

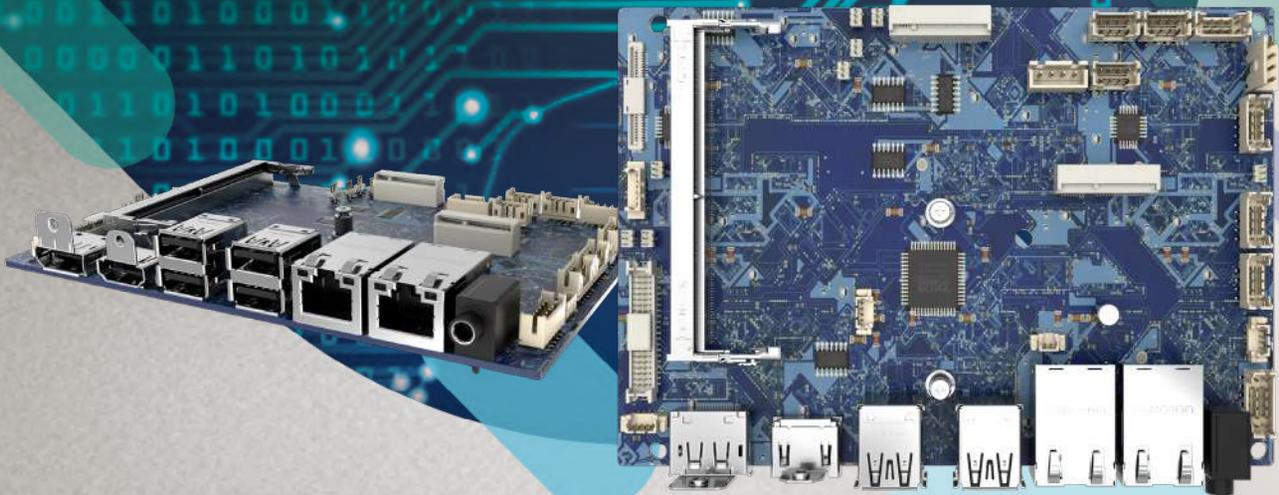
# 3.5 SBC SERIES

## 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-DAL01 motherboard, the newest solution for embedded computing. Equipped with the 12<sup>th</sup> Gen. Intel® IoTG Alder Lake-N Processors, it offers a perfect blend of performance and energy efficiency through its E core architecture and DDR5 memory. 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-DAL01 ensures consistent performance in challenging environments, making it a reliable and robust choice in the embedded computing industry.

### CT-DAL01 Features

- Intel® 12<sup>th</sup> Gen Intel® IoTG Alder Lake-N Processors
- Intel 7 Gracemont Efficiency Cores
- 2x Intel® I225-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

Embrace the cutting-edge technology of Intel's 12<sup>th</sup> Gen Alder-N Lake processors with the CT-DAL01 motherboard. This advanced board capitalizes on Intel's innovative architecture, using 4 of the 8 efficiency cores (E-cores, Gracemont Architecture). This elevates the CT-DAL01, allowing it to have lightning-fast multitasking ability and performance while still having superior and optimal energy efficiency. This makes the CT-DAL01 an ideal choice for many industrial applications where power and sustainability are essential.



#### Key Advantages :

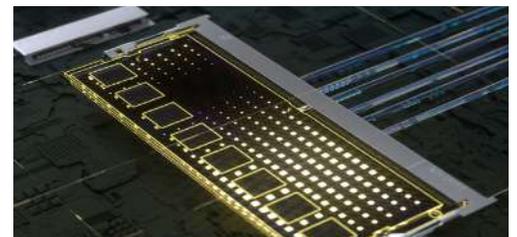
- 4 E-Cores (Intel 7 Gracemont Architecture)
- Supports single channel memory
- Improve Power Efficiency
- Lower Power Consumption



## Advancing Technology with DDR5 Memory Integration

The CT-DAL01 motherboard brings a new efficiency level to edge AI applications by integrating the latest DDR5 technology. It supports a DDR5 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-DAL01 fully utilizes DDR5's capabilities up to 4800MT/s, max up to 16GB.





## Triple Independent Displays Support

The CT-DAL01 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

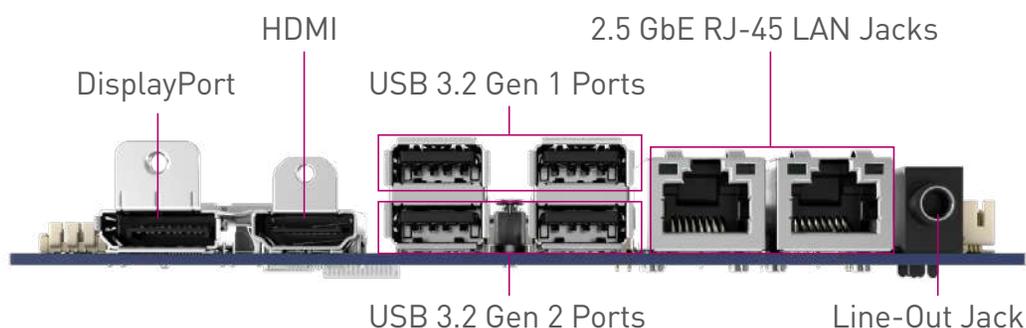
Tailored for flexible and scalable storage options to meet the evolving demands of modern computing applications:

- 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:

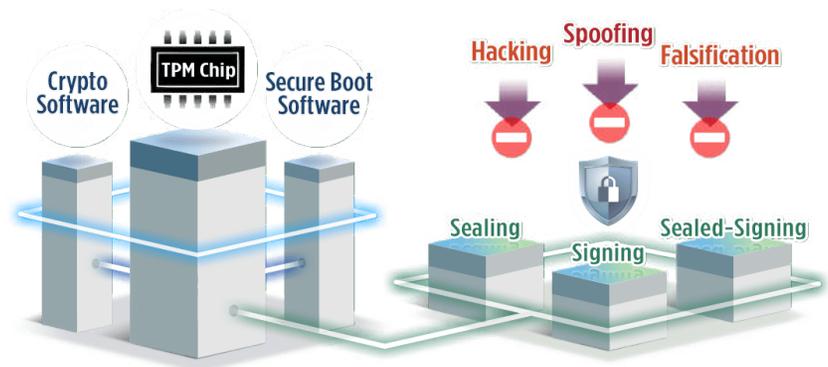
- 2x Intel® I225-V 2.5GbE LAN for reliable, high-speed network connections.
- 2x USB 3.2 Gen 2 (10 Gbps)
- 2x USB 3.2 Gen 1 (5 Gbps)
- 6x internal USB 2.0 headers for additional connectivity
- 2x RS-232-/422/485 Internal 2.0PH headers to facilitate serial device connections.
- 1x GPIO 8 bit (4 x GPI; 4 x GPO)





## Enhanced Security with Discrete TPM 2.0 Support

The CT-DAL01 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-DAL01 makes it a highly reliable choice for applications in security-conscious sectors.



## Operating System Support

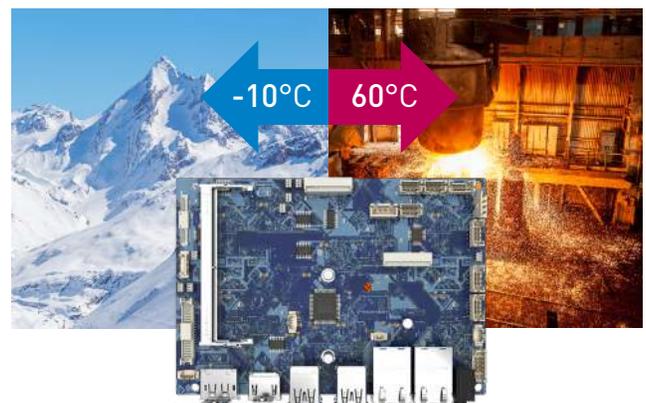
Compatible with a range of operating systems, catering to various user preferences and application requirements. This flexibility ensures seamless integration into diverse computing environments.

- 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-DAL01 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 9V to 36V



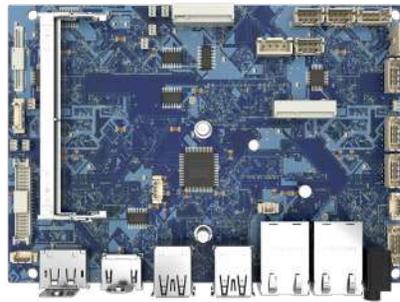
**WE DESIGN,  
MANUFACTURE, AND  
SERVICE CUSTOMERS  
AROUND THE WORLD**



**NEW**

# CT-DAL01

3.5" SBC Industrial Motherboard



Model	CT-DAL01
Processor	Support 12 <sup>th</sup> Gen. Intel <sup>®</sup> IoTG Alder Lake-N Processor N97, 12W and i3-N305
Memory	1x DDR5 4800MHz DIMM. 16GB Max
Display Interface	Triple independent display supported: DP, HDMI, LVDS, eDP
LAN	2x Intel <sup>®</sup> I225-V 2.5GbE LAN
USB & Serial	2x USB 3.2 Gen 2 (10Gbps) 2x USB 3.2 Gen 1 (5Gbps) 6x USB 2.0 Internal 2.0 Headers 2x RS-232-/422/485 Internal
Storage	1x M.2 B Key slot (2242/ 2280/ 3042), 1x SATA 3.0 6Gb/s port
Expansion	1 x M.2 B key (SATA/PCIe x1), 2242/3042/2280 1 x M.2 E key (PCIe x1, USB 2.0), 2230
dTPM	dTPM 2.0
Operating Temperature	-10°C to 60°C
Dimension	146 x 102 mm