Application Note
Portwell, Inc.

Portwell

PCOM-B657VGL Featuring 11th Generation Intel® Core™ vPro and Xeon® W-11000E Series Processors, Simplified Way to Smarter Manufacturing

Situation

Nowadays, as manufacturers face several challenges such as sudden crises or environmental change, turning into smart factory with industry 4.0 technology is a key path for them to survive and even grow up in the ever-changing age. However, before the industrial transformation, there are various complex digital transformation challenges to be overcome such as securely connecting the industrial edge to enterprise networks and simultaneously supporting both new and legacy OT systems, or deterministic communications from industrial endpoints to IT servers without impact on the safe and secure operation of OT endpoints in any way, etc.

Solutions

To accelerate the transformation of smart factory, besides software technology and infrastructure, suitable hardware with enough performance is the key to help its development. Portwell PCOM-B657VGL, a COM Express Type 6 basic module featuring 11th Generation Intel Core vPro and Xeon W-11000E Series processors which provide scalable computing power, safety, security, and real-time features, catches the key technical pillars of Industry 4.0-networking, performance, reliability, and security. It also helps you accelerate the development and deployment of your infrastructure and applications.

Featuring the latest 11th Generation Intel® Core™ and Xeon W-11000E processors with Willow Cove 10nm++, PCOM-B657VGL delivers 65% faster single-thread and multi-tasking compute-intensive applications for workload consolidation. Based on the integrated Intel UHD graphics, PCOM-B657VGL also offers 70% higher graphic and transcode performance which make it suitable for graphic-intensive applications including gaming, digital signage, smart retail and much more. In addition, PCOM-B657VGL also features the PCIe Gen 4 x16 on embedded x86 platform which doubles the data transfer rates over PCIe Gen 3 for higher bandwidth, lower latency, and lower power, helping to extend bandwidth to external PCIe Graphic Card for AI and AIoT application.

Featuring up to 8 cores/16 threads with 45W/35W, and 25W TDP, industrial use condition and ECC Support, PCOM-B657VGL offers long life product support of 10+ years and can simultaneously support 4 independent 4K

displays selecting from three DDI, one VGA, and one dual channel LVDS(18b/24b) interface. PCOM-B657VGL can deliver superior performance in various environments. Its fully integrated and flexible I/O expansion making it the optimal choice for mission critical use conditions and AI edge computing applications in industrial automation, machine vision, communication, IoT, edge computing, medical equipment, transportation, automated test equipment.

Scalable COM Express modules with 11th Generation Intel processors integrating Industry 4.0-centric features, PCOM-B657VGL is the inflection point for manufacturers amid IT/OT convergence. It could be your ideal solution to defend against sudden and drastic environmental change or accelerate the operational efficiency that separates your business from the competition.

PCOM-B657VGL

COM Express Type-VI Basic Module with Intel® 11th Gen H Processor

- 11 Gen Intel® Core™, Celeron®, and Xeon® W-11000E Series processors in 10nm Super Fin Process technology
- AI/DL Instruction sets Support (Intel VNNI, AVX-512, INT8, FP16)
- Up to 8C/16T@45W and 25W with Industrial temperature SKUs
- DDR4 SO-DIMM, PCIe Gen 4.0 x16, and 8x PCIe Gen 3.0 x1
- Complete Support of 3x DDI, eDP/LVDS, and VGA
- Support Intel® TCC/TSN with 2.5GbE
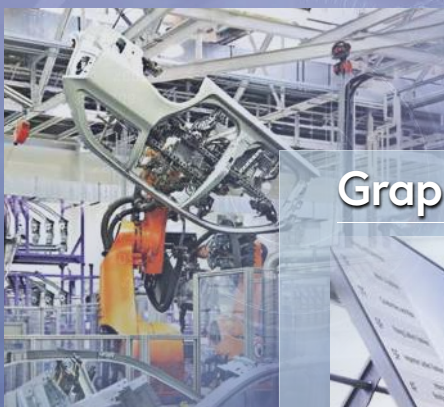
Networking   Performance   Reliability   Security

Industrial Automation

Medical Equipment

Graphic Processing

PCOM-B657VGL

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 targetted 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.

Portwell

intel. partner Titanium IoT Solutions

Portwell, Inc., an IoT Solutions 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 decrease 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 cycles.

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