



Request for Spectrum Support and Coordination for 5G Tactical Communications Experimentation at Fort Irwin

SpectrEdge Wireless Inc.

Date: June 08, 2026 Subject: Changes to Existing Conventional License Modifications

Call Sign: WP2XHC, File # 1169-EX-CN-2024

Modifications Requested: Transmit Power Change from 500 mw to 20 Watt, ERP: 61 Watt

Radius of Operation change requested: from 1 KM to 20 KM.

Operation – from FIXED to Mobile Station.

This is based on US Army National Training Center (NTC) at Ft.Irwin for NGC2 PCC6 experimentation. Details as follows:

Purpose of the request

The purpose of this request is to obtain NTIA coordination and approval for the use of spectrum in the **3.3–3.45 GHz**, and **3540–3590 MHz (CBRS)**, and related sub-bands in support of U.S. Army experimentation under the **Next-Generation Command and Control (NGC2)** initiative. The Army is conducting structured evaluations of **SpectrEdge’s PulsarEdge 5G tactical communications platform**, including airborne 5G gNB nodes, AI-enabled spectrum sensing, and multi-path resilient backhaul technologies designed to enhance distributed mission command. Testing at **Fort Irwin, CA** and **Fort Carson, CO** is required to assess the system’s performance in operationally relevant RF environments and to confirm compliance with DoD coexistence requirements in federal mid-band spectrum. The requested frequency access will enable controlled experimentation to inform Army modernization objectives in resilient C2, dynamic spectrum agility, and multi-domain maneuver. All operations will be conducted under installation-approved test plans, within authorized time windows, and in accordance with NTIA and DoD spectrum protection policies.

Technical Purpose and System Description

SpectrEdge Wireless’s partnership with the U.S. Army NGC2 program demonstrates that innovation and incumbent rights can coexist. Our 5G experimentation at Fort Carson—authorized under an FCC Experimental License—operates entirely under DoD coordination and oversight. The Army’s spectrum management offices, along with the DEVCOM C5ISR Center, ensure that every transmission complies with DoD priority use

The requested spectrum access is required to test and validate the **PulsarEdge 5G architecture**, SpectrEdge's SWaP-optimized, AI-enhanced tactical 5G communications system designed for aerial, dismounted, and ground-vehicle deployment. PulsarEdge integrates:

- **Airborne 5G gNB and UE modules** operating in **3.3–3.45 GHz**, and **3540–3590 MHz (CBRS)**, with adaptive beamforming optimized for UAV-to-ground and UAV-to-UAV links.
- A **distributed MEC stack** providing on-platform inference, tactical data fusion, and edge routing aligned with NGC2 and JADC2 data-centric operations.
- **AI-driven spectrum sensing and signal classification**, enabling interference detection, radar-avoidance behaviors, and dynamic channel selection within DoD mid-band frequencies.
- **Multi-path backhaul framework** including UE-based 5G backhaul, MANET links (S-band, L-band, C-band), high-altitude relay modes, and optional SATCOM failover.
- **Secure, PACE-aligned networking** enabling resilient exchange of ISR, C2, and sensor data across dispersed maneuver elements.

Testing at Fort Irwin and Fort Carson is essential to measure real-world propagation, mobility performance, and interference-resilience of the PulsarEdge 5G system under NGC2 field-relevant conditions, including complex terrain, contested RF activity, and distributed maneuver formations. The experiments will characterize:

- RF coexistence with Army emitters in the 3.45–3.55 GHz & 3540-3590 MHz (CBRS) DoD primary band
- Air-to-ground/air-to-air channel dynamics for UAV-borne 5G nodes
- Low-latency MEC-assisted C2 behaviors under degraded backhaul conditions
- Performance of AI-based sensing under radar, EW, and multipath environments

These data directly support Army NGC2 modernization priorities, including resilient mission command, edge-enabled decision support, and multi-domain connectivity. All operations will follow NTIA Redbook requirements, installation spectrum manager instructions, and DoD protection criteria for incumbent federal systems.