

STATEMENT ACCOMPANYING REQUEST FOR SPECIAL TEMPORARY AUTHORITY EXPERIMENTAL AUTHORIZATION BY AEROVIRONMENT, INC.

1. Introduction

By this application, AeroVironment, Inc. (AeroVironment), requests that the Commission grant Special Temporary Authority for a 30 days period to operate facilities at frequency 1377.5 MHz at Edwards Air Force Base, Kern County, California. The experiments will be conducted on an intermittent basis for a 30 day duration, subject to the coordination and control of Edwards AFB Spectrum Management and Edwards AFB Operational Units. AeroVironment will comport with all processes and procedures.

The experiments are in continued support of a US Army Security Assistance Command's (USASAC) project involving the use of 1377.5 MHz for SUAS downlink video and telemetry transmission relating to the Government of Uzbekistan.

This application, although new, replicates previous authority, which has now expired. In Files No. 0322-EX-ST-2015 and 0923-EX-ST-2015, the Commission granted authority, WI9XKH, for a period commencing March 30 and terminating May 1, 2015 and WI9X2L, for a period commencing September 10, 2015 and terminating October 10, 2015. We have coordinated this new request with the Federal Aviation Administration (FAA); its statement is attached. AeroVironment renews its commitment to comport with the FAA's directions and policies.

The reason underlying this application is to continue to evaluate the technology in the context of the requirements of the Government of Uzbekistan. All the technical, location and height metrics will remain the same.

In this statement, we review the purpose and nature of the proposed operations and why this application is within the Commission's experimental authorization rules. We provide the information required by the Commission's rules.

2. Purpose

The purpose of the experiments is to provide analysis and information relating to the provision of small unmanned aircraft system (SUAS) technologies in support of USASAC's responsibility to manage security assistance programs and Foreign Military Sales. The analysis and information is directed to a USASAC project involving the Government of Uzbekistan. AeroVironment has contractual relationships with the US Army and other US military services.

The experimental authorization will be used to demonstrate the video-telemetry technology and how it contributes to security and emergency response requirements at significant cost efficiencies. The experimental work will make possible the provisioning of the revised requirements in an expeditious manner.

3. Technology Use

AeroVironment SUAS technology provides real-time direct situational awareness. The system's communications platform features air vehicles (SUAS), a ground control unit and support equipment. The AV can be controlled manually or can autonomously navigate a preplanned route. AeroVironment's SUAS technology is directed to assist national security and emergency response responsibilities. The experiments embrace a model using a spectrum segment available to and authorized for the user agency. The requested band segment aligns with technology and equipment currently available.

AeroVironment commits to operations respecting other users of the band and those in adjacent segments. The limited power levels proposed and the short term intermittent use are part of this commitment. The project supports the US Army Security Assistance Command and serves the public interest.

The frequency located at 1377.5 MHz will be for purposes of SUAS control and video and telemetry transmission from the SUAS to the ground.

The proposed location is within Department of Defense Restricted Air Space operations at Edwards Air Force Base, Kern County, California, with a radius of 30 km of the center point, not to exceed 305 meters AGL.

4. Purpose and Nature of Operation

Airborne Transmission

The segment 1377.5 MHz will send command and control data from the SUAS and transmit NTSC video and telemetry to the ground control station with FSK modulation. Emission Designator 14M8F9W with a transmit power at 1.5 W is proposed. Transmission control will be from the ground control station to the SUAS via a laptop or consul. The SUAS will not exceed 305 meters AGL.

5. Stop Buzzer

Andy Thurling, Chief Test Pilot and Director, Product Safety and Mission Assurance, AeroVironment, will be available by telephone at 805.581.2198, extension 1892 or mobile phone 805.368.6351, and will act as a "stop buzzer" if any matters involving interference arise during the testing.

6. Transmitting Equipment

Manufacturer	Model	Quantity	Experimental
L3 Communications	VNTXL-2A/SC232	2	No

7. Antenna

The following details Antenna information:

Antenna Frequency Segment	Gain (Main Beam)	Polarization	Orientation in Vertical Plane	Orientation in Horizontal Plane
1377.5 MHz AeroVironment PN 55018	2.2 dbi	Vertical	78 deg	360 deg

8. Restrictions on Operations and Interference Protection

AeroVironment understands that experimental operations must not cause harmful interference to authorized facilities. Should any interference occur, AeroVironment will take immediate steps to resolve the interference, including if necessary, arranging for the discontinuance of operations.

9. Waiver of Station Identification Requirements

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

10. Diagram

A diagram of the proposed operations follows.

Conclusion

AeroVironment appreciates very much the Commission's, the NTIA, FAA, DoD, the Owens Valley Radio Observatory and other agencies' consideration of its application and the cooperation of concurring agencies for an Experimental Authorization. Please call upon us if we can respond to any questions.

Operations Diagram



Small Unmanned Aircraft-

Command and
Control Data
Video and
Telemetry
1377.5 MHz



Coordination by the Federal Aviation Administration

John E. Logan

From: Kevin.Yazawa@faa.gov
Sent: Monday, November 09, 2015 2:27 PM
To: johnelogan@jelogan.com
Cc: Sydney.Bradfield@faa.gov; james.motley@faa.gov
Subject: RE: AeroViroment- Renewed Request to Use 1377.5 MHZ- STA- FCC

Mr. Logan: Request for Extension of STA submitted. You should be hearing back from us very soon on its approval.

Kevin T. Yazawa
Frequency Management Officer
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100 Sparks Dr.
Edwards AFB, CA 93523

From: John E. Logan [mailto:johnelogan@jelogan.com]
Sent: Monday, October 19, 2015 7:43 AM
To: Yazawa, Kevin (FAA)
Cc: Bradfield, Sydney (FAA); Motley, James (FAA)
Subject: AeroViroment- Renewed Request to Use 1377.5 MHZ- STA- FCC

Hello Mr. Yazawa-

Recall you and your colleagues assisted earlier this year in helping us secure grants for two identical 30 day STAs for 1377.5 MHz. We find ourselves needing to ask for an extension, which we hope does not burden you and your colleagues. The purpose of the tests remains the US Army Security Assistance Command's (USASAC) project using 1377.5 MHz as the small unmanned aircraft (SUAS) downlink video and telemetry transmission for the end user- the Government of Uzbekistan.

During the September-October testing, challenges were encountered in meeting customer requirements. Since the STA expiration earlier this month, we have worked to resolve the challenges and expect to be able to retest in January 2016. As i think we related before, the end customer participates in the test, part of our effort is coordinating their schedule. The test's purposes continue to be to discern the SUAS technology's performance within the updated requisites.

We sought to avoid this additional STA request, yet this is the dilemma we face. Would you please consider this request for FAA concurrence as to a FCC experimental 30 day STA application to use 1377.5 MHz on an intermittent basis at Edwards AFB? We propose to commence the tests on January 18, 2016 and to complete by February 19, 2016. None of the technical elements relating to radio transmissions have changed. The application draft is attached for your review.

We appreciate very much all your help, and understanding, thank you for the consideration. Please let us know any questions.

john

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