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**47 C.F.R. Part 1, Subpart I, Section 1.1310  
47 C.F.R. Part 2, Subpart J, Section 2.1091  
Maximum Permissible Exposure Calculations**

**For Vivint M/N: CP02**

**908.4 / 908.42 / 916.0 MHz Z-Wave Transceiver**

EUT Device Category = General Population/Uncontrolled Exposure

EUT consists of one Z-Wave radio transmitting at one of three possible frequencies:  
**908.4MHz, 908.42MHz, 916.0MHz**

MPE Summary:

According subpart 1.1307 (b)(1) and 2.1091 systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

Limits for General Population/Uncontrolled Exposure

| Limits for General Population/Uncontrolled Exposure |                         |                               |   |                          |  |
|---|-------------------------|-------------------------------|---|--------------------------|--|
| Frequency Range (MHz)                               | Electric Strength (V/m) | Field Magnetic Strength (A/m) | Field Power Density (mW/cm <sup>2</sup> ) | Averaging Time (Minutes) |  |
| 0.3-1.34  | 614                     | 1.63                          | *(100)                                    | 30                       |  |
| 1.34-30   | 824/f                   | 2.19/f                        | *(180/f <sup>2</sup> )                    | 30                       |  |
| 30-300  | 27.5                    | 0.073                         | 0.2                                       | 30                       |  |
| 300-1500  | /                       | /                             | f/1500                                    | 30                       |  |
| 1500-100,000  | /                       | /                             | 1.0                                       | 30                       |  |

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

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**Calculated Formulary:**

Predication of MPE limit at a given distance

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

S = power density (in appropriate units, e.g. mW/cm<sup>2</sup>)

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

PG = EIRP

MPE and Limit are calculated as follows:

| f (MHz) | Field Strength (dBuV/m<br>[@3m]) | EIRP<br>(mW) | Power Density<br>(mW/cm <sup>2</sup> ) | Limit<br>(mW/cm <sup>2</sup> ) | Δ      |
|---------|----------------------------------|--------------|--|--------------------------------|--------|
| 908.40  | 93.9                             | 0.74         | 0.000147                               | 0.6056                         | 0.6055 |
| 908.42  | 93.8                             | 0.72         | 0.000143                               | 0.6056                         | 0.6055 |
| 916.00  | 93.6                             | 0.69         | 0.000137                               | 0.6107                         | 0.6105 |

**Result:** The device meets FCC MPE limit at 20 cm for General Population/Uncontrolled Exposure as specified in 47 CRF §1.1310 and §2.1091.

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