

FCC Part 15.247 Transmitter Certification

2.4 GHz ISM Band
Direct Sequence Spread Spectrum Transmitter

RF Exposure Information

FCC ID: TEB-HUNTSU746

FCC Rule Part: 15.247

General Information:

Applicant: Hunt Technologies, LLC
FCC ID: TEB-HUNTSU746
Device Category: Mobile
Environment: General Population/Uncontrolled Exposure

Technical Information 900 MHz:

Antenna Type: PCB ¼-Wave Monopole
Antenna Gain: 5.15 dBi (Theoretical maximum)
Transmitter Conducted Power: 26.33 dBm
Maximum System EIRP: 31.48dBm
Operating Configuration: Fixed mounted
Exposure Conditions: Greater than 20 centimeters

Technical Information 2400 MHz ZigBee:

Antenna Type: PCB Inverted F ¼-Wave Monopole
Antenna Gain: 5.15 dBi (Theoretical maximum)
Transmitter Conducted Power: 20.21 dBm
Maximum System EIRP: 25.36 dBm
Operating Configuration: Fixed mounted
Exposure Conditions: Greater than 20 centimeters

MPE Calculation

The Power Density (mW/cm²) is calculated as follows:

$$S = \frac{PG}{4\pi R^2}$$

Where:

S = power density (in appropriate units, e.g. mW/cm²)

P = power input to the antenna (in appropriate units, e.g., mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

MPE CALCULATIONS FOR MOBILE EQUIPMENT							
Transmit Frequency (MHz)	Conducted Power (dBm)	Conducted Power (mW)	Antenna Gain (dBi)	Antenna Gain (Linear)	Distance (cm)	Power Density (mW/cm ²)	Power Density Limit (mW/cm ²)
915	26.33	429.54	5.15	3.273	20	0.280	0.60
2405	20.21	104.95	5.15	3.273	20	0.0683	1.00

Installation Guidelines

The installation manual should contain text similar to the following advising how to install the equipment to maintain compliance with the FCC RF exposure requirements:

RF Exposure

In accordance with FCC requirements of human exposure to radio frequency fields, the radiating element shall be installed such that a minimum separation distance of 20 centimeters will be maintained.

Conclusion

This device complies with the MPE requirements by providing adequate separation between the device, any radiating structure and the general population.