

## Compliance with 47 CFR 2.1091 and 1.1310

The EUT is a 2.4 GHz radio module operating under Part 15.247. 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 maximum peak power is 12.6 mW (EIRP) for FCC ID: XPC-CLANE. Since the transmit frequency is greater than 1.5 GHz, and the output power is less than 3 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  $1 \text{ mW/cm}^2$ . 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 ( $\text{mW/cm}^2$ )

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: XPC-CLANE

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 ( $\text{mW/cm}^2$ )	General Population Exposure Limit from 1.1310 ( $\text{mW/cm}^2$ )
SMD	antenova	3030A5839	2400	7.76	2.1	0	0.003	1

The power density does not exceed  $0.003 \text{ mW/cm}^2$  at 20 cm; therefore, the exposure condition is compliant with FCC rules.