Manufacturer : Zhejiang Dahua Vision Technology Co., Ltd.

Address : No.1199, Bin'an Road, Binjiang District, Hangzhou, P.R. China

Equipment : 1080P Pan/Tilt Wireless IP Camera, 720P Pan/Tilt Wireless IP Camera

Model No. : IP2M-841B;IP2M-841W;IP2M-841S;IP2M-841B-UK;IP2M-841W-UK;IP2M-841S-UK;IP2M-841B-EU;
 IP2M-841W-EU; IP2M-841S-EU; IPM-721B; IPM-721W; IPM-721S; IPM-721B-UK; IPM-721W-UK; IPM-721S-UK;
 IPM-721B-EU;IPM-721W-EU;IPM-721S-EU;
 IP2M-841B-*****;IP2M-841W-*****;IP2M-841S-*****;IPM-721B-*****;IPM-721W-*****;IPM-721S-*****(*can
 be "A-Z" 'or' "_" or blank) IP2M-841-Y7;IPM-741-Y7; IP2M-841B-Y7;IPM-721B-Y7;
 IP2M-841W-Y7;IPM-721W-Y7; IP2M-841S-Y7;IPM-721S-Y7

FCC ID : ZZ2AMC000AMC001

- The test result refers exclusively to the test presented test model / sample.,
- Without written approval of **CerpPASS Technology (Suzhou) Co.,Ltd.** the test report shall not be reproduced except in full.

Prepared By:

Kerry Zhou

Approved by:

Miro Chueh (EMC/RF Manager)

Laboratory Accreditation:

CerpPASS Technology Corporation Test Laboratory

<input type="checkbox"/>	NVLAP LAB Code:	200954-0
	TAF LAB Code:	1439

CerpPASS Technology (SuZhou) Co., Ltd.

<input checked="" type="checkbox"/>	NVLAP LAB Code:	200814-0
	CNAS LAB Code:	L5515



Radio Frequency Exposure

LIMIT

For 2.4G Band: 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.

**EUT Specification**

EUT	1080P Pan/Tilt Wireless IP Camera, 720P Pan/Tilt Wireless IP Camera
Frequency band (Operating)	<input checked="" type="checkbox"/> WLAN: 2.412GHz ~ 2.462GHz <input type="checkbox"/> WLAN: 5.150GHz ~ 5.250GHz <input type="checkbox"/> WLAN: 5.745GHz ~ 5.825GHz <input type="checkbox"/> Bluetooth: 2.402GHz ~ 2.480 GHz
Device category	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation)
Exposure classification	<input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm ²) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm ²)
Antenna diversity	<input checked="" type="checkbox"/> Single antenna <input type="checkbox"/> Multiple antennas <input type="checkbox"/> Tx diversity <input type="checkbox"/> Rx diversity <input checked="" type="checkbox"/> Tx/Rx diversity
Max. output power for 2.4G Band	IEEE802.11b: 21.74 dBm (0.1493W) IEEE802.11g: 22.25 dBm (0.1679W) IEEE802.11n HT20: 21.82 dBm (0.1521W) IEEE802.11n HT40: 21.92 dBm (0.1556W)
Antenna gain (Max)	2.3dBi for 2.4G Band
Evaluation applied	<input checked="" type="checkbox"/> MPE Evaluation* <input type="checkbox"/> SAR Evaluation <input type="checkbox"/> N/A

Remark:

1. The maximum output power is 22.25dBm (0.1679W) at 2412MHz (with numeric 1.698antenna gain.) for 2.4G band
2. DTS device is not subject to routine RF evaluation; MPE estimate is used to justify the compliance.
3. For mobile or fixed location transmitters, no SAR consideration applied. The maximum power density is 1.0 mW/cm² even if the calculation indicates that the power density would be larger.

*Note: Simultaneous transmission is not applicable for this EUT.

**TEST RESULTS FOR 2.4G BAND**

No non-compliance noted.

Calculation

$$\text{Given } E = \frac{\sqrt{30 \times P \times G}}{d} \quad \& \quad S = \frac{E^2}{3770}$$

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:

$$S = \frac{30 \times P \times G}{3770d^2}$$

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

$$S = \frac{30 \times (P/1000) \times G}{3770 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

Maximum Permissible Exposure

Modulation Mode	Frequency band (MHz)	Max. Conducted output power(dBm)	Antenna gain (dBi)	Distance (cm)	Power density (mW/cm2)	Limit (mW/cm2)
IEEE802.11b	2412-2462	21.74	2.3	20	0.0504	1
IEEE802.11g	2412-2462	22.25	2.3	20	0.0567	1
IEEE802.11n HT20	2412-2462	21.82	2.3	20	0.0514	1
IEEE802.11n HT40	2422-2452	21.92	2.3	20	0.0526	1