



UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION
RADIO STATION AUTHORIZATION

Name: DISH Operating L.L.C.

Call Sign: E140100

Authorization Type: Modification of License

File Number: SES-MOD-20160606-00485

Non Common Carrier

Grant date: 09/21/2016

Expiration Date: 06/30/2030



Nature of Service: 17/24 Reverse Band BSS

Class of Station: Blanket Earth Stations

A) Site Location(s)

#	Site ID	Address	Latitude	Longitude	Elevation (Meters)	Special Provisions NAD (Refer to Section H)
1)	1Multiple	25,000 Reverse Band BSS earth stations Multiple- (Receive-only) 4.5M. CONUS, Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209			0	NA
2)	2Multiple	25,000 Reverse band BSS earth stations Multiple- (Receive-only) 6.3M. CONUS, Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				NA
3)	3Multiple	25,000 Reverse band BSS earth stations Multiple- (Receive-only) 3.7M. CONUS, Licensee certifies antenna(s) comply with gain patterns specified in Section 25.209				UNK

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 June 30, 2015 (3 AM Eastern Standard Time) and ending June 30, 2030 (3 AM Eastern Standard Time) . The required date of completion of construction and commencement of operation is September 21, 2017 (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)	17300.0000-17700.0000	L,R	36M0G7W	Rx			A1		VIDEO and Data Services to Cellular Towers only



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2)	17300.0000-17700.0000	L,R	390MG7W	Rx			A1		VIDEO and Data Services to Cellular Towers only
3)	17300.0000-17700.0000	L,R	3M75G7W	Rx			A1		VIDEO and Data Services to Cellular Towers only
4)	17300.0000-17700.0000	L,R	36M0G7W	Rx			A2		VIDEO and Data Services to Cellular Towers only
5)	17300.0000-17700.0000	L,R	390MG7W	Rx			A2		VIDEO and Data Services to Cellular Towers only
6)	17300.0000-17700.0000	L,R	3M75G7W	Rx			A2		VIDEO and Data Services to Cellular Towers only
7)	17300.0000-17700.0000	L,R	36M0G7W	Rx			A3		VIDEO and Data Services to Cellular Towers only
8)	17300.0000-17700.0000	L,R	390MG7W	Rx			A3		VIDEO and Data Services to Cellular Towers only
9)	17300.0000-17700.0000	L,R	3M75G7W	Rx			A3		VIDEO and Data Services to Cellular Towers only

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)	17300.0000-17700.0000	95.0W	130.0W	10.0	10.0	128.2	127.7		A1
2)	17300.0000-17700.0000	95.0W	130.0W	10.0	10.0	128.2	127.7		A2
3)	17300.0000-17700.0000	95.0W	130.0W	10.0	10.0	128.2	127.7		A3

D) Points of Communications

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

- 1) Multiple to Ciel-6i satellite @ 103.0 degrees W.L. 17/24 BSS (CANADA-licensed)
- 2) Multiple to Ciel-6i satellite @ 103.0 degrees W.L. 17/24 BSS (CANADA-licensed)
- 3) Multiple to Ciel-6i satellite @ 103.0 degrees W.L. 17/24 BSS (CANADA-licensed)



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E) Antenna Facilities

Site ID	Antenna ID	Units	Diameter (meters)	Manufacturer	Model number	Site Elevation (Meters)	Max Antenna Height (Meters)	Special Provisions (Refer to Section H)
1Multiple	A1	25000	4.5	Various - all using the following specs	Various	0	0 AGL/ 0 AMSL	
		Max Gains(s):		56.5 dBi @ 17.5000 GHz				
		Maximum total input power at antenna flange (Watts) =		.00				
		Maximum aggregate output EIRP for all carriers (dBW) =		.00				
2Multiple	A2	25000	6.3	Various - all using the following specs	Various			
		Max Gains(s):		59.4 dBi @ 17.5000 GHz				
		Maximum total input power at antenna flange (Watts) =						
		Maximum aggregate output EIRP for all carriers (dBW) =						
3Multiple	A3	25000	3.7	Various - all using the following specs	Various			
		Max Gains(s):		54.9 dBi @ 17.5000 GHz				
		Maximum total input power at antenna flange (Watts) =						
		Maximum aggregate output EIRP for all carriers (dBW) =						

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.

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

9978 --- Pursuant to 47 C.F.R. 2.106 Footnote US402, In the band 17.3-17.7 GHz, existing Federal satellites and associated earth stations in the fixed-satellite service (Earth-to-space) are authorized to operate on a primary basis in the frequency bands and areas listed below. Receiving earth stations in the broadcasting-satellite service within the bands and areas listed below shall not claim protection from Federal earth stations in the fixed-satellite service
 (a) 17.600-17.700 GHz for stations within a 120 km radius of 38° 49' N latitude and 76° 52' W longitude.
 (b) 17.375-17.475 GHz for stations within a 160 km radius of 39° 42' N latitude and 104° 45' W longitude.



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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:

- 90201 --- The band 17.3-17.7 GHz is allocated on a primary basis to the non-Federal fixed-satellite service (Earth-to-space). Earth stations receiving in the broadcasting-satellite service within these bands will be protected from these co-primary operations only to the extent established in any relevant rule making proceeding, and grant of this authorization shall not prejudice the outcome of any such rulemaking.
- 90203 --- Dish Operating LLC's request for limited waiver of Sections 25.264(c) and (d) of the Commission's rules, 47 C.F.R. §§ 25.264(c) and (d), to the extent required, IS GRANTED. The Ciel-6i payload was launched in July 2011 prior to issuance of the FCC's service rules for the 17/24 GHz BSS in September 2011, thus leaving no possibility to perform additional measurements required by Sections 25.264(c) and (d). DISH has provided all available information regarding compliance with the obligations of Sections 25.264(c) and (d). DISH also notes in its Technical Annex that: (i) there is no operational, adjacent 12/17 GHz BSS satellite less than 1.8° away from the 103.0° W.L. orbit location; (ii) emission levels of the Ciel-6i payload are low; and (iii) calculations show that the Ciel-6i payload raises no potential harmful interference issue with respect to any U.S.-licensed DBS satellite. Therefore, waiver of the requirements will not undermine the purpose of Sections 25.264(c) and (d).
- 90205 --- Communications between U.S.-licensed earth stations and the Ciel-6i space station must comply with the terms of the Statement of Intent, signed on April 2, 2015, by the Federal Communications Commission of the United States of America and the Department of Industry of Canada, related to the coordination of the 17.3-17.8 GHz and 24.75-25.25 GHz BSS spectrum used by satellite networks filed with the ITU by the United States and Canada for operation at or near the orbital location 103°W.L., and any subsequent coordination agreements.



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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.

