

PREPARED BY: William W. Hays III	PHONE: 804-592-6129	DATE: 7/31/00	REV. A	DOCUMENT INFO: Transmittal Letter to FCC
-------------------------------------	------------------------	------------------	-----------	---

To whom it may concern:

The accompanying submittal is for the purpose of making a permissive change to the approval of the AXATR-390-A2 Transceiver. The references in the *Operator's Manual* and the *Installation Manual* referring to MPE warnings and determination are being altered to allow for determining MPE Radius for a number of antennas and power levels, facilitated by the use of an included chart. No hardware or software changes are being made to the product. Attached to this letter is an explanation of how the calculations were made for the chart, please find below.

The radii shown in the "MPE Radii for 800 MHz Band (806 - 870 MHz)" and "MPE Radii for 900 MHz Band (896 - 941 MHz)" charts that are part of the EDACS 500M *Installation Manual* and *Operator's Manual* were calculated with the following formula and variables:

$$R_{mpe} = 100 \times [P_{in} \times 10^{G_{dBi}/10} / (4\pi \times MPE)]^{1/2}$$

Where:

R_{mpe} = MPE radius in centimeters

P_{in} = RF power into antenna (variable) in Watts

G_{dBi} = dB gain of antenna compared to isotropic source (variable)

MPE^* = Maximum Permissible Exposure level ($Watts/m^2$) = $f/150$ [$f/30$ for Occupational/Controlled exposure]*

f = frequency in MHz (806 for 800 MHz Band and 896 for 900 MHz Band, chosen for worst case, i.e. highest power density)

* Formula for MPE taken from *47 CFR 1.1310 (Oct 1, 1998)*, "Table 1-Limits for Maximum Permissible Exposure (MPE)"

William W. Hays III
Senior Technical Leader