

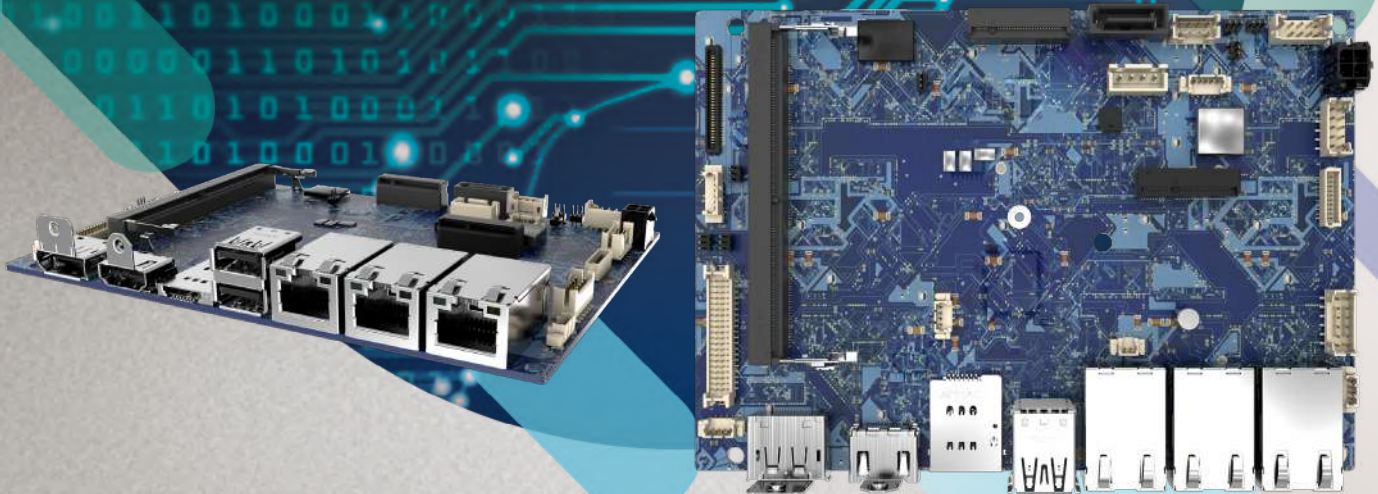
# 3.5 SBC SERIES

## INDUSTRIAL SINGLE BOARD COMPUTERS

REAL-TIME DATA

PROCESSING FOR RUGGED

EDGE COMPUTING



## ROBUST 3.5" SBC FOR EMBEDDED SOLUTIONS

Our latest lineup of Single Board Computers (SBC) is engineered to set a new standard in integrated, single-board solutions. The centerpiece of this series is the 3.5" Industrial-Grade SBC, meticulously designed to offer blazing-fast performance, robust reliability, and versatile functionality for a variety of demanding applications.



Deployment  
Ready Solution



Industrial  
Grade



Fast Time To  
Market



Compact &  
Ruggedized Design



## 3.5" SBC Motherboard with Intel 12<sup>th</sup> Gen Processors

In the rapidly advancing fields of the Internet of Things (IoT) and Edge Computing, there's a growing need for compact yet powerful computing solutions. A 3.5" Single Board Computer (SBC) meets this need by offering powerful computing in a small form factor. Ideal for applications where space is limited, this SBC combines crucial components like CPU, RAM, Chipset, and I/O ports onto a single motherboard.

Introducing the CT-DAL11 motherboard, the latest solution for embedded computing, supporting both the 12th Gen Intel<sup>®</sup> IoTG Alder Lake-N N97 and Atom<sup>®</sup> x7835RE processors. This versatile platform delivers a balanced combination of performance and energy efficiency, utilizing the latest DDR5 memory support. The motherboard boasts triple display support, enriching visual experiences. Its versatile I/O modules cater to various connectivity requirements, making it adaptable for multiple applications. Designed to endure harsh conditions, the CT-DAL11 ensures consistent performance in challenging environments, making it a reliable and robust choice in the embedded computing industry.

### CT-DAL11 Features

- Intel<sup>®</sup> Alder Lake N97/ Atom<sup>®</sup> x7835RE Processors
- 3x Intel<sup>®</sup> I226-V 2.5GbE LAN
- DDR5 4800MHz up to 16GB
- Triple Independent Displays (Up to 4K)
- Diverse I/O Modules
- Wide Operating Temperature

### Key Markets and Applications



Industrial  
Automation



Embedded  
Computing



Smart Retail  
& Kiosks



IIoT &  
Robotics



Intelligent  
Healthcare



Smart  
Building



## Harnessing the Power of Intel Efficiency Cores

### Meeting Edge Processing Performance & Power Efficiency Needs

The CT-DAL11 motherboard now supports the 12<sup>th</sup> Gen Intel® IoTG Alder Lake-N N97 or Intel® Atom® x7835RE processors, offering unmatched flexibility for a wide range of embedded and industrial applications. With this advanced board, you can choose the processor that best fits your performance and energy efficiency requirements.



Intel N97



Intel x7835RE

- **12<sup>th</sup> Gen Intel® IoTG Alder Lake-N N97:**

Designed with efficiency cores (E-cores, Gracemont Architecture), it provides strong multitasking performance while maintaining excellent power efficiency, making it ideal for applications requiring a balance of performance and energy savings.

- **Intel® Atom® x7835RE:**

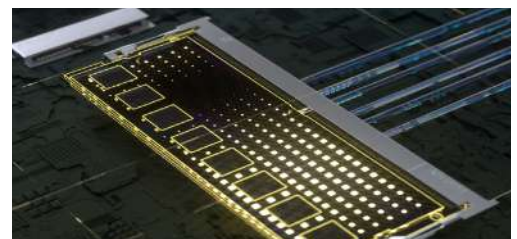
Engineered for ultra-low power consumption and long-life reliability, it is perfect for industrial applications that prioritize stability and energy efficiency in harsh environments.

This dual processor compatibility makes the CT-DAL11 an ideal choice for applications where flexibility, power efficiency, and long-term performance are essential.

## Advancing Technology with DDR5 Memory Integration

The CT-DAL11 motherboard brings a new efficiency level to edge AI applications by integrating the latest DDR5 technology. It supports a DDR5 SO-DIMM slot capable of running at 4800MHz, with a maximum capacity of 16GB. This integration of DDR5 ensures stable and high-speed performance, which is vital for handling the rigorous demands of AI tasks at the edge.

- **Substantial Throughput:** DDR5's architecture allows for high data transfer rates, which is essential for edge computing.
- **Optimized Speeds & Capacity:** Compatible with Intel 12<sup>th</sup> Gen CPUs, the CT-DAL11 fully utilizes DDR5's capabilities up to 4800MT/s, max up to 16GB.





## Triple Independent Displays Support

The CT-DAL11 motherboard, equipped with Intel® UHD Graphics, enhances visual experiences by supporting triple independent displays, ideal for various multimedia and industrial applications. However, while it offers both LVDS and eDP options, only one of these can be used at a time. The display options are:

- LVDS: Up to 1920 x 1200 WUXGA @60Hz for clear, sharp imagery.
- eDP: Up to 1920 x 1080 FHD @60Hz, ideal for high-quality embedded displays.
- HDMI: Supports high-definition output up to 3840 x 2160 4K UHD @30Hz.
- DP: Handles ultra-high resolutions up to 4096 x 2304 Real 4K @60Hz.



## Scalable Storage Capabilities

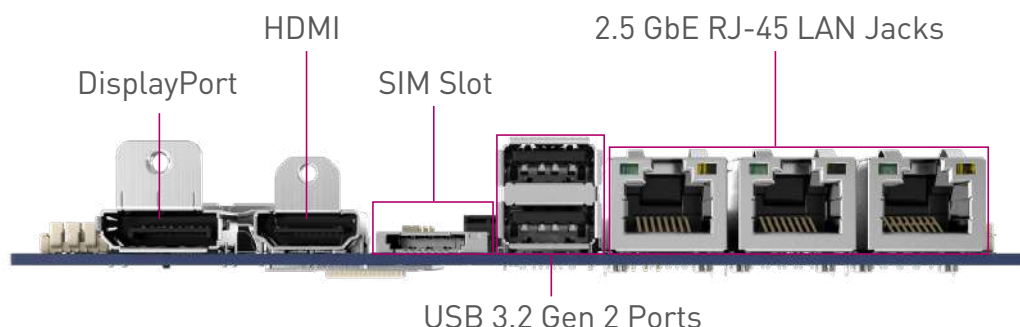
Tailored for flexible and scalable storage options to meet the evolving demands of modern computing applications:

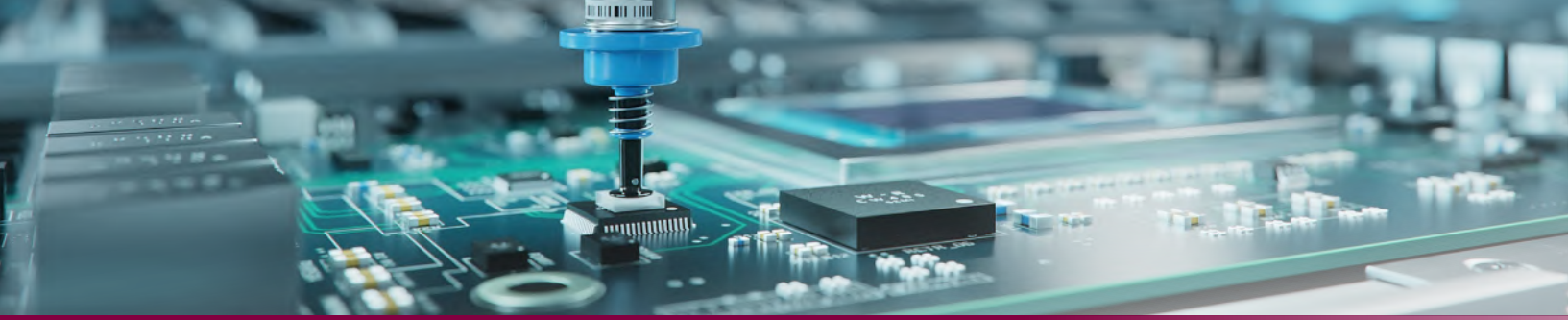
- M.2 B Key Interface: Supports SATA/PCIe x1 in sizes 2242, 3042, and 2280, facilitating high-speed storage solutions
- SATA 3.0 Connectivity: Features a 6Gb/s SATA 3.0 port with AHCI support, allowing for fast and reliable additional storage

## Versatile Connectivity with Diverse I/O Modules

Designed to meet the complex connectivity needs of modern computing environments. The CT-DAL01 features a comprehensive range of I/O modules to ensure seamless integration and communication with various devices and peripherals. The key I/O modules include:

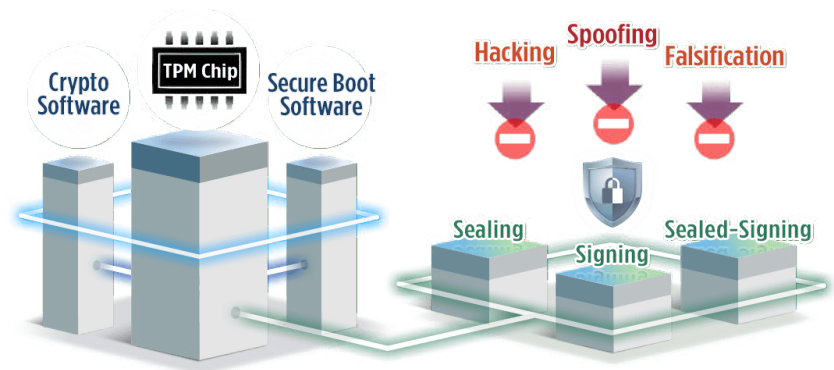
- 3x Intel® I226-V 2.5GbE LAN for reliable, high-speed network connections.
- 2x USB 3.2 Gen 2 (10 Gbps)
- 2x USB 2.0 Internal 2.0 Headers
- 2x RS-232-/422/485 Internal 2.0PH headers
- 1x GPIO 8 bit (4 x GPI; 4 x GPO)
- 1x M.2 B Key Nano SIM Socket for 4G/5G support





## Enhanced Security with Discrete TPM 2.0 Support

The CT-DAL11 motherboard integrates discrete TPM (Trusted Platform Module) 2.0 support, providing enhanced security for sensitive data. With compliance with the latest industry security standards, the dTPM 2.0 support on the CT-DAL11 makes it a highly reliable choice for applications in security-conscious sectors.



## Operating System Support

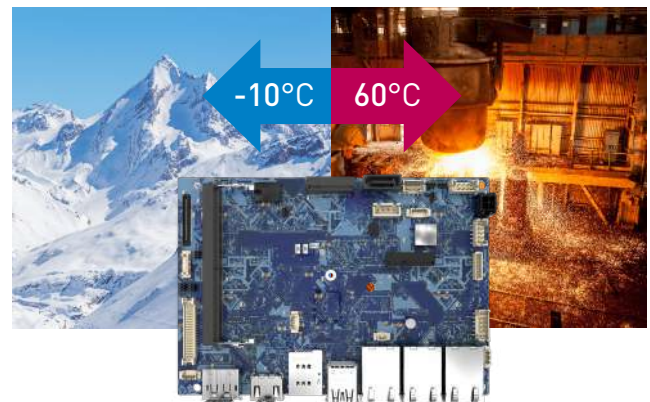
Compatible with a range of operating systems, catering to various user preferences and application requirements. This flexibility ensures seamless integration into diverse computing environments.

- Fully supports Microsoft® Windows® 10 Enterprise
- Harnessing the Full Power of P&E Cores with Microsoft® Windows® 11 Enterprise
- Offers comprehensive support for Linux Kernel 5.x, compatible with Fedora 30 or above and Ubuntu 19.04 or above

## Industrial-Grade Durability

The CT-DAL11 motherboard is a testament to resilience in industrial environments, carefully crafted to ensure unwavering reliability under challenging conditions. Its standout features include:

- Extended Operating Temperature: -10°C to 60 °C
- Precision-Selected Industrial Components
- CE and FCC Class A Certified
- Wide voltage input 12V to 36V



**WE DESIGN,  
MANUFACTURE, AND  
SERVICE CUSTOMERS  
AROUND THE WORLD**



**NEW**

# CT-DAL11

3.5" SBC Industrial Motherboard



Model	CT-DAL11
Processor	Supports Intel® Alder Lake N97/ Atom® x7835RE Processors
Memory	1x DDR5 4800MHz SO-DIMM. 16GB Max
Display Interface	Triple independent display supported: DP, HDMI, LVDS or eDP
LAN	3x Intel® I226-V 2.5GbE LAN
USB & Serial	2x USB 3.2 Gen 2 (10Gbps) 2x USB 2.0 Internal 2 2x RS-232-/422/485 Internal
Storage	1x SATA 3.0 6Gb/s port (Support AHCI)
Expansion	1 x M.2 B Key (SATA/PCIe x1), 2242/3042/2280 for NVMe/4G/5G 1 x M.2 E Key (PCIe x1, USB 2.0), 2230 for Wifi/Bluetooth
dTPM	TPM 2.0
Operating Temperature	-10°C to 60°C
Dimension	146 x 102 mm