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Exhibit A

ANALYSIS OF NON-IONIZING RADIATION FOR A 4.6 METER KU-BAND TEMPORARY FIXED (MOBILE) EARTH STATION

This report analyzes the non-ionizing radiation levels for a mobile earth station antenna. The OET Bulletin 65, Edit. 97-01, August 1997, Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields specifies that the maximum level of non-ionizing radiation that a person may be exposed to cover a six-minute period is an average power density equal to 5 mw/cm² in a controlled environment. For the general population, a maximum level a person may be exposed to over a thirty-minute period is an average power density equal to 1mw/cm² in an uncontrolled environment. It is the purpose of this report to determine the power flux densities of the proposed earth station surface area, in the near field, transition region and far field.

Type: Parabolic (Aperature Antenna)

P=Antenna Power(watts), G=Antenna Gain(db), D=Antenna Diameter(meters)
 F=Ctr Frequency(GHz), Wl=WaveLength(meters)

Antenna Surface(m ²)	$A=3.14*D^2/4$
Antenna Surface Density (w/m ²)	$S_s=4*P/A$
Wavelength	$Wl(m)=3/(F*10)$
Near Field Region	$R_{nf}(m)=D^2/(4*Wl)$
Near Field Region Density	$S_{nf}(w/m^2)=16*.6*P/(3.14*D^2)$
Transition Region	$R_{ff}(m)=.6*D^2/Wl$
Transition Region Density	$S_t(w/m^2)=S_{nf}*R_{nf}/R_{ff}$
Far Field Region Density	$S_{ff}(m)=P*G/(4*3.14*R_{ff})$

EARTH STATION RADIATION HAZARD CALCULATIONS

Freq(GHz)=14.250	Power(w)=354.0	Ant. Gain(db)=53.8	Ant. Size(m)=4.6
Wavelength(m)= .021		Antenna Aperature (m ²)= 16.62	
Ant. Surface Density S_s (w/m ²)=	85.20	S_s (mw/cm ²)=	8.52
Near-Field Region R_{nf} (m)=	251.90		
Near-Field Density S_{nf} (w/m ²)=	51.12	S_{nf} (mw/cm ²)=	5.11

Transition Region R_{ff} (m)=	604.57	
Trans. Region Density S_t (w/cm ²)=	21.30	S_t (mw/cm ²)= 2.13
Far Field Region Density S_{ff} (w/cm ²)=	2.51	S_{ff} (mw/cm ²)= 0.25

ANALYSIS RESULTS

LIMITS - 1mw/cm²-Uncontrolled, 5mw/cm²-Controlled

Antenna Surface Density S_s (mw/cm ²)	8.52	Potential Hazard > Limit
Near Field Density S_{nf} (mw/cm ²)	5.11	Potential Hazard > Limit
Transition Region S_t (mw/cm ²)	2.13	Potential Hazard > Limit
Far Field Density S_{ff} (mw/cm ²)	0.25	No Potential Hazard < Limit

Antenna Surface

RF energy will be turned off during any antenna maintenance that may require personnel to occupy the hazardous conical region of the main reflector. All technical and maintenance personnel will be trained regarding the potential RF hazard that may exist in this region during operation. The operator of the station will be authorized to prevent operation of the station during maintenance activities and procedures established and communicated to personnel of the ECC and others involved in the maintenance of the station.

Near Field Region

RF energy will be turned off during any antenna maintenance that may require maintenance personnel to occupy space near the edge of the reflector where RF energy levels exceed 5 mw/cm² and all technical personnel will be trained in proper safety procedures regarding non-ionizing radiation. A temporary barrier fence will be constructed around the mobile earth station to limit uncontrolled access to the near field region of the station where any region may exceed 1 mw/cm² RF density during operation. The fencing will be clearly marked per ANSI standards advising of the potential radiation hazard. Access to the interior of this area will be controlled.

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