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RF Exposure REPORT

4.9GHz Band

Company: 3e Technologies International
9715 Key West Ave. Suite 500
Rockville, MD 20850

Contact: Rich Brazda

Product: DCMA-82 PCI Transmitter Module

FCC ID: QVT-525-V21

Test Report No: RFE101309-02-01

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4740 Discovery Dr.
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RF Exposure Calculations:

The minimum separation distance is calculated from FCC OET 65 Appendix B, Table 1B “Guidelines for General Population/Uncontrolled Exposure.” This calculation is based on the highest EIRP possible from the system, considering maximum power and antenna gain.

RF Power Measurement

The RF output of the transceiver was connected to a power sensor and power meter. Measurements were made with the transmitter continuously active. The highest power settings were chosen from the 2.4GHz and the 5.7GHz bands.

Frequency (GHz)	Output Power dBm	Output Power mW
4.960	22.26	168.27
4.980	23.14	206.06

Power measurements taken from NCEE Labs report R101309-02-01

Test Equipment Used

DESCRIPTION AND MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CALIBRATION DATE
Hewlett Packard Power Meter	4378	100307	20 Jan 2009
Hewlett Packard Power Sensor	8481A	2702A63981	20 Jan 2009

Test Environment

Testing was performed at the NCEE Labs Lincoln facility. Laboratory environmental conditions varied slightly throughout the test:

- Relative humidity of 40 ± 5%
- Temperature of 20 ± 2° Celsius

Exposure Limit (mW/cm²) = F/1200	4.13 mW/cm ²	4.15 mW/cm ²
Frequency (MHz)	4960	4980
Maximum peak output power (mW)	168.27	206.06
Antenna Gain (Numeric)	6.31	6.31
Antenna type	TERRAWAVE T49080O10007B	TERRAWAVE T49080O10007B

$$P_d = (P_{out} \times G) / (4\pi \times R^2)$$

$$R = \sqrt{(P_{out} \times G) / (4 \pi \times P_d)}$$

P_d = Power density limit, mW/cm²

P_{out} = Peak power output, mW

G = Numeric Antenna Gain

R = Distance from antenna, cm

P_{out} mW	G Numeric	P_d mW/cm²	R cm	Frequency MHz	Calculation
168.27	6.31	4.13	4.52	4960	Minimum distance to meet limit
168.27	6.31	0.21	20.00	4960	Power density at 20 cm
206.06	6.31	4.15	4.99	4980	Minimum distance to meet limit
206.06	6.31	0.26	20.00	4980	Power density at 20 cm

Notes:

1. The minimum safe distance is based on a conservative “worst case” prediction, i.e. using the formula shown above and no duty factor. In practice the minimum distance will be much shorter. (Ref. 2)

References:

1. FCC OET Bulletin 65, Edition 97-01
2. FCC Supplement C to OET Bulletin 65, edition 01-01
3. IEEE C95.1, 1999