

S2711 SAT-MOD-20141103-00119 IB2014002190  
DIRECTV Enterprises, LLC  
RB-1



\*with conditions

File # SAT-MOD-20141103-00119

Call Sign S2711 Grant Date 12/18/14  
(or other identifier)

From 12/18/14 Term Dates see conditions  
To: see conditions

Approved: Stephen J. Duall  
Stephen J. Duall  
Chief, Satellite Policy Branch

Approved by OMB  
3060-0678

Date & Time Filed: Nov 3 2014 3:13:05:906PM  
File Number: SAT-MOD-20141103-00119

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

APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:  
RB-1 MOD 11.3.14

1-8. Legal Name of Applicant			
Name:	DIRECTV Enterprises, LLC	Phone Number:	301-663-0053
DBA Name:		Fax Number:	240-358-0569
Street:	2230 E. Imperial Hwy CA/LAI/N340	E-Mail:	jwengryniuk@directv.com
City:	El Segundo	State:	CA
Country:	USA	Zipcode:	90245 -
Attention:	Mr Jack M Wengryniuk		

DIRECTV Enterprises LLC  
IBFS File No. SAT-MOD-20141103-00119  
Call Sign S2711

The application of DIRECTV Enterprises LLC (DIRECTV), IBFS File No. SAT-MOD-20141103-00119, to modify its authorization to operate a 17/24 GHz Broadcasting-Satellite Service space station (Call Sign S2711) at the 99.235° W.L. orbital location is GRANTED.<sup>1</sup> DIRECTV filed this application to demonstrate compliance with the technical rules and information requirements adopted in the *17/24 GHz BSS Second Report and Order*.<sup>2</sup> Operations under this authorization must be in accordance with the technical specifications contained in DIRECTV's application, its initial authorization,<sup>3</sup> the Commission's rules not waived herein, and the following conditions:

1. DIRECTV is granted a waiver of Section 25.264(c) of the Commission's rules, 47 C.F.R. 25.264(c). Section 25.264 requires each 17/24 GHz BSS space station licensee to provide predicted and measured antenna off-axis gain information and associated power flux density (pfd) calculations to facilitate operations with Direct Broadcast Satellite space stations. Subsection (c) specifies that transmitting off-axis gain measurements should be made "in the X-Z plane, *i.e.*, the plane of the geostationary orbit, over a range of  $\pm 30$  degrees from the positive and negative X axes in increments of 5 degrees or less, and in planes rotated from the X-Z plane about the Z axis, over a range of  $\pm 60$  degrees relative to the equatorial plane, in increments of 10 degrees or less." DIRECTV states that due to the mechanical and physical limitations of the test fixture, measurements could only be made over a range of  $\pm 50$  degrees in planes rotated about the Z axis,<sup>4</sup> and to a range of approximately  $\pm 27$  degrees, rather than  $\pm 30$  degrees as specified in the rule, in cases when the test fixture was at the  $\pm 50$  degree limit.<sup>5</sup> DIRECTV asserts however, that all measured levels of off-axis gain are very low, and that the measured results correlate well with predicted results.<sup>6</sup> Consistent with the analysis provided in the *17/24 GHz BSS Second Report and Order*,<sup>7</sup> the measured data over the angular ranges that DIRECTV has provided sufficiently characterizes the interference environment for a DBS spacecraft located at least 0.20 degrees<sup>8</sup>

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<sup>1</sup> This application was placed on public notice as acceptable for filing. *Policy Branch Information Satellite Space Applications Accepted for Filing*, Public Notice, Report No. SAT-01051. No comments were filed.

<sup>2</sup> *Establishment Of Policies And Service Rules For The Broadcasting-Satellite Service at the 17.3-17.7 GHz Frequency Band And At The 17.7-17.8 GHz Frequency Band Internationally, and at the 24.75-25.25 GHz Frequency Band For Fixed Satellite Services Providing Feeder Links To The Broadcasting-Satellite Service and for the Satellite Services Operating Bi-Directionally in the 17.3-17.8 GHz Frequency Band*, Second Report and Order, IB Docket 06-123, 26 FCC Rcd 8927 (2011) (*17/24 GHz BSS Second Report and Order*).

<sup>3</sup> DIRECTV Enterprises, LLC, IBFS File Nos. SAT-LOA-20060908-00099, SAT-AMD-20080114-00113 and SAT-MOD-20080321-00076 (July 28, 2009), SAT-MOD-20110727-00135 (Oct. 26, 2011), SAT-MOD-20111128-00230, and SAT-AMD-20120314-00040 (May 24, 2012), and SAT-MOD-20140624-00077 (Nov. 4, 2014).

<sup>4</sup> DIRECTV Enterprises, LLC, IBFS File No. SAT-MOD-20140612-00067, Attachment at 4-5

<sup>5</sup> Letter to Marlene H. Dortch, Secretary, FCC, from William M. Wiltshire, Counsel for DIRECTV Enterprises, LLC (Nov. 6, 2014).

<sup>6</sup> DIRECTV Enterprises, LLC, IBFS File No. SAT-MOD-20140612-00067, Attachment at 4-5.

<sup>7</sup> *17/24 GHz BSS Second Report and Order*, 26 FCC Rcd at 8970, ¶¶ 20-27 and Appendix E.

<sup>8</sup> The value also takes into account the stated maximum stationkeeping excursion of 0.025 degrees for the RB-1 space station, and the maximum permitted stationkeeping excursion of 0.05 degrees for a presumed DBS space

from DIRECTV's RB-1 space station, *i.e.*, the minimum orbital separation of 0.2 degrees permitted between a 17/24 GHz BSS and DBS space station.<sup>9</sup> Accordingly, the grant of the waiver of Section 25.264(c) of the Commission's rules is based on the following factors:

- a. The nearest U.S.-licensed DBS satellites are also operated by DIRECTV under the United States' ITU BSS Feeder Link Plan Assignment for 101° W.L., and as a result, DIRECTV is in a position to accept the risk of potential interference from the RB-1 operations to its adjacent DBS space stations.
  - b. This waiver is limited to RB-1's operations at the 99.235° W.L. location and with a stationkeeping excursion of no greater than +/-0.025 degrees. If DIRECTV moves RB-1 from this location, or alters its stationkeeping excursion, DIRECTV must request a new waiver of Section 25.264(c).
2. DIRECTV is afforded 30 days from the date of this action to decline this authorization as conditioned. Failure to respond to this period will constitute acceptance of the authorization as conditioned.
  3. This action is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. § 0.261 and is effective immediately. Petitions for reconsideration under Section 1.106 or applications for review under Section 1.115 of the Commission's rules, 47 C.F.R. §§ 0.261 and 1.115, may be filed within 30 days of the date of public notice indicating this action was taken.



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Term Dates see

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Approved: \_\_\_\_\_

*Stephen J. Duall*  
Stephen J. Duall  
Chief, Satellite Policy Branch

station. DIRECTV Enterprises LLC, IBFS File No. SAT-MOD-20141103-00119, Attachment A at 1, and 47 C.F.R. § 25.210(j).

<sup>9</sup> 47 C.F.R. § 25.264(g).

9-16. Name of Contact Representative

<b>Name:</b>	William M. Wiltshire	<b>Phone Number:</b>	202-730-1350
<b>Company:</b>	Harris, Wiltshire & Grannis LLP	<b>Fax Number:</b>	202-730-1301
<b>Street:</b>	1919 M Street NW Suite 800	<b>E-Mail:</b>	wwiltshire@harriswiltshire.com
<b>City:</b>	Washington	<b>State:</b>	DC
<b>Country:</b>	USA	<b>Zipcode:</b>	20036-
<b>Attention:</b>	William M. Wiltshire	<b>Relationship:</b>	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
- b3. Amendment to a Pending Application
- b4. Modification of License or Registration
- b5. Assignment of License or Registration
- b6. Transfer of Control of License or Registration
- 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)
- (N/A) b11. Application for Earth Station to Access a Non-U.S. satellite Not Currently Authorized to Provide the Proposed Service in the Proposed Frequencies in the United States
- (N/A) b12. Application for Database Entry
- b13. Amendment to a Pending Database Entry Application
- b14. Modification of Database Entry

<p>17c. Is a fee submitted with this application?</p> <p><input checked="" type="radio"/> If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114).</p> <p><input type="radio"/> Governmental Entity    <input type="radio"/> Noncommercial educational licensee</p> <p><input type="radio"/> Other (please explain):</p>	
<p>17d.</p> <p>Fee Classification BFY – Space Station Modification (Geostationary)</p>	
<p>18. If this filing is in reference to an existing station, enter:</p> <p>(a) Call sign of station: S2711</p>	<p>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:</p> <p>(a) Date pending application was filed:                      (b) File number:  SATMOD2011112800230</p>

TYPE OF SERVICE

<p>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:</p> <p><input type="checkbox"/> a. Fixed Satellite</p> <p><input type="checkbox"/> b. Mobile Satellite</p> <p><input type="checkbox"/> c. Radiodetermination Satellite</p> <p><input type="checkbox"/> d. Earth Exploration Satellite</p> <p><input type="checkbox"/> e. Direct to Home Fixed Satellite</p> <p><input type="checkbox"/> f. Digital Audio Radio Service</p> <p><input checked="" type="checkbox"/> g. Other (please specify)                      17/24 GHz Broadcasting Satellite Service</p>	
<p>21. STATUS: Choose the button next to the applicable status. Choose only one.</p> <p><input type="radio"/> Common Carrier    <input checked="" type="radio"/> Non-Common Carrier</p>	<p>22. If earth station applicant, check all that apply.</p> <p><input type="checkbox"/> Using U.S. licensed satellites</p> <p><input type="checkbox"/> Using Non-U.S. licensed satellites</p>
<p>23. If applicant is providing INTERNATIONAL COMMON CARRIER service, see instructions regarding Sec. 214 filings. Choose one. Are these facilities:</p> <p><input type="radio"/> Connected to a Public Switched Network    <input type="radio"/> Not connected to a Public Switched Network    <input checked="" type="radio"/> N/A</p>	
<p>24. FREQUENCY BAND(S): Place an 'X' in the box(es) next to all applicable frequency band(s).</p> <p><input type="checkbox"/> a. C-Band (4/6 GHz)    <input type="checkbox"/> b. Ku-Band (12/14 GHz)</p> <p><input checked="" type="checkbox"/> c. Other (Please specify upper and lower frequencies in MHz.)</p> <p>                    Frequency Lower: 17300                      Frequency Upper: 24150                      (Please specify additional frequencies in an attachment)</p>	

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
- 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

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?	<input type="radio"/> Yes <input checked="" type="radio"/> No
30. Is the applicant an alien or the representative of an alien?	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A
31. Is the applicant a corporation organized under the laws of any foreign government?	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> 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?	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> 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?  Yes  No  
If Yes, attach as an exhibit, copies of the requests for waivers or exceptions with supporting documents.

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 explanation of circumstances.  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 explanation 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 attempting 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 exhibit, 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.)

DIRECTV Enterprises, LLC requests modification of its authorization for DIRECTV RB-1 to reflect the submission of measured off-axis gain information and to reduce the station keeping tolerance to 0.025 degrees.

DRB-1 MOD Letter

43a. Geographic Service Rule Certification

By selecting A, the undersigned certifies that the applicant is not subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25.

A

By selecting B, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will comply with such requirements.

B

By selecting C, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will not comply with such requirements because it is not feasible as a technical matter to do so, or that, while technically feasible, such services would require so many compromises in satellite design and operation as to make it economically unreasonable. A narrative description and technical analysis demonstrating this claim are attached.

C

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  
Gavin Shutz



46. Title of Person Signing  
Senior VP of Broadcast Operations

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  
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