



## Maximum Permissible Exposure (MPE) Requirement

**Applicant: Control4 Corporation**

**Control4 Model: C4-EA1**

**FCC ID: R33C4EA1**

This document was prepared using data collected during testing and information provided by the applicant. The maximum power density requirements for the General Public (Uncontrolled Environment) listed in FCC Part 1.1310 were used. The power density is calculated using the following equation.

$$P_d = \frac{P_t G^*}{4\pi r^2}$$

$P_d$  = power density in watts

$P_t$  = transmit power in milliwatts

$G$  = numeric antenna gain

$r$  = distance between body and transmitter in centimeters

\*  $P_t G$  = EIRP

The calculated power density of the EUT listed in this application is calculated below. This calculation considers the potential for simultaneous operation, although not typical, of both the transmitter included in this application and the transmitter that was previously certified (WiFi Module) and included in this device. Both transmitters are located in the same unit with the same separation distance.

### Transceiver #1 (ZigBee)

The Maximum source-based time averaged conducted output power is based on the worst case conducted output power as reported in Nemko-CCL, Inc. test report 294991-2.2 section 6.2.4, and declared maximum variation for the output power during manufacturing testing (tune-up procedure) is  $\pm 0.5$  dB.

Max Transmit Power ERP (dBm):	21.34	Tune-up variance (dB):	0.5
Max Transmit Power EIRP (mW):	242.10	Max Antenna Gain (dBi):	2.00
Operating Frequency (MHz):	2405-2475	(Numeric Antenna Gain):	1.58
Min Operating Distance (cm):	20	Duty Cycle (%):	100
Power Density (mW/cm <sup>2</sup> ):	0.04816		
Limit (mW/cm <sup>2</sup> ):	1.0		



## Transceiver #2 (WiFi Module)

### Certified under FCC ID: PPD-AR5B125

The Maximum source-based time averaged conducted output power is based on the worst case conducted output power as reported in Bureau Veritas Consumer Products Services (H.K.) Ltd. test report SA991203E02 section 4, and declared maximum variation for the output power during manufacturing testing (tune-up procedure) is  $\pm 0.5$  dB.

Max Transmit Power ERP (dBm):	24.3	Tune-up variance (dB):	2.00
Max Transmit Power EIRP (mW):	676.08	Max Antenna Gain (dBi):	2.00
Operating Frequency (MHz):	2412-2462	(Numeric Antenna Gain):	1.58
Min Operating Distance (cm):	20	Duty Cycle (%):	100
Power Density (mW/cm <sup>2</sup> ):	0.13450		
Limit (mW/cm <sup>2</sup> ):	1.0		

### Combined Power

Zigbee Power Density (mW/cm <sup>2</sup> ):	0.04816
WiFi Module Power Density (mW/cm <sup>2</sup> ):	0.13450
Total (mW/cm <sup>2</sup> ):	0.18266
Limit (mW/cm <sup>2</sup> ):	1.0
Delta:	-0.817

### CONCLUSION:

Therefore our device complies with the FCC's RF radiation exposure limits for general population without SAR evaluation.

Best Regards

Roger Midgley  
Sr. Regulatory Compliance Engineer