

FCC Part 15 Certification
Test Report

**2.4 GHz Frequency Hopping Spread Spectrum
(Modular Approval)**

FCC ID: HSW-BT2022M

FCC Rule Part: 15.247

ACS Report Number: 03-0193-15BC

Manufacturer: Cirronet, Inc.
Model: BT2022

RF Exposure Information

General Information:

Applicant: Cirronet, Inc.
 ACS Project: 03-0193
 FCC ID: HSW-BT2022
 Device Category: 2.4GHz Frequency Hopping Spread Spectrum
 Environment: General Population/Uncontrolled Exposure

Technical Information:

Antenna Type: Internal Patch Antenna
 Highest Antenna Gain: 2 dBi
 Transmitter Conducted Power (Peak): 15.59 dBm
 Operating Configuration: Mobile
 Exposure Conditions: General Population/Uncontrolled Exposure

MPE Calculation

The minimum separation distance is calculated as follows:

$$E(V/m) = \frac{\sqrt{30 \times P \times G}}{d} \qquad \text{Power Density: } P_d = (mW/cm^2) = \frac{E^2}{3770}$$

MPE Distance

MPE Calculator for Mobile Equipment Limits for General Population/Uncontrolled Exposure*							
Transmit Freq. (MHz)	Radio Power (dBm)	Power Density (mW/Cm2)	Radio Power (mW)	Antenna Gain (dBi)	Antenna Gain (mW eq.)	E (V/m)	MPE Distance (cm)
2441	15.59	1.00	0.04	2	1.58	61.40	2.1374

*Represents worst case

Installation Guidelines

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

RF Exposure Information

In accordance with FCC requirements of human exposure to radiofrequency fields, the device shall be installed such that a minimum separation distance of 20cm from the user and/or general population can be maintained

Conclusion

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