

S2347 SAT-STA-20170623-00096 IB2017001683  
SES Americom, Inc.  
AMC-6



File # SAT-STA-2017 0623-00096  
Call Sign S2347 Grant Date 06/29/17  
(or other identifier)  
From 06/29/17 Term Dates period of 60 days  
To: of 60 days  
Approved: Stephen J. Duall

Approved by OMB  
3060-0678

Date & Time Filed: Jun 23 2017 2:19:34:866PM  
File Number: SAT-STA-20170623-00096  
Callsign:


FEDERAL COMMUNICATIONS COMMISSION  
APPLICATION FOR SPACE STATION SPECIAL TEMPORARY AUTHORITY  
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APPLICANT INFORMATION  
Enter a description of this application to identify it on the main menu:  
Request for Special Temporary Authority to Relocate AMC-6 (S2347) to 83 W.L. Pending Modification Application

1. Applicant

<b>Name:</b>	SES Americom, Inc.	<b>Phone Number:</b>	202-478-7143
<b>DBA Name:</b>		<b>Fax Number:</b>	202-478-7111
<b>Street:</b>	1129 20th Street NW Suite 1000	<b>E-Mail:</b>	petra.vorwig@ses.com
<b>City:</b>	Washington	<b>State:</b>	DC
<b>Country:</b>	USA	<b>Zipcode:</b>	20036 -
<b>Attention:</b>	Ms Petra A Vorwig		

**ATTACHMENT TO GRANT**  
SES Americom, Inc.  
IBFS File No. SAT-STA-20170623-00096

<b>IBFS File No(s):</b>	SAT-STA-20170623-00096	<p><b>GRANTED – With Conditions</b></p>  <p><b>International Bureau Satellite Division</b></p>
<b>Licensee/Grantee:</b>	SES Americom, Inc.	
<b>Call Sign:</b>	S2347	
<b>Satellite Name:</b>	AMC-6	
<b>Orbital Location: (required station-keeping tolerance)</b>	83.0° W.L. (+/- 0.05 degrees east/west station keeping)	
<b>Administration:</b>	United States of America <sup>1</sup>	
<b>Nature of Service:</b>	Fixed-Satellite Service; Direct-to-home (DTH) <sup>2</sup> ; Telemetry, Tracking, and Command (TT&C)	
<b>Scope of Grant:</b>	Special temporary authority for a period of 60 days to (1) conduct TT&C operations necessary to drift AMC-6 from its current location at the 85.0° W.L. orbital location to the 83.0° W.L. orbital location, using the following center frequencies: 3700.5 MHz, 4199.5 MHz, 11.702 GHz, and 12.198 GHz (space-to-Earth); and 6423.5 MHz (Earth-to-space), and (2) provide fixed-satellite service from 83.0° W.L. in the 3700-4200 MHz (space-to-Earth), 5925-6425 MHz (Earth-to-space), 11.45-11.7 GHz (space-to-Earth), 11.7-12.2 GHz (space-to-Earth), 13.75-14.0 GHz, (Earth-to-space), and 14.0-14.5 GHz (Earth-to-space) frequency bands, including DTH in the 11.7-12.2 GHz (space-to-Earth) frequency band.	
<b>Service Area(s):</b>	See Narrative at 5-16.	
<b>Frequencies:</b>	3700-4200 MHz (space-to-Earth) 5925-6425 MHz (Earth-to-space) 11.45-11.7 GHz (space-to-Earth) 11.7-12.2 GHz (space-to-Earth) 13.75-14.0 GHz (Earth-to-space) 14.0-14.5 GHz (Earth-to-space)  Telemetry, Tracking & Command center frequencies: 3700.5 MHz, 4199.5 MHz, 11.702 GHz, and 12.198 GHz (space-to-Earth) 6423.5 MHz (Earth-to-space)	
<p><b>Unless otherwise specified herein, operations under this grant must comport with the legal and technical specifications set forth by the applicant or petitioner and with Federal Communication Commission's rules not waived herein. This grant is also subject to the following conditions:</b></p> <ol style="list-style-type: none"> <li>1. Operations pursuant to this special temporary authority must be on an unprotected and non-harmful interference basis, i.e., the AMC-6 space station must not cause harmful interference to, and must not claim protection from interference caused to it by, any other lawfully operating station. In the event of any harmful interference, SES Americom must cease operations immediately upon notification of such interference, and must inform the Commission, in writing, immediately of such an event.</li> <li>2. SES Americom must coordinate the operations of AMC-6 with existing geostationary space stations to ensure that no unacceptable interference results from its operations during drift from the 85.0° W.L. orbital location to the 83.0° W.L. orbital location.</li> </ol>		

<sup>1</sup> SES Americom states that it will operate AMC-6 in the extended Ku-band (11.45-11.7 GHz and 13.75-14.0 GHz) frequency bands under ITU network filing LUX-G8-44 held by the Luxembourg Administration.

<sup>2</sup> For purposes of this condition, DTH means the services subject to section 25.701 of the Commission's rules. 47 CFR § 25.701.

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SES Americom, Inc.  
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3. SES Americom must operate only the TT&C frequencies authorized for AMC-6 during the space station's drift from the 85.0° W.L. orbital location to the 83.0° W.L. orbital location.
4. While at the 83.0° W.L. orbital location, SES Americom must maintain the AMC-6 spacecraft with an east/west longitudinal station-keeping tolerance of +/- 0.05 degrees.
5. In connection with the provision of service in any particular country, SES Americom is obliged to comply with the applicable laws, regulations, rules, and licensing procedures of that country.
6. SES Americom must operate AMC-6 at the 83.0° W.L. orbital location in compliance with all existing or future coordination agreements for this location. In the absence of a coordination agreement, such communications must comply with applicable provisions of the ITU Radio Regulations as the Commission cannot guarantee the success of the required coordinations.
7. The operations of AMC-6 and associated earth stations must comport with the applicable uplink and downlink limits in 47 CFR § 25.140(a)(3) of the Commission's rules, unless SES Americom coordinates any non-conforming operations with the operations of U.S.-licensed geostationary orbit space stations within 6 degrees of the 83.0° W.L. orbital location. SES Americom must also comport with the maximum power limits indicated in existing or future coordination agreements at 83.0° W.L. Non-conforming operation must also be coordinated with respect to those operations of non-U.S.-licensed space stations within 6 degrees of 83.0° W.L. involving approved communications with U.S.-licensed earth stations.
8. SES Americom's use of the 11.45-11.7 GHz (space-to-Earth) frequency band is subject to footnote US211 to the United States Table of Frequency Allocations, 47 CFR § 2.106, US211, which urges applicants for airborne or space station assignments to take all practicable steps to protect radio astronomy observations in the adjacent bands from harmful interference, consistent with footnote US74.
9. SES Americom's operation of the AMC-6 space station in the 11.45-11.7 GHz (space-to-Earth) frequency band is limited to international operations in accordance with footnote NG52 to the United States Table of Frequency Allocations. 47 CFR § 2.106, NG52.
10. Pursuant to footnote US342 to the United States Table of Frequency Allocations, 47 CFR § 2.106, US342, services operating in the 14.47-14.5 GHz band shall take all practicable steps to protect the radio astronomy service from harmful interference.
11. Pursuant to footnote US337 to the United States Table of Frequency Allocations, 47 CFR § 2.106, US337, any earth station in the United States and its possessions communicating with the AMC-6 space station in the 13.75-13.8 GHz (Earth-to-space) frequency band is required to coordinate through National Telecommunications and Information Administration's (NTIA's) Interdepartment Radio Advisory Committee's (IRAC's) Frequency Assignment Subcommittee (FAS) to minimize interference to the National Aeronautics and Space Administration Tracking and Data Relay Satellite System, including manned space flight.
12. Operations of any earth station in the United States and its possessions communicating with the AMC-6 space station in the 13.75-14.0 GHz band (Earth-to-space) must comply with footnote US356 to United States Table of Frequency Allocations, 47 CFR § 2.106, US356, which specifies a mandatory minimum antenna diameter of 4.5 meters and the equivalent isotropically radiated powers (e.i.r.p.) of any emission should be at least 68 dBW and should not exceed 85 dBW. Operations of any earth station located outside the United States and its possessions communicating with the AMC-6 space station in the 13.75-14.0 GHz band (Earth-to-space) frequency band are subject to footnote 5.502 to the ITU Radio Regulations, which allows a minimum antenna diameter of 1.2 meters for earth stations of a geostationary satellite orbit network and specifies mandatory power limits.
13. Pursuant to footnote US356 to the United States Table of Frequency Allocations, 47 CFR § 2.106, US356, in the 13.75-14.0 GHz band (Earth-to-space), receiving space stations in the Fixed-Satellite

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**SES Americom, Inc.**  
**IBFS File No. SAT-STA-20170623-00096**

Service must not claim protection from radiolocation transmitting stations operating in accordance with the United States Table of Frequency Allocations.


14. Operations of any earth station in the United States and its possessions communicating with the AMC-6 space station in the 13.77-13.78 GHz band (Earth-to-space) must comply with footnote US357 to United States Table of Frequency Allocations, 47 CFR § 2.106, US357, which specifies that a required maximum e.i.r.p. density of emissions not exceeded 71 dBW in any 6 MHz band for communications with a space station in geostationary-satellite orbit. Operations of any earth station located outside the United States and its possessions communicating with the AMC-6 space station in the 13.77-13.78 GHz band (Earth-to-space) are subject to footnote 5.503 to the ITU Radio Regulations, which specifies a required maximum e.i.r.p. density of emissions (limit is dependent on antenna diameter) for communications with a space station in geostationary-satellite orbit.
15. Any action taken or expense incurred as a result of operations pursuant to this special temporary authority is solely at SES Americom's own risk.

Licensee/grantee is afforded thirty (30) days from the date of release of this action to decline the grant as conditioned. Failure to respond within this period will constitute formal acceptance of the grant as conditioned. This action is taken pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 CFR § 0.261, and is effective upon release.

Station licenses are subject to the conditions specified in Section 309(h) of the Communications Act of 1934, as amended, 47 U.S.C. § 309(h).

<b>Action Date:</b>	June 29, 2017	
<b>Term Dates</b>	<b>From:</b> June 29, 32017	<b>To:</b> period of 60 days

**Approved:**

  
 Stephen J. Duall  
 Chief, Satellite Policy Branch

2. Contact

<b>Name:</b>	Karis Hastings	<b>Phone Number:</b>	202-599-0975
<b>Company:</b>	SatCom Law LLC	<b>Fax Number:</b>	
<b>Street:</b>	1317 F St, NW Suite 400	<b>E-Mail:</b>	karis@satcomlaw.com
<b>City:</b>	Washington	<b>State:</b>	DC
<b>Country:</b>	USA	<b>Zipcode:</b>	20004 -
<b>Attention:</b>		<b>Relationship:</b>	Legal Counsel

(If your application is related to an application filed with the Commission, enter either the file number or the IB Submission ID of the related application. Please enter only one.)

3. Reference File Number or Submission ID

4a. 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):

4b. Fee Classification CRY - Space Station (Geostationary)

5. Type Request

Change Station Location

Extend Expiration Date

Other

6. Temporary Orbit Location

83.0 W.L

7. Requested Extended Expiration Date

8. Description (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

SES Americom, Inc. hereby respectfully requests special temporary authority for a period of 60 days beginning on or before June 29, 2017 to permit relocation of the AMC-6 C/Ku-band fixed-satellite space station (S2347) to 83.0 W.L. to offer a long-term solution for customers whose service at 83 W.L. was interrupted by the recent AMC-9 anomaly and pending

9. 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

10. Name of Person Signing  
Petra A. Vorwig

11. Title of Person Signing  
Senior Legal & Regulatory Counsel

12. Please supply any need attachments.

Attachment 1: STA Narrative

Attachment 2:

Attachment 3:

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).

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**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.**

## **8. Description**

SES Americom, Inc. hereby respectfully requests special temporary authority for a period of 60 days beginning on or before June 29, 2017 to permit relocation of the AMC-6 C/Ku-band fixed-satellite space station (S2347) to 83.0 W.L. to offer a long-term solution for customers whose service at 83 W.L. was interrupted by the recent AMC-9 anomaly and pending submission of and action on an application to modify the AMC-6 license. See attached narrative.



**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of )  
 )  
SES AMERICOM, INC. ) File No. SAT-STA-\_\_\_\_\_  
 ) Call Sign S2347  
Request for Special Temporary Authority to )  
Relocate the AMC-6 Fixed-Satellite Space )  
Station to 83° W.L. )

*Expedited Action Requested*

**REQUEST OF SES AMERICOM, INC.**

SES Americom, Inc. ("SES") hereby respectfully requests special temporary authority ("STA") for a period of 60 days beginning on or before June 29, 2017, to permit relocation of the AMC-6 C/Ku-band fixed-satellite space station to 83° W.L.<sup>1</sup> Specifically, SES seeks authority to: (1) drift AMC-6 from its current position at 85.0° W.L. to 83.0° W.L. and maintain it at that location using certain C-band and conventional Ku-band frequencies for Telemetry, Tracking and Command ("TT&C");<sup>2</sup> and (2) operate AMC-6 in the conventional C-band, conventional Ku-band and extended Ku-band<sup>3</sup> frequencies at 83.0° W.L. SES seeks STA pending submission of and action on an application to modify the AMC-6 license that will be

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<sup>1</sup> SES is requesting STA for a period of 60 days; however, if the Commission determines it is not able to grant STA for that period, SES will accept an authorization for 30 days.

<sup>2</sup> The AMC-6 TT&C frequencies and nominal polarizations are as follows:

Command: 6423.5 MHz (horizontal polarization; uplink)  
Telemetry: 3700.5 MHz (horizontal polarization; downlink),  
4199.5 MHz (vertical polarization; downlink), and  
11702.0 MHz (horizontal polarization; downlink)  
12198.0 MHz (vertical polarization; downlink).

<sup>3</sup> Operations in the extended Ku-band (specifically 11.45-11.7 and 13.75-14 GHz) will be conducted under an ITU network filing LUX-G8-44 held by the Luxembourg Administration.

filed shortly to reflect these changes. Grant of the requested authority will serve the public interest by allowing SES to offer a long-term solution for customers whose service at 83° W.L. was interrupted by the recent AMC-9 anomaly. AMC-6 will also add capacity in the extended Ku-band.

As SES previously notified the Commission, on June 17, 2017, the AMC-9 satellite assigned to 83° W.L. experienced an anomaly of unknown origin. Due to this anomaly, the satellite is not responding to commands, and SES is unable to maintain the satellite in its assigned stationkeeping volume. SES received STA for 30 days to continue communications with the satellite for TT&C purposes only.<sup>4</sup> A significant portion of the traffic that had been carried by AMC-9 has been transitioned to AMC-6, which was recently relocated to 85° W.L. pursuant to Commission authority.<sup>5</sup>

In response to the anomaly, SES has developed a plan to restore long-term service to the customers previously using AMC-9 at 83° W.L. and seeks the necessary authority to implement the solution as quickly as possible. Initially, SES's AMC-4 satellite, which is currently authorized to drift to 134.9° W.L.,<sup>6</sup> will stop temporarily at 85° W.L. on or around June 29, 2017.<sup>7</sup> SES will transfer active traffic on AMC-6 at 85° W.L. to AMC-4. Once the traffic has been transferred, which is expected to be completed by early on June 30, AMC-6 can be relocated to 83° W.L. After AMC-6 arrives at 83° W.L. on or around July 3, SES will

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<sup>4</sup> See SES Americom, Inc., File No. SAT-STA-20170619-00091, granted June 17, 2017.

<sup>5</sup> See SES Americom, Inc., File No. SAT-MOD-20170316-00051 (the "AMC-6 Modification"), granted June 14, 2017.

<sup>6</sup> SES Americom, Inc., File No. SAT-STA-20170503-00070, granted June 7, 2017.

<sup>7</sup> SES is simultaneously filing a separate STA request for the proposed temporary operation of AMC-4 at 85° W.L.

transfer all of the traffic from AMC-4 back to AMC-6. Following completion of that traffic transfer on or before July 7, AMC-4 will resume its drift to the nominal 135° W.L. orbital location.

SES has entered into an agreement with EchoStar Satellite Operating Corporation (“EchoStar”), which holds the license for the Ku-band payload of the AMC-16 Ku/Ka-band spacecraft located at 85° W.L.,<sup>8</sup> to operate AMC-4 temporarily at 85° W.L. in order to facilitate the relocation of AMC-6 to 83° W.L. and to restore customers affected by the AMC-9 anomaly. Reassignment of AMC-6 to 83° W.L. will also allow new extended Ku-band service to be offered at that location.

The Commission has generally permitted satellite operators the flexibility to design and modify their networks in response to customer requirements, absent compelling countervailing public interest considerations.<sup>9</sup> Here, the requested authority is necessary to provide a quick and long-term solution to restore service for customers, including the U.S. Department of Defense, that were affected by the AMC-9 anomaly. The two-degree shift in the AMC-6 location will not change the vast majority of the technical information that was included in the AMC-6 Modification. Pending submission of the full reassignment application, SES is attaching here updated contour maps reflecting the modest shift in the AMC-6 coverage associated with the satellite’s move from 85° W.L. to 83° W.L.

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<sup>8</sup> See File No. SAT-ASG-20141020-00111.

<sup>9</sup> See, e.g. *AMSC Subsidiary Corporation*, 13 FCC Rcd 12316 at ¶ 8 (IB 1998) (the Commission generally leaves space station design decisions to the licensee “because the licensee is in a better position to determine how to tailor its system to meet the particular needs of its customers”) (footnote omitted).

For the foregoing reasons, SES respectfully requests expeditious grant of STA to permit relocation of AMC-6 to 83° W.L pending submission of and action on the modification application to be filed shortly.

Respectfully submitted,

SES AMERICOM, INC.

By: /s/ Petra A. Vorwig

Of Counsel

Karis A. Hastings  
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Washington, D.C. 20004  
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Petra A. Vorwig  
Senior Legal & Regulatory Counsel  
SES Americom, Inc.  
1129 20<sup>th</sup> Street, N.W., Suite 1000  
Washington, D.C. 20036

Dated: June 23, 2017

ATTACHMENT

CONTOUR MAPS FOR AMC-6 OPERATIONS AT 83° W.L.

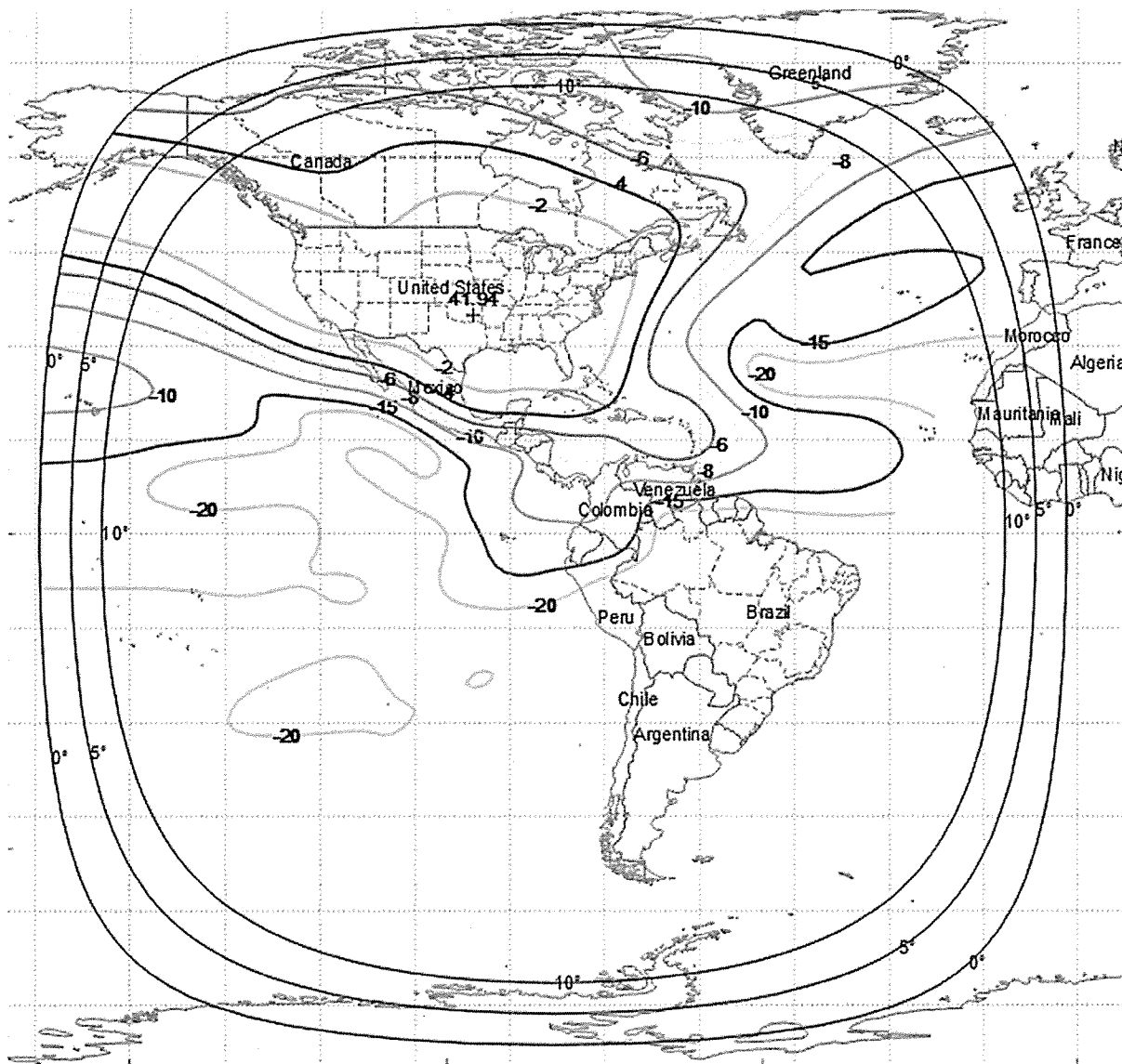


Figure 1: AMC-6 C-Band Beam Vertical Pol (Channel 12) EIRP Contour

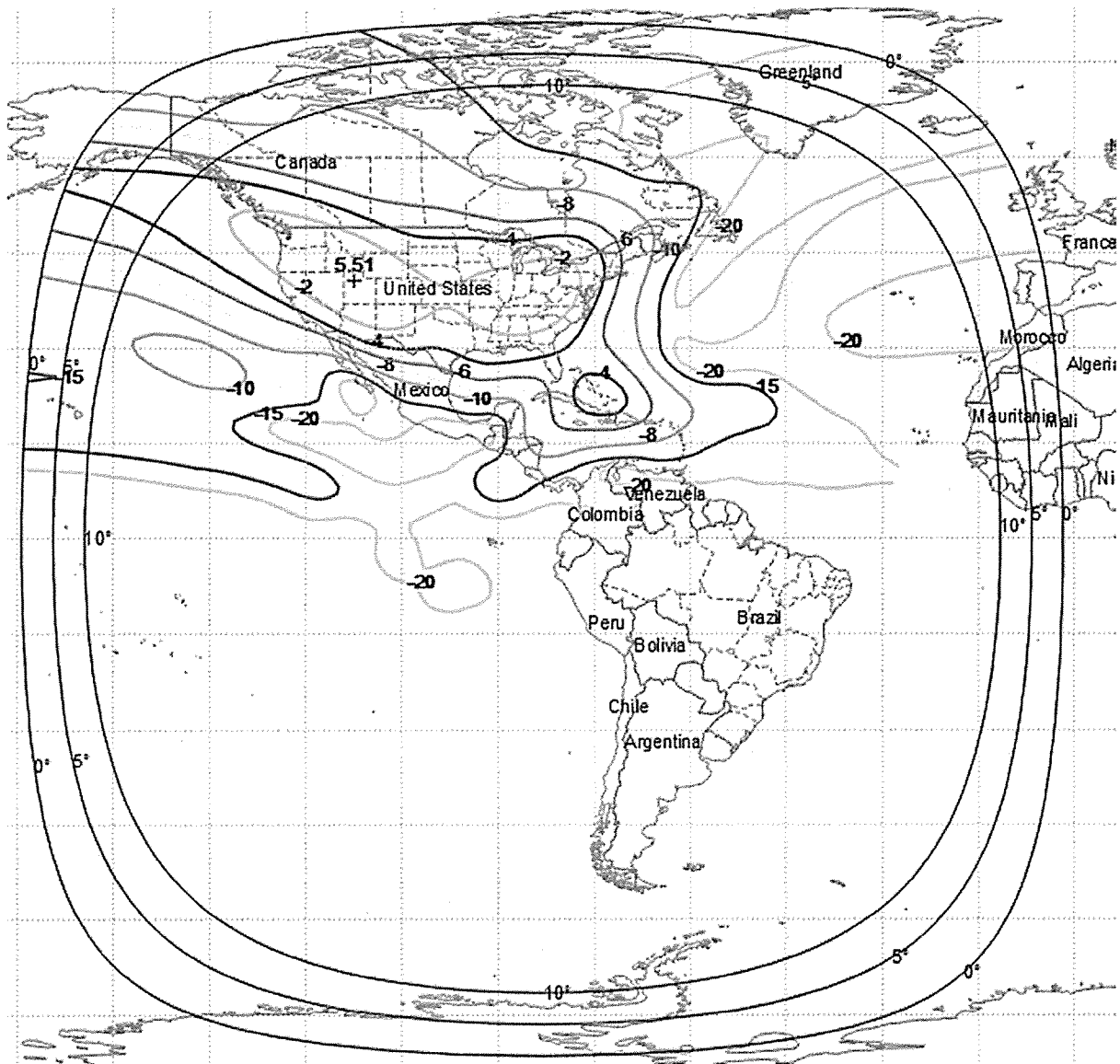


Figure 2: AMC-6 C-Band Beam Horizontal Pol (Channel 12) G/T Contour

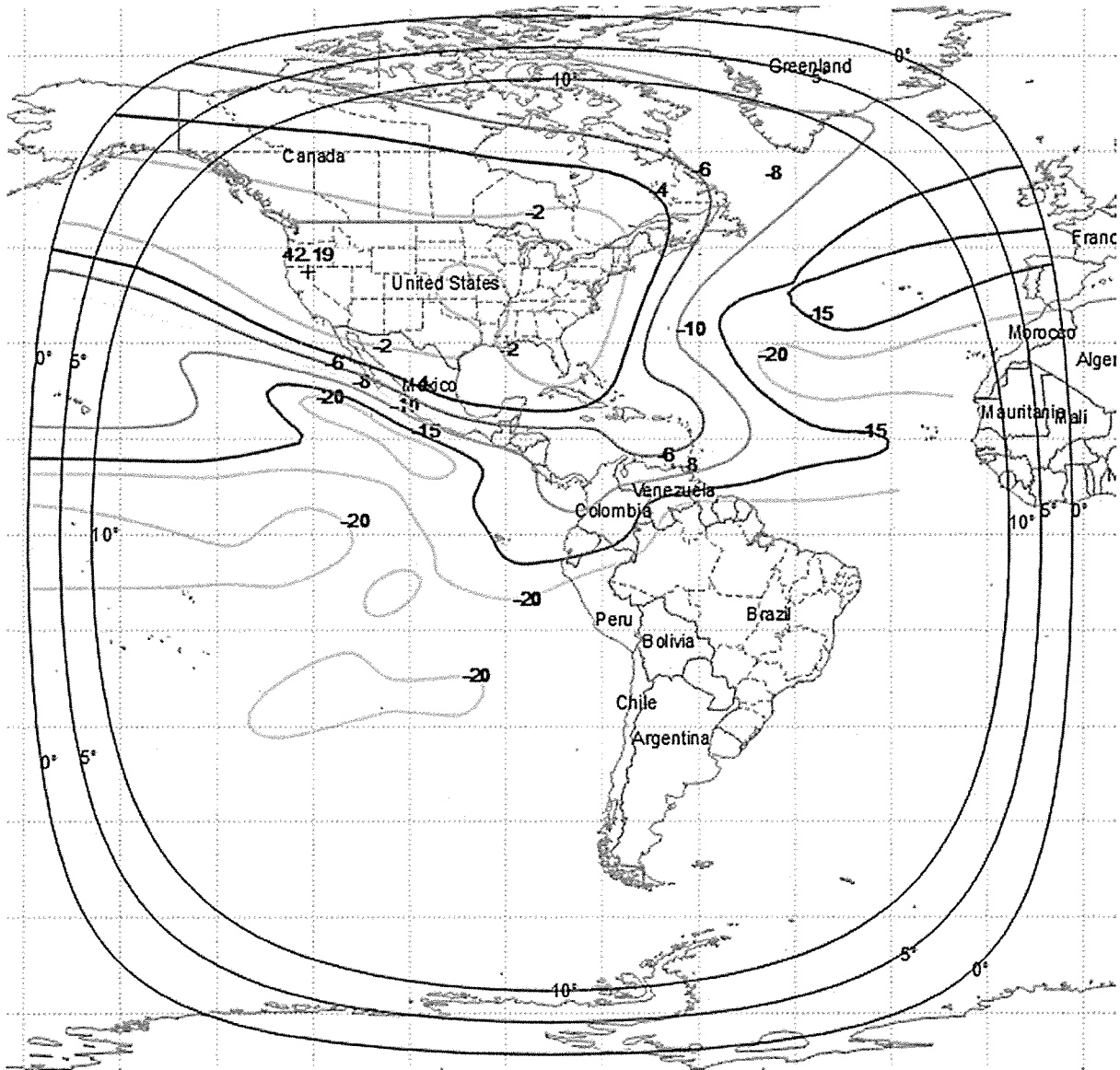


Figure 3: AMC-6 C-Band Beam Horizontal Pol (Channel 13) EIRP Contour

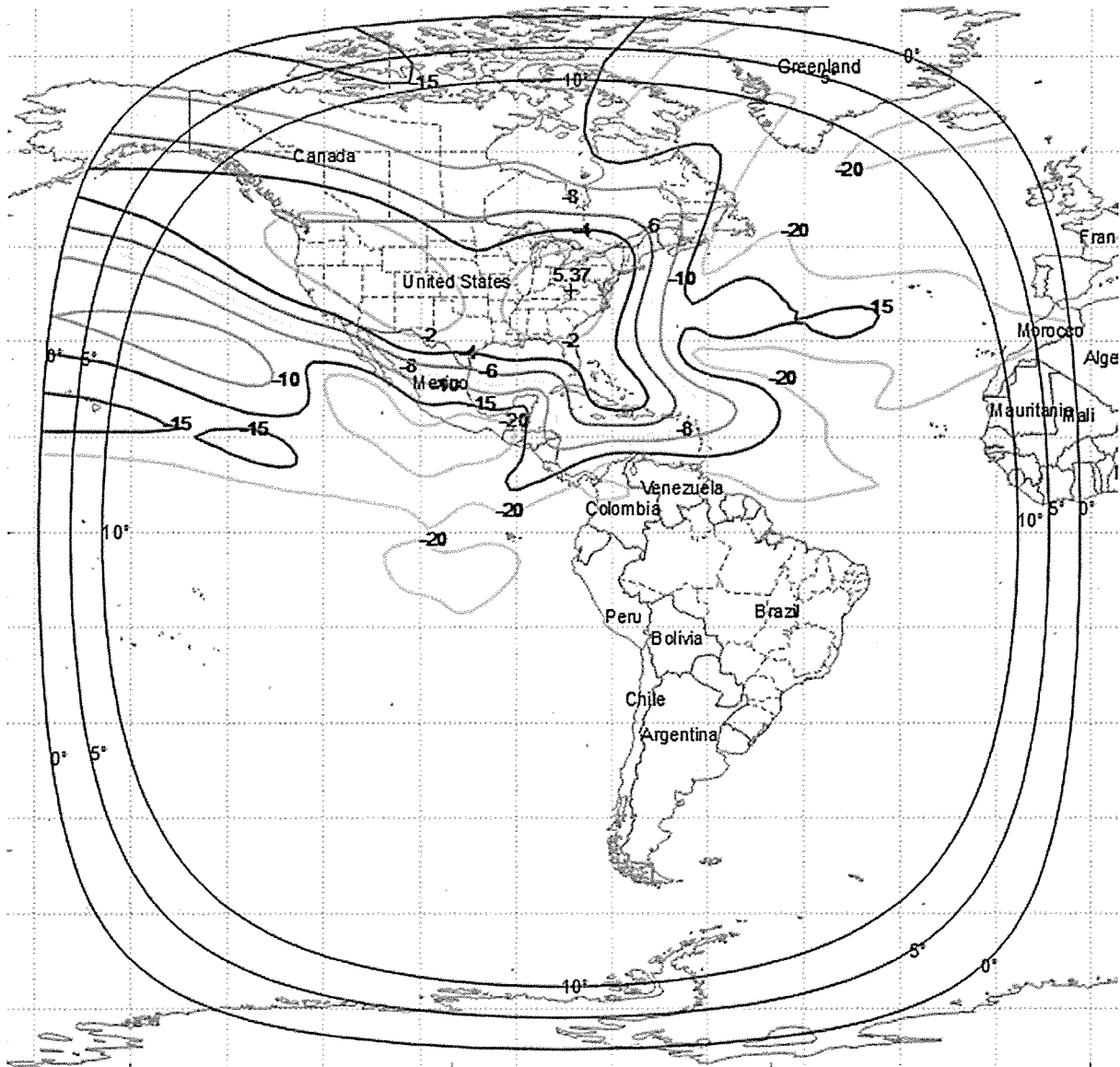


Figure 4: AMC-6 C-Band Beam Vertical Pol (Channel 13) G/T Contour



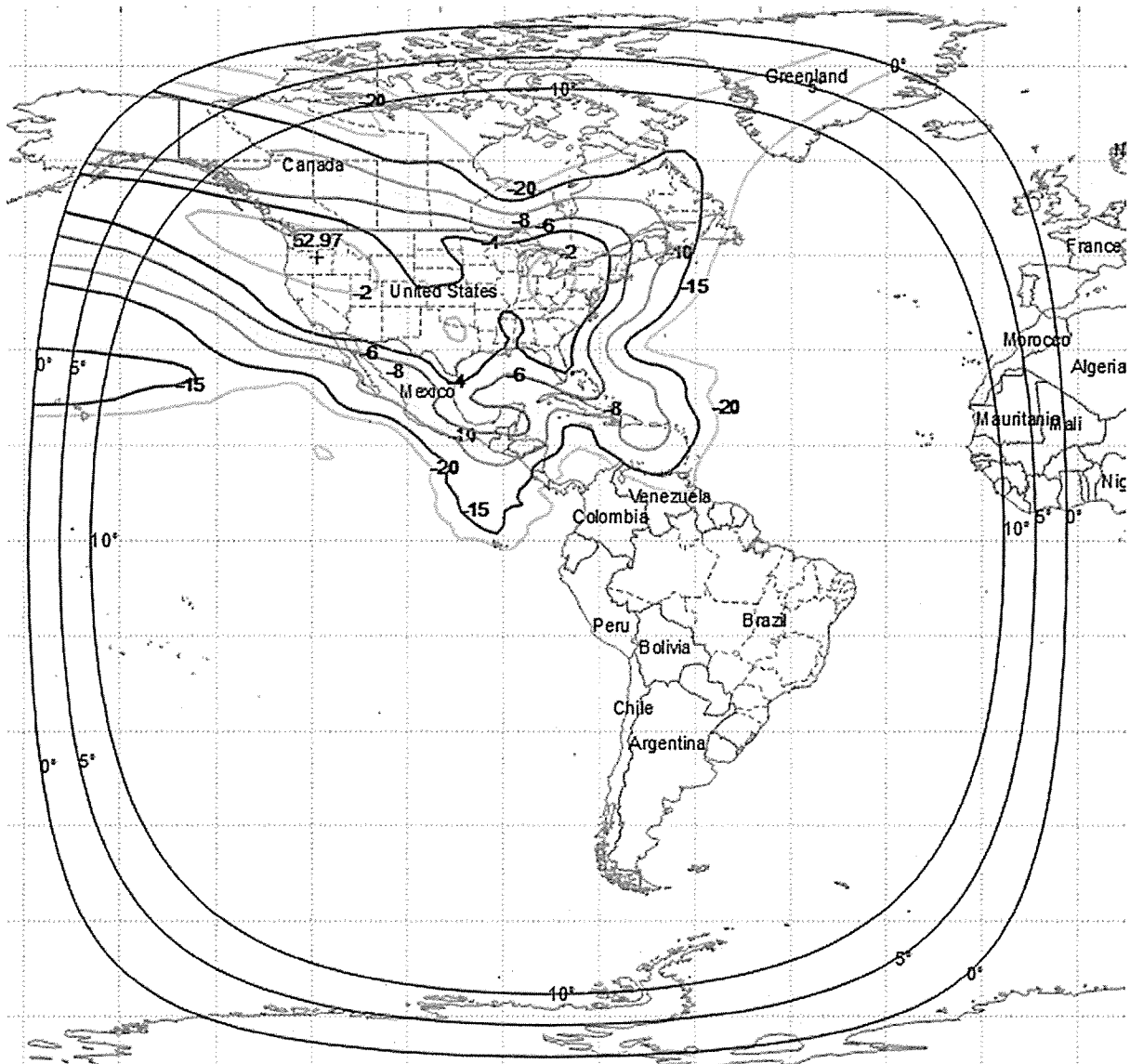


Figure 5: AMC-6 Ku-Band NA Beam Horizontal Pol (Channel 12) EIRP Contour

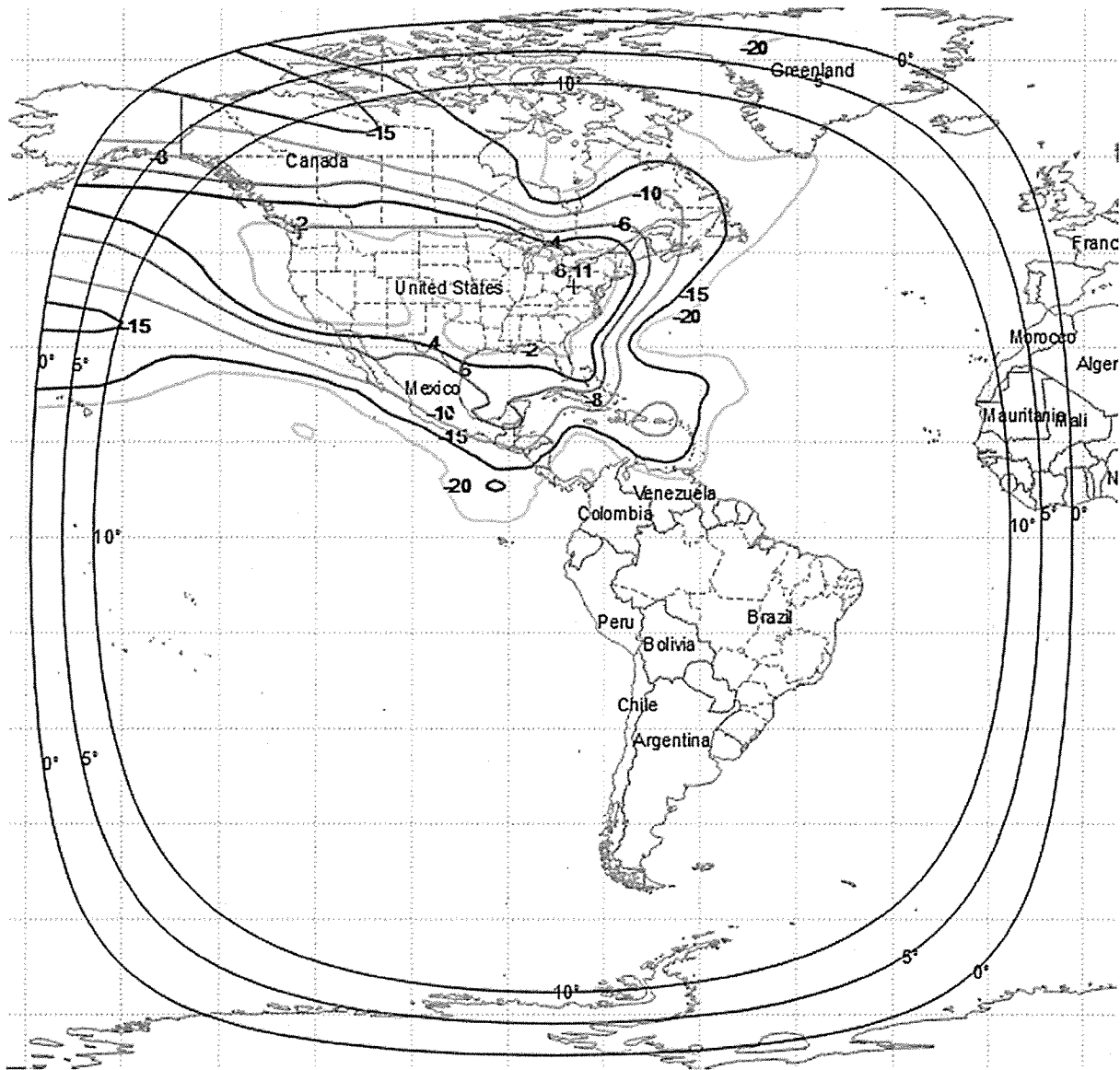


Figure 6: AMC-6 Ku-Band NA Beam Vertical Pol (Channel 12) G/T Contour

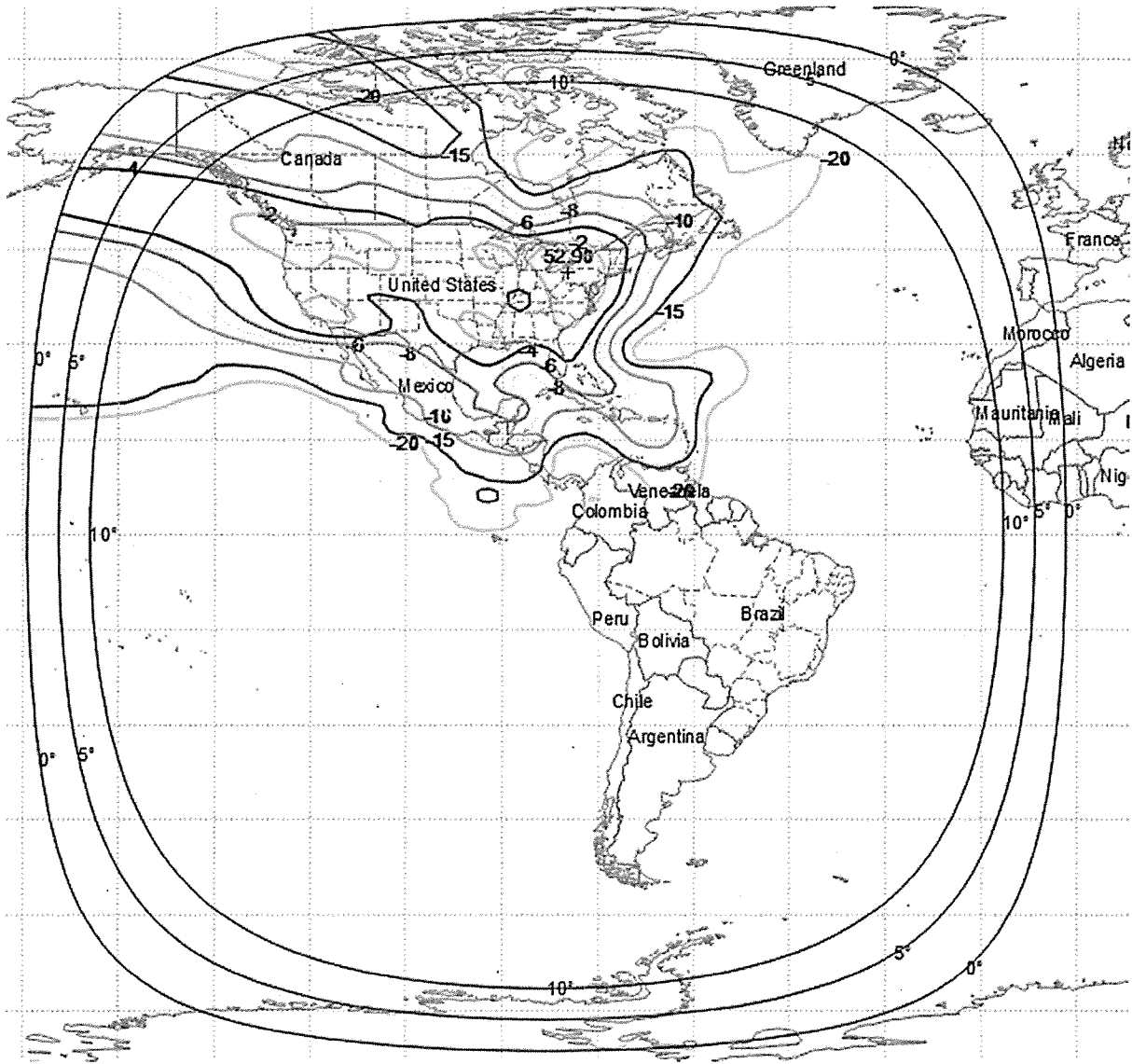


Figure 7: AMC-6 Ku-Band NA Beam Vertical Pol (Channel 13) EIRP Contour

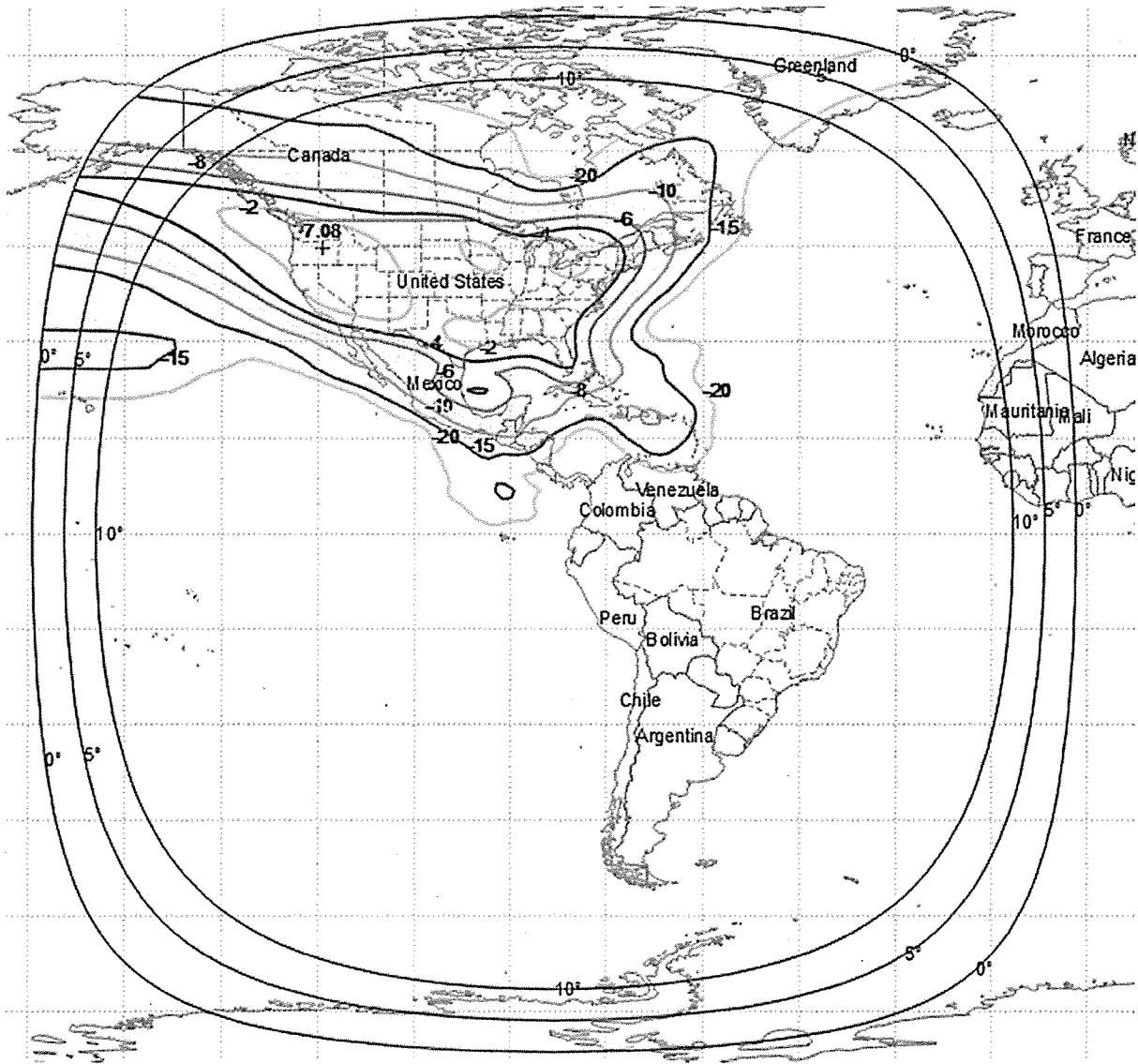


Figure 8: AMC-6 Ku-Band NA Beam Horizontal Pol (Channel 13) G/T Contour

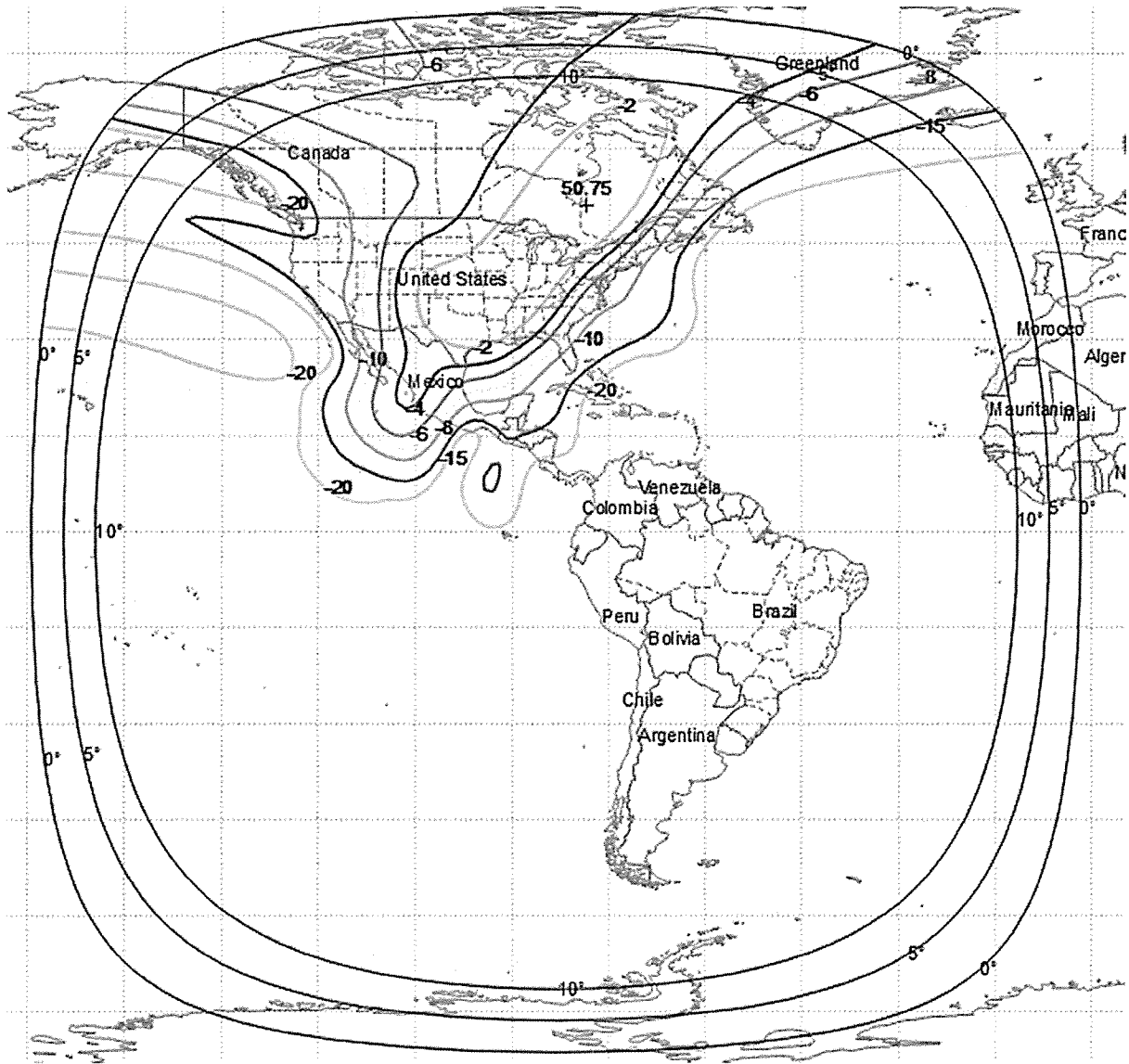


Figure 9: AMC-6 Ku-Band SA Beam Horizontal Pol (Channel 12) EIRP Contour

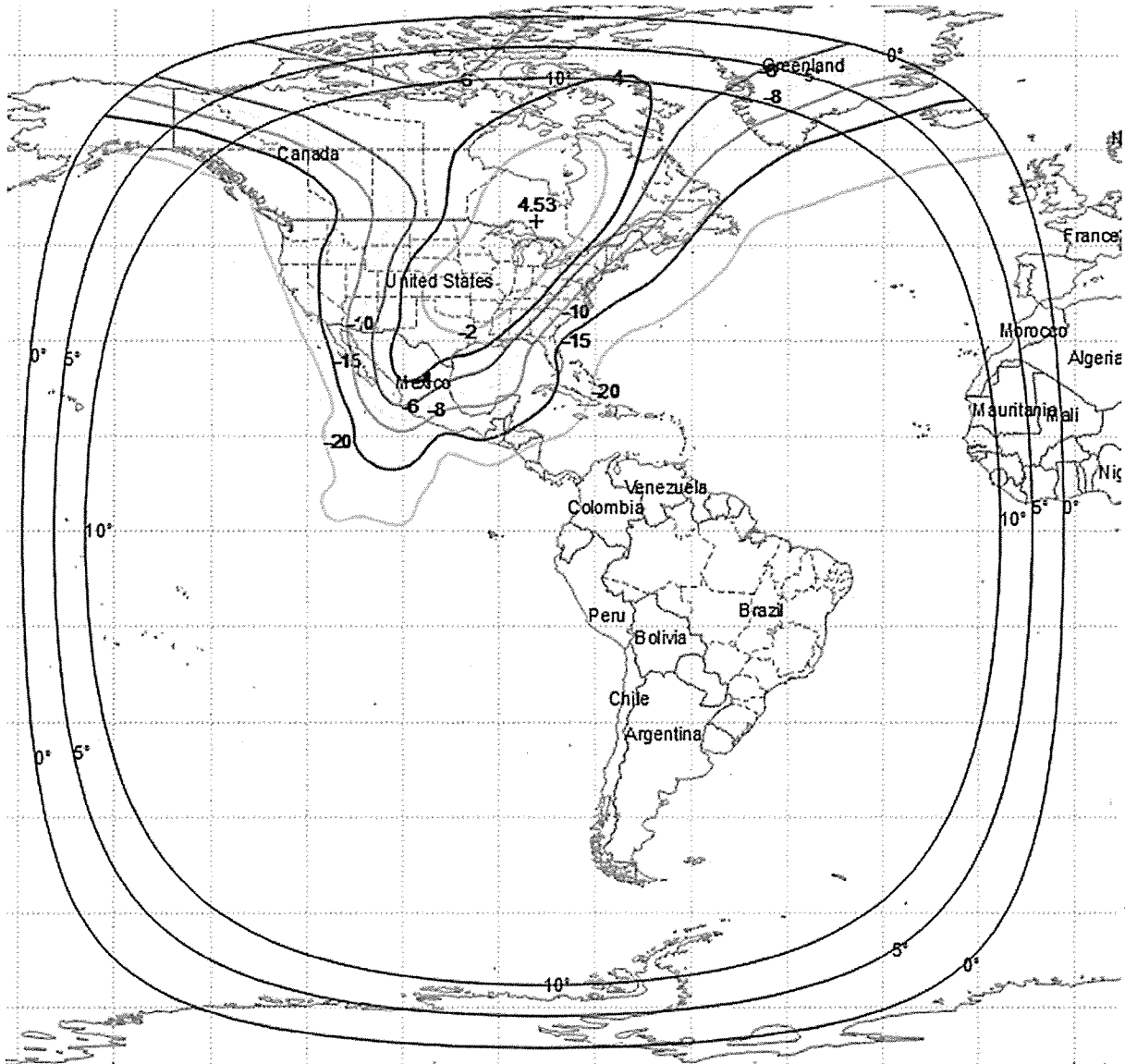


Figure 10: AMC-6 Ku-Band SA Beam Vertical Pol (Channel 12) G/T Contour

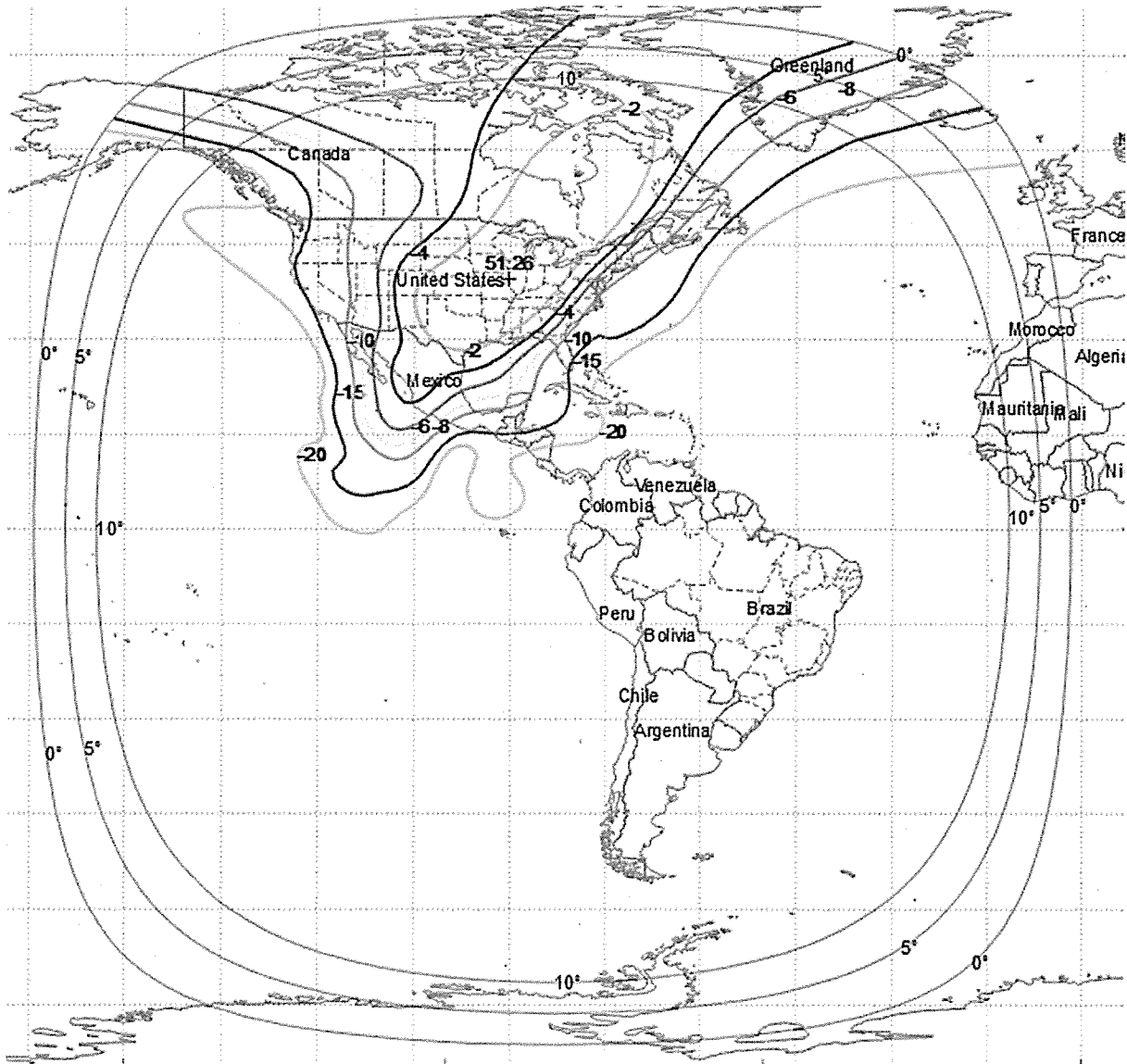


Figure 11: AMC-6 Ku-Band SA Beam Vertical Pol (Channel 13) EIRP Contour

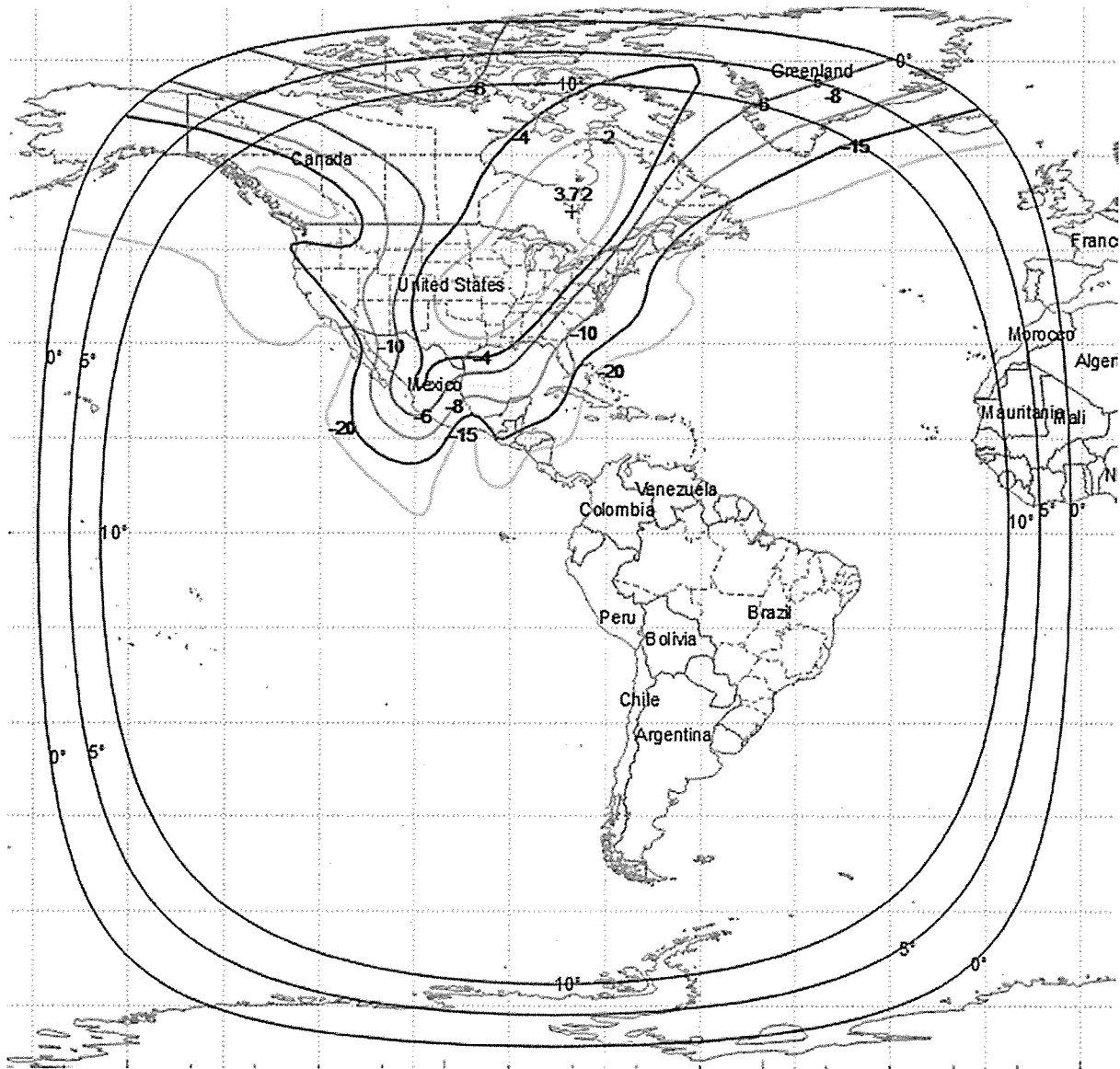


Figure 12: AMC-6 Ku-Band SA Beam Horizontal Pol (Channel 13) G/T Contour