

EXPERIMENTAL PROGRAM DESCRIPTION

FCC Form 442 – Question 7 Exhibit

Applicant: Firestorm Labs, Inc.

1. Purpose of Experimental Program

Firestorm Labs, Inc. is requesting authorization under Part 5 of the FCC Rules to support experimental flight testing and evaluation of unmanned aircraft systems (UAS) and associated operational capabilities. The requested experimental authorization will enable testing of aircraft systems, flight operations, command and control links, telemetry, payload data links, and associated communications architectures required to support aircraft development and validation.

The experimental radio operations requested under this application are an enabling component of the broader aircraft test and evaluation program. The purpose of the communications systems is to provide reliable data connectivity between aircraft, ground control systems, test equipment, and operational personnel during controlled flight testing and system evaluation activities.

The communications systems include commercially available radio equipment integrated into Firestorm aircraft platforms and ground systems.

2. Equipment Description and Theory of Operation

The proposed systems utilize digital broadband communications equipment which support the requested frequency ranges. The equipment provides bidirectional communications between airborne platforms and ground-based systems, supporting functions including command and control, telemetry, payload data transmission, aircraft monitoring, and test data collection.

The requested authorization includes multiple bandwidth configurations and frequency ranges to allow evaluation of communications performance under different aircraft configurations, operational environments, and mission profiles. Testing may include assessment of throughput, latency, reliability, interference tolerance, range, link performance, and operational suitability.

Operations will be conducted using fixed ground locations and mobile airborne operations associated with Firestorm aircraft testing. Firestorm will operate under controlled experimental conditions and will coordinate operations as required to prevent harmful interference to authorized users.

Equipment proposed for use includes:

- Silvus Technologies SC42A0

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- Silvus Technologies SC42A0EP
- Silvus Technologies SC44K0E
- Silvus Technologies LC5200
- Silvus Technologies SL5200
- TrellisWare TW-310
- TrellisWare TW-750
- Doodle Labs RM-2025-62M3
- Doodle Labs RM-2025-62W3

The requested operations are proposed within the following frequency ranges:

- 1250 MHz – 2600 MHz
- 1350 MHz – 1440 MHz
- 1625 MHz – 2500 MHz
- 2200 MHz – 2500 MHz

The requested bandwidth configurations include approximately:

- 1.20 MHz
- 3.00 MHz / 3.60 MHz
- 5.00 MHz
- 10.00 MHz
- 20.00 MHz

The requested power levels include configurations up to approximately 10 watts transmitter output power, with corresponding ERP values dependent on antenna configuration and installation.

The applicant understands that the FCC may authorize only portions of the requested frequency ranges, bandwidths, power levels, or operating conditions. Firestorm Labs will down-select and operate only within the frequencies and technical parameters approved by the Commission and any required coordination authorities.

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3. Experimental Locations and Operating Areas

Experimental operations will be conducted primarily at the following test locations:

Engineering and Ground Test Location

- Firestorm Labs, Inc.: 9431 Dowdy Drive, San Diego, CA 92126
- Approximate coordinates: 32°53'32" N, 117°08'48" W
- Authorized operating radius requested: 1 km

UAS Flight Test Location

- Ocotillo Wells, California
- Approximate coordinates: 33°07'30" N, 116°02'56" W
- Authorized operating radius requested: 14 km

Flight operations will occur within approved FAA operating areas, including operations conducted under applicable FAA Certificate of Authorization (COA) airspace or Part 107 authority, as applicable.