

RF EXPOSURE TEST

RF EXPOSURE CALCULATION METHOD

Calculation Method of RF Safety Distance:

$$S = \frac{PG}{4\pi r^2} = \frac{EIRP}{4\pi r^2}$$

P :power input to the antenna in Mw

EIRP :Equivalent(effective) isotropic radiated power.

S :power density mW/ cm²

G :numeric gain of antenna relative to isotropic radiator

R :distance to centre of radiation in cm

FCC radio frequency exposure limits may be exceeded at distances closer than r cm from the antenna of this device

$$r = \sqrt{\frac{PG}{4\pi S}} = \sqrt{\frac{EIRP}{4\pi S}}$$

EIRP=10(Antenna Gain+Peak Output Power/10)

Note:

1. s=1.0 mW /cm² for limits for General Population/Uncontrolled Exposures.
2. The time averaged power over 30 minutes will be equaled Output Power.
3. The Power Density at a distance of 20cm calculated from the formula is far below the limit of 1MW/ cm²

TEST RESULTS

| | | | |
|---------------|----------------|---------------------|-------------|
| EUT : | WiFi IP Camera | Model Name : | IPC-5003WHD |
| Temperature : | 25 °C | Relative Humidity : | 60% |
| Pressure : | 1012 hPa | Test Voltage : | DC 5V |
| Test Mode : | TX Mode | | |

Operating Mode:802.11 b

| Channal (MHz) | Output power (PK)(dBm) | Output power to antenna (mW) | Antenna Gain (numeric) | Power Density (S) (mW/ cm ²) | Limit of Power Density (S) (mW/ cm ²) | Result |
|---------------|------------------------|------------------------------|------------------------|--|---|--------|
| 2412 | 17.20 | 52.48 | 1.58(2dBi) | 0.016 | 1 | Pass |
| 2437 | 17.17 | 52.11 | 1.58(2dBi) | 0.016 | 1 | Pass |
| 2462 | 17.29 | 53.57 | 1.58(2dBi) | 0.016 | 1 | Pass |

Operating Mode:802.11 g

| Channal (MHz) | Output power (PK)(dBm) | Output power to antenna (mW) | Antenna Gain (numeric) | Power Density (S) (mW/ cm ²) | Limit of Power Density (S) (mW/ cm ²) | Result |
|---------------|------------------------|------------------------------|------------------------|--|---|--------|
| 2412 | 14.57 | 28.64 | 1.58(2dBi) | 0.007 | 1 | Pass |
| 2437 | 14.98 | 31.47 | 1.58(2dBi) | 0.009 | 1 | Pass |
| 2462 | 14.54 | 28.44 | 1.58(2dBi) | 0.008 | 1 | Pass |

NOTE: (For mobile or fixed location transmitters, the maximum power density is 1.0mW/cm² even if the calculation indicates that the power density would be larger)