

Persistent Inquiry Approval (PIA)

Geolocation General Description

1. General Overview of the Geolocation Method for 6SD (Standard Power AP) and 6FC (Fixed Client)

Each device, whether categorized as 6SD (Standard Power Access Point) or 6FC (Fixed Client), is designed for outdoor use and integrates an embedded GNSS chip (Model: AG3335M) to automatically determine its geographic coordinates for regulatory compliance and operational requirements.

- The GNSS chip utilized in the device operates solely using the Global Positioning System (GPS) satellite constellation.
- No other satellite constellations (e.g., GLONASS, Galileo, BeiDou) are used for position calculation.
- The GPS receiver collects signals from visible GPS satellites and computes the device's geographic location through trilateration, which requires signals from at least four satellites to accurately determine a 3-D position
- The determined location is subsequently used to support Automated Frequency Coordination (AFC) system queries and registration of the device's operating parameters.

2. Location Uncertainty Attestation

The geolocation determination method implemented by the device ensures that the location uncertainty does not exceed the regulatory limits. Location accuracy has been validated to meet the required uncertainty threshold with a 95% confidence level.

Supporting test data from Sporton Laboratory has been obtained, including GPS performance testing results that demonstrate compliance with the 95% confidence level accuracy requirement. The statistical data provided by Sporton Laboratory is based on controlled test conditions and is representative of production units.

The certified accuracy performance data is incorporated into all device geolocation uncertainty declarations submitted to the AFC system as part of frequency coordination requests.

3. AFC Query Policy Statement

The device is designed to query the Automated Frequency Coordination (AFC) system to obtain spectrum availability and operational parameters under the following conditions:

- Upon initial device installation and power-up.
- After each power cycle or reboot.
- At least once every 24 hours during normal operation.

These periodic AFC queries ensure continued compliance with frequency assignment, power limits, and interference mitigation requirements as mandated by the regulatory authority.

If the device fails to obtain valid geographic coordinates from the embedded GPS receiver, the 6 GHz operational capability will remain disabled and will not initiate any transmissions in the 6 GHz band until valid location data is acquired.