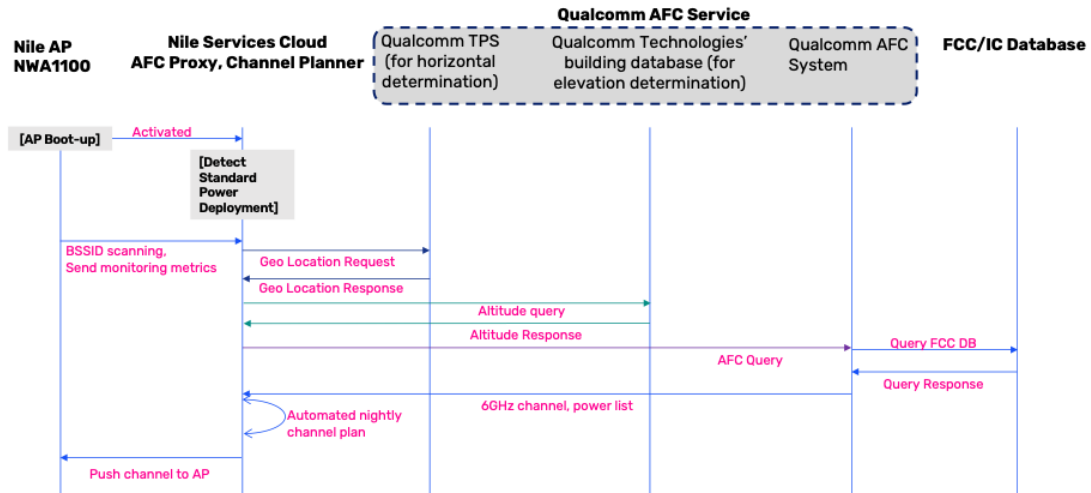


Geolocation and Elevation Integration for AFC Certification using Qualcomm's FCC Certified Geolocation Solution

As part of Nile's implementation of standard power 6 GHz Wi-Fi using Qualcomm's certified AFC system, Nile integrates with Qualcomm Technologies' TPS (Terrestrial Positioning System) and building elevation database to ensure accurate geolocation data for each AP. Upon boot-up, each Nile AP initiates an automated process that involves passive scanning of surrounding Wi-Fi BSSIDs, followed by a location request to the Qualcomm TPS cloud, which returns a geolocation fix with a defined horizontal uncertainty. This location fix is obtained without the need for GPS hardware and is suitable for both indoor and rooftop deployments. Once the location is established, a follow-up elevation query retrieves altitude information using Qualcomm's database of registered building height profiles, yielding the AGL (Above Ground Level) value and vertical uncertainty needed for AFC compliance.

In this architecture, Nile acts as an AFC proxy integrator, leveraging the Qualcomm AFC system without embedding AFC logic directly on the APs. Instead, Nile's cloud-based AFC proxy orchestrates the entire geolocation, elevation, and channel availability request flow. Device descriptors—including the certification ID, location, and elevation metadata—are packaged according to the WFA and FCC AFC protocol formats and securely transmitted to the Qualcomm AFC service. The result is a validated 6 GHz channel and EIRP list, which is then pushed to the AP via Nile's automated nightly channel planner. This design enables Nile to maintain control of frequency coordination logic centrally, while benefiting from Qualcomm's FCC-approved PIA for both location and elevation determination—ensuring full compliance and scalability for nationwide standard power 6 GHz Wi-Fi deployments.

6GHz AFC at Nile



Standard Power with AFC fully operational – no configuration or onboarding required from the customer **nile**