

Description of Experiment

The applicant requests authorization to operate one L125G-ITS GNSS re-radiating system at its manufacturing facility in Westminster, Colorado, for controlled production testing of finished products incorporating GPS/GNSS receivers.

The L125G-ITS system consists of a roof-mounted receiving antenna, GNSS re-radiating amplifier, and indoor re-radiating antenna. The receiving antenna captures available GNSS satellite signals, which are amplified and re-radiated within the designated production test area. The re-radiated signals provide a controlled and repeatable GNSS signal environment for functional verification of GPS/GNSS receivers incorporated into finished products.

The purpose of the test is to verify that each applicable finished product can successfully acquire GPS signals, obtain a valid position fix, and meet the specified position-performance requirements prior to release from manufacturing. The production test verifies that the receiver:

- Successfully acquires GPS signals.
- Obtains a valid position fix using a minimum of four satellites.
- Reports latitude and longitude within 30 meters of the known true test position.
- Reports a circular error probable (CEP) of no more than 20 meters.

A test may continue or be repeated for up to 60 minutes when necessary to account for transient satellite-service or environmental conditions that may affect GPS acquisition or position determination.

The L125G-ITS will be operated by authorized personnel solely for the described production test application at the applicant's manufacturing facility. The re-radiated GNSS signals will be limited to the designated test area to the extent practicable, and operation will be conducted in a manner intended to prevent harmful interference to authorized radio services.

The proposed authorization will support reliable and repeatable verification of GPS/GNSS receiver performance during production and facilitate the proper utilization of radio-based positioning technology in the applicant's finished products. The experimental operation constitutes testing of equipment in connection with production pursuant to 47 CFR § 5.3(h).