

Reference:**[WLAN (2.4 GHz) part]**

The following information provides the minimum separation distance for the highest gain antenna provided with the “J20H091“ as calculated from (B) Limits for General Population / Uncontrolled Exposure of TABLE 1- LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE) of §1.1310 Radiofrequency radiation exposure limits.

This calculation is based on the highest EIRP possible from the system, considering maximum power and antenna gain, and considering a 1mW/cm² uncontrolled exposure limit. The Friis formula used was:

$$S = \frac{P \times G}{4 \times \pi \times r^2}$$

Where

$P =$ 19.35 mW (Maximum average output power)

Frame power was used for the above value in consideration of 6-minutes time-averaging

Burst power was used for the above value in consideration of worst condition.

$G =$ 7.261 Numerical Antenna gain; equal to 8.61dBi

$r =$ 20 cm (Separation distance)

$$\text{Power Density Result } S = 0.02795 \text{ mW/cm}^2$$

Reference:**[WLAN (5 GHz) part]**

This calculation is based on the highest EIRP possible from the system, considering maximum power and antenna gain, and considering a 1mW/cm² uncontrolled exposure limit. The Friis formula used was:

$$S = \frac{P \times G}{4 \times \pi \times r^2}$$

Where

$P =$ 15.42 mW (Maximum average output power)

Frame power was used for the above value in consideration of 6-minutes time-averaging

Burst power was used for the above value in consideration of worst condition.

$G =$ 6.792 Numerical Antenna gain; equal to 8.32dBi

$r =$ 20 cm (Separation distance)

$$\text{Power Density Result } S = 0.02084 \text{ mW/cm}^2$$

Therefore, if Bluetooth and WLAN 2.4GHz transmit simultaneously,
 $S=0.00139 \text{ mW/cm}^2+0.02795 \text{ mW/cm}^2$
 $=0.02934 \text{ mW/cm}^2$

Therefore, if Bluetooth and WLAN 5GHz transmit simultaneously,
 $S=0.00139 \text{ mW/cm}^2 + 0.02084 \text{ mW/cm}^2$
 $=0.02223 \text{ mW/cm}^2$

Even taking into account the tolerance, this device can be satisfied with the limits.

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