

Business Analysis:

How SkyAccess DualBand Reduces Deployment Costs for Public Wi-Fi Service

Service providers look to SkyPilot as a leader in citywide multi-service networks with a focus on reducing the cost of deploying public Wi-Fi HotZones.

Wireless mesh has been widely proven as the solution of choice for citywide broadband networks for its flexibility, resilience, and ease of installation. Today, service providers are seeking those mesh solutions capable of supporting two or more services over a common network to maximize their investment return from multiple sources of revenue. SkyPilot offers a multi-service wireless mesh capable of delivering a range of tiered services including last mile broadband, public Wi-Fi, 4.9 GHz public safety, municipal staff mobility, VoIP, and more while simultaneously supporting a high capacity, self-healing mesh backhaul.

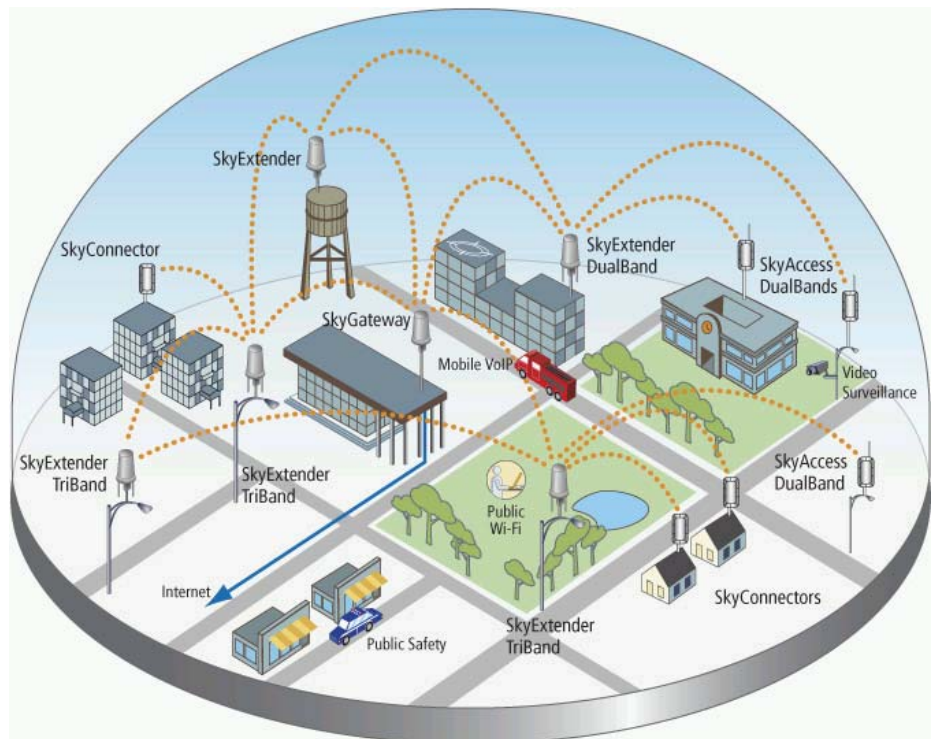
Located at the edge of the mesh, SkyAccess DualBands connect to SkyExtender nodes as the final hop of a SkyPilot mesh network, enhancing Wi-Fi coverage in two ways; first, by increasing the Wi-Fi service area to reach new subscribers and, second, by infilling to enhance signal quality throughout the HotZone. SkyAccess DualBand accomplishes these two functions at half the cost of a full mesh node. As a result, service providers reduce their cost of deploying citywide Wi-Fi networks by as much as 25 percent while also improving subscriber satisfaction.



Profitability in More Markets

Network designers are able to improve revenue in their service area when utilizing a mesh edge device like SkyAccess DualBand. Subscriber satisfaction is directly related to perceived value relative to other forms of broadband service, which for Wi-Fi means ubiquity and quality of signal. Wi-Fi brings with it an assumption of mobility and, therefore, the expectation of anytime / anywhere connectivity. Rather than focusing on geographic reach alone to maximize take rates, SkyPilot offers the ability to economically optimize both coverage quality and geographic reach, which offers greater flexibility for maximizing investment returns throughout the service area.

With SkyAccess DualBand, network designers are able to readily compete on the qualities of performance and connection reliability in order to increase take rates and reduce churn, thereby lowering the economic pressure to pursue only top tier markets with the highest geographic and/or density population centers. The result is a citywide Wi-Fi network solution that allows service providers to **profitably access a wider range of markets**, which as an aggregate far exceed the revenue opportunities of the largest metropolitan markets alone.



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Driving Down Cost per Subscriber

With SkyAccess DualBand as an element of SkyPilot’s carrier-class wireless mesh, service providers are able to lower their cost of deployment and broaden their opportunities to deploy profitable citywide public Wi-Fi networks. As with SkyExtender DualBand mesh devices, SkyAccess DualBand uses a dual-radio architecture to deliver dedicated Wi-Fi access that does not contend with the backhaul. The 5 GHz directional backhaul antenna can range up to 7.5 miles (12 km) from the nearest SkyExtender node. At half the cost of the SkyExtender model, network designers have wider latitude to deploy SkyAccess DualBands to infill where signals are weaker and to reach surrounding neighborhoods that may otherwise not justify the cost of deployment.

SkyAccess DualBand provides the perfect compliment to SkyExtender DualBands when deployed to support a multi-service network. The mobility created by a Wi-Fi network may include public users as well as government staff who enjoy roaming in-field communications at significantly lower costs than using cellular services. By including SkyAccess DualBand, service providers are able to sustain profitable business models in a wider range of municipal markets, where mixed public and government applications are deployed in addition to fixed broadband subscriber services.

Case Study Examples

SkyPilot has analyzed how SkyAccess DualBand affects deployment cost with compelling results. Existing SkyPilot municipal networks in Texas, California, and Colorado were redesigned to include SkyAccess DualBands in the final hop node location, thereby revising the total build count and altering the overall deployment cost. Actual factors affecting the decision to deploy the SkyAccess DualBand are complex and require careful field surveys to determine possible infill locations while, at the same time, assuring adequate retention of the network’s dynamic mesh routing capabilities. For the purpose of this analysis, SkyPilot used the more conservative approach of replacing a representative portion of final hop SkyExtender nodes with SkyAccess DualBands.

Analysis shows that for each case study a reduction of approximately 20-25 percent in overall capital costs was achievable as a result of using SkyAccess DualBand in selective final hop locations. It is expected that the simplicity of deploying the SkyAccess DualBand along with its built-in self-provisioning and configuration capabilities will further reduce operations costs associated with initial installation.

SkyPilot Example Deployment	Total Count of SkyExtenders	Final Hop Locations	Suitable SkyAccess DualBand Locations
A	53	35	20-25
B	110	67	35-40
C	64	41	25-30

