Date: December 14th, 2009 **Exhibit 1**

RF RADIATION HAZARD STUDY FOR PACSAT KU_23

THIS IS AN ENGINEERING STATEMENT CONCERNING THE APPLICATION OF PACIFIC SATELLITE CONNECTION, INC. FOR A NEW LICENSE FOR A TRANSMIT/RECEIVE KU-band TEMPORARY FIXED EARTH STATION

1 - INTRODUCTION

This study has been performed to estimate the potential radiation hazard that could exist in the vicinity of a transmit/receive 12/14 GHz temporary fixed earth station which employs a 2.4 meter AVL Model 2410K antenna.

OST Bulletin 65 specifies a maximum exposure level over a 6 minute period of an average power level of 5mW/cm². This study examines the near-field, far-field and transition zones as well as the edge of the main reflector. These are the areas that are most likely to present a hazard to the general public.

The occasion of this study is the remitance of emission designators for full and half transponder analog video and digital PSK, APSK, QPSK, 8PSK MPEG-2 and MPEG-4 for SD and HD transmissions for a newly acquired antenna.

The amplification system consists of one PARADISE-DATACOM 250-Watts Solid State Power Amplifier. Calculations are made for Single mode at all times. Power levels are nominal based on PARADISE-DATACOM test data and actual measurments.

2 - POWER LEVELS:

Nominal output of one SSPA at flange for single thread operation:	**24 dBW (300 W)**
Line loss from Power Amp(s) to Feedhorn flange:	**1.2 dB**

Maximum power level at antenna input flange:

SSPA:	**24 dBW (300 W)**
Antenna gain at 14.250 GHz:	**49.3 dBi**
Antenna diatemeter:	**2.4 Meters**
Maximum EIRP:	**73.3 dBW**

3 - NEAR FIELD CALCULATIONS:

The near-field or Fresnel region is defined by the equation: **Rnf=D²/4(L)**

Where:

Rnf = extent of near-field	**Rnf =**	**68.57**	Meter
D = antenna diameter	**Enter:**	2.4	Meter
L = Wavelengh (at 14.250 Ghz)	**Provided**	**0.021**	Meter

The maximum power density in the near-field is defined by: **Snf=16NP/Pi(D²)**

Where:

Snf = maximum near-field density	**Provided:**	**16**	**Constant**
N = Aperature efficiency (.68) -- 68% average	**Enter:**	68	% average
P = Power at antenna input flange.	**Enter:**	250	Watts
D = antenna diameter	**Provided:**	**2.4**	Meter

FOR PHASE COMBINED USE ONLY: **16(.68)(250watts)/3.14(2.4m)²**

Snf = **150.4** Watt/meter²

or

This is above the maximum allowable level of 5 mW/cm² ------->------->--------> **15** mW/cm²

4 - FAR FIELD CALCULATIONS:

The distance to the beginning of the far-field is given by: **Rff=0.6(D²)/L**

Where:

Rff = distance to the beginning of the far-field	**Provided:**	**0.6**	**Constant**
D = antenna diameter	**Provided:**	**2.4**	Meter
L = wavelength	**Provided:**	**0.021**	Meter

Rff = 0.6(2.4)²/.021m

Rff= **164.6** Meters

The power field power density is given by: **Sff=PG/4Pi(R²)**

Where:

Sff = on-axis power density			
P = Power at the input flange phase combined	**Provided:**	**250**	
G = antenna gain (dBi)	**Provided:**	**49.3**	dBi
R = distance of interest here (Rff)	**Provided:**	**164.6**	Meters

Sff = (250 watts)(Gain/10)/4(3.14)(164.6m)²

Sff = **62.53** W/M²

or

This is above the maximum allowable level of 5 mW/cm² -------->------->---------> **6.3** mW/cm²

5 - Transition Zone:

For analysis purposes the maximum power density of the near-field is calculated and this value is assumed for every location in the transition zone.

The value calculated above Snf: **15** mW/cm² is well above the maximum level of 5 mW/cm²
The power density at the beginning of the far-field calculated above Sff = **6.3** mW/cm²
is also above the maximum allowable level of 5.0 mW/cm².

Power density in the near field decreases inversely with the distance; power density in the far field decreases inversely with the square of the distance. Power density in the transition zone between the near and the far fields decreases with not-quite the square of the distance.

Power density in the transition zone is given by: **St=(Snf*Rnf)/Rd**

Where:

St = Power density in transition zone			
Snf = Near-field density (calculated above)	**Provided:**	**150.4**	W/M²
Rnf = Extent of near field (calculated above)	**Provided:**	**68.57**	Meters
Rd = Distance to point of interest (in the transition zone)	**Use this:**	**116**	Meters

A distance of 116 meters is used for Rd in this case which is above the midpoint of the transition zone.

St = (150.4 watt/meter²)(68.57 meters)/116 meters))

St = **88.9** W/M²

or

This is above the maximum allowable level of 5 mW/cm² --------->-------->------> **8.9** mW/cm²

6 - EDGE OF PRIMARY REFLECTOR:

Power density at the edge of the primary reflector, assuming even distribution is given by:

W = P/A

Where:

P = Power at the input flange:	**Provided:**	**250** Watts
A = Area of primary reflector	**Provided:**	**2.4** Meters

W = 250 watts/2.4 meters²

W = **104.2** Watts/m²

or

This is above the limit of 5 mW/cm² -------->------->-------> **10.4** mW/cm²

7 - CONCLUSION:

All values calculated above exceed the limit of 5 mW/cm²
as would be expected for an antenna this size with a 250 watts SSPA.

The RPGL limit of 5 mW/cm² (main beam) will be met at : >>>>>>>>>>>>>>>>>>>>>>	**185** Meters
This was calculated by setting the distance in the far field equation so an	**49.5** Watts/m²
outcome equal to 5 mW/cm² or 50 W/M² can be reached.	**5** mW/cm²

The antenna is mounted onto a transportable platform -- The center reflector will be approx. 15 feet above the ground. when deployed.

In addition, the antenna is typically aimed at satellites greater than 15 degrees above the horizon. The solid volume encompassing the near-field and far-field will be above the area where the general public will be (on the ground) during transmissions.

The personnel operating the dish are instructed as to the hazard that exists and to stay away from the direction of the transmissions. They will be provided with a copy of this study.

This study was prepared on December 14th, 2009. It follows OST 65 guidelines.

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