

## Compliance with 47 CFR 2.1091 and 1.1310

The EUT is an 802.11a/b/g/n radio module used in WLAN access points. 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 antennas are PIFA antennas with a peak gain of 2.3 dBi in the 2.4 GHz band and 4.6 dBi in the 5 GHz bands. The maximum peak conducted output power is 108.14 mW in the 2.4 GHz band, and 23.53 mW in the 5 GHz band.

The maximum peak radiated power is 183.7 mW (EIRP) for FCC ID: OQ7-IHN. The transmit frequencies are in the 2.4 and 5 GHz bands. 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 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: OQ7-IHN

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	ProSoft	PCB	2400	108.14	2.3	0	0.03653562	1
PIFA	ProSoft	PCB	5600	23.53	4.6	0	0.01350057	1

The power density does not exceed 1 mW/cm<sup>2</sup> at 20 cm; therefore, the exposure condition is compliant with FCC rules.