

Use Case

Lightweight Edge Server

Fanless Compact Box PC (EMP-510 Series)

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Background

Application: Edge Server
Industry: Healthcare and Medical

Location: USA

A global medical technology company was seeking a powerful, small-form-factor PC to serve as an edge server in laboratory environments. The ideal solution needed to ensure secure, continuous system operation with a robust design and long product lifecycle. The system would be deployed near diagnostic instruments in various lab settings—including hospital microbiology labs, public health facilities, and outpatient or satellite laboratories.

Project Requirements

The client required a customizable solution to ensure smooth platform migration with minimal changes. Key priorities included data safety and system security, along with easy mounting, reliable connectivity, and memory expandability for lab use.

- Advanced Computing
- IoT Connectivity
- Compact Size
- Wide Temperature
- Robust Design

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Solutions

Project Requirements	Our Solutions
#1 System security	fTPM enhances edge server security through encryption and trusted boot
#2 Customized smart fan	Active cooling and protection against accidental interference by operators
#3 Quick and easy to set up	Optional VESA mount kit helps users deploy the device effortlessly
#4 Connectivity	Rich I/O enables flexible connectivity to end devices and accessories
#5 Extra memory	64GB DDR4 supports real-time edge computing and data-heavy workloads

Application Diagram











- High-Performance
- Compact and Rugged
- Expandability

◀ EMP-510

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Key Advantages at a Glance





General NUC

Form Factor:
- Ultra-compact size

(*EMP-100 meets the requirement)

Limitation:
- Short lifecycle
- After-sales service
- Less I/O & Expansions
- Limited temp/shock specs
- Not built for harsh environments

Industrial Compact Box PC

Built for Industrial Use:
- Long 5-7+ year lifecycle
- Fanless or fan options
- -20˚C to 50˚C operation, 50G shock

Superior I/O & Expandability:
- Dual LAN, COM port, 3x HDMI, DP
- M.2 SSD + WIFI/BT/LTE module
- Up to 64GB DDR4 RAM

Certified & Reliable:
- CE/FCC Class B, EMC, ESD

Customization:
- Value-added service
- Industry expert support

Benefits

By adopting our solution, the client achieved a seamless transition from their previous platform with minimal effort and resource investment. The EMP-510 provided a secure, reliable, and easily deployable computing platform tailored for medical laboratory environments, ensuring long-term stability and performance near sensitive diagnostic equipment.

- Smooth migration with a customizable design
- Enhanced security via encryption and trusted boot
- Reliable system performance and product longevity
- Fast and easy deployment for space-limited lab setups
- Worldwide offices and strong technical support

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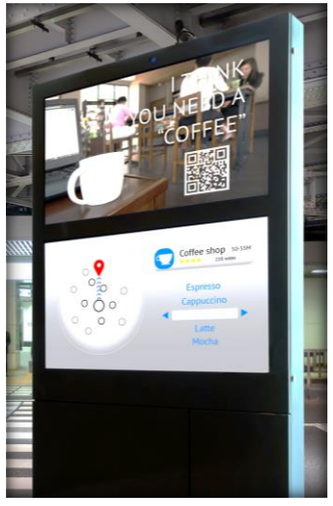
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Built Small Performs Big







For detailed specifications, please visit our official website: ADLINK Industrial Compact Box PCs



BEST IN SHOW AWARDS Embedded COMPUTING DESIGN embeddedworld WINNER

EMP-520

Advanced Computing



EMP-510

Fanless for Embedded



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EMP-100

Industrial NUC Design