

Question 7: Purpose of experiment:

The intent of this license is to show compliance to the ANSI A17.1 requirements for elevator controllers. Compliance to this standard is mandatory since lives are dependant on compliance. The proper operation of the elevator controller can only be made within their test tower which is located in Randolph NJ at 1578 Sussex Tpke.

The test tower is a fully metallic building, testing is proposed to be conducted in the machine room as well as in one of the floors of the tower. The machine room is located in either the ground floor, or on the eighteenth floor.

The equipment used is a small bi-log antenna mounted on a 1.5 meter tall tripod. An e-field probe is place near the portion of the unit which we want to test, and the output of the antenna is adjusted so as to obtain the voltage levels indicated below.

The intended radiation is as specified in IEC 12016 which will be as follows:

80-1000 MHz 10 V/m @ 80 % AM @ 1 kHz
157-175 MHz 30 V/m @ 80 % AM @ 1 kHz
437-483 MHz 30 V/m @ 80 % AM @ 1 kHz
890-915 MHz 30 V/m @ 80 % AM @ 1 kHz
1710-1784 MHz 30 V/m @ 80 % AM @ 1 kHz
1880-1960 MHz 10 V/m @ 80 % AM @ 1 kHz

The radiating antenna will be located between 0.1-0.5 meters from the portion of the test equipment which we desire to undergo testing. The test will sweep in 1% increments with a dwell time of 3 seconds at each point. The testing of the entire unit will take approximately 16 hours. The intention is to perform the test in two standard work days.

As noted above the voltage output is relatively low. At worst case the field effects would be noticeable up to 10 Meters from the antenna, this is at maximum power output of the amplifiers, and not taking into consideration losses from the antenna. Additionally, the location is a fully metallic which will limit any transmissions outside of the building.