

KE2XGA

File # 8923-EX-R-87 EXPERIMENTAL XR FX

RADIATION HAZARD CONSIDERATIONS

All of the experimentation performed using experimental license KE2XGA during the past two years utilized transmitter power maintained sufficiently low so that human exposure did not exceed the ANSI standard C95.1-1982.

In compliance with FCC Docket 79-144 and utilizing FCC OST Bulletin # 65; Calculation # 3, page #8.

$$S = \frac{PG}{4\pi R^2}$$

where: S = Power density
P = Power input to antenna
G = Gain of antenna relative to an isotropic radiator
R = Distance to the center of radiation

$$S = \frac{(100\text{mw})(1.64)}{(3.14)(350\text{cm})^2}$$

$$S = 0.000426\text{mw/cm}^2$$

where: Frequency of operation = 1.5GHz
Power input to antenna = 100mw
Monopole antenna gain = 1.64
Distance to center of radiation = 350cm

Conclusion:

In accordance with paragraph 4, page 8 of OST Bulletin #65; this usage of Experimental Radio Station KE2XGA did not exceed the recommended exposure level in accessible areas and did not present a radio frequency radiation hazard to humans.

AT&T Bell Laboratories
Report for Radio Station
KE2XGA Holmdel, NJ
File # 8923-EX-R-87

Experimental XR FX

Distributed Antennas for Indoor Radio Communications

Research experiments to determine the feasibility of using a distributed array of antenna systems with low transmitted power to provide adequate radio communications throughout building structures.