See SAT-LOA-19991207-00117
SAT-AMD-20030827-00283
SAT-AMD-20031223-00385

File # SAT-MOD-20050215-00039

GRANTED
International Bureau

Call Sign S2385 Grant Date 3/29/2005
(or other identifier)

Approved by OMB
3060-0678

Term Dates
From see original conditions To: see original conditions

Approved: Chief Satellite Robert G. Nelson Engineering Branch

Date & Time Filed: Feb 15 2005 1:40:41:780PM
File Number: SAT-MOD-20050215-00039

FCC APPLICATION FOR SPACE AND EARTH STATION:MOD OR AMD – MAIN FORM FCC 312 MAIN FORM FOR OFFICIAL USE ONLY	FCC Use Only

APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:
G14 mod change to 125.15 WL

1–8. Legal Name of Applicant

Name:	PanAmSat Licensee Corp.	**Phone Number:**	202–292–4300
DBA Name:		**Fax Number:**	202–292–4378
Street:	1801 K Street, N.W. Suite 440	**E–Mail:**	
City:	Washington	**State:**	DC
Country:	USA	**Zipcode:**	20006 –
Attention:	Mr Kalpak S Gude Esq		

9–16. Name of Contact Representative (If other than applicant)

Name:	Joseph A. Godles, Esq.	**Phone Number:**	202–429–4900
Company:	Goldberg Godles Wiener & Wright	**Fax Number:**	202–429–4912
Street:	1229 19th Street, NW	**E–Mail:**	jgodles@g2w2.com
City:	Washington	**State:**	DC
Country:	USA	**Zipcode:**	20036–2413
Contact Title:	Attorney	**Relationship:**	Legal Counsel

CLASSIFICATION OF FILING

17. Choose the button next to the classification that applies to this filing for both questions a. and b. Choose only one for 17a and only one for 17b.

- ○ a1. Earth Station
- ◉ a2. Space Station

(N/A) b1. Application for License of New Station
(N/A) b2. Application for Registration of New Domestic Receive–Only Station
- ○ (N/A) b3. Amendment to a Pending Application
- ◉ (N/A) b4. Modification of License or Registration

b5. Assignment of License or Registration
b6. Transfer of Control of License or Registration
- ○ (N/A) b7. Notification of Minor Modification

(N/A) b8. Application for License of New Receive–Only Station Using Non–U.S. Licensed Satellite
(N/A) b9. Letter of Intent to Use Non–U.S. Licensed Satellite to Provide Service in the United States
- ○ (N/A) b10. Other (Please specify)

17c. Is a fee submitted with this application?

(●) If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R.Section 1.1114).

( ) Governmental Entity ( ) Noncommercial educational licensee

( ) Other(please explain):

17d.

Fee Classification BFY – Space Station Modification(Geostationary)

18. If this filing is in reference to an existing station, enter:	19. If this filing is an amendment to a pending application enter both fields, if this filing is a modification please enter only the file number:
(a) Call sign of station: S2385	(a) Date pending application was filed: (b) File number: SATLOA1999120700117

TYPE OF SERVICE

20. NATURE OF SERVICE: This filing is for an authorization to provide or use the following type(s) of service(s): Select all that apply:

- [x] a. Fixed Satellite
- [ ] b. Mobile Satellite
- [ ] c. Radiodetermination Satellite
- [ ] d. Earth Exploration Satellite
- [ ] e. Direct to Home Fixed Satellite
- [ ] f. Digital Audio Radio Service
- [ ] g. Other (please specify)

21. STATUS: Choose the button next to the applicable status. Choose only one.

○ Common Carrier ◉ Non-Common Carrier

22. If earth station applicant, check all that apply.

- [ ] Using U.S. licensed satellites
- [ ] Using Non-U.S. licensed satellites

23. If applicant is providng INTERNATIONAL COMMON CARRIER service, see instructions regarding Sec. 214 filings. Choose one. Are these facilities:

○ Connected to a Public Switched Network ○ Not connected to a Public Switched Network ◉ N/A

24. FREQUENCY BAND(S): Place an 'X' in the box(es) next to all applicable frequency band(s).

- [x] a. C-Band (4/6 GHz)
- [ ] b. Ku-Band (12/14 GHz)
- [ ] c.Other (Please specify upper and lower frequencies in MHz.)

Frequency Lower: Frequency Upper: (Please specify additional frequencies in an attachment)

TYPE OF STATION

25. CLASS OF STATION: Choose the button next to the class of station that applies. Choose only one.

- ○ a. Fixed Earth Station
- ○ b. Temporary–Fixed Earth Station
- ○ c. 12/14 GHz VSAT Network
- ○ d. Mobile Earth Station
- ◉ e. Geostationary Space Station
- ○ f. Non–Geostationary Space Station
- ○ g. Other (please specify)

26. TYPE OF EARTH STATION FACILITY:

○ Transmit/Receive ○ Transmit–Only ○ Receive–Only ◉ N/A

"For Space Station applications, select N/A."

PURPOSE OF MODIFICATION

27. The purpose of this proposed modification is to: (Place an 'X' in the box(es) next to all that apply.)

- [ ] a — authorization to add new emission designator and related service
- [ ] b — authorization to change emission designator and related service
- [ ] c — authorization to increase EIRP and EIRP density
- [ ] d — authorization to replace antenna
- [ ] e — authorization to add antenna
- [ ] f — authorization to relocate fixed station
- [ ] g — authorization to change frequency(ies)
- [ ] h — authorization to add frequency
- [ ] i — authorization to add Points of Communication (satellites & countries)
- [ ] j — authorization to change Points of Communication (satellites & countries)
- [ ] k — authorization for facilities for which environmental assessment and radiation hazard reporting is required
- [x] l — authorization to change orbit location
- [ ] m — authorization to perform fleet management
- [ ] n — authorization to extend milestones
- [ ] o — Other (Please specify)

ENVIRONMENTAL POLICY

28. Would a Commission grant of any proposal in this application or amendment have a significant environmental impact as defined by 47 CFR 1.1307? If YES, submit the statement as required by Sections 1.1308 and 1.1311 of the Commission's rules, 47 C.F.R. 1.1308 and 1.1311, as an exhibit to this application. A Radiation Hazard Study must accompany all applications for new transmitting facilities, major modifications, or major amendments.	○ Yes ◉ No Engineer Statement

ALIEN OWNERSHIP Earth station applicants not proposing to provide broadcast, common carrier, aeronautical en route or aeronautical fixed radio station services are not required to respond to Items 30–34.

29. Is the applicant a foreign government or the representative of any foreign government?	○ Yes ◉ No ○ N/A
30. Is the applicant an alien or the representative of an alien?	○ Yes ○ No ◉ N/A
31. Is the applicant a corporation organized under the laws of any foreign government?	○ Yes ○ No ◉ N/A
32. Is the applicant a corporation of which more than one–fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?	○ Yes ○ No ◉ N/A

33. Is the applicant a corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?	○ Yes ○ No ◉ N/A
34. If any answer to questions 29, 30, 31, 32 and/or 33 is Yes, attach as an exhibit an identification of the aliens or foreign entities, their nationality, their relationship to the applicant, and the percentage of stock they own or vote.	

BASIC QUALIFICATIONS

35. Does the Applicant request any waivers or exemptions from any of the Commission's Rules? If Yes, attach as an exhibit, copies of the requests for waivers or exceptions with supporting documents.	○ Yes ◉ No
36. Has the applicant or any party to this application or amendment had any FCC station authorization or license revoked or had any application for an initial, modification or renewal of FCC station authorization, license, or construction permit denied by the Commission? If Yes, attach as an exhibit, an explination of circumstances. Ques 36	◉ Yes ○ No

37. Has the applicant, or any party to this application or amendment, or any party directly or indirectly controlling the applicant ever been convicted of a felony by any state or federal court? If Yes, attach as an exhibit, an explination of circumstances.	○ Yes ◉ No
38. Has any court finally adjudged the applicant, or any person directly or indirectly controlling the applicant, guilty of unlawfully monopolizing or attemptiing unlawfully to monopolize radio communication, directly or indirectly, through control of manufacture or sale of radio apparatus, exclusive traffic arrangement or any other means or unfair methods of competition?If Yes, attach as an exhibit, an explanation of circumstances	○ Yes ◉ No
39. Is the applicant, or any person directly or indirectly controlling the applicant, currently a party in any pending matter referred to in the preceding two items? If yes, attach as an exhinit, an explanation of the circumstances.	○ Yes ◉ No
40. If the applicant is a corporation and is applying for a space station license, attach as an exhibit the names, address, and citizenship of those stockholders owning a record and/or voting 10 percent or more of the Filer's voting stock and the percentages so held. In the case of fiduciary control, indicate the beneficiary(ies) or class of beneficiaries. Also list the names and addresses of the officers and directors of the Filer.	

41. By checking Yes, the undersigned certifies, that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of "party to the application" for these purposes.	● Yes ○ No
42a. Does the applicant intend to use a non-U.S. licensed satellite to provide service in the United States? If Yes, answer 42b and attach an exhibit providing the information specified in 47 C.F.R. 25.137, as appropriate. If No, proceed to question 43.	○ Yes ● No
42b. What administration has licensed or is in the process of licensing the space station? If no license will be issued, what administration has coordinated or is in the process of coordinating the space station?	

43. Description. (Summarize the nature of the application and the services to be provided). (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

PanAmSat seeks to modify its license to operate Galaxy 14 at 125.15 WL and to update technical information regarding those operations.

Engineering Statemen

CERTIFICATION

The Applicant waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests an authorization in accordance with this application. The applicant certifies that grant of this application would not cause the applicant to be in violation of the spectrum aggregation limit in 47 CFR Part 20. All statements made in exhibits are a material part hereof and are incorporated herein as if set out in full in this application. The undersigned, individually and for the applicant, hereby certifies that all statements made in this application and in all attached exhibits are true, complete and correct to the best of his or her knowledge and belief, and are made in good faith.

44. Applicant is a (an): (Choose the button next to applicable response.)

- ○ Individual
- ○ Unincorporated Association
- ○ Partnership
- ◉ Corporation
- ○ Governmental Entity
- ○ Other (please specify)

45. Name of Person Signing	46. Title of Person Signing
Kalpak Gude	Associate General Counsel

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WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT (U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION (U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).

FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT

The public reporting for this collection of information is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the required data, and completing and reviewing the collection of information. If you have any comments on this burden estimate, or how we can improve the collection and reduce the burden it causes you, please write to the Federal Communications Commission, AMD–PERM, Paperwork Reduction Project (3060–0678), Washington, DC 20554. We will also accept your comments regarding the Paperwork Reduction Act aspects of this collection via the Internet if you send them to jboley@fcc.gov. PLEASE DO NOT SEND COMPLETED FORMS TO THIS ADDRESS.

Remember – You are not required to respond to a collection of information sponsored by the Federal government, and the government may not conduct or sponsor this collection, unless it displays a currently valid OMB control number or if we fail to provide you with this notice. This collection has been assigned an OMB control number of 3060–0678.

THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104–13, OCTOBER 1, 1995, 44 U.S.C. SECTION 3507.

Engineering Statement

PanAmSat Licensee Corp. ("PanAmSat") proposes herein to modify its license so that it may operate Galaxy 14 from 125.15° WL. PanAmSat previously had applied for and been granted authority to operate the satellite at 125.05° W.L. utilizing the 5925 – 6425 MHz and 3700 – 4200 MHz frequency bands. *See* File Nos.: SAT-AMD-20030827-00283 and SAT-AMD-20031223-00365. To take into account the impact of the change in orbital location to 125.15° WL, this engineering statement updates the following technical information that PanAmSat previously had submitted: (1) gain contours; (2) PFD levels; and (3) link budget analysis. The engineering statement also supplements PanAmSat's previously-filed link budget analysis by addressing the potential for Galaxy 14 to interfere with adjacent satellites.[1]

Gain Contours

The coverage patterns of Galaxy 14 operating from the proposed 125.15° WL orbital location will be the same as those specified previously. Changing the proposed orbital location from 125° WL to 125.15° WL will produce no visible change in the gain contours.

Copies of the Galaxy 14 co-polarized and cross-polarized patterns are provided with this filing. It is noted that in the FCC Schedule S form there is no designated data field in which the peak value of the cross-polarized pattern can be identified. However, the patterns included with this filing show the peak level associated with each (co-polarized and) cross-polarized pattern.

Power Flux Density Levels

The power flux density ("PFD") level at the Earth's surface produced by Galaxy 14 operating from the proposed 125.15° WL orbital location will be the same as those specified in the currently pending application.

Link Budgets and Interference Analysis

The operational co-frequency satellites nearest to 125.15° WL are Galaxy 10R, located at 123° WL, and Galaxy 13, located at 127° WL. Galaxy 10R

[1] The International Bureau has clarified that all GSO space station applicants are expected to provide this information. *See* Public Notice, DA 03-3863 (Dec. 3, 2003).

and Galaxy 13 both are licensed to PanAmSat and provide service to the U.S. The operating parameters of Galaxy 10R and Galaxy 13 are specified in FCC applications SAT-LOA-19990518-00054 and SAT-AMD-20030228-0020, respectively.

Link analysis for Galaxy 14 was conducted for a number of representative carriers. For the analysis, it was assumed that the adjacent satellites Galaxy 10R and Galaxy 13 operated with a maximum downlink effective radiated power ("EIRP") of 44.1 dBW and 45.1 dBW, respectively. Furthermore, it was assumed that both adjacent satellites operate at saturation and have transponder bandwidths of 36 MHz.

Other assumptions made for the link budget analysis were as follows:

a) In the plane of the geostationary satellite orbit, all transmitting and receiving earth stations have off-axis co-polar gains that are compliant with the limits specified in section 25.209(a)(1) of the FCC Regulations.
b) All transmitting and receiving earth stations have a cross-polarization isolation value of at least 30 dB within their main beam lobe.
c) Degradation due to rain was not considered, given that rain (attenuation) effects are insignificant at C-band.

The results of the analysis are shown in Exhibit 1 and demonstrate that operation of the Galaxy 14 satellite from 125.15° WL would permit the intended services to achieve their respective performance objectives while maintaining sufficient link margin.

Link analyses were also performed for Galaxy 10R (123° WL) transmissions based on the proposed operation of Galaxy 14 from 125.15° WL and of IA-13 (previously Telstar 13) from 121° WL. Link analyses were also performed for Galaxy 13 (127° WL) transmissions, based on the proposed operation of Galaxy 14 from 125.15° WL and of IA-7 (previously Telstar 7) from 129° WL. The link calculations for these analyses used the carriers listed in the FCC license applications for Galaxy 10R and Galaxy 13 (SAT-LOA-19990518-0054 and SAT-AMD-20030228-0020, respectively). The assumptions made for the Galaxy 14 link analysis (as stated above) were also applied for the Galaxy 10R and Galaxy 13 link studies.

The link analysis only considered the impact of Galaxy 14 digital carriers having a maximum uplink power density of –47.5 dBW/Hz and a maximum

downlink EIRP density of –31.4 dBW/Hz – the maximum carrier density levels listed in Exhibit 1 – on Galaxy 10R and Galaxy 13 transmissions. The impact of the Galaxy 14 TV/FM carrier, as listed in Exhibit 1, on Galaxy 10R and Galaxy 13 transmissions was not considered given that the Galaxy 14 TV/FM carriers would be located at the center of the Galaxy 10R and Galaxy 13 channel guard bands pursuant to section 25.211(a) of the FCC Rules. Hence, most of the energy of the TV/FM carrier would fall within the guard bands of the Galaxy 10R and Galaxy 13 transponders. The results of the link analysis are shown in Exhibits 2 and 3 for Galaxy 10R and Galaxy 13, respectively.

Schedule S Submission

PanAmSat is providing a Schedule S with its application. The Schedule S contains only those Galaxy 14 data items that have changed as a result of the proposed modification and data items whose inclusion was required in order for the software application to function properly. It is noted that with regard to the communication beams, the cross-polarization pattern data provided in the Schedule S represents the cross-polarization isolation for the particular beam while with regard to the TT&C beams associated with the Galaxy-14 wide coverage antennas ('WCA") and the omni antenna, the cross-polarization patterns represent the cross-polarization gain of the beam. Different kinds of patterns are being presented in different situations because of the format in which data has been obtained from the manufacturer. In any case, cross-polarization isolation can be determined by subtracting the cross-polarized gain from the associated co-polarized gain at the point of interest. Similarly, cross-polarized gain can be determined by subtracting isolation from the associated co-polarized gain at the point of interest.

Certification Statement

I hereby certify that I am a technically qualified person and am familiar with Part 25 of the Commission's Rules and Regulations. The contents of this engineering statement were prepared by me or under my direct supervision and to the best of my knowledge are complete and accurate.

/s/ Abdolmajid Khalilzadeh
Abdolmajid Khalilzadeh
PanAmSat Corporation
Senior Manager, Asset Engineering

February 15, 2005
Date

EXHIBIT 1 : GALAXY-14 C-BAND LINK BUDGETS

UPLINK BEAM INFORMATION								
Uplink Beam Name	Conus	Conus	Conus	Conus	Conus	Conus	Conus	Conus
Uplink Frequency (MHz)	5945	5945	5945	5945	5945	5945	5945	5945
Uplink Beam Polarization	Vertical / Horizontal	Vertical / Horizontal	Vertical / Horizontal	Vertical / Horizontal	Vertical / Horizontal	Vertical / Horizontal	Vertical / Horizontal	Vertical / Horizontal
Uplink Relative Contour Level (dB)	-6	-6	-6	-6	-6	-6	-6	-2.0
Uplink Contour G/T (dB/K)	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	0.1
Uplink SFD (dBW/m^2)	-86.1	-86.1	-76.1	-76.1	-76.1	-76.1	-76.1	-80.1
DOWNLINK BEAM INFORMATION								
Downlink Beam Name	Conus	Conus	Conus	Conus	Conus	Conus	Conus	Conus
Downlink Frequency (MHz)	3720	3720	3720	3720	3720	3720	3720	3720
Downlink Beam Polarization	Horizontal / Vertical	Horizontal / Vertical	Horizontal / Vertical	Horizontal / Vertical	Horizontal / Vertical	Horizontal / Vertical	Horizontal / Vertical	Horizontal / Vertical
Downlink Relative Contour Level (dB)	-2	-2	-2	-2	-2	-2	-2	-2
Downlink Contour EIRP (dBW)	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2
SATELLITE 1								
Satellite 1 Orbital Location	123 WL	123 WL	123 WL	123 WL	123 WL	123 WL	123 WL	123 WL
Uplink Power Density (dBW/Hz)	-45.0	-45.0	-45.0	-45.0	-45.0	-45.0	-45.0	-45.0
Uplink Polarization Advantage (dB)	0	0	0	0	0	0	0	0
Downlink EIRP Density (dBW/Hz)	-30.8	-30.8	-30.8	-30.8	-30.8	-30.8	-30.8	-30.8
Downlink Polarization Advantage (dB)	0	0	0	0	0	0	0	0
SATELLITE 2								
Satellite 2 Orbital Location	127 WL	127 WL	127 WL	127 WL	127 WL	127 WL	127 WL	127 WL
Uplink Power Density (dBW/Hz)	-45.0	-45.0	-45.0	-45.0	-45.0	-45.0	-45.0	-45.0
Uplink Polarization Advantage (dB)	0	0	0	0	0	0	0	0
Downlink EIRP Density (dBW/Hz)	-30.46	-30.46	-30.46	-30.46	-30.46	-30.46	-30.46	-30.46
Downlink Polarization Advantage (dB)	0	0	0	0	0	0	0	0
CARRIER INFORMATION								
Carrier ID	36M0F9W	36M0G7W	5M67G7W	77K0G7W	51K2G7W	1M24G7W	1M23G7W	307KG7W
Information Rate (kbps)	n/a	38878	6000	64	64	1544	912	128
Carrier Modulation	TW/FM	QPSK	QPSK	QPSK	QPSK	QPSK	BPSK	BPSK
Peak to Peak Bandwidth of EDS (MHz)	4	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Code Rate	n/a	3/4	3/4	1/2	3/4	3/4	1/2	1/2
Occupied Bandwidth (kHz)	36000	36000	5665	77	51.2	1240	1229	307
Allocated Bandwidth (kHz)	36000	36000	6000	100	67.5	1462.5	1450	400
Minimum C/N, Rain (dB)	10	6.8	6.8	6.8	9.7	9.7	3.4	3.4
UPLINK EARTH STATION								
Earth Station Diameter (meters)	9	9	9	9	9	9	9	3
Earth Station Gain (dBi)	53.1	53.1	53.1	53.1	53.1	53.1	53.1	42.9
Earth Station Elevation Angle	20	20	20	20	20	20	20	20
DOWNLINK EARTH STATION								
Earth Station Diameter (meters)	4.5	3.7	4.5	3.7	4.5	4.5	3.5	9
Earth Station Gain (dBi)	43.4	40.7	43.4	40.7	43.4	43.4	40.6	48.8
Earth Station G/T, Clear Sky (dB/K)	23.1	20.4	23.1	20.4	23.1	23.1	20.5	28.9
Earth Station Elevation Angle	20	20	20	20	20	20	20	20
UPLINK PERFORMANCE								
Uplink Earth Station EIRP (dBW)	76.8	76.8	66.8	54.5	51.5	66.3	64.4	45.7
Uplink Path Loss, Clear Sky (dB)	-199.9	-199.9	-199.9	-199.9	-199.9	-199.9	-199.9	-199.9
Satellite G/T (dB/K)	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	0.1
Boltzman Constant (dBW/K-Hz)	228.6	228.6	228.6	228.6	228.6	228.6	228.6	228.6
Carrier Noise Bandwidth (dB-Hz)	-75.6	-75.6	-67.5	-48.9	-47.1	-60.9	-60.9	-54.9
Uplink C/N (dB)	26.1	26.1	26.3	30.5	29.2	29.2	28.4	19.6
DOWNLINK PERFORMANCE								
Downlink EIRP per Carrier (dBW)	42.2	42.2	29.0	14.6	11.6	25.4	24.5	9.7
Antenna Pointing Error (dB)	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
Downlink Path Loss, Clear Sky (dB)	-195.8	-195.8	-195.8	-195.8	-195.8	-195.8	-195.8	-195.8
Earth Station G/T, Clear Sky (dB/K)	23.1	20.4	23.1	20.4	23.1	23.1	20.5	28.9
Boltzman Constant (dBW/K-Hz)	228.6	228.6	228.6	228.6	228.6	228.6	228.6	228.6
Carrier Noise Bandwidth (dB-Hz)	-75.6	-75.6	-67.5	-48.9	-47.1	-60.9	-60.9	-54.9
Downlink C/N (dB)	22.0	19.3	17.0	18.4	19.9	19.9	18.4	18.1
COMPOSITE PERFORMANCE								
C/N Uplink (dB)	26.1	26.1	26.3	30.5	29.2	29.2	28.4	19.6
C/N Downlink (dB)	22.0	19.3	17.0	18.4	19.9	19.9	18.4	18.1
C/I Intermodulation (dB)	n/a	n/a	15.1	19.3	18.6	18.6	17.1	8.4
C/I Uplink Co-Channel (dB)*	27.0	27.0	25.1	26.5	27.2	27.7	26.8	17.6
C/I Downlink Co-Channel (dB)*	27.0	27.0	25.1	26.5	27.2	27.7	26.8	17.6
C/I Uplink Adjacent Satellite 1 (dB)	23.1	23.1	23.3	27.5	26.3	26.2	25.4	16.6
C/I Downlink Adjacent Satellite 1 (dB)	21.3	18.9	16.2	18.0	19.2	19.2	15.8	15.4
C/I Uplink Adjacent Satellite 2 (dB)	21.3	21.3	21.6	25.8	24.5	24.5	23.7	14.9
C/I Downlink Adjacent Satellite 2 (dB)	16.5	10.3	11.5	9.4	14.4	14.4	5.5	12.0
C/(N+I) Composite (dB)	12.6	8.6	7.8	7.8	10.7	10.7	4.4	4.4
Required System Margin (dB)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Net C/(N+I) Composite (dB)	11.6	7.6	6.8	6.8	9.7	9.7	3.4	3.4
Minimum Required C/N (dB)	-10.9	-6.8	-6.8	-6.8	-9.7	-9.7	-3.4	-3.4
Excess Link Margin (dB)	1.5	0.8	0.0	0.0	0.0	0.0	0.0	0.0
SATURATION LEVELS								
Uplink Power Density (dBW/Hz)	-42.0	-51.9	-51.7	-47.5	-48.7	-48.7	-49.6	-52.1
Downlink EIRP Density At Beam Peak (dBW/Hz)	-21.8	-31.4	-36.5	-32.3	-33.5	-33.3	-34.4	-43.2

* Note: The C/I level is adjusted depending on the signal level and transponder mode of operation.

EXHIBIT 2 : GALAXY-10R C-BAND LINK BUDGETS

UPLINK BEAM INFORMATION						
Uplink Beam Name	Conus	Conus	Conus	Conus	Conus	Conus
Uplink Frequency (MHz)	6166	6166	6166	6166	6166	6166
Uplink Beam Polarization	Vertical / Horizontal	Vertical / Horizontal	Vertical / Horizontal	Vertical / Horizontal	Vertical / Horizontal	Vertical / Horizontal
Uplink Relative Contour Level (dB)	-4	-4	-4	-4	-4	-4
Uplink Contour G/T (dB/K)	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
Uplink SFD (dBW/m²)	-93.5	-93.5	-85.5	-85.5	-85.5	-85.5
DOWNLINK BEAM INFORMATION						
Downlink Beam Name	Conus	Conus	Conus	Conus	Conus	Conus
Downlink Frequency (MHz)	3940	3940	3940	3940	3940	3940
Downlink Beam Polarization	Horizontal / Vertical	Horizontal / Vertical	Horizontal / Vertical	Horizontal / Vertical	Horizontal / Vertical	Horizontal / Vertical
Downlink Relative Contour Level (dB)	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6
Downlink Contour EIRP (dBW)	40.5	40.5	40.5	40.5	40.5	40.5
ADJACENT SATELLITE 1						
Satellite 1 Orbital Location	121 WL	121 WL	121 WL	121 WL	121 WL	121 WL
Uplink Power Density (dBW/Hz)	-45.0	-45.0	-45.0	-45.0	-45.0	-45.0
Uplink Polarization Advantage (dB)	0	0	0	0	0	0
Downlink EIRP Density (dBW/Hz)	-33.1	-33.1	-33.1	-33.1	-33.1	-33.1
Downlink Polarization Advantage (dB)	0	0	0	0	0	0
ADJACENT SATELLITE 2						
Satellite 2 Orbital Location	125.15 WL	125.15 WL	125.15 WL	125.15 WL	125.15 WL	125.15 WL
Uplink Power Density (dBW/Hz)	-47.5	-47.5	-47.5	-47.5	-47.5	-47.5
Uplink Polarization Advantage (dB)	0	0	0	0	0	0
Downlink EIRP Density (dBW/Hz)	-31.4	-31.4	-31.4	-31.4	-31.4	-31.4
Downlink Polarization Advantage (dB)	0	0	0	0	0	0
CARRIER INFORMATION						
Carrier ID	36M0F9W	36M0G7W	9M60G7W	1M48G7W	400KG7W	80K0G7W
Information Rate (kbps)	n/a	45356	3000	1544	128	56
Carrier Modulation	TV/FM	QPSK	QPSK	QPSK	BPSK	QPSK
Peak to Peak Bandwidth of EDS (MHz)	4	n/a	n/a	n/a	n/a	n/a
Code Rate	n/a	7/8	2/3	3/4	1/2	1/2
Occupied Bandwidth (kHz)	36000	31000	2700	1240	307	87
Allocated Bandwidth (kHz)	36000	36000	3600	1462.5	400	80
Minimum C/N, Rain (dB)	10	8.4	5.8	10.1	2.6	5.8
UPLINK EARTH STATION						
Earth Station Diameter (meters)	4.6	4.6	4.6	3.7	4.6	4.6
Earth Station Gain (dBi)	46.9	46.9	46.9	44.8	46.9	46.9
Earth Station Elevation Angle	20	20	20	20	20	20
DOWNLINK EARTH STATION						
Earth Station Diameter (meters)	3.5	3.5	3	4.5	3	3
Earth Station Gain (dBi)	43.9	43.1	39.2	43.9	39.7	39.7
Earth Station G/T, Clear Sky (dB/K)	23.6	21	19.2	23.6	19.2	19.2
Earth Station Elevation Angle	20	20	20	20	20	20
UPLINK PERFORMANCE						
Uplink Earth Station EIRP (dBW)	69.4	68.4	63.6	59.3	51.0	47.6
Uplink Path Loss, Clear Sky (dB)	-200.2	-200.2	-200.2	-200.2	-200.2	-200.2
Satellite G/T (dB/K)	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
Boltzman Constant (dBW/K-Hz)	228.6	228.6	228.6	228.6	228.6	228.6
Carrier Noise Bandwidth (dB-Hz)	-75.6	-74.9	-64.3	-60.9	-54.9	-48.3
Uplink C/N (dB)	21.7	22.4	27.2	26.3	24.0	27.2
DOWNLINK PERFORMANCE						
Downlink EIRP per Carrier (dBW)	40.5	40.5	28.2	23.9	15.6	12.2
Antenna Pointing Error (dB)	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
Downlink Path Loss, Clear Sky (dB)	-196.3	-196.3	-196.3	-196.3	-196.3	-196.3
Earth Station G/T, Clear Sky (dB/K)	23.6	21.0	19.2	23.6	19.2	19.2
Boltzman Constant (dBW/K-Hz)	228.6	228.6	228.6	228.6	228.6	228.6
Carrier Noise Bandwidth (dB-Hz)	-75.6	-74.9	-64.3	-60.9	-54.9	-48.3
Downlink C/N (dB)	20.3	18.4	14.9	18.4	11.6	14.9
COMPOSITE PERFORMANCE						
C/N Uplink (dB)	21.7	22.4	27.2	26.3	24.0	27.2
C/N Downlink (dB)	20.3	18.4	14.9	18.4	11.6	14.9
C/I Intermodulation (dB)	n/a	n/a	19.7	18.8	18.5	19.7
C/I Uplink Co-Channel (dB)*	27.0	27.0	28.2	27.9	25.1	28.2
C/I Downlink Co-Channel (dB)*	27.0	27.0	28.2	27.9	25.1	28.2
C/I Uplink Adjacent Satellite 1 (dB)	16.8	17.5	22.3	21.4	19.1	22.3
C/I Downlink Adjacent Satellite 1 (dB)	21.6	19.7	16.9	19.6	13.7	16.9
C/I Uplink Adjacent Satellite 2 (dB)	20.2	20.8	25.6	24.7	22.4	25.6
C/I Downlink Adjacent Satellite 2 (dB)	18.5	15.8	8.8	16.4	5.6	8.8
C/(N+I) Composite (dB)	11.4	10.6	6.6	11.1	3.6	6.6
Required System Margin (dB)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Net C/(N+I) Composite (dB)	10.4	9.5	5.8	10.1	2.6	5.8
Minimum Required C/N (dB)	-10.0	-8.4	-5.8	-10.1	-2.6	-5.8
Excess Link Margin (dB)	0.4	1.2	0.0	0.0	0.0	0.0
SATURATED FLUX DENSITY						
Uplink Power Density (dBW/Hz)	-43.5	-52.4	-47.6	-46.2	-50.8	-47.6
Downlink EIRP Density At Beam Peak (dBW/Hz)	-21.9	-30.8	-32.5	-33.4	-35.7	-32.5

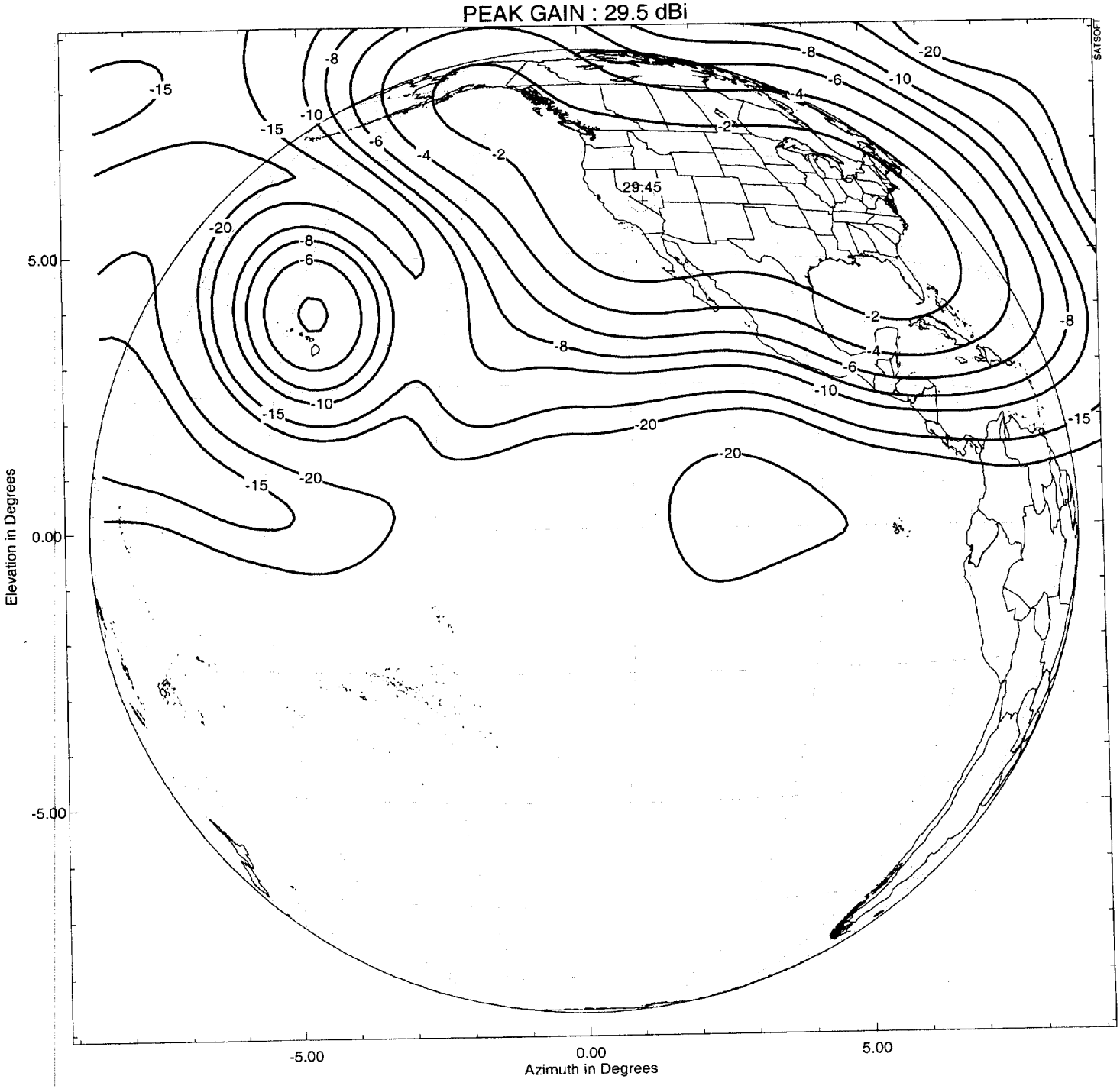
* Note: The C/I level is adjusted depending on the signal level and transponder mode of operation

EXHIBIT 3 : GALAXY-13 C-BAND LINK BUDGETS

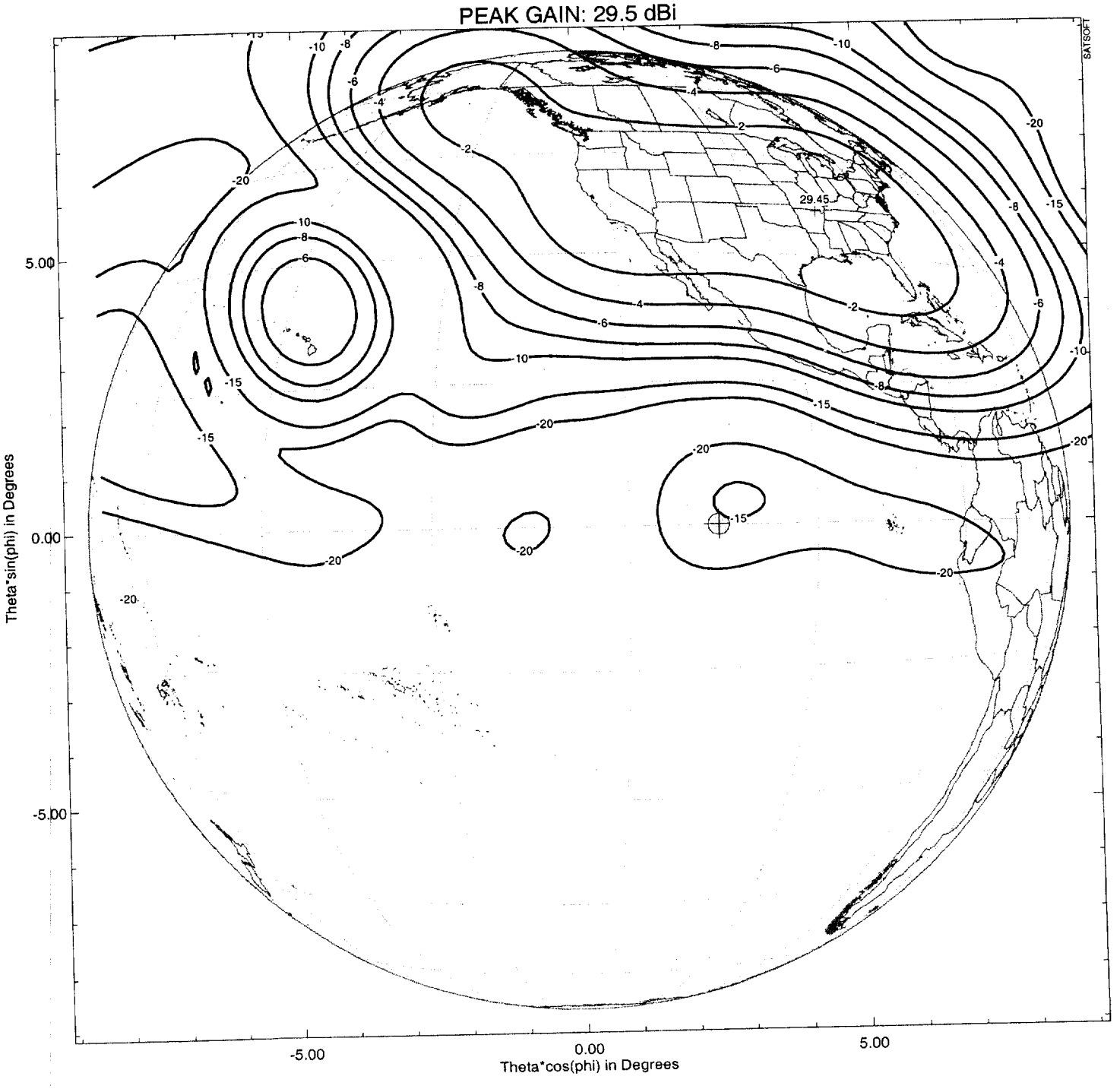
UPLINK BEAM INFORMATION						
Uplink Beam Name	Conus	Conus	Conus	Conus	Conus	Conus
Uplink Frequency (MHz)	5945	5945	5945	5945	5945	5945
Uplink Beam Polarization	Vertical / Horizontal	Vertical / Horizontal	Vertical / Horizontal	Vertical / Horizontal	Vertical / Horizontal	Vertical / Horizontal
Uplink Relative Contour Level (dB)	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4
Uplink Contour G/T (dB/K)	0.0	0.0	0.0	0.0	0.0	0.0
Uplink SFD (dBW/m^2)	-94.0	-94.0	-84.0	-84.0	-84.0	-84.0
DOWNLINK BEAM INFORMATION						
Downlink Beam Name	Conus	Conus	Conus	Conus	Conus	Conus
Downlink Frequency (MHz)	3720	3720	3720	3720	3720	3720
Downlink Beam Polarization	Horizontal / Vertical	Horizontal / Vertical	Horizontal / Vertical	Horizontal / Vertical	Horizontal / Vertical	Horizontal / Vertical
Downlink Relative Contour Level (dB)	-4	-4	-4	-4	-4	-4
Downlink Contour EIRP (dBW)	41.1	41.1	41.1	41.1	41.1	41.1
SATELLITE 1						
Satellite 1 Orbital Location	125.15 WL	125.15 WL	125.15 WL	125.15 WL	125.15 WL	125.15 WL
Uplink Power Density (dBW/Hz)	-47.5	-47.5	-47.5	-47.5	-47.5	-47.5
Uplink Polarization Advantage (dB)	0	0	0	0	0	0
Downlink EIRP Density (dBW/Hz)	-31.4	-31.4	-31.4	-31.4	-31.4	-31.4
Downlink Polarization Advantage (dB)	0	0	0	0	0	0
ADJACENT SATELLITE 2						
Satellite 2 Orbital Location	129 WL	129 WL	129 WL	129 WL	129 WL	129 WL
Uplink Power Density (dBW/Hz)	-48.5	-48.5	-48.5	-48.5	-48.5	-48.5
Uplink Polarization Advantage (dB)	0	0	0	0	0	0
Downlink EIRP Density (dBW/Hz)	-34.6	-34.6	-34.6	-34.6	-34.6	-34.6
Downlink Polarization Advantage (dB)	0	0	0	0	0	0
CARRIER INFORMATION						
Carrier ID	36M0F9W	36M0G7W	5M00G7W	1M45G7W	200KG7W	100KG7W
Information Rate (kbps)	n/a	36978	6000	512	64	64
Carrier Modulation	TV/FM	QPSK	QPSK	BPSK	BPSK	QPSK
Peak to Peak Bandwidth of EDS (MHz)	4	n/a	n/a	n/a	n/a	n/a
Code Rate	n/a	3/4	3/4	1/2	1/2	1/2
Occupied Bandwidth (kHz)	36000	36000	5585	1229	153.6	77
Allocated Bandwidth (kHz)	36000	36000	6000	1450	200	100
Minimum C/N, Rain (dB)	10	6.8	6.8	3.4	3.4	6.8
UPLINK EARTH STATION						
Earth Station Diameter (meters)	6.1	6.1	6.1	6.1	6.1	6.1
Earth Station Gain (dBi)	49.4	49.4	49.4	49.4	49.4	49.4
Earth Station Elevation Angle	20	20	20	20	20	20
DOWNLINK EARTH STATION						
Earth Station Diameter (meters)	4.5	3.7	4.5	3.5	3.5	3.7
Earth Station Gain (dBi)	43.4	40.7	43.4	40.6	40.6	40.7
Earth Station G/T, Clear Sky (dB/K)	23.1	20.4	23.1	20.5	20.5	20.4
Earth Station Elevation Angle	20	20	20	20	20	20
UPLINK PERFORMANCE						
Uplink Earth Station EIRP (dBW)	66.9	66.9	61.5	56.6	47.7	46.9
Uplink Path Loss, Clear Sky (dB)	-199.9	-199.9	-199.9	-199.9	-199.9	-199.9
Satellite G/T (dB/K)	0.0	0.0	0.0	0.0	0.0	0.0
Boltzman Constant (dBW/K-Hz)	228.6	228.6	228.6	228.6	228.6	228.6
Carrier Noise Bandwidth (dB-Hz)	-75.6	-75.6	-67.5	-60.9	-51.9	-48.9
Uplink C/N (dB)	22.1	22.1	22.8	24.6	24.6	26.7
DOWNLINK PERFORMANCE						
Downlink EIRP per Carrier (dBW)	41.1	41.1	28.4	23.6	14.6	13.8
Antenna Pointing Error (dB)	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
Downlink Path Loss, Clear Sky (dB)	-195.8	-195.8	-195.8	-195.8	-195.8	-195.8
Earth Station G/T, Clear Sky (dB/K)	23.1	20.4	23.1	20.5	20.5	20.4
Boltzman Constant (dBW/K-Hz)	228.6	228.6	228.6	228.6	228.6	228.6
Carrier Noise Bandwidth (dB-Hz)	-75.6	-75.6	-67.5	-60.9	-51.9	-48.9
Downlink C/N (dB)	20.9	18.2	16.3	15.5	15.5	17.6
COMPOSITE PERFORMANCE						
C/N Uplink (dB)	22.1	22.1	22.8	24.6	24.6	26.7
C/N Downlink (dB)	20.9	18.2	16.3	15.5	15.5	17.6
C/I Intermodulation (dB)	n/a	n/a	15.6	17.4	17.4	19.5
C/I Uplink Co-Channel (dB)*	27.0	27.0	25.8	27.0	26.8	26.8
C/I Downlink Co-Channel (dB)*	27.0	27.0	25.8	27.0	26.8	26.8
C/I Uplink Adjacent Satellite 1 (dB)	17.5	17.5	18.3	20.1	20.1	22.2
C/I Downlink Adjacent Satellite 1 (dB)	16.4	10.1	11.8	5.6	5.6	9.5
C/I Uplink Adjacent Satellite 2 (dB)	19.4	19.4	20.2	22.0	22.0	24.1
C/I Downlink Adjacent Satellite 2 (dB)	23.2	20.8	18.7	18.0	18.0	20.2
C/(N+I) Composite (dB)	11.2	7.9	7.8	4.4	4.4	7.8
Required System Margin (dB)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Net C/(N+I) Composite (dB)	10.2	6.9	6.8	3.4	3.4	6.8
Minimum Required C/N (dB)	-10.0	-6.8	-6.8	-3.4	-3.4	-6.8
Excess Link Margin (dB)	0.2	0.1	0.0	0.0	0.0	0.0
SATURATION FLUX						
Uplink Power Density (dBW/Hz)	-46.5	-56.1	-55.4	-53.5	-53.6	-51.4
Downlink EIRP Density At Beam Peak (dBW/Hz)	-20.9	-30.5	-35.1	-33.2	-33.3	-31.1

* Note: The C/I level is adjusted depending on the signal level and transponder mode of operation

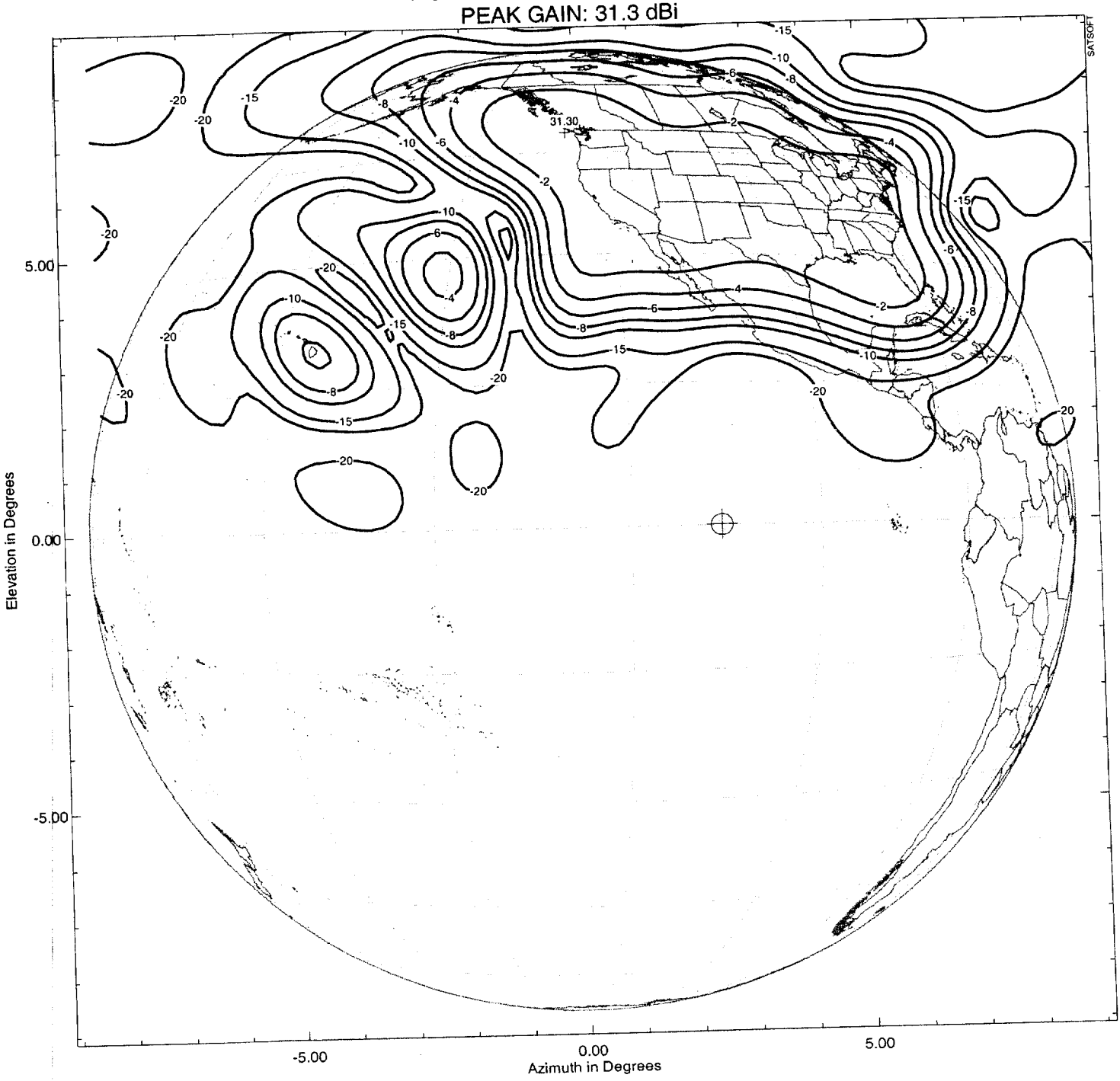
GALAXY-14 (125.15 WL) : C-BAND TRANSMIT RELATIVE GAIN CONTOUR
HORIZONTAL POLARIZATION
PEAK GAIN : 29.5 dBi



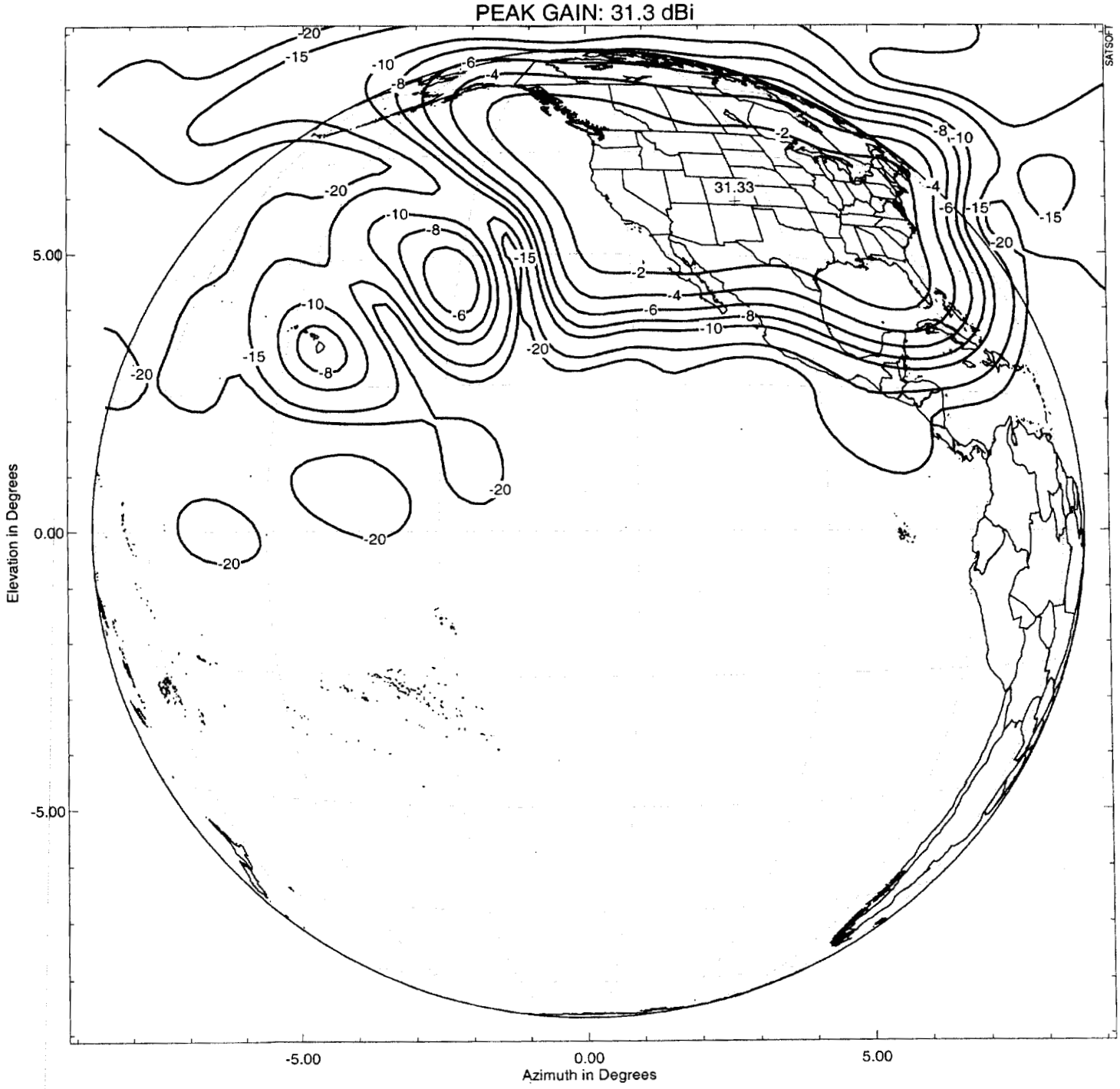
GALAXY-14 (125.15 WL) : C-BAND TRANSMIT RELATIVE GAIN CONTOUR
VERTICAL POLARIZATION
PEAK GAIN: 29.5 dBi



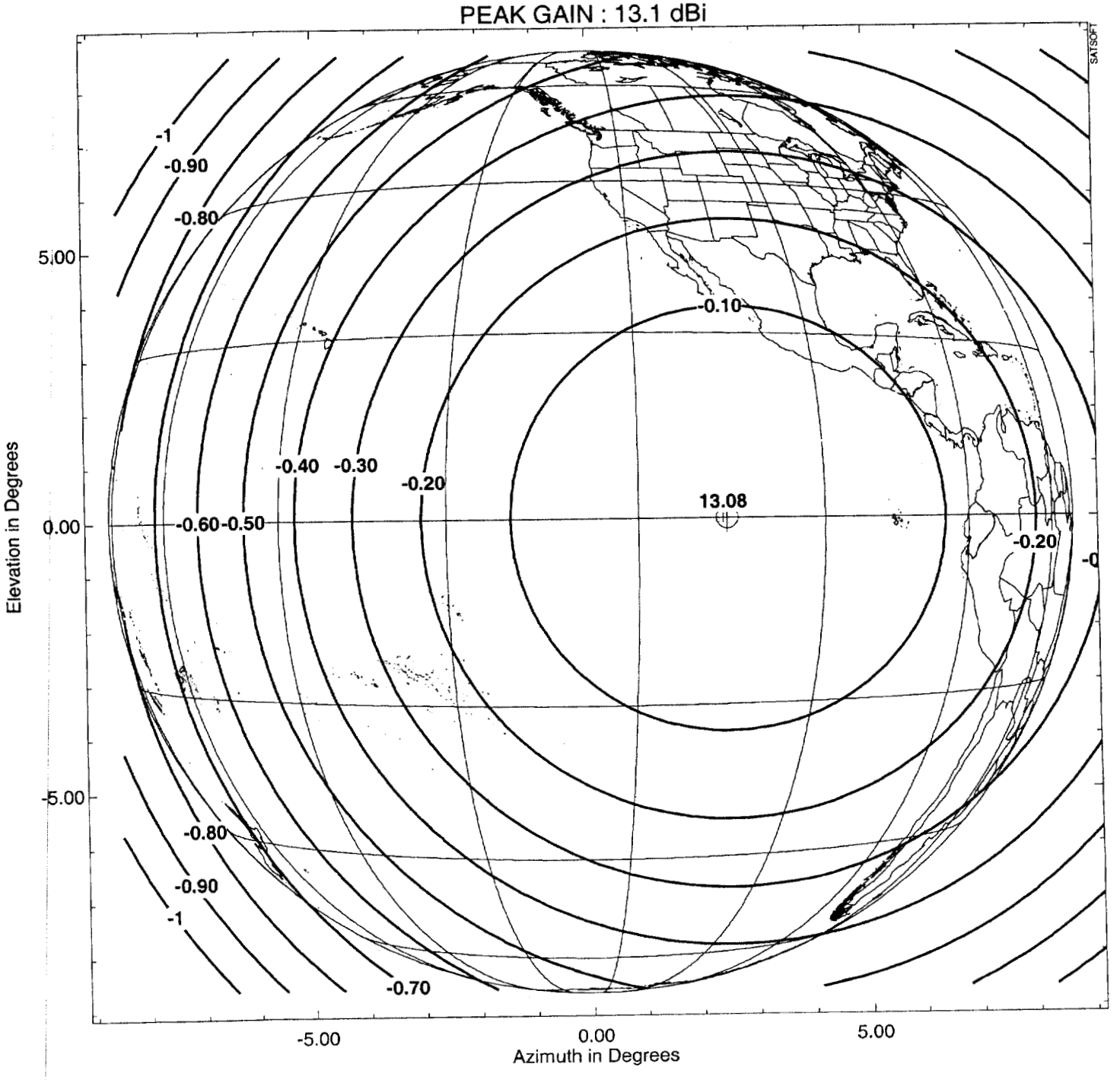
GALAXY-14 (125.15 WL): C-BAND RECEIVE RELATIVE GAIN CONTOUR
HORIZONTAL POLARIZATION
PEAK GAIN: 31.3 dBi



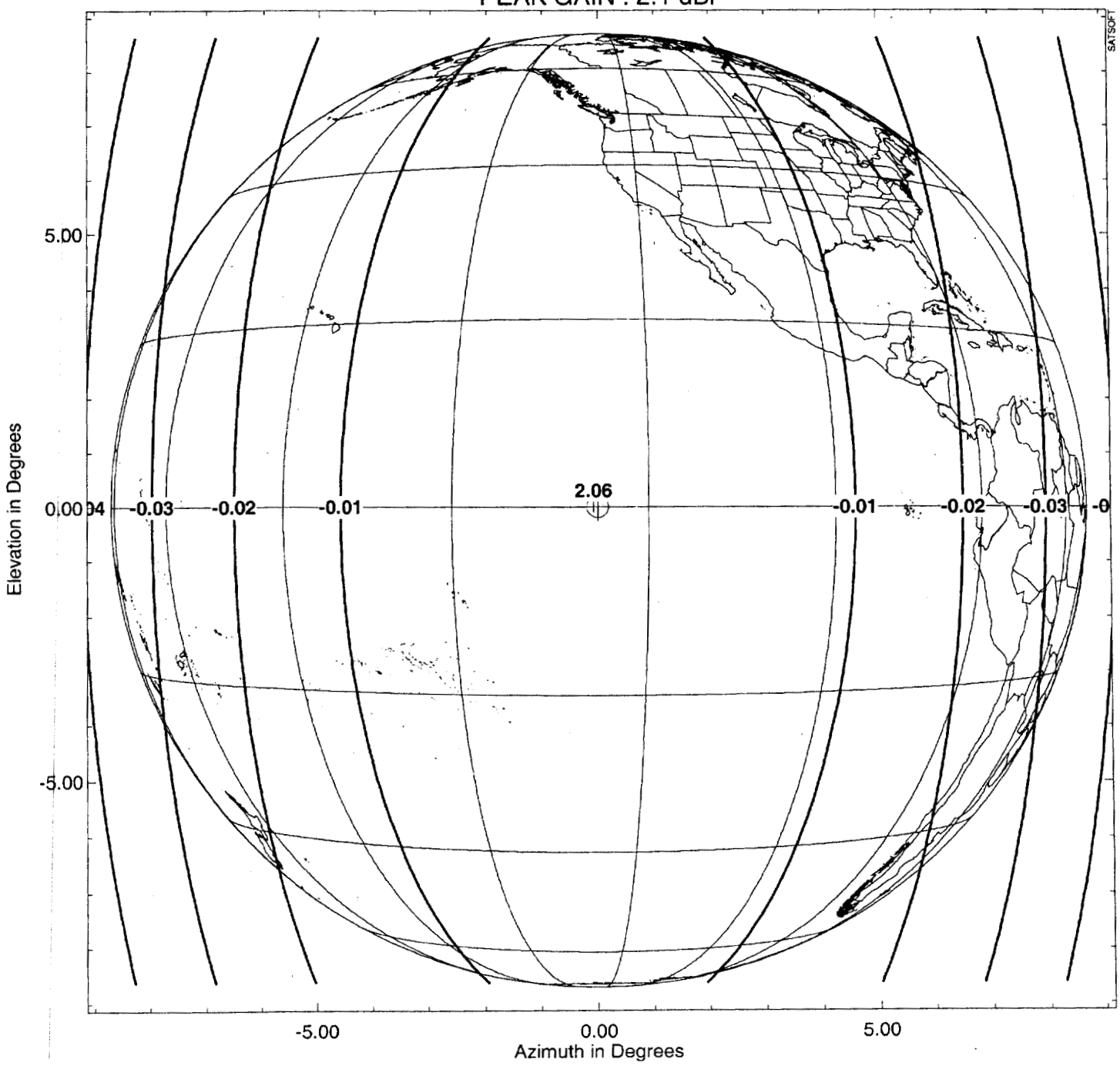
GALAXY-14 (125.15 WL) : C-BAND RECEIVE RELATIVE GAIN CONTOUR
VERTICAL POLARIZATION
PEAK GAIN: 31.3 dBi



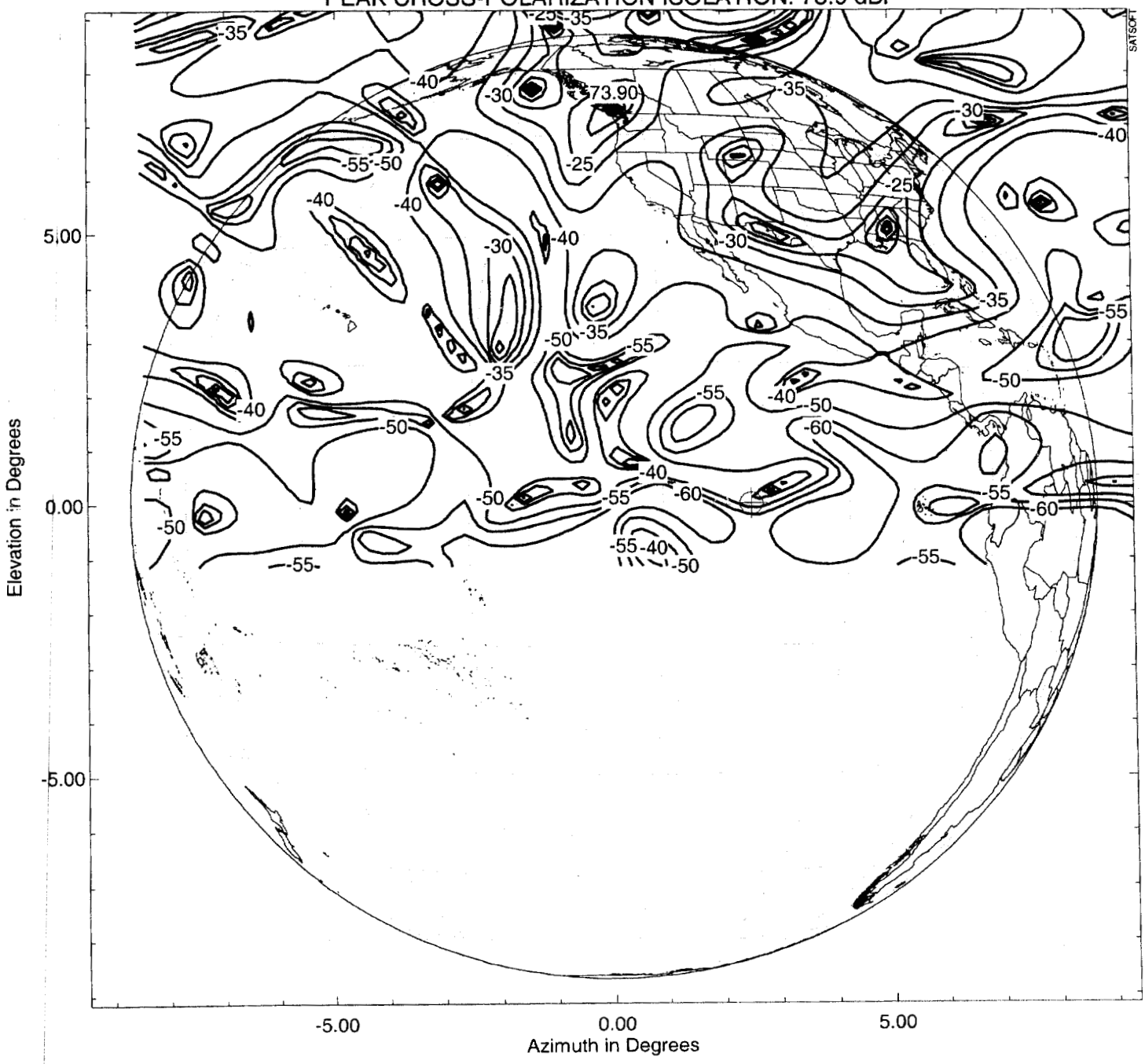
GALAXY-14 (125.15 WL) : WIDE COVERAGE ANTENNA RELATIVE GAIN CONTOUR
RIGHT AND LEFT HAND CIRCULAR POLARIZATIONS
PEAK GAIN : 13.1 dBi



GALAXY-14 (125.15 WL) : OMNI ANTENNA RELATIVE GAIN CONTOUR
RIGHT AND LEFT HAND CIRCULAR POLARIZATIONS
PEAK GAIN : 2.1 dBi

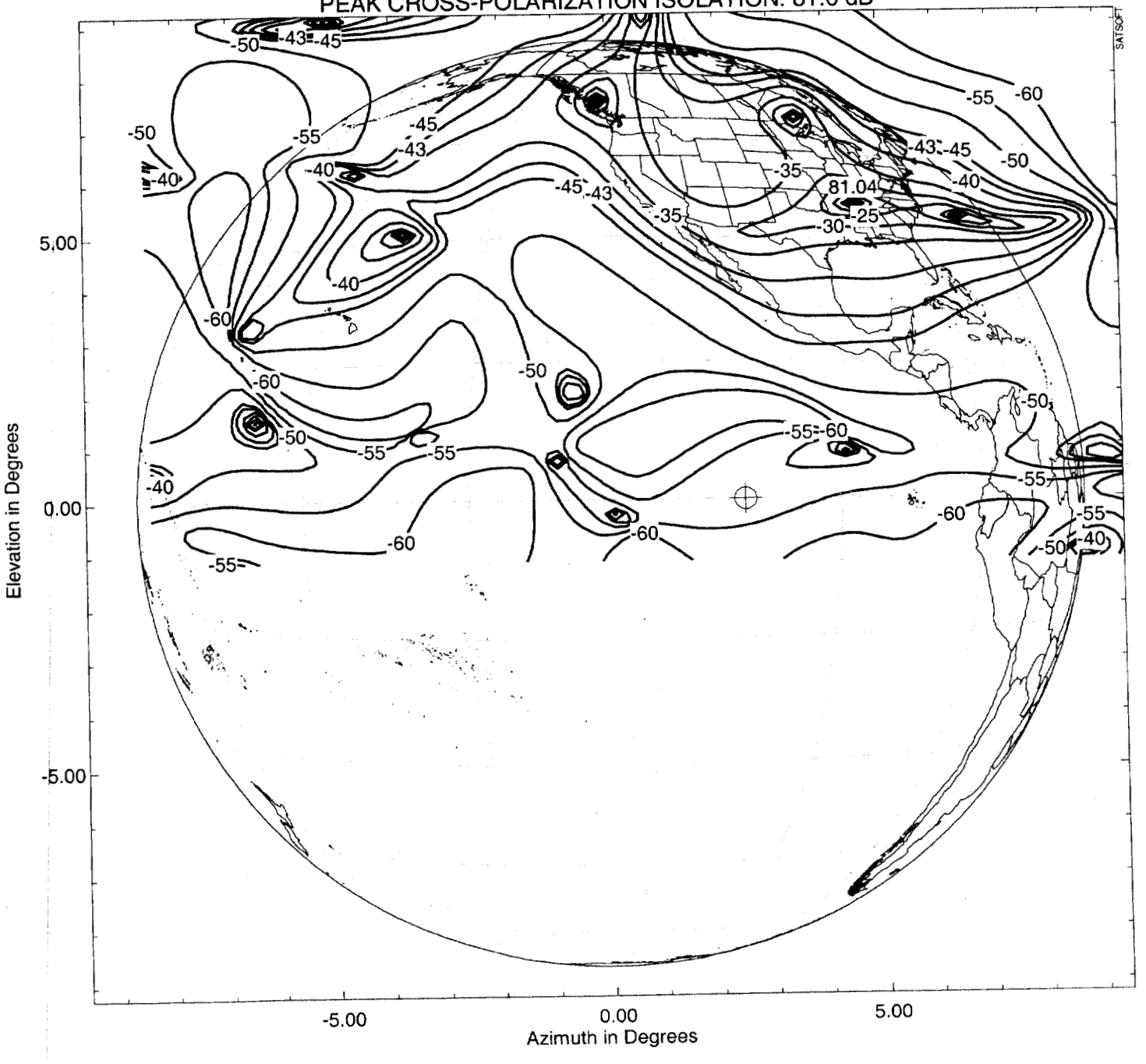


GALAXY-14 (125.15 WL) : C-BAND RECEIVE RELATIVE CROSS-POL ISOLATION CONTOURS
PEAK CROSS-POLARIZATION ISOLATION: 73.9 dBi

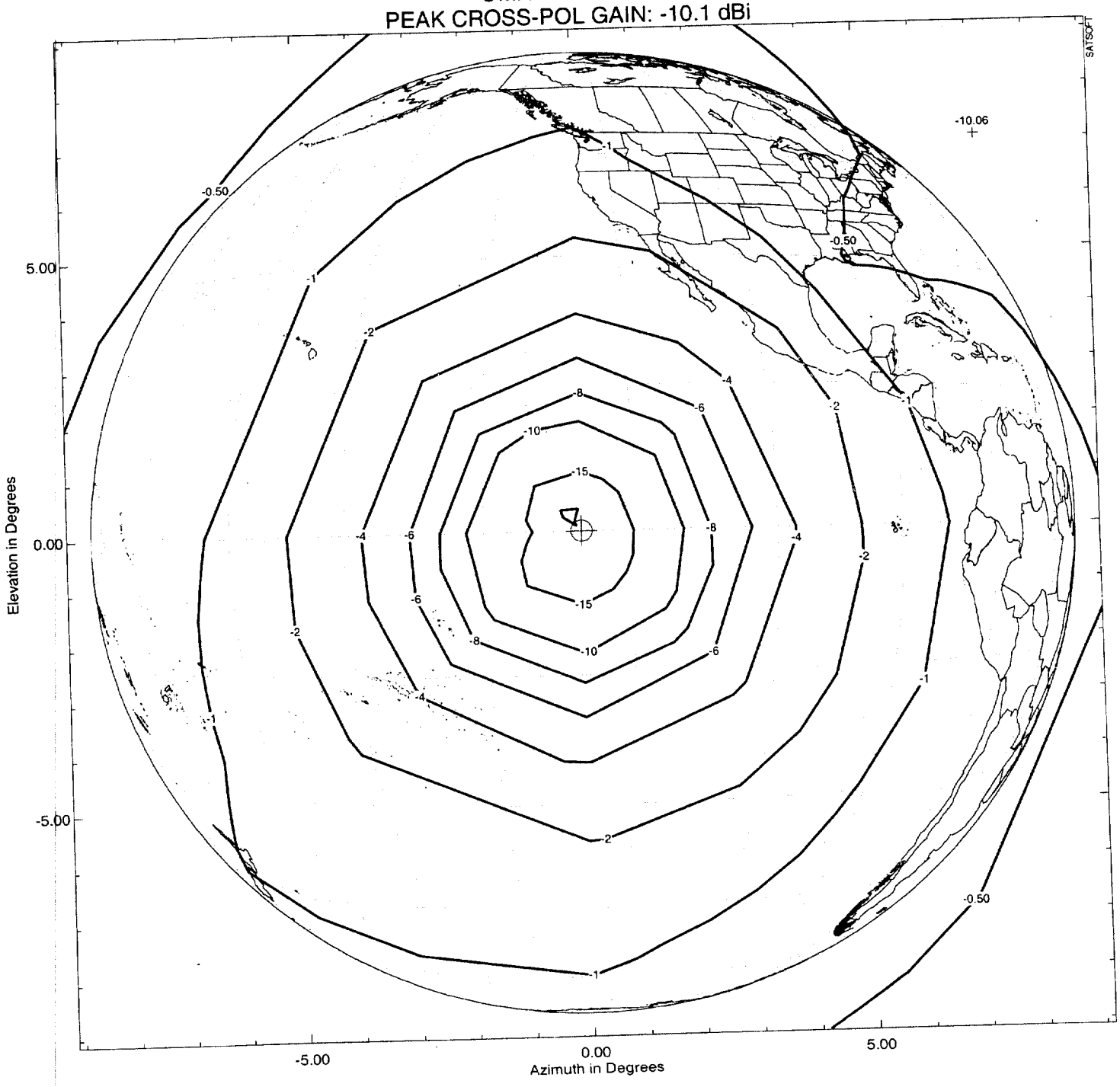


GALAXY-14 (125.15 WL) : C-BAND TRANSMIT RELATIVE CROSS-POL ISOLATION CONTOURS

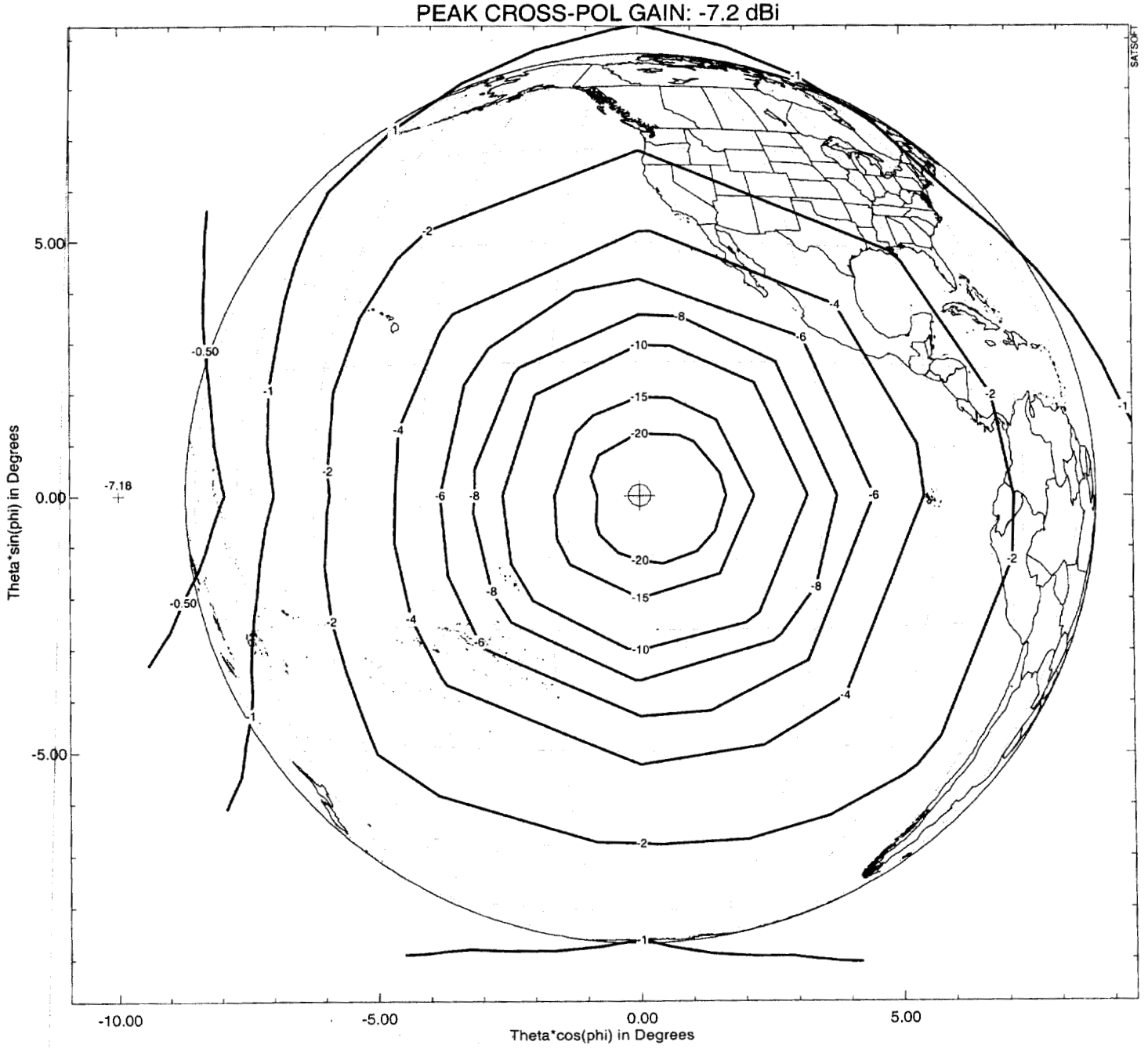
PEAK CROSS-POLARIZATION ISOLATION: 81.0 dB



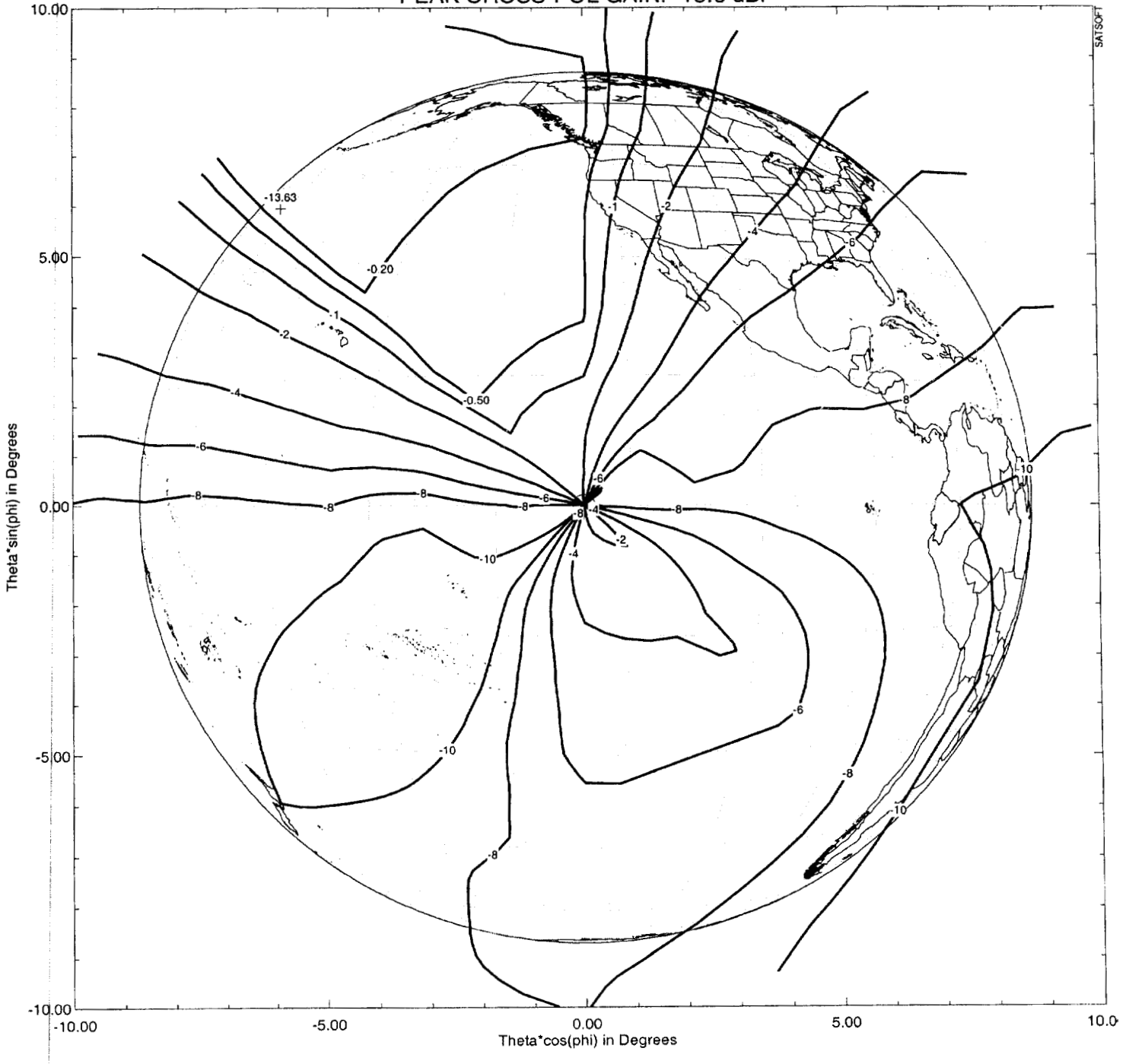
GALAXY-14 (125.15 WL) : C-BAND TRANSMIT CROSS-POL RELATIVE GAIN CONTOUR
OMNI ANTENNA
PEAK CROSS-POL GAIN: -10.1 dBi



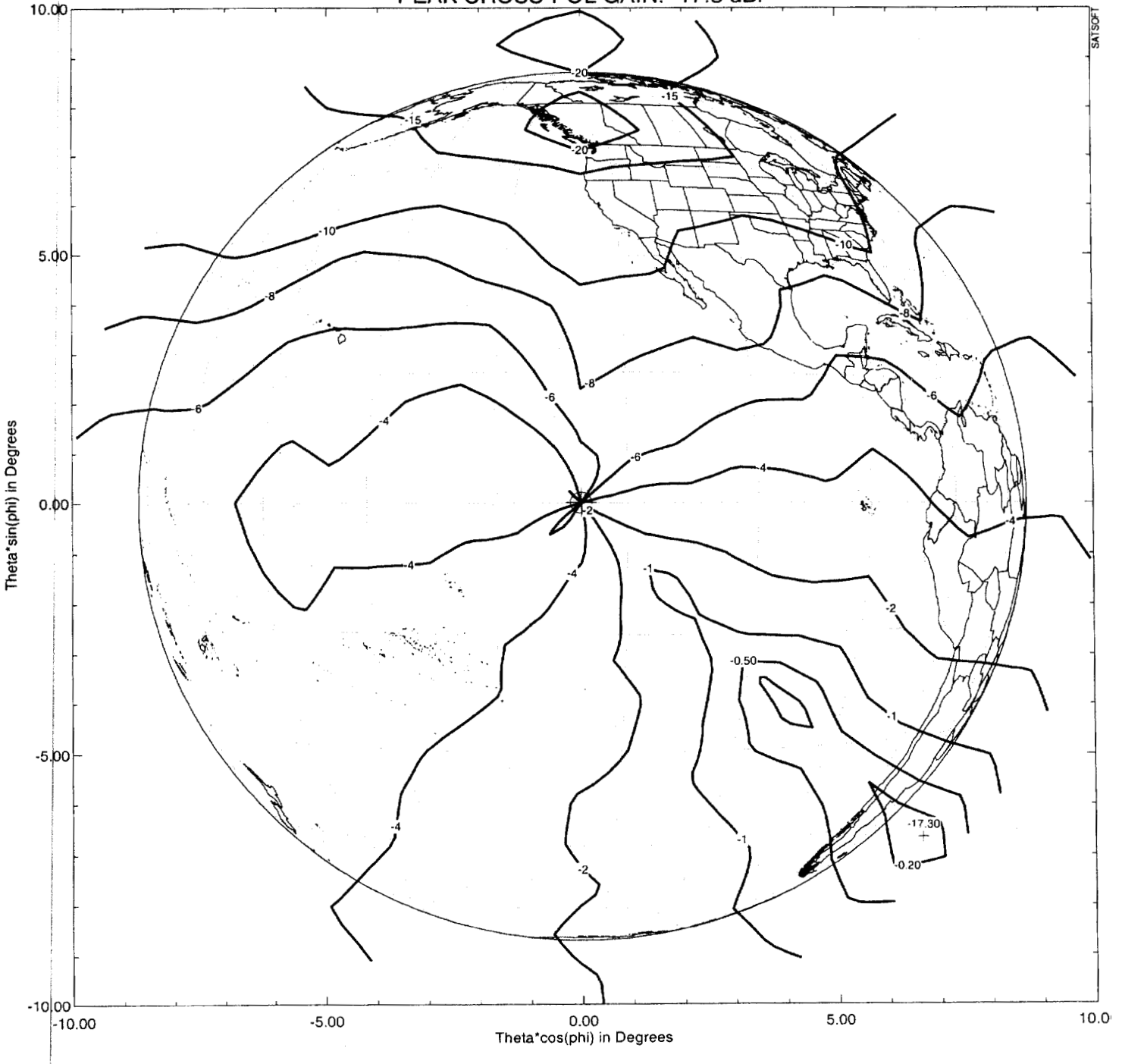
GALAXY-14 (125.15 WL) : C-BAND RECEIVE CROSS-POL RELATIVE GAIN CONTOUR
OMNI ANTENNA
PEAK CROSS-POL GAIN: -7.2 dBi



GALAXY-14 (125.15 WL): C-BAND TRANSMIT CROSS-POL RELATIVE GAIN CONTOUR
WCA ANTENNA
PEAK CROSS-POL GAIN: -13.6 dBi



GALAXY-14 (125.15 WL): C-BAND RECEIVE CROSS-POL RELATIVE GAIN CONTOUR
WCA ANTENNA
PEAK CROSS-POL GAIN: -17.3 dBi



FCC 312 *Schedule S*	**FEDERAL COMMUNICATIONS COMMISSION SATELLITE SPACE STATION AUTHORIZATIONS (Technical and Operational Description)**	**Page 1: General, Frequency Bands, and GSO Orbit**

S1. GENERAL INFORMATION Complete for all satellite applications.

a. Space Station or Satellite Network Name: GALAXY 14		e. Estimated Date of Placement into Service:	i Will the space station(s) operate on a Common Carrier Basis: N
b. Construction Commencement Date:		f. Estimated Lifetime of Satellite(s): Years	j. Number of transponders offered on a common carrier basis:
c. Construction Completion Date:		g. Total Number of Transponders: 24	k. Total Common Carrier Transponder Bandwidth: MHz
d1. Est Launch Date Begin:	d2. Est Launch Date End:	h. Total Transponder Bandwidth (no. transponders x Bandwidth) 864 MHz	l. Orbit Type: Mark all boxes that apply: [X] **GSO** [ ] **NGSO**

S2. OPERATING FREQUENCY BANDS Identify the frequency range and transmit/receive mode for all frequency bands in which this station will oper
Also indicate the nature of service(s) for each frequency band.

Frequency Band Limits				e. T/R Mode	f. Nature of Service(s): List all that apply to this band
Lower Frequency (_Hz)		Upper Frequency (_Hz)			
a. Numeric	b. Unit (K/M/G)	c. Numeric	d. Unit (K/M/G)		
5925	M	6425	M	R	Fixed Satellite Service
3700	M	4200	M	T	*Fixed Satellite Service*

S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:

a. Nominal Orbital Longitude (Degrees E/W): 125.15 W	b. Alternate Orbital Longitude (Degrees E/W):		c. Reason for orbital location selection: TO PROVIDE SERVICE TO UNITED STATES, INCLUDING ALASKA AN HAWAII, AND PUERTO RICO.
Longitudinal Tolerance or E/W Station-Keeping: d. Toward West: 0.05 Degrees e. Toward East: 0.05 Degrees	f. Inclination Excursion or N/S Station-Keeping Tolerance: 0.05 Degrees	*Range of orbital are in which adequate service can be provided (Optional):* Degrees E/W g. Westernmost: h. Easternmost:	
i. Reason for service are selection *(Optional)*:			

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S4. ORBITAL INFORMATION FOR NON-GEOSTATIONARY SATELLITES ONLY

S4a. Total Number of Satellites in Network or System:

S4b. Total Number of Orbital Planes in Network or System:

S4c. Celestial Reference Body (Earth, Sun, Moon, etc.):

S4d. Orbit Epoch Date:

For each Orbital Plane Provide:

(e) Orbital Plane No.	(f) No. of Satellites in Plane	(g) Inclination Angle (degrees)	(h) Orbital Period (Seconds)	(i) Apogee (km)	(j) Perigee (km)	(k) Right Ascension of the Ascending Node (Deg.)	(l) Argument of Perigee (Degrees)	Active Service Arc Range (Degrees)		
								(m) Begin Angle	(n) End Angle	(o) Other

S5. INITIAL SATELLITE PHASE ANGLE For each satellite in each orbital plane, provide the intital phase angle.

(a) Orbital Plane No.	(b) Satellite Number	(c) Initial Phase Angle (Degrees)

NO NGSO DATA FILED

FEDERAL COMMUNICATIONS COMMISSION **Page 3: Service Areas**
SATELLITE SPACE STATION AUTHORIZATIONS
FCC Form 312 - Schedule S: (Technical and Operational Description)

S6. SERVICE AREA CHARACTERISTICS for each service area provide:

(a) Service Area ID	(b) Type of Associated Station (Earth or Space)	(c) Service Area Diagram File Name (GXT File)	(d) Service Area Description. Provide list of geographic areas (state postal codes or ITU 3-ltr codes), satellites or Figure No. of Service Area Diagram.

FEDERAL COMMUNICATIONS COMMISSION
SATELLITE SPACE STATION AUTHORIZATIONS
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S7. SPACE STATION ANTENNA BEAM CHARACTERISTICS For each antenna beam provide:

(a) Beam ID	(b) T/R Mode	Isotropic Antenna Gain		(e) Pointing Error (Degrees)	(f) Rotational Error (Degrees)	(g) Min. Cross-Polar Isolation (dB)	(h) Polarization Switchable? (Y/N)	(i) Polarization Alignment Rel. Equatorial Plane (Degrees)	(j) Service Area ID	Transmit			Receive			Input Attenuator (dB)	
		(c) Peak (dBi)	(d) Edge (dBi)							(k) Input Losses (dB)	(l) Effective Output Power (W)	(m) Max. EIRP (dBW)	(n) System Noice Temp (k)	(o) G/T Max. Gain Pt. (db/K)	(p) Min. Saturation Flux Density (dBW/m2)	(q) Max. Value	(r) Step Size
CHR	R	31.3															
CVR	R	31.3															
CHT	T	29.5															
CVTX	T	29.5															
COR	R	2.1															
COT	T	2.1															
CWR	R	13.1															
CWT	T	13.1															

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S8. ANTENNA BEAM DIAGRAMS For each beam pattern provide the reference to the graphic image and numerical data:
Also provide the power flux density levels in each beam that result from the emission with the highest power flux density.

(a) Beam ID	(b) T/R Mode	(c) Co-or Cross Polar Mode ("C" or" X")	(d) GSO Ref. Orbital Longitude (Deg. E/W)	(e) NGSO Antenna Gain Contour Description (Figure/Table/ Exhibit)	(f) GSO Antenna Gain Contour Data (GXT File)	Max. Power Flux Density (dBW/M2/Hz) At Angle of Arrival above horizontal (for emission with highest PFD)				
						(g) 5 Deg	(h) 10 Deg	(i) 15 Deg	(j) 20 Deg	(k) 25 Deg
CHR	R	C			G14-CHRX.gxt					
CVR	R	C			G14-CVRX.gxt					
CHT	T	C			G14-CHTX.gxt					
CVTX	T	C			G14-CVTX.gxt					
COR	R	C			G14-OMNI.gxt					
COT	T	C			G14-OMNI.gxt					
CWR	R	C			G14-WCA.gxt					
CWT	T	C			G14-WCA.gxt					
CHR	R	X			G14-XCRX.gxt					
CVR	R	X			G14-XCRX.gxt					
CHT	T	X			G14-XCTX.gxt					
CVTX	T	X			G14-XCTX.gxt					
COR	R	X			G14-XOMN-RX.gxt					
COT	T	X			G14-XOMN-TX.gxt					
CWR	R	X			G14-XWCA-RX.gxt					
CWT	T	X			G14-XWCA-TX.gxt					

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S9. SPACE STATION CHANNELS For each frequency channel provide:

(a) Channel No.	(B) Assigned Bandwidth (kHz)	(c) T/R Mode	(d) Center Frequency (MHz)	(e) Polarization (H, V, L, R)	(f) TTC or Comm Channel (T or C)

S10. SPACE STATION TRANSPONDERS For each transponder provide:

(a) Transponder ID	(b) Transponder Gain (dB)	Receive Band		Transmit Band	
		(c) Channel No.	(d) Beam ID	(e) Channel No.	(f) Beam ID

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S11. DIGITAL MODULATION PARAMETERS For each digital emission provide:

(a) Digital Mod. ID	(b) Emission Designator	(c) Assigned Bandwidth (kHz)	(d) No. of Phases	(e)Uncoded Data Rate (kbps)	(f) FEC Error Correction Coding Rate	(g) CDMA Processing Gain (dB)	(h) Total C/N Performance Objective (dB)	(i) Single Entry C/I Objective (dB)

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S12. ANALOG MODULATION PARAMETERS For each analog emission provide:

(a) Analog Mod. ID	(b) Emission Designator	(c) Assigned Bandwidth (kHz)	(d) Signal Type	(e) Channels per Carrier	Multi-channel Telephony				(j) Video Standard NTSC, PAL, etc.	(k) Video Noise-Weighting (dB)	(l) Video and SCPC/FM Modulation Index	(m) SCPC/FM Compander, Preemphasis, and Noise Weighting (dB)	(n) Total C/N Performance Objective (dB)	(o) Single Entry C/I Objective (dB)
					(f) Ave. Companded Talker Level (dBm0)	(g) Bottom Baseband Freq. (MHz)	(h) Top Baseband Freq. (MHz)	(i) RMS Modulation Index						

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S13. TYPICAL EMISSIONS For each planned type of emission provide:

Associated Transponder ID Range		Modulation ID		(e) Carriers per Transponder	(f) Carrier Spacing (kHz)	(g)Noise Budget Reference (Table No.)	(h) Energy Dispersal Bandwidth (kHz)	Receive Band (Assoc. Transmit Stn)			Transmit Band (This Space Station)			
(a) Start	(b) End	(c) Digital (Table S11)	(d) Analog (Table S12)					(i)Assoc. Stn. Max. Antenna Gain (dBi)	Assoc. Station Transmit Power (dBW)		EIRP (dBW)		(n) Max. Power Flux Density (dBW/m2/Hz)	(o)Assoc. Stn Rec. G/T (dB/K)
									(j) Min.	(k) Max.	(l) Min.	(m) Max.		

S14. Is the space station(s) controlled and monitored remotely? If Yes, provide the location and telephone number of the TT and C control point(s): #Error

S15. SPACECRAFT PHYSICAL CHARACTERISTICS:

S16. SPACECRAFT ELECTRICAL CHARACTERISTICS:

S17. CERTIFICATIONS:

a. Are the power flux density limits of § 25.208 met?:	YES #	NO #	N/A #
b. Are the appropriate service area coverage requirements of § 25.143(b)(ii) and (iii), or § 25.145(c)(1) and (2) met?	YES #	NO #	N/A #
c. Are the frequency tolerances of § 25.202(e) and the out-of-band emission limits of § 25.202(f)(1), (2) and (3) met?	YES #	NO #	N/A #

In addition to the information required in this Form, the space station applicant is required to provide all the information specified in Section 25.114 of the Commission's rules, 47 C.F.R § 25.114.

Exhibit B
Response to Item 36
Regarding Cancelled Authorizations

PanAmSat Licensee Corp. ("PanAmSat") never has had an FCC license "revoked." However, on June 26, 2000, the International Bureau "cancelled" two Ka-band satellite authorizations issued to PanAmSat, based on the Bureau's finding that PanAmSat LC had not satisfied applicable construction milestones. *See In re PanAmSat Licensee Corp.*, Memorandum Opinion and Order, DA 00-1266, 15 FCC Rcd 18720 (IB 2000). In that same order, the Bureau denied related applications to modify the cancelled authorizations. PanAmSat filed an application for review of the Bureau's decision, which the Commission denied, and subsequently filed an appeal with the United States Court of Appeals for the District of Columbia Circuit, which was dismissed in January 2003 at PanAmSat's request. Notwithstanding the fact that the Bureau's action does not seem to be the kind of revocation action contemplated by question 36, PanAmSat is herein making note of the decision in the interests of absolute candor and out of an abundance of caution.

In any event, the Bureau's action with respect to PanAmSat does not reflect on its basic qualifications, which are well-established and a matter of public record.