

AREAS OF OPERATIONS EXHIBIT

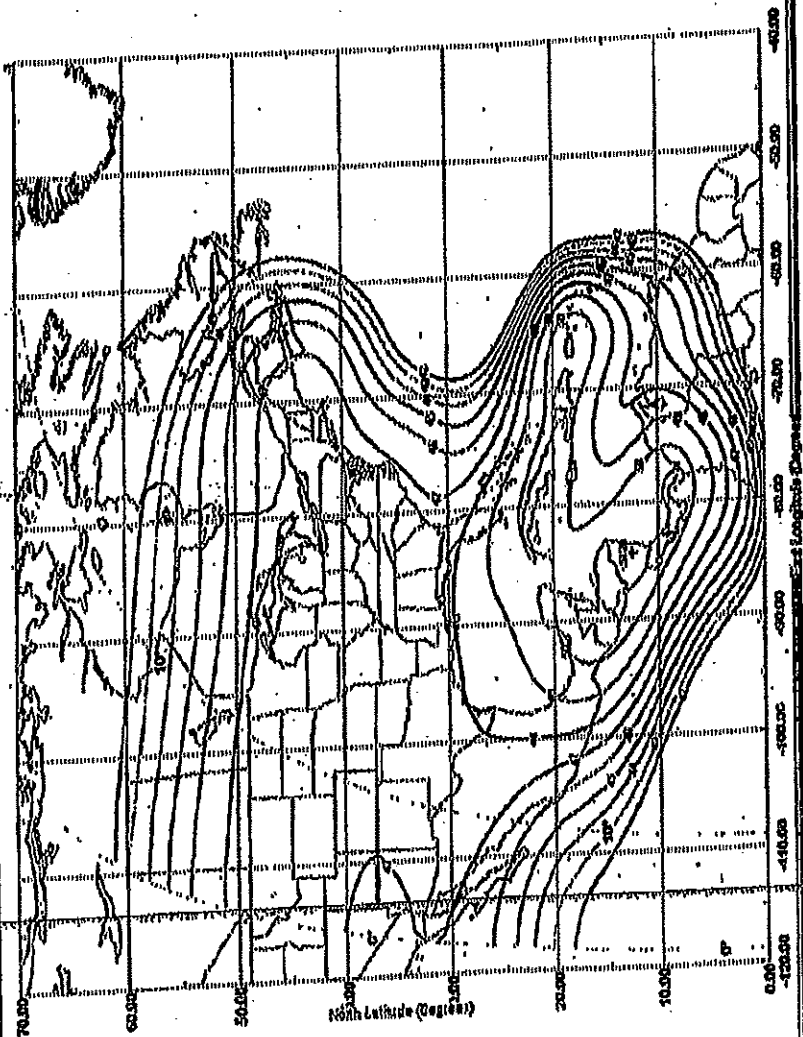
Includes maps showing areas of operation for Astrium Earth Station on Vessels (ESV) operated pursuant to the KA313 license ESV authorization.

Exhibit

T-11N



US Beam EIRP Contours



Telesat Proprietary

MAOR/NAOR Beam EIRP Contours



Exhibit

T-11N

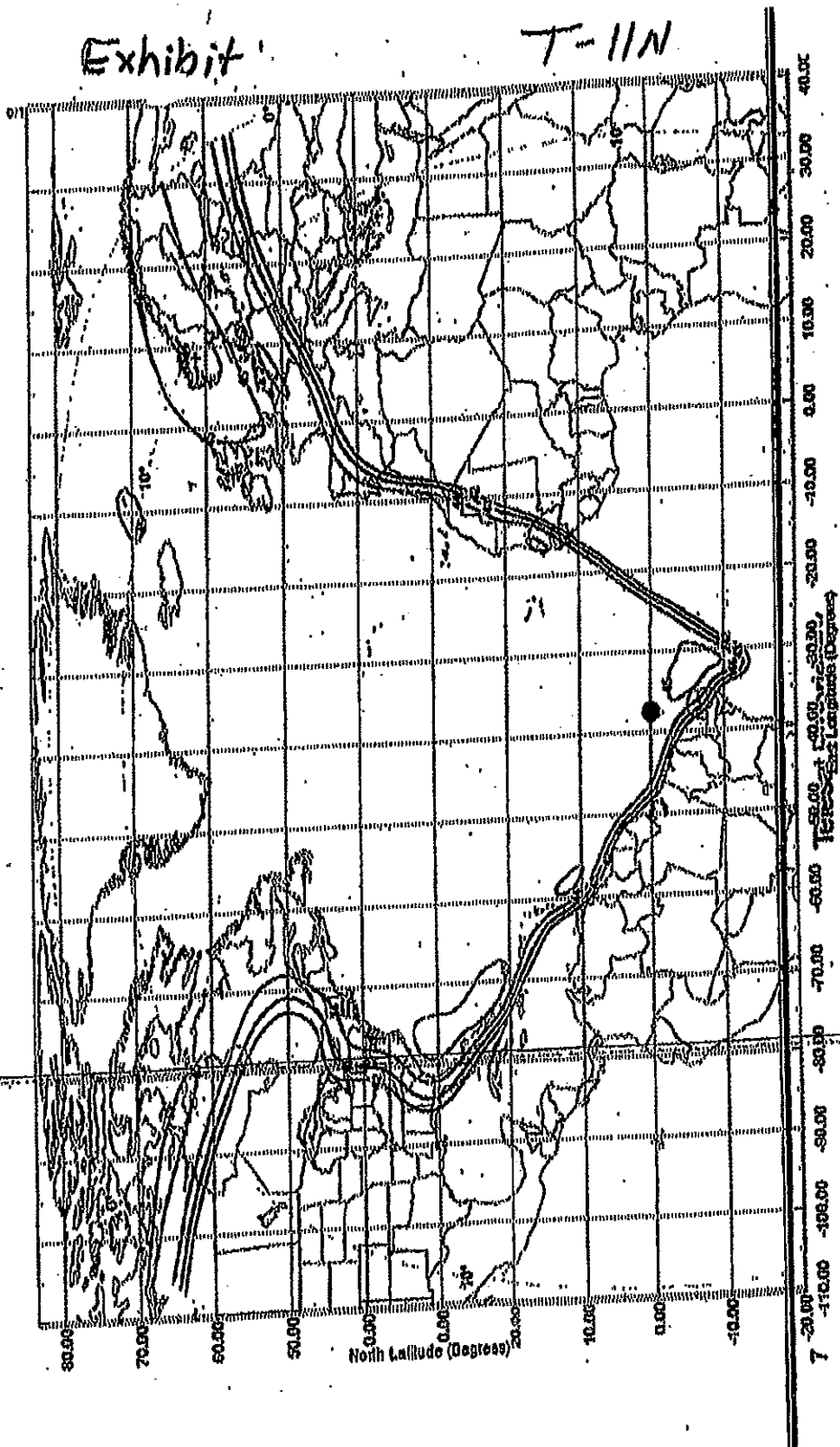
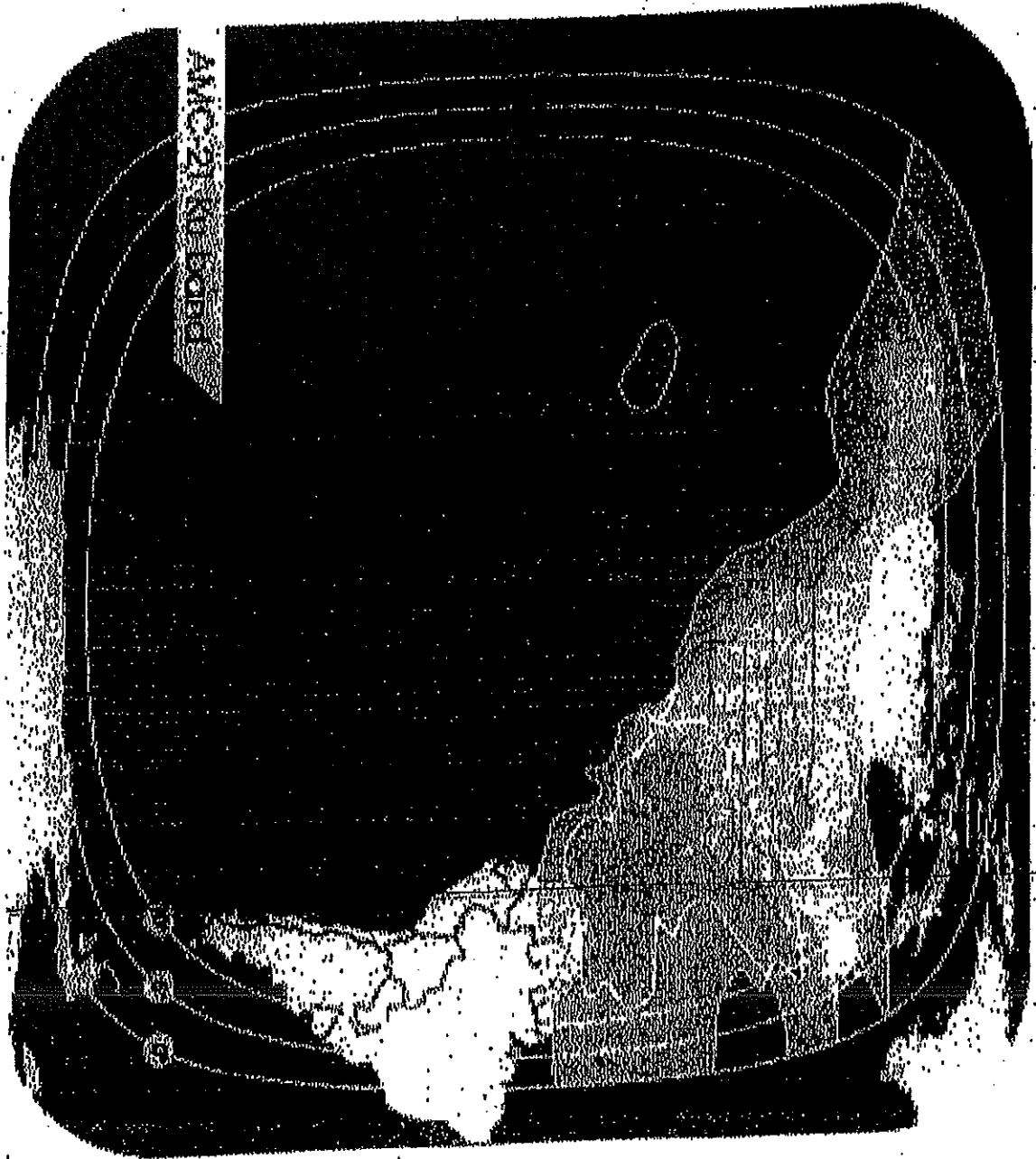


Exhibit AMC-21

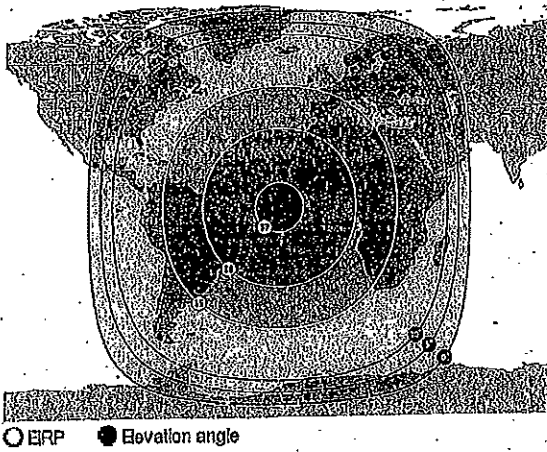


Exhibit

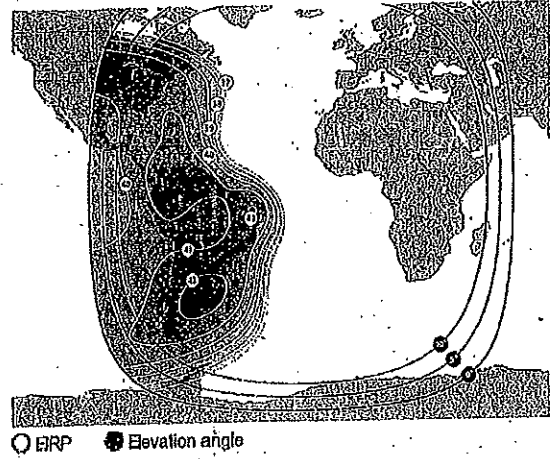
SES-4 338°E

Orbital location

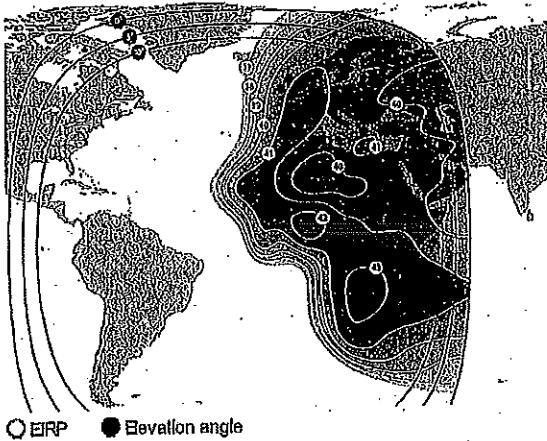
Global C-band beam



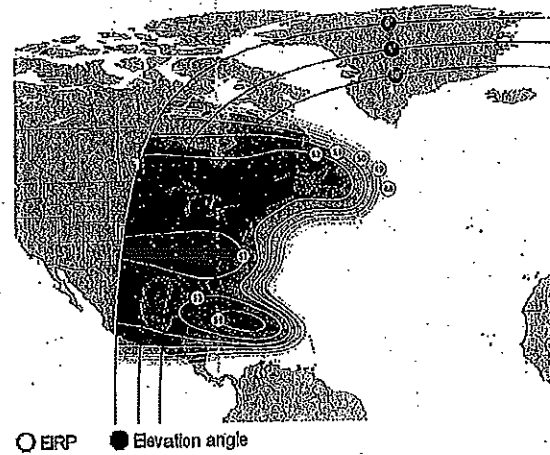
West Heml C-band beam



East Heml C-band beam



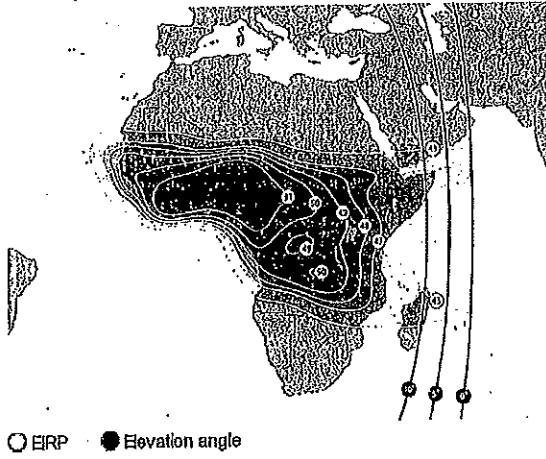
North America Ku-band beam



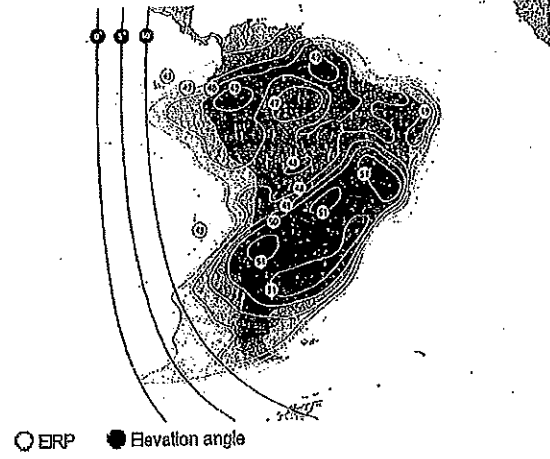
SES-4 338°E

Orbital location

West Africa Ku-band beam



Southern Cone Ku-band beam



Europe Middle East Ku-band beam

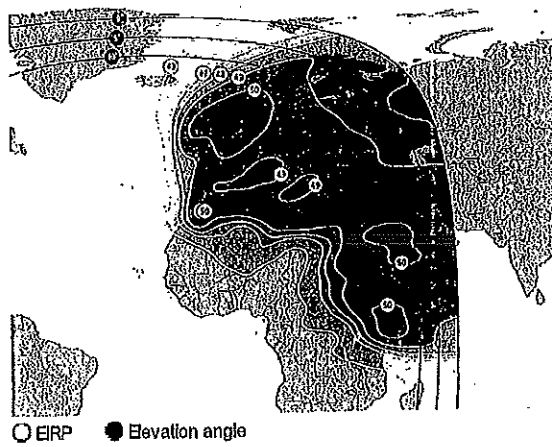


Exhibit NSS-7



Exhibit

ESTRELLA DO SUL 1



U-band Payload

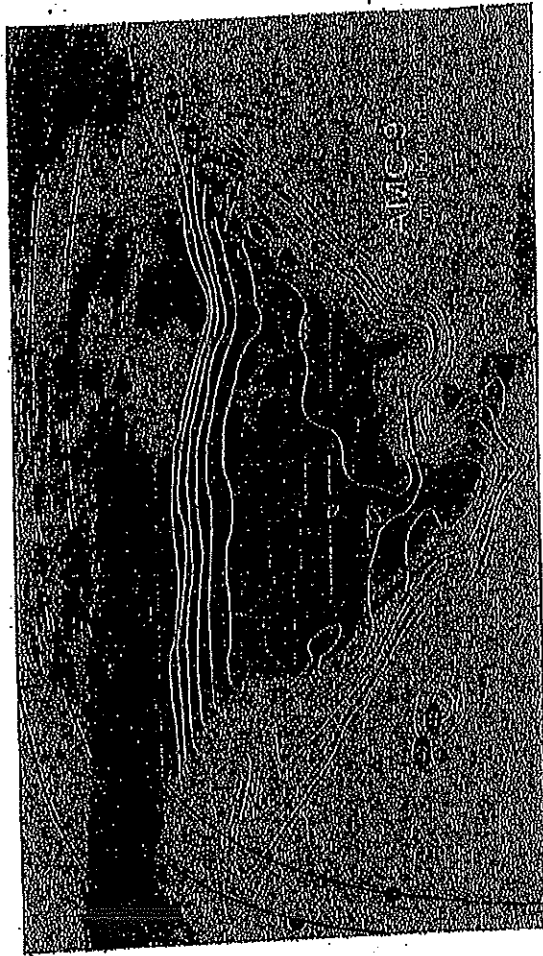
Frequency
14 MHz and 36 GHz
2 per 1000
through time

Frequency
Standard
Uplink: 16 to 18.5 GHz
Downlink: 11.7 to 12.7 GHz
Extended
Uplink: 11.75 to 14 GHz
Downlink: 11.45 to 11.7 GHz

Satellite Name: ESTRELLA DO SUL 1
OR: 9630W/0

Exhibit

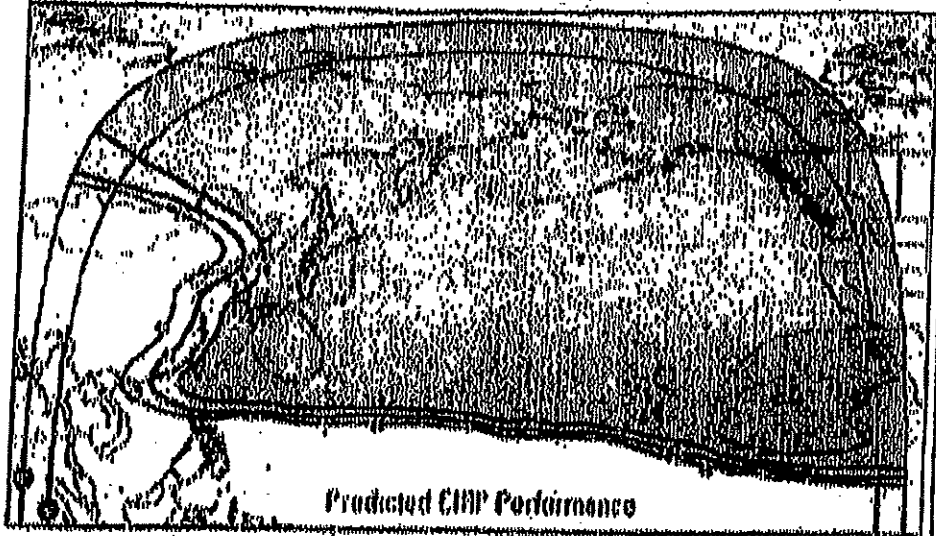
AMC-9



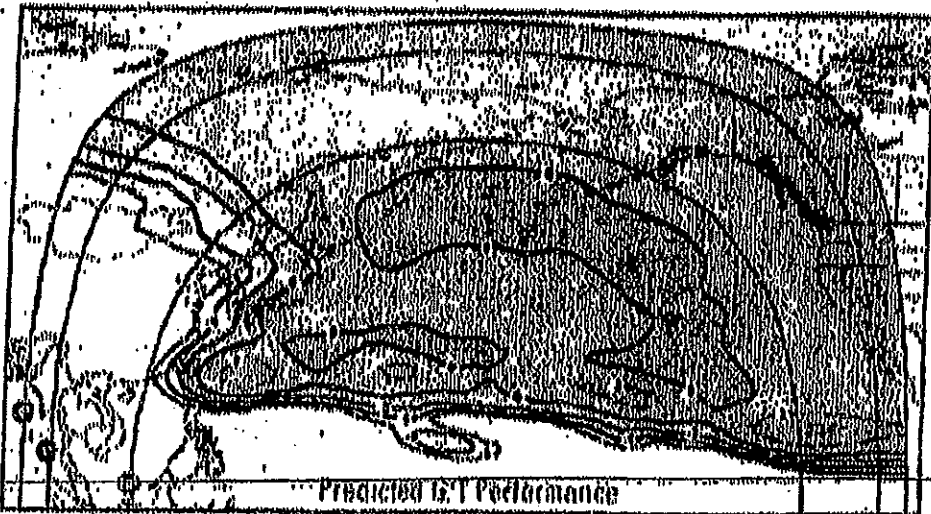
AMC-23 / GE-23

Exhibit

North Pacific Ku-band Zone Beam



Predicted C/NP Performance

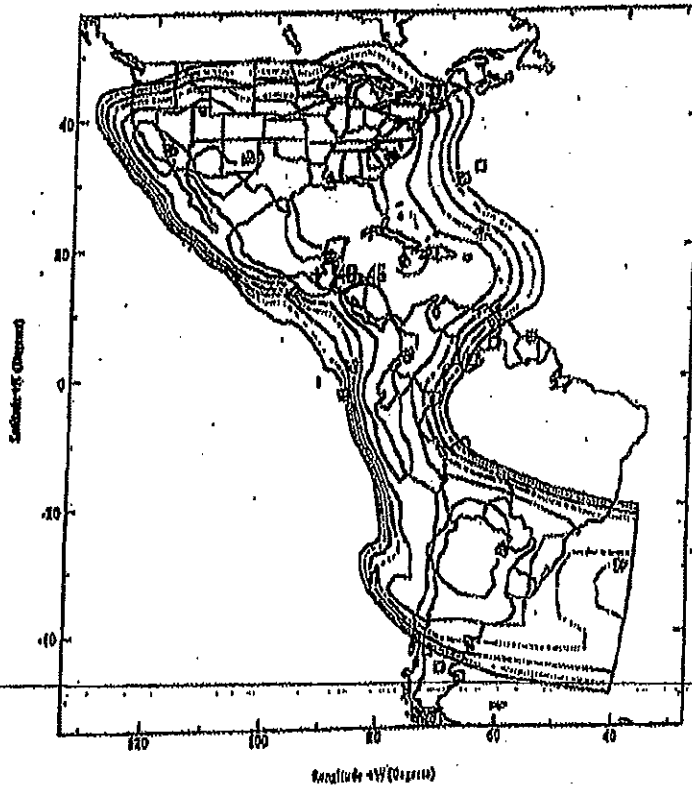


Predicted IS/T Performance

Exhibit



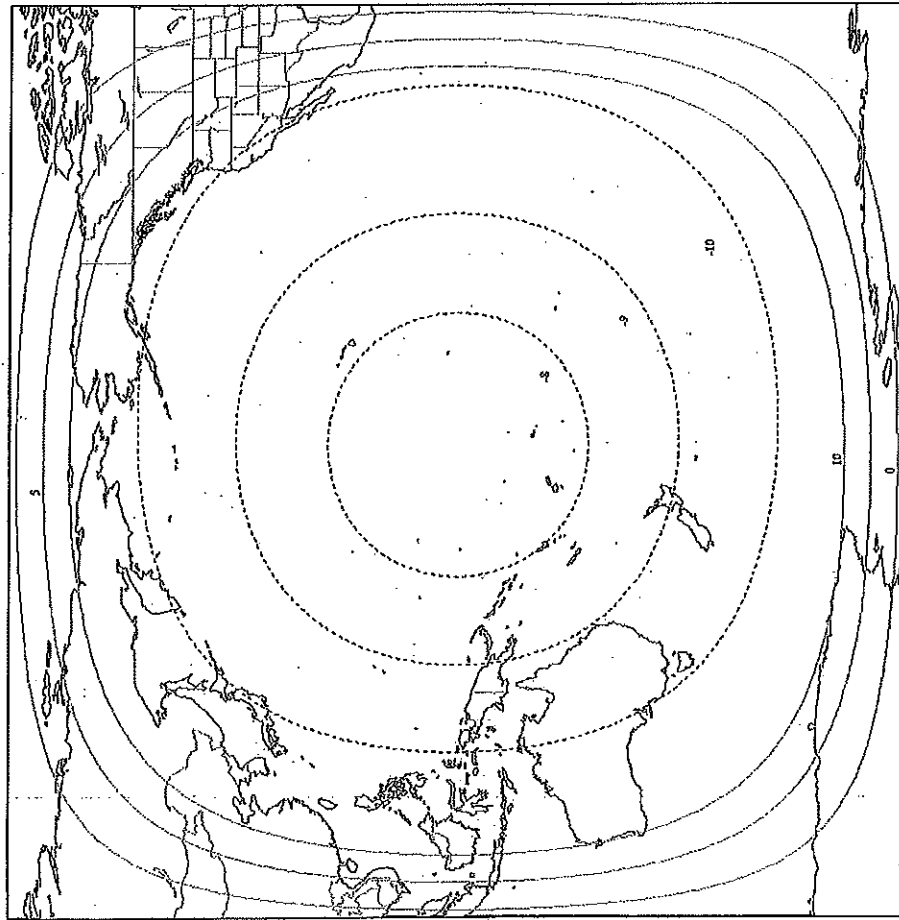
Satmex 5 (116.8° W)
EIRP
Region KU-2 Even Xponder
(Pol. Hor/Ver)



SATMEX PROPRIETARY INFORMATION

Exhibit NSS-9

C-Band Global Beam G/T



Contours Shown

G/T [dB/K]	Max SFD [dBW/m²]	Min. SFD [dBW/m²]
-7.3	-93	-78
-8	-92	-77
-9	-91	-76

Notes

The adjacent plot shows the predicted performance of a typical satellite transponder. Small performance differences should be expected between individual transponders.

IS-21 at 302°E – Ku-Band Mobility*

