



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

Name: HNS License Sub, LLC

Call Sign: E000166

Authorization Type: Modification of License

File Number: SES-MOD-20170414-00532

Non Common Carrier

Grant date: 06/21/2017

Expiration Date: 09/13/2025

Nature of Service: Fixed Satellite Service

Class of Station: VSAT Network

A) Site Location(s)

#	Site ID	Address	Latitude	Longitude	Elevation (Meters)	NAD	Special Provisions (Refer to Section H)
1)	HUB 1 (3.9 M)	(3.9M.HUB1) GERMANTOWN, MONTGOMERY, MD Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				83	
2)	HUB H (11.1M)	17633 TECHNOLOGY BLVD. (11.1M.HUB) HAGERSTOWN, WASHINGTON, MD Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209	39°35'56.3"N	77°45'17.9"W	164.9	83	
3)	HUB-A	7.6M.(HUB) 11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD 20878 Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209	39°10'48.8"N	77°14'46.8"W	141.4	83	
4)	HUB-B	7.6M (HUB) 11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD 20876 Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209	39°10'45.5"N	77°14'41.2"W	129.9	83	
5)	HUB-C 7.6M	11717 EXPLORATION LANE (7.6M. HUB) GERMANTOWN, MONTGOMERY, MD 20876 Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209	39°10'43.7"N	77°14'55.3"W	155.4	83	
6)	HUB-D 7.6M	11717 EXPLORATION LANE (7.6M. HUB) GERMANTOWN, MONTGOMERY, MD 20876 Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209	39°10'43.6"N	77°14'53.3"W	155.5	83	

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A) Site Location(s)

Table with columns: # Site ID, Address, Latitude, Longitude, Elevation (Meters), NAD, Special Provisions (Refer to Section H). Rows include HUB-E 6.1M, HUB-F 5.6M, HUB-G 4.6M, MESH 1.2M, MESH 1.8M, MESH 2.4M, and MESH 3.5M.





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A) Site Location(s)

#	Site ID	Address	Latitude	Longitude	Elevation (Meters)	Special Provisions NAD (Refer to Section H)
14)	TF TR 1.2M.	1.2 M. (50,000 UNITS) CONUS, AK, HI, PR VI, Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				83
15)	TF TR 74CM	VSAT 0.74M (98 x 56 cm) temporary-fixed (60,200 UNITS) CONUS, AK, HI, PR, VI, Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.				NA
16)	TF TR 98CM	VSAT 0.98M temporary-fixed (54,000 UNITS) CONUS, AK, HI, PR, VI, Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.				NA
17)	TFTR 74-2CM	50,000 (.74 METER ANTENNAS) CONUS, AK, HI, VI PR, Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.				NA
18)	TR 1.0M.	VSAT 1.0M (135 cm x 58 cm) (100,000 UNITS) CONUS, AK, HI, PR, VI, Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.				NA
19)	TR 1.2M.	VSAT 1.2M (100,000 UNITS) CONUS, AK, HI, VI PR, Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				NA



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A) Site Location(s)

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20)	TR 1.8M.	VSAT 1.8M (50,000 UNITS) CONUS, AK, HI, VI PR,					NA
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209					
21)	TR 2.4M.	VSAT 2.4M (11,000 units) CONUS, AK, HI, VI PR,					83
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209					
22)	TR 74-2 CM	500,000 (.74 METER ANTENNAS) CONUS, AK, HI, VI PR,					NA
		Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.					
23)	TR 74CM	VSAT 0.74M (98 x 56 cm) (350,000 UNITS) CONUS, AK, HI, PR, VI,					83
		Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.					
24)	TR 98CM	200,000 (98CM ANTENNAS) CONUS, AK, HI, VI PR,					NA
		Licensee certifies antenna(s) do not comply with Section 25.209. Please refer to Section E for special conditions placed upon antennas at this site.					

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 September 13, 2010 (3 AM Eastern Standard Time) and ending September 13, 2025 (3 AM Eastern Standard Time) . The required date of completion of construction and commencement of operation is June 21, 2018 (3 AM Eastern Standard Time) . Grantee must file with the Commission a certification upon completion of construction and commencement of operation.



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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	36M0G7D	Tx	77.60	38.80	HUB 1		PSK, DATA, 30 MSPS, OUTROUTE CARRIER
2)	14000.0000-14500.0000	H,V	1M60G7D	Tx	64.80	38.80	HUB 1		PSK, DATA, 1024 KSPS, OUTROUTE CARRIER
3)	11700.0000-12200.0000	H,V	200KG7D	Rx			HUB 1		PSK, DATA, 128 KSPS, INROUTE CARRIER
4)	11700.0000-12200.0000	H,V	1M60G7D	Rx			HUB 1		PSK, DATA, 1024 KSPS, INROUTE CARRIER
5)	14470.0000-14497.0000	V	6M00G7D	Tx	79.60	47.90	HUB H 11-1		DIGITAL, PSK, DATA, 5 MSPS, OUTROUTE
6)	14470.0000-14497.0000	V	12M0G7D	Tx	82.60	47.90	HUB H 11-1		DIGITAL, PSK, DATA, 10 MSPS, OUTROUTE
7)	14470.0000-14497.0000	V	24M0G7D	Tx	85.60	47.90	HUB H 11-1		DIGITAL, PSK, DATA, 20 MSPS, OUTROUTE
8)	14253.0000-14311.0000	V	12M0G7D	Tx	82.60	47.90	HUB H 11-1		DIGITAL, PSK, DATA, 10 MSPS, OUTROUTE
9)	14253.0000-14311.0000	V	24M0G7D	Tx	85.60	47.90	HUB H 11-1		DIGITAL, PSK, DATA, 20 MSPS, OUTROUTE
10)	14253.0000-14311.0000	V	36M0G7D	Tx	87.40	47.90	HUB H 11-1		DIGITAL, PSK, DATA, 30 MSPS, OUTROUTE
11)	14246.5000-14366.5000	H	6M00G7D	Tx	79.60	47.90	HUB H 11-1		DIGITAL, PSK, DATA, 5 MSPS, OUTROUTE
12)	14246.5000-14366.5000	H	12M0G7D	Tx	82.60	47.90	HUB H 11-1		DIGITAL, PSK, DATA, 10 MSPS, OUTROUTE
13)	14246.5000-14366.5000	H	24M0G7D	Tx	85.60	47.90	HUB H 11-1		DIGITAL, PSK, DATA, 20 MSPS, OUTROUTE
14)	14246.5000-14366.5000	H	36M0G7D	Tx	87.40	47.90	HUB H 11-1		DIGITAL, PSK, DATA, 30 MSPS, OUTROUTE
15)	14122.5000-14149.5000	H	6M00G7D	Tx	79.60	47.90	HUB H 11-1		DIGITAL, PSK, DATA, 5 MSPS, OUTROUTE
16)	14122.5000-14149.5000	H	12M0G7D	Tx	82.60	47.90	HUB H 11-1		DIGITAL, PSK, DATA, 10 MSPS, OUTROUTE
17)	14122.5000-14149.5000	H	24M0G7D	Tx	85.60	47.90	HUB H 11-1		DIGITAL, PSK, DATA, 20 MSPS, OUTROUTE
18)	14122.5000-14149.5000	H	36M0G7D	Tx	87.40	47.90	HUB H 11-1		DIGITAL, PSK, DATA, 30 MSPS, OUTROUTE



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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	
19)	14102.0000-14318.0000	H,V	6M00G7D	Tx	79.60	47.90	HUB H 11-1	DIGITAL, PSK, MSPS, OUTROUTE	DATA,	5
20)	14102.0000-14318.0000	H,V	36M0G7D	Tx	87.40	47.90	HUB H 11-1	DIGITAL, PSK, MSPS, OUTROUTE	DATA,	30
21)	14069.0000-14123.0000	V	6M00G7D	Tx	79.60	47.90	HUB H 11-1	DIGITAL, PSK, MSPS, OUTROUTE	DATA,	5
22)	14069.0000-14123.0000	V	12M0G7D	Tx	82.60	47.90	HUB H 11-1	DIGITAL, PSK, MSPS, OUTROUTE	DATA,	10
23)	14069.0000-14123.0000	V	24M0G7D	Tx	85.60	47.90	HUB H 11-1	DIGITAL, PSK, MSPS, OUTROUTE	DATA,	20
24)	14069.0000-14123.0000	V	36M0G7D	Tx	87.40	47.90	HUB H 11-1	DIGITAL, PSK, MSPS, OUTROUTE	DATA,	30
25)	12170.0000-12197.0000	H	200KG7D	Rx			HUB H 11-1	DIGITAL, PSK, KSPS, INROUTE	DATA,	128
26)	12170.0000-12197.0000	H	400KG7D	Rx			HUB H 11-1	DIGITAL, PSK, KSPS, INROUTE	DATA,	256
27)	12170.0000-12197.0000	H	800KG7D	Rx			HUB H 11-1	DIGITAL, PSK, KSPS, INROUTE	DATA,	512
28)	11953.0000-12011.0000	H	400KG7D	Rx			HUB H 11-1	DIGITAL, PSK, KSPS, INROUTE	DATA,	256
29)	11953.0000-12011.0000	H	800KG7D	Rx			HUB H 11-1	DIGITAL, PSK, KSPS, INROUTE	DATA,	512
30)	11953.0000-12011.0000	H	1M60G7D	Rx			HUB H 11-1	DIGITAL, PSK, KSPS, INROUTE	DATA,	1024
31)	11946.5000-12066.5000	V	200KG7D	Rx			HUB H 11-1	DIGITAL, PSK, KSPS, INROUTE	DATA,	128
32)	11946.5000-12066.5000	V	400KG7D	Rx			HUB H 11-1	DIGITAL, PSK, KSPS, INROUTE	DATA,	256
33)	11946.5000-12066.5000	V	800KG7D	Rx			HUB H 11-1	DIGITAL, PSK, KSPS, INROUTE	DATA,	512
34)	11946.5000-12066.5000	V	1M60G7D	Rx			HUB H 11-1	DIGITAL, PSK, KSPS, INROUTE	DATA,	1024
35)	11822.5000-11849.5000	V	200KG7D	Rx			HUB H 11-1	DIGITAL, PSK, KSPS, INROUTE	DATA,	128
36)	11822.5000-11849.5000	V	400KG7D	Rx			HUB H 11-1	DIGITAL, PSK, KSPS, INROUTE	DATA,	256



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B) Particulars of Operations

The General Provision 1010 applies to all receiving frequency bands.

The General Provision 1900 applies to all transmitting frequency bands.

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#	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
37)	11822.5000-11849.5000	V	800KG7D	Rx			HUB H 11-1		DIGITAL, PSK, DATA, 512 KSPS, INROUTE
38)	11822.5000-11849.5000	V	1M60G7D	Rx			HUB H 11-1		DIGITAL, PSK, DATA, 1024 KSPS, INROUTE
39)	11802.0000-12018.0000	H,V	200KG7D	Rx			HUB H 11-1		DIGITAL, PSK, DATA, 128 KSPS, INROUTE
40)	11802.0000-12018.0000	H,V	1M60G7D	Rx			HUB H 11-1		DIGITAL, PSK, DATA, 1024 KSPS, INROUTE
41)	11769.0000-11823.0000	H	200KG7D	Rx			HUB H 11-1		DIGITAL, PSK, DATA, 128 KSPS, INROUTE
42)	11769.0000-11823.0000	H	400KG7D	Rx			HUB H 11-1		DIGITAL, PSK, DATA, 256 KSPS, INROUTE
43)	11769.0000-11823.0000	H	800KG7D	Rx			HUB H 11-1		DIGITAL, PSK, DATA, 512 KSPS, INROUTE
44)	11769.0000-11823.0000	H	1M60G7D	Rx			HUB H 11-1		DIGITAL, PSK, DATA, 1024 KSPS, INROUTE
45)	14000.0000-14500.0000	H,V	36M0G7D	Tx	78.00	38.50	HubA7.6M		PSK, DATA, 30 MSPS, OUTROUTE CARRIER
46)	14000.0000-14500.0000	H,V	400KG7D	Tx	47.90	27.90	HubA7.6M		PSK, DATA, 256 KSPS, OUTROUTE CARRIER
47)	14000.0000-14500.0000	H,V	24M0G7D	Tx	78.00	40.20	HubA7.6M		PSK, DATA, 20 MSPS, OUTROUTE CARRIER
48)	14000.0000-14500.0000	H,V	1M60G7D	Tx	53.90	27.90	HubA7.6M		BPSK, DATA, 1024 KSPS, OUTROUTE CARRIER
49)	11700.0000-12200.0000	H,V	200KG7D	Rx			HubA7.6M		PSK, DIGITAL, 128 KSPS, INROUTE CARRIER
50)	11700.0000-12200.0000	H,V	400KG7D	Rx			HubA7.6M		OQPSK, DIGITAL, 256 KSPS, RETURN CARRIER
51)	11700.0000-12200.0000	H,V	1M60G7D	Rx			HubA7.6M		PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER
52)	11700.0000-12200.0000	H,V	200KG7D	Rx			HubA7.6M		BPSK OR MSK, DATA, 128 KSPS, INROUTE CARRIER
53)	11700.0000-12200.0000	H,V	400KG7D	Rx			HubA7.6M		BPSK OR MSK, DATA, 256 KSPS, INROUTE CARRIER
54)	11700.0000-12200.0000	H,V	800KG7D	Rx			HubA7.6M		BPSK OR MSK, DATA, 512 KSPS, INROUTE CARRIER



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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
55)	14000.0000-14500.0000	H,V	24M0G7D	Tx	78.00	40.20	HubB7.6		PSK, DATA, 20 MSPS, OUTROUTE CARRIER
56)	14000.0000-14500.0000	H,V	36M0G7D	Tx	78.00	38.50	HubB7.6		PSK, DATA, 30 MSPS, OUTROUTE CARRIER
57)	14000.0000-14500.0000	H,V	400KG7D	Tx	47.90	27.90	HubB7.6		PSK, DATA, 256 KSPS, OUTROUTE CARRIER
58)	14000.0000-14500.0000	H,V	1M60G7D	Tx	53.90	27.90	HubB7.6		BPSK, DATA, 1024 KSPS, OUTROUTE CARRIER
59)	11700.0000-12200.0000	H,V	200KG7D	Rx			HubB7.6		PSK, DIGITAL, 128 KSPS, INROUTE CARRIER
60)	11700.0000-12200.0000	H,V	400KG7D	Rx			HubB7.6		OQPSK, DIGITAL, 256 KSPS, RETURN CARRIER
61)	11700.0000-12200.0000	H,V	1M60G7D	Rx			HubB7.6		PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER
62)	11700.0000-12200.0000	H,V	200KG7D	Rx			HubB7.6		BPSK OR MSK, DATA, 128 KSPS, INROUTE CARRIER
63)	11700.0000-12200.0000	H,V	400KG7D	Rx			HubB7.6		BPSK OR MSK, DATA, 256 KSPS, INROUTE CARRIER
64)	11700.0000-12200.0000	H,V	800KG7D	Rx			HubB7.6		BPSK OR MSK, DATA, 512 KSPS, INROUTE CARRIER
65)	14000.0000-14500.0000	H,V	12M0G7D	Tx	73.80	39.00	HubC 7.6M		PSK, DATA, 10 MSPS, OUTROUTE CARRIER
66)	14000.0000-14500.0000	H,V	400KG7D	Tx	59.00	39.00	HubC 7.6M		PSK, DATA, 256 KSPS, OUTROUTE CARRIER
67)	14000.0000-14500.0000	H,V	1M60G7D	Tx	65.00	39.00	HubC 7.6M		BPSK, DATA, 1024 KSPS, OUTROUTE CARRIER
68)	14000.0000-14500.0000	H,V	6M00G7D	Tx	70.80	39.00	HubC 7.6M		OQPSK, DATA, 5 MSPS, MULTIMEDIA BROADCAST CARRIER
69)	11700.0000-12200.0000	H,V	1M60G7D	Rx			HubC 7.6M		PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER
70)	11700.0000-12200.0000	H,V	200KG7D	Rx			HubC 7.6M		PSK OR MSK, DATA, 128 KSPS, INROUTE CARRIER
71)	11700.0000-12200.0000	H,V	400KG7D	Rx			HubC 7.6M		BPSK OR MSK, DATA, 256 KSPS, INROUTE CARRIER
72)	11700.0000-12200.0000	H,V	800KG7D	Rx			HubC 7.6M		BPSK OR MSK, DATA, 512 KSPS, INROUTE CARRIER



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#	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
73)	14000.0000-14500.0000	H, V	400KG7D	Tx	59.00	39.00	HubD 7.6M		PSK, DATA, 256 KSPS, OUTROUTE CARRIER
74)	14000.0000-14500.0000	H, V	12M0G7D	Tx	73.80	39.00	HubD 7.6M		PSK, DATA, 1024 KSPS, OUTROUTE CARRIER
75)	14000.0000-14500.0000	H, V	1M60G7D	Tx	65.00	39.00	HubD 7.6M		BPSK, DATA, 1024 KSPS, OUTROUTE CARRIER
76)	14000.0000-14500.0000	H, V	6M00G7D	Tx	70.80	39.00	HubD 7.6M		QPSK, DATA, 5 MSPS, MULTIMEDIA BROADCAST CARRIER
77)	11700.0000-12200.0000	H, V	1M60G7D	Rx			HubD 7.6M		PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER
78)	11700.0000-12200.0000	H, V	200KG7D	Rx			HubD 7.6M		PSK OR MSK, DATA, 128 KSPS, INROUTE CARRIER
79)	11700.0000-12200.0000	H, V	400KG7D	Rx			HubD 7.6M		BPSK OR MSK, DATA, 256 KSPS, INROUTE CARRIER
80)	11700.0000-12200.0000	H, V	800KG7D	Rx			HubD 7.6M		BPSK OR MSK, DATA, 512 KSPS, INROUTE CARRIER
81)	14000.0000-14500.0000	H, V	24M0G7D	Tx	79.70	41.90	HubE 6.1M		PSK, DATA, 20 MSPS, OUTROUTE CARRIER
82)	14000.0000-14500.0000	H, V	36M0G7D	Tx	97.70	40.20	HubE 6.1M		PSK, DATA, 30 MSPS, OUTROUTE CARRIER
83)	14000.0000-14500.0000	H, V	400KG7D	Tx	52.90	32.90	HubE 6.1M		PSK, DATA, 256 KSPS, OUTROUTE CARRIER
84)	14000.0000-14500.0000	H, V	1M60G7D	Tx	58.90	32.90	HubE 6.1M		BPSK, DATA, 1024 KSPS, OUTROUTE CARRIER
85)	14000.0000-14500.0000	H, V	6M00G7D	Tx	67.70	35.90	HubE 6.1M		QPSK, DATA, 5 MSPS, MULTIMEDIA BROADCAST CARRIER
86)	14000.0000-14500.0000	H, V	12M0G7D	Tx	70.70	35.90	HubE 6.1M		QPSK, DATA, 10 MSPS, MULTIMEDIA BROADCAST CARRIER
87)	11700.0000-12200.0000	H, V	200KG7D	Rx			HubE 6.1M		PSK, DATA, 128 KSPS, INROUTE CARRIER
88)	11700.0000-12200.0000	H, V	400KG7D	Rx			HubE 6.1M		QPSK, DATA, 256 KSPS, RETURN CARRIER
89)	11700.0000-12200.0000	H, V	1M60G7D	Rx			HubE 6.1M		PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER



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Authorization Type: Modification of License

File Number: SES-MOD-20170414-00532

Non Common Carrier

Grant date: 06/21/2017

Expiration Date: 09/13/2025

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
90)	11700.0000-12200.0000	H,V	200KG7D	Rx			HubE 6.1M		PSK OR MSK, DATA, 128 KSPS, INROUTE CARRIER
91)	11700.0000-12200.0000	H,V	400KG7D	Rx			HubE 6.1M		BPSK OR MSK, DATA, 256 KSPS, INROUTE CARRIER
92)	11700.0000-12200.0000	H,V	800KG7D	Rx			HubE 6.1M		BPSK OR MSK, DATA, 512 KSPS, INROUTE CARRIER
93)	14000.0000-14500.0000	H,V	24M0G7D	Tx	77.70	39.90	HubF 5.6M		PSK, DATA, 20 MSPS, OUTROUTE CARRIER
94)	14000.0000-14500.0000	H,V	36M0G7D	Tx	77.70	38.20	HubF 5.6M		PSK, DATA, 30 MSPS, OUTROUTE CARRIER
95)	14000.0000-14500.0000	H,V	400KG7D	Tx	52.90	32.90	HubF 5.6M		PSK, DATA, 256 KSPS, OUTROUTE CARRIER
96)	14000.0000-14500.0000	H,V	1M60G7D	Tx	58.90	32.90	HubF 5.6M		BPSK, DATA, 1024 KSPS, OUTROUTE CARRIER
97)	14000.0000-14500.0000	H,V	6M00G7D	Tx	67.70	35.90	HubF 5.6M		OQPSK, DATA, 5 MSPS, MULTIMEDIA BROADCAST CARRIER
98)	14000.0000-14500.0000	H,V	12M0G7D	Tx	70.70	35.90	HubF 5.6M		OQPSK, DATA, 10 MSPS, MULTIMEDIA BROADCAST CARRIER
99)	11700.0000-12200.0000	H,V	200KG7D	Rx			HubF 5.6M		PSK, DATA, 128 KSPS, INROUTE CARRIER
100)	11700.0000-12200.0000	H,V	400KG7D	Rx			HubF 5.6M		OQPSK, DATA, 256 KSPS, RETURN CARRIER
101)	11700.0000-12200.0000	H,V	1M60G7D	Rx			HubF 5.6M		PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER
102)	11700.0000-12200.0000	H,V	200KG7D	Rx			HubF 5.6M		BPSK OR MSK, DATA, 128 KSPS, INROUTE CARRIER
103)	11700.0000-12200.0000	H,V	400KG7D	Rx			HubF 5.6M		BPSK OR MSK, DATA, 256 KSPS, INROUTE CARRIER
104)	11700.0000-12200.0000	H,V	800KG7D	Rx			HubF 5.6M		BPSK OR MSK, DATA, 522 KSPS, INROUTE CARRIER
105)	14000.0000-14500.0000	H,V	400KG7D	Tx	57.50	37.50	HubG 4.6M		PSK, DATA, 256 KSPS, OUTROUTE CARRIER
106)	14000.0000-14500.0000	H,V	1M60G7D	Tx	57.50	31.50	HubG 4.6M		PSK, DATA, 1024 KSPS, OUTROUTE CARRIER



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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
107)	11700.0000-12200.0000	H, V	1M60G7D	Rx			HubG 4.6M		PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER
108)	11700.0000-12200.0000	H, V	200KG7D	Rx			HubG 4.6M		PSK OR MSK, DATA, 128 KSPS, INROUTE CARRIER
109)	11700.0000-12200.0000	H, V	400KG7D	Rx			HubG 4.6M		BPSK OR MSK, DATA, 256 KSPS, INROUTE CARRIER
110)	11700.0000-12200.0000	H, V	800KG7D	Rx			HubG 4.6M		BPSK OR MSK, DATA, 512 KSPS, INROUTE CARRIER
111)	14000.0000-14500.0000	H, V	156KG7D	Tx	45.00	29.10	MESH 1.2M		BPSK OR OQPSK, DATA, MESH CARRIER
112)	11700.0000-12200.0000	H, V	156KG7D	Rx	0.00	0.00	MESH 1.2M		BPSK OR OQPSK, DATA, MESH CARRIER
113)	14000.0000-14500.0000	H, V	156KG7D	Tx	48.60	32.70	MESH 1.8M		BPSK OR OQPSK, DATA, MESH CARRIER
114)	11700.0000-12200.0000	H, V	156KG7D	Rx			MESH 1.8M		BPSK OR OQPSK, DATA, MESH CARRIER
115)	14000.0000-14500.0000	H, V	307KG7D	Tx	53.70	34.80	MESH 2.4M		BPSK OR OQPSK, DATA, MESH CARRIER
116)	11700.0000-12200.0000	H, V	307KG7D	Rx			MESH 2.4M		BPSK OR OQPSK, DATA, MESH CARRIER
117)	14000.0000-14500.0000	H, V	2M46G7D	Tx	66.20	38.30	MESH 3.5M		BPSK OR OQPSK, DATA, MESH CARRIER
118)	11700.0000-12200.0000	H, V	2M46G7D	Rx			MESH 3.5M		BPSK OR OQPSK, DATA, MESH CARRIER
119)	14000.0000-14500.0000	H, V	200KG7D	Tx	46.10	29.10	TF TR 1.2M		PSK, DIGITAL, 128 KSPS, INROUTE CARRIER
120)	14000.0000-14500.0000	H, V	400KG7D	Tx	46.10	26.10	TF TR 1.2M		OQPSK, DIGITAL, 256 KSPS, RETURN CARRIER
121)	14000.0000-14500.0000	H, V	800KG7W	Tx	46.10	23.10	TF TR 1.2M		OQPSK, DIGITAL, 512 KSPS, RETURN CARRIER
122)	14000.0000-14500.0000	H, V	1M60G7D	Tx	46.10	21.10	TF TR 1.2M		PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER
123)	11700.0000-12200.0000	H, V	36M0G7D	Rx			TF TR 1.2M		PSK, DATA, 30 MSPS, OUTROUTE CARRIER
124)	11700.0000-12200.0000	H, V	400KG7D	Rx			TF TR 1.2M		PSK, DATA, 256 KSPS, OUTROUTE CARRIER



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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
125)	11700.0000-12200.0000	H,V	6M00G7D	Rx			TF TR 1.2M		QPSK, DATA, 5 MSPS, MULTIMEDIA BROADCAST CARRIER
126)	11700.0000-12200.0000	H,V	12M0G7D	Rx			TF TR 1.2M		QPSK, DATA, 10 MSPS, MULTIMEDIA BROADCAST CARRIER
127)	11700.0000-12200.0000	H,V	24M0G7D	Rx			TF TR 1.2M		QPSK, DATA, 20 MSPS, MULTIMEDIA BROADCAST CARRIER
128)	14000.0000-14500.0000	H,V	200KG7D	Tx	42.00	25.00	TF TR 74CM		PSK, DIGITAL, 128 KSPS, INROUTE CARRIER
129)	14000.0000-14500.0000	H,V	400KG7W	Tx	42.00	22.00	TF TR 74CM		QPSK, DIGITAL, 256 KSPS, RETURN CARRIER
130)	14000.0000-14500.0000	H,V	800KG7D	Tx	42.00	19.00	TF TR 74CM		QPSK, DIGITAL, 512 KSPS, RETURN CARRIER
131)	14000.0000-14500.0000	H,V	1M60G7D	Tx	42.00	16.00	TF TR 74CM		PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER
132)	11700.0000-12200.0000	H,V	36M0G7D	Rx			TF TR 74CM		PSK, DATA, 30 MSPS, OUTROUTE CARRIER
133)	11700.0000-12200.0000	H,V	400KG7D	Rx			TF TR 74CM		PSK, DATA, 256 KSPS, OUTROUTE CARRIER
134)	11700.0000-12200.0000	H,V	6M00G7D	Rx			TF TR 74CM		QPSK, DATA, 5 MSPS, MULTIMEDIA BROADCAST CARRIER
135)	11700.0000-12200.0000	H,V	12M0G7D	Rx			TF TR 74CM		QPSK, DATA, 10 MSPS, MULTIMEDIA BROADCAST CARRIER
136)	11700.0000-12200.0000	H,V	24M0G7D	Rx			TF TR 74CM		QPSK, DATA, 20 MSPS, MULTIMEDIA BROADCAST CARRIER
137)	14000.0000-14500.0000	H,V	200KG7D	Tx	44.30	27.30	TF TR 98CM		PSK, DIGITAL, 128 KSPS, INROUTE CARRIER
138)	14000.0000-14500.0000	H,V	400KG7D	Tx	44.30	24.30	TF TR 98CM		QPSK, DIGITAL, 256 KSPS, RETURN CARRIER
139)	14000.0000-14500.0000	H,V	800KG7D	Tx	44.30	21.30	TF TR 98CM		QPSK, DIGITAL, 512 KSPS, RETURN CARRIER
140)	14000.0000-14500.0000	H,V	1M60G7D	Tx	44.30	18.30	TF TR 98CM		PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER



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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
141)	14000.0000-14500.0000	H, V	1M60G7D	Tx	44.30	18.30	TF TR 98CM		PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER
142)	14000.0000-14500.0000	H, V	400KG7D	Tx	44.30	24.30	TF TR 98CM		DIGITAL, PSK, DIGITAL, 256 KSPS, RETURN CARRIER
143)	14000.0000-14500.0000	H, V	800KG7D	Tx	44.30	21.30	TF TR 98CM		DIGITAL, PSK, DIGITAL, 512 KSPS, RETURN CARRIER
144)	14000.0000-14500.0000	H, V	400KG7D	Tx	41.70	21.70	TFTR 74-2C		PSK, DATA, 256 KSPS, OUTROUTE CARRIER
145)	14000.0000-14500.0000	H, V	1M60G7D	Tx	41.70	15.70	TFTR 74-2C		PSK, DATA, 1024 KSPS, INROUTE CARRIER
146)	14000.0000-14500.0000	H, V	200KG7D	Tx	41.70	24.70	TFTR 74-2C		PSK, DIGITAL, 128 KSPS, INROUTE CARRIER
147)	14000.0000-14500.0000	H, V	800KG7D	Tx	41.70	18.70	TFTR 74-2C		OQPSK, DIGITAL, 512 KSPS, RETURN CARRIER
148)	11700.0000-12200.0000	H, V	6M00G7D	Rx			TFTR 74-2C		OQPSK, DATA, 5 MSPS, MULTIMEDIA
149)	11700.0000-12200.0000	H, V	12M0G7D	Rx			TFTR 74-2C		OQPSK, DATA, 10 MSPS, MULTIMEDIA
150)	11700.0000-12200.0000	H, V	24M0G7D	Rx			TFTR 74-2C		OQPSK, DATA, 20 MSPS, MULTIMEDIA
151)	11700.0000-12200.0000	H, V	36M0G7D	Rx			TFTR 74-2C		PSK, DATA, 30 MSPS, OUTROUTE CARRIER
152)	11700.0000-12200.0000	H, V	400KG7D	Rx			TFTR 74-2C		PSK, DATA, 256 KSPS, OUTROUTE CARRIER
153)	14000.0000-14500.0000	H, V	200KG7D	Tx	44.00	27.00	TR 1.0M.		PSK, DIGITAL 128 KSPS, INROUTE CARRIER
154)	14000.0000-14500.0000	H, V	800KG7D	Tx	44.00	21.00	TR 1.0M.		OQPSK, DIGITAL 512 KSPS, RETURN CARRIER
155)	14000.0000-14500.0000	H, V	400KG7D	Tx	44.00	24.00	TR 1.0M.		OQPSK, DIGITAL, 256 KSPS, RETURN CARRIER
156)	14000.0000-14500.0000	H, V	1M60G7D	Tx	44.00	18.00	TR 1.0M.		PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER
157)	11700.0000-12200.0000	H, V	36M0G7D	Rx			TR 1.0M.		PSK, DATA, 30 MSPS, OUTROUTE CARRIER
158)	11700.0000-12200.0000	H, V	400KG7D	Rx			TR 1.0M.		PSK, DATA, 256 KSPS, OUTROUTE CARRIER



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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
159)	11700.0000-12200.0000	H, V	6M00G7D	Rx			TR 1.0M.		OQPSK, DATA, MULTIMEDIA CARRIER 5 MSPS, BROADCAST
160)	11700.0000-12200.0000	H, V	12M0G7D	Rx			TR 1.0M.		OQPSK, DATA, MULTIMEDIA CARRIER 10 MSPS, BROADCAST
161)	11700.0000-12200.0000	H, V	24M0G7D	Rx			TR 1.0M.		OQPSK, DATA, MULTIMEDIA CARRIER 20 MSPS, BROADCAST
162)	14000.0000-14500.0000	H, V	200KG7D	Tx	46.10	29.10	TR 1.2M.		PSK, DIGITAL, INROUTE CARRIER 128 KSPS,
163)	14000.0000-14500.0000	H, V	400KG7D	Tx	46.10	26.10	TR 1.2M.		OQPSK, DIGITAL, RETURN CARRIER 256 KSPS,
164)	14000.0000-14500.0000	H, V	800KG7D	Tx	46.10	23.10	TR 1.2M.		OQPSK, DIGITAL, RETURN CARRIER 512 KSPS,
165)	14000.0000-14500.0000	H, V	1M60G7D	Tx	46.10	21.10	TR 1.2M.		PSK, DIGITAL, INROUTE CARRIER 1024 KSPS,
166)	11700.0000-12200.0000	H, V	36M0G7D	Rx			TR 1.2M.		PSK, DATA, OUTROUTE CARRIER 30 MSPS,
167)	11700.0000-12200.0000	H, V	400KG7D	Rx			TR 1.2M.		PSK, DATA, OUTROUTE CARRIER 256 KSPS,
168)	11700.0000-12200.0000	H, V	6M00G7D	Rx			TR 1.2M.		OQPSK, DATA, MULTIMEDIA CARRIER 5 MSPS, BROADCAST
169)	11700.0000-12200.0000	H, V	12M0G7D	Rx			TR 1.2M.		OQPSK, DATA, MULTIMEDIA CARRIER 10 MSPS, BROADCAST
170)	11700.0000-12200.0000	H, V	24M0G7D	Rx			TR 1.2M.		OQPSK, DATA, MULTIMEDIA CARRIER 20 MSPS, BROADCAST
171)	14000.0000-14500.0000	H, V	200KG7D	Tx	49.70	32.70	TR 1.8M.		PSK, DIGITAL, INROUTE CARRIER 128 KSPS,
172)	14000.0000-14500.0000	H, V	400KG7D	Tx	49.70	29.70	TR 1.8M.		OQPSK, DIGITAL, RETURN CARRIER 256 KSPS,
173)	14000.0000-14500.0000	H, V	800KG7D	Tx	49.70	26.70	TR 1.8M.		OQPSK, DIGITAL, RETURN CARRIER 512 KSPS,
174)	14000.0000-14500.0000	H, V	1M60G7D	Tx	49.70	23.70	TR 1.8M.		PSK, DIGITAL, INROUTE CARRIER 1024 KSPS,



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B) Particulars of Operations

The General Provision 1010 applies to all receiving frequency bands.

The General Provision 1900 applies to all transmitting frequency bands.

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#	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
175)	11700.0000-12200.0000	H, V	36M0G7D	Rx			TR 1.8M.		PSK, DATA, 30 MSPS, OUTROUTE CARRIER
176)	11700.0000-12200.0000	H, V	400KG7D	Rx			TR 1.8M.		PSK, DATA, 256 KSPS, OUTROUTE CARRIER
177)	11700.0000-12200.0000	H, V	6M00G7D	Rx			TR 1.8M.		OQPSK, DATA, 5 MSPS, MULTIMEDIA BROADCAST CARRIER
178)	11700.0000-12200.0000	H, V	12M0G7D	Rx			TR 1.8M.		OQPSK, DATA, 10 MSPS, MULTIMEDIA BROADCAST CARRIER
179)	11700.0000-12200.0000	H, V	24M0G7D	Rx			TR 1.8M.		OQPSK, DATA, 20 MSPS, MULTIMEDIA BROADCAST CARRIER
180)	14000.0000-14500.0000	H, V	200KG7D	Tx	52.20	35.20	TR 2.4M.		PSK, DIGITAL, 128 KSPS, INROUTE CARRIER
181)	14000.0000-14500.0000	H, V	400KG7D	Tx	52.20	32.20	TR 2.4M.		OQPSK, DIGITAL, 256 KSPS, RETURN CARRIER
182)	14000.0000-14500.0000	H, V	800KG7D	Tx	52.20	29.20	TR 2.4M.		OQPSK, DIGITAL, 512 KSPS, RETURN CARRIER
183)	14000.0000-14500.0000	H, V	1M60G7D	Tx	52.20	26.20	TR 2.4M.		PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER
184)	11700.0000-12200.0000	H, V	36M0G7D	Rx			TR 2.4M.		PSK, DATA, 30 MSPS, OUTROUTE CARRIER
185)	11700.0000-12200.0000	H, V	400KG7D	Rx			TR 2.4M.		PSK, DATA, 256 KSPS, OUTROUTE CARRIER
186)	11700.0000-12200.0000	H, V	6M00G7D	Rx			TR 2.4M.		OQPSK, DATA, 5 MSPS, MULTIMEDIA BROADCAST CARRIER
187)	11700.0000-12200.0000	H, V	12M0G7D	Rx			TR 2.4M.		OQPSK, DATA, 10 MSPS, MULTIMEDIA BROADCAST CARRIER
188)	11700.0000-12200.0000	H, V	24M0G7D	Rx			TR 2.4M.		OQPSK, DATA, 20 MSPS, MULTIMEDIA BROADCAST CARRIER
189)	14000.0000-14500.0000	H, V	1M60G7D	Tx	41.70	15.70	TR 74-2CM		PSK, DATA, 1024 KSPS, INROUTE CARRIER
190)	14000.0000-14500.0000	H, V	200KG7D	Tx	41.70	24.70	TR 74-2CM		PSK, DIGITAL, 128 KSPS, INROUTE CARRIER



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The General Provision 1010 applies to all receiving frequency bands.

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#	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
191)	14000.0000-14500.0000	H,V	400KG7D	Tx	41.70	21.70	TR 74-2CM		QPSK, DIGITAL, 256 KSPS, RETURN CARRIER
192)	14000.0000-14500.0000	H,V	800KG7D	Tx	41.70	18.70	TR 74-2CM		QPSK, DIGITAL, 512 KSPS, RETURN CARRIER
193)	11700.0000-12200.0000	H,V	6M00G7D	Rx			TR 74-2CM		QPSK, DATA, 5 MSPS, MULTIMEDIA
194)	11700.0000-12200.0000	H,V	12M0G7D	Rx			TR 74-2CM		QPSK, DATA, 10 MSPS, MULTIMEDIA
195)	11700.0000-12200.0000	H,V	24M0G7D	Rx			TR 74-2CM		QPSK, DATA, 20 MSPS, MULTIMEDIA
196)	11700.0000-12200.0000	H,V	36M0G7D	Rx			TR 74-2CM		PSK, DATA, 30 MSPS, OUTROUTE CARRIER
197)	11700.0000-12200.0000	H,V	400KG7D	Rx			TR 74-2CM		PSK, DATA, 256 KSPS, OUTROUTE CARRIER
198)	14000.0000-14500.0000	H,V	200KG7D	Tx	42.00	25.00	TR 74CM		PSK, DIGITAL, 128 KSPS, INROUTE CARRIER
199)	14000.0000-14500.0000	H,V	400KG7D	Tx	42.00	22.00	TR 74CM		QPSK, DIGITAL, 256 KSPS, RETURN CARRIER
200)	14000.0000-14500.0000	H,V	800KG7D	Tx	42.00	19.00	TR 74CM		QPSK, DIGITAL, 512 KSPS, RETURN CARRIER
201)	14000.0000-14500.0000	H,V	1M60G7D	Tx	42.00	16.00	TR 74CM		PSK, DIGITAL, 1024 KSPS, INROUTE CARRIER
202)	11700.0000-12200.0000	H,V	36M0G7D	Rx			TR 74CM		PSK, DATA, 30 MSPS, OUTROUTE CARRIER
203)	11700.0000-12200.0000	H,V	400KG7D	Rx			TR 74CM		PSK, DATA, 256 KSPS, OUTROUTE CARRIER
204)	11700.0000-12200.0000	H,V	6M00G7D	Rx			TR 74CM		QPSK, DATA, 5 MSPS, MULTIMEDIA BROADCAST CARRIER
205)	11700.0000-12200.0000	H,V	12M0G7D	Rx			TR 74CM		QPSK, DATA, 10 MSPS, MULTIMEDIA BROADCAST CARRIER
206)	11700.0000-12200.0000	H,V	24M0G7D	Rx			TR 74CM		QPSK, DATA, 20 MSPS, MULTIMEDIA BROADCAST CARRIER
207)	14000.0000-14500.0000	H,V	200KG7D	Tx	44.30	27.30	TR 98CM		PSK, DATA, 128 KSPS, INROUTE CARRIER



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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
208)	14000.0000-14500.0000	H,V	1M60G7D	Tx	44.30	18.30	TR 98CM		PSK, DATA, 1024 KSPS, INROUTE CARRIER
209)	14000.0000-14500.0000	H,V	1M60G7D	Tx	44.30	18.30	TR 98CM		QPSK, DIGITAL, 1024 KSPS, RETURN CARRIER
210)	14000.0000-14500.0000	H,V	400KG7D	Tx	44.30	24.30	TR 98CM		QPSK, DIGITAL, 256 KSPS, RETURN CARRIER
211)	14000.0000-14500.0000	H,V	800KG7D	Tx	44.30	21.30	TR 98CM		QPSK, DIGITAL, 512 KSPS, RETURN CARRIER
212)	14000.0000-14500.0000	H,V	200KG7D	Tx	44.30	27.30	TR 98CM		DIGITAL PSK, DIGITAL, 128 KSPS, RETURN CARRIER
213)	14000.0000-14500.0000	H,V	400KG7D	Tx	44.30	24.30	TR 98CM		DIGITAL PSK, DIGITAL, 256 KSPS, RETURN CARRIER
214)	14000.0000-14500.0000	H,V	800KG7D	Tx	44.30	21.30	TR 98CM		DIGITAL PSK, DIGITAL, 512 KSPS, RETURN CARRIER
215)	11700.0000-12200.0000	H,V	36M0G7D	Rx			TR 98CM		PSK, DATA, 30 MSPS, OUTROUTE CARRIER
216)	11700.0000-12200.0000	H,V	400KG7D	Rx			TR 98CM		PSK, DATA, 256 KSPS, OUTROUTE CARRIER
217)	11700.0000-12200.0000	H,V	6M00G7D	Rx			TR 98CM		DIGITAL PSK, DATA, 5 MSPS, MULTIMEDIA
218)	11700.0000-12200.0000	H,V	12M0G7D	Rx			TR 98CM		DIGITAL PSK, DATA, 10 MSPS, MULTIMEDIA
219)	11700.0000-12200.0000	H,V	24M0G7D	Rx			TR 98CM		DIGITAL PSK, DATA, 20 MSPS, MULTIMEDIA
220)	11700.0000-12200.0000	H,V	6M00G7D	Rx			TR 98CM		QPSK, DATA, 5 MSPS, MULTIMEDIA BROADCAST CARRIER
221)	11700.0000-12200.0000	H,V	12M0G7D	Rx			TR 98CM		QPSK, DATA, 10 MSPS, MULTIMEDIA BROADCAST CARRIER
222)	11700.0000-12200.0000	H,V	24M0G7D	Rx			TR 98CM		QPSK, DATA, 20 MSPS, MULTIMEDIA BROADCAST CARRIER
223)	11700.0000-12200.0000	H,V	36M0G7D	Rx			TR 98CM		QPSK, DATA, 30 MSPS, MULTIMEDIA BROADCAST 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)	14000.0000-14500.0000	62.0W	143.0W	05.0	05.0			-2.5	TR 1.2M.
2)	11700.0000-12200.0000	62.0W	143.0W	05.0	05.0				TR 1.2M.
3)	14000.0000-14500.0000	62.0W	143.0W	05.0	05.0			-2.5	TR 1.8M.
4)	11700.0000-12200.0000	62.0W	143.0W	05.0	05.0				TR 1.8M.
5)	14000.0000-14500.0000	62.0W	143.0W	41.9	10.0	156.7	254.1	-12.1	HubB7.6
6)	11700.0000-12200.0000	62.0W	143.0W	41.9	10.0	156.7	254.1		HubB7.6
7)	14000.0000-14500.0000	62.0W	143.0W	05.0	05.0	000.0	000.0	-2.5	TR 1.0M.
8)	11700.0000-12200.0000	62.0W	143.0W	05.0	05.0				TR 1.0M.
9)	14000.0000-14500.0000	62.0W	143.0W	05.0	05.0			-2.5	TF TR 98CM
10)	11700.0000-12200.0000	62.0W	143.0W	05.0	05.0				TF TR 98CM
11)	14000.0000-14500.0000	62.0W	143.0W	05.0	05.0			-5.5	TF TR 74CM
12)	11700.0000-12200.0000	62.0W	143.0W	05.0	05.0				TF TR 74CM
13)	14000.0000-14500.0000	50.0W	150.0W	36.0	08.0	134.0	257.0	-9	TF TR 74CM
14)	11700.0000-12200.0000	50.0W	150.0W	36.0	08.0	134.0	257.0		TF TR 74CM
15)	14000.0000-14500.0000	62.0W	143.0W	41.9	10.0	156.7	254.1	-12.1	HubA7.6M
16)	11700.0000-12200.0000	62.0W	143.0W	41.9	10.0	156.7	254.1		HubA7.6M
17)	14000.0000-14500.0000	62.0W	143.0W	05.0	05.0			-2.5	MESH 3.5M
18)	11700.0000-12200.0000	62.0W	143.0W	05.0	05.0				MESH 3.5M
19)	11700.0000-12200.0000	62.0W	143.0W	05.0	05.0				MESH 1.8M
20)	14000.0000-14500.0000	62.0W	143.0W	05.0	05.0			-2.5	MESH 1.8M
21)	11700.0000-12200.0000	62.0W	143.0W	05.0	05.0				MESH 2.4M
22)	14000.0000-14500.0000	62.0W	143.0W	05.0	05.0			-2.5	MESH 2.4M
23)	11700.0000-12200.0000	62.0W	143.0W	05.0	05.0				MESH 1.2M
24)	14000.0000-14500.0000	62.0W	143.0W	05.0	05.0			-2.5	MESH 1.2M
25)	14000.0000-14500.0000	50.0W	150.0W	36.7	08.3	134.0	257.0	-9	TR 74-2CM
26)	11700.0000-12200.0000	50.0W	150.0W	36.7	08.3	134.0	257.0		TR 74-2CM
27)	14000.0000-14500.0000	50.0W	150.0W	36.7	08.3	134.3	257.0	-9	TFTR 74-2C
28)	11700.0000-12200.0000	50.0W	150.0W	36.7	08.3	134.3	257.0		TFTR 74-2C
29)	11769.0000-12197.0000	6.0W	143.0W	05.3	10.3	101.9	253.6		HUB H 11-1
30)	14069.0000-14497.0000	6.0W	143.0W	05.3	10.3	101.9	253.6	-0.7	HUB H 11-1
31)	11700.0000-12200.0000	60.0W	150.0W	15.0	80.0	095.0	265.0		HUB 1
32)	14000.0000-14500.0000	60.0W	150.0W	15.0	80.0	095.0	265.0	-10	HUB 1
33)	14000.0000-14500.0000	62.0W	143.0W	05.0	05.0			-2.5	TR 98CM
34)	11700.0000-12200.0000	62.0W	143.0W	05.0	05.0				TR 98CM



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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		
35)	14000.0000-14500.0000	50.0W	150.0W	36.7	08.3	134.0	257.0	-9	TR 98CM-2
36)	11700.0000-12200.0000	50.0W	150.0W	36.7	08.3	134.0	257.0		TR 98CM-2
37)	14000.0000-14500.0000	62.0W	143.0W	05.0	05.0			-2.5	TF TR 1.2M
38)	11700.0000-12200.0000	62.0W	143.0W	05.0	05.0				TF TR 1.2M
39)	14000.0000-14500.0000	62.0W	143.0W	05.0	05.0			-5.5	TR 74CM
40)	11700.0000-12200.0000	62.0W	143.0W	05.0	05.0				TR 74CM
41)	14000.0000-14500.0000	50.0W	150.0W	36.0	08.0	134.0	257.0	-9	TR 74CM
42)	11700.0000-12200.0000	50.0W	150.0W	36.0	08.0	134.0	257.0		TR 74CM
43)	14000.0000-14500.0000	60.0W	143.0W	41.2	10.0	153.8	254.1	-13.6	HubC 7.6M
44)	11700.0000-12200.0000	60.0W	143.0W	41.2	10.0	153.8	254.1		HubC 7.6M
45)	14000.0000-14500.0000	62.0W	143.0W	05.0	05.0			-2.5	TR 2.4M.
46)	11700.0000-12200.0000	62.0W	143.0W	05.0	05.0				TR 2.4M.
47)	14000.0000-14500.0000	60.0W	143.0W	41.2	10.0	153.8	254.1	-13.6	HubD 7.6M
48)	11700.0000-12200.0000	60.0W	143.0W	41.2	10.0	153.8	254.1		HubD 7.6M
49)	14000.0000-14500.0000	62.0W	143.0W	41.9	10.0	156.7	254.1	-8.4	HubE 6.1M
50)	11700.0000-12200.0000	62.0W	143.0W	41.9	10.0	156.7	254.1		HubE 6.1M
51)	14000.0000-14500.0000	62.0W	143.0W	41.9	10.0	156.7	254.1	-9.9	HubF 5.6M
52)	11700.0000-12200.0000	62.0W	143.0W	41.9	10.0	156.7	254.1		HubF 5.6M
53)	14000.0000-14500.0000	60.0W	143.0W	18.8	42.7	109.3	221.7	-16.9	HubG 4.6M
54)	11700.0000-12200.0000	60.0W	143.0W	18.8	42.7	109.3	221.7		HubG 4.6M

D) Points of Communications

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

- 1) TR 1.2M. to Permitted Space Station List
- 2) TR 1.2M. to SATMEX-5 @ 116.8 W.L. (Mexico-licensed)
- 3) TR 1.8M. to SATMEX-5 @ 116.8 W.L. (Mexico-licensed)
- 4) TR 1.8M. to Permitted Space Station List
- 5) HUB-B to Permitted Space Station List
- 6) HUB-B to SATMEX-5 @ 116.8 W.L. (Mexico-licensed)
- 7) HUB-B to IA-8 Intelsat Americas satellite @ 89 degrees W.L., of the INTELSAT system (U.S.-licensed)
- 8) HUB-B to GALAXY 10R satellite @ 123 W.L. (U.S.-licensed domestic satellite)
- 9) HUB-B to HORIZONS 1 (S2475) @ 127 degrees W.L. (Japan-licensed)
- 10) TR 1.0M. to Permitted Space Station List



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D) Points of Communications

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

- 11) TR 1.0M. to SATMEX-5 @ 116.8 W.L. (Mexico-licensed)
- 12) TF TR 98CM to GALAXY 18 satellite @ 123 W.L.(U.S.-licensed satellite)
- 13) TF TR 98CM to GALAXY 17 (S2715) @ 91 degrees W.L. (U.S.-licensed)
- 14) TF TR 98CM to GALAXY 19 (S2647) @ 97 W.L.(U.S.-licensed satellite)
- 15) TF TR 98CM to Eutelsat 113WA (S2695) @ 113 degrees W.L. (formerly SATMEX 6) (Mexico-licensed)
- 16) TF TR 98CM to SATMEX-5 @ 116.8 W.L. (Mexico-licensed)
- 17) TF TR 98CM to AMC-3 (S2162) @ 72 degrees W.L. (U.S.-licensed)
- 18) TF TR 98CM to GALAXY XI @ 91 W.L. (U.S.-licensed domestic satellite)
- 19) TF TR 98CM to GALAXY 3C (S2381) @ 95.05 W.L. (U.S.-licensed)
- 20) TF TR 98CM to IA-8 Intelsat Americas satellite @ 89 degrees W.L., of the INTELSAT system (U.S.-licensed)
- 21) TF TR 98CM to GALAXY 10R satellite @ 123 W.L. (U.S.-licensed domestic satellite)
- 22) TF TR 98CM to HORIZONS 1 (S2475) @ 127 degrees W.L. (Japan-licensed)
- 23) TF TR 98CM to AMC-9 (S2434) @ 85 degrees W.L. (U.S.-Licensed)
- 24) TF TR 98CM to INTELSAT AMERICAS 5 @ 97 degrees W.L., satellite of the INTELSAT system (U.S.-licensed)
- 25) TF TR 98CM to AMC-4 (S2135)@ 101 degrees W.L. (U.S.-licensed)
- 26) TF TR 98CM to AMC-6 (S2347) @ 67 degrees W.L. (U.S.-licensed)
- 27) TF TR 98CM to INTELSAT AMERICAS-6 @93 degrees W.L. satellites(s) of the INTELSA Tsystem. (U.S.-licensed)
- 28) TF TR 74CM to GALAXY 18 satellite @ 123 W.L.(U.S.-licensed satellite)
- 29) TF TR 74CM to GALAXY 17 (S2715) @ 91 degrees W.L. (U.S.-licensed)
- 30) TF TR 74CM to GALAXY 19 (S2647) @ 97 W.L.(U.S.-licensed satellite)
- 31) TF TR 74CM to GALAXY 16 (S2687) @ 99 degrees W.L. (U.S.-licensed)
- 32) TF TR 74CM to SATMEX-5 @ 116.8 W.L. (Mexico-licensed)
- 33) TF TR 74CM to AMC-3 (S2162) @ 72 degrees W.L. (U.S.-licensed)
- 34) TF TR 74CM to GALAXY 3C (S2381) @ 95.05 W.L. (U.S.-licensed)
- 35) TF TR 74CM to GALAXY XI @ 91 W.L. (U.S.-licensed domestic satellite)
- 36) TF TR 74CM to IA-8 Intelsat Americas satellite @ 89 degrees W.L., of the INTELSAT system (U.S.-licensed)
- 37) TF TR 74CM to GALAXY 10R satellite @ 123 W.L. (U.S.-licensed domestic satellite)
- 38) TF TR 74CM to HORIZONS 1 (S2475) @ 127 degrees W.L. (Japan-licensed)
- 39) TF TR 74CM to AMC-4 (S2135)@ 101 degrees W.L. (U.S.-licensed)
- 40) TF TR 74CM to INTELSAT AMERICAS 5 @ 97 degrees W.L., satellite of the INTELSAT system (U.S.-licensed)
- 41) TF TR 74CM to AMC-6 (S2347) @ 67 degrees W.L. (U.S.-licensed)
- 42) TF TR 74CM to AMC-9 (S2434) @ 85 degrees W.L. (U.S.-Licensed)
- 43) TF TR 74CM to Eutelsat 113WA (S2695) @ 113 degrees W.L. (formerly SATMEX 6) (Mexico-licensed)
- 44) TF TR 74CM to INTELSAT AMERICAS-6 @93 degrees W.L. satellites(s) of the INTELSA Tsystem. (U.S.-licensed)
- 45) TF TR 74CM to GALAXY 25 (S2154) satellite @ 93.1 W.L. (U.S.-licensed)



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D) Points of Communications

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

-
- 46) HUB-A to Permitted Space Station List
 - 47) HUB-A to SATMEX-5 @ 116.8 W.L. (Mexico-licensed)
 - 48) HUB-A to IA-8 Intelsat Americas satellite @ 89 degrees W.L., of the INTELSAT system (U.S.-licensed)
 - 49) HUB-A to GALAXY 10R satellite @ 123 W.L. (U.S.-licensed domestic satellite)
 - 50) HUB-A to HORIZONS 1 (S2475) @ 127 degrees W.L. (Japan-licensed)
 - 51) MESH 3.5M. to Permitted Space Station List
 - 52) MESH 1.8M. to Permitted Space Station List
 - 53) MESH 2.4M. to Permitted Space Station List
 - 54) MESH 1.2M. to Permitted Space Station List
 - 55) TR 74-2 CM to GALAXY 18 satellite @ 123 W.L.(U.S.-licensed satellite)
 - 56) TR 74-2 CM to GALAXY 17 (S2715) @ 91 degrees W.L. (U.S.-licensed)
 - 57) TR 74-2 CM to GALAXY 19 (S2647) @ 97 W.L.(U.S.-licensed satellite)
 - 58) TR 74-2 CM to IA-8 Intelsat Americas satellite @ 89 degrees W.L., of the INTELSAT system (U.S.-licensed)
 - 59) TR 74-2 CM to AMC-4 (S2135)@ 101 degrees W.L. (U.S.-licensed)
 - 60) TR 74-2 CM to AMC-3 (S2162) @ 72 degrees W.L. (U.S.-licensed)
 - 61) TR 74-2 CM to SATMEX-5 @ 116.8 W.L. (Mexico-licensed)
 - 62) TR 74-2 CM to INTELSAT AMERICAS 5 @ 97 degrees W.L., satellite of the INTELSAT system (U.S.-licensed)
 - 63) TR 74-2 CM to AMC-6 (S2347) @ 67 degrees W.L. (U.S.-licensed)
 - 64) TR 74-2 CM to GALAXY 10R satellite @ 123 W.L. (U.S.-licensed domestic satellite)
 - 65) TR 74-2 CM to HORIZONS 1 (S2475) @ 127 degrees W.L. (Japan-licensed)
 - 66) TR 74-2 CM to GALAXY 3C (S2381) @ 95.05 W.L. (U.S.-licensed)
 - 67) TR 74-2 CM to GALAXY 16 (S2687) @ 99 degrees W.L. (U.S.-licensed)
 - 68) TR 74-2 CM to GALAXY XI @ 91 W.L. (U.S.-licensed domestic satellite)
 - 69) TR 74-2 CM to Eutelsat 113WA (S2695) @ 113 degrees W.L. (formerly SATMEX 6) (Mexico-licensed)
 - 70) TR 74-2 CM to AMC-9 (S2434) @ 85 degrees W.L. (U.S.-Licensed)
 - 71) TR 74-2 CM to INTELSAT AMERICAS-6 @93 degrees W.L. satellites(s) of the INTELSAT system. (U.S.-licensed)
 - 72) TR 74-2 CM to GALAXY 25 (S2154) satellite @ 93.1 W.L. (U.S.-licensed)
 - 73) TFTR 74-2CM to GALAXY 18 satellite @ 123 W.L.(U.S.-licensed satellite)
 - 74) TFTR 74-2CM to GALAXY 17 (S2715) @ 91 degrees W.L. (U.S.-licensed)
 - 75) TFTR 74-2CM to GALAXY 19 (S2647) @ 97 W.L.(U.S.-licensed satellite)
 - 76) TFTR 74-2CM to INTELSAT AMERICAS 5 @ 97 degrees W.L., satellite of the INTELSAT system (U.S.-licensed)
 - 77) TFTR 74-2CM to AMC-6 (S2347) @ 67 degrees W.L. (U.S.-licensed)
 - 78) TFTR 74-2CM to GALAXY 16 (S2687) @ 99 degrees W.L. (U.S.-licensed)
 - 79) TFTR 74-2CM to AMC-3 (S2162) @ 72 degrees W.L. (U.S.-licensed)
 - 80) TFTR 74-2CM to GALAXY 10R satellite @ 123 W.L. (U.S.-licensed domestic satellite)



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D) Points of Communications

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

- 81) TFTR 74-2CM to SATMEX-5 @ 116.8 W.L. (Mexico-licensed)
- 82) TFTR 74-2CM to AMC-4 (S2135)@ 101 degrees W.L. (U.S.-licensed)
- 83) TFTR 74-2CM to GALAXY XI @ 91 W.L. (U.S.-licensed domestic satellite)
- 84) TFTR 74-2CM to IA-8 Intelsat Americas satellite @ 89 degrees W.L., of the INTELSAT system (U.S.-licensed)
- 85) TFTR 74-2CM to HORIZONS 1 (S2475) @ 127 degrees W.L. (Japan-licensed)
- 86) TFTR 74-2CM to GALAXY 3C (S2381) @ 95.05 W.L. (U.S.-licensed)
- 87) TFTR 74-2CM to AMC-9 (S2434) @ 85 degrees W.L. (U.S.-Licensed)
- 88) TFTR 74-2CM to Eutelsat 113 WA (S2695) @ 113 degrees W.L. (formerly SATMEX 6) (Mexico-licensed)
- 89) TFTR 74-2CM to INTELSAT AMERICAS-6 @93 degrees W.L. satellites(s) of the INTELSATsystem. (U.S.-licensed)
- 90) TFTR 74-2CM to GALAXY 25 (S2154) satellite @ 93.1 W.L. (U.S.-licensed)
- 91) HUB H (11.1M) to INTELSAT AMERICAS-6 @93 degrees W.L. satellites(s) of the INTELSATsystem. (U.S.-licensed)
- 92) HUB H (11.1M) to GALAXY 25 (S2154) satellite @ 93.1 W.L. (U.S.-licensed)
- 93) HUB 1 (3.9 M) to Permitted Space Station List
- 94) TR 98CM to GALAXY 18 satellite @ 123 W.L.(U.S.-licensed satellite)
- 95) TR 98CM to GALAXY 17 (S2715) @ 91 degrees W.L. (U.S.-licensed)
- 96) TR 98CM to GALAXY 19 (S2647) @ 97 W.L.(U.S.-licensed satellite)
- 97) TR 98CM to Eutelsat 113WA (S2695) @ 113 degrees W.L. (formerly SATMEX 6) (Mexico-licensed)
- 98) TR 98CM to GALAXY 16 (S2687) @ 99 degrees W.L. (U.S.-licensed)
- 99) TR 98CM to AMC-3 (S2162) @ 72 degrees W.L. (U.S.-licensed)
- 100) TR 98CM to GALAXY 3C (S2381) @ 95.05 W.L. (U.S.-licensed)
- 101) TR 98CM to GALAXY XI @ 91 W.L. (U.S.-licensed domestic satellite)
- 102) TR 98CM to IA-8 Intelsat Americas satellite @ 89 degrees W.L., of the INTELSAT system (U.S.-licensed)
- 103) TR 98CM to GALAXY 10R satellite @ 123 W.L. (U.S.-licensed domestic satellite)
- 104) TR 98CM to SATMEX-5 @ 116.8 W.L. (Mexico-licensed)
- 105) TR 98CM to INTELSAT AMERICAS 5 @ 97 degrees W.L., satellite of the INTELSAT system (U.S.-licensed)
- 106) TR 98CM to AMC-4 (S2135)@ 101 degrees W.L. (U.S.-licensed)
- 107) TR 98CM to HORIZONS 1 (S2475) @ 127 degrees W.L. (Japan-licensed)
- 108) TR 98CM to AMC-6 (S2347) @ 67 degrees W.L. (U.S.-licensed)
- 109) TR 98CM to INTELSAT AMERICAS-6 @93 degrees W.L. satellites(s) of the INTELSATsystem. (U.S.-licensed)
- 110) TR 98CM to GALAXY 25 (S2154) satellite @ 93.1 W.L. (U.S.-licensed)
- 111) TF TR 1.2M. to Permitted Space Station List
- 112) TF TR 1.2M. to SATMEX-5 @ 116.8 W.L. (Mexico-licensed)
- 113) TR 74CM to GALAXY 18 satellite @ 123 W.L.(U.S.-licensed satellite)
- 114) TR 74CM to GALAXY 17 (S2715) @ 91 degrees W.L. (U.S.-licensed)
- 115) TR 74CM to GALAXY 19 (S2647) @ 97 W.L.(U.S.-licensed satellite)



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Call Sign: E000166

Authorization Type: Modification of License

File Number: SES-MOD-20170414-00532

Non Common Carrier

Grant date: 06/21/2017

Expiration Date: 09/13/2025

D) Points of Communications

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

- 116) TR 74CM to GALAXY 4R @ 99 W.L. (U.S.-licensed domestic satellite)
- 117) TR 74CM to SATMEX-5 @ 116.8 W.L. (Mexico-licensed)
- 118) TR 74CM to AMC-3 (S2162) @ 72 degrees W.L. (U.S.-licensed)
- 119) TR 74CM to GALAXY XI @ 91 W.L. (U.S.-licensed domestic satellite)
- 120) TR 74CM to GALAXY 3C (S2381) @ 95.05 W.L. (U.S.-licensed)
- 121) TR 74CM to IA-8 Intelsat Americas satellite @ 89 degrees W.L., of the INTELSAT system (U.S.-licensed)
- 122) TR 74CM to GALAXY 10R satellite @ 123 W.L. (U.S.-licensed domestic satellite)
- 123) TR 74CM to HORIZONS 1 (S2475) @ 127 degrees W.L. (Japan-licensed)
- 124) TR 74CM to INTELSAT AMERICAS 5 @ 97 degrees W.L., satellite of the INTELSAT system (U.S.-licensed)
- 125) TR 74CM to AMC-6 (S2347) @ 67 degrees W.L. (U.S.-licensed)
- 126) TR 74CM to AMC-4 (S2135) @ 101 degrees W.L. (U.S.-licensed)
- 127) TR 74CM to AMC-9 (S2434) @ 85 degrees W.L. (U.S.-Licensed)
- 128) TR 74CM to Eutelsat 113WA (S2695) @ 113 degrees W.L. (formerly SATMEX 6) (Mexico-licensed)
- 129) TR 74CM to INTELSAT AMERICAS-6 @ 93 degrees W.L. satellites(s) of the INTELSAT system. (U.S.-licensed)
- 130) TR 74CM to GALAXY 16 (S2687) @ 99 degrees W.L. (U.S.-licensed)
- 131) TR 74CM to GALAXY 25 (S2154) satellite @ 93.1 W.L. (U.S.-licensed)
- 132) HUB-C 7.6M to Permitted Space Station List
- 133) HUB-C 7.6M to SATMEX-5 @ 116.8 W.L. (Mexico-licensed)
- 134) HUB-C 7.6M to IA-8 Intelsat Americas satellite @ 89 degrees W.L., of the INTELSAT system (U.S.-licensed)
- 135) HUB-C 7.6M to GALAXY 10R satellite @ 123 W.L. (U.S.-licensed domestic satellite)
- 136) HUB-C 7.6M to HORIZONS 1 (S2475) @ 127 degrees W.L. (Japan-licensed)
- 137) TR 2.4M. to Permitted Space Station List
- 138) TR 2.4M. to SATMEX-5 @ 116.8 W.L. (Mexico-licensed)
- 139) HUB-D 7.6M to Permitted Space Station List
- 140) HUB-D 7.6M to SATMEX-5 @ 116.8 W.L. (Mexico-licensed)
- 141) HUB-D 7.6M to IA-8 Intelsat Americas satellite @ 89 degrees W.L., of the INTELSAT system (U.S.-licensed)
- 142) HUB-D 7.6M to GALAXY 10R satellite @ 123 W.L. (U.S.-licensed domestic satellite)
- 143) HUB-D 7.6M to HORIZONS 1 (S2475) @ 127 degrees W.L. (Japan-licensed)
- 144) HUB-E 6.1M to Permitted Space Station List
- 145) HUB-E 6.1M to SATMEX-5 @ 116.8 W.L. (Mexico-licensed)
- 146) HUB-E 6.1M to IA-8 Intelsat Americas satellite @ 89 degrees W.L., of the INTELSAT system (U.S.-licensed)
- 147) HUB-E 6.1M to GALAXY 10R satellite @ 123 W.L. (U.S.-licensed domestic satellite)
- 148) HUB-E 6.1M to HORIZONS 1 (S2475) @ 127 degrees W.L. (Japan-licensed)
- 149) HUB-F 5.6M to Permitted Space Station List
- 150) HUB-F 5.6M to SATMEX-5 @ 116.8 W.L. (Mexico-licensed)



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D) Points of Communications

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

- 151) HUB-F 5.6M to IA-8 Intelsat Americas satellite @ 89 degrees W.L., of the INTELSAT system (U.S.-licensed)
- 152) HUB-F 5.6M to GALAXY 10R satellite @ 123 W.L. (U.S.-licensed domestic satellite)
- 153) HUB-F 5.6M to HORIZONS 1 (S2475) @ 127 degrees W.L. (Japan-licensed)
- 154) HUB-G 4.6M to Permitted Space Station List
- 155) HUB-G 4.6M to SATMEX-5 @ 116.8 W.L. (Mexico-licensed)

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)
HUB 1 (3.9 M	HUB 1	1	3.9	ANDREW CORPORATION	MILSATCOM 3.9 METER		3.9 AGL	
Max Gains(s):		51.3 dBi @	11.9500 GHz	52.8 dBi @	14.2500 GHz			
Maximum total input power at antenna flange (Watts) =		300.00						
Maximum aggregate output EIRP for all carriers (dBW) =		77.60						
HUB H (11.1M	HUB H 11-1	1	11.1	VERTEX	11.1 KPK	164.9	11.1 AGL/ 175.99 AMSL	
Max Gains(s):		60.5 dBi @	12.0000 GHz	61.9 dBi @	14.0000 GHz			
Maximum total input power at antenna flange (Watts) =		407.40						
Maximum aggregate output EIRP for all carriers (dBW) =		88.00						
HUB-A	HubA7.6M	3	7.6	ANDREW CORP.	ES76K-1	141.4	8.5 AGL/ 149.9 AMSL	
Max Gains(s):		57.8 dBi @	11.9500 GHz	59.3 dBi @	14.2500 GHz			
Maximum total input power at antenna flange (Watts) =		800.00						
Maximum aggregate output EIRP for all carriers (dBW) =		88.30						
HUB-B	HubB7.6	2	7.6	ANDREW CORP.	ES76K-1	129.9	8.5 AGL/ 138.4 AMSL	
Max Gains(s):		57.8 dBi @	11.9500 GHz	59.3 dBi @	14.2500 GHz			
Maximum total input power at antenna flange (Watts) =		800.00						
Maximum aggregate output EIRP for all carriers (dBW) =		88.30						



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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)
HUB-C 7.6M	HubC 7.6M	1	7.6	NEC	APS-12/14-F64A	155.4	29.3 AGL/ 184.7 AMSL	
Max Gains(s): 56.7 dBi @ 12.0000 GHz 59.6 dBi @ 14.0000 GHz Maximum total input power at antenna flange (Watts) = 250.00 Maximum aggregate output EIRP for all carriers (dBW) = 83.60								
HUB-D 7.6M	HubD 7.6M	1	7.6	NEC	APS-12/14-F0764F155.5		30.8 AGL/ 186.2 AMSL	
Max Gains(s): 56.7 dBi @ 12.0000 GHz 59.6 dBi @ 14.0000 GHz Maximum total input power at antenna flange (Watts) = 250.00 Maximum aggregate output EIRP for all carriers (dBW) = 83.60								
HUB-E 6.1M	HubE 6.1M	1	6.1	VERTEX	6.1KPK	135.8	19.9 AGL/ 155.7 AMSL	
Max Gains(s): 55.9 dBi @ 11.9500 GHz 57.3 dBi @ 14.2500 GHz Maximum total input power at antenna flange (Watts) = 550.00 Maximum aggregate output EIRP for all carriers (dBW) = 84.70								
HUB-F 5.6M	HubF 5.6M	1	5.6	ANDREW	ES56-1	143.3	28.9 AGL/ 172.2 AMSL	
Max Gains(s): 55.4 dBi @ 12.0000 GHz 56.8 dBi @ 14.0000 GHz Maximum total input power at antenna flange (Watts) = 125.00 Maximum aggregate output EIRP for all carriers (dBW) = 77.70								
HUB-G 4.6M	HubG 4.6M	1	4.6	VERTEX	4.57KPK	97.2	5.2 AGL/ 102.4 AMSL	
Max Gains(s): 53.2 dBi @ 12.0000 GHz 54.5 dBi @ 14.0000 GHz Maximum total input power at antenna flange (Watts) = 2.00 Maximum aggregate output EIRP for all carriers (dBW) = 57.50								
MESH 1.2M.	MESH 1.2M	5000	1.2	HUGHES NETWORK SYTEMS	PES-RFT-120			
Max Gains(s): 41.5 dBi @ 12.0000 GHz 43.1 dBi @ 14.0000 GHz Maximum total input power at antenna flange (Watts) = 1.50 Maximum aggregate output EIRP for all carriers (dBW) = 45.00								



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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)
MESH 1.8M.	MESH 1.8M	5000	1.8	HUGHES NETWORK SYSTEMS	PES-RFT-180			
Max Gains(s):		45.0 dBi @	12.0000 GHz	46.7 dBi @	14.0000 GHz			
Maximum total input power at antenna flange (Watts) =		1.50						
Maximum aggregate output EIRP for all carriers (dBW) =		48.60						
MESH 2.4M.	MESH 2.4M	5000	2.4	HUGHES NETWORK SYSTEMS	PES-RFT-240			
Max Gains(s):		47.1 dBi @	12.0000 GHz	48.8 dBi @	14.0000 GHz			
Maximum total input power at antenna flange (Watts) =		3.10						
Maximum aggregate output EIRP for all carriers (dBW) =		53.70						
MESH 3.5M.	MESH 3.5M	5000	3.5	COMTECH	846400G1			
Max Gains(s):		50.9 dBi @	12.0000 GHz	52.3 dBi @	14.0000 GHz			
Maximum total input power at antenna flange (Watts) =		24.60						
Maximum aggregate output EIRP for all carriers (dBW) =		66.20						
TF TR 1.2M.	TF TR 1.2M	50000	1.2	PRODELIN	HNS-AN-120P-KU			
Max Gains(s):		41.5 dBi @	11.9500 GHz	43.1 dBi @	14.2500 GHz			
Maximum total input power at antenna flange (Watts) =		2.00						
Maximum aggregate output EIRP for all carriers (dBW) =		46.10						
TF TR 74CM	TF TR 74CM	60200	0.74	PRODELIN	HNS-AN-074P-KU			
Max Gains(s):		37.7 dBi @	11.9500 GHz	39.0 dBi @	14.2500 GHz			
Maximum total input power at antenna flange (Watts) =		2.00						
Maximum aggregate output EIRP for all carriers (dBW) =		42.00						
TF TR 98CM	TF TR 98CM	54000	0.98	PRODELIN	HNS-AN-098P-KU			
Max Gains(s):		39.9 dBi @	11.9500 GHz	41.3 dBi @	14.2500 GHz	39.9 dBi @		
		11.9500 GHz	41.3 dBi @	14.2500 GHz				
Maximum total input power at antenna flange (Watts) =		2.00						
Maximum aggregate output EIRP for all carriers (dBW) =		44.30						



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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)
TFTR 74-2CM	TFTR 74-2C	50000	0.74	PRODELIN	HNS-AN-074P-KU			
Max Gains(s):		37.9 dBi @	11.9500 GHz	39.0 dBi @	14.2500 GHz			
Maximum total input power at antenna flange (Watts) =		2.00						
Maximum aggregate output EIRP for all carriers (dBW) =		41.70						
TF TR 98CM	TFTR 98CM	54000	0.98	RAVEN MANUFACTURING LIMITED	HNS-AN-98R-KU			
Max Gains(s):								
Maximum total input power at antenna flange (Watts) =		2.00						
Maximum aggregate output EIRP for all carriers (dBW) =		44.30						
TR 1.0M.	TR 1.0M.	100000	1	PRODELIN CORP.	1102 (135 cm x 58 cm)			
Max Gains(s):		39.8 dBi @	11.9500 GHz	41.0 dBi @	14.2500 GHz			
Maximum total input power at antenna flange (Watts) =		2.00						
Maximum aggregate output EIRP for all carriers (dBW) =		44.00						
TR 1.2M.	TR 1.2M.	100000	1.2	PRODELIN CORP.	HNS-AN-120P-KU			
Max Gains(s):		41.5 dBi @	11.9500 GHz	43.1 dBi @	14.2500 GHz			
Maximum total input power at antenna flange (Watts) =		2.00						
Maximum aggregate output EIRP for all carriers (dBW) =		46.10						
TR 1.8M.	TR 1.8M.	50000	1.8	PRODELIN CORP.	HNS-AN-180P-KU			
Max Gains(s):		45.0 dBi @	11.9500 GHz	46.7 dBi @	14.2500 GHz			
Maximum total input power at antenna flange (Watts) =		2.00						
Maximum aggregate output EIRP for all carriers (dBW) =		49.70						
TR 2.4M.	TR 2.4M.	11000	2.4	PRODELIN CORP.	HNS-AN-240P-KU		0 AGL	
Max Gains(s):		47.7 dBi @	11.9500 GHz	49.2 dBi @	14.2500 GHz			
Maximum total input power at antenna flange (Watts) =		2.00						
Maximum aggregate output EIRP for all carriers (dBW) =		52.20						



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Site ID	Antenna ID	Units	Diameter (meters)	Manufacturer	Model number	Site Elevation (Meters)	Max Antenna Height (Meters)	Special Provisions (Refer to Section H)
TR 74-2 CM	TR 74-2CM	500000	0.74	RAVEN	HNS-AN-074R-KU			
Max Gains(s):		36.7 dBi @	11.9500 GHz	38.7 dBi @	14.2500 GHz			
Maximum total input power at antenna flange (Watts) =		2.00						
Maximum aggregate output EIRP for all carriers (dBW) =		41.70						
TR 74CM	TR 74CM	350000	0.74	PRODELIN	HNS-AN-074P-KU			
Max Gains(s):		37.9 dBi @	11.9500 GHz	39.0 dBi @	14.5000 GHz			
Maximum total input power at antenna flange (Watts) =		2.00						
Maximum aggregate output EIRP for all carriers (dBW) =		42.00						
TR 98CM	TR 98CM	200000	0.98	PRODELIN	HNS-AN-098P-KU			
Max Gains(s):		39.9 dBi @	11.9500 GHz	41.3 dBi @	14.5000 GHz			
Maximum total input power at antenna flange (Watts) =		2.00						
Maximum aggregate output EIRP for all carriers (dBW) =		44.30						
TR 98CM	TR 98CM-2	200000	0.98	RAVEN MANUFACTURING LIMITED	HNS-AN-098R-KU			
Max Gains(s):		39.9 dBi @	11.9500 GHz	41.3 dBi @	14.5000 GHz			
Maximum total input power at antenna flange (Watts) =		2.00						
Maximum aggregate output EIRP for all carriers (dBW) =		44.30						

F) Remote Control Point:

HUB 1 (3.9 M)	ONE AEROJET WAY	Call Sign: E940460
	NORTH LAS VEGAS, Clark, NV 89030	
	301-428-7205	
HUB 1 (3.9 M)	11717 EXPLORATION LANE	Call Sign: E000166
	GERMANTOWN, MONTGOMERY, MD 20876	
	301-428-7205	



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F) Remote Control Point:

HUB H (11.1M)	11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD 20876 301-428-5500	Call Sign: E000166
MESH 1.2M.	ONE AEROJET WAY NORTH LAS VEGAS, CLARK, NV 89030 301-428-7205	Call Sign: E940460
MESH 1.2M.	11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD 20876 301-428-7205	Call Sign: E000166
MESH 1.8M.	ONE AEROJET WAY NORH LAS VEGAS, CLARK, NV 89030 301-428-7205	Call Sign: E940460
MESH 1.8M.	11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD 20876 301-428-7205	Call Sign: E000166
MESH 2.4M.	ONE AEROJET WAY NORTH LAS VEGAS, CLARK, NV 89030 301-428-7205	Call Sign: E940460
MESH 2.4M.	11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD 20876 301-428-7205	Call Sign: E000166
MESH 3.5M.	ONE AEROJET WAY NORTH LAS VEGAS, CLARK, NV 89030 301-428-7205	Call Sign: E940460



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F) Remote Control Point:

MESH 3.5M.	11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD 20876 301-428-5500	Call Sign: E000166
TF TR 1.2M.	ONE AEROJET WAY NORTH LAS VEGAS, CLARK, NV 89030 301-428-7205	Call Sign: E940460
TF TR 1.2M.	11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD 20876 301-428-7205	Call Sign: E000166
TF TR 74CM	ONE AEROJET WAY NORTH LAS VEGAS, CLARK, NV 89030 301-428-7205	Call Sign: E940460
TF TR 74CM	11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD 20876 301-428-7205	Call Sign: E000166
TF TR 98CM	ONE AEROJET WAY NORTH LAS VEGAS, CLARK, NV 89030 301-428-7205	Call Sign: E940460
TF TR 98CM	11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD 20876 301-428-7205	Call Sign: E000166
TFTR 74-2CM	ONE AEROJET WAY NORTH LAS VEGAS, CLARK, NV 89030 301-428-7205	Call Sign: E940460
TFTR 74-2CM	11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD 20876 301-428-7205	Call Sign: E000166



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F) Remote Control Point:

TR 1.0M.	ONE AEROJET WAY NORTH LAS VEGAS, CLARK, NV 89030 301-428-7205	Call Sign: E940460
TR 1.0M.	11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD 20876 301-428-7205	Call Sign: E000166
TR 1.2M.	ONE AEROJET WAY NORTH LAS VEGAS, CLARK, NV 89030 301-428-7205	Call Sign: E940460
TR 1.2M.	11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD 20876 301-428-7205	Call Sign: E000166
TR 1.8M.	ONE AEROJET WAY NORTH LAS VEGAS, CLARK, NV 89030 301-428-7205	Call Sign: E940460
TR 1.8M.	11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD 20876 301-428-7205	Call Sign: E000166
TR 2.4M.	ONE AEROJET WAY NORTH LAS VEGAS, CLARK, NV 89030 301-428-7205	Call Sign: E940460
TR 2.4M.	11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD 20876 301-428-7205	Call Sign: E000166
TR 74-2 CM	ONE AEROJET WAY NORTH LAS VEGAS, CLARK, NV 89030 301-428-7205	Call Sign: E940460



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F) Remote Control Point:

TR 74-2 CM	11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD 20876 301-428-7205	Call Sign: E000166
TR 74CM	ONE AEROJET WAY NORTH LAS VEGAS, CLARK, NV 89030 301-428-7205	Call Sign: E940460
TR 74CM	11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD 20876 301-428-7205	Call Sign: E000166
TR 98CM	ONE AEROJET WAY NORTH LAS VEGAS, CLARK, NV 89030 301-428-7205	Call Sign: E940460
TR 98CM	11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD 20876 301-428-7205	Call Sign: E000166

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 an 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.

167 --- This authorization is limited to the total number of terminals listed in Section A of this license for this Site ID.



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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:

- 2300 --- Authority is granted to operate this station by remote control provided that: (1) the parameters of the transmissions of this station monitored at the remote control point, and the operational functions sufficient to ensure that the operations of this station are in full compliance with the station authorization at all times; (2) upon detection by the grantee, or upon notification from the Commission, of a deviation of the operation of this station, transmissions shall be immediately suspended until the deviation is corrected, except that transmissions concerning the immediate safety of life or property may be conducted for the duration of such emergency; and (3) the grantee shall have available, at all times, the technical personnel necessary to perform the technical servicing and maintenance of this station expeditiously. See also Public Notice "The International Bureau Provides Guidance Concerning the Relocation of Earth Station Remote Control Points", DA 06-978 (rel. May 4, 2006).
- 2325 --- Antennas and all antenna supporting structures used under this authorization shall not exceed 20 feet in height.
- 2633 --- This authorization is subject to all actions taken by the Commission and currently effective with respect to provision of service by Intelsat to ensure Intelsat's operations are consistent with the requirements of the Open-Market Reorganization for the Betterment of International Telecommunications Act, Pub. Law 106-180, 114 Stat. 48 (2000), most recently amended by Pub. Law 108-371, 118 Stat. 1752 (2004) (ORBIT Act).
- 2635 --- In communications from Horizons I in the 11.7-12.2 GHz band, the licensee is only authorized to operate with emissions that do not exceed the maximum e.i.r.p. and e.i.r.p. densities authorized in this license and cannot exceed a bandwidth of 35.9 megahertz for digital or analog carriers. The maximum downlink e.i.r.p. density of the digital carrier shall not exceed +10 dBW/4kHz from Horizons I.
- 2636 --- In communications from Horizons I in the 11.7-12.2 GHz band, the licensee cannot exceed a bandwidth of 35.9 megahertz for digital or analog carriers. See also PanAmSat Licensee Corporation, Order and Authorization, DA 05-0007, (released January 4, 2005).
- 2939 --- Upon completion of construction, each licensee must file with the Commission a certification including the following information: name of licensee, file number of the application, call sign of the antenna, date of the license and certification that the facility as authorized has been completed, that each antenna facility has been tested and is within 2 dB of the pattern specified in Section 25.209 and 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. In addition, each licensee must file a certification once the network is put into operation.
- 3212 --- The licensee shall take extraordinary measures to ensure that multiple antennas co-located at the same site do not create potential exposure to radiofrequency radiation in excess of FCC safety guidelines. Antennas shall be surrounded by a fence, at least 2 meters tall with a locked gate, to prevent human exposure in excess of the FCC-specified safety limit of 1 mW/cm². Warning signs, such as those discussed in the FCC's OET Bulletin 65, shall be posted informing members of the public to keep outside the locked area. All operations must be in compliance with Section 1.1307 (b)(3) of the Commission's Rules. (See 47 CFR 1.1307 (b) (3)).
- 3214 --- All operations must be in compliance with Section 1.1307 (b)(3) of the Commission's Rules. (See 47 CFR 1.1307 (b) (3)).



UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION
RADIO STATION AUTHORIZATION

Name: HNS License Sub, LLC

Call Sign: E000166

Authorization Type: Modification of License

File Number: SES-MOD-20170414-00532

Non Common Carrier

Grant date: 06/21/2017

Expiration Date: 09/13/2025

H) Special and General Provisions

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

- 3415 --- The licensee shall take extraordinary measures to ensure that antenna does not create potential exposure to radiofrequency radiation in the region between the antenna feed and the reflector. Antenna shall be surrounded by a physical barrier or fence at least 2 meters tall with a locked gate, to prevent human exposure in excess of the FCC-specified safety limit of 1 mW/cm². Warning signs, such as those discussed in the FCC's OET Bulletin 65, shall be posted informing members of the public to keep outside the physical barrier or the locked area.
- 3420 --- The licensee shall take extraordinary measures to ensure that the antenna does not create a potential for harmful non-ionizing radiation to persons who may be within the immediate vicinity since this earth station may exceed the radiation hazard level of 1 mW/cm². This shall include but not be limited to establishing a physical barrier or roping off an area, where the radiation hazard level is or below 1 mW/cm², surrounding the antenna or the trailer on which it is mounted. During actual transmissions, warning signs shall be posted informing all persons to keep outside the physical barrier or the roped off area.
- 3453 --- This authorization is subject to the continuance in force of the "protocol concerning the transmission and reception of signals from satellites for the provision of Direct-to-Home Satellites Television Services in the United States of America and the United Mexican States" signed on November 8, 1996, and "protocol concerning the transmission and reception of signals from satellites for the provision of fixed-satellites services in the United States of America and the United Mexican States" signed on October 16, 1997.
- 3851 --- The receiving antenna gain pattern(s) does(do) not comply with Section 25.209 of the FCC Rules. The operation of this antenna will not be protected from harmful interference caused by other geostationary satellite networks to the extent that harmful interference would not be expected to be caused to an antenna that is compliant with the antenna performance standards of Section 25.209.
- 3856 --- A Waiver request to the Section 25.134(a) of the Commission's Rules is hereby granted for licensee to employ a slotted Aloha network access scheme, which poses the possibility of exceeding the EIRP and EIRP density limits set forth in the Section 25.134(a). This authorization is subject to the final outcome of Commission action on a Petition for Rulemaking, RM-9864.
- 5735 --- Access to the SATMEX-5 satellite network shall be in compliance with the satellite coordination agreement reached between the administration of the United States and Mexico regarding the operations of the SATMEX-5 satellite network.
- 5794 --- A Waiver request to the Section 25.134(a) of the Commission's Rules is hereby granted for 1) 350,000 transmit & receive 0.74-meter (98x56 cm) Prodelin Model HANT-91TR antennas and 2) 60,000 transmit & receive 0.98-meter Prodelin model 9008668 antennas, 3) 54,000 temporary-fixed .98-meter Prodelin model 9008668 antennas, and 6) 60,200 temporary-fixed .74-meter Prodelin model HANT-91TR antennas to receive a maximum downlink EIRP density of +13.75 dBW/4kHz from the SatMex-5 satellite located at 116.8 West Longitude for the associated emissions 24M0G7D and 36M0G7D. Access to the SatMex-5 satellite network shall be in compliance with all international satellite coordination agreements regarding the operations of the SatMex-5 satellite network and the maximum downlink EIRP density."



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Non Common Carrier

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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:

- 5801 --- Waiver request to the Section 25.134(a) of the Commission's Rules is hereby granted for 140,000 transmit & receive 0.74-meter (98x56 cm) and 35,000 temporary-fixed 0.74-meter (98x56 cm) Prodelin Model HANT-91TR antennas, 6,000 transmit & receive 0.98-meter and 29,000 temporary-fixed 0.98-meter Prodelin model 9008668 antennas to receive a maximum downlink EIRP density of +12.0 dBW/4kHz from the Galaxy 4R satellite located at 99 degrees West Longitude, the Galaxy III-C satellite located at 95 degree West Longitude, the Galaxy XI satellite located at 91 degrees West Longitude, and the AMC-3 satellite located at 87 degrees West Longitude, for the associated emissions 24M0G7D and 36M07D."
- 5816 --- This authorization is conditioned upon the outcome of the Commission's Rules and Regulations in the matter of 2000 Biennial Regulatory Review, Notice of Proposed Rulemaking in IB Docket No. 00-248 (released 12/14/2000), FCC 00-435.
- 5837 --- The major axis of non-circular transmitting antennas (all elliptical and rectangular aperture antennas are non-circular) must be aligned parallel to the plane of the geostationary arc.
- 5838 --- The authorized antenna(s) does(do) not comply with the antenna gain envelope specified in Section 25.209(a) of the Commission's Rules for Theta between 1 and 2 degrees. The EIRP and EIRP density limits stated in this license are the maximum permitted for this station. No harmful interference shall be caused by the operations of this station to other lawfully operated radio stations that are compliant with the Commission's two-degree spacing rules.
- 5839 --- This equivalent 1.0-meter antenna complies with the antenna gain pattern as specified in Section 25.209(a) and Section 25.209(g) for off-axis angles greater than 1.25 degrees and up to 90 degrees in the GSO plane.
- 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.



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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.

