

1. MAXIMUM PERMISSIBLE EXPOSURE (MPE)

1.1 General Information

Client Information

Applicant: ShenZhen Foscam Intelligent Technology Co., Limited
Address of applicant: Room A, 9/F, Block F5, TCL International E City, No. 1001
Zhongshanyuan Road, Xili, Shenzhen, China

Manufacturer: ShenZhen Foscam Intelligent Technology Co., Limited
Address of manufacturer: Room A, 9/F, Block F5, TCL International E City, No. 1001
Zhongshanyuan Road, Xili, Shenzhen, China

General Description of EUT:

Product Name: Outdoor HD IP Camera
Trade Name: FOSCAM
Model No.: G2
G2VX、G2C VX、G2E VX、G2 Plus VX、G2 Lite VX、G4 VX、G4C VX、G4E VX、G4 Plus VX、G4 Lite VX、FI9900P VX、FI9900EP VX、FI9901P VX、FI9901EP VX、FI9902P VX、FC5415P VX、FC5618P VX、FC5618EP VX、FC5718EP VX (which “X” can be from 0 to 9, the default state is null while it is V0)
Adding Model(s):
FCC ID: ZDEG2
Rated Voltage: Power Port:DC12V

Technical Characteristics of EUT:

Support Standards: 802.11b, 802.11g, 802.11n
Frequency Range: 2412-2462MHz for 802.11b/g/n(HT20)
2422-2452MHz for 802.11n(HT40)
RF Output Power: 9.66dBm (Conducted)
Type of Modulation: CCK, OFDM, QPSK, BPSK, 16QAM, 64QAM
Data Rate: 1-11Mbps, 6-54Mbps, up to 150Mbps
Quantity of Channels: 11 for 802.11b/g/n(HT20); 7 for 802.11n(HT40)
Channel Separation: 5MHz
Type of Antenna: External Antenna
Antenna Gain: 2.0dBi

Note 1: The test data is gathered from a production sample provided by the manufacturer. The appearance of others models listed in the report is different from main-test model MOPLUS, but the circuit and the electronic construction do not change, declared by the manufacturer.

1.2 Standard Applicable

According to § 1.1307(b)(1) and KDB 447498 D01 General RF Exposure Guidance v06, system operating under the provisions of this section shall be operating in a manner that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure.

(a) Limits for Occupational / Controlled Exposure

Frequency range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Times E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f)*	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	F/300	6
1500-100000	/	/	5	6

(b) Limits for General Population / Uncontrolled Exposure

Frequency range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Times E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	F/1500	30
1500-100000	/	/	1	30

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

1.3 MPE Calculation Method

$$S = (30 * P * G) / (377 * R^2)$$

S = 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 (in appropriate units, e.g., cm)

1.4 MPE Calculation Result

WIFI2.4G:

Maximum Tune-Up output power: 9.66 (dBm)

Maximum peak output power at antenna input terminal: 9.25 (mW)

Prediction distance: >20(cm)

Prediction frequency: 2437 (MHz)

Antenna gain: 2.0 (dBi)

Directional gain (numeric gain): 1.58

The worst case is power density at prediction frequency at 20cm: 0.003(mw/cm²)

MPE limit for general population exposure at prediction frequency: 1 (mw/cm²)

Result: Pass

1.5 Test Setup Photos

