EXHIBIT 1
ELS File No. 1347-EX-ST-2021, Call Sign WS9XOU
Description of Experiment (August 19, 2021)

DESCRIPTION OF EXPERIMENT

Introduction

AURA Network Systems OpCo, LLC ("AURA") seeks special temporary authority ("STA") for six months to use 454.675-454.975 MHz and 459.675-459.975 MHz, which are associated with the general aviation air-ground radiotelephone service ("AGRAS"),[1] in order to test different radio configurations on the ground and in the air at varying altitudes up to 20,000 feet.

Purpose and Technology

The tests will allow AURA, working with the University of Iowa, to determine the most effective combination of equipment and network parameters to securely and reliably enable voice, data, and navigation capabilities for manned aircraft in different conditions and at different altitudes in Iowa City, IA.[2] Testing will occur in the air on manned aviation aircraft.

AURA proposes to commence testing on September 2, 2021,[3] and anticipates that testing will take place over six months on an intermittent basis at the Iowa City location listed in this application. The radius of operations will be limited to 49.7 miles (80 kilometers).

AURA understands that use of the requested frequencies pursuant to an experimental authorization is limited for the purposes of testing radio equipment at the location.

Transmitting Equipment and Antenna

For its experiments, AURA will utilize software-defined radios operating a 802.16-based air interface and an ultra high frequency ("UHF") omnidirectional antenna using vertical polarization. The equipment was built by Ondas Networks Inc., a California-based wireless networking company that designs and manufactures radios for mission critical applications.[4]

The antenna's tip will be 8.9 meters above the ground. The ground elevation at the antenna site is 197 meters above mean sea level. The antenna is located on the roof of a hangar at the Iowa City Municipal Airport. The distance to the nearest aircraft landing area – the airport's smaller runway – is approximately 280 meters. The antenna's location is approximately 400 meters from the airport's larger runway. As shown in the photograph below, other hangars are located between the antenna's location (as indicated by the diamond) and both runways. Therefore, the antenna creates no hazard for aircraft.

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[1] *See* 47 C.F.R. § 22.805.

[2] *See* 47 C.F.R. § 5.3(j) ("Stations operating in the Experimental Radio Service will be permitted to . . . [d]evelop[] radio technique, equipment, operational data or engineering data, including field or factory testing or calibration of equipment, related to an existing or proposed radio service.").

[3] The proposed date is at least 10 days after the filing of this application, consistent with Commission rules. *See* 47 C.F.R. § 5.61(a)(2) ("Applications for STA must be submitted . . . at least 10 days prior to the proposed operation.").

[4] Ondas Networks, *Company Overview*, https://www.ondas.com/company-overview/ (last visited Aug. 18, 2021).

Frequencies

AURA already has primary use of the AGRAS spectrum via its *de facto* transfer lease of KUC941,[5] which is located roughly 61 miles away (113 kilometers). The Commission's rules prohibit other parties from licensing the requested spectrum for primary use at nearby locations,[6] eliminating the risk of harmful interference to co-channel users.

Location of Operations

The tests will occur from the transmitters' location at Iowa City Municipal Airport, 1801 Riverside Drive, Iowa City, IA 52246.[7]

Stop Buzzer

At all times when the transmitters are in use, AURA will maintain a single point of control and stop buzzer capability. The stop buzzer contact will be capable of addressing interference concerns and resolving any harmful interference through any and all available means.

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[5] *See* Call Sign KUC941, Lease ID L000040286 (*de facto* transfer lease of KUC941 from A2G Communications LLC to AURA).

[6] *See* 47 C.F.R. § 22.813(a) (imposing distance separation requirements of 497 miles for co-channel authorizations).

[7] The precise coordinates are provided in the FCC form for this STA.

The stop buzzer contact information is:

Name:	Michael Gagne
Telephone:	(240) 508-6220
Email:	mgagne@auranetworksystems.com

Interference Protection and Deference to Licensed Users

AURA has exclusive use of the requested channels in this area, eliminating the risk of harmful interference to co-channel users,[8] and commits to respecting adjacent-band users. Should any interference occur as a result of its experiments, AURA will take immediate steps to resolve the interference, including discontinuing operations, if necessary.

Request for Waiver

AURA requests a waiver of the station identification requirements in Section 5.115 of the Commission's rules.[9] Grant of the requested waiver will serve the public interest by allowing AURA to determine the most effective combination of equipment and network parameters to securely and reliably enable voice, data, and navigation capabilities for manned aircraft in different conditions and at different altitudes.

[8] *See* Call Sign KUC941, Lease ID L000040286; *see also* 47 C.F.R. § 22.813(a).

[9] 47 C.F.R. § 5.115.