



**UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION**

RADIO STATION AUTHORIZATION

Name: WorldVu Satellites Limited

Call Sign: E190759

Authorization Type: License

File Number: SES-LIC-20190930-01237

Non Common Carrier

Grant date: 03/29/2021

Expiration Date: 03/29/2036

Nature of Service: Fixed Satellite Service

Nature of Service: Other

Class of Station: Other

A) Site Location(s)

#	Site ID	Address	Latitude	Longitude	Elevation (Meters)	Special Provisions NAD (Refer to Section H)
1)	Blanket UT (Fixed)	1785 Greensboro Station Place Tower 3, Suite 500 McLean, Fairfax, VA 22102			0	NA

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 March 29, 2021 (3 AM Eastern Standard Time) and ending March 29, 2036 (3 AM Eastern Standard Time) . The required date of completion of construction and commencement of operation is March 29, 2022 (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	L,R	20M0G7D	Tx	35.60	8.30	12 dB/K DP		Emission range of 2M40G7D − 20M0G7D using Adaptive Code Modulation with QPSK, 8PSK, 16QAM at variable coding rates.
2)	14000.0000-14500.0000	L,R	2M40G7D	Tx	35.60	8.30	12 dB/K DP		Emission range of 2M40G7D − 20M0G7D using Adaptive Code Modulation with QPSK, 8PSK, 16QAM at variable coding rates.
3)	10700.0000-12700.0000	L,R	250MG7D	Rx			12 dB/K DP		Adaptive Code Modulation utilizing QPSK, 8PSK, 16QAM at variable coding rates.



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4)	14000.0000-14500.0000	L,R	20M0G7D	Tx	35.60	8.30	15 dB/K DP		Emission range of 2M40G7D − 20M0G7D using Adaptive Code Modulation with QPSK, 8PSK, 16QAM at variable coding rates.
5)	14000.0000-14500.0000	L,R	2M40G7D	Tx	35.60	8.30	15 dB/K DP		Emission range of 2M40G7D − 20M0G7D using Adaptive Code Modulation with QPSK, 8PSK, 16QAM at variable coding rates.
6)	10700.0000-12700.0000	L,R	250MG7D	Rx			15 dB/K DP		Adaptive Code Modulation utilizing QPSK, 8PSK, 16QAM at variable coding rates.

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)	10700.0000-12700.0000		NGSO		37.0-37.0		090.0-090.0		12 dB/K DP
2)	14000.0000-14500.0000		NGSO		37.0-37.0		090.0-090.0	-36.9	12 dB/K DP
3)	14000.0000-14500.0000		NGSO		37.0-37.0		090.0-090.0	-39.9	15 dB/K DP
4)	10700.0000-12700.0000		NGSO		37.0-37.0		090.0-090.0		15 dB/K DP

D) Points of Communications

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

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- 1) Blanket UT (Fixed) to ONEWEB NGSO (S2963) (UK Licensed) [1200x1200 km @ 87.9° Incln, 18 planes beginning at 0° RAAN spaced every 10.2°]



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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)
Blanket UT (Fixed)	12 dB/K DP	300000	0.75	Intellian	OW70P-IT-001	0	0 AGL/ 0 AMSL	
Max Gains(s):		38.0 dBi @	14.2500 GHz	36.3 dBi @	11.7000 GHz			
Maximum total input power at antenna flange (Watts) =					1.15			
Maximum aggregate output EIRP for all carriers (dBW) =					38.60			
Blanket UT (Fixed)	15 dB/K DP	100000	1	Intellian	OW90P-IT-001	0	0 AGL/ 0 AMSL	
Max Gains(s):		41.0 dBi @	14.2500 GHz	39.3 dBi @	11.7000 GHz			
Maximum total input power at antenna flange (Watts) =					.58			
Maximum aggregate output EIRP for all carriers (dBW) =					38.60			

F) Remote Control Point:

Blanket UT (Fixed) 1785 Greensboro Station Place, Tower 3, Suite 500
McLean, Fairfax, VA 22102
(571) 336-8249

Call Sign:

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 (MyIBFS) using the "Pleadings and Comments" link on the MyIBFS homepage within 10 days of the change.

8 --- Licensee must notify the Commission when all earth stations operating under this authorization are no longer operational or when they have not been used to provide any service during any 6-month operation.



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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:

5689 --- Fixed, temporary fixed, and mobile earth terminals authorized under a VSAT or other blanket license shall comply, as appropriate, with the notification and advance consultation provisions of Section 25.203(e), (f), (g), and (i) with the installation of each individual earth terminal falling within the protected radio zones defined in 25.203. This portion of the FCC Rules and Regulations provide protection from harmful interference to certain sensitive radio facilities located within the USA. These protected facilities include the National Radio Astronomy Observatory at Green Bank, West Virginia (25.203(f); Arecibo Observatory, Arecibo, Puerto Rico (25.203(i)); the Department of Commerce's research laboratories located within the Table Mountain Radio Receiving Zone, Boulder County, Colorado (25.203(e)); and the Federal Communications Commission's monitoring stations (25.203(g)).

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.

90456 --- Reception of 12.2-12.7 GHz frequencies (space-to-Earth) in ITU Region 2 is allocated to Direct Broadcast Service (ITU as Broadcasting -Satellite Service and feeder link). This earth station is not operating as a Direct Broadcast Service (DBS) station and that it did not coordinate with DBS operators; therefore, operations in the 12.2-12.7 GHz is on a non-interference, non-protected basis over the U.S. and its territories.

90561 --- In the 10.7-11.7 GHz band, operations must be coordinated with the radio astronomy observatories listed in 47 CFR § 2.106, n.US131, to achieve a mutually acceptable agreement regarding the protection of the radio telescope facilities operating in the 10.6-10.7 GHz band For the purposes of coordination with these listed facilities or the National Radio Quiet Zone, correspondence should be directed to the National Science Foundation Spectrum Management Unit (Email: esm@nsf.gov).



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90632 --- The use of the bands 4500-4800 MHz (space-to-Earth), 6725-7025 MHz (Earth-to-space) by the fixed-satellite service shall be in accordance with the provisions of Appendix 30B. The use of the bands 10.7-10.95 GHz (space-to-Earth), 11.2-11.45 GHz (space-to-Earth) and 12.75-13.25 GHz (Earth-to-space) by geostationary-satellite systems in the fixed-satellite service shall be in accordance with the provisions of Appendix 30B. The use of the bands 10.7-10.95 GHz (space-to-Earth), 11.2-11.45 GHz (space-to-Earth) and 12.75-13.25 GHz (Earth-to-space) by a non-geostationary-satellite system in the fixed-satellite service is subject to application of the provisions of No. 9.12 for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite systems in the fixed-satellite service shall not claim protection from geostationary-satellite networks in the fixed-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-geostationary-satellite systems in the fixed-satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No. 5.43A does not apply. Non-geostationary-satellite systems in the fixed-satellite service in the above bands shall be operated in such a way that any unacceptable interference that may occur during their operation shall be rapidly eliminated. 47 C.F.R. §2.106 International Footnote 5.441

90633 --- Additional allocation: in Region 1, the band 11.7-12.5 GHz, in Region 2, the band 12.2-12.7 GHz and, in Region 3, the band 11.7-12.2 GHz, are also allocated to the fixed-satellite service (space-to-Earth) on a primary basis, limited to non-geostationary systems and subject to application of the provisions of No. 9.12 for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite systems in the fixed-satellite service shall not claim protection from geostationary-satellite networks in the broadcasting-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-geostationary-satellite systems in the fixed-satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No. 5.43A does not apply. Non-geostationary-satellite systems in the fixed-satellite service in the above bands shall be operated in such a way that any unacceptable interference that may occur during their operation shall be rapidly eliminated. 47 C.F.R. §2.106 International Footnote 5.487A.



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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.