

## Compliance with 47 CFR 15.247(i)

*“Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this chapter.”*

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 EUT can only transmit from one antenna port at a time. There is no provision for simultaneous transmission from multiple antenna ports. The EUT requires professional installation.

The maximum peak power is 1.89 W (ERP). The transmit frequency is greater than 1.5 GHz, therefore 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 densities 20 cm from the transmitting antennas are summarized in the following table:

### MPE Estimate

### FCC ID: QYT-4120

Antenna Type	Manufacturer	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> )
Patch	Cushcraft	S2406P	2450	550.81	6	1	0.347	1
Patch	H+S	SPA/70/9/0/cp	2450	550.81	6	1	0.347	1
Patch	Arc Wireless	AAI-00091	2450	550.81	8.5	1	0.616	1

The applicant's radio, FCC ID: QYT-4120, is compliant with the requirements of 15.247(i).