DFI Desire For Innovation

intel partner Titanium IoT Solutions

Advancing Industrial Excellence with Future-Proof Machine Vision Systems

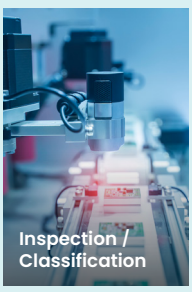
Integrating Durability, Security, and Simplicity for Comprehensive System Maintenance

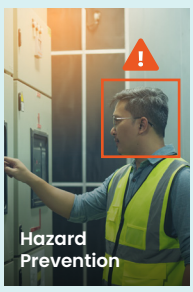
www.dfi.com

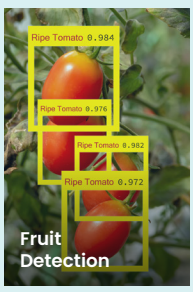
Powering Digital Transformation with DFI Machine Vision Systems

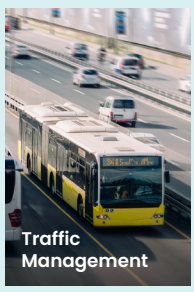
Ushering in a New Era of Technological Innovation and Operational Efficiency

Machine vision is evolving as AI, advanced cameras, 5G, the Industrial Internet of Things (IIoT), and edge computing play major roles in driving significant improvements in speed, efficiency, and accuracy.
DFI offers high-performance, industrial-grade machine vision computers tailored to meet various industry needs. These systems feature advanced edge computing capabilities, extensive input/output options, and integrated BIOS customization. Supported by robust research and development, they deliver peak performance and versatility across a wide range of industries, including manufacturing, retail, automotive, logistics, healthcare, agriculture, and more.









Future-Ready, Expandable Solutions for Machine Vision

Our machine vision systems are future-ready and highly expandable, featuring Intel strong CPU performance complemented by the latest USB 3.2 and PoE capabilities. They come equipped with substantial expandable RAM, ample data storage, and TPM 2.0 security to ensure data integrity. These systems are built for reliability, with durable components and PCIe slots for further expansion, making our solutions a wise, long-term investment for demanding applications.

EC600-RPS

Ruggedized Embedded System

- 14th/13th/12th Generation Intel® Core™ with Intel® H610E/R680E
- Supports DDR5 SODIMM up to 64GB
- Rich I/O connectivity: 2 2.5GbE, 4 GbE(or 2 GbE, 2 PoE),
- 10 COM, 5 USB 3.2(Gen2x1), 1 USB Type-C
- Multiple Expansion: 5 M.2 slots
- Support 5G Communication
- Operating Temperature: -20 to 70°C

EC611-RPS

Ruggedized Embedded System

- 14th/13th/12th Generation Intel® Core™ with Intel® H610E/R680E
- Supports DDR5 SODIMM up to 64GB
- Rich I/O connectivity: 2 2.5GbE, 4 GbE(or 2 GbE, 2 PoE), 9 COM,
- 5 USB 3.2(Gen2x1), 1 USB Type-C
- Multiple Expansion: 5 M.2 slots, 1 PCIe x16
- Support 5G Communication
- Operating Temperature: -20 to 70°C

EC622-RPS

Ruggedized Embedded System

- 14th/13th/12th Generation Intel® Core™ with Intel® H610E/R680E
- Supports DDR5 SODIMM up to 64GB
- Rich I/O connectivity: 2 2.5GbE, 4 GbE(or 2 GbE, 2 PoE), 9 COM, 5 USB 3.2(Gen2x1), 1 USB Type-C
- Multiple Expansion: 5 M.2 slots, 1 PCIe x16 & 1 PCIe x4 (PCIe x8 slot)
- Support 5G Communication
- Operating Temperature: -20 to 70°C

EC633-RPS / EC633D-RPS

Ruggedized Embedded System

- 14th/13th/12th Generation Intel® Core™ with Intel® H610E/R680E
- Supports DDR5 SODIMM up to 64GB
- Rich I/O connectivity: 2 2.5GbE, 4 GbE(or 2 GbE, 2 PoE), 9 COM, 5 USB 3.2(Gen2x1), 1 USB Type-C
- Multiple Expansion: 5 M.2 slots, 1 PCIe x16 , PCIe x8 & 1 PCIe x4 (PCIe x8 slot)
- Support GPU card (TDP up to 300W, length up to 312mm)
- Support 5G Communication
- Operating Temperature: -20 to 70°C

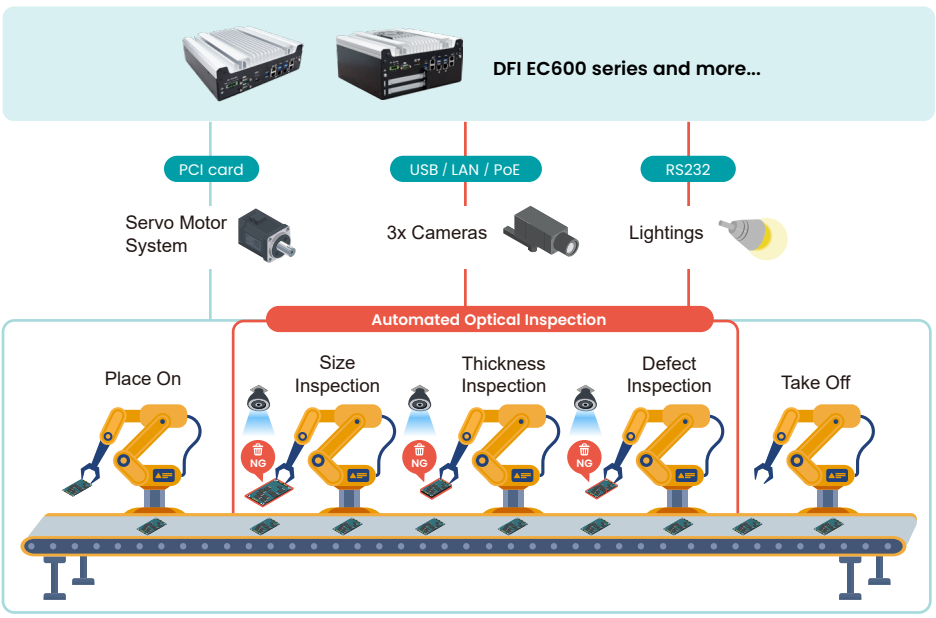
DFI delivers high-performance fanless computers with multiple expansion slots and fast data transfer for edge servers, AOI, and AI vision applications. These systems equipped with industrial-grade I/O ports, offer outstanding performance, durability, integration, and scalability for data-driven decisions.

Use Case

High-Accuracy Automated Optical Inspection(AOI) Diagram Featuring DFI's Expandable System with PoE

Project Highlights

- POE ports enhance the connection and power management of peripheral devices.
- Offering flexible configurations ensures access to the PCIe resources needed for high-performance AI implementations.
- Provides greater expansion capabilities.
- Supports DFI Out-of-Band (OOB) management solution, reducing downtime cost.



Industrial Chassis, Versatile Motherboards for Machine Vision

DFI's Industrial systems' chassis are engineered to provide the flexibility and scalability essential for industrial applications. Featuring ruggedized designs for industrial purposes, these chassis are built to endure harsh environments, ensuring reliability under demanding conditions. With a combination of robust construction and customizable options, the off-the-shelf concept allows us to deliver time-to-market solutions to our customers without compromising on performance or durability.

WM130

Chassis for Mini-ITX Motherboard

- Wall-mount Chassis for Mini-ITX MB
- 1x 2.5" SATA bay available
- 1x PCIe slot for single slot GPU/IO card expansion
- Optional front I/O opening for 4 USB and 4 DB9 ports

WM343

Chassis for microATX Motherboard

- Wall-mount Chassis for microATX MB
- Up to 2x 3.5"/2.5" SATA drive bays
- Supports up to 4 PCIe/PCI expansion slots
- Optional optical drive bay

RM645

Chassis for ATX Motherboard

- 4U Short-Depth 19" rack-mount standard for ATX MB
- 8 hot-swappable design available for 2.5" drive bays
- Optional support for redundant PSU request
- With front I/O interface and 7 expansion slots

RM840

Chassis for EATX Motherboard

- 4U 19" rack-mount standard for EATX MB
- 5x 3.5" internal storage bays and 2x 5.25" & 1x 3.5" drive bay available
- Two Doors with Keylock and Thumbscrew
- Flexible Hold Down Bar Designed

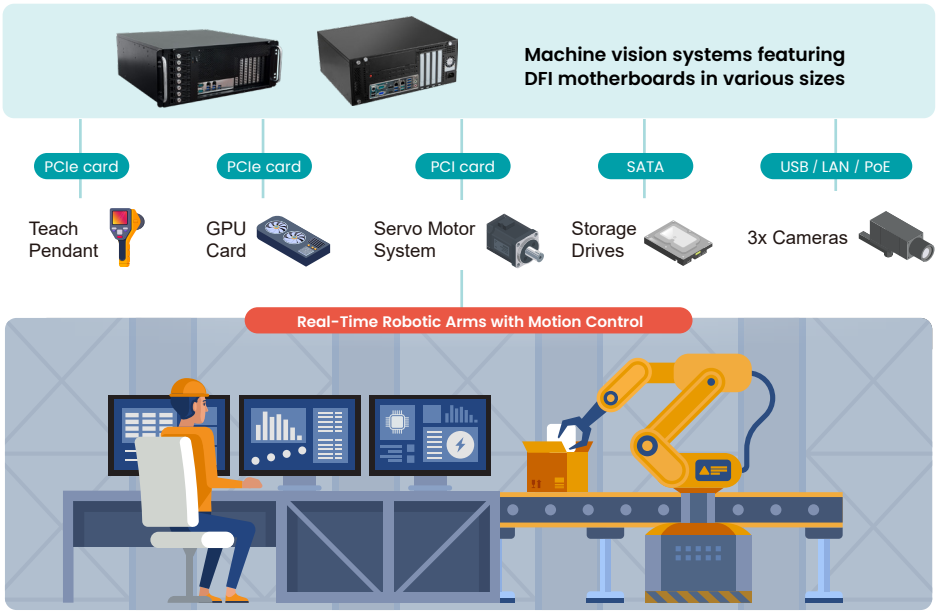
DFI offers a variety of rack-mount and wall-mount industrial chassis that support DFI's EATX, ATX, MicroATX, and Mini-ITX motherboards. These chassis are aligned with our integrated system design, service, and performance, making them optimized for combined motion, vision, and I/O applications. Customers can select the appropriate products based on space requirements, critical embedded applications, or expansion needs.

Use Case

Real-Time Motion Control Setup Diagram for Assembly Line Featuring DFI's Rack-mount & Wall-mounts IPC

Project Highlights

- Offering flexible configurations ensures access to the PCIe resources needed for high-performance AI implementations.
- We provide a range of industrial motherboard sizes to swiftly address customer needs.
- Supports DFI Out-of-Band (OOB) management solution, reducing downtime cost.



Use Case

AMRs- 24/7 Automated Delivery Service Diagram Featuring DFI's Ultra Compact Machine Vision System

Project Highlights

- Thanks to its compact size, perfectly meets the mechanical requirements of AMRs.
- Equipped with a variety of I/O interfaces, it effectively enhances the efficiency of logistics and transportation.
- With wide operating temperature range, it ensures stable performance even in harsh environments.
- Support 5G for connecting server.

EB100-MTU

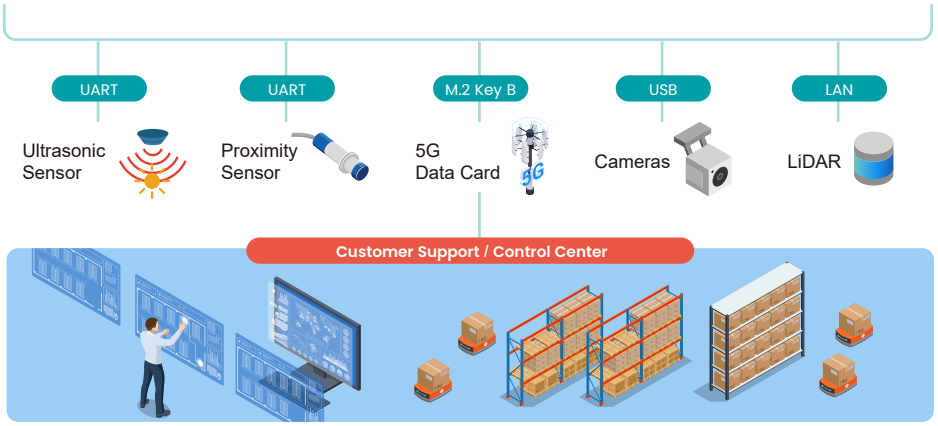
Ultra Compact Fanless PC

- Industrial NUC compact system
- 14th Generation Intel® Ultra 5/ Ultra 7 CPU (12W)
- Two DDR5 SODIMM, up to 64GB
- Up to -20°C~50°C operation with passive cooling, optional fan cooling 12VDC power in
- Ultra compact size (W x H x D): 111 x 51.1 x 106 mm
- Supports M.2 2230 E-Key/M.2 2280 M-Key, Storage: M.2 2280 M-key (NVME)
- I/O: 2 2.5GbE (TSN/TCC), 2 USB 3.2, 2 Type-C, 1 DB9 (RS232/422/485), 1 DB9 (RS232/DIO)
- Supports M.2 Hailo AI accelerator card(M.2 E key, optional)

EC70A-ADP

Ultra Compact Fanless PC

- 12th Gen Intel® Core™ Alder Lake-P Processor
- On board memory 8GB and 1 SO-DIMM DDR4
- Dual Displays: DP (4K@60Hz)
- Support M.2 B key 3042/3052 5G-NR module
- Rich I/O: up to 3 LAN & 4 USB3.2 (or 2 USB3.2 + 2 USB type-C)



Use Case

Smart Agriculture Machinery- Control System Diagram Featuring DFI's Ruggedized Machine Vision System

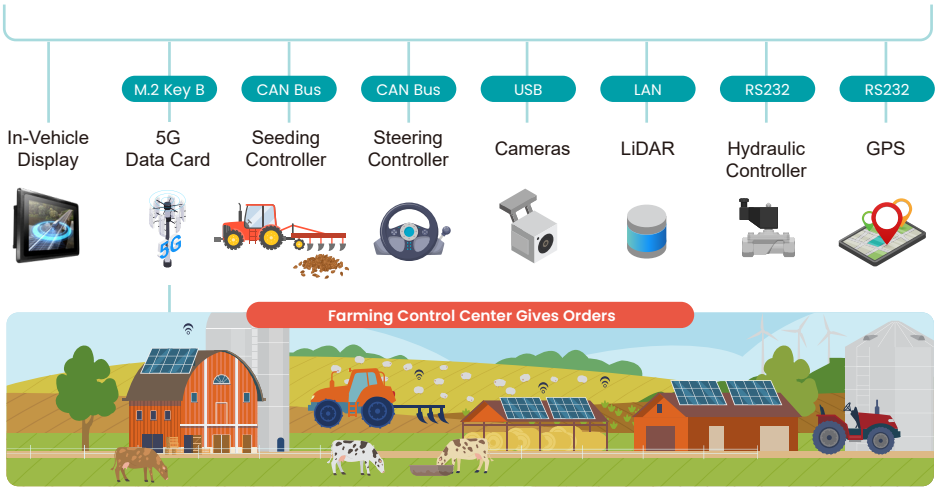
Project Highlights

- Equipped with 5G, CAN bus, and multiple Ethernet ports, ensuring smooth communication between sensors and the control center.
- Its IP67&IP69K-rated sealed casing ensures dependable performance in harsh climates.
- The IEC 60068-2-64 vibration test and shock test (15G, 11ms, half-sine wave, 3 shocks per axis) confirm this embedded solution's durability against strong vibrations.
- It supports waterproof M12 connectors and cables, enhancing signal transmission stability with waterproof features.

ECX700-ADP

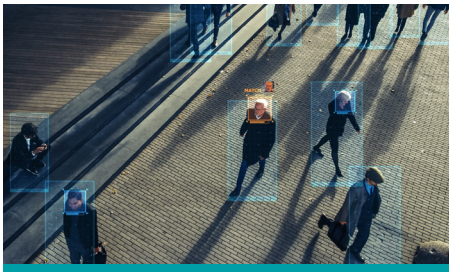
Ruggedized Embedded System

- Intel® Alder Lake-P Processor i5-1245UE/ i7-1265UE
- Intel® Iris® Xe Graphic Performance
- Extreme Ruggedized design to IEC 60068-2-64 & -20 ~ 70°C wide temperature
- Rich I/O help integrators meet the demand for various applications
- To fulfill wireless transmission, an external SIM slot reduces the difficulties to change SIMs, and the high gain antenna ensures the quality of the signal
- Various applications: Industrial automation, Outdoor application
- Waterproof & Dustproof design conforming to IP67+ 2 USB type-C)



Use Case

Surveillance - Real-time Detection and Identification of Unfamiliar Personnel in Factories Featuring DFI's Ultra-Compact Fanless PC with M.2 AI Module



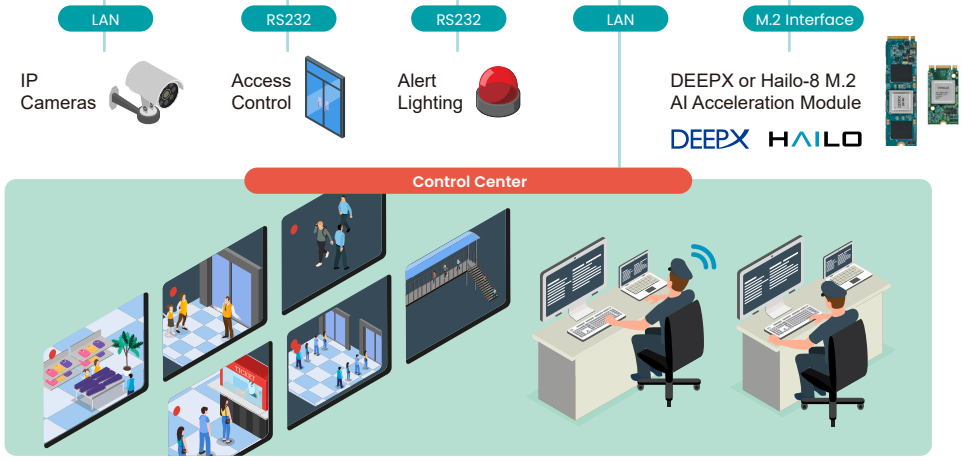
Project Highlights

- Monitor and analyze the safety of factory entries and exits from the control room.
- Instantly alert in the event of any suspicious activity.
- Equipped with an expandable Hailo-8 M.2 AI acceleration module for enhanced analysis.

EC700-ASL / EC710-ASL

Ultra Compact Fanless PC

- Intel® Processor Industrial RE Series
- On Board OOB built-in
- Slim and fanless design for limited-space condition
- Intel® TCC within the system
- On Board DDR5 & eMMC Support
- Up to Quad Display Support via USB-C/VGA, Quad display support by Dev



Use Case

Smarts Ads- AI-Powered Real-time Analysis Solution for Retail Featuring DFI's AI Inference/Training System

Project Highlights

- Leveraging AI vision to instantly analyze gender and age, targeted ads are delivered on digital signage to capture the attention of potential customers.
- Using visual technology to accurately count customer traffic.
- The Intel® Core™ Ultra processor achieves up to 32 TOPS of AI performance with combined CPU and GPU power.

X6-MTH & X6-MTH-ORN

AI Inference/Training System

- Intel® Core™ Ultra 5/7 Processor (Meteor Lake: U/H-series)
- Dual Channel DDR5 5600MHz SODIMM up to 64GB
- Support DFI defined Out of band management
- Up to 32 TOPS of AI performance (X6-MTH)
- AI engine NVIDIA Jetson Orin NX, up to 100 TOPS (X6-MTH-ORN)
- Optional MXM supported with 3 DP

Accelerating Machine Vision, Achieving Efficient Edge AI

Powerful GPUs and AI Modules Now Available

DFI provides GPUs and AI modules specifically designed for machine vision, particularly suitable for image processing and edge AI acceleration in industries such as manufacturing, transportation, and more. Powered by Intel or NVIDIA PCIe/MXM GPUs, DEEPX or Hailo-8 M.2 AI Modules, these solutions deliver high-performance and low-latency computing capabilities, making them ideal for applications such as automated optical inspection, intelligent security, driver assistance, and robotics, helping developers flexibly deploy high-precision systems.

PCI Express GPU Cards

intel. NVIDIA.

Series Model	Dimension	Slots	Performance		Power Consumption	Popular Models								
						IPC						Box PC		All Board
						WM342	WM343	WM646	RM641	RM645	RM840	EC633D-RPS	EC633-RPS	EC622-RPS
						Micro ATX		ATX			EATX			
						Dual slots card H<4.4"(112mm) L<10.5"(267mm)		Dual slots card H<5.7"(145mm) L<12.5"(320mm)			Dual slots card Full-Size H<5.7"(145mm) L<13.5"(345mm)		Dual slots card H<4.4"(112mm) L<9.5"(267mm)	Dual slots card H<2.7"(112mm) L<6.6"(267mm)	PCIe x16
A800 40GB	4.4" H x 10.5" L	2	CUDA Core: 6912	TFLOPS (FP32): 19.5	240W	-		○	○	○	○	-	-	○
RTX 6000 Ada 48GB	4.4" H x 10.5" L	2	CUDA Core: 18176	TFLOPS (FP32): 91.1	300W	-		○	○	○	○	-	-	○
RTX 5000 Ada 32GB	4.4" H x 10.5" L	2	CUDA Core: 12800	TFLOPS (FP32): 65.3	250W	-		○	○	○	○	-	-	○
RTX 4500 Ada 24GB	4.4" H x 10.5" L	2	CUDA Core: 7680	TFLOPS (FP32): 39.6	210W	-		○	○	○	○	-	-	○
RTX 4000 Ada 20GB	4.4" H x 9.5" L	1	CUDA Core: 6114	TFLOPS (FP32): 26.7	130W	○	○	○	○	○	○	○	-	○
RTX 4000 SFF Ada 20GB (LP Bracket)	2.7" H x 6.6" L	2	CUDA Core: 6114	TFLOPS (FP32): 19.2	70W	○	○	○	○	○	○	○	○	○
RTX 2000 SFF Ada 16GB (LP Bracket)	2.7" H x 6.6" L	2	CUDA Core: 2816	TFLOPS (FP32): 12	70W	○	○	○	○	○	○	○	○	○
RTX A1000 8GB (ATX Bracket)	2.7" H x 6.4" L	1	CUDA Core: 2304	TFLOPS (FP32): 6.74	50W	○	○	○	○	○	○	○	○	○
RTX A400 4GB (ATX Bracket)	2.7" H x 6.4" L	1	CUDA Core: 768	TFLOPS (FP32): 2.7	50W	○	○	○	○	○	○	○	○	○
Intel A380E 6GB	4.4" H x 6.2" L	2	Xe-Cores/ Excution Units:8/128	INT8 TOPS: 66	75W	○	○	○	○	○	○	○	○	○
Intel A380E 6GB (LP Bracket)	2.7" H x 6.2" L	2	Xe-Cores/ Excution Units:8/128	INT8 TOPS: 66	75W	○	○	○	○	○	○	○	○	○
Intel A310E 4GB	4.4" H x 8.7" L	1	Xe-Cores/ Excution Units:6/96	INT8 TOPS: 49	50W	○	○	○	○	○	○	○	-	○
Intel A310E 4GB (LP Bracket)	2.7" H x 8.7" L	1	Xe-Cores/ Excution Units:6/96	INT8 TOPS: 49	50W	○	○	○	○	○	○	○	-	○

MXM GPU Cards

Series Model	MXM 3.1 Type	Performance		Memory	Power Consumption	Popular Models								
						System							Board	
						Fanless						Fan		
						X6-MTH-MXM	VC500-CMS-MXM	EC300-CS	RC300-CS	VC300-CS	EC180-CS	DT200-CS	CS181	RPS183
						MXM Power Limit								
						60W	150W	150W	150W	150W	60W	80W	115W	125W
RTX 5000 Ada	Type B	CUDA Core: 9728	TFLOPS (FP32): 41.15	16GB GDDR6	115W	-	○	○	○	○	-	-	○	○
RTX 3500 Ada	Type B	CUDA Core: 5120	TFLOPS (FP32): 23.04	12GB GDDR6	115W	-	○	○	○	○	-	-	○	○
RTX 2000 Ada	Type A	CUDA Core: 3072	TFLOPS (FP32): 12.8	8GB GDDR6	60W	○	○	○	○	○	○	○	○	○
RTX A4500	Type B	CUDA Core: 5888	TFLOPS (FP32): 17.66	16GB GDDR6	115W	-	○	○	○	○	-	-	○	○
RTX A2000	Type A	CUDA Core: 2560	TFLOPS (FP32): 8.25	8GB GDDR6	60W	○	○	○	○	○	○	○	○	○
RTX A1000	Type A	CUDA Core: 2048	TFLOPS (FP32): 6.66	4GB GDDR6	60W	○	○	○	○	○	○	○	○	○
RTX A500	Type A	CUDA Core: 2048	TFLOPS (FP32): 6.54	4GB GDDR6	35W/45W	-	○	○	○	○	○	○	○	○
T1000	Type A	CUDA Core: 896	TFLOPS (FP32): 2.6	4GB GDDR6	50W	○	○	○	○	○	○	○	○	○
P1000	Type A	CUDA Core: 512	TFLOPS (FP32): 1.8	4GB GDDR5	47W	○	○	○	○	○	○	○	○	○
RTX 5000	Type B	CUDA Core: 3072	TFLOPS (FP32): 9.4	16GB GDDR6	110W	-	○	○	○	○	-	-	○	○
RTX 3000	Type B	CUDA Core: 1920	TFLOPS (FP32): 5.4	6GB GDDR6	80W	-	○	○	○	○	-	○	○	○

M.2 AI Modules

Series Model	M.2 Type	Popular Models						
		System				IPC	Board	SBC
		X6-MTH	EC700-ADN EC700-ASL	EB100-MTU	Other			
DEEPX 2280 M Key M.2 Module DEEPX -DX-M1	2280 M Key	-	◇	-	Has corresponding M.2 interface and PCIe signal Depends on request to execute a real test			
Hailo-8 2280 M Key M.2 Module Extended Temperature HM218B1C2FAE	2280 M Key	○	✻	-				
Hailo-8 2230 A+E Key M.2 Module Extended Temperature HM218B1C2KAE	2230 A+E Key	-	✻	○				
Hailo-8 2280 B+M Key M.2 Module Extended Temperature HM218B1C2LAE	2280 B+M Key	-	◇	-				
Hailo-8L 2230 A+E Key M.2 Module Extended Temperature HM21LB1C2KAE	2230 A+E Key	○	✻	○				
Hailo-8L 2280 B+M Key M.2 Module Extended Temperature HM21LB1C2LAE	2280 B+M Key	-	✻	-				

◇: in Processes, ○: Verified, ✻: Project support

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DFI Desire For Innovation

Founded in 1981, DFI is a global leading provider of high-performance computing technology across multiple embedded industries. With its innovative design and premium quality management system, DFI's industrial-grade solutions enable customers to optimize their equipment and ensure high reliability, long-term life cycle, and 24/7 durability in a breadth of markets including Industrial Automation, Medical, Infotainment,Transportation, Energy, Mission-Critical, and Intelligent Retail.