



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

Name: HNS License Sub, LLC

Call Sign: E990170

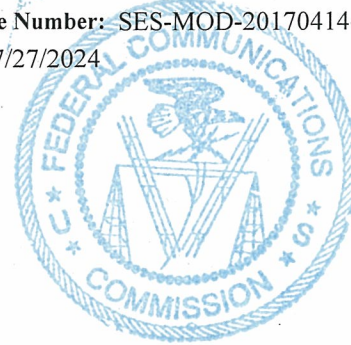
Authorization Type: Modification of License

File Number: SES-MOD-20170414-00526

Non Common Carrier

Grant date: 06/20/2017

Expiration Date: 07/27/2024



Nature of Service: Fixed Satellite Service

Class of Station: VSAT Network

A) Site Location(s)

#	Site ID	Address	Latitude	Longitude	Elevation (Meters)	Special Provisions NAD (Refer to Section H)
1)	HUB-A	24000 NORTHWESTERN HIGHWAY (5.6-METER) SOUTHFIELD, OAKLAND, MI 48075	42°28'0.5"N	83°13'53.0"W	172.8	83
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				
2)	HUB-B	24000 NORTHWESTERN HIGHWAY (4.6-METER) SOUTHFIELD, OAKLAND, MI 48075	42°28'0.6"N	83°13'53.5"W	172.8	83
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				
3)	HUB-C	24000 NORTHWESTERN HIGHWAY (7.6-METER) SOUTHFIELD, OAKLAND, MI 48075	42°28'1.0"N	83°13'53.2"W	172.8	83
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				
4)	HUB-D	2400 NORTHWESTERN HIGHWAY SOUTHFIELD, OAKLAND, MI 48075				83
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				
5)	REMOTE 1	(1.8m. VSAT), 5,000 UNITS CONUS, AK, HI,PR, VI,				UNK
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				
6)	REMOTE 2	(1.2m VSAT), 20,000 UNITS CONUS, AK, HI,PR,VI,				UNK
		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)	REMOTE 3	(2.4m VSAT), 5,000 UNITS CONUS, AK, HI, PR, VI,				UNK	
Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209							
8)	REMOTE 4	(1.0m VSAT), 50,000 UNITS CONUS, AK, HI, PR, VI,				UNK	
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 July 27, 2009 (3 AM Eastern Standard Time) and ending July 27, 2024 (3 AM Eastern Standard Time). The required date of completion of construction and commencement of operation is June 20, 2018 (3 AM Eastern Standard Time). Grantee must file with the Commission a certification upon completion of construction and commencement of operation.

B) Particulars of Operations

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

#	Frequency (MHz)	Polarization Code	Emission	Tx/Rx Mode	Max EIRP /Carrier (dBW)	Max EIRP Density /Carrier (dBW/4kHz)	Associated Antenna	Special Provisions (Refer to Section H)	Modulation/ Services
1)	14000.0000-14500.0000	H, V	1M60G7D	Tx	59.20	33.20	HUB-A		BPSK, DATA, 1024 KSPS, OUTROUTE CARRIER
2)	14000.0000-14500.0000	H, V	400KG7D	Tx	53.20	33.20	HUB-A		BPSK, DATA, 256 KSPS, OUTROUTE CARRIER
3)	14000.0000-14500.0000	H, V	18M0F9W	Tx	70.10	43.10	HUB-A		ANALOG VIDEO WITH AUDIO IN HALF TRANSPONDER
4)	14000.0000-14500.0000	H, V	36M0F9W	Tx	73.10	46.10	HUB-A		ANALOG VIDEO WITH AUDIO IN FULL TRANSPONDER
5)	14000.0000-14500.0000	H, V	6M00G7D	Tx	64.20	32.40	HUB-A		BPSK, DATA, 5 MSPS MULTIMEDIA BROADCAST CARRIER



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6)	14000.0000-14500.0000	H, V	12M0G7D	Tx	67.20	32.40	HUB-A	BPSK, DATA, MULTIMEDIA CARRIER	10 MSPS, BROADCAST
7)	14000.0000-14500.0000	H, V	12M0G7D	Tx	70.20	35.40	HUB-A	QPSK, DATA, MULTIMEDIA CARRIER	10 MSPS, BROADCAST
8)	14000.0000-14500.0000	H, V	24M0G7D	Tx	70.20	32.40	HUB-A	BPSK, DATA, MULTIMEDIA CARRIER	20 MSPS, BROADCAST
9)	14000.0000-14500.0000	H, V	24M0G7D	Tx	73.20	35.40	HUB-A	QPSK, DATA, MULTIMEDIA CARRIER	20 MSPS, BROADCAST
10)	14000.0000-14500.0000	H, V	6M00G7D	Tx	67.20	35.40	HUB-A	QPSK, DATA, MULTIMEDIA CARRIER	5 MSPS, BROADCAST
11)	11700.0000-12200.0000	H, V	200KG7D	Rx			HUB-A	BPSK OR MSK, DATA, KSPS, INROUTE CARRIER	128
12)	11700.0000-12200.0000	H, V	400KG7D	Rx			HUB-A	BPSK OR MSK, DATA, KSPS, INROUTE CARRIER	256
13)	11700.0000-12200.0000	H, V	800KG7D	Rx			HUB-A	BPSK OR MSK, DATA, KSPS, INROUTE CARRIER	512
14)	14000.0000-14500.0000	H, V	400KG7D	Tx	53.20	33.20	HUB-B	BPSK, DATA, OUTROUTE CARRIER	256 KSPS,
15)	14000.0000-14500.0000	H, V	1M60G7D	Tx	59.20	33.20	HUB-B	BPSK, DATA, OUTROUTE CARRIER	1024 KSPS,
16)	14000.0000-14500.0000	H, V	18M0F9W	Tx	70.10	43.10	HUB-B	ANALOG VIDEO WITH AUDIO IN HALF TRANSPONDER	
17)	14000.0000-14500.0000	H, V	36M0F9W	Tx	73.10	46.10	HUB-B	ANALOG VIDEO WITH AUDIO IN FULL TRANSPONDER	
18)	14000.0000-14500.0000	H, V	6M00G7D	Tx	64.20	32.40	HUB-B	BPSK, DATA, MULTIMEDIA CARRIER	5 MSPS, BROADCAST
19)	14000.0000-14500.0000	H, V	6M00G7D	Tx	67.20	35.40	HUB-B	QPSK, DATA, MULTIMEDIA CARRIER	5 MSPS, BROADCAST
20)	14000.0000-14500.0000	H, V	12M0G7D	Tx	67.20	32.40	HUB-B	BPSK, DATA, MULTIMEDIA CARRIER	10 MSPS, BROADCAST



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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
21)	14000.0000-14500.0000	H, V	12M0G7D	Tx	70.20	35.40	HUB-B		QPSK, DATA, MULTIMEDIA CARRIER 10 MSPS, BROADCAST
22)	14000.0000-14500.0000	H, V	24M0G7D	Tx	70.20	32.40	HUB-B		BPSK, DATA, MULTIMEDIA CARRIER 20 MSPS, BROADCAST
23)	14000.0000-14500.0000	H, V	24M0G7D	Tx	73.20	35.40	HUB-B		QPSK, DATA, MULTIMEDIA CARRIER 20 MSPS, BROADCAST
24)	11700.0000-12200.0000	H, V	200KG7D	Rx			HUB-B		BPSK OR MSK, DATA, KSPS, INROUTE CARRIER 128
25)	11700.0000-12200.0000	H, V	400KG7D	Rx			HUB-B		BPSK OR MSK, DATA, KSPS, INROUTE CARRIER 256
26)	11700.0000-12200.0000	H, V	800KG7D	Rx			HUB-B		BPSK OR MSK, DATA, KSPS, INROUTE CARRIER 512
27)	14000.0000-14500.0000	H, V	18M0F9W	Tx	75.10	48.10	HUB-C		ANALOG VIDEO WITH AUDIO IN HALF TRANSPONDER
28)	14000.0000-14500.0000	H, V	36M0F9W	Tx	78.10	51.10	HUB-C		ANALOG VIDEO WITH AUDIO IN FULL TRANSPONDER
29)	14000.0000-14500.0000	H, V	400KG7D	Tx	58.20	38.20	HUB-C		BPSK, DATA, MULTIMEDIA CARRIER 256 KSPS, OUTROUTE BROADCAST
30)	14000.0000-14500.0000	H, V	6M00G7D	Tx	69.20	37.40	HUB-C		BPSK, DATA, MULTIMEDIA CARRIER 5 MSPS, BROADCAST
31)	14000.0000-14500.0000	H, V	6M00G7D	Tx	72.20	40.40	HUB-C		QPSK, DATA, MULTIMEDIA CARRIER 5 MSPS, BROADCAST
32)	14000.0000-14500.0000	H, V	12M0G7D	Tx	72.20	37.40	HUB-C		BPSK, DATA, MULTIMEDIA CARRIER 10 MSPS, BROADCAST
33)	14000.0000-14500.0000	H, V	12M0G7D	Tx	75.20	40.40	HUB-C		QPSK, DATA, MULTIMEDIA CARRIER 10 MSPS, BROADCAST
34)	14000.0000-14500.0000	H, V	24M0G7D	Tx	75.20	37.40	HUB-C		BPSK, DATA, MULTIMEDIA CARRIER 20 MSPS, BROADCAST
35)	14000.0000-14500.0000	H, V	24M0G7D	Tx	78.20	40.40	HUB-C		QPSK, DATA, MULTIMEDIA CARRIER 20 MSPS, BROADCAST



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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
36)	14000.0000-14500.0000	H, V	1M60G7D	Tx	64.20	38.20	HUB-C		BPSK, DATA, 1024, KSPS, OUTROUTE BROADCAST CARRIER
37)	11700.0000-12200.0000	H, V	200KG7D	Rx			HUB-C		BPSK OR MSK, DATA, 128 KSPS, INROUTE CARRIER
38)	11700.0000-12200.0000	H, V	400KG7D	Rx			HUB-C		BPSK OR MSK, DATA, 256 KSPS, INROUTE CARRIER
39)	11700.0000-12200.0000	H, V	800KG7D	Rx			HUB-C		BPSK OR MSK, DATA, 512 KSPS, INROUTE CARRIER
40)	14000.0000-14500.0000	H, V	36M0G7D	Tx	73.97	34.43	HUB-D		OUTROUTE, PSK, 30 MSPS
41)	14000.0000-14500.0000	H, V	1M60G7D	Tx	61.22	35.20	HUB-D		OUTROUTE, PSK, 1024 KSPS
42)	11700.0000-12200.0000	H, V	800KG7D	Rx			HUB-D		INBOUND, PSK, 512 KSPS
43)	11700.0000-12200.0000	H, V	200KG7D	Rx			HUB-D		INBOUND, PSK, 128, KSPS
44)	14000.0000-14500.0000	H, V	400KG7D	Tx	49.70	29.70	REMOTE 1A		BPSK OR MSK, DATA, 256 KSPS INROUTE CARRIER
45)	14000.0000-14500.0000	H, V	200KG7D	Tx	49.70	32.70	REMOTE 1A		BPSK OR MSK, DATA, 128 KSPS, INROUTE CARRIER
46)	14000.0000-14500.0000	H, V	800KG7D	Tx	49.70	26.70	REMOTE 1A		BPSK OR MSK, DATA, 512 KSPS, INROUTE CARRIER
47)	11700.0000-12200.0000	H, V	400KG7D	Rx			REMOTE 1A		BPSK, DATA, 256 KSPS, OUTROUTE CARRIER
48)	11700.0000-12200.0000	H, V	1M60G7D	Rx			REMOTE 1A		BPSK, DATA, 1024 KSPS, OUTROUTE CARRIER
49)	11700.0000-12200.0000	H, V	18M0F9W	Rx			REMOTE 1A		ANALOG VIDEO WITH AUDIO IN HALF TRANSPONDER
50)	11700.0000-12200.0000	H, V	36M0F9W	Rx			REMOTE 1A		ANALOG VIDEO WITH AUDIO IN FULL TRANSPONDER
51)	11700.0000-12200.0000	H, V	6M00G7D	Rx			REMOTE 1A		BPSK, DATA, 5 MSPS MULTIMEDIA BROADCAST CARRIER
52)	11700.0000-12200.0000	H, V	6M00G7D	Rx			REMOTE 1A		QPSK, DATA, 5 MSPS MULTIMEDIA BROADCAST CARRIER
53)	11700.0000-12200.0000	H, V	12M0G7D	Rx			REMOTE 1A		BPSK, DATA, 10 MSPS MULTIMEDIA BROADCAST 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
54)	11700.0000-12200.0000	H, V	12M0G7D	Rx			REMOTE 1A	QPSK, DATA, MULTIMEDIA CARRIER	10 MSPS BROADCAST
55)	11700.0000-12200.0000	H, V	24M0G7D	Rx			REMOTE 1A	BPSK, DATA, MULTIMEDIA CARRIER	20 MSPS BROADCAST
56)	11700.0000-12200.0000	H, V	24M0G7D	Rx			REMOTE 1A	QPSK, DATA, MULTIMEDIA CARRIER	20 MSPS BROADCAST
57)	14000.0000-14500.0000	H, V	200KG7D	Tx	46.10	29.10	REMOTE 2A	BPSK OR MSK, DATA, KSPS, INROUTE CARRIER	128
58)	14000.0000-14500.0000	H, V	400KG7D	Tx	46.10	26.10	REMOTE 2A	BPSK OR MSK, DATA, KSPS, INROUTE CARRIER	256
59)	14000.0000-14500.0000	H, V	800KG7D	Tx	46.10	23.10	REMOTE 2A	BPSK OR MSK, DATA, KSPS, INROUTE CARRIER	512
60)	11700.0000-12200.0000	H, V	400KG7D	Rx			REMOTE 2A	BPSK, DATA, OUTROUTE CARRIER	256 KSPS,
61)	11700.0000-12200.0000	H, V	1M60G7D	Rx			REMOTE 2A	BPSK, DATA, OUTROUTE CARRIER	1024 KSPS,
62)	11700.0000-12200.0000	H, V	18M0F9W	Rx			REMOTE 2A	ANALOG VIDEO WITH AUDIO IN HALF TRANSPONDER	
63)	11700.0000-12200.0000	H, V	36M0F9W	Rx			REMOTE 2A	ANALOG VIDEO WITH AUDIO IN FULL TRANSPONDER	
64)	11700.0000-12200.0000	H, V	24M0G7D	Rx			REMOTE 2A	QPSK, DATA, MULTIMEDIA CARRIER	20 MSPS BROADCAST
65)	11700.0000-12200.0000	H, V	6M00G7D	Rx			REMOTE 2A	BPSK, DATA, MULTIMEDIA CARRIER	5 MSPS, BROADCAST
66)	11700.0000-12200.0000	H, V	6M00G7D	Rx			REMOTE 2A	QPSK, DATA, MULTIMEDIA CARRIER	5 MSPS, BROADCAST
67)	11700.0000-12200.0000	H, V	12M0G7D	Rx			REMOTE 2A	BPSK, DATA, MULTIMEDIA CARRIER	10 MSPS, BROADCAST
68)	11700.0000-12200.0000	H, V	12M0G7D	Rx			REMOTE 2A	QPSK, DATA, MULTIMEDIA CARRIER	10 MSPS, BROADCAST



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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
69)	11700.0000-12200.0000	H, V	24M0G7D	Rx			REMOTE 2A		BPSK, DATA, 20 MSPS, MULTIMEDIA BROADCAST CARRIER
70)	14000.0000-14500.0000	H, V	200KG7D	Tx	52.20	35.20	REMOTE 3A		BPSK OR MSK, DATA, 128 KSPS, INROUTE CARRIER
71)	14000.0000-14500.0000	H, V	400KG7D	Tx	52.20	32.20	REMOTE 3A		BPSK OR MSK, DATA, 256 KSPS, INROUTE CARRIER
72)	14000.0000-14500.0000	H, V	800KG7D	Tx	52.20	29.20	REMOTE 3A		BPSK OR MSK, DATA, 512 KSPS, INROUTE CARRIER
73)	11700.0000-12200.0000	H, V	400KG7D	Rx			REMOTE 3A		BPSK, DATA, 256 KSPS, OUTROUTE CARRIER
74)	11700.0000-12200.0000	H, V	1M60G7D	Rx			REMOTE 3A		BPSK, DATA, 1024 KSPS, OUTROUTE CARRIER
75)	11700.0000-12200.0000	H, V	18M0F9W	Rx			REMOTE 3A		ANALOG VIDEO WITH AUDIO IN HALF TRANSPONDER
76)	11700.0000-12200.0000	H, V	36M0F9W	Rx			REMOTE 3A		ANALOG VIDEO WITH AUDIO IN FULL TRANSPONDER
77)	11700.0000-12200.0000	H, V	6M00G7D	Rx			REMOTE 3A		BPSK, DATA, 5 MSPS, MULTIMEDIA BROADCAST CARRIER
78)	11700.0000-12200.0000	H, V	6M00G7D	Rx			REMOTE 3A		QPSK, DATA, 5 MSPS, MULTIMEDIA BROADCAST CARRIER
79)	11700.0000-12200.0000	H, V	12M0G7D	Rx			REMOTE 3A		BPSK, DATA, 10 MSPS, MULTIMEDIA BROADCAST CARRIER
80)	11700.0000-12200.0000	H, V	12M0G7D	Rx			REMOTE 3A		QPSK, DATA, 10 MSPS, MULTIMEDIA BROADCAST CARRIER
81)	11700.0000-12200.0000	H, V	24M0G7D	Rx			REMOTE 3A		BPSK, DATA, 20 MSPS, MULTIMEDIA BROADCAST CARRIER
82)	11700.0000-12200.0000	H, V	24M0G7D	Rx			REMOTE 3A		QPSK, DATA, 20 MSPS, MULTIMEDIA BROADCAST CARRIER
83)	14000.0000-14500.0000	H, V	200KG7D	Tx	44.00	27.00	REMOTE 4A		BPSK OR MSK, DATA, 128 KSPS, INROUTE CARRIER
84)	14000.0000-14500.0000	H, V	400KG7D	Tx	44.00	24.00	REMOTE 4A		BPSK OR MSK, DATA, 256 KSPS, INROUTE CARRIER



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85)	14000.0000-14500.0000	H, V	800KG7D	Tx	44.00	21.00	REMOTE 4A		BPSK OR MSK, DATA, 512 KSPS, INROUTE CARRIER
86)	11700.0000-12200.0000	H, V	400KG7D	Rx			REMOTE 4A		BPSK, DATA, 256 KSPS, OUTROUTE CARRIER
87)	11700.0000-12200.0000	H, V	1M60G7D	Rx			REMOTE 4A		BPSK, DATA, 1024 KSPS, OUTROUTE CARRIER
88)	11700.0000-12200.0000	H, V	18M0F9W	Rx			REMOTE 4A		ANALOG VIDEO WITH AUDIO IN HALF TRANSPONDER
89)	11700.0000-12200.0000	H, V	36M0F9W	Rx			REMOTE 4A		ANALOG VIDEO WITH AUDIO IN FULL TRANSPONDER
90)	11700.0000-12200.0000	H, V	6M00G7D	Rx			REMOTE 4A		BPSK, DATA, 5 MSPS, MULTIMEDIA BROADCAST CARRIER
91)	11700.0000-12200.0000	H, V	6M00G7D	Rx			REMOTE 4A		QPSK, DATA, 5 MSPS, MULTIMEDIA BROADCAST CARRIER
92)	11700.0000-12200.0000	H, V	12M0G7D	Rx			REMOTE 4A		BPSK, DATA, 10 MSPS, MULTIMEDIA BROADCAST CARRIER
93)	11700.0000-12200.0000	H, V	12M0G7D	Rx			REMOTE 4A		QPSK, DATA, 10 MSPS, MULTIMEDIA BROADCAST CARRIER
94)	11700.0000-12200.0000	H, V	24M0G7D	Rx			REMOTE 4A		BPSK, DATA, 20 MSPS, MULTIMEDIA BROADCAST CARRIER
95)	11700.0000-12200.0000	H, V	24M0G7D	Rx			REMOTE 4A		QPSK, DATA, 20 MSPS, MULTIMEDIA BROADCAST 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)	14000.0000-14500.0000	62.0W	143.0W	36.5	13.3	150.1	248.1	-7.1	HUB-A
2)	11700.0000-12200.0000	62.0W	143.0W	36.5	13.3	150.1	248.1		HUB-A
3)	14000.0000-14500.0000	62.0W	143.0W	36.5	13.3	150.1	248.1	-4.9	HUB-B



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RADIO STATION AUTHORIZATION

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Non Common Carrier

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Expiration Date: 07/27/2024

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		
4)	11700.0000-12200.0000	62.0W	-143.0W	36.5	-13.3	150.1	-248.1		HUB-B
5)	14000.0000-14500.0000	62.0W	-143.0W	36.5	-13.3	150.1	-248.1	-4.3	HUB-C
6)	11700.0000-12200.0000	62.0W	-143.0W	36.5	-13.3	150.1	-248.1		HUB-C
7)	11700.0000-12200.0000	62.0W	-143.0W	05.0	-05.0				REMOTE 1A
8)	14000.0000-14500.0000	62.0W	-143.0W	05.0	-05.0			-2.5	REMOTE 1A
9)	11700.0000-12200.0000	62.0W	-143.0W	05.0	-05.0				REMOTE 2A
10)	14000.0000-14500.0000	62.0W	-143.0W	05.0	-05.0			-2.5	REMOTE 2A
11)	14000.0000-14500.0000	62.0W	-143.0W	05.0	-05.0			-2.5	REMOTE 3A
12)	11700.0000-12200.0000	62.0W	-143.0W	05.0	-05.0				REMOTE 3A
13)	14000.0000-14500.0000	62.0W	-143.0W	05.0	-05.0			-2.5	REMOTE 4A
14)	11700.0000-12200.0000	62.0W	-143.0W	05.0	-05.0				REMOTE 4A
15)	14000.0000-14500.0000	62.0W	-143.0W	15.0	-80.0	095.0	-265.0	-2.5	HUB-D
16)	11700.0000-12200.0000	62.0W	-143.0W	15.0	-80.0	095.0	-265.0		HUB-D

D) Points of Communications

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

-
- 1) HUB-A to Permitted Space Station List
 - 2) HUB-B to Permitted Space Station List
 - 3) HUB-C to Permitted Space Station List
 - 4) REMOTE 1 to Permitted Space Station List
 - 5) REMOTE 2 to Permitted Space Station List
 - 6) REMOTE 3 to Permitted Space Station List
 - 7) REMOTE 4 to Permitted Space Station List
 - 8) HUB-D to Permitted Space Station List



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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-A	HUB-A	1	5.6	ANDREW CORPORATION	ES56-1	172.8	6 AGL/ 178.8 AMSL	
		Max Gains(s):		55.7 dBi @ 11.9500 GHz	57.1 dBi @ 14.2500 GHz			
		Maximum total input power at antenna flange (Watts) =		50.00				
		Maximum aggregate output EIRP for all carriers (dBW) =		74.10				
HUB-B	HUB-B	1	4.6	ANDREW CORPORATION	ESA46MPJ-1	172.8	5 AGL/ 177.8 AMSL	
		Max Gains(s):		53.5 dBi @ 11.9500 GHz	54.9 dBi @ 14.2500 GHz			
		Maximum total input power at antenna flange (Watts) =		83.10				
		Maximum aggregate output EIRP for all carriers (dBW) =		74.10				
HUB-C	HUB-C	2	7.6	ANDREW CORPORARION	ES76K-1	172.8	8.5 AGL/ 181.3 AMSL	
		Max Gains(s):		57.8 dBi @ 11.9500 GHz	59.3 dBi @ 14.2500 GHz			
		Maximum total input power at antenna flange (Watts) =		500.00				
		Maximum aggregate output EIRP for all carriers (dBW) =		86.30				
HUB-D	HUB-D	1	2.4	ANDREW CORPORATION	ESA2.4VSMKU			
		Max Gains(s):		47.7 dBi @ 11.9500 GHz	49.2 dBi @ 14.2500 GHz			
		Maximum total input power at antenna flange (Watts) =		300.00				
		Maximum aggregate output EIRP for all carriers (dBW) =		74.00				
REMOTE 1	REMOTE 1A	5000	1.8	PRODELIN CORPORATION	1184			
		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				
REMOTE 2	REMOTE 2A	20000	1.2	PRODELIN CORPORATION	1134			
		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				



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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)
REMOTE 3	REMOTE 3A	5000	2.4	PRODELIN CORPORATION	1244			
Max Gains(s):		49.2 dBi @	14.2500 GHz	47.7 dBi @	11.9500 GHz			
Maximum total input power at antenna flange (Watts) =				2.00				
Maximum aggregate output EIRP for all carriers (dBW) =				52.20				
REMOTE 4	REMOTE 4A	50000	1	PRODELIN CORPORATION	1102			
Max Gains(s):		41.0 dBi @	14.2500 GHz	39.8 dBi @	11.9500 GHz			
Maximum total input power at antenna flange (Watts) =				2.00				
Maximum aggregate output EIRP for all carriers (dBW) =				44.00				

F) Remote Control Point:

HUB-B	11717 EXPLORATION LANE GERMANTOWN, MONTGOMERY, MD 20876 3014297205	Call Sign: E990170
HUB-D	24000 NORTHWESTER HIGHWAY SOUTHFIELD, OAKLAND, MI 48075 247-353-1562	Call Sign: E990170
REMOTE 1	24000 NORTHWESTERN HIGHWAY, (1.8 METER) SOUTHFIELD, OAKLAND, MI 48075 248-353-1562	Call Sign: E990170
REMOTE 2	24000 NORTHWESTERN HIGHWAY, (1.2 METER) SOUTHFIELD, OAKLAND, MI 48075 248-353-1562	Call Sign: E990170
REMOTE 3	24000 NORTHWESTERN HIGHWAY, (2.4 METER) SOUTHFIELD, OAKLAND, MI 48075 248-353-1562	Call Sign: E990170



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F) Remote Control Point:

REMOTE 4 24000 NORTHWESTERN HIGHWAY, (1.0 METER)
SOUTHFIELD, OAKLAND, MI 48075
248-353-1562

Call Sign: E990170

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.

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).

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.