

# Built to Scale

## Curating Software Defined WAN

### Platforms

Focus: SD-WAN

Product: FWS-2272

50-100ms

5G/LTE



GEO

MEO

8,000 km, 100-150ms

LEO

600 km, 30-80ms

## Introduction



[XipLink](#), a leading Software-Defined Wide Area Networking (SD-WAN) provider, was searching for a solution that could power the XH-1, a new addition to their [industrial-class XipLink Hardware](#) (XH) platform range, dedicated to providing scalable SD-WAN applications for the wireless service provider market. XipLink's hardware platforms are multifaceted, and carefully selected to offer wireless service providers the flexibility and utility to have their networking operations function at the edge, the network core, or the cloud edge.

Given the product's precise operational scope, [XipLink](#) needed a partner capable of tailoring a barebone system that could run [XipLink](#) and third-party Virtualized Network Functions (VNF) via Universal Customer Premises Equipment (uCPE). The XH-1 supports multiple key feature sets including enhancing User Experience (UX) through protocol acceleration, traffic steering across hybrid SD-WAN networks, and securing critical communications through optional IPsec VPN.

## Project Requirements

[XipLink](#) knew that the product they chose to power their new platform had to be able to perform in very specific circumstances, and so naturally there were prerequisites that needed to be satisfied in order for a solution to be suitable. The first of these was that the system chosen would need to have a combination of strong processing power, be easily deployable, and have a small form factor. All of these needs were key to achieving the goal of providing a scalable, yet compact end product to host their own [XipLink Optimization System](#) (XipOS).

The other qualities [XipLink](#) valued were design-flexibility and dedicated service. They wanted to partner with a company that could produce a system that could specifically fulfill all of their product's functions, with an emphasis on reliability and scalability. Therefore, being able to customize the system to fulfill these needs was key to AAEON winning the project.

## Why AAEON?

### Same Housing, New Furniture



The compact, 6.1" x 3.62" x 1.26" (155mm x 92mm x 32mm) chassis of the [FWS-2272](#) from AAEON's [Desktop Network Appliance](#) product line appeared to be perfect for a small, easily-deployable network solution.

Despite this, its standard Intel<sup>®</sup> Celeron<sup>®</sup> N3350 Processor and standard motherboard features did not meet all the performance criteria [XipLink](#) were looking for.



With a demonstrable record of designing and manufacturing [project-specific solutions](#), AAEON used its expertise to integrate a customized motherboard, which was equipped with a more suitable I/O to channel the capability of an Intel Atom<sup>®</sup> x5-E3940 Processor. As a result of this customization, XipLink's XH-1 had a base system that could execute the necessary network functions and edge applications it needed to, but within a smaller, more easily deployed system.

## Bypassing Loss via LAN Bypass



The second benefit of AAEON's highly flexible platform customization capabilities was the ability to integrate a LAN bypass function to such a compact platform. This function is key to deploying reliable uCPE applications due to the protection it offers against mission-critical communication failure from power outages, and so was an essential function for the XH-1. XipLink's XH-1 was also able to utilize expanded solid-state storage options as a result of the customized board.

## Dedicated Development Streamlining Service

As XipLink's chosen hardware partner for the XH-1 platform, AAEON provided full outsourced production and logistics for the hardware supply chain, allowing [XipLink](#) to focus on software development.

Through manufacturing in Asia and fulfillment in North America, AAEON was able to provide the hardware platform, the necessary custom kitting to accommodate regional variations, and install and test XipLink's virtualized software ecosystem, including Linux and KVM base and XipOS VNF.

The comprehensive turnkey service that AAEON provided, from custom design through manufacturing, software installation, kitting and fulfillment was key to XipLink's decision to select AAEON for its highest volume XH-1 platform.

## About AAEON

Established in 1992, AAEON is one of the leading designers and manufacturers of industrial IoT and AI Edge solutions. With continual innovation as a core value, AAEON provides reliable, high-quality computing platforms including industrial motherboards and systems, rugged tablets, embedded AI Edge systems, uCPE network appliances, and LoRaWAN/WWAN solutions. AAEON also provides industry-leading experience and knowledge to provide OEM/ODM services worldwide. AAEON works closely with premier chip designers to deliver stable, reliable platforms. For an introduction to AAEON's expansive line of products and services, visit [www.aaeon.com](http://www.aaeon.com).

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