



UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION

RADIO STATION AUTHORIZATION

Name: Intelsat License LLC

Call Sign: E030071

Authorization Type: Renewal of License

File Number: SES-RWL-20180717-01862

Non Common Carrier

Grant date: 08/15/2018

Expiration Date: 08/22/2033



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)	1	17633 TECHNOLOGY BLVD. HAGERSTOWN, WASHINGTON, MD 21740	39°35'57.9"N	77°45'17.3"W	163.1	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 August 22, 2018 (3 AM Eastern Standard Time) and ending August 22, 2033 (3 AM Eastern Standard Time). The required date of completion of construction and commencement of operation is August 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)	6681.0000-6725.0000	H, V, L, R	1M00G7W	Tx	54.50	30.50	1		DIGITAL, DATA
2)	6681.0000-6725.0000	H, V, L, R	36M0G7W	Tx	70.00	30.50	1		DIGITAL, DATA
3)	6681.0000-6725.0000	H, V, L, R	44M0G7W	Tx	70.90	30.50	1		DIGITAL, DATA
4)	6669.0000-6681.0000	H, V, L, R	12M0G7W	Tx	62.30	27.50	1		DIGITAL, DATA
5)	6669.0000-6681.0000	H, V, L, R	1M00G7W	Tx	51.50	27.50	1		DIGITAL, DATA
6)	6425.0000-6669.0000	H, V, L, R	1M00G7W	Tx	54.50	30.50	1		DIGITAL, DATA
7)	6425.0000-6669.0000	H, V, L, R	36M0G7W	Tx	70.00	30.50	1		DIGITAL, DATA
8)	6425.0000-6669.0000	H, V, L, R	62M5G7W	Tx	72.40	30.50	1		DIGITAL, DATA
9)	6424.5000-6424.5000	H, V, L, R	1M20F7D	Tx	83.00	58.20	1		TT&C



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10)	6424.5000-6424.5000	H, V, L, R	850KF7D	Tx	83.00	59.70	1		TT&C
11)	6421.0000-6426.0000	H, V, L, R	1M20FXD	Tx	81.10	56.30	1		COMMAND AND RANGING
12)	5925.0000-6425.0000	H, V, L, R	100KG7D	Tx	70.30	56.30	1		DIGITAL, DATA
13)	5925.0000-6425.0000	H, V, L, R	72M0G7W	Tx	83.00	40.40	1		DIGITAL DATA CARRIER
14)	5925.0000-6425.0000	H, V, L, R	36M0F8W	Tx	83.00	56.00	1		ANALOG VIDEO WITH ASSOCIATED AUDIO CARRIERS
15)	5925.0000-6425.0000	H, V, L, R	800KFXW	Tx	79.30	56.30	1	90397	COMMAND AND RANGE CARRIER FOR SATELLITE CONTROL
16)	5853.0000-5853.0000	H, V, L, R	1M20F7D	Tx	83.00	58.20	1		TT&C
17)	5853.0000-5853.0000	H, V, L, R	850KF7D	Tx	83.00	59.70	1		TT&C
18)	5850.0000-5925.0000	H, V, L, R	100KG7D	Tx	70.30	56.30	1		DIGITAL, DATA
19)	5850.0000-5925.0000	H, V, L, R	1M00G7W	Tx	80.30	56.30	1		DIGITAL, DATA
20)	5850.0000-5925.0000	H, V, L, R	36M0G7W	Tx	82.00	42.50	1		DIGITAL, DATA
21)	5850.0000-5925.0000	H, V, L, R	62M5G7W	Tx	82.00	40.10	1		DIGITAL, DATA
22)	5850.0000-5925.0000	H, V, L, R	72M0G7W	Tx	83.00	40.40	1		DIGITAL DATA CARRIER
23)	5850.0000-5925.0000	H, V, L, R	36M0F8W	Tx	83.00	56.00	1		ANALOG VIDEO WITH ASSOCIATED AUDIO CARRIERS
24)	5850.0000-5925.0000	H, V, L, R	800KFXW	Tx	79.30	56.30	1	90397	COMMAND AND RANGE CARRIER FOR SATELLITE CONTROL
25)	5850.0000-5854.0000	H, V, L, R	850KG7D	Tx	79.60	56.30	1	90235	COMMAND AND RANGING
26)	5850.0000-5853.5000	H, V, L, R	1M20FXD	Tx	81.10	56.30	1		COMMAND AND RANGING
27)	5850.0000-5853.5000	H, V, L, R	850KFXD	Tx	79.60	56.30	1		COMMAND AND RANGING
28)	4199.2500-4199.2500	H, V, L, R	500KF7D	Rx			1		TT&C
29)	4198.7500-4198.7500	H, V, L, R	500KF7D	Rx			1		TT&C
30)	4198.2500-4198.2500	H, V, L, R	500KF7D	Rx			1		TT&C
31)	4197.7500-4197.7500	H, V, L, R	500KF7D	Rx			1		TT&C



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 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
32)	3700.0000-4200.0000	H, V, L, R	100KG7D	Rx			1		DIGITAL, DATA
33)	3700.0000-4200.0000	H, V, L, R	72M0G7W	Rx			1		DIGITAL, DATA
34)	3700.0000-4200.0000	H, V, L, R	36M0F8W	Rx			1		ANALOG VIDEO WITH ASSOCIATED AUDIO CARRIERS
35)	3700.0000-4200.0000	H, V, L, R	800KFXW	Rx			1		COMMAND AND RANGE CARRIER FOR SATELLITE CONTROL
36)	3625.0000-3700.0000	H, V, L, R	100KG7D	Rx			1		DIGITAL, DATA
37)	3625.0000-3700.0000	H, V, L, R	36M0F8W	Rx			1		ANALOG VIDEO WITH ASSOCIATED AUDIO CARRIERS
38)	3625.0000-3700.0000	H, V, L, R	72M0G7W	Rx			1		DIGITAL VIDEO WITH ASSOCIATED AUDIO CARRIERS
39)	3625.0000-3700.0000	H, V, L, R	800KFXW	Rx			1		COMMAND AND RANGE CARRIER FOR SATELLITE CONTROL

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)	5925.0000-6425.0000	6.0W	143.0W	05.3	10.3	101.9	253.6	10.56	1
2)	3700.0000-4200.0000	6.0W	143.0W	05.3	10.3	101.9	253.6		1
3)	3625.0000-3700.0000		304.5E		38.8		147.3		1
4)	3625.0000-3700.0000		307.0E		37.6		144.1		1
5)	3625.0000-3700.0000		310.0E		36.0		140.5		1
6)	3625.0000-3700.0000		325.5E		26.4		124.1		1
7)	3625.0000-3700.0000		328.5E		24.3		121.4		1
8)	3625.0000-3700.0000		330.5E		22.9		119.6		1
9)	3625.0000-3700.0000		332.5E		21.5		117.9		1
10)	3625.0000-3700.0000		335.5E		19.3		115.4		1
11)	3625.0000-3700.0000		340.0E		15.9		111.9		1
12)	3625.0000-3700.0000		342.0E		14.4		110.4		1
13)	5850.0000-5925.0000		304.5E		38.8		147.3		1



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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		
14)	5850.0000-5925.0000	307.0E		37.6		144.1			1
15)	5850.0000-5925.0000	310.0E		36.0		140.5			1
16)	5850.0000-5925.0000	325.5E		26.4		124.1			1
17)	5850.0000-5925.0000	328.5E		24.3		121.4			1
18)	5850.0000-5925.0000	330.5E		22.9		119.6			1
19)	5850.0000-5925.0000	332.5E		21.5		117.9			1
20)	5850.0000-5925.0000	335.5E		19.3		115.4			1
21)	5850.0000-5925.0000	340.0E		15.9		111.9			1
22)	5850.0000-5925.0000	342.0E		14.4		110.4			1
23)	5850.0000-6725.0000	49.9W-50.1W		35.9-36.0		140.3-140.6		-9.46	1
24)	6421.0000-6426.0000	49.0W-51.0W		35.5-36.6		139.2-141.7		-9.41	1
25)	5850.0000-5853.5000	49.0W-51.0W		35.5-36.6		139.2-141.7		-9.41	1
26)	6424.5000-6424.5000	6.0W-149.0W		05.3-05.7		101.9-257.8		9.73	1
27)	5853.0000-5853.0000	6.0W-149.0W		05.3-05.7		101.9-257.8		9.73	1

D) Points of Communications

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

- 1) 1 to Permitted Space Station List
- 2) 1 to INTELSAT 805 (S2404) @ 304.5 E.L. (U.S.-licensed)
- 3) 1 to INTELSAT 23 (S2831) @ 53 degrees W.L. (U.S.-licensed)
- 4) 1 to INTELSAT 29e (S2913) @ 50.0 degrees W.L. (U.S.-licensed)
- 5) 1 to INTELSAT 35e (S2959) @ 34.5 degrees W.L. (U.S.-licensed)
- 6) 1 to INTELSAT 25 (S2804) @ 31.5 degrees W.L. (U.S.-licensed)
- 7) 1 to INTELSAT 9 (S2380) @ 29.5 W.L. (U.S.-licensed)
- 8) 1 to INTELSAT AOR (S2411) @ 332.5 E.L. satellite of the INTELSAT system (U.S.-licensed)
- 9) 1 to INTELSAT 905 (S2409) @ 24.5 degrees W.L. (U.S.-licensed)
- 10) 1 to New Skies Satellite, N.V. 7 (S2463) @ 20 W.L. (Netherlands-licensed)
- 11) 1 to INTELSAT 37e (S2972) @ 18.0 degrees W.L. (U.S.-licensed)
- 12) 1 to INTELSAT 29e (S2913) @ 50.0 degrees W.L. (U.S.-licensed)
- 13) 1 to INTELSAT 35e (S2959) @ 34.5 degrees W.L. (U.S.-licensed)



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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)
1	1	1	16.4	VERTEX	16.4 THC	163.1	16.4 AGL/ 179.46 AMSL	
Max Gains(s):		59.0 dBi @	6.0000 GHz	54.8 dBi @	4.0000 GHz	54.8 dBi @		
		4.0000 GHz						
Maximum total input power at antenna flange (Watts) =					251.20			
Maximum aggregate output EIRP for all carriers (dBW) =					83.00			

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:

- 4 --- Licensee must ensure that a current listing of the name, title, mailing address, email address, and telephone number of the responsible point of contact are on file at the FCC. Any changes must be filed electronically in the International Bureau Filing System (IBFS) in the "Other Filings" tab within 10 days of the change.
- 5 --- Licensee must notify the Commission when this earth station is no longer operational or when it has not been used to provide any service during any 6-month operation.
- 6 --- Licensee must comply with the license modification and notification requirements of 47 CFR § 25.118 to change the coordinates of its authorized earth station.
- 9 --- Site location coordinates are based on the WGS84 datum.

5822 --- The 3600-3650 MHz band is shared on a co-primary basis in the U.S. and Possessions with Federal Government radiolocation systems. Unacceptable interference may be caused to this earth station from radiolocation systems, including high-powered, highly mobile, shipborne and airborne radar transmitters, operating in the frequency band. Consistent with the applicant's EMC analysis (as required by US245 and based on the NTIA TR-99-361 Report, Technical Characteristics of Radiolocation Systems operating in the 3.1-3.7 GHz Band and Procedures for assessing EMC with Fixed Earth Station Receivers (available at <http://www.ntia.doc.gov/osmhome/reports.html>), the licensee accepts this potential for unacceptable interference. In the case that out-of-band interference does occur, the licensee is further aware that use of a RF filter ahead of the low noise amplifier (LNA) will limit potential out-of-band interference to its receiving earth station. Additionally, per US 245, in the band 3600-3650 MHz, these fixed-satellite service operations are limited to international inter-continental satellite systems.



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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:

5859 --- The 3650-3700 MHz band is shared on a co-primary basis in three Federal Government radiolocation systems identified in US348. Unacceptable interference may be caused to this earth station from these three radiolocation systems operating in the frequency band. Consistent with the applicant's EMC analysis (as required by US348 and based on the NTIA TR-99-361 Report, Technical Characteristics of Radiolocation Systems operating in the 3.1-3.7 GHz Band and Procedures for assessing EMC with Fixed Earth Station Receivers (available at <http://www.ntia.doc.gov/osmhome/reports.html>), the licensee accepts this potential for unacceptable interference from the three stations identified in US348. In the case that out-of-band interference does occur, the licensee is further aware that use of a RF filter ahead of the low noise amplifier (LNA) will limit potential out-of-band interference to its receiving earth station. Additionally, per US 245, in the band 3650-3700 MHz, these fixed-satellite service operations are limited to international inter-continental satellite systems.

5865 --- This authorization is issued pursuant to and subject to the terms and policy adopted in the Commission's Order, released March 7, 2011 (DA 11-437)

90235 --- For operations with Intelsat 29e (S2913) only.

90397 --- Telemetry, tracking and command (TT&C) operations identified in part B, Particulars of Operation in this authorization may be transmitted within the assigned bands that are not at a band edge only if the transmissions cause no greater interference and require no greater protection from harmful interference than the communications traffic on the satellite network or have been coordinated with operators of authorized co-frequency space stations at orbital locations within six degrees of the assigned orbital location. Frequencies, polarization, and coding of telemetry, tracking, and command transmissions must be selected to minimize interference into other satellite networks.

90398 --- Changes to previously authorized transmitting facilities, operations and devices regulated by the Commission that may have significant environmental impact, and are not excluded by §1.1306, require the preparation of an Environmental Assessment (EA) by the licensee. (See 47 C.F.R. §§1.1307, 1.1308 and 1.1311)

90399 --- The licensee shall, at all times, take all necessary measures to ensure that operation of this (these) authorized earth station(s) 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. Physical 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.

90405 --- Operations with PERMITTED LIST satellite must comply with §25.212 levels and operations above this levels must coordinate with satellite operators prior to operations.



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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. The Permitted List currently includes the following frequency bands per §25.103 and §25.115(k)(1):

- 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)
- 29.25-30.0 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.