



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

Name: HNS License Sub, LLC

Call Sign: E060445

Authorization Type: Modification of License

File Number: SES-MOD-20151102-00791

Non Common Carrier

Grant date: 05/23/2016

Expiration Date: 02/27/2022



Nature of Service: Fixed Satellite Service

Class of Station: Other

A) Site Location(s)

#	Site ID	Address	Latitude	Longitude	Elevation (Meters)	Special Provisions NAD (Refer to Section H)
1)	TFTR1.2M	1000 (1.2M) CONUS, AK, HI, PR, VI				83
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				
2)	TFTR74CM	25,000 (74cm) CONUS, AK, HI, PR, VI	0°0'0.0"N	0°0'0.0"W	0	83
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				
3)	TFTR98CM	10,000 (98cm) CONUS, AK, HI, PR, VI	0°0'0.0"N	0°0'0.0"W		83
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				
4)	TFTR98CM	10,000 (1.0m) CONUS, AK, HI, PR, VI			0	83
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				
5)	TR1.2M	100,000 (1.2m) CONUS, AK, HI, PR, VI	0°0'0.0"N	0°0'0.0"W	0	83
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				
6)	TR1.8M	50,000 (1.8m) CONUS, AK, HI, PR, VI	0°0'0.0"N	0°0'0.0"W	0	83
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				



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A) Site Location(s)

#	Site ID	Address	Latitude	Longitude	Elevation (Meters)	NAD	Special Provisions (Refer to Section H)
7)	TR3.5M	50,000 (3.5m) CONUS, AK, HI, PR, VI	0°0'0.0"N	0°0'0.0"W	0	83	
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209					
8)	TR69CM	1,000,000 (69CM)				83	
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209					
9)	TR74CM	5,000,000 (74cm) CONUS, AK, HI, PR, VI	0°0'0.0"N	0°0'0.0"W	0	83	
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209					
10)	TR98CM	250,000 (98cm) CONUS, AK, HI, PR, VI	0°0'0.0"N	0°0'0.0"W		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 February 27, 2007 (3 AM Eastern Standard Time) and ending February 27, 2022 (3 AM Eastern Standard Time) . The required date of completion of construction and commencement of operation is May 23, 2017 (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)	29250.0000-29500.0000	L,R	100KG7W	Tx	38.50	24.50	69CM		M-ARY PHASE SHIFT KEYING DIGITAL CARRIER
2)	29250.0000-29500.0000	L,R	2M00G7W	Tx	46.80	19.80	69CM		M-ARY PHASE SHIFT KEYING DIGITAL CARRIER
3)	29250.0000-29500.0000	L,R	670KG7W	Tx	46.80	24.50	69CM		M-ARY PHASE SHIFT KEYING DIGITAL CARRIER
4)	19700.0000-20200.0000	L,R	100KG7W	Rx			69CM		M-ARY PHASE SHIFT KEYING DIGITAL CARRIER
5)	19700.0000-20200.0000	L,R	500MG7W	Rx			69CM		M-ARY PHASE SHIFT KEYING DIGITAL CARRIER
6)	18300.0000-19300.0000	L,R	100KG7W	Rx			69CM		M-ARY PHASE SHIFT KEYING DIGITAL CARRIER
7)	18300.0000-19300.0000	L,R	500MG7W	Rx			69CM		M-ARY PHASE SHIFT KEYING DIGITAL CARRIER
8)	28350.0000-28600.0000	L,R	650KG7W	Tx	45.80	23.70	74CM (FA)		512 KBPS, PSK, DIGITAL CARRIER
9)	19700.0000-20200.0000	L,R	500MG7W	Rx			74CM (FA)		500 MHZ, PSK, DIGITAL CARRIER
10)	19700.0000-20200.0000	L,R	100KG7W	Rx		0.00	74CM (FA)		100 KHZ, PSK, DIGITAL CARRIER
11)	18800.0000-19300.0000	L,R	500MG7W	Rx			74CM (FA)		500 MHZ WIDE, PSK, DIGITAL CARRIER
12)	18300.0000-19300.0000	L,R	100KG7W	Rx			74CM (FA)		100 KHZ WIDE, PSK, DIGITAL CARRIER
13)	18300.0000-18800.0000	L,R	500MG7W	Rx			74CM (FA)		500 MHZ WIDE, PSK, DIGITAL CARRIER
14)	29250.0000-30000.0000	L,R	650KG7W	Tx	45.80	23.70	74CM (FB)		512 KBPS, PSK, DIGITAL CARRIER
15)	19700.0000-20200.0000	L,R	100KG7W	Rx			74CM (FB)		100 KHZ, PSK, DIGITAL CARRIER
16)	19700.0000-20200.0000	L,R	500MG7W	Rx			74CM (FB)		500 MHZ, PSK, DIGITAL CARRIER
17)	18300.0000-19300.0000	L,R	100KG7W	Rx			74CM (FB)		100 KHZ, PSK, DIGITAL CARRIER
18)	18300.0000-19300.0000	L,R	500MG7W	Rx			74CM (FB)		500 MHZ, PSK, DIGITAL 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
19)	29250.0000-30000.0000	L,R	650KG7W	Tx	47.00	24.90	74CM (FC)	512 KBPS, PSK, DIGITAL CARRIER	
20)	19700.0000-20200.0000	L,R	100KG7W	Rx			74CM (FC)	100 KHZ WIDE, PSK, DIGITAL CARRIER	
21)	19700.0000-20200.0000	L,R	500MG7W	Rx			74CM (FC)	500 MHZ WIDE, PSK, DIGITAL CARRIER	
22)	18300.0000-19300.0000	L,R	500MG7W	Rx			74CM (FC)	500 MHZ WIDE, PSK, DIGITAL CARRIER	
23)	18300.0000-19300.0000	L,R	100KG7W	Rx			74CM (FC)	100 KHZ WIDE, PASK, DIGITAL CARRIER	
24)	29250.0000-30000.0000	L,R	650KG7W	Tx	45.80	23.70	74CM (FD)	512 KSPS, PSK, DIGITAL CARRIER	
25)	28350.0000-2860.0000	L,R	650KG7W	Tx	45.80	23.70	74CM (FD)	512 KSPS, PSK, DIGITAL CARRIER	
26)	19700.0000-20200.0000	L,R	100KG7W	Rx			74CM (FD)	100 KHZ, PSK, DIGITAL CARRIER	
27)	19700.0000-20200.0000	L,R	500MG7W	Rx	0.00	0.00	74CM (FD)	500 MHZ, PSK, DIGITAL CARRIER	
28)	18300.0000-19300.0000	L,R	100KG7W	Rx			74CM (FD)	100 MHZ, PSK, DIGITAL CARRIER	
29)	18300.0000-19300.0000	L,R	500MG7W	Rx			74CM (FD)	500 MHZ, PSK, PSK, DIGITAL CARRIER	
30)	29500.0000-30000.0000	L,R	650KG7W	Tx	47.00	24.90	74CM (TA)	512 KBPS, PSK, DIGITAL CARRIER	
31)	29250.0000-29500.0000	L,R	650KG7W	Tx	47.00	24.90	74CM (TA)	512 KBPS, PSK, DIGITAL CARRIER	
32)	28350.0000-28600.0000	L,R	650KG7W	Tx	47.00	24.90	74CM (TA)	512 KBPS, PSK, DIGITAL CARRIER	
33)	28350.0000-28600.0000	L,R	650KG7W	Tx	47.00	24.90	74CM (TA)	512 KBPS, PSK, DIGITAL CARRIER	
34)	19700.0000-20200.0000	L,R	100KG7W	Rx			74CM (TA)	100 KHZ WIDE, PSK, DIGITAL CARRIER	
35)	19700.0000-20200.0000	L,R	500MG7W	Rx			74CM (TA)	500 MHZ WIDE, PSK, DIGITAL CARRIER	
36)	18800.0000-19300.0000	L,R	500MG7W	Rx			74CM (TA)	500 MHZ WIDE, PSK, DIGITAL 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
37)	18300.0000-19300.0000	L,R	100KG7W	Rx			74CM (TA)		100 KHZ WIDE, PSK, DIGITAL CARRIER
38)	18300.0000-18800.0000	L,R	500MG7W	Rx			74CM (TA)		500 MHZ WIDE, PSK, DIGITAL CARRIER
39)	18300.0000-18800.0000	L,R	500MG7W	Rx			74CM (TA)		500 MHZ WIDE, PSK, DIGITAL CARRIER
40)	29500.0000-30000.0000	L,R	650KG7W	Tx	47.00	24.90	74CM (TB)		512 KBPS, PSK, DIGITAL CARRIER
41)	29250.0000-29500.0000	L,R	650KG7W	Tx	45.80	23.70	74CM (TB)		512 KBPS, PSK, DIGITAL CARRIER
42)	29250.0000-29500.0000	L,R	650KG7W	Tx	45.80	23.70	74CM (TB)		512 KSPS, PSK, DIGITAL CARRIER
43)	28350.0000-28600.0000	L,R	650KG7W	Tx	45.80	23.70	74CM (TB)		512 KBPS, PSK, DIGITAL CARRIER
44)	28350.0000-28600.0000	L,R	650KG7W	Tx	45.80	23.70	74CM (TB)		512 KBPS, PSK, DIGITAL CARRIER
45)	19700.0000-20200.0000	L,R	500MG7W	Rx			74CM (TB)		500 MHZ, PSK, DIGITAL CARRIER
46)	19700.0000-20200.0000	L,R	100KG7W	Rx			74CM (TB)		100 KHZ WIDE, PSK, DIGITAL CARRIER
47)	18800.0000-19300.0000	L,R	500MG7W	Rx			74CM (TB)		500 MHZ WIDE, PSK, DIGITAL CARRIER
48)	18300.0000-19300.0000	L,R	100KG7W	Rx			74CM (TB)		100 KHZ WIDE, PSK, DIGITAL CARRIER
49)	18300.0000-18800.0000	L,R	500MG7W	Rx			74CM (TB)		500 MHZ, PSK, DIGITAL CARRIER
50)	18300.0000-18800.0000	L,R	500MG7W	Rx			74CM (TB)		500 MHZ WIDE, PSK, DIGITAL CARRIER
51)	29500.0000-30000.0000	L,R	650KG7W	Tx	47.00	24.90	74CM (TC)		512 KBPS, PSK, DIGITAL CARRIER
52)	29250.0000-29500.0000	L,R	650KG7W	Tx	47.00	24.90	74CM (TC)		512 KBPS, PSK, DIGITAL CARRIER
53)	29250.0000-29500.0000	L,R	650KG7W	Tx	47.00	249.00	74CM (TC)		512 KBPS, PSK, DIGITAL CARRIER
54)	28350.0000-28600.0000	L,R	650KG7W	Tx	47.00	24.90	74CM (TC)		512 KBPS, PSK, DIGITAL 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
55)	28350.0000-28600.0000	L,R	650KG7W	Tx	47.00	249.00	74CM(TC)	512 KBPS, PSK, DIGITAL CARRIER	
56)	19700.0000-20200.0000	L,R	500MG7W	Rx			74CM(TC)	500 MHZ, PSK, DIGITAL CARRIER	
57)	19700.0000-20200.0000	L,R	100KG7W	Rx			74CM(TC)	100 KHZ WIDE, PSK, DIGITAL CARRIER	
58)	18800.0000-19300.0000	L,R	500MG7W	Rx			74CM(TC)	500 MHZ WIDE, PSK, DIGITAL CARRIER	
59)	18300.0000-19300.0000	L,R	100KG7W	Rx			74CM(TC)	100 KHZ WIDE, PSK, DIGITAL CARRIER	
60)	18300.0000-18800.0000	L,R	500MG7W	Rx			74CM(TC)	500 MHZ WIDE, PSK, DIGITAL CARRIER	
61)	18300.0000-18800.0000	L,R	500MG7W	Rx			74CM(TC)	500 MHZ WIDE, PSK, DIGITAL CARRIER	
62)	29500.0000-30000.0000	L,R	100KG7W	Tx	42.70	28.80	TFTR1.2	QPSK, DATA, INROUTE, 64 KSPS	
63)	29250.0000-30000.0000	L,R	2M00G7W	Tx	55.90	28.80	TFTR1.2	QPSK, DATA, INROUTE, 1600 KSPS	
64)	29250.0000-30000.0000	L,R	2M61G7W	Tx	55.90	27.70	TFTR1.2	QPSK, DATA, INROUTE, 2048 KSPS	
65)	29250.0000-29500.0000	L,R	100KG7W	Tx	42.70	28.80	TFTR1.2	QPSK, DATA, INROUTE, 64 KSPS	
66)	29250.0000-29500.0000	L,R	2M61G7W	Tx	55.90	27.70	TFTR1.2	QPSK, DATA, INROUTE, 2048 KSPS	
67)	19700.0000-20200.0000	L,R	100KG7W	Rx			TFTR1.2	QPSK, DATA, OUTROUTE, 64 KSPS	
68)	19700.0000-20200.0000	L,R	500MG7W	Rx			TFTR1.2	QPSK, DATA, OUTROUTE, 30 MSFS	
69)	18300.0000-19300.0000	L,R	100KG7W	Rx			TFTR1.2	QPSK, DATA, OUTROUTE, 64 KSPS	
70)	18300.0000-19300.0000	L,R	2M61G7W	Rx			TFTR1.2	500 MHZ WIDE, PSK, DIGITAL CARRIER	
71)	29500.0000-30000.0000	L,R	650KG7W	Tx	49.40	27.30	TFTR98(2)	512 KBPS, PSK, DIGITAL CARRIER	
72)	29500.0000-30000.0000	L,R	2M61G7W	Tx	53.40	25.30	TFTR98(2)	2.048 MBPS, PSK, DIGITAL 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)	29250.0000-29500.0000	L,R	650KG7W	Tx	49.40	27.30	TFTR98 (2)	512 KBPS, PSK, DIGITAL CARRIER	
74)	29250.0000-29500.0000	L,R	2M61G7W	Tx	53.40	25.30	TFTR98 (2)	2.048 MBPS, PSK, DIGITAL CARRIER	
75)	19700.0000-20200.0000	L,R	100KG7W	Rx			TFTR98 (2)	100 KHZ WIDE, PSK, DIGITAL CARRIER	
76)	19700.0000-20200.0000	L,R	500MG7W	Rx			TFTR98 (2)	500 MHZ WIDE, PSK, DIGITAL CARRIER	
77)	18300.0000-19300.0000	L,R	100KG7W	Rx			TFTR98 (2)	100 KHZ WIDE, PSK, DIGITAL CARRIER	
78)	18300.0000-19300.0000	L,R	500MG7W	Rx			TFTR98 (2)	500 MHZ WIDE, PSK, DIGITAL CARRIER	
79)	29500.0000-30000.0000	L,R	500MG7W	Tx	41.20	27.20	TFTR98 (3)	QPSK, DATA, INROUTE, 64 KSPS	
80)	29500.0000-30000.0000	L,R	1M48G7W	Tx	52.90	27.20	TFTR98 (3)	QPSK, DATA, INROUTE, 1100 KSPS	
81)	29500.0000-30000.0000	L,R	2M61G7W	Tx	52.90	24.80	TFTR98 (3)	QPSK, DATA, INROUTE, 2048 KSPS	
82)	29250.0000-29500.0000	L,R	500MG7W	Tx	41.20	27.20	TFTR98 (3)	QPSK, DATA, INROUTE, 64 KSPS	
83)	29250.0000-29500.0000	L,R	2M61G7W	Tx	52.90	24.80	TFTR98 (3)	QPSK, DATA, INROUTE, 204K KSPS	
84)	19700.0000-20200.0000	L,R	100KG7W	Rx			TFTR98 (3)	QPSK, DATA, OUTROUTE, 64 KSPS	
85)	19700.0000-20200.0000	L,R	500MG7W	Rx			TFTR98 (3)	QPSK, DATA, OUTROUTE, 30 MSPS	
86)	18300.0000-19300.0000	L,R	100KG7W	Rx			TFTR98 (3)	QPSK, DATA, OUTROUTE, 64 KSPS	
87)	18300.0000-19300.0000	L,R	500MG7W	Rx			TFTR98 (3)	QPSK, DATA, OUTROUTE, 30 MSPS	
88)	29500.0000-30000.0000	L,R	650KG7W	Tx	49.40	27.30	TFTR98CM	512 KBPS, PSK, DIGITAL CARRIER	
89)	29500.0000-30000.0000	L,R	2M61G7W	Tx	53.40	25.30	TFTR98CM	2.048 MBPS, PSK, DIGITAL CARRIER	
90)	29250.0000-29500.0000	L,R	650KG7W	Tx	49.40	27.30	TFTR98CM	512 KBPS, PSK, DIGITAL CARRIER	



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91)	29250.0000-29500.0000	L,R	2M61G7W	Tx	53.40	25.30	TFTR98CM		2.048 MBPS, PSK, DIGITAL CARRIER
92)	19700.0000-20200.0000	L,R	100KG7W	Rx			TFTR98CM		100 MHZ WIDE, PSK, DIGITAL CARRIER
93)	19700.0000-20200.0000	L,R	500MG7W	Rx			TFTR98CM		500 MHZ WIDE, PSK, DIGITAL CARRIER
94)	18300.0000-19300.0000	L,R	100KG7W	Rx			TFTR98CM		100 KHZ WIDE, PSK, DIGITAL CARRIER
95)	18300.0000-19300.0000	L,R	500MG7W	Rx			TFTR98CM		500 MHZ WIDE, PSK, DIGITAL CARRIER
96)	29500.0000-30000.0000	L,R	650KG7W	Tx	51.20	29.10	TR1.2		512 KBPS, PSK, DIGITAL CARRIER
97)	29500.0000-30000.0000	L,R	2M61G7W	Tx	57.20	29.10	TR1.2		2.048 MBPS, PSK, DIGITAL CARRIER
98)	29250.0000-29500.0000	L,R	650KG7W	Tx	51.20	29.10	TR1.2		512 KBPS, PSK, DIGITAL CARRIER
99)	29250.0000-29500.0000	L,R	2M61G7W	Tx	57.20	29.10	TR1.2		2.048 MBPS, PSK, DIGITAL CARRIER
100)	19700.0000-20200.0000	L,R	100KG7W	Rx			TR1.2		100 KHZ WIDE, PSK, DIGITAL CARRIER
101)	19700.0000-20200.0000	L,R	500MG7W	Rx			TR1.2		500 MHZ WIDE, PSK, DIGITAL CARRIER
102)	18300.0000-19300.0000	L,R	100KG7W	Rx			TR1.2		100 KHZ WIDE, PSK, DIGITAL CARRIER
103)	18300.0000-19300.0000	L,R	500MG7W	Rx			TR1.2		500 MHZ WIDE, PSK, DIGITAL CARRIER
104)	29500.0000-30000.0000	L,R	650KG7W	Tx	54.70	32.60	TR1.8		512 KBPS, PSK, DIGITAL CARRIER
105)	29500.0000-30000.0000	L,R	2M61G7W	Tx	60.70	32.60	TR1.8		2.048 MBPS, PSK, DIGITAL CARRIER
106)	29500.0000-30000.0000	L,R	20M9G7W	Tx	69.80	32.60	TR1.8		16.348 MBPS, PSK, DIGITAL CARRIER
107)	29250.0000-29500.0000	L,R	650KG7W	Tx	54.70	32.60	TR1.8		512 KBPS, PSK, DIGITAL CARRIER
108)	29250.0000-29500.0000	L,R	20M9G7W	Tx	69.80	32.60	TR1.8		16.348 MBPS, PSK, DIGITAL 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
109)	19700.0000-20200.0000	L,R	100KG7W	Rx			TR1.8		100 KHZ WIDE, PSK, DIGITAL CARRIER
110)	19700.0000-20200.0000	L,R	500MG7W	Rx			TR1.8		500 MHZ WIDE, PSK, DIGITAL CARRIER
111)	18300.0000-19300.0000	L,R	100KG7W	Rx			TR1.8		100 KHZ WIDE, PSK, DIGITAL CARRIER
112)	18300.0000-19300.0000	L,R	500MG7W	Rx			TR1.8		500 MHZ WIDE, PSK, DIGITAL CARRIER
113)	29500.0000-30000.0000	L,R	650KG7W	Tx	60.30	38.20	TR3.5		512 KBPS, PSK, DIGITAL CARRIER
114)	29500.0000-30000.0000	L,R	2M61G7W	Tx	66.30	38.20	TR3.5		2.048 MBPS, PSK, DIGITAL CARRIER
115)	29500.0000-30000.0000	L,R	20M9G7W	Tx	75.40	38.20	TR3.5		16.348 MBPS, PSK, DIGITAL CARRIER
116)	29250.0000-29500.0000	L,R	650KG7W	Tx	60.30	38.20	TR3.5		512 KBPS, PSK, DIGITAL CARRIER
117)	29250.0000-29500.0000	L,R	20M9G7W	Tx	75.40	38.20	TR3.5		2,048 MBPS, PSK, DIGITAL CARRIER
118)	19700.0000-20200.0000	L,R	100KG7W	Rx			TR3.5		100 KHZ WIDE, PSK, DIGITAL CARRIER
119)	19700.0000-20200.0000	L,R	500MG7W	Rx			TR3.5		500 MHZ WIDE, PSK, DIGITAL CARRIER
120)	18300.0000-19300.0000	L,R	100KG7W	Rx			TR3.5		100 KHZ WIDE, PSK, DIGITAL CARRIER
121)	18300.0000-19300.0000	L,R	500MG7W	Rx			TR3.5		500 MHZ WIDE, PSK, DIGITAL CARRIER
122)	29500.0000-30000.0000	L,R	650KG7W	Tx	49.40	27.30	TR98CM(1)		512 KBPS, PSK, DIGITAL CARRIER
123)	29500.0000-30000.0000	L,R	2M61G7W	Tx	53.40	25.30	TR98CM(1)		2.048 MBPS, PSK, DIGITAL CARRIER
124)	29250.0000-29500.0000	L,R	650KG7W	Tx	49.40	27.30	TR98CM(1)		512 KBPS, PSK, DIGITAL CARRIER
125)	29250.0000-29500.0000	L,R	2M61G7W	Tx	53.40	25.30	TR98CM(1)		2.048 MBPS, PSK, DIGITAL CARRIER
126)	19700.0000-20200.0000	L,R	100KG7W	Rx			TR98CM(1)		100 KHZ WIDE, PSK, DIGITAL CARRIER



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Non Common 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
127)	19700.0000-20200.0000	L,R	500MG7W	Rx			TR98CM(1)		500 MHZ WIDE, PSK, DIGITAL CARRIER
128)	18300.0000-19300.0000	L,R	100KG7W	Rx			TR98CM(1)		100 KHZ WIDE, PSK, DIGITAL CARRIER
129)	18300.0000-19300.0000	L,R	500MG7W	Rx			TR98CM(1)		500 MHZ WIDE, PSK, DIGITAL CARRIER
130)	29500.0000-30000.0000	L,R	650KG7W	Tx	49.40	27.30	TR98CM(2)		512 KBPS, PSK, DIGITAL CARRIER
131)	29500.0000-30000.0000	L,R	2M61G7W	Tx	53.40	25.30	TR98CM(2)		2.048 MBPS, PSK, DIGITAL CARRIER
132)	29250.0000-29500.0000	L,R	650KG7W	Tx	45.80	23.70	TR98CM(2)		512 KBPS, PSK, DIGITAL CARRIER
133)	29250.0000-29500.0000	L,R	650KG7W	Tx	49.40	27.30	TR98CM(2)		512 KBPS, PSK, DIGITAL CARRIER
134)	29250.0000-29500.0000	L,R	2M61G7W	Tx	53.40	25.30	TR98CM(2)		2.048 MBPS, PSK, DIGITAL CARRIER
135)	19700.0000-20200.0000	L,R	100KG7W	Rx			TR98CM(2)		100 KHZ WIDE, PSK, DIGITAL CARRIER
136)	19700.0000-20200.0000	L,R	500MG7W	Rx			TR98CM(2)		500 MHZ WIDE, PSK, DIGITAL CARRIER
137)	18300.0000-19300.0000	L,R	100KG7W	Rx			TR98CM(2)		100 KHZ WIDE, PSK DIGITAL CARRIER
138)	18300.0000-19300.0000	L,R	500MG7W	Rx			TR98CM(2)		500 MHZ WIDE, PSK, DIGITAL CARRIER

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)	29500.0000-30000.0000	95.0W	-103.0W	43.4	-43.6	172.2	-184.7	-20	TR3.5
2)	19700.0000-20200.0000	95.0W	-103.0W	43.4	-43.6	172.2	-184.7		TR3.5
3)	29500.0000-30000.0000	95.0W	-103.0W	43.4	-43.6	172.2	-184.7	-20	TFTR1.2
4)	19700.0000-20200.0000	95.0W	-103.0W	43.4	-43.6	172.2	-184.7		TFTR1.2
5)	29500.0000-30000.0000	95.0W	-103.0W	43.4	-43.6	172.2	-184.7	-20	74CM(TA)



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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		
6)	19700.0000-20200.0000	95.0W	103.0W	43.4	43.6	172.2	184.7		74CM (TA)
7)	29500.0000-30000.0000	95.0W	103.0W	43.4	43.6	172.2	184.7	-20	74CM (TB)
8)	19700.0000-20200.0000	95.0W	103.0W	43.4	43.6	172.2	184.7		74CM (TB)
9)	29500.0000-30000.0000	95.0W	103.0W	43.4	43.6	172.2	184.7	-20	74CM (TC)
10)	19700.0000-20200.0000	95.0W	103.0W	43.4	43.6	172.2	184.7		74CM (TC)
11)	29500.0000-30000.0000	95.0W	103.0W	43.4	43.6	172.2	184.7	-20	TFTR98 (2)
12)	19700.0000-20200.0000	95.0W	103.0W	43.4	43.6	172.2	184.7		TFTR98 (2)
13)	29500.0000-30000.0000	95.0W	103.0W	43.4	43.6	172.2	184.7	-20	TFTR98CM
14)	19700.0000-20200.0000	95.0W	103.0W	43.4	43.6	172.2	184.7		TFTR98CM
15)	29500.0000-30000.0000	95.0W	103.0W	43.4	43.6	172.2	184.7	-20	TFTR98 (3)
16)	19700.0000-20200.0000	95.0W	103.0W	43.4	43.6	172.2	184.7	0	TFTR98 (3)
17)	29500.0000-30000.0000	95.0W	103.0W	43.4	43.6	172.2	184.7	-20	TR98CM (1)
18)	19700.0000-20200.0000	95.0W	103.0W	43.4	43.6	172.2	184.7	0	TR98CM (1)
19)	29500.0000-30000.0000	95.0W	103.0W	43.4	43.6	172.2	184.7	-20	TR98CM (2)
20)	19700.0000-20200.0000	95.0W	103.0W	43.4	43.6	172.2	184.7	0	TR98CM (2)
21)	29500.0000-30000.0000	95.0W	103.0W	43.4	43.6	172.2	184.7	-20	74CM (FA)
22)	19700.0000-20200.0000	95.0W	103.0W	43.4	43.6	172.2	184.7		74CM (FA)
23)	29500.0000-30000.0000	95.0W	103.0W	43.4	43.6	172.2	184.7	-20	74CM (FC)
24)	19700.0000-20200.0000	95.0W	103.0W	43.4	43.6	172.2	184.7		74CM (FC)
25)	29500.0000-30000.0000	95.0W	103.0W	43.4	43.6	172.2	184.7	-20	74CM (FB)
26)	19700.0000-20200.0000	95.0W	103.0W	43.4	43.6	172.2	184.7		74CM (FB)
27)	29500.0000-30000.0000	95.0W	103.0W	43.4	43.6	172.2	184.7	-20	TR1.8
28)	19700.0000-20200.0000	95.0W	103.0W	43.4	43.6	172.2	184.7		TR1.8
29)	29500.0000-30000.0000	95.0W	103.0W	43.4	43.6	172.2	184.7	-20	TR1.2
30)	19700.0000-20200.0000	95.0W	103.0W	43.4	43.6	172.2	184.7		TR1.2
31)	29500.0000-30000.0000	95.0W	103.0W	43.4	43.6	172.2	184.7	-20	69CM
32)	19700.0000-20200.0000	95.0W	103.0W	43.4	43.6	172.2	184.7		69CM

D) Points of Communications

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

- 1) TR3.5M to SPACEWAY 2 satellite @ 99 degrees W.L.
- 2) TR3.5M to SPACEWAY 1 satellite @103 degrees W.L.
- 3) TR3.5M to SPACEWAY 3 satellite @ 94.95 degrees W.L.



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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:

- 4) TR3.5M to AMC-15 (S2180) @ 105 degrees W.L.(U.S.-licensed)
- 5) TR3.5M to AMC 16 (S2181) @ 85 degrees W.L. (U.S.-licensed)
- 6) TR3.5M to EHOSTAR-9 @ 121 degrees W.L. satellite (U.S.-licensed)
- 7) TR3.5M to Echostar XVII (S2753) @ 107.1 WL (U.S. licensed satellite)
- 8) TR3.5M to JUPITER 97 (S2834) @ 97 degrees W.L. (P.N.G. authorized)
- 9) TFTR1.2M to AMC 16 (S2181) @ 85 degrees W.L. (U.S.-licensed)
- 10) TFTR1.2M to AMC-15 (S2180) @ 105 degrees W.L.(U.S.-licensed)
- 11) TFTR1.2M to SPACEWAY 3 satellite @ 94.95 degrees W.L.
- 12) TFTR1.2M to EHOSTAR-9 @ 121 degrees W.L. satellite (U.S.-licensed)
- 13) TFTR1.2M to Echostar XVII (S2753) @ 107.1 WL (U.S. licensed satellite)
- 14) TFTR1.2M to JUPITER 97 (S2834) @ 97 degrees W.L. (P.N.G. authorized)
- 15) TFTR74CM to SPACEWAY 2 satellite @ 99 degrees W.L.
- 16) TFTR74CM to SPACEWAY 1 satellite @103 degrees W.L.
- 17) TFTR74CM to DIRECTV 11 @ 99.2 W.L. satellite of the Direct Broadcast Satellite system (U.S.-licensed)
- 18) TFTR74CM to DIRECTV 10 @ 102.8 W.L. satellite of the Direct Broadcast Satellite system (U.S.-licensed)
- 19) TFTR74CM to SPACEWAY 3 satellite @ 94.95 degrees W.L.
- 20) TFTR74CM to AMC-15 (S2180) @ 105 degrees W.L.(U.S.-licensed)
- 21) TFTR74CM to AMC 16 (S2181) @ 85 degrees W.L. (U.S.-licensed)
- 22) TFTR74CM to EHOSTAR-9 @ 121 degrees W.L. satellite (U.S.-licensed)
- 23) TFTR74CM to Echostar XVII (S2753) @ 107.1 WL (U.S. licensed satellite)
- 24) TFTR74CM to JUPITER 97 (S2834) @ 97 degrees W.L. (P.N.G. authorized)
- 25) TFTR98CM to SPACEWAY 1 satellite @103 degrees W.L.
- 26) TFTR98CM to SPACEWAY 2 satellite @ 99 degrees W.L.
- 27) TFTR98CM to AMC-15 (S2180) @ 105 degrees W.L.(U.S.-licensed)
- 28) TFTR98CM to AMC 16 (S2181) @ 85 degrees W.L. (U.S.-licensed)
- 29) TFTR98CM to SPACEWAY 3 satellite @ 94.95 degrees W.L.
- 30) TFTR98CM to EHOSTAR-9 @ 121 degrees W.L. satellite (U.S.-licensed)
- 31) TFTR98CM to Echostar XVII (S2753) @ 107.1 WL (U.S. licensed satellite)
- 32) TFTR98CM to JUPITER 97 (S2834) @ 97 degrees W.L. (P.N.G. authorized)
- 33) TR98CM to SPACEWAY 1 satellite @103 degrees W.L.
- 34) TR98CM to SPACEWAY 2 satellite @ 99 degrees W.L.
- 35) TR98CM to SPACEWAY 3 satellite @ 94.95 degrees W.L.
- 36) TR98CM to AMC-15 (S2180) @ 105 degrees W.L.(U.S.-licensed)
- 37) TR98CM to AMC 16 (S2181) @ 85 degrees W.L. (U.S.-licensed)
- 38) TR98CM to EHOSTAR-9 @ 121 degrees W.L. satellite (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:

- 39) TR98CM to Echostar XVII (S2753) @ 107.1 WL (U.S. licensed satellite)
- 40) TR98CM to JUPITER 97 (S2834) @ 97 degrees W.L. (P.N.G. authorized)
- 41) TR74CM to SPACEWAY 2 satellite @ 99 degrees W.L.
- 42) TR74CM to SPACEWAY 1 satellite @103 degrees W.L.
- 43) TR74CM to DIRECTV 11 @ 99.2 W.L. satellite of the Direct Broadcast Satellite system (U.S.-licensed)
- 44) TR74CM to DIRECTV 10 @ 102.8 W.L. satellite of the Direct Broadcast Satellite system (U.S.-licensed)
- 45) TR74CM to AMC-15 (S2180) @ 105 degrees W.L.(U.S.-licensed)
- 46) TR74CM to AMC 16 (S2181) @ 85 degrees W.L. (U.S.-licensed)
- 47) TR74CM to SPACEWAY 3 satellite @ 94.95 degrees W.L.
- 48) TR74CM to ECHOSTAR-9 @ 121 degrees W.L. satellite (U.S.-licensed)
- 49) TR74CM to Echostar XVII (S2753) @ 107.1 WL (U.S. licensed satellite)
- 50) TR74CM to JUPITER 97 (S2834) @ 97 degrees W.L. (P.N.G. authorized)
- 51) TR1.8M to SPACEWAY 2 satellite @ 99 degrees W.L.
- 52) TR1.8M to SPACEWAY 1 satellite @103 degrees W.L.
- 53) TR1.8M to SPACEWAY 3 satellite @ 94.95 degrees W.L.
- 54) TR1.8M to AMC-15 (S2180) @ 105 degrees W.L.(U.S.-licensed)
- 55) TR1.8M to AMC 16 (S2181) @ 85 degrees W.L. (U.S.-licensed)
- 56) TR1.8M to ECHOSTAR-9 @ 121 degrees W.L. satellite (U.S.-licensed)
- 57) TR1.8M to Echostar XVII (S2753) @ 107.1 WL (U.S. licensed satellite)
- 58) TR1.8M to JUPITER 97 (S2834) @ 97 degrees W.L. (P.N.G. authorized)
- 59) TR1.2M to SPACEWAY 2 satellite @ 99 degrees W.L.
- 60) TR1.2M to SPACEWAY 1 satellite @103 degrees W.L.
- 61) TR1.2M to AMC-15 (S2180) @ 105 degrees W.L.(U.S.-licensed)
- 62) TR1.2M to SPACEWAY 3 satellite @ 94.95 degrees W.L.
- 63) TR1.2M to AMC 16 (S2181) @ 85 degrees W.L. (U.S.-licensed)
- 64) TR1.2M to ECHOSTAR-9 @ 121 degrees W.L. satellite (U.S.-licensed)
- 65) TR1.2M to Echostar XVII (S2753) @ 107.1 WL (U.S. licensed satellite)
- 66) TR1.2M to JUPITER 97 (S2834) @ 97 degrees W.L. (P.N.G. authorized)
- 67) TR69CM to AMC 16 (S2181) @ 85 degrees W.L. (U.S.-licensed)
- 68) TR69CM to SPACEWAY 1 satellite @103 degrees W.L.
- 69) TR69CM to SPACEWAY 3 satellite @ 94.95 degrees W.L.
- 70) TR69CM to AMC-15 (S2180) @ 105 degrees W.L.(U.S.-licensed)
- 71) TR69CM to ECHOSTAR-9 @ 121 degrees W.L. satellite (U.S.-licensed)
- 72) TR69CM to SPACEWAY 2 satellite @ 99 degrees W.L.
- 73) TR69CM to Echostar XVII (S2753) @ 107.1 WL (U.S. licensed 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:

74) TR69CM to JUPITER 97 (S2834) @ 97 degrees W.L. (P.N.G. authorized)

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)
TR69CM	69CM	1000000	0.69	SKYWARE GLOBAL	HNS-AN8-069R			
Max Gains(s):		41.5 dBi @	19.9500 GHz	45.0 dBi @	29.7500 GHz			
Maximum total input power at antenna flange (Watts) =		1.50						
Maximum aggregate output EIRP for all carriers (dBW) =		46.80						
TR74CM	74CM(FA)	5000000	0.74	GD SATCOM	AN8-074P	0	0 AGL	
Max Gains(s):		45.6 dBi @	29.7500 GHz	42.2 dBi @	19.9500 GHz			
Maximum total input power at antenna flange (Watts) =		2.00						
Maximum aggregate output EIRP for all carriers (dBW) =		48.60						
TR74CM	74CM(FB)	5000000	0.74	GD SATCOM	HNS1031929	0		
Max Gains(s):		45.6 dBi @	29.7500 GHz	42.2 dBi @	19.9500 GHz			
Maximum total input power at antenna flange (Watts) =		2.00						
Maximum aggregate output EIRP for all carriers (dBW) =		48.60						
TR74CM	74CM(FC)	5000000	0.74	SKYWARE GLOBAL	AN8-074R	0		
Max Gains(s):		44.4 dBi @	29.7500 GHz	40.0 dBi @	19.9500 GHz			
Maximum total input power at antenna flange (Watts) =		2.00						
Maximum aggregate output EIRP for all carriers (dBW) =		47.40						
TR74CM	74CM(FD)	5000000	0.74	SKYWARE GLOBAL	AN9-074	0	0 AGL	
Max Gains(s):		42.2 dBi @	19.9500 GHz	45.6 dBi @	29.7500 GHz			
Maximum total input power at antenna flange (Watts) =		2.00						
Maximum aggregate output EIRP for all carriers (dBW) =		48.60						



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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)
TFTR74CM	74CM(TA)	25000	0.74	GD SATCOM	HNS1031929	0	0 AGL	
Max Gains(s):		42.2 dBi @	19.9500 GHz	45.6 dBi @	29.7500 GHz			
Maximum total input power at antenna flange (Watts) =				2.00				
Maximum aggregate output EIRP for all carriers (dBW) =				48.60				
TFTR74CM	74CM(TB)	25000	0.74	SKYWARE GLOBAL	AN8-074R	0	0 AGL	
Max Gains(s):		44.4 dBi @	29.7500 GHz	40.0 dBi @	19.9500 GHz			
Maximum total input power at antenna flange (Watts) =				2.00				
Maximum aggregate output EIRP for all carriers (dBW) =				47.40				
TFTR74CM	74CM(TC)	25000	0.74	GD SATCOM	AN8-074P	0	0 AGL	
Max Gains(s):		42.2 dBi @	19.9500 GHz	45.6 dBi @	29.7500 GHz			
Maximum total input power at antenna flange (Watts) =				2.00				
Maximum aggregate output EIRP for all carriers (dBW) =				48.60				
TFTR1.2M	TFTR1.2	1000	1.2	AVL TECHNOLOGIES	1210K		0 AGL	
Max Gains(s):		45.9 dBi @	19.9500 GHz	49.3 dBi @	29.7500 GHz			
Maximum total input power at antenna flange (Watts) =				4.60				
Maximum aggregate output EIRP for all carriers (dBW) =				55.90				
TFTR98CM	TFTR98(2)	10000	0.98	SKYWARE GLOBAL	AN8-098RAN-098KZ			
Max Gains(s):		44.6 dBi @	19.9500 GHz	48.0 dBi @	29.7500 GHz			
Maximum total input power at antenna flange (Watts) =				3.50				
Maximum aggregate output EIRP for all carriers (dBW) =				53.40				
TFTR98CM	TFTR98(3)	10000	0.98	AVL TECHNOLOGIES	1010K			
Max Gains(s):		44.4 dBi @	19.9500 GHz	48.0 dBi @	29.7500 GHz			
Maximum total input power at antenna flange (Watts) =				3.30				
Maximum aggregate output EIRP for all carriers (dBW) =				52.90				



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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)
TFTR98CM	TFTR98CM	10000	0.98	GD SATCOM	AN8-098P			
Max Gains(s):		44.6 dBi @	19.9500 GHz	48.0 dBi @	29.7500 GHz			
Maximum total input power at antenna flange (Watts) =					3.50			
Maximum aggregate output EIRP for all carriers (dBW) =					53.40			
TR1.2M	TR1.2	100000	1.2	GD SATCOM	3120-131	0	0 AGL	
Max Gains(s):		46.4 dBi @	19.9500 GHz	49.8 dBi @	29.7500 GHz			
Maximum total input power at antenna flange (Watts) =					20.00			
Maximum aggregate output EIRP for all carriers (dBW) =					55.20			
TR1.8M	TR1.8	50000	1.8	GD SATCOM	3180-131	0	0 AGL	
Max Gains(s):		49.8 dBi @	19.9500 GHz	53.3 dBi @	29.7500 GHz			
Maximum total input power at antenna flange (Watts) =					46.00			
Maximum aggregate output EIRP for all carriers (dBW) =					58.70			
TR3.5M	TR3.5	50000	3.5	ASC SIGNAL CORP.	ES35SRT-1	0	0 AGL	
Max Gains(s):		44.6 dBi @	19.9500 GHz	48.0 dBi @	29.7500 GHz			
Maximum total input power at antenna flange (Watts) =					185.00			
Maximum aggregate output EIRP for all carriers (dBW) =					78.30			
TR98CM	TR98CM(1)	250000	0.98	GD SATCOM	AN8-098P			
Max Gains(s):		44.6 dBi @	19.9500 GHz	48.0 dBi @	29.7500 GHz			
Maximum total input power at antenna flange (Watts) =					3.50			
Maximum aggregate output EIRP for all carriers (dBW) =					53.40			
TR98CM	TR98CM(2)	250000	0.98	SKYWARE GLOBAL	AN8-098R			
Max Gains(s):		44.6 dBi @	19.9500 GHz	48.0 dBi @	29.7500 GHz			
Maximum total input power at antenna flange (Watts) =					3.50			
Maximum aggregate output EIRP for all carriers (dBW) =					53.40			



UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION
RADIO STATION AUTHORIZATION

Name: HNS License Sub, LLC

Call Sign: E060445

Authorization Type: Modification of License

File Number: SES-MOD-20151102-00791

Non Common Carrier

Grant date: 05/23/2016

Expiration Date: 02/27/2022

F) Remote Control Point:

TFTR1.2M	11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD 20876 301-428-7205	Call Sign:
TFTR74CM	11717 Exploration Lane Germantown, Montgomery, MD 20876 301-428-7205	Call Sign:
TFTR98CM	11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD 20876 301-428-7205	Call Sign:
TR1.2M	11717 Exploration Lane GERMANTOWN, MONTGOMERY, MD 20876 301-428-7205	Call Sign:
TR1.8M	11717 Exploration Lane Germantown, Montgomery, MD 20876 301-428-7205	Call Sign:
TR3.5M	11717 Exploration Lane Germantown, Montgomery, MD 20876 301-428-7205	Call Sign:
TR69CM	11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD 20876 301-428-7205	Call Sign:
TR74CM	11717 Exploration Lane Germantown, Montgomery, MD 20876 301-428-7205	Call Sign:
TR98CM	11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD 20876 301-428-7205	Call Sign:



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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:

1010 --- Applicable to all receiving frequency bands. Emission designator indicates the maximum bandwidth of received signal at associated station(s). Maximum EIRP and maximum EIRP density are not applicable to receive operations.

1900 --- Applicable to all transmitting frequency bands. Authority is granted to transmit any number of RF carriers with the specified parameters on any discrete frequencies within associated band in accordance with the other terms and conditions of this authorization, subject to any additional limitations that may be required to avoid unacceptable levels of inter-satellite interference.

2916 --- Transmitter(s) must be turned off during antenna maintenance to ensure compliance with the FCC-specified safety guidelines for human exposure to radiofrequency radiation in the region between the antenna feed and the reflector. Appropriate measures must also be taken to restrict access to other regions in which the earth station's power flux density levels exceed the specified guidelines.

2938 --- Upon completion of construction, each licensee must file with the Commission a certification including the following information: (1) name of the licensee, (2) file number of the application, (3) call sign of the antenna, (4) date of the license, (5) certification that the facility as authorized has been completed, (6) certification that each antenna facility has been tested and is within 2 dB of the pattern specified in Section 25.209, and (7) certification that the station is operational (including the date of commencement of service) and will remain operational during the license period unless the license is submitted for cancellation.

3219 --- All existing transmitting facilities, operations and devices regulated by the Commission must be in compliance with the Commission's radiofrequency (RF) exposure guidelines, pursuant to Section 1.1307(b)(1) through (b)(3) of the Commission's rules, or if not in compliance, file an Environmental Assessment (EA) as specified in Section 1.1311. See 47 CFR § 1.1307 (b) (5).

5208 --- The licensee shall take all necessary measures to ensure that the antenna does not create potential exposure of humans to radiofrequency radiation in excess of the FCC exposure limits defined in 47 CFR 1.1307(b) and 1.1310 wherever such exposures might occur. Measures must be taken to ensure compliance with limits for both occupational/controlled exposure and for general population/uncontrolled exposure, as defined in these rule sections. Compliance can be accomplished in most cases by appropriate restrictions, such as fencing. Requirements for restrictions can be determined by predictions based on calculations, modeling, or by field measurements. The FCC's OET Bulletin 65 (available on-line at www.fcc.gov/oet/rfsafety) provides information on predicting exposure levels and on methods for ensuring compliance, including the use of warning and alerting signs and protective equipment for workers.

5216 --- All operations shall be on a non-common carrier basis.

9662 --- The 17.8 - 20.2 GHz band is shared with U.S. Government space stations and associated earth stations in the fixed-Satellite Services. Services within the United States over the satellite network of which this is a cooperating earth station are subject to coordination under US334 and operation of the earth station(s) authorized herein will be subject to any technical constraints resulting from this coordination. See 47 C.F.R. Section 2.106, Footnote US334.



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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.