

MPE CALCULATION

For Applied Wireless ID – RFID Reader; Model MPR-3014WF; FCCID: OGSR32EA031; IC: 6449A-R32EA031

RF Exposure Requirements: 47 CFR §1.1307(b)

RF Radiation Exposure Limits: 47 CFR §1.1310

RF Radiation Exposure Guidelines: FCC OST/OET Bulletin Number 65

EUT Frequency Band: 902 – 928 MHz

EUT Maximum Measured Conducted Power: 29.83 dBm (0.9616 watt)

EUT Antenna Gain: 6 dBi (3.981 numeric)

Limits for General Population/Uncontrolled Exposure: $f/1500$; f (frequency) in MHz

Power Density Limit: $902 / 1500 = 0.601 \text{ mW/cm}^2$ or 6.01 W/m^2

Equation: $S = PG / 4\pi R^2$ or $R = \sqrt{PG / 4\pi S}$

Where, S = Power Density

P = Power Input to Antenna

G = Antenna Gain

R = distance to the center of radiated antenna

$$R = \sqrt{0.9616\text{W} \cdot 3.981 / 4 \cdot 3.14 \cdot (6.01 \text{ W/m}^2)} = \sqrt{3.828 / 75.5239} = 0.225 \text{ meter}$$

The distance between the human and the RF antenna should not be less than 0.225 meter or 22.5 centimeter.