



**UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION
RADIO STATION AUTHORIZATION**

Name: Denali 20020, LLC

Call Sign: E150116

Authorization Type: Modification of License

File Number: SES-MOD-20161216-00961

Non Common Carrier

Grant date: 03/22/2017

Expiration Date: 01/11/2031



Nature of Service: Fixed Satellite Service

Class of Station: Fixed Earth Stations

A) Site Location(s)

#	Site ID	Address	Latitude	Longitude	Elevation (Meters)	Special Provisions NAD (Refer to Section H)
1)	Vernon Valley	11 Edsall Drive Vernon, Sussex, NJ 07642	41°12'4.1"N	74°31'37.5"W	186.49	83

Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209

Subject to the provisions of the Communications Act of 1934, The Communications Satellite Act of 1962, subsequent acts and treaties, and all present and future regulations made by this Commission, and further subject to the conditions and requirements set forth in this license, the grantee is authorized to construct, use and operate the radio facilities described below for radio communications for the term beginning January 11, 2016 (3 AM Eastern Standard Time) and ending January 11, 2031 (3 AM Eastern Standard Time). The required date of completion of construction and commencement of operation is March 22, 2018 (3 AM Eastern Standard Time). Grantee must file with the Commission a certification upon completion of construction and commencement of operation.

B) Particulars of Operations

The General Provision 1010 applies to all receiving frequency bands.
The General Provision 1900 applies to all transmitting frequency bands.
For the text of these provisions, refer to Section H.

#	Frequency (MHz)	Polarization Code	Emission	Tx/Rx Mode	Max EIRP /Carrier (dBW)	Max EIRP Density /Carrier (dBW/4kHz)	Associated Antenna	Special Provisions (Refer to Section H)	Modulation/ Services
1)	14000.0000-14500.0000	H, V, L, R	64K0G7W	Tx	53.20	41.20	K17		Digital Data Carrier
2)	14000.0000-14500.0000	H, V, L, R	72M0G7W	Tx	83.70	41.20	K17		Digital Data Carrier
3)	11450.0000-12200.0000	H, V, L, R	64K0G7W	Rx			K17		Digital Data Carrier
4)	11450.0000-12200.0000	H, V, L, R	72M0G7W	Rx			K17		Digital Data Carrier
5)	10950.0000-11200.0000	H, V, L, R	64K0G7W	Rx			K17		Digital Data Carrier
6)	10950.0000-11200.0000	H, V, L, R	72M0G7W	Rx			K17		Digital Data Carrier
7)	14000.0000-14500.0000	H, V, L, R	64K0G7W	Tx	58.10	46.10	K18		Digital Data Carrier
8)	14000.0000-14500.0000	H, V, L, R	72M0G7W	Tx	88.60	46.10	K18		Digital Data Carrier
9)	11450.0000-12200.0000	H, V, L, R	64K0G7W	Rx			K18		Digital Data Carrier



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10)	11450.0000-12200.0000	H, V, L, R	72M0G7W	Rx			K18		Digital Data Carrier
11)	10950.0000-11200.0000	H, V, L, R	64K0G7W	Rx			K18		Digital Data Carrier
12)	10950.0000-11200.0000	H, V, L, R	72M0G7W	Rx			K18		Digital Data Carrier
13)	14000.0000-14500.0000	H, V, L, R	1M00G7W	Tx	69.60	45.70	K6		Digital Data Carrier
14)	14000.0000-14500.0000	H, V, L, R	8M00G7W	Tx	78.70	45.70	K6		Digital Data Carrier
15)	14000.0000-14500.0000	H, V, L, R	36M0G7W	Tx	84.00	44.40	K6		Digital Video Carrier
16)	11450.0000-12200.0000	H, V, L, R	1M00G7W	Rx			K6		Digital Data Carrier
17)	11450.0000-12200.0000	H, V, L, R	8M00G7W	Rx			K6		Digital Data Carrier
18)	11450.0000-12200.0000	H, V, L, R	36M0G7W	Rx			K6		Digital Video Carrier
19)	10950.0000-11200.0000	H, V, L, R	1M00G7W	Rx			K6		Digital Data Carrier
20)	10950.0000-11200.0000	H, V, L, R	8M00G7W	Rx			K6		Digital Data Carrier
21)	10950.0000-11200.0000	H, V, L, R	36M0G7W	Rx			K6		Digital Video Carrier
22)	14000.0000-14500.0000	H, V, L, R	1M00G7W	Tx	63.50	39.60	K7		Digital Data Carrier
23)	14000.0000-14500.0000	H, V, L, R	8M00G7W	Tx	72.60	39.60	K7		Digital Data Carrier
24)	14000.0000-14500.0000	H, V, L, R	36M0G7W	Tx	78.00	38.40	K7		Digital Video Carrier
25)	11450.0000-12200.0000	H, V, L, R	1M00G7W	Rx			K7		Digital Data Carrier
26)	11450.0000-12200.0000	H, V, L, R	8M00G7W	Rx			K7		Digital Data Carrier
27)	11450.0000-12200.0000	H, V, L, R	36M0G7W	Rx			K7		Digital Video Carrier
28)	10950.0000-11200.0000	H, V, L, R	1M00G7W	Rx			K7		Digital Data Carrier
29)	10950.0000-11200.0000	H, V, L, R	36M0G7W	Rx			K7		Digital Data Carrier
30)	10950.0000-11200.0000	H, V, L, R	8M00G7W	Rx			K7		Digital Data Carrier



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C) Frequency Coordination Limits

#	Frequency Limits (MHz)	Satellite Arc (Deg. Long.)		Elevation (Degrees)		Azimuth (Degrees)		Max EIRP Density toward Horizon (dBW/4kHz)	Associated Antenna(s)
		East Limit	West Limit	East Limit	West Limit	East Limit	West Limit		
1)	10950.0000-11200.0000	3.0W	105.0W	05.1	33.2	102.4	221.8		K6
2)	11450.0000-12200.0000	3.0W	105.0W	05.1	33.2	102.4	221.8		K6
3)	14000.0000-14500.0000	3.0W	105.0W	05.1	33.2	102.4	221.8	4.56	K6
4)	10950.0000-11200.0000	3.0W	105.0W	05.1	33.2	102.4	221.8		K7
5)	11450.0000-12200.0000	3.0W	105.0W	05.1	33.2	102.4	221.8		K7
6)	14000.0000-14500.0000	3.0W	105.0W	05.1	33.2	102.4	221.8	4.58	K7
7)	10950.0000-11200.0000	3.0W	143.0W	05.1	07.4	102.4	255.4		K17
8)	11450.0000-12200.0000	3.0W	143.0W	05.1	07.4	102.4	255.4		K17
9)	14000.0000-14500.0000	3.0W	143.0W	05.1	07.4	102.4	255.4	11.98	K17
10)	10950.0000-11200.0000	3.0W	143.0W	05.1	07.4	102.4	255.4		K18
11)	11450.0000-12200.0000	3.0W	143.0W	05.1	07.4	102.4	255.4		K18
12)	14000.0000-14500.0000	3.0W	143.0W	05.1	07.4	102.4	255.4	11.98	K18

D) Points of Communications

The following stations located in the Satellite orbits consistent with Sections B and C of this Entry:

- 1) Vernon Valley to TELSTAR 11N (S2357) @ 37.55 degrees W.L. (U.S.-licensed)
- 2) Vernon Valley to SES-4 (S2828) @ 22 degrees W.L. (Netherlands-licensed)
- 3) Vernon Valley to Permitted Space Station List

E) Antenna Facilities

Site ID	Antenna ID	Units	Diameter (meters)	Manufacturer	Model number	Site Elevation (Meters)	Max Antenna Height (Meters)	Special Provisions (Refer to Section H)
Vernon Valle	K17	1	4.8	VERTEX	4.8 KPK	186.49	4.8 AGL/ 191.29 AMSL	

Max Gains(s): 53.5 dBi @ 11.7000 GHz 55.2 dBi @ 14.2500 GHz
 Maximum total input power at antenna flange (Watts) = 750.00
 Maximum aggregate output EIRP for all carriers (dBW) = 83.90



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Vernon Valle	K18	1	9	VERTEX	9 METER	186.49	9 AGL/ 195.49 AMSL	
Max Gains(s):		58.5 dBi @	11.7000 GHz	60.1 dBi @	14.2500 GHz			
Maximum total input power at antenna flange (Watts) =					750.00			
Maximum aggregate output EIRP for all carriers (dBW) =					88.80			
Vernon Valle	K6	1	8.1	Vertex/RSI	8.1 meter	186.49	8.1 AGL/ 194.59 AMSL	
Max Gains(s):		58.0 dBi @	11.7000 GHz	59.7 dBi @	14.2500 GHz			
Maximum total input power at antenna flange (Watts) =					269.00			
Maximum aggregate output EIRP for all carriers (dBW) =					84.00			
Vernon Valle	K7	1	4.5	Andrew	ESA 4.5	186.49	4.5 AGL/ 190.99 AMSL	
Max Gains(s):		52.4 dBi @	11.7000 GHz	53.6 dBi @	14.2500 GHz			
Maximum total input power at antenna flange (Watts) =					275.00			
Maximum aggregate output EIRP for all carriers (dBW) =					78.00			

G) Antenna Structure marking and lighting requirements:

None unless otherwise specified under Special and General Provisions

H) Special and General Provisions

A) This RADIO STATION AUTHORIZATION is granted subject to the following special provisions and general conditions:

- 385 --- The use of the band 10.7-11.7 GHz (Space-to-Earth) and 12.75-13.25 GHz (Earth-to-Space) by the fixed-satellite service in the geostationary satellite orbit shall be limited to international systems, i.e. other than domestic systems. (NG52)
- 480 --- The grant of this license is pursuant to NG52, which requires that signals received in the 10.7-11.7 GHz band be emanated from uplink transmissions outside the US&P.
- 1010 --- Applicable to all receiving frequency bands. Emission designator indicates the maximum bandwidth of received signal at associated station(s). Maximum EIRP and maximum EIRP density are not applicable to receive operations.
- 1900 --- Applicable to all transmitting frequency bands. Authority is granted to transmit any number of RF carriers with the specified parameters on any discrete frequencies within associated band in accordance with the other terms and conditions of this authorization, subject to any additional limitations that may be required to avoid unacceptable levels of inter-satellite interference.



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H) Special and General Provisions

A) This RADIO STATION AUTHORIZATION is granted subject to the following special provisions and general conditions:

- 2010 --- This authorization is issued pursuant to the Commission's Second Report and Order adopted June 16, 1972 (35 FCC 2d 844) and Memorandum, Opinion and Order adopted December 21, 1972 (38 FCC 2d 665) in Docket No. 16495 and is subject to the policies adopted in that proceeding.
- 2546 --- Operations with the satellite points of communication are limited to the frequencies identified on the FCC Current Authorizations List and the FCC Market Access List.
- 2916 --- Transmitter(s) must be turned off during antenna maintenance to ensure compliance with the FCC-specified safety guidelines for human exposure to radiofrequency radiation in the region between the antenna feed and the reflector. Appropriate measures must also be taken to restrict access to other regions in which the earth station's power flux density levels exceed the specified guidelines.
- 2938 --- Upon completion of construction, each licensee must file with the Commission a certification including the following information: (1) name of the licensee, (2) file number of the application, (3) call sign of the antenna, (4) date of the license, (5) certification that the facility as authorized has been completed, (6) certification that each antenna facility has been tested and is within 2 dB of the pattern specified in Section 25.209, and (7) certification that the station is operational (including the date of commencement of service) and will remain operational during the license period unless the license is submitted for cancellation.
- 3219 --- All existing transmitting facilities, operations and devices regulated by the Commission must be in compliance with the Commission's radiofrequency (RF) exposure guidelines, pursuant to Section 1.1307(b)(1) through (b)(3) of the Commission's rules, or if not in compliance, file an Environmental Assessment (EA) as specified in Section 1.1311. See 47 CFR § 1.1307 (b) (5).
- 5208 --- The licensee shall take all necessary measures to ensure that the antenna does not create potential exposure of humans to radiofrequency radiation in excess of the FCC exposure limits defined in 47 CFR 1.1307(b) and 1.1310 wherever such exposures might occur. Measures must be taken to ensure compliance with limits for both occupational/controlled exposure and for general population/uncontrolled exposure, as defined in these rule sections. Compliance can be accomplished in most cases by appropriate restrictions, such as fencing. Requirements for restrictions can be determined by predictions based on calculations, modeling, or by field measurements. The FCC's OET Bulletin 65 (available on-line at www.fcc.gov/oet/rfsafety) provides information on predicting exposure levels and on methods for ensuring compliance, including the use of warning and alerting signs and protective equipment for workers.



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H) Special and General Provisions

A) This RADIO STATION AUTHORIZATION is granted subject to the following special provisions and general conditions:

900407 --- The Permitted Space Station List (Permitted List) is a list of all geostationary space stations providing fixed-satellite service pursuant to a Commission license or grant of U.S. market access in the following bands:

3600-4200 MHz (space-to-Earth)

5850-6725 MHz (Earth-to-space)

10.95-11.2 GHz (space-to-Earth)

11.45-12.2 GHz (space-to-Earth)

13.75-14.5 GHz (Earth-to-space)

18.3-18.8 GHz (space-to-Earth)

19.7-20.2 GHz (space-to-Earth)

24.75-25.25 GHz (Earth-to-space)

28.35-28.6 GHz (Earth-to-space)

29.25-30 GHz (Earth-to-space)

Earth stations with "Permitted List" designated as a point of communication may access any space station on the Permitted List, provided the operations comply with the applicable "routine" uplink and downlink limits, are within the specific frequency bands authorized in the earth station license, have completed coordination with terrestrial stations pursuant to §25.203, and otherwise comply with all terms and conditions of both the earth station license and the space station grant.



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B) This RADIO STATION AUTHORIZATION is granted subject to the additional conditions specified below:

This authorization is issued on the grantee's representation that the statements contained in the application are true and that the undertakings described will be carried out in good faith.

This authorization shall not be construed in any manner as a finding by the Commission on the question of marking or lighting of the antenna system should future conditions require. The grantee expressly agrees to install such marking or lighting as the Commission may require under the provisions of Section 303(q) of the Communications Act. 47 U.S.C. § 303(q).

Neither this authorization nor the right granted by this authorization shall be assigned or otherwise transferred to any person, firm, company or corporation without the written consent of the Commission. This authorization is subject to the right of use or control by the government of the United States conferred by Section 706 of the Communications Act. 47 U.S.C. § 706. Operation of this station is governed by Part 25 of the Commission's Rules. 47 C.F.R. Part 25.

This authorization shall not vest in the licensee any right to operate this station nor any right in the use of the designated frequencies beyond the term of this license, nor in any other manner than authorized herein.

This authorization is issued on the grantee's representation that the station is in compliance with environmental requirements set forth in Section 1.1307 of the Commission's Rules. 47 C.F.R. § 1.1307.

This authorization is issued on the grantee's representation that the station is in compliance with the Federal Aviation Administration (FAA) requirements as set forth in Section 17.4 of the Commission's Rules. 47 C.F.R. § 17.4.

The following condition applies when this authorization permits construction of or modifies the construction permit of a radio station.

This authorization shall be automatically forfeited if the station is not ready for operation by the required date of completion of construction unless an application for modification of authorization to request additional time to complete construction is filed by that date, together with a showing that failure to complete construction by the required date was due to factors not under control of the grantee.

Licensees are required to pay annual regulatory fees related to this authorization. The requirement to collect annual regulatory fees from regulatees is contained in Public Law 103-66, "The Omnibus Budget Reconciliation Act of 1993." These regulatory fees, which are likely to change each fiscal year, are used to offset costs associated with the Commission's enforcement, public service, international and policy and rulemaking activities. The Commission issues a Report and Order each year, setting the new regulatory fee rates. Receive only earth stations are exempt from payment of regulatory fees.

