



Empowering Utilities to Quickly and Easily Offer Broadband Services

Avista Edge™ technology and services enables electric utilities and municipalities to deliver high-speed internet services to rural and suburban communities, bridging the digital divide. Avista Edge turned to Alpha Wireless to design and develop an innovative, multi-directional antenna array for its 5G fixed wireless access (FWA) network.



The customer

Avista Edge, Inc., a non-utility subsidiary of energy company Avista Corp., enables public electric utilities, electric cooperatives, municipalities, and local Internet Service Providers (ISPs) to deliver broadband services to homes and businesses through the electric meter infrastructure. Harnessing the speed and efficiency of 5G, the company developed a revolutionary, turn-key solution that can be deployed rapidly, cost-efficiently, and reliably using a last-mile FWA network.

The country

United States

The product

The Alpha Wireless antenna array fits inside an RF-transparent housing on the Avista Edge AE 3550 CPE, which seamlessly attaches to the subscriber's electric meter.



“As Avista Edge was developing our patented device, throughout the process, we relied heavily on Alpha Wireless for their expertise in RF design, development, and testing to help ensure optimized performance and quality of service. In today’s connected world, high-speed internet access is critical to our daily lives. Together with partners like Alpha Wireless, we have deployed this technology in a pilot to prove our solution can help bridge the widening digital divide.”

Mark Gustafson
President and CEO,
Avista Edge, Inc.

The challenge

High-speed broadband access is increasingly essential as more people work, study, shop, and seek healthcare services remotely. However, building out fiber-to-the-home (FTTH) infrastructure can be time-consuming and costly, particularly in remote suburbs and rural communities. Avista Edge empowers electric utilities to offer an alternative solution for fast, reliable digital connectivity using 5G fixed wireless and electric meter infrastructure to deliver broadband, including delivery into the home or business through the service panel over the electrical wiring using the gigabit home network standard (G.hn). Once in the home, Avista Edge technology reaches the customer over a modern Wi-Fi mesh network.

As Avista Edge began developing their end-to-end networking solution, it required a MIMO antenna to incorporate into their patented customer premises equipment (CPE) device, attached to the electric meter, the AE 3550. To ensure reliable quality of service (QoS), the antenna array needed to be very small yet powerful to support the 5G Citizens Broadband Radio Service (CBRS) spectrum in a non-line-of-sight macro network.

The solution

The team at Avista Edge selected Alpha Wireless based on their years of RF expertise and experience, as well as proven ability to customize a unique antenna solution. The two companies worked closely together from the initial R&D phase through product development and simulation testing.

Alpha Wireless collaborated with Avista Edge to custom-design a high-gain, multi-directional, 3-antenna array to receive radio frequency (RF) signals from a neighborhood FWA base station over the 5G CBRS mid-band spectrum. The Alpha Wireless antenna array fits inside an RF-transparent housing on the Avista Edge AE 3550 CPE, which seamlessly attaches to the subscriber's electric meter by qualified utility personnel in less than 10 minutes.

The Avista Edge solution delivers internet service into the home from the electric meter using broadband over power line (BPL) technology and the Gigabit Home Network (G.hn) standard. As soon as a subscriber Wi-Fi device is plugged into an outlet inside the home, the system automatically powers up, and an in-home Wi-Fi mesh network can be quickly and easily configured without any construction, wires, or modems — avoiding the high cost and delays frequently encountered with most fixed wireless and FTTH initiatives.

The results

The Avista Edge solution is quick and easy to deploy, with installation and configuration taking minutes rather than hours. Leveraging fixed wireless technology, the solution can be rolled out to rural communities more quickly and at a lower cost than FTTH last-mile solutions. Moreover, by taking advantage of the future-proof performance of 5G, the solution can be easily upgraded to support new technology features as they are introduced.

With the turn-key Avista Edge solution, utilities are equipped with everything they need to offer retail broadband services for value-added revenue. Based on the success of initial pilot projects, Avista Edge is also looking at other possible future use cases, such as private 5G networking for smart city, smart grid and smart home applications.

Why Alpha Wireless

Alpha Wireless is a leader in antenna technologies, with more than 1.5 million antennas installed worldwide. Bringing more than 15 years of experience in the design and manufacture of quality solutions, Alpha Wireless is enabling a smooth evolution from 4G/LTE networks to 5G with a full range of innovative antenna solutions, including the broadest portfolio of 3.5 GHz solutions.

We work closely with network operators, system integrators, OEMs, utilities, 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.

