Exhibit C – Analysis of Non-Ionizing Radiation

Analysis for the 100NX Terminal earth stations.

The analysis and calculations performed in this Annex comply with the methods described in the FCC Office of Engineering and Technology Bulletin, No. 65 first published in 1985 and revised in 1997 in Edition 97-01.

Bulletin No. 65 and the FCC R&O 96-326 specifies two Maximum Permissible Exposure (MPE) limits that are dependent on the situation in which the exposure takes place and/or the status of the individuals who are subject to the exposure. These are described below:

- General Population/Uncontrolled environment MPE limit is 1 mW/cm^2. The General Population / Uncontrolled MPE is a function of transmit frequency and is for an exposure period of thirty minutes or less.

- Occupational/Controlled environment MPE limit is 5 mW/cm^2. The Occupational MPE is a function of transmit frequency and is for an exposure period of six minutes or less.

The analysis provided in this report determined the power flux density levels of the earth station in the 1) far-field, 2) near-field, 3) transition region, 4) region between the feed and main reflector surface, 5) at the main reflector surface, and 6) between the antenna edge and the ground.

Section 1 – Calculations for 100NX Terminals

Input Parameter	Value	Units
Antenna Diameter	1.05	m
Antenna Transmit Gain	48.2	dBi
Transmit Frequency	30000	MHz
Antenna Feed Flange Diameter	5.8	cm
Power Input to the Antenna	10	Watts

Calculated Parameter	Value	Units
Antenna Surface Area	0.8659	m^2
Area of Antenna Flange	26.4200	cm^2
Antenna Efficiency	0.6072	real
Gain Factor	66069.3448	real
Wavelength	0.0100	m

Calculated Parameter	Value	Units
Near-Field Distance	27.5625	m
Distance to Far-Field	66.15	m
Distance of Transition Range	27.5625	m

Calculated Parameter	Value	Units
Power Density in the Near Field	2.8051	mW/cm²
Power Density in the Far Field	1.2016	mW/cm²
Power Density in the Transition Region	2.8051	mW/cm²
Power Density at the Feed Flange	1514.0037	mW/cm²
Power Density at Main Reflector	4.6196	mW/cm²
Power Density between Reflector and Ground	1.1549	mW/cm²

Section A.2 – Summary of Results

Region	Distance (m)	Calculated Power Density (mW/cm^2)	Limit Controlled Environment ≤ 5 mW/cm^2	Limit Uncontrolled Environment ≤ 1 mW/cm^2
Safe Range for Uncontrolled	≥ 15	1.0	meets limit	meets limit
Safe Range for Controlled	≥ 1	5.0	meets limit	meets limit
Near Field	2.81	2.81	meets limit	exceeds limit
Far Field	1.21	1.21	meets limit	exceeds limit
Transition Region	2.25	2.81	meets limit	exceeds limit
Feed Flange	N/A	1514	exceeds limit	exceeds limit
Main Reflector	N/A	4.61	meets limit	exceeds limit

The terminals proposed in this application are for commercial and government uses and intended to be operated by professional personnel on maritime vessels. Accordingly, a presumption of a controlled environment is warranted. As summarized in the above table, the terminals meet the FCC's MPE levels for controlled or uncontrolled environments until separation distances of 1 m and 25 m respectively. However, given that the antenna will not operate below elevation angles of 5 degrees, its mounting location on masts well above deck level, and that the terminal will be pointed upward toward the satellite, persons on the vessel are highly unlikely to be exposed to the main beam of the antenna. Therefore, the levels of power density will be significantly reduced from those calculated.

As with any directional antenna the maximum level of non-ionizing radiation is in the main beam of the antenna that is pointed to the satellite, therefore the levels of power density will be significantly reduced from those calculated. In addition, the antenna will be enclosed within a radome during operation. Therefore, the feed flange and main reflector, where the levels are highest, will not be physically accessible. When maintenance of the antenna is required, the trained technicians will turn off the transmit power before removing the radome and performing maintenance activities. Training of personnel with access to the antenna will include consideration of the operation mode of the antenna and information on how to prevent radiation exposure, including disabling the communications system.

In conclusion, the results show that the 100NX Terminal antennas, in a controlled environment, and under the proper mitigation procedures, meet the guidelines specified in § 1.1310 of the Regulations.