



MAXIMUM PERMISSIBLE EXPOSURE EVALUATION REPORT

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Product Name: Wireless IP Camera

FCC ID: ZDER8M

Standard(s): 47 CFR §1.1310, 47 CFR §2.1091,
47 CFR §15.247(i), 47 CFR §15.407(f)

Report Number: 2402Y98708E-RF-00E

Report Date: 2024/11/28

The above device has been tested and found compliant with the requirement of the relative standards by Bay Area Compliance Laboratories Corp. (Dongguan).

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CONTENTS

DOCUMENT REVISION HISTORY	3
1. GENERAL INFORMATION	4
1.1 GENERAL DESCRIPTION OF EQUIPMENT UNDER TEST.....	4
2. RF EXPOSURE EVALUATION (MPE).....	5
2.1 RF EXPOSURE EVALUATION.....	5
2.1.1 Applicable Standard.....	5
2.1.2 Calculation formula:	5
2.1.3 Calculated Data:.....	6
EXHIBIT A - EUT PHOTOGRAPHS.....	7

DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	2402Y98708E-RF-00E	Original Report	2024/11/28

1. GENERAL INFORMATION

1.1 General Description Of Equipment under Test

EUT Name:	Wireless IP Camera
EUT Model:	R8M
Multiple Model:	R8S, R8C, R8P, L8M
Rated Input Voltage:	5Vdc from adapter
EUT Received Date:	2024/10/12
EUT Received Status:	Good

Note: The multiple models are electrically identical with the test model. Please refer to the declaration letter for more detail, which was provided by manufacturer.

2. RF EXPOSURE EVALUATION (MPE)

2.1 RF Exposure Evaluation

2.1.1 Applicable Standard

According to subpart 15.247(i), 15.407(f) and subpart §1.1310, 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 level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minutes)
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f ²)	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

f = frequency in MHz; * = Plane-wave equivalent power density;

According to §1.1310 and §2.1091 RF exposure is calculated.

2.1.2 Calculation formula:

Prediction of power density at the distance of the applicable MPE limit
 $S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm²);

P = power input to the antenna (in appropriate units, e.g., mW);

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

2.1.3 Calculated Data:

Operation Modes	Frequency (MHz)	Antenna Gain		Conducted output power including Tune-up Tolerance▲		Evaluation Distance (cm)	Power Density (mW/cm ²)	MPE Limit (mW/cm ²)
		(dBi)	(numeric)	(dBm)	(mW)			
2.4G Wifi	2412-2462	2.95	1.97	23.5	223.87	20.00	0.0879	1.0
5.8G Wifi	5725-5850	3.98	2.50	14.0	25.12	20.00	0.0125	1.0
Radar	24094-24223	2.37	1.73	-1.19	0.76	20.00	0.0003	1.0

Fundamental field strength is $96.38 \text{ B}\mu\text{V/m}$ @ 3m = 1.18 dBm(1.31mW) EIRP.
EIRP(dBm)=Field Strength of Fundamental(dB μ V/m)-95.2 (dB).
Conducted power=1.18-2.37dBm=-1.19dBm.
Conducted power(dBm)= EIRP(dBm)-Antenna Gain(dBi).

Note:

The Conducted output power including Tune-up Tolerance provided by manufacturer.

Simultaneous transmission:

The WLAN 2.4G and 5G can't transmit simultaneously, but 2.4G Wifi or 5G Wifi can transmit simultaneously with 2 Radars:

$$\sum_i \frac{S_i}{S_{\text{Limit},i}} \leq 1$$

$$= S_{\text{Radar}} / S_{\text{limit-Radar}} + S_{\text{2.4G Wifi}} / S_{\text{limit-2.4G Wifi}}$$

$$= 0.0003 / 1.0 + 0.0879 / 1.0$$

$$= 0.088$$

$$< 1.0$$

Result: Compliant. The device compliant Simultaneous transmission at 20cm distances.

EXHIBIT A - EUT PHOTOGRAPHS

Please refer to the attachment 22402Y98708E-RF-EXP EUT EXTERNAL PHOTOGRAPHS and 2402Y98708E-RF-INP EUT INTERNAL PHOTOGRAPHS.

******* END OF REPORT *******