

MPE Calculation

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| Product: | Smart Home Camera |
| Model no.: | CS-C6CN, CS-C6CN (4MP, W2), CS-C6CN-R100-8B4WF |
| FCC ID: | 2APV2-CSC6CN8B4 |
| Rating: | 5VDC, 2A by adapter |
| RF Transmission Frequency: | For 2.4 Wi-Fi: 2412~2462 MHz |
| Modulation: | DSSS, OFDM |
| Antenna Type: | Internal Antenna |
| Max Antenna Gain: | 2.73dBi for Ant1 2.5dBi for Ant2(PCB Antenna) |
| Description of the EUT: | The Equipment Under Test (EUT) is Smart Home Camera supports 2.4G Wi-Fi. |

According to subpart 15.247(i) and subpart §1.1307(b)(1), 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 |
| 300–1,500 | / | / | f/1500 | 30 |
| 1,500–100,000 | / | / | 1.0 | 30 |

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

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

Calculated Formulary:

Predication of MPE limit at a given distance

$S = PG/4\pi R^2$ = 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);

Calculated Data:

For 2.4G Wi-Fi

| | |
|--|--------|
| Maximum peak output power at antenna input terminal (dBm): | 15.77 |
| Maximum peak output power at antenna input terminal (mW): | 37.76 |
| Prediction distance (cm): | 20 |
| Antenna Gain, typical (dBi): | 2.73 |
| Maximum Antenna Gain (numeric): | 1.87 |
| The worst case is power density at predication frequency at 20 cm (mW/cm ²): | 0.0075 |
| MPE limit for general population exposure at prediction frequency (mW/cm ²): | 1.0 |

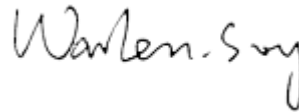
The max power density $0.0075 \text{ (mW/cm}^2\text{)} < 1 \text{ (mW/cm}^2\text{)}$

The result compliant Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091).

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