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**REQUEST FOR EXPERIMENTAL SPECIAL TEMPORARY AUTHORITY**  
**NARRATIVE STATEMENT**

**(1) Contact Information**

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

Name: Blake Wiles  
Title: Market Access Manager, North America  
Mailing Address: 1785 Greensboro Station Place, Tower 3, McLean, VA 22102  
Email Address: regulatorylicensing@oneweb.net  
Phone: (571) 814-3115

**(2) Explanation of why Experimental Authorization is Needed**

WorldVu Satellites Limited (“OneWeb”) seeks special temporary authority for 6 months to test connectivity between compact electronically steerable antennas (“ESA”) user terminals using the operational satellites of the OneWeb non-geostationary, fixed-satellite service (“NGSO FSS”) constellation.<sup>1</sup> This temporary authority is meant to cover operations while the associated application for conventional experimental authority is pending.<sup>2</sup>

Grant of the requested special temporary authority will allow OneWeb to highlight the maximum operational capabilities of OneWeb’s NGSO FSS network prior to commencing commercial service.

**(3) Description of Operations to be Conducted and its Purpose**

OneWeb seeks special temporary authority to test and validate the performance characteristics of the compact ESA user terminals at specific locations in the United States, specified in Section 6 of this narrative. These over-the-air tests will be conducted using satellites in OneWeb’s authorized NGSO FSS constellation for the purpose of demonstrating multiple functions of the antenna, including: (i) tracking and connectivity capabilities, (ii) handover between satellites; (iii) half-duplex operation and time synchronization; and (iv) throughput speed versus modulation. Completion of these tests will enable OneWeb to optimize these experimental compact ESAs, thereby benefiting its customers around the world.

For all operations, OneWeb will comply with the radiofrequency radiation exposure

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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).

<sup>2</sup> See ELS File No. 0843-EX-CN-2021.

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.

**(4) Time and Dates of Proposed Operation**

OneWeb requests special temporary authority for a period of 6 months, commencing 10 days after filing.

**(5) Classes of Station**

Fixed

**(6) Description of the Locations**

OneWeb US office:

- 1785 Greensboro Station Place, Tower 3, McLean VA 22102  
Lat: 38° 55' 18.8"N; Long: 77° 13' 59.8"W

Intellian Maryland office:

- Suite 100A, 6700 Rockledge Dr. Bethesda, MD 20817  
Lat: 39° 1' 41.4"N; Long: 77° 8' 7.1"W

Collins Aerospace offices:

- 400 Collins Road NE Cedar Rapids, IA 52402  
Lat: 42° 1' 55"N; Long: 91° 38' 53"W
- 795 W. NASA Blvd., Melbourne, FL 32901  
Lat: 28° 5' 31"N; Long: 80° 38' 5"W
- 7100 Columbia Gateway Dr, Columbia, MD 21046  
Lat: 39° 10' 28"N; Long: 76° 48' 22"W

Hughes Network Systems offices:

- 100 Lakeforest Blvd, Gaithersburg, MD 20877  
Lat: 39° 9' 8.1"N; Long: 77° 12' 32.5"W
- 11717 Exploration Lane, Germantown, MD 20876  
Lat: 39° 10' 44"N; Long: 77° 14' 54"W

OneWeb SNP sites:

- 2120 River Road, Southbury, CT 06488  
Lat: 41° 27' 5.7"N; Long: 73° 17' 22"W
- 400 Air Glades Blvd, Clewiston, Florida 33440  
Lat: 26° 44' 52.5"N; Long: 81° 2' 56.9"W
- 21518 (Mile 3) South Comsat Road, Talkeetna, Alaska 99676  
Lat: 62° 19' 58.8"N; Long: 150° 1' 53.7"W

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

Manufacturer: Intellian Technologies  
 Model: Compact ESA  
 Number of Units: 60

- (8) **Requested Frequencies**

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

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

| Single Carrier        | EIRP     | ERP       | Output Power      |
|-----------------------|----------|-----------|-------------------|
| Intellian ESA Antenna | 33.6 dBW | 31.45 dBW | -1.4 dBW (0.725W) |

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

Emission Designator: 20M0G1D  
 Transmit bandwidth: 2.16 – 20 MHz  
 Modulation: QPSK, 8PSK, and 16QAM  
 Frequency Tolerance (+/-): 0.0000007 %

- (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 5 meters.

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

| Parameters                      |                  | Ku-band Antenna           |
|---------------------------------|------------------|---------------------------|
| Beam Width at Half Power Point  | Horizontal Plane | 3.0° at 14.25 GHz         |
|                                 | Vertical Plane   | 3.0° to 3.4° at 14.25 GHz |
| Orientation in Horizontal Plane |                  | 0° – 360°                 |
| Orientation in Vertical Plane   |                  | 37° – 90°                 |
| Antenna Size                    | Diameter         | 0.43 m                    |

Modulating Signal: QPSK, 8PSK, and 16QAM

**(13) Point of Contact for Tests**

In the event any harmful interference has been identified in relation to these tests, the point of contact who can immediately cease operations of the experimental ESA terminals is as follows.

Name: Peter Hou  
Title: Sr. Director  
Phone: 240-722-9462  
Email: peter.hou@intelliantech.com