



RF EXPOSURE COMPLIANCE

Report Number: 101039189MIN-001H

Project Number: G101039189

RF Exposure Compliance: MPE Requirements For Simultaneous Transmission Operations

The following are transmitters that qualify for simultaneous transmission:

AVO-GSM3 1900MHz Radio (see report 101039189MIN-001D) - maximum calculated MPE of **0.11mW/cm²**

AVO-BTWI, WiFi Radio (see report 101039189MIN-001B) - maximum calculated MPE of **0.052mW/cm²**

AVO-ZW, Z-Wave Radio – see calculations below:

The Maximum Radiated Field Strength for AVO-ZW, Z-Wave Radio at Fundamental Frequency is $93.4\text{dB}\mu\text{V/m} = 46.774\mu\text{V/m} = 0.047\text{V/m}$ (see report 101039189MIN-001A)

Antenna Gain = 1dBi or 1.26 numeric gain

$\text{ERP} = (E \times d)^2 / 30G = (0.047 \text{ V/m} \times 3\text{m}) / 30 \times 1.26 = 0.54\text{mW}$ or -2.7dBm

Maximum Permissible Exposure (MPE) calculation:

$S(\text{mW/cm}^2) = \text{EIRP}(\text{mW}) / 4\pi D^2$, or $S = 0.54 / (4\pi \times 400) = 0.0001\text{mW/cm}^2$

Therefore, the sum of the MPE for all three radios operating simultaneously based on calculation is:

$\Sigma S(\text{mW/cm}^2) = 0.11\text{mW/cm}^2 + 0.0052\text{mW/cm}^2 + 0.0001\text{mW/cm}^2 = 0.163\text{mW/cm}^2$ that is less than 1mW/cm^2 .

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