

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 autonomous flight systems at varying altitudes up to 20,000 feet above mean sea level (“MSL”).²

Purpose and Technology

An experimental STA will allow AURA to test its radios with autonomous aircraft in Cartersville, GA.³ Testing will be performed in the air and on the ground.

AURA proposes to commence testing on October 11, 2021, and anticipates that testing will take place over six months on an intermittent basis from the Cartersville Airport in Cartersville, GA.⁴ 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 to conducting its market trials.⁵

Transmitting Equipment and Antenna

AURA will utilize no more than ten software-defined radios operating an 802.16-based air interface. 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 a building near the Cartersville Airport. 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 autonomous 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) (“The following marketing activities are permitted . . . 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 July 8, 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 location:

Address	City	State	ZIP	Latitude	Longitude
202 Dallas Hwy SW	Cartersville	GA	30120	34° 07' 11.7" N	84° 51' 05.2" 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.

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 autonomous aircraft as part of this market trial.

⁸ See *e.g.*, Call Sign KSW213, Lease No. L000040283 (granted Dec. 24, 2019) (located in Norcross, GA, which is about 35 miles from the location 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 KSW213, Lease No. L000040283; *see also* 47 C.F.R. § 22.813(a).

¹¹ 47 C.F.R. § 5.115.