NEXTLINK
INTERNET MADE EASY

Bringing High-speed Broadband to America's Heartland

NextLink Internet is working to close the digital divide across the American Midwest. The internet service provider has deployed a large-scale FTTx and fixed wireless private LTE network using its $28.4 million investment in Citizens Broadband Radio Service (CBRS) spectrum. NextLink wanted to reduce the costs of rural broadband provision, increase performance and prepare for tomorrow's 5G networks. To accomplish their goals, they turned to Alpha Wireless for carrier-grade expertise in 3.5-GHz-capable antenna design and deployments.

ALPHA
WIRELESS

The customer

Nextlink Internet is one of the largest rural broadband providers of high-speed internet and voice services to residential, business, educational and government customers in America's heartland. Nextlink delivers services to 75,000 customers using fiber and fixed wireless access in a carrier-class, fully IP-based network. As an active participant in several FCC-funded programs, Nextlink is working to connect homes, schools, libraries, medical centers and businesses in underserved communities across 11 Midwestern states.

The country

United States

The products

AW3161
3.5 GHz antenna

AW3802
dual-sector 5/6 GHz antenna

"The Alpha Wireless team's experience in 3 GHz-capable antenna design and deployment is critical to our ability to successfully build and deploy the best possible network from our $28.4 million investment in CBRS Priority Access Licenses. The unique design of their antenna solutions has allowed us to realize significant savings in operational costs, plus they implemented changes based on our feedback to make installation even faster for our tower technicians."

Cameron Kilton
Chief Technology Officer
Nextlink

The challenge

To fulfill their commitment as a top winner in the Connect America Fund (CAF) II auction, Nextlink opted to deploy fixed wireless infrastructure using the CBRS spectrum, allowing a smooth evolution path to 5G. However, the delivery of high-speed, fixed wireless internet connectivity across largely rural terrain presents stringent technical requirements. A key challenge was how to design and build a high-performance network with the broadest possible coverage and capacity to allow more efficient service delivery in rural areas.

The solution

NextLink partnered with Alpha Wireless to achieve optimum cost and performance without sacrificing quality. With years of experience designing and manufacturing fixed-wireless antennas, Alpha was able to quickly design a low-cost antenna solution to meet NextLink's needs.

NextLink deployed the AW3161 3.5 GHz antenna in an LTE network, which can easily be upgraded to 5G for improved capacity and latency. Other parts of the network had different criteria. To meet these requirements, Alpha Wireless created a solution – the AW3802 custom dual-sector 5/6 GHz antenna – to meet NextLink's requirements and build schedule.

With an innovative design that enables a reduced tower footprint, faster roll-out, increased capacity and maximum coverage, the Alpha Wireless antenna solutions enable NextLink to optimize performance and deployment speed while cutting operational costs.

The results

With deployment of the Alpha Wireless antenna solutions, Nextlink is able to get maximum return on their significant investment in CBRS licenses. The result is a 5G future proof, high-performance network delivering essential high-speed internet services for remote work, online learning, telehealth services, agricultural IoT, and digital entertainment across America's heartland.

According to Nextlink, the AW3161 3.5 GHz antenna has demonstrated good multiple-input/ multiple-output (MIMO) performance, and scored best-in-class in key functions such as gain, null fill, and Cross-Polar Discrimination. Likewise, the custom-designed AW3802 dual-sector 5/6 GHz antenna has enabled increased spectral efficiency and reduced sector loading by 35%, improving performance across the band with consistent gain across the bandwidth. As a result, Nextlink increased their cell radius by approximately 20% and cell edge performance nearly doubled. Moreover, due to the reduced footprint of the AW3802 antenna solution, Nextlink has realized an average cost savings of $200/month per cell site.

Why Alpha Wireless

Alpha Wireless is a leader in antenna technologies with more than 1.5 million antennas successfully installed in over 50 countries worldwide. Bringing more than 15 years' experience to the design and manufacture of quality solutions for virtually every network configuration, our experts guide you to the highest performing network at the lowest possible install cost.

We work closely with network operators, OEMs and municipalities to collaborate and innovate as we solve even the most complex antenna-related network issues. Contact Alpha Wireless today to learn how we can help you maximize coverage, capacity and cost-efficiency.

ALPHA WIRELESS