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# Application Note

Portwell, Inc.

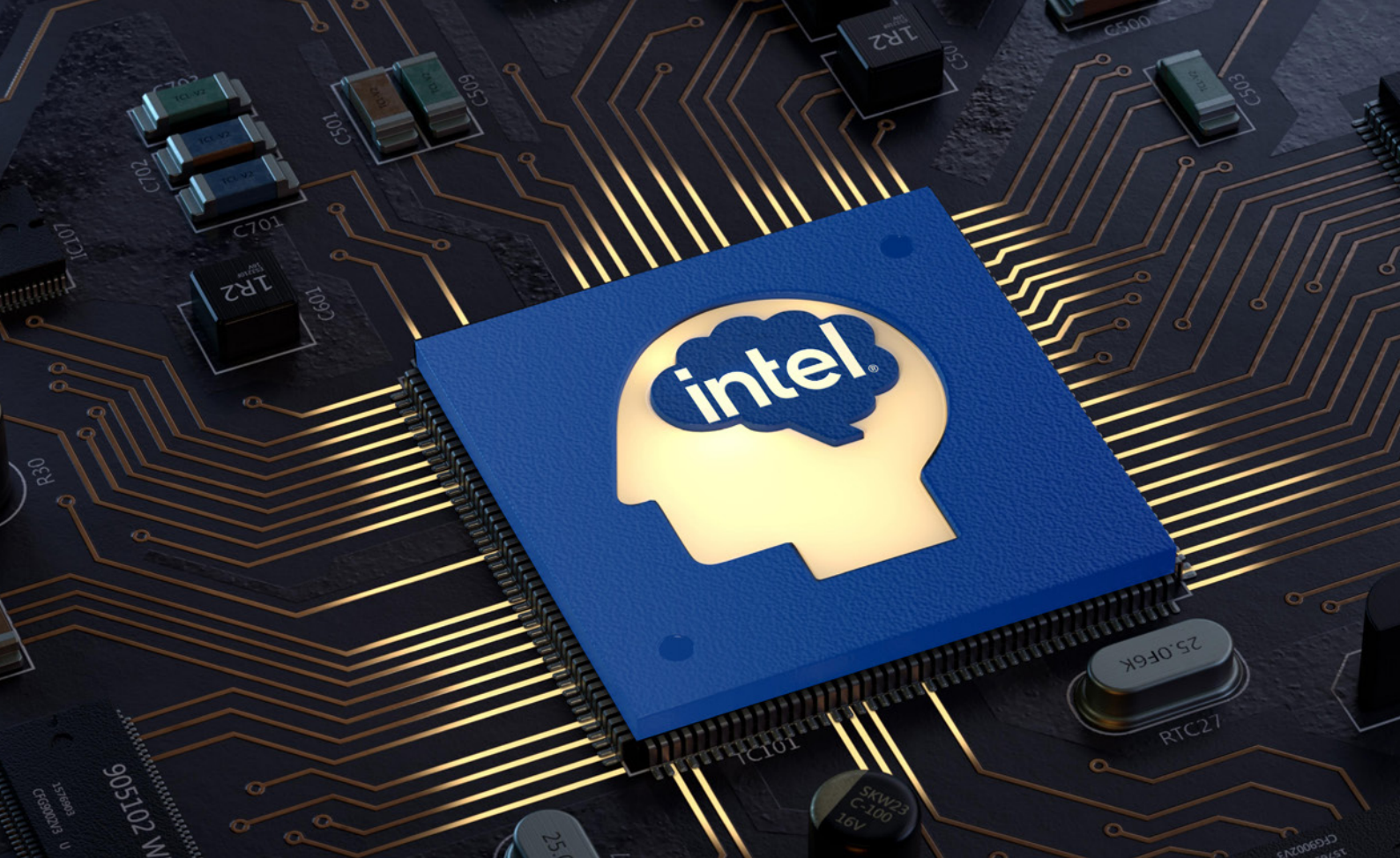
## PEAI-9910 Embedded Edge AI System with 13<sup>th</sup> Gen Intel® Core™ Processor for Workplace Safety Control Equipment and Industrial Edge AI Solutions



The industrial market is dynamic and constantly evolving, requiring companies to ceaselessly adapt to new technologies in order to optimize processes and improve efficiency to remain competitive. Portwell’s PEA1-9910 embedded system solution, integrated with the 13th Gen Intel Core i3/i5/i7/i9 processor, offers a range of capabilities that address key challenges in the industrial market.

Industrial operations face various ever-increasing hindrances such as rising operating costs, stringent safety regulations, complex supply chain management, and the need for continuous process improvement. Consequently, there is a growing demand for “intelligently automatic” tools/solutions that prioritize worker/workplace safety, including accurately ensuring physical identification and compliance in sensitive environments; routinely monitoring industrial settings that involve heavy machinery; controlling, on a real-time basis, access to secure zones; and effectively optimizing safety inspection processes.

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Portwell's PEAI-9910 embedded computing system, designed with the 13th Gen Intel Core i3/i5/i7/i9 processor series, combines advanced computer vision technologies to deliver AI-enabled access control and workplace safety monitoring solutions. PEAI-9910 provides enhanced machine vision capabilities utilizing AI to accurately and invariably verify and determine whether employees in designated work areas are wearing the necessary personal protective equipment (PPE), cleanroom suits, or other essential safety gear. The PEAI-9910 system can efficiently detect and identify various indicators to facilitate frictionless access control, which include, but are not limited to, body temperature measurements, facial recognition (even faces partially concealed by, for example, hard hats and/or glasses), and one or multiple required safety gear worn by each employee. Our customers, and future customers alike, with additional AI image recognition and analytics requirements can upgrade their platform's capabilities by incorporating an AI module or a high-end graphics card, tailored to their specific needs.

The Portwell PEAI-9910 system is designed to significantly enhance computing performance, supporting socket type 13th Gen Intel Core i9/i7/i5/i3 processors with up to 24 cores and 32 threads. With DDR5 memory support, the system offers increased bandwidth and improved error correction capabilities, resulting in faster data transfer rates and reduced data corruption incidents. In addition, the system features PCIe 5.0, which doubles the bandwidth of PCIe 4.0 providing significantly faster data transfer rates and improved system responsiveness.

The PEAI-9910 embedded computing system is Portwell's eagerly anticipated new product that offers cutting-edge features and technologies, catering to meet the diverse requirements of users in automation,

medical/healthcare, and networking industries. It supports applications across various sectors, including edge AI, machine automation, machine vision, smart factories, ultrasound, CT, MRI, point-of-sale (POS) systems, kiosks, digital signage, and transportation, among others. Portwell ensures that PEAI-9910 is designed to optimize high-performance computing and operational efficiency for a wide range of industrial applications.

## PEAI-9910 Embedded Edge AI System with 13<sup>th</sup> Gen Intel® Core™ i3/i5/i7/i9 Processors

- System motherboard: ROBO-9910G2AR-A proprietary single board computer
- Supports 13th Gen Intel Core i3/i5/i7/i9 processor in LGA1700 socket
- 2x DDR5-4800 ECC SO-DIMMs up to 64GB
- 1x PCIe Gen5 x16 and 1x PCIe Gen4 x4
- 2x USB3.2 Gen 2 and 4x USB3.2 Gen 1
- 2x SATAIII, 1x HDMI, 1x DP and 1x M.2 Type M 2280
- 2x 5GbE based on Marvell Ethernet Controller



# PEAI-9910

Embedded System with 13<sup>th</sup> Gen Intel® Core™ Processor, Your Worker Safety and Industrial Edge AI Orchestrator



## About Portwell

Portwell, Inc., founded in 1993, has focused herself towards a high-technology scope that brings company value through the state-of-the-art. For the past years, continuous leading product development and revenue growth have made Portwell a major Mission-Critical Application Platform Provider in the world. The in-house design of industrial computers and application platforms by Portwell has also been targeted to meet our customer needs for flexibility. Portwell, Inc., an IoT Solutions Titanium Partner of the Intel® Partner Alliance, a community of communications and embedded developers and solution providers, designs and manufactures Communication Appliances along with a full range of Industrial Platform Service (Computer on Module, Embedded Computing, Industrial Computer), Communication Appliance Service (Software Defined Wide Area Network, ANS series, AnnA ANS Network Associate), Vertical Market Service (Advanced Network Solutions, Gaming, Medical, industrial Automation, Smart Transportation, Energy, Smart Manufacturing, Internet of Things(IoT), AI Solutions, Mobility & Barcoding Solutions, EMS/DMS), Panel Device Service (Panel PC, LEAD Series) . With streamline access to the latest Intel technology, we paved the way with the broadest array of building blocks, delivering cutting-edge solutions to meet and even exceed the demanding needs of the ever-changing telecommunication, medical electronics, industrial automation, defense and life automation markets. Committed to supplying customers with a one-stop shopping approach of full product selection, competence and sophisticated customer support, Portwell helps all our customers pave the royal road to success and stay ahead of competition.



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Portwell, Inc., a Titanium Partner of the Intel Partner Alliance, designs and manufactures a full range of IPC products (SBC, backplane, redundant power supply, rack mount & node chassis), embedded architecture solutions, DVR system platforms and communications appliances. We provide complete R&D and project management services to accelerate customers' time to market, and reduce project risk and cost. Portwell is also an ISO 13485, ISO 9001 and ISO 14001 certified company that deploys quality assurance through product design, verification and manufacturing processes.



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