Rhein Tech Laboratories, Inc.
360 Herndon Parkway
Suite 1400
Herndon, VA 20170
http://www.rheintech.com

Client: M/A-Com, Inc.
Model: VIDA Broadband Client
Standards: FCC Part 90/IC RSS-111
ID's: BV8VIDA-BB-CL/3670A-VIDABBCL
Report Number: 2007133

Appendix A: RF Exposure Compliance

Please refer to the following page.

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Electronics

M/A-COM

M/A-COM Inc
1011 Pawtucket Boulevard
Lowell, MA 01854

Telephone: (978) 442-5000
www.macom.com

MPE Calculation

The Limit for **Uncontrolled Exposure Power Density** (P_d) is 10 W/m^2 for fixed mounted device.

The M/A-COM 4.9 GHz VIDA Client is a fixed mounted radio. After installation and commissioning, the safe distance from the 9 dBi omni-directional antenna is greater than 20 cm (8-inches).

MPE calculation for omni-directional antenna

This MPE Minimum Distance Calculation is based on using a 9 dBi gain omni-directional antenna mounted directly to the Client RF port.

Basic M/A-COM 4.9 GHz Client specifications:

P: Maximum Peak Conducted Power = 27 dBm

G: Maximum Omni Antenna Gain = 9 dBi

Frequency Range = 4.94 to 4.99 GHz

R: Minimum Distance between User and Antenna = 0.2 m

Equation from FCC:

$P_d = P * G / (4 * \pi * R^2)$

$P_d = 0.5 \text{ W} * 7.94 / (4 * 3.1415926 * 0.2^2) = 7.9 \text{ W} / \text{m}^2 < 10 \text{ W} / \text{m}^2$

The calculation indicates that the minimum 0.2 meter distance between user and the omni-directional antenna (directly mounted to the Client RF port) is required when operating the M/A-COM 4.9 GHz VIDA Client.

MPE Calculation for Directional Antenna

This MPE Minimum Distance Calculation is based on using a directional antenna with more than 9 dBi antenna gain.

Basic M/A-COM 4.9 GHz VIDA Client specifications:

P: Maximum Peak Conducted Power = 27 dBm;

G: Maximum Antenna Gain – Cable Loss = 27 dBi – 1 dB = 26 dBi; (Use numerical G_N value for the calculation): $G_N = 10 \char`^ (G /10))$; For G = 26 dBi, $G_N = 10 \char`^ (26 /10) = 398$

Frequency Range = 4.94 to 4.99 GHz;

R_{min}: Minimum Distance between user and antenna to comply with FCC MPE Level (10 W / m^2);

Equation from FCC:

$P_d = P * G / (4 * \pi * R_{min}^2)$

$R_{min} = \text{SQRT}(0.5 \text{ W} * G_N / (4 * 3.1415926 * 10 \text{ W/m}^2))$

$R_{min} = 1.26 \text{ m}$, for G =26 (i.e., $G_N = 398$)