

## Compliance with 47 CFR 2.1091 and 1.1310

The EUT is a combination 802.11a/b/g/n and Bluetooth radio module. The EUT will only be used with a separation distance of 20 centimeters or greater between the antenna and the body of the user or nearby persons and can therefore be considered a mobile transmitter per 47 CFR 2.1091(b). The antenna is a PIFA with a peak gain of 2.4 dBi in the 2.4 GHz band, and 4.8 dBi in the 5 GHz band. The maximum peak conducted output power is 53mW in the 2.4 GHz band, and 25 mW in the 5 GHz band.

The maximum peak radiated power is 92 mW (EIRP) for FCC ID: EHA-RC12. The transmit frequencies are in the 2.4 and 5 GHz bands. Since the transmit frequency is more than 1.5 GHz, and the output power is less than 3.0 W ERP, the EUT is categorically excluded from routine environmental evaluation per 47 CFR 2.1091(c).

The MPE estimates are as follows:

Table 1 in 47 CFR 1.1310 defines the maximum permissible exposure (MPE) for the general population as 1 mW/cm<sup>2</sup>. The exposure level at a 20 cm distance from the EUT's transmitting antenna is calculated using the general equation:

$$S = (PG)/4\pi R^2$$

Where: S = power density (mW/cm<sup>2</sup>)

P = power input to the antenna (mW)

G = numeric power gain relative to an isotropic radiator

R = distance to the center of the radiation of the antenna (20 cm = limit for MPE estimates)

PG = EIRP

Solving for S, the maximum power density 20 cm from the transmitting antenna is summarized in the following table:

### FCC ID: EHA-RC12

Antenna Type	Antenna Manufacturer	Antenna Part No.	Transmit Frequency (MHz)	Max Peak Conducted Output Power (mW)	Antenna Gain (dBi)	Minimum Antenna Cable Loss (dB)	Power Density @ 20 cm (mW/cm <sup>2</sup> )	General Population Exposure Limit from 1.1310 (mW/cm <sup>2</sup> )
PIFA	Laird	Laird WLAN	2400	53.2	2.4	0	0.01839254	1
PIFA	Laird	Laird WLAN	5200	25.1	4.8	0	0.01508009	1

The power density does not exceed 0.018 mW/cm<sup>2</sup> at 20 cm; therefore, the exposure condition is compliant with FCC rules.