

**EXPERIMENTAL LICENSE APPLICATION**  
**NARRATIVE STATEMENT**

- (1) Name, address, phone number (also e-mail address and facsimile number, if available) of the applicant.**

If there are any questions regarding this application, please contact:

Mariah Shuman  
Head of Regulatory Affairs, Americas  
OneWeb  
1785 Greensboro Station Place  
Tower 3, Floor 8  
McLean, VA 22102  
E-mail: mariah@oneweb.net  
Phone: (703) 731-0691

- (2) Description of why experimental authorization is needed.**

WorldVu Satellites Limited (“OneWeb”) is a U.S. market access grantee for a U.K.-authorized, non-geostationary fixed-satellite system (the “OneWeb FSS System”) that will operate in low-earth orbit (“LEO”) utilizing the Ku- and Ka-bands.<sup>1</sup>

OneWeb will launch its first satellites in Q1 2019 and is deploying the necessary ground infrastructure to support the launch and operation of its LEO constellation. OneWeb recently filed applications with the International Bureau to license Ka-band gateway earth station facilities in: Talkeetna, Alaska; Southbury, Connecticut; and Clewiston, Florida.<sup>2</sup> OneWeb submits the instant application to obtain experimental authority for testing and evaluation of the operational characteristics of seventy-five (75) Ku-band earth stations listed below and on the associated Form 442 experimental license application.

Grant of this application will enable OneWeb to assess the performance of the ground equipment that will communicate with its LEO constellation.

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<sup>1</sup> See *WorldVu Satellites Limited, Petition for a Declaratory Ruling Granting Access to the U.S. Market for the OneWeb NGSO FSS System*, Order and Declaratory Ruling, 32 FCC Rcd 5366 (2017) (“OneWeb Market Access Grant”).

<sup>2</sup> See IBFS File Nos. SES-LIC-20180604-01082 (Call Sign E180620), SES-LIC-20180727-02075 (Call Sign E181293), and SES-LIC-20180727-02076 (Call Sign E181294).

**(3) Description of the operation to be conducted and its purpose.**

OneWeb seeks blanket experimental authority to test and validate the performance characteristics of earth stations in the United States (described in Question 7 below). This testing will also allow OneWeb to ensure these earth stations operate seamlessly with OneWeb's LEO constellation.

For all operations, OneWeb will comply with the radiofrequency radiation exposure limits in 47 CFR § 1.1310 and all recommended measures in OET Bulletin 65. All proposed operations involving these earth stations will be conducted by OneWeb on a non-interference basis in the Ku-band. These operations will also be consistent with OneWeb's existing and future coordination agreements with other satellite operators.

**(4) Time and dates of proposed operation.**

OneWeb requests a blanket license for two years, commencing on April 1, 2019 and ending April 1, 2021.

**(5) Class(es) of station (fixed, mobile, fixed and mobile) and call sign of station (if applicable).**

The earth stations will operate in fixed mode.

**(6) Description of the location(s) and, if applicable, geographical coordinates of the proposed operation.**

United States

**(7) Transmit equipment to be used, including name of manufacturer, model, and number of units.**

12 dB/K Dual Parabolic  
Intellian Technologies  
WE12A-OW2010  
50 units

15 dB/K Dual Parabolic  
Intellian Technologies  
WE15A-OW2020  
25 units

Each earth station will include two, technically identical antennas.

**(8) Frequencies desired.**

Transmit: 14.0-14.5 GHz  
Receive: 10.7-12.7 GHz

The OneWeb Market Access Grant authorizes the OneWeb FSS System to transmit and receive in these frequencies within the United States.<sup>3</sup>

**(9) Maximum effective radiated power (ERP) or equivalent isotropically radiated power (EIRP) and output power.**

	Single Carrier		Dual Carrier	
<b>EIRP</b>	35.6	dBW	38.6	dBW
<b>ERP</b>	2.22	kW	4.42	kW
<b>12 dB/K Output Power</b>	0.58	W	1.15	W
<b>15 dB/K Output Power</b>	0.29	W	0.58	W

**(10) Emission designator (see §2.201 of this chapter) or describe emission (bandwidth, modulation, etc.).**

Single Carrier: 2M40G7D – 20M0G7D  
Dual Carriers: 4M80G7D – 40M0G7D

The earth stations utilize Adaptive Code Modulation.

**(11) Overall height of antenna structure above the ground (if greater than 6 meters above the ground or an existing structure, see part 17 of this Chapter concerning notification to the FAA).**

The overall height of the antennas above ground (or above existing structures) will not exceed 6 meters.

<sup>3</sup> OneWeb Market Access Grant at ¶ 1.

**(12) Supplemental Technical Data for Antenna Registration.**

Modulating Signal

Adaptive Code Modulation using QPSK, 8PSK, 16QAM, 32QAM, or 64QAM modulations and variable coding rates.

Directional Antenna

<b>Intellian Dual Parabolic</b>	<b>Beam width in degrees at the half power point</b>	<b>Orientation in Horizontal Plane</b>	<b>Orientation in Vertical Plane</b>
<b>12 dB/K</b>	< 3.0	0° – 360°	30° – 90°
<b>15 dB/K</b>	< 2.4	0° – 360°	30° – 90°

**(13) Response to Form 442, Question 14**

Out of an abundance of caution, OneWeb discloses that on July 30, 2018, the Office of Engineering & Technology dismissed (without prejudice) an application filed by OneWeb for experimental authority to test certain earth station types.<sup>4</sup> OneWeb plans to expeditiously resubmit this application to the Commission.

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<sup>4</sup> See OET File No. 0111-EX-CN-2018.