

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 to operate at frequency segment 2380-2385 MHz at its facilities in Simi Valley, Ventura County, California. The experiments are proposed to be conducted on an intermittent basis short periods of time from August 24, 2015 through February 5, 2016.

The experiments relate to conducting Acceptance Test Procedures (ATP) in the spectrum segment 2380-2380 MHz for small unmanned aircraft system (SUAS) technology uplink command and control and downlink video and telemetry transmissions. These tests relate to provisioning the technology to the Government of Saudi Arabia for national security and public safety purposes. All export and related controls will be adhered to.

This application includes coordination with the Aerospace & Flight Test Radio Coordinating Council (AFTRCC), which is provided via separate attachment. AeroVironment accepts and commits to adhering to the conditions noted in the AFTRCC coordination.

In this statement, we explain 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. We also ask for Expedited Consideration.

2. Request for Expedited Consideration

AeroVironment faces challenges due to scheduled travel itinerary of individuals critical to participating in and reviewing the experiments and the results that ensue. These individuals will have operational responsibility of the SUAS. The Commission's, NTIA, Department of Defense, AFTRCC and other agency cooperation, review and assistance is appreciated.

3. Purpose

The purpose of the experiments is to provide analysis and information relating to the provision of small unmanned aircraft system (SUAS) technologies. In particular, the SUAS technology will be tested for performance metrics in the 2380-2385 MHz spectrum segment, which is not one of the frequency bands it has previously been tested to operate within.

The experimental authorization will be used to demonstrate that the video-telemetry technology can make a meaningful contribution to security and emergency response requirements at significant cost efficiencies. The experimental work will provide insight as to necessary adjustments and make possible the provisioning of the technology in an expeditious manner.

4. Technology Use

AeroVironment's SUAS technology provides real-time direct situational awareness. The system's communications platform features air vehicles, a ground control unit and support equipment. The AV can be controlled manually or can autonomously navigate a preplanned route. The experiments embrace a model using a spectrum segment available to and authorized for the user.

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 frequency located at 2380-2385 MHz MHz will be for purposes of SUAS control and video and telemetry transmission from the SUAS to the ground.

The proposed locations are within a Certificate of Authorization (COA) of the Federal Aviation Administration at AeroVironment's facilities in Simi Valley, California. Access to the locations is controlled and limited. Operations will be within 12 km of the center point, not to exceed 152 meters AGL. Not more than one SUAS will be airborne at any one time.

5. Purpose and Nature of Operation

Airborne Transmission

The segments 2380-2385 MHz MHz will send command and control data from the SUAS and transmit NTSC video and telemetry to the ground control station with modulation SO-QPSK. Emission Designators 4M68G7W and 1M56G7W, with a transmit power of 10 w, are proposed. Transmission control will be from the ground control station to the SUAS via a laptop or consul.

6. 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.

7. Transmitting Equipment

Manufacturer	Model	Quantity	Experimental
AeroVironment	50280	2	No

8. Antenna

The following details Antenna information:

Antenna Frequency Segment	Gain (Main Beam)	Polarization	Orientation in Vertical Plane	Orientation in Horizontal Plane
GCU Antenna ASSY AeroVironment Stack Patch	9 dbi*	Vertical	30 deg	85 deg

*1st Major Side Lobe

E-Plane

- Gain: -2 dBi
- Degrees: 120 deg

H-Plane

- Gain: -2 dbi
- Degrees: 179 deg

9. 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, discontinuing operations.

10. Waiver of Station Identification Requirements

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

11. Diagram

A diagram of the proposed operations and contour follows.

Conclusion

AeroVironment appreciates very much the Commission's, NTIA's, Department of Defense, AFTRCC's and other agencies' consideration, and the cooperation of concurring agencies, in reviewing this Experimental Authorization application. Please call upon us if we can respond to any questions.

Operations Diagram

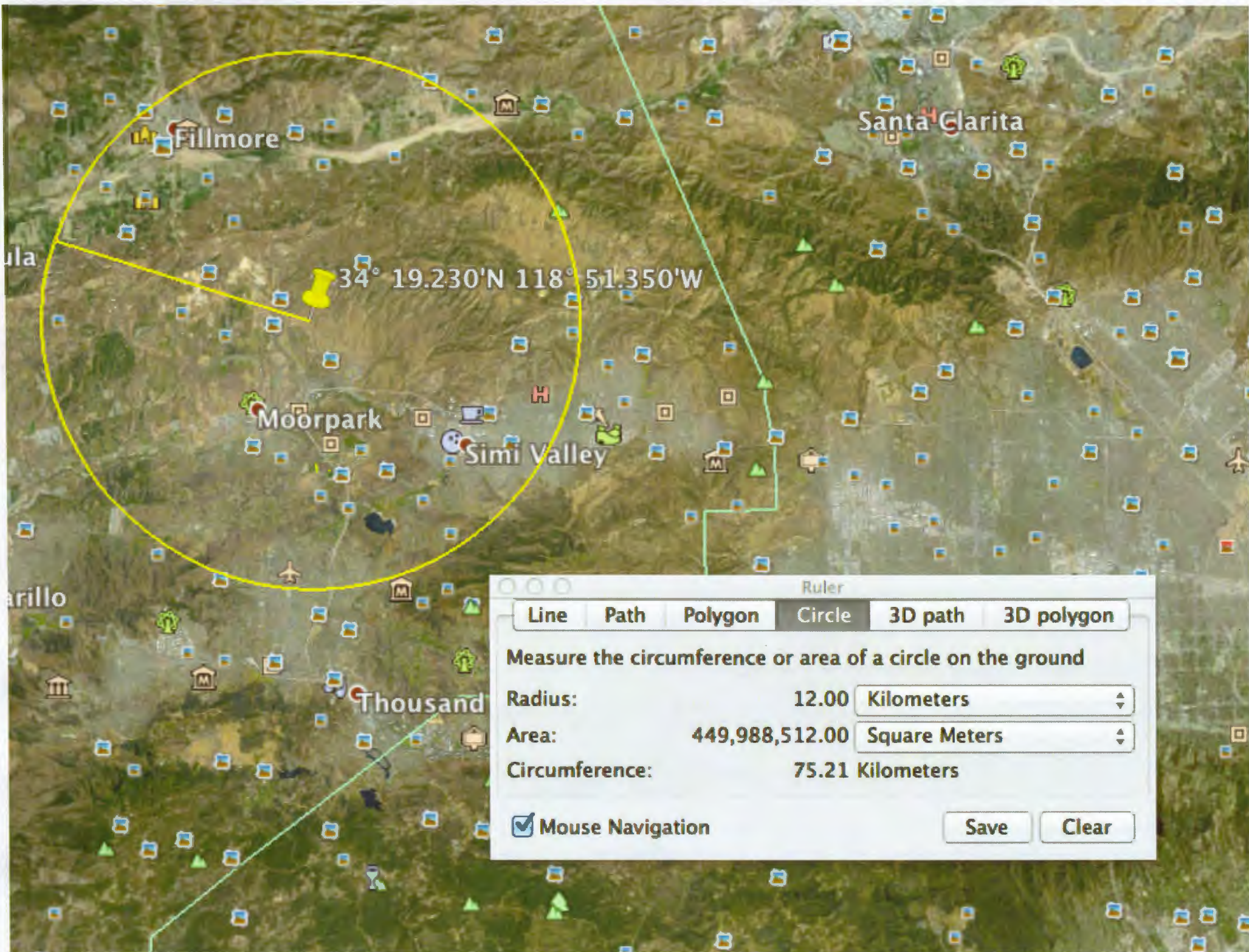


Small Unmanned Aircraft-

Command and
Control Data
Video and
Telemetry
1377.5 MHz



LOCATION CONTOUR



Ruler

Line Path Polygon Circle 3D path 3D polygon

Measure the circumference or area of a circle on the ground

Radius: 12.00 Kilometers

Area: 449,988,512.00 Square Meters

Circumference: 75.21 Kilometers

☒ Mouse Navigation

Save Clear