



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

Name: Educational Media Foundation

Call Sign: E920417

Authorization Type: Modification of License

File Number: SES-MOD-20150706-00451

Non Common Carrier

Grant date: 09/02/2015

Expiration Date: 07/31/2017



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-1RCKCA	5700 WEST OAKS BLVD. (5.6M.HUB) -1 ROCKLIN, PLACER, CA 95765	38°48'54.0"N	121°16'40.0"W	61.6	83
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				
2)	HUB1A	5700 WEST OAKS BLVD. (3.8M.HUB) 1-A ROCKLIN, PLACER, CA 95765	38°48'54.0"N	121°16'40.0"W	61.6	83
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				
3)	REMOTE 1	5700 WEST OAKS BLVD. VSAT 1.2M., (25 UNITS) CONUS, AK, HI,				NA
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				
4)	REMOTE 2	5700 WEST OAKS BLVD. VSAT 1.8M., (550 UNITS) CONUS, AK, HI,				NA
		Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				
5)	REMOTE 3	5700 WEST OAKS BLVD. VSAT 2.4M., (25 UNITS) CONUS, AK, HI,				NA
		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 July 31, 2002 (3 AM Eastern Standard Time) and ending July 31, 2017 (3 AM Eastern Standard Time) . The required date of completion of construction and commencement of operation is September 2, 2016 (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	4M20G7D	Tx	58.90	30.00	HUB1A		QPSK, DIGITAL
2)	14000.0000-14500.0000	H, V	128KG7W	Tx	53.20	38.50	HUB1A		4CPM; ADAPTIVE ACCESS SCHEME MULTI FREQUENCY (MF) TDMA
3)	14000.0000-14500.0000	H, V	4M00G7W	Tx	64.20	34.20	HUB1A		4CPM; ADAPTIVE ACCESS SCHEME MULTI FREQUENCY (MF) TDMA
4)	11700.0000-12200.0000	H, V	4M20G7D	Rx			HUB1A		QPSK, DIGITAL
5)	11700.0000-12200.0000	H, V	540KG7D	Rx			HUB1A		QPSK, DIGITAL
6)	11700.0000-12200.0000	H, V	128KG7W	Rx			HUB1A		4CPM; ADAPTIVE ACCESS SCHEME MULTI FREQUENCY (MF) TDMA
7)	11700.0000-12200.0000	H, V	4M00G7W	Rx			HUB1A		4CPM; ADAPTIVE ACCESS SCHEME MULTI FREQUENCY (MF) TDMA
8)	14000.0000-14500.0000	H, V	4M20G7D	Tx	58.90	30.00	HUB1RCKC		QPSK, DIGITAL
9)	14000.0000-14500.0000	H, V	128KG7W	Tx	57.00	41.95	HUB1RCKC		4CPM; ADAPTIVE ACCESS SCHEME MULTI FREQUENCY (MF) TDMA
10)	14000.0000-14500.0000	H, V	4M00G7W	Tx	68.00	38.00	HUB1RCKC		4CPM; ADAPTIVE ACCESS SCHEME MULTI FREQUENCY (MF) TDMA
11)	11700.0000-12200.0000	H, V	4M20G7D	Rx			HUB1RCKC		QPSK, DIGITAL
12)	11700.0000-12200.0000	H, V	540KG7D	Rx			HUB1RCKC		QPSK, DIGITAL
13)	11700.0000-12200.0000	H, V	128KG7W	Rx			HUB1RCKC		4CPM; ADAPTIVE ACCESS SCHEME MULTI FREQUENCY (MF) TDMA
14)	11700.0000-12200.0000	H, V	4M00G7W	Rx			HUB1RCKC		4CPM; ADAPTIVE ACCESS SCHEME MULTI FREQUENCY (MF) TDMA
15)	14000.0000-14500.0000	H, V	4M20G7D	Tx	43.40	27.50	REMT 1		QPSK, DIGITAL
16)	14000.0000-14500.0000	H, V	540KG7D	Tx	47.10	28.10	REMT 1		QPSK, DIGITAL
17)	14000.0000-14500.0000	H, V	128KG7W	Tx	42.30	27.30	REMT 1		4CPM; ADAPTIVE ACCESS SCHEME MULTI FREQUENCY (MF) TDMA



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18)	14000.0000-14500.0000	H,V	4M00G7W	Tx	48.07	18.07	REMT 1		4CPM; ADAPTIVE ACCESS SCHEME MULTI FREQUENCY (MF) TDMA
19)	11700.0000-12200.0000	H,V	4M20G7D	Rx			REMT 1		QPSK, DIGITAL
20)	11700.0000-12200.0000	H,V	540KG7D	Rx			REMT 1		QPSK, DIGITAL
21)	11700.0000-12200.0000	H,V	128KG7W	Rx			REMT 1		4CPM; ADAPTIVE ACCESS SCHEME MULTI FREQUENCY (MF) TDMA
22)	11700.0000-12200.0000	H,V	4M00G7W	Rx			REMT 1		4CPM; ADAPTIVE ACCESS SCHEME MULTI FREQUENCY (MF) TDMA
23)	14000.0000-14500.0000	H,V	4M20G7D	Tx	47.30	31.40	REMT 2		QPSK, DIGITAL
24)	14000.0000-14500.0000	H,V	540KG7D	Tx	50.60	31.60	REMT 2		QPSK, DIGITAL
25)	14000.0000-14500.0000	H,V	128KG7W	Tx	45.83	30.78	REMT 2		4CPM; ADAPTIVE ACCESS SCHEME MULTI FREQUENCY (MF) TDMA
26)	14000.0000-14500.0000	H,V	4M00G7W	Tx	51.57	21.57	REMT 2		4CPM; ADAPTIVE ACCESS SCHEME MULTI FREQUENCY (MF) TDMA
27)	11700.0000-12200.0000	H,V	4M20G7D	Rx			REMT 2		QPSK, DIGITAL
28)	11700.0000-12200.0000	H,V	540KG7D	Rx			REMT 2		QPSK, DIGITAL
29)	11700.0000-12200.0000	H,V	128KG7W	Rx			REMT 2		4CPM; ADAPTIVE ACCESS SCHEME MULTI FREQUENCY (MF) TDMA
30)	11700.0000-12200.0000	H,V	4M00G7W	Rx			REMT 2		4CPM; ADAPTIVE ACCESS SCHEME MULTI FREQUENCY (MF) TDMA
31)	14000.0000-14500.0000	H,V	4M20G7D	Tx	50.00	34.10	REMT 3		QPSK, DIGITAL
32)	14000.0000-14500.0000	H,V	540KG7D	Tx	52.70	33.70	REMT 3		QPSK, DIGITAL
33)	14000.0000-14500.0000	H,V	128KG7W	Tx	47.90	32.90	REMT 3		4CPM; ADAPTIVE ACCESS SCHEME MULTI FREQUENCY (MF) TDMA
34)	14000.0000-14500.0000	H,V	4M00G7W	Tx	53.70	23.70	REMT 3		4CPM; ADAPTIVE ACCESS SCHEME MULTI FREQUENCY (MF) TDMA



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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
35)	11700.0000-12200.0000	H, V	4M20G7D	Rx			REMT 3		QPSK, DIGITAL
36)	11700.0000-12200.0000	H, V	540KG7D	Rx			REMT 3		QPSK, DIGITAL
37)	11700.0000-12200.0000	H, V	128KG7W	Rx			REMT 3		4CPM; ADAPTIVE ACCESS SCHEME MULTI FREQUENCY (MF) TDMA
38)	11700.0000-12200.0000	H, V	4M00G7W	Rx			REMT 3		4CPM; ADAPTIVE ACCESS SCHEME MULTI FREQUENCY (MF) TDMA

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	79.0W	143.0W	27.6	39.7	124.6	212.5	8.1	HUB1A
2)	11700.0000-12200.0000	79.0W	143.0W	27.6	39.7	124.6	212.5	0	HUB1A
3)	14000.0000-14500.0000	79.0W	143.0W	05.0	05.0			5.6	REMT 1
4)	11700.0000-12200.0000	79.0W	143.0W	05.0	05.0				REMT 1
5)	14000.0000-14500.0000	79.0W	143.0W	05.0	05.0			1.5	REMT 2
6)	11700.0000-12200.0000	79.0W	143.0W	05.0	05.0				REMT 2
7)	14000.0000-14500.0000	79.0W	143.0W	05.0	05.0			3.3	REMT 3
8)	11700.0000-12200.0000	79.0W	143.0W	05.0	05.0				REMT 3
9)	14000.0000-14500.0000	79.0W	143.0W	27.5	39.7	124.6	212.5	4.4	HUB1RCKC
10)	11700.0000-12200.0000	79.0W	143.0W	27.5	39.7	124.6	212.5		HUB1RCKC

D) Points of Communications

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

- 1) HUB1A to Permitted Space Station List
- 2) REMOTE 1 to Permitted Space Station List
- 3) REMOTE 2 to Permitted Space Station List
- 4) REMOTE 3 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:

5) HUB-1RCKCA to Permitted Space Station List

E) Antenna Facilities

Site ID	Antenna ID	Units	Diameter (meters)	Manufacturer	Model number	Site Elevation (Meters)	Max Antenna Height (Meters)	Special Provisions (Refer to Section H)
HUB1A	HUB1A	1	3.8	PRODELIN	1383	61.6	4.2 AGL/ 66.2 AMSL	
Max Gains(s):		53.2 dBi @	14.1300 GHz	51.7 dBi @	11.8500 GHz			
Maximum total input power at antenna flange (Watts) =						12.70		
Maximum aggregate output EIRP for all carriers (dBW) =						64.20		
HUB-1RCKCA	HUB1RCKC	1	5.6	ASC SIGNAL	ES56-1	61.6	7.4 AGL/ 68 AMSL	
Max Gains(s):		57.0 dBi @	14.2500 GHz	55.5 dBi @	11.9500 GHz			
Maximum total input power at antenna flange (Watts) =						12.70		
Maximum aggregate output EIRP for all carriers (dBW) =						68.00		
REMOTE 1	REMT 1	25	1.2	ASC SIGNAL	TYPE 123		2.2 AGL	
Max Gains(s):		41.8 dBi @	12.0000 GHz	43.3 dBi @	14.3000 GHz			
Maximum total input power at antenna flange (Watts) =						3.00		
Maximum aggregate output EIRP for all carriers (dBW) =						48.10		
REMOTE 2	REMT 2	550	1.8	ASC SIGNAL	TYPE 18(0/3)TX		2.8 AGL	
Max Gains(s):		45.3 dBi @	12.0000 GHz	46.8 dBi @	14.3000 GHz			
Maximum total input power at antenna flange (Watts) =						3.00		
Maximum aggregate output EIRP for all carriers (dBW) =						51.60		
REMOTE 3	REMT 3	25	2.4	ASC SIGNAL	TYPE 243		3.4 AGL	
Max Gains(s):		47.4 dBi @	12.0000 GHz	48.9 dBi @	14.3000 GHz			
Maximum total input power at antenna flange (Watts) =						3.00		
Maximum aggregate output EIRP for all carriers (dBW) =						53.70		

G) Antenna Structure marking and lighting requirements:

None unless otherwise specified under Special and General Provisions



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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:

- 167 --- This authorization is limited to the total number of terminals listed in Section A of this license for this Site ID.
- 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.
- 2010 --- This authorization is issued pursuant to the Commission's Second Report and Order adopted June 16, 1972 (35 FCC 2d 844) and Memorandum, Opinion and Order adopted December 21, 1972 (38 FCC 2d 665) in Docket No. 16495 and is subject to the policies adopted in that proceeding.
- 2068 --- The use of these small diameter earth station facilities is authorized pursuant to the Commission's Declaratory Order in Routine Licensing of Large Networks of Small Antenna Earth Stations Operating in the 12/14 GHz Frequency Bands released April 9, 1986.
- 2916 --- Transmitter(s) must be turned off during antenna maintenance to ensure compliance with the FCC-specified safety guidelines for human exposure to radiofrequency radiation in the region between the antenna feed and the reflector. Appropriate measures must also be taken to restrict access to other regions in which the earth station's power flux density levels exceed the specified guidelines.
- 2938 --- Upon completion of construction, each licensee must file with the Commission a certification including the following information: (1) name of the licensee, (2) file number of the application, (3) call sign of the antenna, (4) date of the license, (5) certification that the facility as authorized has been completed, (6) certification that each antenna facility has been tested and is within 2 dB of the pattern specified in Section 25.209, and (7) certification that the station is operational (including the date of commencement of service) and will remain operational during the license period unless the license is submitted for cancellation.
- 3219 --- All existing transmitting facilities, operations and devices regulated by the Commission must be in compliance with the Commission's radiofrequency (RF) exposure guidelines, pursuant to Section 1.1307(b)(1) through (b)(3) of the Commission's rules, or if not in compliance, file an Environmental Assessment (EA) as specified in Section 1.1311. See 47 CFR § 1.1307 (b) (5).
- 5208 --- The licensee shall take all necessary measures to ensure that the antenna does not create potential exposure of humans to radiofrequency radiation in excess of the FCC exposure limits defined in 47 CFR 1.1307(b) and 1.1310 wherever such exposures might occur. Measures must be taken to ensure compliance with limits for both occupational/controlled exposure and for general population/uncontrolled exposure, as defined in these rule sections. Compliance can be accomplished in most cases by appropriate restrictions, such as fencing. Requirements for restrictions can be determined by predictions based on calculations, modeling, or by field measurements. The FCC's OET Bulletin 65 (available on-line at www.fcc.gov/oet/rfsafety) provides information on predicting exposure levels and on methods for ensuring compliance, including the use of warning and alerting signs and protective equipment for workers.



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H) Special and General Provisions

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

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

9659 --- The licensee is afforded 30 days from the date of issuance of this license to decline it as conditioned. Failure to respond within this period will constitute formal acceptance of the authorization as conditioned.



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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.

