



Monday 26th February 2007

EXLT16-A2 Exalt Communications Inc EX-4.9r-xc

Maximum Permissible Exposure

FCC, Part 90 Subpart C §90.1217

Calculations for Maximum Permissible Exposure Levels

Power Density = Pd (mW/cm²) = EIRP/(4πd²)

EIRP = P * G

P = Peak output power (mW)

G = Antenna numeric gain (numeric)

d = Separation distance (cm)

Numeric Gain = 10 ^ (G (dBi)/10)

The Exalt EX-4.9r-xc can be installed in a number of different configurations (refer to Section 3.2 of this report for a description of the different configurations available). The following calculations represent the worst case for installation using external antennas (i.e. not integral) with either one (1) transmitter and antenna or as a dual polarized radio (2 transmitters) with a coherent transmitter source on both polarizations into an external dual polarized antenna. 44.5 dBi is the highest gain of antenna to be used with this product.

Ref FCC Part §90.1215(a) High power point-to-point or point-to-multipoint operation (both fixed and temporary-fixed rapid deployment) may employ transmitting antennas with directional gain up to 26 dBi without any corresponding reduction in the transmitter power or spectral density. Corresponding reduction in the peak transmit power and peak power spectral density should be the amount in decibels that the directional gain of the antenna exceeds 26 dBi.

Number of Transmitters	Max Antenna Gain (dBi)	Max Power (dBm)	Reduction in Power (dB)	Peak Output Power Setting (dBm)
1	44.5	+31.99	44.5 – 26 = 18.5	+31.99 – 18.5 = +13.49
2 (coherent)	44.5	+30.00*	44.5 – 26 = 18.5	+30.00 – 18.5 = +11.50

NOTE * The maximum peak power limit for 20 MHz channel bandwidth is +33 dBm. The maximum peak power is reduced to +30 dBm when configured as two coherent transmitters to meet the limit.

4.9 GHz 64 QAM 20 MHz Channel Peak Output Pwr Setting = +13.49 dBm, 22.336 mW

Max. Antenna Gain = 44.5 dBi, **numeric** 28,183.83



The EUT belongs to the Occupational/Controlled Exposure class of devices; power density limit is 5.0mW/cm²

Maximum Gain Antenna – Calculated Safe Distance @ 5 mW/cm²

Number of Transmitters	Antenna Gain (Numeric)	Peak Output Power (mW)	Calculated Safe Distance at 5 mW/cm ² (cm)	Limit (mW/cm ²)
1	28,183.83	22.336	100.09	5.0
2 (coherent)	28,183.83	14.125 (x2)	112.57	5.0