



Excellence in Compliance Testing

Certification Test Report

Frequency Hopping Spread Spectrum Transceiver

FCC ID: VPU-4970726505

FCC Rule Part: 15.247

ACS Report Number: 07-0439 - 15C

**Manufacturer: Georgia Institute of Technology
Model: Fluke-5**

RF Exposure

General Information:

Applicant: Georgia Institute of Technology
 ACS Project: 07-0439
 Device Category: Mobile
 Environment: General Population/Uncontrolled Exposure

Technical Information:

Antenna Type(s): ¼ wave omni-directional chip
 Antenna Gain: 0.5 dBi
 Maximum Transmitter Conducted Power: 8.58dBm
 Maximum System EIRP: 9.08 dBm
 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 Calculator for Mobile Equipment Limits for General Population/Uncontrolled Exposure*							
Transmit Frequency (MHz)	Radio Power (dBm)	Power Density Limit (mW/Cm2)	Radio Power (mW)	Antenna Gain (dBi)	Antenna Gain (mW eq.)	Distance (cm)	Power Density (mW/cm^2)
2402	8.58	1.00	7.21	0.5	1.122	20	0.002

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.