

ELTA North America Request for FCC Experimental License Modification to WG2XYF

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Reference:

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Question 9: Statement of Environmental Impact

ELTA North America (N.A.) will occupy a section of the building located at 11840 West Market Place, Fulton, MD. The building is a new, single-story structure, with multiple bays, and is constructed of concrete block with a web girder and steel pan roof. The surrounding area is a mixed-use development of retail, office, educational, and residential buildings. The adjacent property consists of similar single-story buildings to the north and south of the site, a public school campus to the west, and an open field to the east. Further north is a residential neighborhood and the Johns Hopkins University (JHU) Applied Physics Laboratory (APL) campus. Further east is a small urban development with multistory buildings. The antenna will be mounted on top of a four-to-six foot mast which will be located on the roof. The radar equipment will be remotely controlled from inside the building.

ELTA N.A. also intends to demonstrate the EL/M-2180 radar to the U.S. Army at Ft. Benning, GA. The demonstration will take place in the area surrounding the McKenna Leyte Heliport located on base. This site consists of remote and relatively flat open fields and forested areas. The radar will be located on a tripod or short mast with a height of approximately 1.2 m, and will be remotely operated.

It is the policy of ELTA N.A. that company personnel, customers, or members of the public are not subjected to RF power density levels that exceed the Maximum Permissible Exposure (MPE) limits as given in Part 1.1310 of the FCC Rules. Experimental testing will only be conducted with appropriate controls in place, and no personnel will be on the roof during transmissions that will exceed the MPE levels. ELTA will have an RF Safety Plan which describes the procedures and controls necessary to comply with MPE levels during operations and maintenance.

ELTA N.A. conducted a worst-case analysis of power density levels in the area surrounding the transmitting antenna based on the FCC's OET Bulletin Number 65¹. The applicable radar parameters and results are shown in Tables 1 and 2, respectively. For the Fulton, MD site, with a building height of approximately 19 feet and a width of 86 feet, the line-of-sight distance to a six-foot person standing on the ground is 184 feet. This assumes that the antenna center is 4 feet above the roof. Consequently even under worst-case conditions personnel on the ground will be beyond the distance where the power density exceeds the MPE limit. For the Ft Benning location, considered as a controlled environment, participants of the demonstration will be kept a minimum of 6m from the radar antenna.

Table 1. — Power Density Analysis

Parameter	Value
Operational frequency, MHz	10595
Transmitter output power (peak), W	32
Antenna gain (mainbeam), dBi	24
Ground reflection factor	1.6

Table 2 — Power Density Analysis Results

Parameter	Controlled	Uncontrolled
Maximum Permissible Exposure, mW/cm'	5.005	1.005
Minimum required distance, meters	5.738	12.8117
Minimum required distance, feet	18.8254	42.0332