

**** MPE Calculations ****

The peak radiated output power (EIRP) is calculated as follows:

EIRP = P + G EIRP = -0.40 dBm + 1.99 dBi EIRP = 1.59 dBm	Where, P = Power input to the antenna (mW) G = Power gain of the antenna (dBi)
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Power density at the specific separation:

$S = PG / (4R^2 \pi)$ $S = (0.91 * 1.58) / (4 * 0.34^2 * \pi)$ $S = 0.46 \text{ mW/cm}^2$	Where, S = Maximum power density (mW/cm ²) P = Power input to the antenna (mW) G = Numeric power gain of the antenna R = Distance to the center of the radiation of the antenna (0.5cm = limit for MPE)
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The Maximum permissible exposure (MPE) for the general population is 1 mW/cm².

The power density at 0.5cm does not exceed the 1 mW/cm² limit.

Therefore, the exposure condition is compliant with FCC rules.

Estimated safe separation:

$R = \sqrt{PG / 4 \pi}$ $R = \sqrt{0.91 * 1.58 / 4 \pi}$ $R = 0.34 \text{ Cm}$	Where, P = Power input to the antenna (mW) G = Numeric power gain of the antenna R = Distance to the center of the radiation of the antenna (0.5cm = limit for MPE)
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The numeric gain(G) of the antenna with a gain specified in dB is determined by:

$$G = \text{Log}^{-1} (\text{dB antenna gain} / 10)$$

$$G = \text{Log-1} (1.99 / 10)$$

$$G = 1.58$$

ATTACHMENT

FCC ID: 2AGENWAYH

- Min. transmitting frequency = 2402 MHz
- Min. test separation distance = 5 mm
- Max. Power with tune-up tolerance = 0 dBm = 1 mW
(Measured power 0 dBm \pm 0.5dB)

Step 1)

SAR Test exclusion thresholds for 100MHz to 6GHz at test separation distance \leq 50 mm = **Used**

$$\left[\frac{\text{max. power of channel, including tune-up tolerance, mW}}{\text{min. test separation distance, mm}} \right] * \left[\sqrt{f(\text{GHz})} \right]$$
$$= \left[\frac{0.91}{5} \right] * \left[\sqrt{2.402} \right] = 0.28 \leq 3, \text{ for 1g SAR}$$

Thus, SAR for this device is not required.

Step 2)

SAR Test exclusion thresholds for 100MHz to 1500MHz at test separation distance $>$ 50 mm = **N/A**

$$[\text{Threshold at 50mm in step 1}] + (\text{test separation distance} - 50 \text{ mm}) * (\sqrt{f(\text{MHz})}/150) \text{ mW}$$

Step 3)

SAR Test exclusion thresholds for 1500MHz to 6GHz at test separation distance $>$ 50 mm = **N/A**

$$[\text{Threshold at 50mm in step 1}] + (\text{test separation distance} - 50 \text{ mm}) * 10 \text{ mW}$$