

STATEMENT ACCOMPANYING REQUEST FOR EXPERIMENTAL AUTHORIZATION OF ACADEMI, LLC

1. Introduction

By this application, Academi, LLC (Academi), requests that the Commission grant an experimental authorization to operate facilities within the 1670-1675 MHz band in Moyock, North Carolina. The proposed site is detailed in the attached Form 442. In this statement, we explain the purpose of the request and why this application is within the Commission's experimental authorization rules.

2. Purpose

The purpose of the Moyock experiments is to pursue analysis and information to further aerial surveillance supporting commercial and public agriculture and other airspace integration research of small unmanned aircraft systems (sUAS). Real-time full motion video via sUAS technologies can assist in providing information for analysis addressing crop health, soil condition, variances across vegetation, water access and drainage, harmful insects and nutritional deficiencies in challenged locations and other factors contributing to effective production and harvesting.

The purpose is also to pursue analysis and information furthering the availability of sUAS technologies for homeland security and other law enforcement responsibilities. The experimental authorization will seek to show how that the technology can make a meaningful contribution to domestic security and emergency response at meaningful cost efficiencies.

3. Technology Use

The experiments engage a model using a frequency segment aligning with technology and equipment currently available. Academi commits to operations respecting other users of the band and those in adjacent segments. The limited power levels proposed reflect this commitment. Academi thinks that bringing these advanced services to the responsibilities noted serves the public interest. The 1670-1675 MHz channels provide sUAS control and video and telemetry transmission from the sUAS to the ground. Slots are dedicated for uplink data and a downlink.

There will be only one sUAS vehicle airborne at any given time. Operations will be limited to 457 meters AGL and below. The sUAS will remain within 6.4 km of the exercise center point. Operations will be confined to a Federal Aviation Administration's (FAA) Certificate of Authorization (COA) area.

4. Nature of Operations

Surface Based and Airborne Transmission

Academi proposes to use AeroVironment's communications module, Digital Data Link (DDL), that can operate within the 1670-1675 MHz band segment for purposes of sending ground based command and control data to and from the SUAS and to transmit video and telemetry to the ground control station. The technology, capable of operating within 1625-2390 MHz, requires 4 MHz for full motion video and a 1 MHz channel for video at 15 frames per second. Emission Designators are 4M68G7W and 1M56G7W, respectively with a transmit power at 10W. Transmission control will be from the surface control station to the SUAS via a laptop or console. AeroVironment's DDL system is the US Army's standard communications architecture for all small unmanned systems, including ground robots.

5. Stop Buzzer

Doug Cherrix, will be available by telephone at 252.435.1723, Mobile Phone 252.207.6282 and will act as a "stop buzzer" if any matters involving interference arise during the testing. Mr. Cherrix electronic mail address is dcherrix@academi.com

6. Transmitting Equipment

The transmitting equipment is AeroVironment Transreceiver Model 50280, with 2 units at the location. It is not experimental.

7. Antenna

The Antenna details have not changed from the current authorization and are as follows:

Antenna	Gain (Nominal)	Polarization	Orientation in Vertical Plane	Oriental in Horizontal Plane
GCU Antenna ASY AeroVironment Stack Patch	9dbi*	Vertical	30	85
1670-1675 MHz Tailboom ASSY AeroVironment Dipole	2dbi	Vertical	78	360

*Major Side Lobe

- E-Plane
 - Gain: -2 dbi
 - 120 deg
- H- Plane
 - Gain: -2 dbi
 - 179 deg

8. Restrictions on Operations and Interference Protection

Academi understands that experimental operations must not cause harmful interference to authorized facilities. Should any interference occur, Academi will take immediate steps to resolve the interference, including, if necessary, discontinuing operations.

9. Waiver of Station Identification Requirements

Academi requests a waiver of the station identification requirements stated in Section 5.115 of the Commission's rules.

10. Federal Aviation Administration (FAA) Certificate of Waiver Authorization (COA)

Academi understands that no operations are to take place without an appropriate FAA approved COA.

11. Diagram

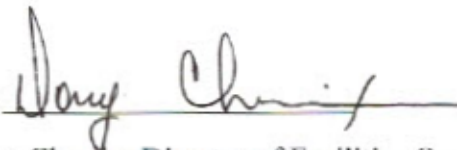
A diagram and maps of the proposed operations is provided in the Attachment.

Conclusion

Academi appreciates very much the Commission's consideration of this application for an Experimental Authorization. Please call upon us if we can respond to any questions.

Respectfully submitted,

Academi, LLC

By: 

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Date: