

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 conduct market trials using manned aircraft.²

Purpose and Technology

An experimental STA will allow AURA to test its radios with manned aircraft at the three locations in Texas described below.³ Testing will be performed in the air and on the ground.

AURA proposes to commence testing on November 29, 2021, and anticipates that testing will take place over six months on an intermittent basis at the three locations listed in this application.⁴ The radius of operations will be limited to 100 miles (160.93 kilometers).

AURA understands that use of the requested frequencies pursuant to an experimental authorization is limited to conducting its market trials.⁵

Transmitting Equipment and Antenna

AURA will utilize no more than six software-defined radios operating a 802.16-based air interface across all three locations. The radios were built by Ondas Networks Inc., a California-based wireless networking company that designs and manufactures radios for mission critical applications.⁶

The antennas will be placed on the mast of a trailer or on buildings near the airfields. In no instance will the antennas extend more than 19.685 feet (6 meters) above an existing structure.⁷ Additionally, radios will be placed on manned aircraft.

¹ See 47 C.F.R. § 22.805.

² See 47 C.F.R. §§ 5.6(k), 5.602.

³ See 47 C.F.R. § 5.3(k) (“Stations operating in the Experimental Radio Service will be permitted to conduct . . . market trials.”); 47 C.F.R. § 2.803(c)(1) (permitting marketing activities “conducted under market trials pursuant to subpart H of part 5 of this chapter”).

⁴ 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.”).

⁵ See 47 C.F.R. § 5.602.

⁶ Company Overview, Ondas Networks, <https://www.ondas.com/company-overview/> (last visited Nov. 11, 2021).

⁷ 47 C.F.R. § 5.61(b)(11)

Frequencies

AURA already has primary use of the AGRAS spectrum via *de facto* transfer leases of spectrum licensed to A2G Communications, LLC.⁸ The Commission's rules prohibit other parties from licensing the requested spectrum for primary use at nearby locations,⁹ reducing the risk of harmful interference to co-channel users.

Location of Operations

The market trials will occur within the radius of operations at the following locations:

	Address	City	State	ZIP	Latitude	Longitude
1.	Wrangler Field	Graford	TX	76449	32° 53' 35.3" N	98° 14' 01.7" W
2.	Bell Plant #2	Hurst	TX	76053	32° 48' 11.3" N	97° 09' 50.2" W
3.	16501 Victory Cir.	Fort Worth	TX	76247	33° 02' 48.5" N	97° 17' 38.0" W

Stop Buzzer

At all times in which 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.

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, reducing the risk of harmful interference to co-channel users,¹⁰ 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.

⁸ See e.g., Call Sign KWT848, Lease No. L000040311 (granted Dec. 24, 2019) (located in Plano, TX, which is 108 miles from the Graford location and less than 40 miles from the Hurst and Fort Worth locations requested in this application).

⁹ See 47 C.F.R. § 22.813(a) (imposing distance separation requirements of 497 miles for co-channel authorizations).

¹⁰ See e.g., Call Sign KWU424, Lease No. L000040300; see also 47 C.F.R. § 22.813(a).

Request for Waiver

AURA requests a waiver of the station identification requirements in Section 5.115 of the Commission's rules.¹¹ 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 data and navigation capabilities for aircraft as part of this market trial.

¹¹ 47 C.F.R. § 5.115.