CASE STUDY

Boosting Low-Altitude Network Reliability: Dingli's Partnership with China Unicom Guangdong

DingLicom

Organization

China Unicom Guangdong

Project Background

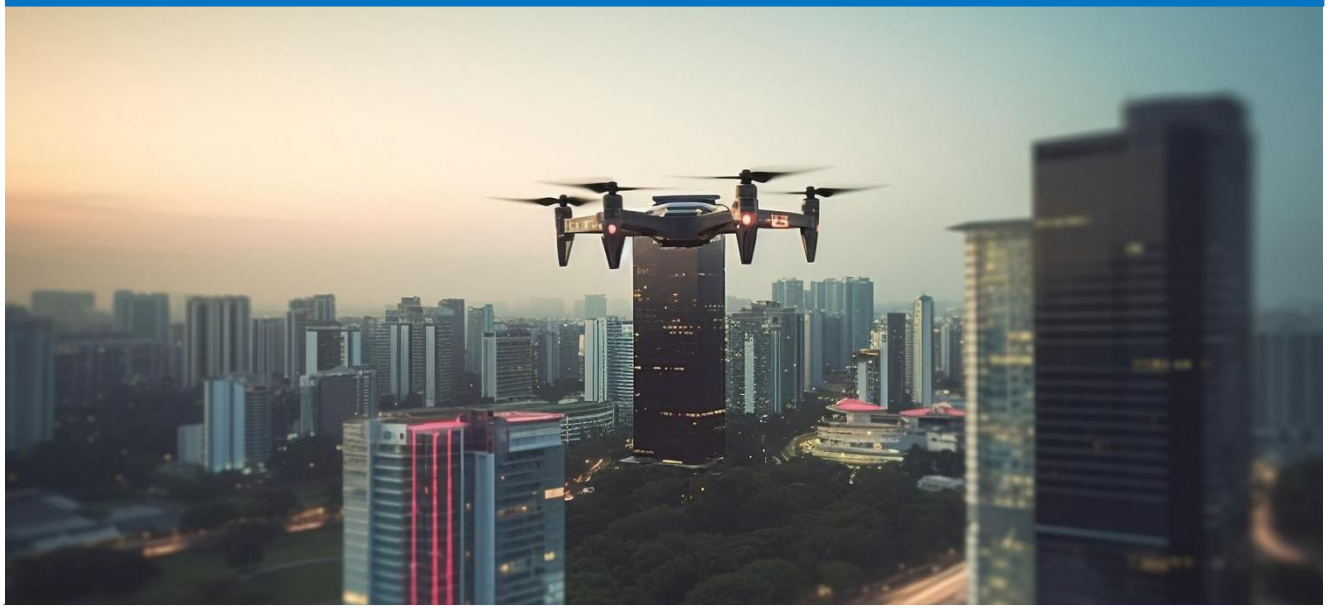
In 2024, the Chinese government highlighted the low-altitude economy as a key growth area, with plans for rapid development in the Guangdong-Hong Kong-Macao Greater Bay Area. Foshan aims to establish a robust industry framework by 2026 and achieve a low-altitude economy output of over 10 billion yuan by 2030.

Project Overview

To support this growth, Guangdong Unicom is building a low-altitude network covering over 9,100 square kilometers, serving more than 300 drone hangars. This network will facilitate applications like environmental monitoring, intelligent logistics, and emergency response.

Requirements

Dingli was selected by China Unicom Guangdong to conduct comprehensive network performance testing for their low-altitude network. The project scope includes evaluating KPIs such as signal strength, downlink and uplink performance, interference, and video quality through drone tests up to 120 meters.



Our Solution

Dingli's 5G Air Test Box, mounted on UAVs, was deployed to measure and analyze network performance for low-altitude cellular networks. This solution supports various use cases, including infrastructure inspection, high-rise building coverage analysis, and drone delivery services.

Figure 1: 5G New Radio(NR) Coverage Map Examples Result

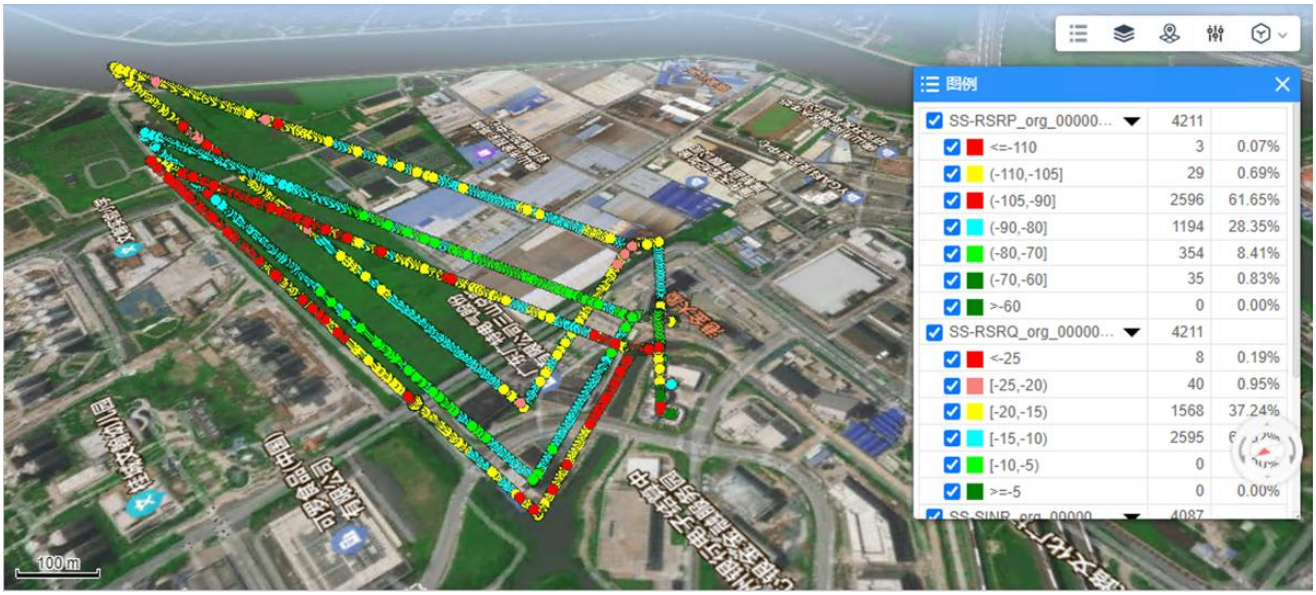
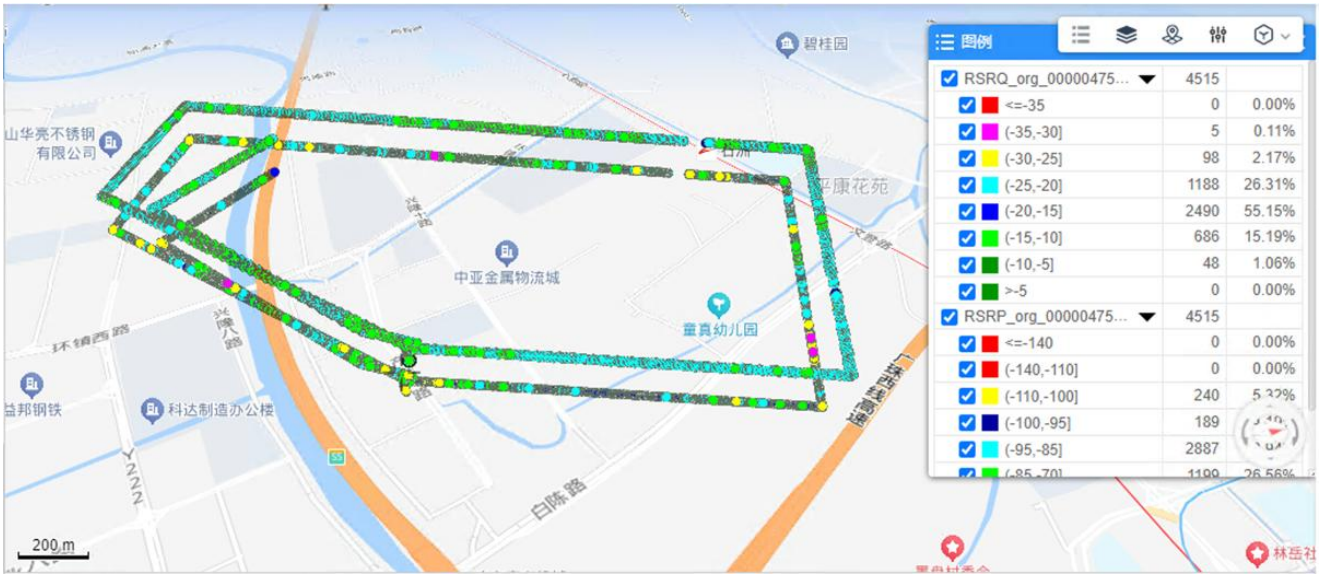


Figure 2: LTE Coverage Mapping from Ground to 120m



The Benefits

Real-Time Digital Air Mapping and Analytics

Provides continuous, accurate mapping and data analysis for better decision-making in low-altitude network management.

UAV Monitoring and Tracking

Enhances network performance monitoring with UAVs, ensuring reliable data collection across multiple scenarios.

Flexible, Customer-Centric Approach

Offers customized testing solutions that adapt to specific client needs, supporting diverse use cases and ensuring optimal network performance.

Enhanced Operational Efficiency

Reduces time and cost associated with network testing and optimization, accelerating the deployment of low-altitude networks

Improved Network Reliability

Identifies and mitigates network issues proactively, leading to more stable and secure low-altitude communications.