innodisk

# ARCHITECT INTELLIGENCE

## SELECTION GUIDE 2025

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# INNODISK: ARCHITECTS OF INTELLIGENCE

Innodisk is a global leader in intelligent industrial solutions, pioneering the seamless integration of industry-leading components with AI computing platforms.

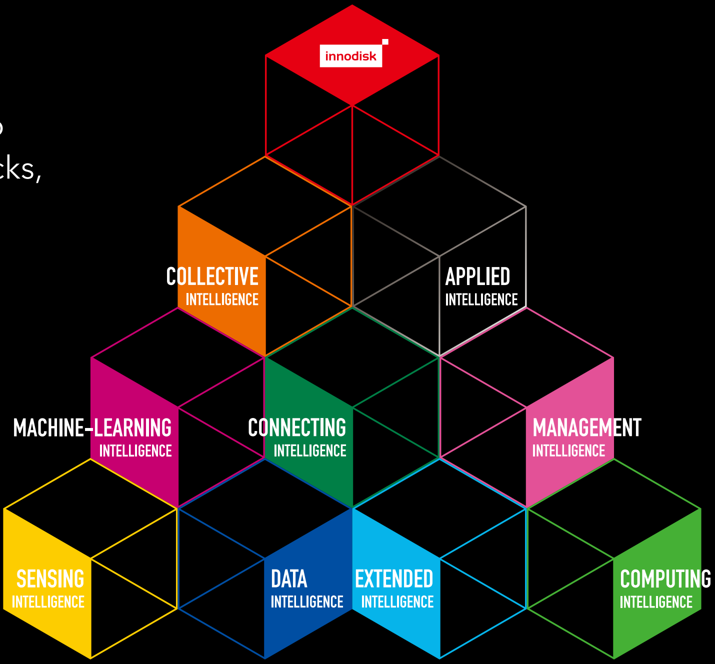
As the architects of intelligence, we leverage our deep expertise and strategic worldwide partnerships to develop versatile solutions that transform industrial and enterprise applications.

**FOUNDED** and headquartered in Taiwan in 2005, we proudly celebrate our 20th anniversary in 2025. With engineering experts and sales teams across 20 global locations, we deliver unparalleled service quality and reliability, successfully implementing AI solutions in real-world scenarios across diverse markets.

**OUR FLEXIBLE COLLABORATION APPROACH** integrates software, hardware, and firmware technologies into comprehensive intelligence building blocks, ensuring tailored solutions that precisely meet each client's unique requirements.

Through this holistic approach, we continue to architect the future of industrial intelligence, turning possibilities into reality.

LEARN MORE



# SOLUTIONS ACROSS INDUSTRIES

We bridge the gap between industry insights and tangible outcomes.

## MANUFACTURING

AI solutions boost efficiency, safety, and factory output with precise, instant decisions.

- Autonomous Mobile Robot (AMR)
- Automated Optical Inspection (AOI)
- Smart Factory

## COMMUNICATION

Our solutions ensure high, stable performance for critical telecom infrastructure under heavy loads.

- 5G Base Stations
- Recording and Broadcasting Systems

## TRANSPORTATION

Our solutions enhance operations, management, and security for EVs, buses, subways, and more.

- Electric Vehicle (EV) Charging
- Autonomous Vehicles

## HEALTHCARE

We integrate AI into healthcare with advanced solutions, meeting strict medical demands.

- Smart Nursing System
- Packing and Inspection

## SURVEILLANCE & SAFETY

Our solutions deliver advanced analytics and instant response for modern surveillance needs.

- Smart Street Lights
- PPE Detection

## ENTERTAINMENT

We offer solutions that extend device lifespan, protect data, and meet entertainment standards.

- Casinos

## DATA CENTERS

We tackle growing data, extend product lifespan, and reduce power for servers and data centers.

- Cloud Storage Systems
- Edge Computing Servers
- AI Training Servers

## AEROSPACE

We create cutting-edge solutions tailored to the aerospace industry's unique challenges.

- Mission Critical
- Rugged Systems

## RETAIL & LOGISTICS

We drive smart retail, enhancing shopping, ordering, and delivery with efficiency and security.

- Smart Vending Machine
- Self-checkout Systems

# TECHNOLOGY AND INNOVATION

Innodisk develops industrial-grade technologies that focus on reliability, durability, and performance. Through comprehensive hardware, firmware, and software integration, we deliver intelligent solutions designed to work in challenging environments. Our customization capabilities ensure each solution precisely meets your industrial application demands.

## DATA OPTIMIZATION

### iDATA GUARD

Ensures efficient power cycling and data integrity.

### iPOWER GUARD

Safeguards your SSD and prevents power instability.

### iRETENTION

Utilizes an intelligent algorithm to monitor temperature and P/E cycle data.

### END-TO-END DATA PATH PROTECTION (ETEP)

Ensures data integrity at every single step.

## SECURITY

### PLP (iCELL)

Ensures SSD can protect mission-critical data and prevent data loss.

### AES

AES encryption protects confidential data.

### WRITE PROTECT

Safeguards the data stored on your flash storage.

## ENVIRONMENTAL PROTECTION

### WIDE TEMPERATURE

Supports operating temperature from -40°C ~ 85°C.

### ANTI-SULFURATION

Resists sulfur corrosion in harsh environments.

### CONFORMAL COATING

Protects your DRAM PCB from acid, dust, and other harmful materials.

### RUGGED CLIPS

Enhances module stability and high-impact strength.

### HEAT SPREADER

Prevents overheating and extends product lifespan.

### SIDE FILL

Strengthens the connection between the chips and the board.

## LONGEVITY

### iSLC / ULTRA iSLC

Extends the device's lifespan and enhances overall performance.

### WEAR LEVELING

Ensures the even usage of blocks across the device lifespan.

### GARBAGE COLLECTION AND TRIM

Removes unneeded data and extends the lifespan of your storage.

## RECOVERY

### InnoOSR

InnoOSR's patented firmware technology enables recovery with just a single click.

### CLOUD RECOVERY

Enables operators to recover devices remotely through the cloud.

### LOCAL RECOVERY

Enables on-site device recovery.

# APPLIED INTELLIGENCE

## MODULAR SOLUTIONS READY FOR ANY SCENARIO

Our intelligence solutions are designed to offer flexibility and customization for your specific needs. Explore real-world application stories for insights and inspiration to craft your own success narrative.

### OPTIMIZED AI SYSTEMS

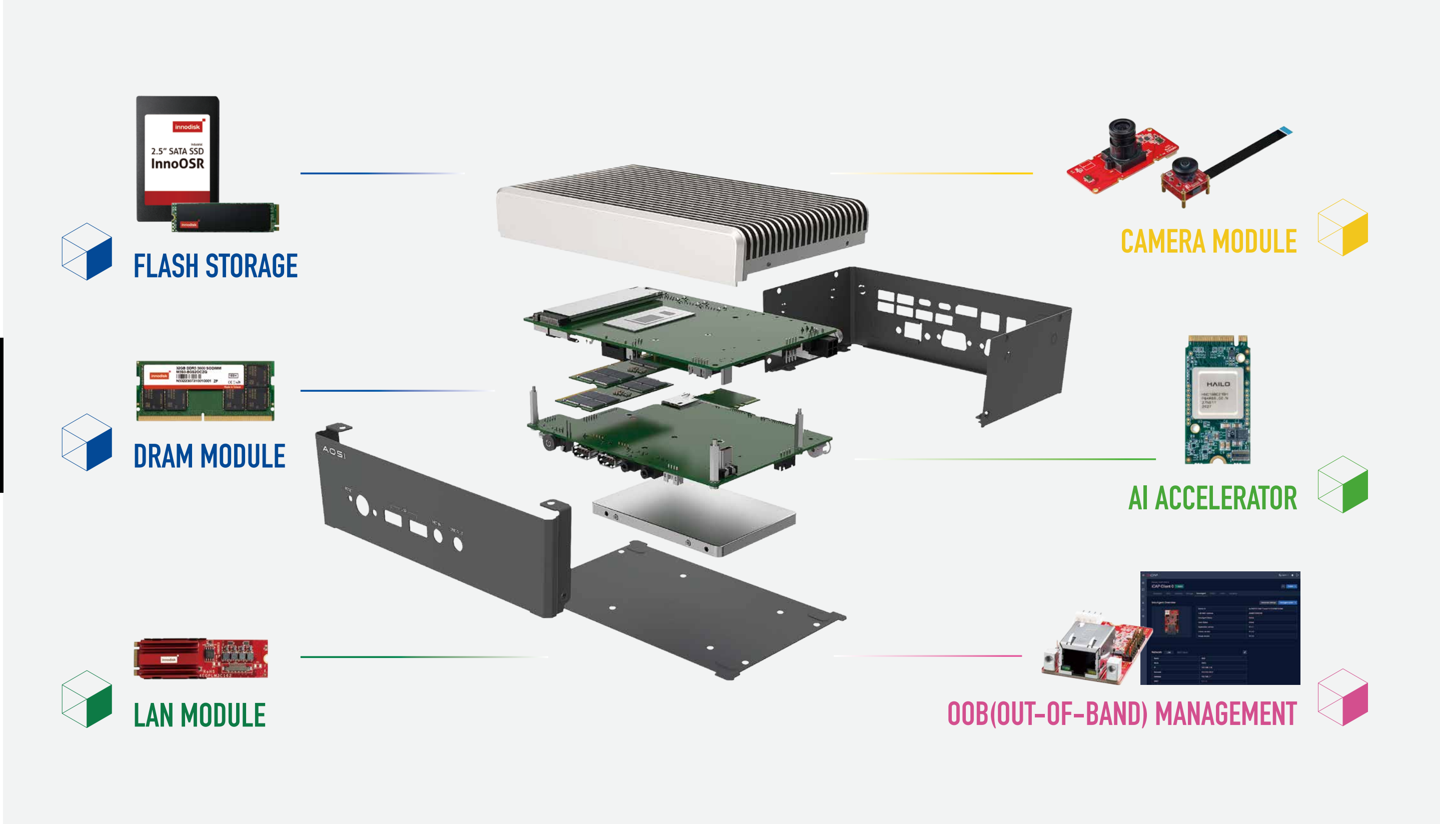
Optimized AI systems for edge AI training and inference.

### APPLICATION SCENARIOS

Integrated solutions for real-world applications and scenarios.

# OPTIMIZED AI SYSTEMS

By leveraging the **Intelligence Building Blocks**, our Optimized AI Systems combine various elements, from components to computing platforms, software to firmware technologies.



With the core of AI, the Optimized AI Systems provide diverse options and allow customization to develop a ready-to-use solution for all client's unique needs.

**Customizable AI Solutions**

**Optimized Computational Power**

**Seamless Hardware Compatibility**

**Value-added & Expert Support**

# APEX-X100

## NVIDIA GPU x Intel Solution

## Intel-Based AI System with NVIDIA RTX 6000 Ada Accelerator

- Supports 18,176 CUDA Cores, 568 Tensor Cores, and 142 RT Cores with 48GB GDDR6 memory for AI LLM/SLM applications.
- Intel 13th Gen Core i7/i9 CPU, with up to 128GB DDR5 DRAM and 1TB NVMe SSD pre-installed.

| | | | |
|---|---|---|---|
| **Platform** | Intel CPU | Core i9-13900E | Core i7-13700E |
| | Cores (P+E+LPE) | 24C (8P + 16E) | 16C (8P + 8E) |
| | Max. Frequency | 5.2GHz | 5.1GHz |
| **AI Accelerator** | AI Engine | NVIDIA RTX 6000 Ada | |
| | Form Factor (Interface) | 11.2cm H x 26.7cm L, dual slot, full height (PCIe Gen 4 x16) | |
| | Cores | 18,176 x NVIDIA Ada Lovelace architecture-based CUDA Cores<br>568 x NVIDIA fourth-generation Tensor Cores<br>142 x NVIDIA third-generation RT Cores | |
| | GPU memory | 48GB GDDR6 (w/ECC) | |
| **Memory** | Technology / Socket | DDR5 4400MHz[*1] / 4 x 288pin DDR5 U-DIMM | |
| | Max. Capacity | up to 128GB<br>(4 x 32GB, total 128GB pre-installed) | up to 128GB<br>(2 x 32GB, total 64GB pre-installed) |
| **Displays** | HDMI 2.0 (4K@30Hz) | 1 | |
| | DP++ 1.4 (4K@60Hz) | 2 | |
| | VGA | 1 (optional, share the same connector with GPIO/DIO) | |
| **Ethernet** | LAN (Marvell AQC113 10Gbps) | 1 | |
| | LAN (Intel I226 2.5Gbps) | 3 x (LAN2/3 support 802.at with 30W PoE) | |
| **Expansion Slots** | M.2 2280 M Key | 1 x (PCIe Gen 4 x4),1TB M.2 SSD pre-installed | 1 x (PCIe Gen 4 x4), 512GB M.2 SSD pre-installed |
| | M.2 2230 E Key | 1 x (PCIe Gen 3 x1/USB 2.0) | |
| | M.2 3052 B Key | 1 x (USB 3.2), with Nano SIM socket | |
| | PCIe x16 | 2 x (Gen 4*2 x16 signal), RTX 6000 Ada pre-installed or 2 x (Gen4[*2] x8 signal) | |
| | PCIe x16 | 1 x (Gen 3 x4 signal) | |
| | PCIe x4 | 1 x (Gen 3 x4 signal) | |
| | PCIe x1 | 1 x (Gen 3 x1 signal) | |
| **External I/O** | COM1 | RS232/422/485 | |
| | COM2 | RS232/422/485 | |
| | COM3 | RS485 (RJ45) | |
| | USB 3.2 Gen 2x2 (20Gbps) Type C | 1 | |
| | USB 3.2 Gen 2 (10Gbps) | 8 | |
| | Buttons | 1 x Power | |
| | Audio (Realtek ALC888S) | Mic-in x 1, Line-out x 1 | |
| | GPIO/DIO | 8-bit (4 in/ 4 out) | |
| **Power** | Power Input Voltage | DC 24~48V | |
| | Power Consumption | 24V@25A (with i9-13900E/ 1TB SSD/ 128GB DRAM/ NVIDIA RTX6000 Ada) | |
| **Environment** | Operating Temperature | 0°C~40°C (with NVIDIA RTX 6000 Ada) | |
| **Miscellaneous** | LED Indicator | 2 x Power LED, 2 x Fan LED, 2 x Temp LED | |
| **Physical Characteristics** | Dimension L x W x H (mm) | 340 x 279 x 215 | |
| | Net Weight / Gross Weight (KG) | 11 / 17 | |
| | Mount | Wall Mount / Desk mount | |
| | Antenna Holes | 6 | |
| **Regulation** | Safety | CE/FCC/UKCA | |

[*1] by Intel CPU limitation [*2] by PCIe ReDriver IC limitation

# APEX-P100

NVIDIA GPU x Intel Solution

## Intel-Based AI System with NVIDIA RTX 5000 Ada Accelerator

- Supports 9,728 CUDA Cores, 304 Tensor Cores, and 76 RT Cores with 16GB GDDR6 memory for factory AOI and AI medical imaging recognition.
- Intel 13th Gen Core i7 CPU, 32GB DDR5 DRAM and 512GB NVMe SSD are pre-installed.

| | | |
|---|---|---|
| **Platform** | Intel CPU | Core i7-13700E |
| | Cores (P+E+LPE) | 16C (8P + 8E) |
| | Max. Frequency | 5.1GHz |
| **AI Accelerator** | AI Engine | NVIDIA RTX 5000 Ada |
| | Form Factor (Interface) | MXM graphics module version 3.1, Type B (PCIe Gen 4 x 16) |
| | Cores | 9,728 x NVIDIA Ada Lovelace architecture-based CUDA Cores<br>304 x NVIDIA fourth-generation Tensor Cores<br>76 x NVIDIA third-generation RT Cores |
| | GPU memory | 16GB GDDR6 (w/ECC) |
| **Memory** | Technology / Socket | DDR5 5200MHz / 2 x 262pin DDR5 SO-DIMM |
| | Max. Capacity | up to 64GB (2 x 16GB, total 32GB pre-installed) |
| **Displays** | DP++ 1.4 (4K@60Hz) | 5 |
| **Ethernet** | LAN (Intel I226 2.5Gbps) | 5 |
| **Expansion Slots** | M.2 2280 M Key | 2 x (PCIe Gen 4 x4 / SATAIII), 512GB M.2 SSD pre-installed |
| | MXM Type B / B+ | 1 x (PCIe Gen4 x16), NVIDIA RTX 5000 Ada pre-installed |
| **External I/O** | COM1 | RS232/422/485 |
| | COM2 | RS232/422/485 |
| | COM3 | RS232/422/485 |
| | COM4 | RS232/422/485 |
| | USB 3.2 Gen 2x2 (20Gbps) Type C | 1 |
| | USB 3.2 Gen 2 (10Gbps) | 6 |
| | USB 2.0 | 2 |
| | Buttons | 1 x Power (with LED) |
| | Audio (Realtek ALC888S) | Mic-in x 1, Line-out x 1 |
| | GPIO/ DIO | 7-bit (by BIOS selection) |
| **Power** | Power Input Voltage | DC 24V |
| | Power Consumption | 24V@19.8A (with i7-13700E/ 512GB SSD/ 32GB DRAM/ NVIDIA RTX 5000 Ada) |
| **Environment** | Operating Temperature | 0°C~50°C (with NVIDIA RTX 5000 Ada) |
| **Physical Characteristics** | Dimension L x W x H (mm) | 280 x 270 x 148.2 |
| | Net Weight / Gross Weight (KG) | 5.7 / 8 |
| | Mount | Wall Mount |
| **Regulation** | Safety | CE/FCC |

# APEX-P200

NVIDIA GPU x Intel Solution

## Intel-Based AI System with NVIDIA RTX 2000 Ada Accelerator

- Supports 3,072 CUDA Cores, 96 Tensor Cores, and 24 RT Cores with 8GB GDDR6 memory for AI medical imaging diagnostics and object detection.
- Intel 13th Gen Core i7 CPU, 32GB DDR5 DRAM and 512GB NVMe SSD are pre-installed.
- Compact design with dimensions of 182mm x 158.6mm x 90mm for efficient space usage.

| | | |
|---|---|---|
| **Platform** | Intel CPU | Core i7-13800HE |
| | Cores (P+E+LPE) | 14C (6P + 8E) |
| | Max. Frequency | 5GHz |
| **AI Accelerator** | AI Engine | NVIDIA RTX 2000 Ada |
| | Form Factor (Interface) | MXM graphics module version 3.1, Type A (PCIe Gen 4 x 8) |
| | Cores | 3,072 x NVIDIA Ada Lovelace architecture-based CUDA Cores<br>96 x NVIDIA fourth-generation Tensor Cores<br>24 x NVIDIA third-generation RT Cores |
| | GPU memory | 8GB GDDR6 (w/ECC) |
| **Memory** | Technology / Socket | DDR5 5200MHz / 2 x 262pin DDR5 SO-DIMM |
| | Max. Capacity | up to 64GB (2 x 16GB, total 32GB pre-installed) |
| **Displays** | HDMI 2.1 (8K@60Hz) | 1 |
| **Ethernet** | LAN (Intel I226 2.5Gbps) | 3x (LAN 2/3 support 802.at with 30W PoE) |
| **Expansion Slots** | M.2 2280 M Key | 1 x (PCIe Gen 4 x4),512GB M.2 SSD pre-installed |
| | M.2 2230 E Key | 1 x (PCIe Gen 3 x1/USB 2.0) |
| | MXM Type A | 1 x (PCIe Gen 4 x8), RTX 2000 Ada pre-installed |
| **External I/O** | COM1 | RS232/422/485 (5V/12V) |
| | COM2 | RS232/422/485 |
| | USB 3.2 Gen 2 (10Gbps) | 2 |
| | USB 2.0 | 2 |
| | Buttons | 1 x Power (with LED) |
| | Audio (Realtek ALC888S) | Mic-in x 1, Line-out x 1 |
| **Power** | Power Input Voltage | DC 19V |
| | Power Consumption | 19V@10.5A (with i7-13800HE/ 512GB SSD/ 32GB DRAM/ NVIDIA RTX 2000 Ada) |
| **Environment** | Operating Temperature | -20°C~60°C |
| **Miscellaneous** | LED Indicator | 1 x HDD LED |
| **Physical Characteristics** | Dimension L x W x H (mm) | 182 x 158.6 x 90 |
| | Net Weight / Gross Weight (KG) | 3 / 3.7 |
| | Mount | Wall Mount |
| | Antenna Holes | 2 |
| **Regulation** | Safety | CE/FCC/UKCA |

# APEX-E100

Intel x AI solution

## Intel AI Box PC with Integrated NPU

- Equipped with a built-in NPU delivering up to 36 TOPS, with GPU and CPU support for AMR/AGV, AI surveillance, and visual inspection.
- Intel Core Ultra CPU, 16GB DDR5 DRAM, and 512GB NVMe SSD are pre-installed
- Supports Innodisk dual MIPI over Type-C cameras.

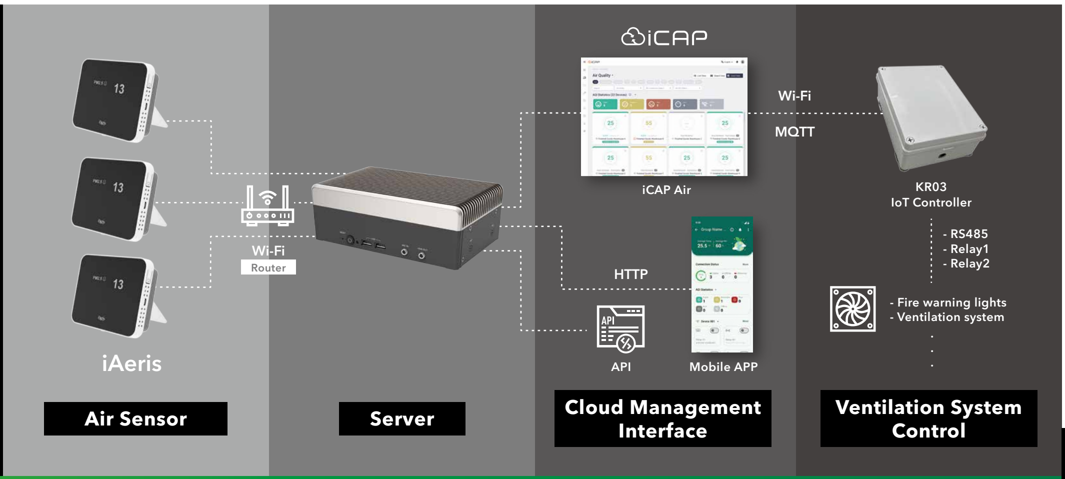
| | | | | |
|---|---|---|---|---|
| **Platform** | Intel CPU | Core Ultra 7 165HL | Core Ultra 5 135HL | Core Ultra 3 105UL |
| | Cores (P+E+LPE) | 16C (6P + 8E + 2LPE) | 14C (4P + 8E + 2LPE) | 8C (2P + 4E + 2LPE) |
| | Max. Frequency | 5.0GHz | 4.6GHz | 4.2GHz |
| **AI Accelerator** | AI Engine | Intel AI Boost up to 36 TOPS via (CPU+GPU+NPU) | | |
| **Memory** | Technology / Socket | DDR5 5600MHz / 2 x 262pin DDR5 SO-DIMM | | |
| | Max. Capacity | up to 96GB (2 x 8GB, total 16GB pre-installed) | | |
| **Displays** | HDMI 2.1 (8K@30Hz) | 2 | | |
| **Ethernet** | LAN (Intel I226 2.5Gbps) | 2 | | |
| **Expansion Slots** | M.2 2230 E Key | 1 x (PCIe Gen 3 x1 / USB 2.0) | | |
| | M.2 2280 M Key | 1 x (PCIe Gen 4 x4 / SATAIII); 512GB M.2 SSD pre-installed | | |
| **External I/O** | COM1 | RS232/422/485 | | |
| | USB 3.2 Gen2 (10Gbps) | 2 | | |
| | USB 3.2 Gen1 (5Gbps) | 2 | | |
| | USB 2.0 | 2 | | |
| | Buttons | 1 x Power | | |
| | Audio (Realtek ALC888S) | Mic-in x 1, Line-out x 1 | | |
| | MIPI over Type-C | 2 | | |
| **Power** | Power Input Voltage | DC 12V | | |
| | Power Consumption | 12V@12.5A (with Ultra 7 165HL/ 1T SSD/ 32GB DRAM) | | |
| **Environment** | Operating Temperature | -20°C~60°C | | |
| **Miscellaneous** | LED Indicator | 1 x Power LED | | |
| **Physical Characteristics** | Dimension L x W x H (mm) | 188 x 140 x 56 | | |
| | Net Weight / Gross Weight (KG) | 1.6 / 2.1 | | |
| | Mount | Wall Mount | | |
| | Antenna Holes | 2 | | |
| **Regulation** | Safety | CE/FCC | | |

# APPLICATION SCENARIOS

# iCAP AIR

## AIR QUALITY MANAGEMENT SOLUTION

**Comprehensive Intelligent Air Quality Management Solution**



### High Sensitivity

Certified by SHS, FCC, CE, RoHS, NCC, BSMI, and other international standards.

### Group Management

Conduct categorized management for various locations and devices.

### Personalized Floor Plan

Upload floor plans to manage devices in various places.

### Thresholds and Alarms

Customize thresholds for different air factors and issue instant alerts.

### Automatic Trigger

Activate ventilation equipment based on real-time air quality or trigger by scheduling.

**Air Sensor**

## iCAP Air Specification Table

| Air Sensor Model | Temperature | Humidity | PM2.5 | PM10 | CO2 | TVOC | HCHO* NO2* O3* SO2* CO* NH3* H2S* |
|---|---|---|---|---|---|---|---|
| **iAeris74** | • | • | • |  | • |  | **Customizable** |
| **iAeris76** | • | • | • | • | • | • |  |

## iAeris

Air Sensor

| | |
|---|---|
| **Operating Environment** | -10°C ~ 50°C, below 90% RH |
| **Storage Temperature** | -20°C ~ 70°C, below 90% RH |
| **Screen** | 2.23" OLED |
| **Control interface** | modbus-RTU or DO (Dry Contact) |
| **Communication Protocol** | RS485 (Modbus-RTU) / Wi-Fi (Modbus-TCP, HTTP, MQTT) (Optional) / BLE4.0(Optional) |
| **Power Supply** | DC 5V/1.0A or DC12-24V/0.5A |
| **Power Consumption** | Max 5W |
| **Safety Standards** | CE / FCC / NCC / BSMI |
| **Dimension** | 114mm(L) x 96mm(W) x 36mm(H) |
| **Weight** | 142g |

## ABOX-5120

Air Quality Server

| | |
|---|---|
| **CPU** | Intel® Celeron® Processor 7305E |
| **Memory** | 32GB - DDR5 4800MT/s |
| **Storage** | 512GB |
| **OS** | Linux / Ubuntu 22.04.3 LTS |
| **Operating Temperature** | -20°C ~ 60°C |
| **Storage Temperature** | -40°C ~ 85°C |
| **Operating Humidity** | Relative humidity: 5% to 95%, non-condensing |
| **Vibration During Operation** | With SSD: 3G, IEC 60068-2-64, random, 5~500Hz, 1hr/axis |
| **Shock During Operation** | With SSD: 30G, IEC 60068-2-27, half sine, 11ms duration |
| **Dimension** | 182.17mm x 108.64mm x 63.16mm |

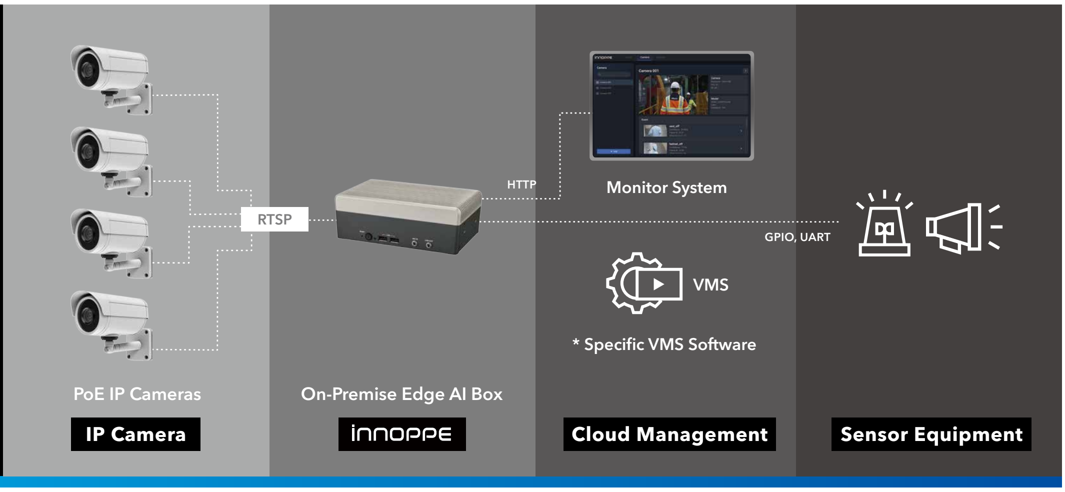
*The air quality server is bundled with iCAP Air and is not available for separate purchase.

# InnoPPE

# PERSONAL PROTECTIVE EQUIPMENT (PPE) RECOGNITION SOLUTION

## Highly Flexible, Intelligent Solution

Centered around the edge AI host, front-end IP cameras and back-end management platforms can be seamlessly connected to implement AI PPE recognition solutions easily.



* Video Management System (VMS) software is not included with InnoPPE. The diagram illustrates InnoPPE's capability to send detection events to compatible VMS platforms for alert notifications.

### Flexible Architecture

Utilizes existing IP cameras to detect PPE accurately.

### Efficient Deployment

An independent edge AI host supports multiple IP cameras, reducing setup costs.

### Real-time Event Alerts

Records violations in real-time and can integrate with on-site alert systems for immediate notifications.

### Smart Fence Warning

Provides zone detection capabilities, enabling real-time alerts in response to unauthorized intrusion or loitering.

ODM

### High-Flexibility ODM Services

Exclusive customized AI models are offered for practical application environments to ensure optimal AI recognition performance.

### Third-Party Software Integration

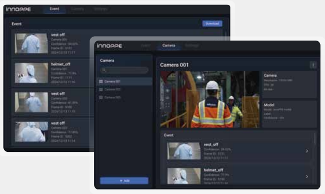
The Nx Witness VMS is integrated to receive event notifications and record key video segments.

## InnoPPE Hardware / Software Specifications

### HARDWARE

| | |
|---|---|
| **CPU** | i5-1245UE |
| **AI Accelerator** | Hailo-8 |
| **Memory** | 16GB DDR5 SO-DIMM |
| **Storage** | 512GB |
| **Power Requirement** | 9~36V DC Power supply |
| **Temperature** | Operation: -20°C ~ 60°C (Ta) |
| | Storage: -40°C ~ 85°C (Ta) |
| **Certification** | CE/FCC class A |
| **Dimension (L x W x H)** | 182.17mm x 108.64mm x 63.16mm |
| **Regulation** | CE/FCC Class B/RoHS/UKCA |
| **Warranty** | 1 Year |

### SOFTWARE

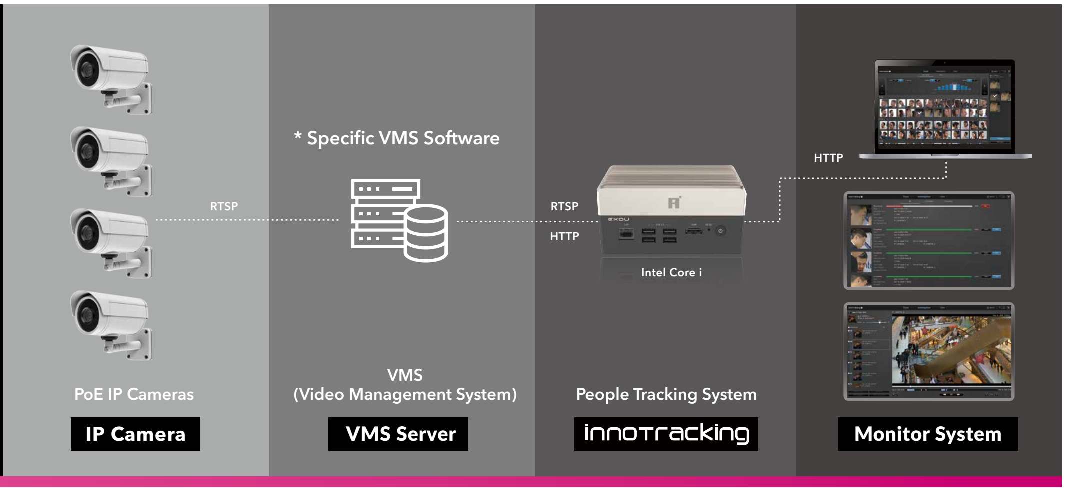


| | |
|---|---|
| **Image Sources** | Supports RTSP-compatible network cameras / VMS / DVR / NVR systems |
| **Video Format** | H.264 |
| **Image Resolution** | 1080P / 720P / 640P |
| **Recognition Objects** | Human / Hard Helmet / Reflective Vest |
| **FPS per Channel** | 5~10 fps (Varies based on channel numbers or resolution) |
| **Support Max. Channel Number** | 4 |
| **Data Output Type** | .csv / .db / .html |
| **Support Browser** | Chrome / Firefox / Edge |
| **Smart Fence** | Supports multiple polygonal ROIs |
| **Web API** | MQTT Protocol |
| **OS Support** | Linux (Kernel 5.15 and later) |

* Customized adjustment services for related hardware and software are also available.

# InnoTracking PEOPLE TRACKING SOLUTION

## Solution at a Glance



* InnoTracking requires receiving video streams from a specific VMS (Video Management System) software as the video source. InnoTracking does not include the VMS software.

**Accurate AI Facial Comparison and Search**

**No Pre-registration Required**

**Easy Way to Track a Suspect**

**Utilize Existing On-Site Cameras**

**Energy-Saving and Cost Saving**

**Built to Endure: High-Temp & Vibration-Resistant Industrial PCs**

## InnoTracking Hardware Specifications

**ABOX-5120**

Edge Server

| | |
|---|---|
| **CPU** | Intel® Celeron® Processor 7305E |
| **Memory** | 32GB - DDR5 4800MT/s |
| **Storage** | 512GB |
| **Display** | 1 x USB 3.2 Gen1 Type C<br>1 x mini DP<br>1 x HDMI |
| **Power** | Input: Single 9 ~ 36 V<br>Power Consumption: Max. 90W |
| **OS** | Linux / Ubuntu 22.04.3 LTS |
| **Operating Temperature** | -20°C ~ 60°C |
| **Storage Temperature** | -40°C ~ 85°C |
| **Operating Humidity** | 5% to 95% Relative humidity, non-condensing |
| **Vibration During Operation** | With SSD: 3G, IEC 60068-2-64, random, 5~500Hz, 1hr/axis |
| **Shock During Operation** | With SSD: 30G, IEC 60068-2-27, half sine, 11ms duration |
| **Dimension** | 182.17 x 108.64 x 63.16/mm |
| **Others** | Support InnoAgent out-of-band remote management (Optional) |

* This edge server is bundled with the InnoTracking solution and is not available for separate purchase.

DATA INTELLIGENCE

## DATA INTELLIGENCE

Robust and reliable memory and storage solutions. Our industrial-grade products are designed to empower high-performance computing and secure data storage.

# DRAM MODULE PRODUCT LINE

## **IC Grade** IC Hierarchy

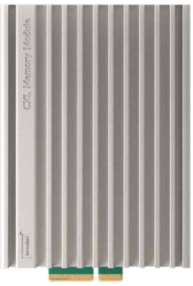
| | | |
|---|---|---|
| **Original IC** | **Original IC (Innodisk)** | - Fully tested by major IC suppliers |
| **eTT** | **Effectively Tested DRAM** | - Effectively tested but test patterns can vary by suppliers<br>- Logo unmarked and only marked with the serial number or manufacturer information |
| **uTT** | **Untested DRAM** | - Did not pass the complete test<br>- Logo unmarked and only marked with the serial number or manufacturer information |
| **Downgrade** | **Downgrade** | - DRAM IC is made with a poor yield rate wafer and die and has serious compatibility and functional issues |

## Value Added Features

▲: Available

| | | Wide Temperature | Anti-sulfuration | 30μ"Gold Finger | Mounting Hole | Connector | iRAM | iSMART / iCAP | Conformal Coating | Side Fill |
|---|---|---|---|---|---|---|---|---|---|---|
| CXL Memory Module | | | | | | | | | | |
| DDR5 | MRDIMM | | ● | ● | | | | ▲ | ▲ | ▲ |
| | LPDDR5X CAMM2 | | ● | | | | | ▲ | ▲ | ▲ |
| | CAMM2 | | ● | | | | | ▲ | ▲ | ▲ |
| | CUDIMM | ● | ● | ● | | | | ▲ | ▲ | ▲ |
| | CSODIMM | ● | ● | ● | | | | ▲ | ▲ | ▲ |
| | UDIMM | ● | ● | ● | | | | ▲ | ▲ | ▲ |
| | SODIMM | ● | ● | ● | | | | ▲ | ▲ | ▲ |
| | ECC UDIMM | ● | ● | ● | | | | ▲ | ▲ | ▲ |
| | ECC SODIMM | ● | ● | ● | | | | ▲ | ▲ | ▲ |
| | RDIMM | ● | ● | ● | | | | ▲ | ▲ | ▲ |
| | UDIMM ULP | ● | ● | ● | | | | ▲ | ▲ | ▲ |
| | ECC UDIMM VLP | ● | ● | ● | | | | ▲ | ▲ | ▲ |
| | RDIMM VLP | ● | ● | ● | | | | ▲ | ▲ | ▲ |
| | UDIMM Ultra Temperature | ● | ● | ●<br>(45μ") | | | | ▲ | ▲ | ● |
| | SODIMM Ultra Temperature | ● | ● | ●<br>(45μ") | | | | ▲ | ▲ | ● |
| DDR4 | UDIMM | ● | ● | | | | | ▲ | ▲ | ▲ |
| | SODIMM | ● | ● | | | | | ▲ | ▲ | ▲ |
| | ECC UDIMM | ● | ● | ● | | | ● | ▲ | ▲ | ▲ |
| | ECC SODIMM | ● | ● | ● | | | ● | ▲ | ▲ | ▲ |
| | RDIMM | ● | ● | ● | | | ● | ▲ | ▲ | ▲ |
| | UDIMM VLP | ● | ● | | | | | ▲ | ▲ | ▲ |
| | SODIMM VLP | | ● | | | | | ▲ | ▲ | ▲ |
| | ECC UDIMM VLP | ● | ● | ● | | | ● | ▲ | ▲ | ▲ |
| | ECC SODIMM VLP | ● | ● | ● | | | ● | ▲ | ▲ | ▲ |
| | Mini ECC VLP | | ● | ● | | | ● | ▲ | ▲ | ▲ |
| | RDIMM VLP | ● | ● | ● | | | ● | ▲ | ▲ | ▲ |
| | Mini RDIMM VLP | | ● | ● | | | ● | ▲ | ▲ | ▲ |
| | XR-DIMM | | ● | | ● | ● | ● | ▲ | ▲ | ▲ |
| | Rugged DIMM | ● | ● | | ● | | | ▲ | ▲ | ▲ |
| | SODIMM Ultra Temperature | ● | ● | ●<br>(45μ") | | | | ▲ | ▲ | ● |
| | ECC SODIMM Ultra Temperature | ● | ● | ●<br>(45μ") | | | | ▲ | ▲ | ● |
| DDR3 | UDIMM | ● | | | | | | ▲ | ▲ | ▲ |
| | SODIMM | ● | | | | | | ▲ | ▲ | ▲ |
| | ECC UDIMM | ● | | ● | | | ● | ▲ | ▲ | ▲ |
| | ECC SODIMM | ● | | ● | | | ● | ▲ | ▲ | ▲ |
| | RDIMM | | | ● | | | ● | ▲ | ▲ | ▲ |
| DDR2 | UDIMM | | | | | | | ▲ | ▲ | ▲ |
| | SODIMM | ● | | | | | | ▲ | ▲ | ▲ |
| | ECC UDIMM | | | ● | | | ● | ▲ | ▲ | ▲ |
| DDR1 | UDIMM | | | | | | | ▲ | ▲ | ▲ |
| | SODIMM | | | | | | | ▲ | ▲ | ▲ |
| SDRAM | SODIMM | | | | | | | ▲ | ▲ | ▲ |

# DRAM MODULE



## CXL Memory Module

| Model Name | CXL Memory Module |
|---|---|
| CXL Compliance | CXL 1.1 & CXL 2.0 |
| CXL Protocol | Type 3 (CXL.mem & CXL.io) |
| Interface | PCIe Gen 5 x8 |
| DRAM IC Generation | DDR5 |
| Form Factor | E3.S 2T |
| Connector | EDSFF 2C (84 pin) |
| Density | 64GB |
| Operation Temperature | 0°C ~ 70°C |

## DDR5 DRAM Module

| Module Type | DDR5 MRDIMM | LPDDR5X CAMM2 | DDR5 CAMM2 | DDR5 CUDIMM |
|---|---|---|---|---|
| Speed | 8800MT/s | 8533 MT/s | 6400 MT/s | 6400 MT/s |
| Density | 32GB, 64GB, 96GB | 32GB, 64GB | 32GB, 64GB | 8GB, 16GB,24GB, 32GB, 48GB, 64GB |
| Function | Registered Memory with ECC | Non-ECC Unbuffered Memory | Non-ECC Unbuffered Memory | Non-ECC Unbuffered Memory |
| Pin Number | 287pin | 644pin | 644pin | 288pin |
| Bus Width | x80 | x128 | x128 | x64 |
| Voltage | 1.1V | 1.05V | 1.1V | 1.1V |
| PCB Height | 1.23 Inches | 1.30 Inches | 1.57 Inches | 1.23 Inches |
| Operating Temperature | 0°C ~ 95°C (Tc) | 0°C ~ 85°C (Tc) | 0°C ~ 95°C (Tc) | 0°C ~ 95°C (Tc) |

| Module Type | DDR5 CSODIMM | DDR5 UDIMM | DDR5 SODIMM | DDR5 ECC UDIMM |
|---|---|---|---|---|
| Speed | 6400MT/s | 4800 MT/s, 5600 MT/s | 4800 MT/s, 5600 MT/s | 4800 MT/s, 5600 MT/s |
| Density | 8GB, 16GB, 24GB, 32GB, 48GB, 64GB | 8GB, 16GB, 24GB, 32GB, 48GB | 8GB, 16GB, 24GB, 32GB, 48GB | 16GB, 24GB, 32GB, 48GB |
| Function | Non-ECC Unbuffered Memory | Non-ECC Unbuffered Memory | Non-ECC Unbuffered Memory | ECC Unbuffered Memory |
| Pin Number | 262pin | 288pin | 262pin | 288pin |
| Bus Width | x64 | x64 | x64 | x72 |
| Voltage | 1.1V | 1.1V | 1.1V | 1.1V |
| PCB Height | 1.18 Inches | 1.23 Inches | 1.18 Inches | 1.23 Inches |
| Operating Temperature | 0°C ~ 95°C (Tc) | 0°C ~ 95°C (Tc) | 0°C ~ 95°C (Tc) | 0°C ~ 95°C (Tc) |

| Module Type | DDR5 ECC SODIMM | DDR5 RDIMM | DDR5 UDIMM ULP | DDR5 ECC UDIMM VLP |
|---|---|---|---|---|
| Speed | 4800 MT/s, 5600 MT/s | 4800 MT/s, 5600MT/s | 4800 MT/s, 5600 MT/s | 4800 MT/s, 5600 MT/s |
| Density | 16GB, 24GB, 32GB, 48GB | 16GB, 32GB, 64GB, 96GB,128GB | 16GB, 32GB | 16GB, 32GB |
| Function | ECC Unbuffered Memory | Registered Memory with ECC | Non-ECC Unbuffered Memory | ECC Unbuffered Memory |
| Pin Number | 262pin | 288pin | 288pin | 288pin |
| Bus Width | x72 | x80 | x64 | x72 |
| Voltage | 1.1V | 1.1V | 1.1V | 1.1V |
| PCB Height | 1.18 Inches | 1.23 Inches | 0.7 Inches | 0.738 Inches |
| Operating Temperature | 0°C ~ 95°C (Tc) | 0°C ~ 95°C (Tc) | 0°C ~ 95°C (Tc) | 0°C ~ 95°C (Tc) |

| Module Type | DDR5 RDIMM VLP | DDR5 UDIMM WT | DDR5 SODIMM WT | DDR5 ECC SODIMM WT |
|---|---|---|---|---|
| Speed | 4800 MT/s, 5600 MT/s | 4800 MT/s, 5600 MT/s | 4800 MT/s, 5600 MT/s | 4800 MT/s, 5600 MT/s |
| Density | 16GB, 32GB | 8GB, 16GB, 24GB, 32GB, 48GB | 8GB, 16GB, 24GB, 32GB, 48GB | 16GB, 24GB, 32GB, 48GB |
| Function | Registered Memory with ECC | Non-ECC Unbuffered Memory | Non-ECC Unbuffered Memory | ECC Unbuffered Memory |
| Pin Number | 288pin | 288pin | 262pin | 262pin |
| Bus Width | x80 | x64 | x64 | x72 |
| Voltage | 1.1V | 1.1V | 1.1V | 1.1V |
| PCB Height | 0.738 Inches | 1.23 Inches | 1.18 Inches | 1.18 Inches |
| Operating Temperature | 0°C ~ 95°C (Tc) | -40°C ~ 95°C (Tc) | -40°C ~ 95°C (Tc) | -40°C ~ 95°C (Tc) |

| Module Type | DDR5 ECC UDIMM WT | DDR5 RDIMM WT | DDR5 UDIMM ULP WT | DDR5 ECC UDIMM VLP WT |
|---|---|---|---|---|
| Speed | 4800 MT/s, 5600 MT/s | 4800 MT/s, 5600MT/s | 4800 MT/s, 5600MT/s | 4800 MT/s, 5600 MT/s |
| Density | 16GB, 24GB, 32GB, 48GB | 16GB, 32GB, 64GB, 96GB, 128GB | 16GB, 32GB | 16GB, 32GB |
| Function | ECC Unbuffered Memory | Registered Memory with ECC | Non-ECC Unbuffered Memory | ECC Unbuffered Memory |
| Pin Number | 288pin | 288pin | 288pin | 288pin |
| Bus Width | x72 | x80 | x64 | x72 |
| Voltage | 1.1V | 1.1V | 1.1V | 1.1V |
| PCB Height | 1.23 Inches | 1.23 Inches | 0.7 Inches | 0.738 Inches |
| Operating Temperature | -40°C ~ 95°C (Tc) | -40°C ~ 95°C (Tc) | -40°C ~ 95°C (Tc) | -40°C ~ 95°C (Tc) |

| Module Type | DDR5 RDIMM VLP WT | DDR5 SODIMM Ultra Temperature | DDR5 UDIMM Ultra Temperature |
|---|---|---|---|
| Speed | 4800 MT/s, 5600 MT/s | 4800 MT/s, 5600 MT/s | 4800 MT/s, 5600 MT/s |
| Density | 32GB | 8GB, 16GB, 32GB | 16GB, 32GB |
| Function | Registered Memory with ECC | Non-ECC Unbuffered Memory | Non-ECC Unbuffered Memory |
| Pin Number | 288pin | 262pin | 288pin |
| Bus Width | x80 | x64 | x64 |
| Voltage | 1.1V | 1.1V | 1.1V |
| PCB Height | 0.738 Inches | 1.18 Inches | 1.23 Inches |
| Operating Temperature | -40°C ~ 95°C (Tc) | - 40°C ~ 105°C | - 40°C ~ 105°C |

# DDR4 DRAM Module

| Module Type | DDR4 UDIMM | DDR4 SODIMM | DDR4 ECC UDIMM | DDR4 ECC SODIMM |
|---|---|---|---|---|
| Speed | 2133 MT/s, 2400 MT/s, 2666 MT/s, 2933 MT/s, 3200 MT/s | 2133 MT/s, 2400 MT/s, 2666 MT/s, 2933 MT/s, 3200 MT/s | 2133 MT/s, 2400 MT/s, 2666 MT/s, 2933 MT/s, 3200 MT/s | 2133 MT/s, 2400 MT/s, 2666 MT/s, 2933 MT/s, 3200 MT/s |
| Density | 4GB, 8GB, 16GB, 32GB | 2GB, 4GB, 8GB, 16GB, 32GB | 4GB, 8GB, 16GB, 32GB | 2GB, 4GB, 8GB, 16GB, 32GB |
| Function | Non-ECC Unbuffered Memory | Non-ECC Unbuffered Memory | ECC Unbuffered Memory | ECC Unbuffered Memory |
| Pin Number | 288pin | 260pin | 288pin | 260pin |
| Bus Width | x64 | x64 | x72 | x72 |
| Voltage | 1.2V | 1.2V | 1.2V | 1.2V |
| PCB Height | 1.23 Inches | 1.18 Inches | 1.23 Inches | 1.18 Inches |
| Operating Temperature | 0°C ~ 95°C (Tc) | 0°C ~ 95°C (Tc) | 0°C ~ 95°C (Tc) | 0°C ~ 95°C (Tc) |

| Module Type | DDR4 RDIMM | DDR4 UDIMM VLP | DDR4 SODIMM VLP | DDR4 ECC UDIMM VLP |
|---|---|---|---|---|
| Speed | 2133 MT/s, 2400 MT/s, 2666 MT/s, 2933 MT/s, 3200 MT/s | 2133 MT/s, 2400 MT/s, 2666 MT/s | 2133 MT/s, 2400 MT/s, 2666 MT/s | 2133 MT/s, 2400 MT/s, 2666 MT/s, 2933 MT/s, 3200 MT/s |
| Density | 4GB, 8GB, 16GB, 32GB, 64GB, 128GB | 4GB, 8GB, 16GB | 4GB, 8GB | 4GB, 8GB, 16GB, 32GB |
| Function | Registered Memory with ECC | Non-ECC Unbuffered Memory | Non-ECC Unbuffered Memory | ECC Unbuffered Memory |
| Pin Number | 288pin | 288pin | 260pin | 288pin |
| Bus Width | x72 | x64 | x64 | x72 |
| Voltage | 1.2V | 1.2V | 1.2V | 1.2V |
| PCB Height | 1.23 Inches | 0.738 Inches | 0.7 Inches | 0.738 Inches |
| Operating Temperature | 0°C ~ 95°C (Tc) | 0°C ~ 95°C (Tc) | 0°C ~ 95°C (Tc) | 0°C ~ 95°C (Tc) |

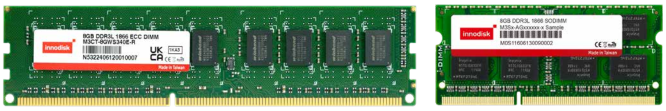
| Module Type | DDR4 ECC SODIMM VLP | DDR4 Mini ECC VLP | DDR4 RDIMM VLP | DDR4 Mini RDIMM VLP |
|---|---|---|---|---|
| Speed | 2133 MT/s, 2400 MT/s, 2666 MT/s | 2133 MT/s, 2400 MT/s, 2666 MT/s | 2133 MT/s, 2400 MT/s, 2666 MT/s, 2933 MT/s, 3200 MT/s | 2133MT/s,2400 MT/s,2666MT/s |
| Density | 4GB, 8GB | 4GB, 8GB, 16GB, 32GB | 4GB, 8GB, 16GB, 32GB | 4GB, 8GB,16GB |
| Function | ECC Unbuffered Memory | ECC Unbuffered Memory | Registered Memory with ECC | Registered Memory with ECC |
| Pin Number | 260pin | 288pin | 288pin | 288pin |
| Bus Width | x72 | x72 | x72 | x72 |
| Voltage | 1.2V | 1.2V | 1.2V | 1.2V |
| PCB Height | 0.7 Inches | 0.738 Inches | 0.738 Inches | 0.738 Inches |
| Operating Temperature | 0°C ~ 95°C (Tc) | 0°C ~ 95°C (Tc) | 0°C ~ 95°C (Tc) | 0°C ~ 95°C (Tc) |

| Module Type | DDR4 XR-DIMM | DDR4 UDIMM WT | DDR4 SODIMM WT | DDR4 ECC UDIMM WT |
|---|---|---|---|---|
| Speed | 2400 MT/s,2666 MT/s | 2133 MT/s, 2400 MT/s, 2666 MT/s, 3200 MT/s | 2133 MT/s, 2400 MT/s, 2666 MT/s, 3200 MT/s | 2133 MT/s, 2400 MT/s, 2666 MT/s, 3200 MT/s |
| Density | 8GB, 16GB | 4GB, 8GB, 16GB, 32GB | 4GB, 8GB, 16GB, 32GB | 4GB, 8GB, 16GB, 32GB |
| Function | ECC Unbuffered Memory | Non-ECC Unbuffered Memory | Non-ECC Unbuffered Memory | ECC Unbuffered Memory |
| Pin Number | 300pin | 288pin | 260pin | 288pin |
| Bus Width | x72 | x64 | x64 | x72 |
| Voltage | 1.2V | 1.2V | 1.2V | 1.2V |
| PCB Height | 1.18 Inches | 1.23 Inches | 1.18 Inches | 1.23 Inches |
| Operating Temperature | 0°C ~ 95°C (Tc) | -40°C ~ 95°C (Tc) | -40°C ~ 95°C (Tc) | -40°C ~ 95°C (Tc) |

| Module Type | DDR4 ECC SODIMM WT | DDR4 RDIMM WT | DDR4 UDIMM VLP WT | DDR4 ECC UDIMM VLP |
|---|---|---|---|---|
| Speed | 2133 MT/s, 2400 MT/s, 2666 MT/s, 3200 MT/s | 2133 MT/s, 2400 MT/s, 2666 MT/s, 3200 MT/s | 2400 MT/s | 2133 MT/s, 2400 MT/s, 2666 MT/s, 2933 MT/s, 3200 MT/s |
| Density | 4GB, 8GB, 16GB, 32GB | 4GB, 8GB, 16GB, 32GB, 64GB, 128GB | 8GB, 16GB | 8GB, 16GB, 32GB |
| Function | ECC Unbuffered Memory | Registered Memory with ECC | Non-ECC Unbuffered Memory | ECC Unbuffered Memory |
| Pin Number | 260pin | 288pin | 288pin | 288pin |
| Bus Width | x72 | x72 | x64 | x72 |
| Voltage | 1.2V | 1.2V | 1.2V | 1.2V |
| PCB Height | 1.18 Inches | 1.23 Inches | 0.738 Inches | 0.738 Inches |
| Operating Temperature | -40°C ~ 95°C (Tc) | -40°C ~ 95°C (Tc) | -40°C ~ 95°C (Tc) | -40°C ~ 95°C (Tc) |

| Module Type | DDR4 ECC SODIMM VLP WT | DDR4 RDIMM VLP WT | DDR4 Rugged DIMM |
|---|---|---|---|
| Speed | 2133 MT/s, 2400 MT/s, 2666 MT/s, 3200 MT/s | 2133 MT/s, 2400 MT/s, 2666 MT/s, 3200 MT/s | 2400 MT/s |
| Density | 8GB | 4GB, 8GB, 16GB, 32GB | 16GB |
| Function | ECC Unbuffered Memory | Registered Memory with ECC | Non-ECC Unbuffered Memory |
| Pin Number | 260pin | 288pin | 260pin |
| Bus Width | x72 | x72 | x64 |
| Voltage | 1.2V | 1.2V | 1.2V |
| PCB Height | 0.7 Inches | 0.738 Inches | 1.18 Inches |
| Operating Temperature | -40°C ~ 95°C (Tc) | -40°C ~ 95°C (Tc) | -40°C ~ 95°C (Tc) |

| Module Type | DDR4 SODIMM Ultra Temperature | DDR4 ECC SODIMM Ultra Temperature |
|---|---|---|
| Speed | 2133 MT/s, 2400 MT/s, 2666 MT/s, 2933 MT/s, 3200 MT/s | 2133 MT/s, 2400 MT/s, 2666 MT/s, 2933 MT/s, 3200 MT/s |
| Density | 8GB, 16GB, 32GB | 8GB, 16GB, 32GB |
| Function | Non-ECC Unbuffered Memory | ECC Unbuffered Memory |
| Pin Number | 260pin | 260pin |
| Bus Width | x64 | x72 |
| Voltage | 1.2V | 1.2V |
| PCB Height | 1.18 Inches | 1.18 Inches |
| Operating Temperature | -40°C ~ 125°C (Tc) | -40°C ~ 125°C (Tc) |



## DDR3 DRAM Module

| Module Type | DDR3 UDIMM | DDR3 SODIMM | DDR3 ECC UDIMM | DDR3 ECC SODIMM | DDR3 RDIMM |
|---|---|---|---|---|---|
| Speed | 1066 MT/s, 1333 MT/s, 1600 MT/s, 1866 MT/s | 1066 MT/s, 1333 MT/s, 1600 MT/s, 1866 MT/s | 1066 MT/s, 1333 MT/s, 1600 MT/s, 1866 MT/s | 1066 MT/s, 1333 MT/s, 1600 MT/s, 1866 MT/s | 1333 MT/s, 1600 MT/s, 1866 MT/s |
| Density | 2GB, 4GB, 8GB | 1GB, 2GB, 4GB, 8GB | 2GB, 4GB, 8GB | 2GB, 4GB, 8GB | 2GB, 4GB, 8GB |
| Function | Non-ECC Unbuffered Memory | Non-ECC Unbuffered Memory | ECC Unbuffered Memory | ECC Unbuffered Memory | Registered Memory with ECC |
| Pin Number | 240pin | 204pin | 240pin | 204pin | 240pin |
| Bus Width | x64 | x64 | x72 | x72 | x72 |
| Voltage | 1.5V, 1.35V | 1.5V, 1.35V | 1.5V, 1.35V | 1.5V, 1.35V | 1.5V, 1.35V |
| PCB Height | 1.18 Inches | 1.18 Inches | 1.18 Inches | 1.18 Inches | 1.18 Inches |
| Operating Temperature | 0°C ~ 85°C | 0°C ~ 85°C | 0°C ~ 85°C | 0°C ~ 85°C | 0°C ~ 85°C |

| Module Type | DDR3 UDIMM WT | DDR3 SODIMM WT | DDR3 ECC UDIMM WT | DDR3 ECC SODIMM WT |
|---|---|---|---|---|
| Speed | 1066 MT/s, 1333 MT/s, 1600 MT/s, 1866 MT/s | 1066 MT/s, 1333 MT/s, 1600 MT/s, 1866 MT/s | 1066 MT/s, 1333 MT/s, 1600 MT/s, 1866 MT/s | 1066 MT/s, 1333 MT/s, 1600 MT/s, 1866 MT/s |
| Density | 2GB, 4GB, 8GB | 2GB, 4GB, 8GB | 2GB, 4GB, 8GB | 2GB, 4GB, 8GB |
| Function | Non-ECC Unbuffered Memory | Non-ECC Unbuffered Memory | ECC Unbuffered Memory | ECC Unbuffered Memory |
| Pin Number | 240pin | 204pin | 240pin | 204pin |
| Bus Width | x64 | x64 | x72 | x72 |
| Voltage | 1.5V, 1.35V | 1.5V, 1.35V | 1.5V, 1.35V | 1.5V, 1.35V |
| PCB Height | 1.18 Inches | 1.18 Inches | 1.18 Inches | 1.18 Inches |
| Operating Temperature | -40°C ~ 85°C | -40°C ~ 85°C | -40°C ~ 85°C | -40°C ~ 85°C |

## DDR2 DRAM Module

| Module Type | DDR2 UDIMM | DDR2 SODIMM | DDR2 ECC UDIMM | DDR2 SODIMM WT |
|---|---|---|---|---|
| Speed | 533 MT/s, 667 MT/s, 800 MT/s | 533 MT/s, 667 MT/s, 800 MT/s | 667 MT/s, 800 MT/s | 533 MT/s, 667 MT/s, 800 MT/s |
| Density | 1GB, 2GB, 4GB | 512MB, 1GB, 2GB, 4GB | 1GB, 2GB | 1GB, 2GB |
| Function | Non-ECC Unbuffered Memory | Non-ECC Unbuffered Memory | ECC Unbuffered Memory | Non-ECC Unbuffered Memory |
| Pin Number | 240pin | 200pin | 240pin | 200pin |
| Bus Width | x64 | x64 | x72 | x64 |
| Voltage | 1.8V | 1.8V | 1.8V | 1.8V |
| PCB Height | 1.18 Inches | 1.18 Inches | 1.18 Inches | 1.18 Inches |
| Operating Temperature | 0°C ~ 85°C | 0°C ~ 85°C | 0°C ~ 85°C | -40°C ~ 85°C |

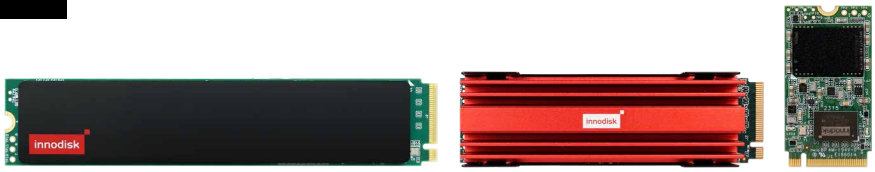
## DDR1 DRAM Module

| Module Type | DDR1 UDIMM | DDR1 SODIMM |
|---|---|---|
| Speed | 333 MT/s, 400 MT/s | 333 MT/s, 400 MT/s |
| Density | 512MB, 1GB | 256MB, 512MB, 1GB |
| Function | Non-ECC Unbuffered Memory | Non-ECC Unbuffered Memory |
| Pin Number | 184pin | 200pin |
| Bus Width | x64 | x64 |
| Voltage | 2.6V | 2.6V |
| PCB Height | 1.16 inches | 1.25 Inches |
| Operating Temperature | 0°C ~ 70°C | 0°C ~ 70°C |

## SDRAM DRAM Module

| Module Type | SDRAM SODIMM |
|---|---|
| Speed | 100 MT/s, 133 MT/s |
| Density | 128MB, 256MB, 512MB |
| Function | Non-ECC Unbuffered Memory |
| Pin Number | 144pin |
| Bus Width | x64 |
| Voltage | 3.3V |
| PCB Height | 1.25 Inches |
| Operating Temperature | 0°C ~ 70°C |

# FLASH STORAGE



## PCIe – M.2

| Model name | M.2 (P30) 4TE2 | M.2 (P30) 4TE3 | M.2 (P30) 4IE3 | M.2 (P42) 3TE4 | | M.2 (P42) 3TE8 |
|---|---|---|---|---|---|---|
| Connector | M Key | M Key | M Key | M Key | B+M Key | M Key |
| Interface | PCIe Gen 4 x4 | PCIe Gen 4 x4 | PCIe Gen 4 x4 | PCIe Gen 3 ×4 | PCIe Gen 3 ×2 | PCIe Gen 3 x4 |
| Flash Type | 3D TLC | 3D TLC | iSLC (3D TLC) | 3D TLC | | 3D TLC |
| Capacity | 128GB ~ 1TB | 128GB ~ 1TB | 40GB ~ 160GB | 128GB ~ 1TB | | 128GB ~ 1TB |
| Max. Channel | 2 | 2 | 2 | 4 | | 4 |
| Sequential R/W (MB/sec, max.) | 1700/1500 | 1800/1450 | 1800/1450 | 2600/1800 | 1750/1500 | 3350/2600 |
| Max. Power consumption | 3.1W | 3.1W | 3.3W | 4.0W | 3.3W | 4.2W |
| External DRAM Buffer | N | N | N | N | | N |
| iData Guard | Y | Y | Y | N | | Y |
| iPower Guard | Y | N | N | Y | | Y |
| PLP (iCell) | N | N | N | N | | N |
| AES | Y | Y | Y | Y | | Y |
| TCG Opal | Y | Y | Y | Y | | Y |
| S.M.A.R.T | Y | Y | Y | Y | | Y |
| Dimension (WxLxH/mm) | ST: 22.0 x 30.0 x 3.5<br>WT: 25.0 x 30.0 x 15 | ST: 22.0 x 30.0 x 3.5<br>WT: 25.0 x 30.0 x 15 | ST: 22.0 x 30.0 x 3.5<br>WT: 25.0 x 30.0 x 15 | ST: 22.0 x 42.0 x 3.0<br>WT: 22.0 x 42.0 x 3.6 | | ST: 22.0 x 42.0 x 2.8<br>WT: 25.0 x 42.0 x 14.5 |

| Model name | M.2 (P42) 3IE8 | M.2 (P42) 4TE2 | M.2 (P42) 4IE2 | M.2 (P42) 4TE3 | M.2 (P42) 4IE3 |
|---|---|---|---|---|---|
| Connector | M Key | M Key | M Key | M Key | M Key |
| Interface | PCIe Gen 3 x4 | PCIe Gen 4 x4 | PCIe Gen 4 x4 | PCIe Gen 4 x4 | PCIe Gen 4 x4 |
| Flash Type | iSLC (3D TLC) | 3D TLC | iSLC (3D TLC) | 3D TLC | iSLC (3D TLC) |
| Capacity | 40GB ~ 320GB | 128GB ~ 2TB | 40GB ~ 640GB | 128GB ~ 2TB | 40GB ~ 640GB |
| Max. Channel | 4 | 4 | 4 | 4 | 4 |
| Sequential R/W (MB/sec, max.) | 3350/2600 | 3550/2950 | 3550/2950 | 3600/3150 | 3500/3000 |
| Max. Power consumption | 4.2W | 5.0W | 4.8W | 4.8W | 4.8W |
| External DRAM Buffer | N | N | N | N | N |
| iData Guard | Y | Y | Y | Y | Y |
| iPower Guard | Y | Y | Y | Y | Y |
| PLP (iCell) | N | N | N | N | N |
| AES | Y | Y | Y | Y | Y |
| TCG Opal | Y | Y | Y | Y | Y |
| S.M.A.R.T | Y | Y | Y | Y | Y |
| Dimension (WxLxH/mm) | ST: 22.0 x 42.0 x 2.8<br>WT: 25.0 x 42.0 x 14.5 | ST: 22.0 x 42.0 x 3.5<br>WT: 25.0 x 42.0 x 14.5 | ST: 22.0 x 42.0 x 3.5<br>WT: 25.0 x 42.0 x 14.5 | ST: 22.0 x 42.0 x 3.5<br>WT: 25.0 x 42.0 x 14.5 | ST: 22.0 x 42.0 x 3.5<br>WT: 25.0 x 42.0 x 14.5 |

| Model name | M.2 (P80) 3TE4 | | M.2 (P80) 3TE8 | M.2 (P80) 3IE8 | InnoOSR M.2 (P80) 3TO8 | M.2 (P80) 3TG3-P |
|---|---|---|---|---|---|---|
| Connector | M Key | B+M Key | M Key | M Key | M Key | M Key |
| Interface | PCIe Gen 3 ×4 | PCIe Gen 3 ×2 | PCIe Gen 3 x4 | PCIe Gen 3 x4 | PCIe Gen 3 x4 | PCIe Gen 3 ×4 |
| Flash Type | 3D TLC | | 3D TLC | 3D TLC | 3D TLC | 3D TLC |
| Capacity | 128GB ~ 2TB | | 128GB ~ 2TB | 40GB ~ 640GB | 128GB ~ 2TB | 128GB ~ 2TB |
| Max. Channel | 4 | | 4 | 4 | 4 | 8 |
| Sequential R/W (MB/sec, max.) | 2600/1800 | 1750/1500 | 3400/2750 | 3400/2750 | 3400/2750 | 3400/2800 |
| Max. Power consumption | 4.0W | 3.4W | 4.3W | 4.3W | 5.8W | 6.3W |
| External DRAM Buffer | N | | N | N | N | Y |
| iData Guard | N | | Y | Y | Y | Y |
| iPower Guard | Y | | Y | Y | Y | Y |
| PLP (iCell) | N | | N | N | N | N |
| AES | Y | | Y | Y | Y | Y |
| TCG Opal | Y | | Y | Y | N | Y |
| S.M.A.R.T | Y | | Y | Y | Y | Y |
| Dimension (WxLxH/mm) | ST: 22.0 x 80.0 x 3.0<br>WT: 22.0 x 80.0 x 3.6 | | ST: 22.0 x 80.0 x 2.15<br>WT: 25.0 x 80.0 x 14.5 | ST: 22.0 x 80.0 x 2.15<br>WT: 25.0 x 80.0 x 14.5 | 22.0 x 80.0 x 3.5 | ST: 22.0 x 80.0 x 3.95<br>WT: 23.6 x 80.0 x 14.65 |

| Model name | M.2 (P80) 4TE2 | M.2 (P80) 4IE2 | M.2 (P80) 4TE3 | M.2 (P80) 4IE3 | M.2 (P80) 4TG2-P |
|---|---|---|---|---|---|
| Connector | M Key | M Key | M Key | M Key | M Key |
| Interface | PCIe Gen 4 x4 | PCIe Gen 4 x4 | PCIe Gen 4 x4 | PCIe Gen 4 x4 | PCIe Gen 4 x4 |
| Flash Type | 3D TLC | iSLC (3D TLC) | 3D TLC | iSLC (3D TLC) | 3D TLC |
| Capacity | 128GB ~ 2TB | 40GB ~ 640GB | 128GB ~ 2TB | 40GB ~ 640GB | 256GB ~ 4TB |
| Max. Channel | 4 | 4 | 4 | 4 | 8 |
| Sequential R/W (MB/sec, max.) | 3550/3300 | 3550/3300 | 3650/3300 | 3550/3200 | 7150/5800 |
| Max. Power consumption | 5.4W | 5.1W | 4.8W | 4.8W | 7.9W |
| External DRAM Buffer | N | N | N | N | Y |
| iData Guard | Y | Y | Y | Y | Y |
| iPower Guard | Y | Y | Y | Y | Y |
| PLP (iCell) | Y | Y | Y | Y | Y |
| AES | Y | Y | Y | Y | Y |
| TCG Opal | Y | Y | Y | Y | Y |
| S.M.A.R.T | Y | Y | Y | Y | Y |
| Dimension (WxLxH/mm) | ST: 22.0 x 80.0 x 3.8<br>WT: 25.0 x 80.0 x 14.45 | ST: 22.0 x 80.0 x 3.8<br>WT: 25.0 x 80.0 x 14.45 | ST: 22.0 x 80.0 x 3.5<br>WT: 25 x 80.0 x 14.45 | ST: 22.0 x 80.0 x 3.5<br>WT: 25 x 80.0 x 14.45 | ST: 22.0 x 80.0 x 4.0<br>WT: 25 x 80.0 x 14.45 |

| Model name | M.2 (P80) 4TS2-P | M.2 (P80) 4IG2-P | M.2 (P110) 4TG2-P | M.2 (P110) 4TS2-P | M.2 (P110) 4IG2-P |
|---|---|---|---|---|---|
| Connector | M Key | M Key | M Key | M Key | M Key |
| Interface | PCIe Gen 4 x4 | PCIe Gen 4 x4 | PCIe Gen 4 x4 | PCIe Gen 4 x4 | PCIe Gen 4 x4 |
| Flash Type | 3D TLC | iSLC (3D TLC) | 3D TLC | 3D TLC | iSLC (3D TLC) |
| Capacity | 200GB ~ 3.2TB | 160GB ~ 1.28TB | 512GB ~ 8TB | 400GB ~ 6.4TB | 160GB ~ 2.56TB |
| Max. Channel | 8 | 8 | 8 | 8 | 8 |
| Sequential R/W (MB/sec, max.) | 7150/5250 | 7100/5250 | 7100 /5300 | 7000/5450 | 7000/5450 |
| Max. Power consumption | 6.2W | 10.2W | 10.6W | 10.5W | 10.5W |
| External DRAM Buffer | Y | Y | Y | Y | Y |
| iData Guard | Y | Y | Y | Y | Y |
| iPower Guard | Y | Y | Y | Y | Y |
| PLP (iCell) | Y | N | Y | Y | Y |
| AES | Y | Y | Y | Y | Y |
| TCG Opal | Y | Y | Y | Y | Y |
| S.M.A.R.T | Y | Y | Y | Y | Y |
| Dimension (WxLxH/mm) | ST: 22.0 x 80.0 x 4.0<br>WT: 25 x 80.0 x 14.45 | ST: 22.0 x 80.0 x 4.0<br>WT: 25 x 80.0 x 14.45 | ST: 22.0 x 110.0 x 4.0<br>WT: 25 x 110.0 x 14.45 | ST: 22.0 x 110.0 x 4.0<br>WT: 25 x 110.0 x 14.45 | ST: 22.0 x 110.0 x 4.0<br>WT: 25 x 110.0 x 14.45 |

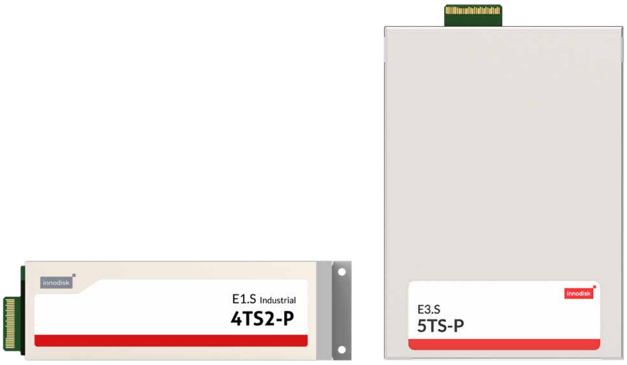
## PCIe - U.2

| Model name | U.2 SSD 4TG2-P | U.2 SSD 4TS2-P | U.2 SSD 4IG2-P | U.2 SSD 5TS-P |
|---|---|---|---|---|
| Interface | PCIe Gen 4 ×4 | PCIe Gen 4 ×4 | PCIe Gen 4 ×4 | PCIe Gen 5 ×4 |
| Flash Type | 3D TLC | 3D TLC | iSLC (3D TLC) | 3D TLC |
| Capacity | 512GB ~ 16TB | 400GB ~ 12.8TB | 160GB ~ 1.28TB | 1.92TB ~ 7.68TB |
| Max. Channel | 8 | 8 | 8 | 16 |
| Sequential R/W (MB/sec, max.) | 7150/6150 | 7150/6100 | 7050/5200 | 14000/10000 |
| Max. Power consumption | 13.5W | 12.6W | 12.1W | 22W |
| External DRAM Buffer | Y | Y | Y | Y |
| iData Guard | Y | Y | Y | Y |
| iPower Guard | Y | Y | Y | Y |
| PLP (iCell) | Y | Y | Y | Y |
| AES | Y | Y | Y | Y |
| TCG Opal | Y | Y | Y | Y |
| S.M.A.R.T | Y | Y | Y | Y |
| Dimension (WxLxH/mm) | 100.0 x 69.85 x 6.9 | 100.0 x 69.85 x 6.9 | 100.0 x 69.85 x 6.9 | 100 x 69.85 x 14.8 |

## PCIe – CFexpress

| Model name | CFexpress 4TE2 | CFexpress 4TE3 | CFexpress 4IE3 |
|---|---|---|---|
| Interface | PCIe Gen 3 ×2 | PCIe Gen 3 ×2 | PCIe Gen 3 ×2 |
| Connector | 21pin | 21pin | 21pin |
| Flash Type | 3D TLC | 3D TLC | iSLC (3D TLC) |
| Capacity | 128GB ~ 1TB | 128GB ~ 2TB | 40GB ~ 640GB |
| Max. Channel | 4 | 4 | 4 |
| Sequential R/W (MB/sec, max.) | 1750/1650 | 1750/1500 | 1750/1650 |
| Max. Power consumption | 3.4W | 3W | 2.9W |
| iData Guard | Y | Y | Y |
| iPower Guard | Y | Y | Y |
| AES | Y | Y | Y |
| TCG Opal | Y | Y | Y |
| S.M.A.R.T | Y | Y | Y |
| H/W Write Protect | Y | Y | Y |
| Dimension (WxLxH/mm) | 29.6 x 38.5 x 3.8 | 29.6 x 38.5 x 3.8 | 29.6 x 38.5 x 3.8 |

| Model name | CFexpress 3TE8 | CFexpress 3IE8 |
|---|---|---|
| Interface | PCIe Gen 3 ×2 | PCIe Gen 3 ×2 |
| Connector | 21pin | 21pin |
| Flash Type | 3D TLC | iSLC (3D TLC) |
| Capacity | 128GB ~ 2TB | 40GB ~ 640GB |
| Max. Channel | 4 | 4 |
| Sequential R/W (MB/sec, max.) | 3400/2750 | 3400/2750 |
| Max. Power consumption | 5.9W | 5.9W |
| iData Guard | Y | Y |
| iPower Guard | Y | Y |
| AES | Y | Y |
| TCG Opal | Y | Y |
| S.M.A.R.T | Y | Y |
| H/W Write Protect | Y | Y |
| Dimension (WxLxH/mm) | 29.6 x 38.5 x 3.8 | 29.6 x 38.5 x 3.8 |



## PCIe - EDSFF

| Model name | E1.S 4TG2-P | E1.S 4TS2-P | E3.S 4TS2-P | E1.S 5TS-P | E3.S 5TS-P |
|---|---|---|---|---|---|
| **Interface** | PCIe Gen 4 ×4 | PCIe Gen 4 ×4 | PCIe Gen 4 ×4 | PCIe Gen 5 | PCIe Gen 5 |
| **Flash Type** | 3D TLC | 3D TLC | 3D TLC | 3D TLC | 3D TLC |
| **Capacity** | 512GB ~ 8TB | 400GB ~ 6.4TB | 400GB ~ 12.8TB | 1.92TB ~ 7.68TB | 1.92TB ~ 7.68TB |
| **Max. Channel** | 8 | 8 | 8 | 16 | 16 |
| **Sequential R/W (MB/sec, max.)** | 6900/4700 | 6900/4700 | 5050/4750 | 14000/10000 | 14000/10000 |
| **Max. Power consumption** | 12W | 12W | 12W | <25W | <25W |
| **iData Guard** | Y | Y | Y | Y | Y |
| **iPower Guard** | Y | Y | Y | Y | Y |
| **AES** | Y | Y | Y | Y | Y |
| **TCG Opal** | Y | Y | Y | Y | Y |
| **S.M.A.R.T** | Y | Y | Y | Y | Y |
| **Dimension (WxLxH/mm)** | 5.9mm: 31.5 x 111.5 x 5.9<br>9.5mm: 33.75 x 118.75 x 9.5<br>15mm: 33.75 x 118.75 x 15 | 5.9mm: 31.5 x 111.5 x 5.9<br>9.5mm: 33.75 x 118.75 x 9.5<br>15mm: 33.75 x 118.75 x 15 | 76 x 112.75 x 7.5 | 5.9mm: 31.5 x 111.5 x 5.9<br>9.5mm: 33.75 x 118.75 x 9.5<br>15mm: 33.75 x 118.75 x 15 | 76 x 112.75 x 7.5 |

## SATA – M.2

| Model name | InnoOSR M.2 (S42) 3TO7 | M.2 (S42) 3TE7 | M.2 (S42) 3IE7 | M.2 (S42) 3TEB | M.2 (S42) 3TG6-P |
|---|---|---|---|---|---|
| Connector | B+M Key | B+M Key | B+M Key | B+M Key | B+M Key |
| Interface | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s |
| Flash Type | 3D TLC | 3D TLC | iSLC (3D TLC) | 3D TLC | 3D TLC |
| Capacity | 32GB ~ 512GB | 32GB ~ 512GB | 20GB ~ 320GB | 64GB ~ 2TB | 128GB ~ 512GB |
| Max. Channel | 4 | 4 | 4 | 2 | 4 |
| Sequential R/W (MB/sec, max.) | 560/330 | 560/330 | 560/530 | 550/510 | 560/510 |
| Max. Power consumption | 1.6W | 1.6W | 2.8W | 1.2W | 2.4W |
| External DRAM Buffer | N | N | N | N | Y |
| iData Guard | Y | Y | Y | Y | Y |
| iPower Guard | Y | Y | Y | Y | Y |
| PLP (iCell) | N | N | N | N | N |
| AES | N | N | N | N | N |
| TCG Opal | N | N | N | N | N |
| S.M.A.R.T | Y | Y | Y | Y | Y |
| Dimension (WxLxH/mm) | 22.0 x 42.0 x 3.5 | 22.0 x 42.0 x 3.5 | 22.0 x 42.0 x 3.5 | 22.0 x 42.0 x 3.5 | 22.0 x 42.0 x 3.5 |

| Model name | M.2 (S42) 3SE4 | M.2 (S42) 3ME4 | M.2 (S42) 3IE4 | M.2 (S42) 3SE3 | M.2 (S42) 3ME3 |
|---|---|---|---|---|---|
| Connector | B+M Key | B+M Key | B+M Key | B+M Key | B+M Key |
| Interface | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s |
| Flash Type | SLC | MLC | iSLC (MLC) | SLC | MLC |
| Capacity | 8GB ~ 64GB | 8GB ~ 256GB | 8GB ~ 128GB | 4GB ~ 32GB | 8GB ~ 128GB |
| Max. Channel | 2 | 2 | 2 | 4 | 2 |
| Sequential R/W (MB/sec, max.) | 520/360 | 530/210 | 530/380 | 210/110 | 220/80 |
| Max. Power consumption | 0.6W | 1.4W | 1.5W | 1.2W | 1.3W |
| External DRAM Buffer | N | N | N | N | N |
| iData Guard | N | N | N | Y | Y |
| iPower Guard | Y | Y | Y | N | N |
| PLP (iCell) | N | N | N | N | N |
| AES | N | N | N | N | N |
| TCG Opal | N | N | N | N | N |
| S.M.A.R.T | Y | Y | Y | Y | Y |
| Dimension (WxLxH/mm) | 22.0 x 42.0 x 3.5 | 22.0 x 42.0 x 3.2 | 22.0 x 42.0 x 3.2 | 22.0 x 42.0 x 3.5 | 22.0 x 42.0 x 3.5 |

| Model name | M.2 (S42) 3IE3 | M.2 (S42) 3SE2-P | M.2 (S42) 3MG2-P | M.2 (S42) 3IE2-P | InnoOSR M.2 (S80) 3TO7 |
|---|---|---|---|---|---|
| Connector | B+M Key | B+M Key | B+M Key | B+M Key | B+M Key |
| Interface | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s |
| Flash Type | iSLC (MLC) | SLC | MLC | iSLC (MLC) | 3D TLC |
| Capacity | 8GB ~ 64GB | 8GB ~ 64GB | 32GB ~ 256GB | 16GB ~ 128GB | 64GB ~ 2TB |
| Max. Channel | 2 | 4 | 4 | 4 | 4 |
| Sequential R/W (MB/sec, max.) | 240/160 | 520/330 | 560/360 | 560/450 | 560/470 |
| Max. Power consumption | 1.3W | 1.6W | 1.1W | 1.1W | 2.6W |
| External DRAM Buffer | N | Y | Y | Y | N |
| iData Guard | Y | Y | Y | Y | Y |
| iPower Guard | N | Y | Y | Y | Y |
| PLP (iCell) | N | N | N | N | N |
| AES | N | Y | Y | Y | N |
| TCG Opal | N | Y | Y | Y | N |
| S.M.A.R.T | Y | Y | Y | Y | Y |
| Dimension (WxLxH/mm) | 22.0 x 42.0 x 3.5 | 22.0 x 42.0 x 3.5 | 22.0 x 42.0 x 3.5 | 22.0 x 42.0 x 3.5 | 22.0 x 80.0 x 3.5 |

| Model name | M.2 (S80) 3TE7 | M.2 (S80) 3IE7 | M.2 (S80) 3TEB | M.2 (S80) 3TG9-P | M.2 (S80) 3TG6-P |
|---|---|---|---|---|---|
| Connector | B+M Key | B+M Key | B+M Key | B+M Key | B+M Key |
| Interface | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s |
| Flash Type | 3D TLC | iSLC (3D TLC) | 3D TLC | 3D TLC | 3D TLC |
| Capacity | 32GB ~ 1TB | 20GB ~ 640GB | 64GB ~ 1TB | 512GB ~ 4TB | 128GB ~ 2TB |
| Max. Channel | 4 | 4 | 2 | 4 | 4 |
| Sequential R/W (MB/sec, max.) | 550/370 | 550/490 | 550/500 | 540/520 | 560/510 |
| Max. Power consumption | 2.0W | 2.0W | 1.2W | 2.6W | 2.6W |
| External DRAM Buffer | N | N | N | Y | Y |
| iData Guard | Y | Y | Y | Y | Y |
| iPower Guard | Y | Y | Y | Y | Y |
| PLP (iCell) | N | N | N | Y | Y |
| AES | Y | Y | N | Y | Y |
| TCG Opal | N | N | N | Y | Y |
| S.M.A.R.T | Y | Y | Y | Y | Y |
| Dimension (WxLxH/mm) | 22.0 x 80.0 x 3.5 | 22.0 x 80.0 x 3.5 | 22.0 x 80.0 x 3.5 | 22.0 x 80.0 x 3.5 | 22.0 x 80.0 x 3.5 |

| Model name | M.2 (S80) 3SE4 | M.2 (S80) 3ME4 | M.2 (S80) 3IE4 | M.2 (S80) 3SE3 | M.2 (S80) 3SE2-P |
|---|---|---|---|---|---|
| Connector | B+M Key | B+M Key | B+M Key | B+M Key | B+M Key |
| Interface | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s |
| Flash Type | SLC | MLC | iSLC (MLC) | SLC | SLC |
| Capacity | 8GB ~ 64GB | 8GB ~ 256GB | 8GB ~ 128GB | 8GB ~ 128GB | 8GB ~ 256GB |
| Max. Channel | 2 | 2 | 2 | 4 | 4 |
| Sequential R/W (MB/sec, max.) | 520/360 | 530/210 | 530/360 | 380/220 | 520/340 |
| Max. Power consumption | 1.6W | 0.9W | 0.9W | 2.0W | 2.2W |
| External DRAM Buffer | N | N | N | N | Y |
| iData Guard | N | N | N | Y | Y |
| iPower Guard | Y | Y | Y | N | Y |
| PLP (iCell) | N | N | N | N | Y |
| AES | N | N | N | N | Y |
| TCG Opal | N | N | N | N | Y |
| S.M.A.R.T | Y | Y | Y | Y | Y |
| Dimension (WxLxH/mm) | 22.0 x 80.0 x 2.15 | 22.0 x 80.0 x 3.2 | 22.0 x 80.0 x 3.2 | 22.0 x 80.0 x 3.5 | 22.0 x 80.0 x 3.5 |

| Model name | M.2 (S80) 3MG2-P | M.2 (S80) 3IE2-P | M.2 (S30) 3ME4 | M.2 (S60) 3ME3 |
|---|---|---|---|---|
| Connector | B+M Key | B+M Key | B+M Key | B+M Key |
| Interface | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s |
| Flash Type | MLC | iSLC (MLC) | MLC | MLC |
| Capacity | 16GB ~ 1TB | 32GB ~ 512GB | 8GB ~ 128GB | 32GB ~ 512GB |
| Max. Channel | 4 | 4 | 2 | 4 |
| Sequential R/W (MB/sec, max.) | 530/450 | 560/450 | 520/120 | 380/200 |
| Max. Power consumption | 3.7W | 3.7W | 1.6W | 1.3W |
| External DRAM Buffer | Y | Y | N | N |
| iData Guard | Y | Y | N | Y |
| iPower Guard | Y | Y | Y | N |
| PLP (iCell) | Y | Y | N | N |
| AES | Y | Y | N | N |
| TCG Opal | Y | Y | N | N |
| S.M.A.R.T | Y | Y | Y | Y |
| Dimension (WxLxH/mm) | 22.0 x 80.0 x 3.5 | 22.0 x 80.0 x 3.5 | 22.0 x 30.0 x 3.2 | 22.0 x 60.0 x 3.5 |

## SATA - 2.5"SSD

| Model name | 2.5" SATA SSD 3TE7 | 2.5" SATA SSD 3IE7 | 2.5" SATA SSD 3TEB | 2.5" SATA SSD 3TG9-P | 2.5" SATA SSD 3TS9-P |
|---|---|---|---|---|---|
| Interface | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s |
| Flash Type | 3D TLC | iSLC (3D TLC) | 3D TLC | 3D TLC | 3D TLC |
| Capacity | 32GB ~ 1TB | 20GB ~ 320GB | 128GB ~ 1TB | 256GB ~ 8TB | 256GB ~ 4TB |
| Max. Channel | 4 | 4 | 2 | 4 | 4 |
| Sequential R/W (MB/sec, max.) | 560/525 | 560/525 | 550/500 | 540/520 | 540/520 |
| Max. Power consumption | 3.6W | 3.6W | 4.4W | 4.0W | 4.0W |
| External DRAM Buffer | N | N | N | Y | Y |
| iData Guard | Y | Y | Y | Y | Y |
| iPower Guard | Y | Y | Y | Y | Y |
| PLP (iCell) | N | N | N | Y | Y |
| AES | Y | Y | N | Y | Y |
| TCG Opal | N | N | N | Y | Y |
| S.M.A.R.T | Y | Y | Y | Y | Y |
| Dimension (WxLxH/mm) | 69.8 x 100.1 x 6.9 | 69.8 x 100.1 x 6.9 | 69.8 x 100.1 x 6.9 | 69.8 x 100.1 x 6.9 | 69.8 x 100.1 x 6.9 |

| Model name | 2.5" SATA SSD 3TG6-P | 2.5" SATA SSD 3TS6-P | 2.5" SATA SSD 3IE6-P | 2.5" SATA SSD 3TV6-P |
|---|---|---|---|---|
| Interface | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s |
| Flash Type | 3D TLC | 3D TLC | iSLC (3D TLC) | 3D TLC |
| Capacity | 128GB ~ 4TB | 200GB ~ 3.2TB | 80GB ~ 640GB | 128GB ~ 4TB |
| Max. Channel | 4 | 4 | 4 | 4 |
| Sequential R/W (MB/sec, max.) | 540 /470 | 540 /470 | 540 /470 | 500/460 |
| Max. Power consumption | 6.0W | 4.1W | 6.0W | 3.5W |
| External DRAM Buffer | Y | Y | Y | Y |
| iData Guard | Y | Y | Y | Y |
| iPower Guard | Y | Y | Y | Y |
| PLP (iCell) | Y | Y | Y | Y |
| AES | Y | Y | Y | Y |
| TCG Opal | Y | Y | Y | Y |
| S.M.A.R.T | Y | Y | Y | Y |
| Dimension (WxLxH/mm) | 69.8 x 100.1 x 6.9 | 69.8 x 100.1 x 6.9 | 69.8 x 100.1 x 6.9 | 69.8 x 100.1 x 6.9 |

| Model name | 2.5" SATA SSD 3TR6-P | 2.5" SATA SSD 3SE4 | 2.5" SATA SSD 3ME4 | 2.5" SATA SSD 3IE4 |
|---|---|---|---|---|
| Interface | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s |
| Flash Type | 3D TLC | SLC | MLC | iSLC (MLC) |
| Capacity | 128GB ~ 2TB | 8GB ~ 64GB | 8GB ~ 256GB | 8GB ~ 128GB |
| Max. Channel | 4 | 2 | 2 | 2 |
| Sequential R/W (MB/sec, max.) | 560/510 | 520/360 | 530/210 | 530/380 |
| Max. Power consumption | 4.2W | 1.1W | 0.8W | 0.8W |
| External DRAM Buffer | Y | N | N | N |
| iData Guard | Y | Y | Y | Y |
| iPower Guard | Y | Y | Y | Y |
| PLP (iCell) | Y | N | N | N |
| AES | Y | N | N | N |
| TCG Opal | Y | N | N | N |
| S.M.A.R.T | Y | Y | Y | Y |
| Dimension (WxLxH/mm) | 69.8 x 100.1 x 9.5 | 69.85 x 100.1 x 6.9 | 69.8 x 100.1 x 6.9 | 69.8 x 100.1 x 6.9 |

| Model name | 2.5" SATA SSD 3SE2-P | 2.5" SATA SSD 3MG2-P | 2.5" SATA SSD 3MR2-P | InnoOSR 2.5" SATA SSD 3TO7 |
|---|---|---|---|---|
| Interface | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s |
| Flash Type | SLC | MLC | MLC | 3D TLC |
| Capacity | 8GB ~ 512GB | 8GB ~ 2TB | 8GB ~ 1TB | 32GB ~ 2TB |
| Max. Channel | 4 | 4 | 4 | 4 |
| Sequential R/W (MB/sec, max.) | 520/420 | 520/480 | 520/450 | 560/525 |
| Max. Power consumption | 2.2W | 6.0W | 6.0W | 3.6 W |
| External DRAM Buffer | Y | Y | Y | N |
| iData Guard | Y | Y | Y | Y |
| iPower Guard | Y | Y | Y | Y |
| PLP (iCell) | Y | Y | Y | N |
| AES | Y | Y | Y | N |
| TCG Opal | Y | Y | Y | N |
| S.M.A.R.T | Y | Y | Y | Y |
| Dimension (WxLxH/mm) | 8GB ~ 256GB: 69.8 x 99.8 x 9.2<br>512GB: 69.8 x 99.8 x 9.5 | 8GB ~ 1TB: 69.8 x 100.1 x 6.9<br>2TB: 69.8 x 100.0 x 9.5 | 69.8 x 99.8 x 9.5 | 69.8 x 100.1 x 6.9 |

## SATA – SATA Slim

| Model name | SATA Slim 3TE7 | SATA Slim 3IE7 | SATA Slim 3TG6-P | SATA Slim 3SE4 | SATA Slim 3ME4 | SATA Slim 3IE4 | SATA Slim 3MG2-P |
|---|---|---|---|---|---|---|---|
| Interface | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s |
| Flash Type | 3D TLC | iSLC (3D TLC) | 3D TLC | SLC | MLC | iSLC (MLC) | MLC |
| Capacity | 32GB ~ 1TB | 40GB ~ 640GB | 128GB ~ 1TB | 8GB ~ 64GB | 8GB ~ 256GB | 8GB ~ 128GB | 8GB ~ 256GB |
| Max. Channel | 4 | 4 | 4 | 2 | 2 | 2 | 4 |
| Sequential R/W (MB/sec, max.) | 550/490 | 550/490 | 560/520 | 520/360 | 530/210 | 530/360 | 520/290 |
| Max. Power consumption | 0.8W | 0.8W | 3.1W | 1.1 W | 0.8W | 0.8W | 2.6W |
| External DRAM Buffer | N | N | Y | N | N | N | Y |
| iData Guard | Y | Y | Y | N | N | N | Y |
| iPower Guard | Y | Y | Y | Y | Y | Y | Y |
| PLP (iCell) | N | N | N | N | N | N | N |
| AES | Y | Y | Y | N | N | N | Y |
| TCG Opal | N | N | Y | N | N | N | Y |
| S.M.A.R.T | Y | Y | Y | Y | Y | Y | Y |
| Dimension (WxLxH/mm) | 54.0 x 39.0 x 4.0 | 54.0 x 39.0 x 4.0 | 54.0 x 39.0 x 4.0 | 54.0 x 39.0 x 4.0 | 54.0 x 39.0 x 4.0 | 54.0 x 39.0 x 4.0 | 54.0 x 39.0 x 4.0 |

## SATA – SATADOM

| Form Factor | SATADOM-SV/SH | SATADOM-SV/SH | SATADOM-SV/SH | SATADOM-SV/SH | SATADOM-SV/SH |
|---|---|---|---|---|---|
| Model name | SATADOM 3TE7 | SATADOM 3IE7 | SATADOM 3ME4 | SATADOM 3IE4 | SATADOM 3SE4 |
| Interface | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6Gb/s | SATA III 6Gb/s | SATA III 6Gb/s |
| Flash Type | 3D TLC | iSLC (3D TLC) | MLC | iSLC (MLC) | SLC |
| Capacity | 32GB ~ 256GB | 20GB ~ 80GB | 8GB ~ 128GB | 8GB ~ 64GB | 8GB ~ 32GB |
| Max. Channel | 2 | 2 | 2 | 2 | 2 |
| Sequential R/W (MB/sec, max.) | 510/140 | 550/485 | 530/120 | 530/350 | 520/260 |
| Max. Power consumption | 1.14W | 1.3W | 1.27W | 0.95W | 1.58W |
| External DRAM Buffer | N | N | N | N | N |
| iData Guard | Y | Y | N | N | N |
| iPower Guard | Y | Y | Y | Y | Y |
| PLP (iCell) | N | N | N | N | N |
| AES | Y | Y | N | N | N |
| TCG Opal | N | N | N | N | N |
| S.M.A.R.T | Y | Y | Y | Y | Y |
| Dimension (WxLxH/mm) | SV: 40.4 x 21.03 x 10.4<br>SH: 32.7 x 18 x 14.15 | SV: 40.4 x 21.03 x 10.4<br>SH: 32.7 x 18 x 14.15 | SV: 40.4 x 21.03 x 10.4<br>SH: 32.7 x 18 x 15.15 | SV: 40.4 x 21.03 x 10.4 | SV: 40.4 x 21.03 x 10.4<br>SH: 32.7 x 18 x 14.15 |

| Form Factor | SATADOM-SL/SH type D | SATADOM-SL/SH type D | SATADOM-SL/SH type D | SATADOM-SL/SH type D | SATADOM-SL/SH type D |
|---|---|---|---|---|---|
| **Model name** | **SATADOM 3TE7** | **SATADOM 3IE7** | **SATADOM 3ME4** | **SATADOM 3IE4** | **SATADOM 3SE4** |
| Interface | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6Gb/s | SATA III 6Gb/s | SATA III 6Gb/s |
| Flash Type | 3D TLC | iSLC (3D TLC) | MLC | iSLC (MLC) | SLC |
| Capacity | 32GB ~ 256GB | 20GB ~ 80GB | 8GB ~ 128GB | 8GB ~ 64GB | 8GB ~ 32GB |
| Max. Channel | 2 | 2 | 2 | 2 | 2 |
| Sequential R/W (MB/sec, max.) | 510/140 | 550/485 | 530/120 | 530/350 | 520/260 |
| Max. Power consumption | 1.5W | 1.85W | 1.02W | 1.02W | 0.95W |
| External DRAM Buffer | N | N | N | N | N |
| iData Guard | Y | Y | N | N | N |
| iPower Guard | Y | Y | Y | Y | Y |
| PLP (iCell) | N | N | N | N | N |
| AES | Y | Y | N | N | N |
| TCG Opal | N | N | N | N | N |
| S.M.A.R.T | Y | Y | Y | Y | Y |
| Dimension (WxLxH/mm) | SL: 29.6 x 33.06 x 10.5<br>SH(D):30 x 20.79 x 15.2 | SL: 29.6 x 33.06 x 10.5<br>SH(D):30 x 20.79 x 15.2 | SL: 29.6 x 33.06 x 10.5<br>SH(D): 30 x 20.79 x 15.15 | SL: 29.6 x 33.06 x 10.5 | SL: 29.6 x 33.06 x 10.5<br>SH(D):30 x 20.79 x 15.2 |

| Form Factor | SATADOM-SH type C | SATADOM-SH type C | SATADOM-MV | SATADOM-MV | SATADOM-ML/MH |
|---|---|---|---|---|---|
| **Model name** | **SATADOM 3ME4** | **SATADOM 3SE4** | **SATADOM 3IE4** | **SATADOM 3ME4** | **SATADOM 3TG6-P** |
| Interface | SATA III 6Gb/s | SATA III 6.0Gb/s | SATA III 6Gb/s | SATA III 6Gb/s | SATA III 6.0Gb/s |
| Flash Type | MLC | SLC | iSLC (MLC) | MLC | 3D TLC |
| Capacity | 8GB ~ 128GB | 8GB ~ 32GB | 8GB ~ 64GB | 8GB ~ 128GB | 128GB ~ 256GB |
| Max. Channel | 2 | 2 | 2 | 2 | 4 |
| Sequential R/W (MB/sec, max.) | 530/120 | 520/260 | 530/340 | 530/120 | 560/290 |
| Max. Power consumption | 1.02W | 1.49W | 1.72W | 1.08W | 2.14W |
| External DRAM Buffer | N | N | N | N | Y |
| iData Guard | N | N | N | N | Y |
| iPower Guard | Y | Y | Y | Y | Y |
| PLP (iCell) | N | N | N | N | N |
| AES | N | N | N | N | N |
| TCG Opal | N | N | N | N | N |
| S.M.A.R.T | Y | Y | Y | Y | Y |
| Dimension (WxLxH/mm) | 32.7 x 18 x 14.5 | 32.7 x 18 x 14.5 | 41.55 x 25.26 x 10.4 | 41.55 x 25.26 x 10.4 | ML: 37.17 x 31.5 x 12.6 |

| Form Factor | SATADOM-ML/MH | SATADOM-ML/MH | SATADOM-ML/MH | SATADOM-ML/MH |
|---|---|---|---|---|
| **Model name** | **SATADOM 3MG2-P** | **SATADOM 3IE4** | **SATADOM 3ME4** | **SATADOM 3SE4** |
| Interface | SATA III 6.0Gb/s | SATA III 6Gb/s | SATA III 6Gb/s | SATA III 6.0Gb/s |
| Flash Type | MLC | iSLC (MLC) | MLC | SLC |
| Capacity | 32GB-256GB | 16GB ~ 128GB | 32GB ~ 256GB | 8GB ~ 64GB |
| Max. Channel | 4 | 2 | 2 | 2 |
| Sequential R/W (MB/sec, max.) | 560/180 | 530/360 | 530/210 | 520/360 |
| Max. Power consumption | 2.68W | 0.815W | 0.815W | 1.58W |
| External DRAM Buffer | Y | N | N | N |
| iData Guard | Y | Y | N | N |
| iPower Guard | Y | Y | Y | Y |
| PLP (iCell) | N | N | N | N |
| AES | N | N | N | N |
| TCG Opal | N | N | N | N |
| S.M.A.R.T | Y | Y | Y | Y |
| Dimension (WxLxH/mm) | ML: 37.17 x 31.5 x 12.6 | ML: 31.2 x 36.7 x 10.7<br>MH: 23.5 x 33.6 x 14.8 | ML: 31.2 x 36.7 x 10.7<br>MH: 23.5 x 33.6 x 14.8 | ML: 36.7 x 31.2 x 10.7 |

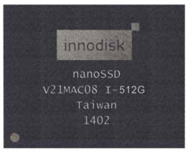
## SATA - mSATA

| Model name | mSATA 3TE7 | mSATA 3IE7 | mSATA 3TG6-P | mSATA 3SE4 | mSATA 3ME4 | mSATA 3IE4 |
|---|---|---|---|---|---|---|
| Interface | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s |
| Flash Type | 3D TLC | iSLC (3D TLC) | 3D TLC | SLC | MLC | iSLC (MLC) |
| Capacity | 32GB ~ 1TB | 20GB ~ 640GB | 128GB ~ 1TB | 8GB ~ 64GB | 8GB ~ 256GB | 8GB ~ 128GB |
| Max. Channel | 4 | 4 | 4 | 2 | 2 | 2 |
| Sequential R/W (MB/sec, max.) | 560/525 | 550 / 490 | 560/510 | 525/350 | 535/210 | 530/365 |
| Max. Power consumption | 2.2W | 2.7W | 2.8W | 1.4W | 0.6W | 0.6W |
| External DRAM Buffer | N | N | Y | N | N | N |
| iData Guard | Y | Y | Y | N | N | N |
| iPower Guard | Y | Y | Y | Y | Y | Y |
| PLP (iCell) | Y | N | N | N | N | N |
| AES | Y | Y | Y | N | N | N |
| TCG Opal | N | N | Y | N | N | N |
| S.M.A.R.T | Y | Y | Y | Y | Y | Y |
| Dimension (WxLxH/mm) | 29.8 x 50.8 x 3.7 | 29.8 x 50.8 x 3.7 | 29.8 x 50.8 x 3.7 | 29.8 x 50.8 x 3.7 | 29.8 x 50.8 x 3.7 | 29.8 x 50.8 x 3.7 |

| Model name | mSATA 3MG2-P | mSATA mini 3TE7 | mSATA mini 3IE7 | mSATA mini 3SE4 | mSATA mini 3ME4 | mSATA mini 3IE4 |
|---|---|---|---|---|---|---|
| Interface | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s |
| Flash Type | MLC | 3D TLC | iSLC (3D TLC) | SLC | MLC | iSLC (MLC) |
| Capacity | 8GB ~ 512GB | 32GB ~ 256GB | 20GB ~ 320GB | 8GB ~ 64GB | 8GB ~ 128GB | 8GB ~ 64GB |
| Max. Channel | 4 | 4 | 4 | 2 | 2 | 2 |
| Sequential R/W (MB/sec, max.) | 520/450 | 560/520 | 560/520 | 525/360 | 430/125 | 530/340 |
| Max. Power consumption | 2.2W | 0.6W | 2.8W | 1.3W | 0.6W | 0.6W |
| External DRAM Buffer | Y | N | N | N | N | N |
| iData Guard | Y | Y | Y | N | N | N |
| iPower Guard | Y | Y | Y | Y | Y | Y |
| PLP (iCell) | N | N | N | N | N | N |
| AES | Y | Y | Y | N | N | N |
| TCG Opal | Y | N | N | N | N | N |
| S.M.A.R.T | Y | Y | Y | Y | Y | Y |
| Dimension (WxLxH/mm) | 29.85 x 50.8 x3.6 | 30 x 26.8 x 3.6 | 30 x 26.8 x 3.6 | 30 x 26.8 x 3.6 | 30 x 26.8 x 3.4 | 30 x 26.8 x 3.4 |

## SATA – CFast

| Model name | CFast 3TE7 | CFast 3IE7 | CFast 3SE4 | CFast 3ME4 | CFast 3IE4 | CFast 3MG2-P |
|---|---|---|---|---|---|---|
| Interface | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s |
| Flash Type | 3D TLC | iSLC (3D TLC) | SLC | MLC | iSLC | MLC |
| Capacity | 32GB ~ 512GB | 20GB ~ 320GB | 8GB ~ 64GB | 8GB ~ 256GB | 8GB ~ 128GB | 32GB ~ 256GB |
| Max. Channel | 4 | 4 | 2 | 2 | 2 | 4 |
| Sequential R/W (MB/sec, max.) | 560/520 | 550/490 | 520/360 | 530/210 | 530/360 | 560/350 |
| Max. Power consumption | 1.8W | 1.8W | 1.6W | 0.9W | 0.8W | 2.5W |
| External DRAM Buffer | N | N | N | N | N | Y |
| iData Guard | Y | Y | N | N | N | Y |
| iPower Guard | Y | Y | Y | Y | Y | Y |
| PLP (iCell) | N | N | N | N | N | N |
| AES | Y | Y | N | N | N | N |
| TCG Opal | N | N | N | N | N | N |
| S.M.A.R.T | Y | Y | Y | Y | Y | Y |
| Dimension (WxLxH/mm) | 42.8 x 36.4 x 3.6 | 42.8 x 36.4 x 3.6 | 42.8 x 36.4 x 3.6 | 42.8 x 36.4 x 3.6 | 42.8 x 36.4 x 3.6 | 42.8 x 36.4 x 3.6 |

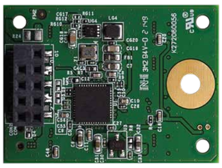


## SATA – nanoSSD

| Model name | nanoSSD 3ME3 | nanoSSD 3IE3 | nanoSSD 3TE7 |
|---|---|---|---|
| Interface | SATA III 6.0Gb/s | SATA III 6.0Gb/s | SATA III 6.0Gb/s |
| Flash Type | MLC | iSLC (MLC) | 3D TLC |
| Capacity | 16GB | 16GB | 32GB ~ 256GB |
| Max . Channel | 4 | 4 | 4 |
| Sequential R/W (MB/sec, max .) | 410/140 | 440/260 | 540/260 |
| Max . Power consumption | 2.3W | 2.3W | 1.9W |
| External DRAM Buffer | N | N | N |
| iData Guard | Y | Y | N |
| iPower Guard | Y | Y | N |
| PLP (iCell) | N | N | N |
| S.M.A.R.T | Y | Y | Y |
| Dimension (WxLxH/mm) | 16 x 20 x 1.7 | 16 x 20 x 1.7 | 16 x 20 x 1.7 |

## PATA – CF

| Model name | iCF 9000 | iCF 1SE | iCF 1ME | iCF 1ME2 | iCF 1SE2 | iCF 1SE3 |
|---|---|---|---|---|---|---|
| Interface | PATA | PATA | PATA | PATA | PATA | PATA |
| Connector | 50pin CF connector | 50pin CF connector | 50pin CF connector | 50pin CF connector | 50pin CF connector | 50pin CF connector |
| Flash Type | SLC | SLC | MLC | MLC | SLC | SLC |
| Capacity | 1GB ~ 64GB | 512MB ~ 8GB | 8GB ~ 256GB | 8GB ~ 256GB | 1GB ~ 64GB | 128MB ~ 64GB |
| Max. Channel | 4 | 2 | 2 | 2 | 2 | 2 |
| Sequential R/W (MB/sec, max.) | 110/100 | 40/30 | 110/110 | 85/55 | 75/65 | 63/55 |
| Max. Power consumption | 0.95W (5V x 190mA)<br>0.63W (3.3V x 190mA) | 0.75W (5V x 150mA)<br>0.5W (3.3V x 150mA) | 0.76W (5V x 155mA)<br>0.52W (3.3V x 155mA) | 0.85W (5Vx170mA) | 1.4W (5V x 280mA) | 0.7W (5V x 140mA) |
| External DRAM Buffer | N | N | N | N | N | N |
| iData Guard | N | N | N | N | N | N |
| iPower Guard | N | N | N | N | N | N |
| PLP (iCell) | N | N | N | N | N | N |
| AES | N | N | N | N | N | N |
| TCG Opal | N | N | N | N | N | N |
| S.M.A.R.T | Y | Y | Y | Y | Y | Y |
| Dimension (WxLxH/mm) | 42.8 x 36.4 x 3.3 | 42.8 x 36.4 x 3.3 | 42.8 x 36.4 x 3.3 | 42.8 x 36.4 x 3.3 | 42.8 x 36.4 x 3.3 | 42.8 x 36.4 x 3.3 |



## PATA – EDC

| Form Factor | EDC Vertical | EDC Vertical | EDC Horizontal |
|---|---|---|---|
| Model name | EDC 1ME Vertical Type | EDC 1SE Vertical Type | EDC 1SE Horizontal Type |
| Interface | PATA | PATA | PATA |
| Connector | 44 pin | 40/44 pin | 40/44 pin<br>A~F type |
| Flash Type | MLC | SLC | SLC |
| Capacity | 8GB ~ 128GB | 512MB ~ 4GB | 512MB ~ 8GB |
| Max. Channel | 2 | 2 | 2 |
| Sequential R/W (MB/sec, max.) | 110/75 | 40/28 | 40/28 |
| Max. Power consumption | 1.05W (5V x 150mA)<br>0.69W (3.3V x 150mA) | 0.75W (5V x 150mA)<br>0.5W (3.3V x 150mA) | 0.75W (5V x 150mA)<br>0.5W (3.3V x 150mA) |
| External DRAM Buffer | N | N | N |
| iData Guard | N | N | N |
| iPower Guard | N | N | N |
| PLP (iCell) | N | N | N |
| AES | N | N | N |
| TCG Opal | N | N | N |
| S.M.A.R.T | Y | Y | Y |
| Dimension (WxLxH/mm) | 50.3 x 27.3 x 7.5 | 40 pin: 60.2 x 27.3 x 6.4<br>44 pin: 50.3 x 27.3 x 5.8 | 40 pin: 55 x 32.4 x 18.3<br>44 pin: 48 x 32.6 x 12.9<br>(for different connectors, the dimensions may have slight differences) |

## Others – USB

| Form Factor | USB Drive | USB Drive | USB Drive | USB Drive |
|---|---|---|---|---|
| Model name | USB Drive 2SE2 | USB Drive 2ME2 | USB Drive 3SE | USB Drive 3ME |
| Interface | USB 2.0 | USB 2.0 | USB 3.0 | USB 3.0 |
| Connector | Type A | Type A | Type A | Type A |
| Flash Type | SLC | MLC | SLC | MLC |
| Capacity | 512MB ~ 16GB | 8GB ~ 64GB | 4GB ~ 32GB | 8GB ~ 64GB |
| Ma x . Channel | 1 | 1 | 1 | 1 |
| Sequential R/W (MB/sec, ma x .) | 30/30 | 40/30 | 100/85 | 100/50 |
| Ma x . Power consumption | 0.35 W | 0.43W | 0.70 W | 0.70W |
| External DRAM Buffer | N | N | N | N |
| iData Guard | Y | Y | N | N |
| iPower Guard | Y | Y | Y | N |
| PLP (iCell) | N | N | N | N |
| AES | N | N | N | N |
| TCG Opal | N | N | N | N |
| S.M.A.R.T | N | N | Y | Y |
| Dimension (WxLxH/mm) | 16.60 x 61.45 x 7.6 | 16.60 x 61.45 x 7.6 | 16.6 x 48.55 x 7.6 | 16.6 x 48.55 x 7.6 |

| Form Factor | USB Drive | USB EDC Horizontal | USB EDC Horizontal | USB EDC Horizontal |
|---|---|---|---|---|
| Model name | USB Drive 3IE4 | USB EDC H 2SE2 | USB EDC H 2ME2 | USB EDC H 2ME3 |
| Interface | USB 3.0 | USB 2.0 | USB 2.0 | USB 2.0 |
| Connector | Type A | Standard, 9pin, 2.54mm<br>Low profile, 9pin, 2.00mm | Standard, 9pin, 2.54mm<br>Low profile, 9pin, 2.00mm | Standard, 9pin, 2.54mm<br>Low profile, 9pin, 2.00mm |
| Flash Type | iSLC (3D TLC) | SLC | MLC | MLC |
| Capacity | 16GB ~ 128GB | 512MB ~ 32GB | 4GB ~ 64GB | 8GB ~ 32GB |
| Ma x . Channel | 2 | 1 | 1 | 1 |
| Sequential R/W (MB/sec, ma x .) | 330/125 | 30/20 | 40/25 | 35/35 |
| Ma x . Power consumption | 1.3W | 0.51W | 0.45W | 0.66W |
| External DRAM Buffer | N | N | N | N |
| iData Guard | Y | Y | Y | Y |
| iPower Guard | Y | Y | Y | Y |
| PLP (iCell) | N | N | N | N |
| AES | N | N | N | N |
| TCG Opal | N | N | N | N |
| S.M.A.R.T | Y | N | N | N |
| Dimension (WxLxH/mm) | 16.6 x 48.55 x 7.6 | 26.6 x 36.9 x 6.75<br>(Pin Pitch 2.00mm)<br>26.6 x 36.9 x 9.85<br>(Pin Pitch 2.54mm) | 26.6 x 36.9 x 6.75<br>(Pin Pitch 2.00mm)<br>26.6 x 36.9 x 9.85<br>(Pin Pitch 2.54mm) | 26.6 x 36.9 x 6.36<br>(Pin Pitch 2.00mm)<br>26.6 x 36.9 x 9.85<br>(Pin Pitch 2.54mm) |

| Form Factor | USB EDC Horizontal | USB EDC Vertical | USB EDC Vertical | USB EDC Vertical |
|---|---|---|---|---|
| **Model name** | **USB EDC H 3IE4** | **USB EDC V 2SE2** | **USB EDC V 3SE** | **USB EDC V 3ME** |
| Interface | USB 3.0 | USB 2.0 | USB 3.0 | USB 3.0 |
| Connector | Standard, 9pin, 2.54mm<br>Low profile, 9pin, 2.00mm | Standard, 9pin | Standard, 20pin, 2.00mm | Standard, 20pin, 2.00mm |
| Flash Type | iSLC (3D TLC) | SLC | SLC | MLC |
| Capacity | 16GB ~ 128GB | 512MB ~ 16GB | 4GB ~ 32GB | 8GB ~ 64GB |
| Max. Channel | 2 | 1 | 1 | 1 |
| Sequential R/W (MB/sec, max.) | 330/125 | 30/30 | 110/85 | 100/50 |
| Max. Power consumption | 1.3W | 0.54W | 0.79W | 0.79W |
| External DRAM Buffer | N | N | N | N |
| iData Guard | Y | Y | N | N |
| iPower Guard | Y | Y | N | Y |
| PLP (iCell) | N | N | N | N |
| AES | N | N | N | N |
| TCG Opal | N | N | N | N |
| S.M.A.R.T | Y | N | Y | Y |
| Dimension (WxLxH/mm) | 26.6 x 36.9 x 6.36<br>(Pin Pitch 2.00mm)<br>26.6 x 36.9 x 9.85<br>(Pin Pitch 2.54mm) | 14.0 x 41.5 x 6.0 | 24.0 x 22.0 x 5.0 | 24.0 x 22.0 x 5.0 |

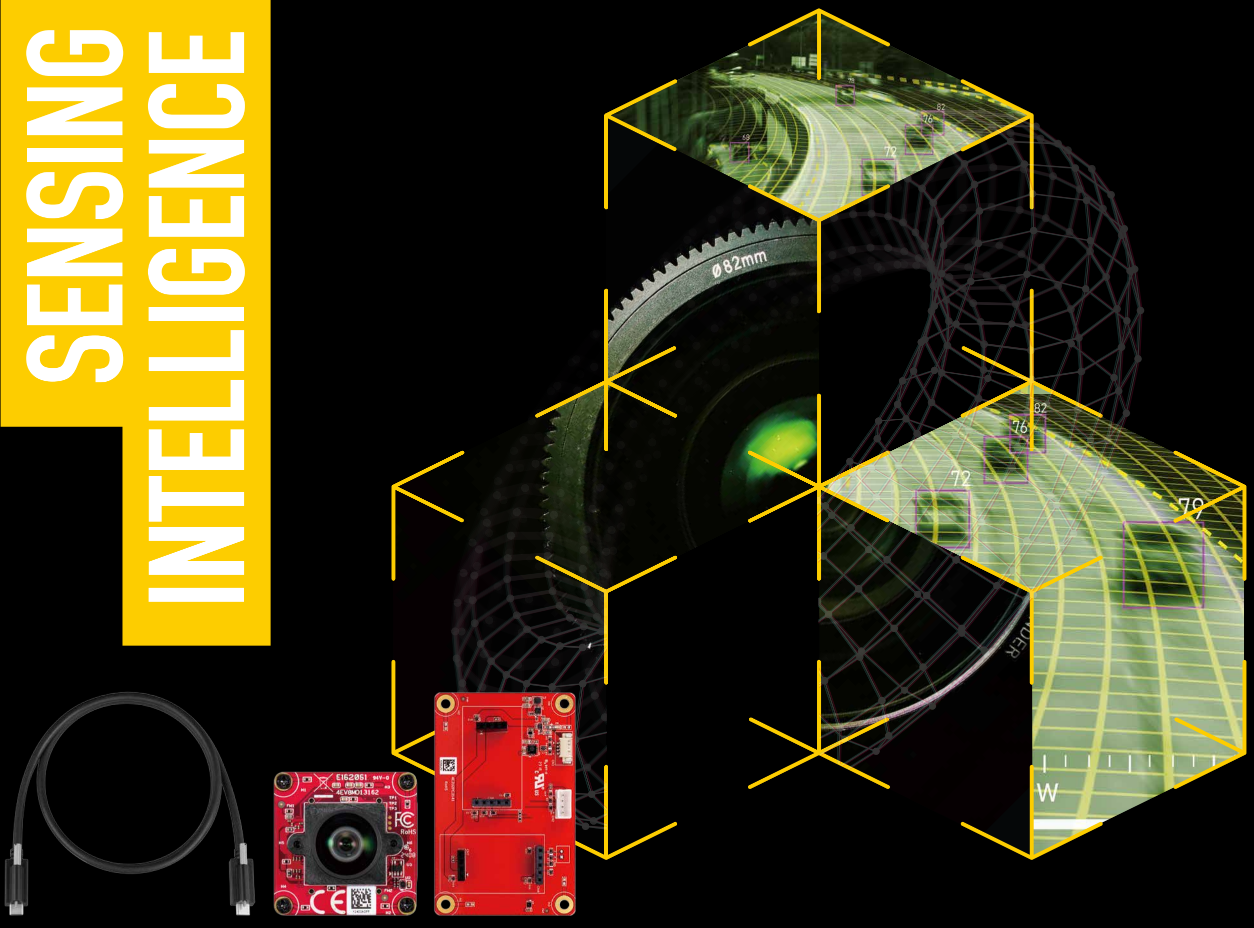
## Others – SD

| Model name | MicroSD 3TE4 | MicroSD 3IE4 | MicroSD 3SE3 | MicroSD 3ME3 | MicroSD 3ME2 |
|---|---|---|---|---|---|
| Interface | SD 3.0/6.1 | SD 3.0/6.1 | SD 3.0 | SD 3.0 | SD 3.0 |
| Flash Type | 3D TLC | iSLC (3D TLC) | SLC | MLC | MLC |
| Capacity | 32GB ~ 512GB | 8GB ~ 128GB | 4GB ~ 8GB | 8GB ~ 64GB | 8GB ~ 64GB |
| Max. Channel | 1 | 1 | 1 | 1 | 1 |
| Sequential R/W (MB/sec, max.) | 95/85 | 95/85 | 30/23 | 76/52 | 76/32 |
| Max. Power consumption | 0.6W | 0.4W | 0.2W | 0.5W | 0.7W |
| External DRAM Buffer | N | N | N | N | N |
| iData Guard | N | N | N | N | N |
| iPower Guard | N | N | N | N | N |
| PLP (iCell) | N | N | N | N | N |
| AES | N | N | N | N | N |
| TCG Opal | N | N | N | N | N |
| S.M.A.R.T | Y | Y | Y | Y | Y |
| Dimension (WxLxH/mm) | 11.0 x 15.0 x 1.0 | 11.0 x 15.0 x 1.0 | 11.0 x 15.0 x 1.0 | 11.0 x 15.0 x 1.0 | 11.0 x 15.0 x 1.0 |

| Model name | MicroSD 3IE2 | Industrial MicroSD Card | SD Card 3TE4 | SD Card 3IE4 |
|---|---|---|---|---|
| Interface | SD 3.0 | SD 1.0/2.0 | SD 3.0/6.1 | SD 3.0/6.1 |
| Flash Type | iSLC (MLC) | SLC | 3D TLC | iSLC (3D TLC) |
| Capacity | 4GB ~ 32GB | 1GB ~ 8GB | 32GB ~ 256GB | 8GB ~ 64GB |
| Max. Channel | 1 | 1 | 1 | 1 |
| Sequential R/W (MB/sec, max.) | 79/45 | 20/16 | 95/85 | 95/85 |
| Max. Power consumption | 0.7W | 0.2W | 0.5W | 0.4W |
| External DRAM Buffer | N | N | N | N |
| iData Guard | N | N | N | N |
| iPower Guard | N | N | N | N |
| PLP (iCell) | N | N | N | N |
| AES | N | N | N | N |
| TCG Opal | N | N | N | N |
| S.M.A.R.T | Y | Y | Y | Y |
| Dimension (WxLxH/mm) | 11.0 x 15.0 x 1.0 | 11.0 x 15.0 x 1.0 | 24.0 x 32.0 x 2.1 | 24.0 x 32.0 x 2.1 |

| Model name | SD Card 3SE6 | SD Card 3SE3 | SD Card 3ME3 | SD Card 3IE3 |
|---|---|---|---|---|
| Interface | SD 2.0 | SD 3.0 | SD 3.0 | SD 3.0 |
| Flash Type | SLC | SLC | MLC | iSLC (MLC) |
| Capacity | 512MB ~ 2GB | 4GB ~ 32GB | 8GB ~ 128GB | 4GB ~ 64GB |
| Max. Channel | 1 | 1 | 1 | 1 |
| Sequential R/W (MB/sec, max.) | 23/20 | 37/31 | 80/46 | 79/70 |
| Max. Power consumption | 0.3W | 0.4W | 0.5W | 0.5W |
| External DRAM Buffer | N | N | N | N |
| iData Guard | N | N | N | N |
| iPower Guard | N | N | N | N |
| PLP (iCell) | N | N | N | N |
| AES | N | N | N | N |
| TCG Opal | N | N | N | N |
| S.M.A.R.T | Y | Y | Y | Y |
| Dimension (WxLxH/mm) | 24.0 x 32.0 x 2.1 | 24.0 x 32.0 x 2.1 | 24 x 32.0 x 2.1 | 24.0 x 32.0 x 2.1 |

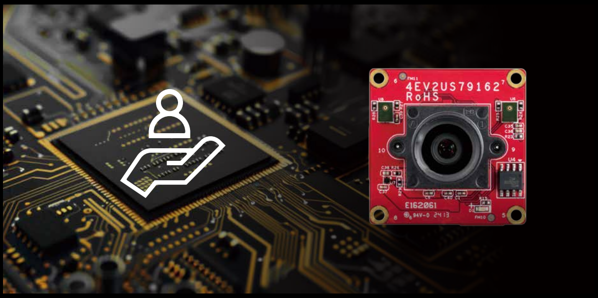
# SENSING INTELLIGENCE



## SENSING INTELLIGENCE

Capture precise and dependable images and data from physical environments. Our modules initiate intelligence applications at the edge.

# CAMERA DESIGN SERVICE

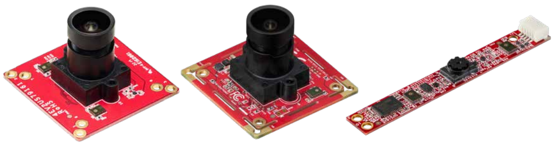


Hardware (PCBA, Size)

Versatile Lens Selection

Image Quality Tuning

Platform Integration



## USB2.0

| Model Name | EV2U-SGR1-MMC1 | EV2U-RMR1-UMCB | EV2U-RMR2-MMC1 | EV2U-SSM1-RLCF |
|---|---|---|---|---|
| **Module Type** | USB 2.0 2MP Fixed Focus Camera Module | USB 2.0 2MP Fixed Focus Camera Module | USB 2.0 2MP Fixed Focus Camera Module | USB 2.0 2MP Fixed Focus Camera Module |
| **Resolution (Max.)** | 2MP | 2MP | 2MP | 2MP |
| **Frame Rate (Max. Resolution)** | 30fps | 30fps | 30fps | 30fps |
| **Output I/F** | USB 2.0 | USB 2.0 | USB 2.0 | USB 2.0 |
| **Sensor** | GalaxyCore GC2053 | OmniVision OV2740 | OmniVision OV2732 | Sony IMX307 |
| **Shutter** | Rolling | Rolling | Rolling | Rolling |
| **Video Format** | YUV422, MJPEG | YUV422, MJPEG | YUV422, MJPEG | YUV422, MJPEG |
| **Power Consumption** | Approximate 1W (MJPEG @Max. Resolution ) | Approximate 1W (MJPEG @Max. Resolution ) | Approximate 1W (MJPEG @Max. Resolution ) | Approximate 1W (MJPEG @Max. Resolution ) |
| **Operating Temperature** | -20°C ~ 70°C | -20°C ~ 70°C | -20°C ~ 70°C | -20°C ~ 70°C |
| **Sensor Size** | 1/2.9" | 1/6" | 1/6" | 1/2.8" |
| **Pixel Size** | 2.8µm | 1.4µm | 1.4µm | 2.9µm |
| **Chroma Type** | Color | Color | Color | Color |
| **Lens Type** | Fixed Focus (M12) | Fixed Focus (M5) | Fixed Focus (M12) | Fixed Focus (M12) |
| **Dimension (WxLxH/mm)** | 38 x 38 x 26.6 | 60 x 8 x 3.85 | 58 x 25 x 27 | 38 x 38 x 26.6<br>41.4 x 41.4 x TBC (Housing) |
| **Lens FOV(D/H/V)** | 121° / 102° / 54° | 77.3° / 69.8° / 42.7° | 86° / 72° / 38° | 121° / 102° / 54° |
| **OS Support** | Windows/ Linux/ Android/ macOS | Windows/ Linux/ Android/ macOS | Windows/ Linux/ Android/ macOS | Windows/ Linux/ Android/ macOS |
| **Housing** | Board Level | Board Level | Board Level | Board Level, Housing |
| **Features** | Low Light, DMIC | DMIC | DMIC | Low Light, DMIC, External Trigger |
| **Warranty** | 3 Years | 3 Years | 3 Years | 3 Years |

For detailed resolution and frame rate combined application, please refer to product datasheet.

| Model Name | EV2U-LOM1-RHCF | EV8U-LSM1-RLCF | EV8U-LSM1-RLCN | EV8U-LSM1-RLCA |
|---|---|---|---|---|
| Module Type | USB 2.0 2MP Fixed Focus Camera Module | USB 2.0 8MP Fixed Focus Camera Module | USB 2.0 8MP Fixed Focus Camera Module | USB 2.0 8MP Auto Focus Camera Module |
| Resolution (Max.) | 2MP | 8MP | 8MP | 8MP |
| Frame Rate (Max. Resolution) | 30fps | 30fps | 30fps | 30fps |
| Output I/F | USB 2.0 | USB 2.0 | USB 2.0 | USB 2.0 |
| Sensor | onsemi AR0246 | Sony IMX415 | Sony IMX415 | Sony IMX415 |
| Shutter | Rolling | Rolling | Rolling | Rolling |
| Video Format | YUV422, MJPEG | YUV422, MJPEG | YUV422, MJPEG | YUV422, MJPEG |
| Power Consumption | Approximate 1W (MJPEG @Max. Resolution ) | Approximate 1W (MJPEG @Max. Resolution ) | Approximate 1W (MJPEG @Max. Resolution ) | Approximate 1W (MJPEG @Max. Resolution ) |
| Operating Temperature | 0°C ~ 70°C | 0°C ~ 70°C | 0°C ~ 70°C | 0°C ~ 70°C |
| Sensor Size | 1/4” | 1/2.8” | 1/2.8” | 1/2.8” |
| Pixel Size | 2.0µm | 1.45µm | 1.45µm | 1.45µm |
| Chroma Type | Color | Color | Color | Color |
| Lens Type | Fixed Focus (M12) | Fixed Focus (M12) | Fixed Focus (M12) | Fixed Focus (M12) |
| Dimension (WxLxH/mm) | 38 x 38 x TBC<br>41.4 x 41.4 x TBC (Housing) | 38 x 38 x TBC<br>41.4 x 41.4 x TBC (Housing) | 38 x 38 x TBC<br>41.4 x 41.4 x TBC (Housing) | 38 x 38 x TBC<br>41.4 x 41.4 x TBC (Housing) |
| Lens FOV(D/H/V) | TBC | 89° / 81° / 51° | 106° / 89.5° / 48.4° | TBC |
| OS Support | Windows/ Linux/ Android/ macOS | Windows/ Linux/ Android/ macOS | Windows/ Linux/ Android/ macOS | Windows/ Linux/ Android/ macOS |
| Housing | Board Level, Housing | Board Level, Housing | Board Level, Housing | Board Level, Housing |
| Features | HDR, DMIC | Low Light, DMIC | Low Light, Night Vision | Low Light, DMIC |
| Warranty | 3 Years | 3 Years | 3 Years | 3 Years |

For detailed resolution and frame rate combined application, please refer to product datasheet.

## MIPI CSI-2

| Model Name | EV2M-GOM1-MUCA | EV2M-ZOM1-GSCV | EV2M-OOM1-UHCA | EV2M-OOM2-RLCF | EV2M-OOM3-RHCF |
|---|---|---|---|---|---|
| Module Type | MIPI CSI-2 2MP Fixed Focus Camera Module | MIPI CSI-2 2.3MP Varifocal Focus Camera Module | MIPI CSI-2 2.3MP Fixed Focus Camera Module | MIPI CSI-2 2MP Fixed Focus Camera Module | MIPI CSI-2 2MP Fixed Focus Camera Module |
| Resolution (Max.) | 2MP | 2.3MP | 2.3MP | 2MP | 2MP |
| Frame Rate (Max. Resolution) | 30fps | 60fps | 60fps | 60fps | 30fps |
| Output I/F | MIPI CSI-2 | MIPI CSI-2 | MIPI CSI-2 | MIPI CSI-2 | MIPI CSI-2 |
| Sensor | onsemi AR0330 | onsemi AR0234 | onsemi AR0234 | onsemi AR0221 | onsemi AR0246 |
| Shutter | Rolling | Global | Global | Rolling | Rolling |
| Video Format | YUV422 | YUV422 | YUV422 | YUV422 | YUV422 |
| Power Consumption | Approximate 1.6W (YUV422 @Max. Resolution ) | Approximate 2W (YUV422 @Max. Resolution ) | Approximate 1W (YUV422 @Max. Resolution ) | Approximate 1W (YUV422 @Max. Resolution ) | Approximate 1W (YUV422 @Max. Resolution ) |
| Operating Temperature | -30°C ~ 70°C | -20°C ~ 65°C | -30°C ~ 70°C | -30°C ~ 70°C | -30°C ~ 70°C |
| Sensor Size | 1/3” | 1/2.6” | 1/2.6” | 1/1.7” | 1/4” |
| Pixel Size | 2.2µm | 3.0µm | 3.0µm | 4.2µm | 2.0µm |
| Chroma Type | Color | Color | Color | Color | Color |
| Lens Type | Fixed Focus (M12) | Varifocal | Fixed Focus (M12) | Fixed Focus (M12) | Fixed Focus (M12) |
| Dimension (WxLxH/mm) | 38 x 38 x 45<br>46 x 46 x 45<br>(Open Front Housing) | 42 x 42 x 77.7 | 38 x 38 x 26.75<br>46 x 46 x 26.75<br>(Open Front Housing) | 30 x 30 x 48.27<br>39 x 39 x 48.27<br>(Open Front Housing) | 30 x 30 x TBC<br>39 x 39 x TBC<br>(Open Front Housing) |
| Lens FOV(D/H/V) | 230° | W: 128.1 ° / 103.1 ° / 60.6°<br>T: 39.9 ° / 33.8 ° / 21.1° | 104° / 86° / 46° | 122° / 113° / 75° | 96° / 88° / 57° |
| OS Support | NVIDIA Jetson Orin, Intel | NVIDIA Jetson Orin | NVIDIA Jetson Orin, Intel | NVIDIA Jetson Orin, Intel | NVIDIA Jetson Orin, Intel |
| Housing | Board Level, Open Front Housing | Board Level | Board Level, Open Front Housing | Board Level, Open Front Housing | Board Level, Open Front Housing |
| Features | Fisheye Dewarping | | | Low light, External Trigger | HDR, External Trigger |
| Warranty | 3 Years | 3 Years | 3 Years | 3 Years | 3 Years |

For detailed resolution and frame rate combined application, please refer to product datasheet.
For more platform support, please contact our local sales.

| Model Name | EV2M-CSM1-RHCF | EV5M-CSM1-RTCF | EV8M-CSM1-RTCF | EV8M-OOM1-RHCF | EVDM-OOM1-RHCF |
|---|---|---|---|---|---|
| Module Type | MIPI CSI-2 2MP Fixed Focus Camera Module | MIPI CSI-2 5MP Fixed Focus Camera Module | MIPI CSI-2 8MP Fixed Focus Camera Module | MIPI CSI-2 8MP Fixed Focus Camera Module | MIPI CSI-2 13MP Fixed Focus Camera Module |
| Resolution (Max.) | 2MP | 5MP | 8MP | 8MP | 13MP |
| Frame Rate (Max. Resolution) | 120fps | 30fps | 30fps | 30fps | 20fps |
| Output I/F | MIPI CSI-2 | MIPI CSI-2 | MIPI CSI-2 | MIPI CSI-2 | MIPI CSI-2 |
| Sensor | Sony IMX290 | Sony IMX335 | Sony IMX415 | onsemi AR0822 | onsemi AR1335 |
| Shutter | Rolling | Rolling | Rolling | Rolling | Rolling |
| Video Format | YUV422 | YUV422 | YUV422 | YUV422 | YUV422 |
| Power Consumption | Approximate 1.5W (YUV422 @Max. Resolution ) | Approximate 1.6W (YUV422 @Max. Resolution ) | Approximate 1.9W (YUV422 @Max. Resolution ) | Approximate 1W (YUV422 @Max. Resolution ) | Approximate 1W (YUV422 @Max. Resolution ) |
| Operating Temperature | -20°C ~ 65°C | -20°C ~ 65°C | -20°C ~ 65°C | -30°C ~ 70°C | -30°C ~ 70°C |
| Sensor Size | 1/2.8” | 1/2.8” | 1/2.8” | 1/1.8” | 1/3.2” |
| Pixel Size | 2.9μm | 2.0μm | 1.45μm | 2.0μm | 1.1μm |
| Chroma Type | Color | Color | Color | Color | Color |
| Lens Type | Fixed Focus (M12) | Fixed Focus (M12) | Fixed Focus (M12) | Fixed Focus (M12) | Fixed Focus (M12) |
| Dimension (WxLxH/mm) | 46 x 46 x 40.6 (Open Front Housing) | 46 x 46 x 40.6 (Open Front Housing) | 46 x 46 x 40.6 (Open Front Housing) | 30 x 30 x 41.2<br>39 x 39 x 41.2 (Open Front Housing) | 30 x 30 x 40.5<br>39 x 39 x 40.5 (Open Front Housing) |
| Lens FOV(D/H/V) | 107° / 93° / 52° | 126° / 97° / 73° | 148° / 125° / 67° | 107° / 100° / 67° | 91° / 71° / 52° |
| OS Support | NVIDIA Jetson Orin | NVIDIA Jetson Orin | NVIDIA Jetson Orin | NVIDIA Jetson Orin, Intel | NVIDIA Jetson Orin, Intel |
| Housing | Open Front Housing | Open Front Housing | Open Front Housing | Board Level, Open Front Housing | Board Level, Open Front Housing |
| Features | HDR, Low light | HDR, Low light | HDR, Low light | HDR, External Trigger | HDR |
| Warranty | 3 Years | 3 Years | 3 Years | 3 Years | 3 Years |

For detailed resolution and frame rate combined application, please refer to product datasheet.
For more platform support, please contact our local sales.

## MIPI over Type-C

| Model Name | EV2C-GOM1-RSCO | EV2C-OOM2-RLCF | EV2C-OOM3-RHCF | EV8C-OOM1-RHCF |
|---|---|---|---|---|
| Module Type | MIPI over Type-C 2MP Fixed Focus Camera Module | MIPI over Type-C 2MP Fixed Focus Camera Module | MIPI over Type-C 2MP Fixed Focus Camera Module | MIPI over Type-C 8MP Fixed Focus Camera Module |
| Resolution (Max.) | 2MP | 2MP | 2MP | 8MP |
| Frame Rate (Max. Resolution) | 30fps | 60fps | 30fps | 30fps |
| Output I/F | MIPI over Type-C | MIPI over Type-C | MIPI over Type-C | MIPI over Type-C |
| Sensor | onsemi AR0330 | onsemi AR0221 | onsemi AR0246 | onsemi AR0822 |
| Shutter | Rolling | Rolling | Rolling | Rolling |
| Video Format | YUV422 | YUV422 | YUV422 | YUV422 |
| Power Consumption | Approximate 1.6W (YUV422 @Max. Resolution ) | Approximate 1W (YUV422 @Max. Resolution ) | Approximate 1W (YUV422 @Max. Resolution ) | Approximate 1W (YUV422 @Max. Resolution ) |
| Operating Temperature | -30°C ~ 70°C | -30°C ~ 70°C | -30°C ~ 70°C | -30°C ~ 70°C |
| Sensor Size | 1/3” | 1/1.7” | 1/4” | 1/1.8” |
| Pixel Size | 2.2μm | 4.2μm | 2.0μm | 2.0μm |
| Chroma Type | Color | Color | Color | Color |
| Lens Type | Fixed Focus (M12) | Fixed Focus (M12) | Fixed Focus (M12) | Fixed Focus (M12) |
| Dimension (WxLxH/mm) | 38 x 38 x TBC<br>41.4 x 41.4 x TBC (Housing) | 30 x 30 x TBC<br>41.4 x 41.4 x TBC (Housing) | 30 x 30 x TBC<br>41.4 x 41.4 x TBC (Housing) | 30 x 30 x TBC<br>41.4 x 41.4 x TBC (Housing) |
| Lens FOV(D/H/V) | 230° | 122° / 113° / 75° | 96°/88°/57° | 107°/100°/67° |
| OS Support | NVIDIA Jetson Orin, Intel | NVIDIA Jetson Orin, Intel | NVIDIA Jetson Orin, Intel | NVIDIA Jetson Orin, Intel |
| Housing | Board Level, Housing | Board Level, Housing | Board Level, Housing | Board Level, Housing |
| Features | Fisheye Dewarping | Low Light | HDR | HDR |
| Warranty | 3 Years | 3 Years | 3 Years | 3 Years |

For detailed resolution and frame rate combined application, please refer to product datasheet.
For more platform support, please contact our local sales.

## GMSL2

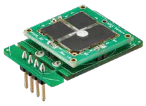
| Model Name | EVDM-OOM1-RHCF |
|---|---|
| Module Type | GMSL2 13MP Fixed Focus Camera Module |
| Resolution (Max.) | 13MP |
| Frame Rate (Max. Resolution) | 20fps |
| Output I/F | FAKRA Z |
| Sensor | onsemi AR1335 |
| Serializer | MAX9295A |
| Shutter | Rolling |
| Video Format | YUV422 |
| Power Consumption | Approximate 1W (YUV422 @Max. Resolution ) |
| Operating Temperature | -30°C ~ 70°C |
| Sensor Size | 1/3.2" |
| Pixel Size | 1.1μm |
| Chroma Type | Color |
| Lens Type | Fixed Focus (M12) |
| Dimension (WxLxH/mm) | 42 x 41 x 53.3 |
| Lens FOV (D / H / V) | 91° / 71° / 52° |
| Platform Support | NVIDIA Jetson Orin |
| Housing | IP67 Housing |
| Features | HDR |
| Warranty | 3 Years |

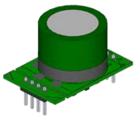
For detailed resolution and frame rate combined application, please refer to product datasheet.
For more platform support, please contact our local sales.

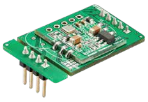
# AIR SENSOR MODULE

## Air Sensor

| Model | IAGM2 | IAGCO2 | IAGM1 | IAGNO2 |
|---|---|---|---|---|
| Detection | PM2.5 , PM10 | Carbon dioxide (CO2) | Formaldehyde (HCHO) | Nitrogen dioxide (NO2) |
| Principle | Optical scattering(Laser) | Non-dispersive infrared (NDIR) | Electrochemical | Electrochemical |
| Measurement range | 0 ~ 1000 μ g/m3 | 0 ~ 5000 ppm | 0.01 ~ 5 ppm | 0 ~ 20 ppm |
| Resolution | 1 μ g/m3 | 1 ppm | 0.01 ppm | 0.1 ppm |
| Accuracy | ±10±10% of reading μ g/m3 | ±30±3% of reading ppm | ±0.02±10% of reading ppm | ±2% FS ppm |
| Response Time(T90) (sec) | <10 sec | <120 sec | <30 sec | <30 sec |
| Operation Temperature(°C) | -10 ~ 50 °C | -10 ~ 50 °C | -10 ~ 50 °C | -10 ~ 50 °C |
| Operation Humidity (% RH) | 15 to 90 %RH | 15 to 90 %RH | 15 to 90 %RH | 15 to 90 %RH |
| Expected Operating Fife(year) | 3 Years | 3 Years | 3 Years | 2 Years |
| Power Supply(V) | 4.75 ~ 5.25 V | VDD : 4.8 ~ 5.2 V<br>VDDIO : 3.1 ~ 3.5 V | 3.1 ~ 3.5V | 3.1 ~ 3.5V |
| Power Consumption(mW) | 110 mW | 150 mW | <100 mW | <100 mW |
| Interface | I$^2$C | I$^2$C | I$^2$C | I$^2$C |
| Dimension(mm) | 58(L) 48(W) 15.5(H) | 37(L) 21(W) 14(H) | 32(L) 25(W) 10(H) | 32(L) 21(W) 21(H) |







| Model | IAGO3 | IAGSO2 | IAGVOC | IAGCO |
|---|---|---|---|---|
| Detection | Ozone (O3) | Sulfur dioxide (SO2) | Total volatile organic compounds (TVOC) | carbon monoxide (CO) |
| Principle | Electrochemical | Electrochemical | MEMS | Electrochemical |
| Measurement range | 0 ~ 5 ppm | 0 ~ 20 ppm | 0 ~ 60 ppm | 0 ~ 1000 ppm |
| Resolution | 0.01 ppm | 0.1 ppm | 0.01 ppm | 0.1 ppm |
| Accuracy | ±0.1±10% of reading ppm | ±5% FS ppm | ±0.1±10% of reading ppm | ±5±5% of reading ppm |
| Response Time(T90) (sec) | <60 sec | <30 sec | <10 sec | <30 sec |
| Operation Temperature(°C) | -10 ~ 50 °C | -10 ~ 50 °C | -10 ~ 50 °C | -10 ~ 50 °C |
| Operation Humidity (% RH) | 15 to 90 %RH | 15 to 90 %RH | 15 to 90 %RH | 15 to 90 %RH |
| Expected Operating Fife(year) | 3 Years | 2 Years | 1 Year | 3 Years |
| Power Supply(V) | 3.1 ~ 3.5V | 3.1 ~ 3.5V | 3.1 ~ 3.5V | 3.1 ~ 3.5V |
| Power Consumption(mW) | <100 mW | <100 | <100 | <100 |
| Interface | I$^2$C | I$^2$C | I$^2$C | I$^2$C |
| Dimension(mm) | 32(L) 21(W) 8(H) | 32(L) 21(W) 21(H) | 32(L) 21(W) 7(H) | 32(L) 21(W) 11(H) |

## Specification

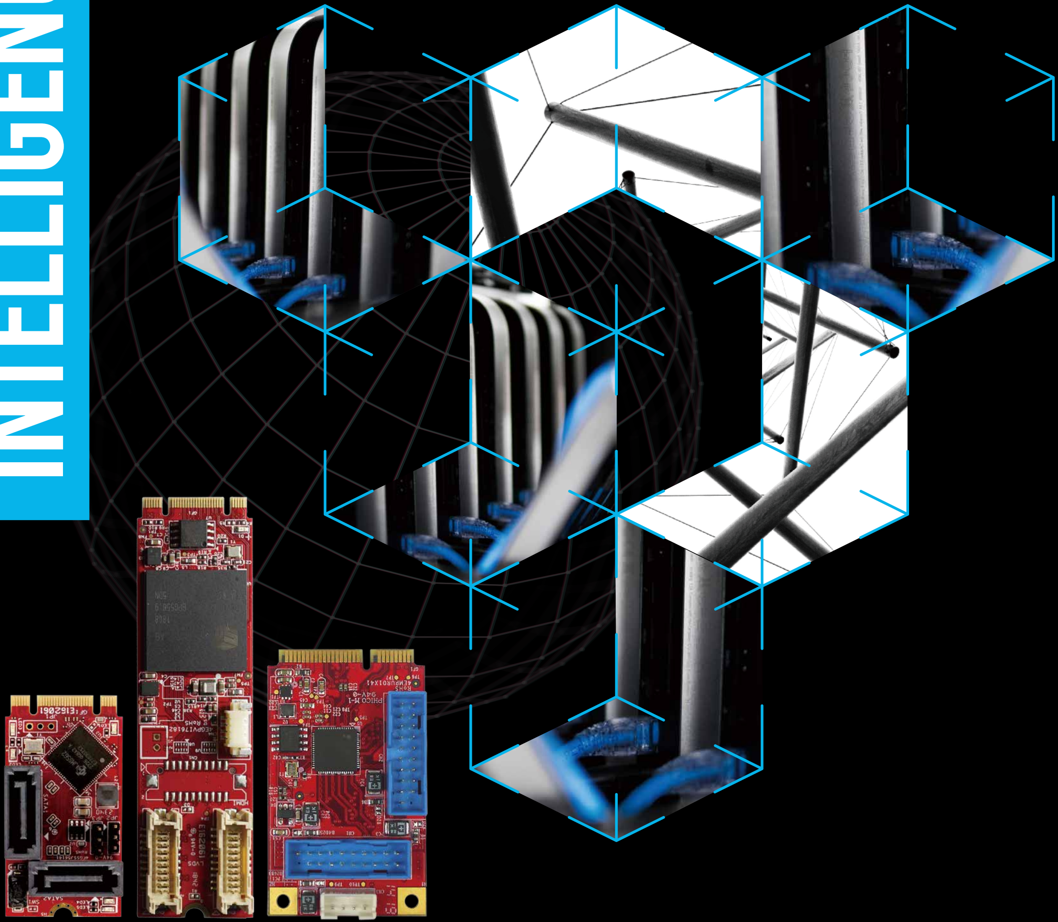
| Measurement Index | Operating Range | Resolution | Accuracy (*) | Detection Method | Response Time | Warmup Time |
|---|---|---|---|---|---|---|
| Temperature | -40°C ~ 125°C | 0.1°C | ±0.5°C | MEMS | 30sec | 60sec |
| Humidity | 0~100% RH | 1% RH | ±5%RH | MEMS | 30sec | 60sec |
| CO2 | 0~5,000 ppm | 1 ppm | ±30 ppm±3% of reading | NDIR | 120sec | 60sec |
| PM2.5 | 0~1000 μg/m3 | 1 μg/m3 | ±10 μg/m3±10% of reading | Optical | 10sec | 300sec |
| PM10 | 0~1000 μg/m3 | 1 μg/m3 | ±10 μg/m3±10% of reading | Optical | 10sec | 300sec |
| TVOC | 0~60 ppm | 0.01 ppm | ±0.1 ppm±10% of reading | MEMS | 10sec | 300sec |
| CO | 0~1,000 ppm | 0.1 ppm | ±5 ppm±5% of reading | Electrochemical | 30sec | 60sec |
| HCHO | 0.01~5 ppm | 0.01 ppm | ±0.02 ppm±10% of reading | Electrochemical | 30sec | 300sec |
| O3 | 0~5 ppm | 0.01 ppm | ±0.1 ppm±10% of reading | Electrochemical | 60sec | 600sec |
| NO2 | 0~20 ppm | 0.1 ppm | ±2% FS | Electrochemical | 30sec | 600sec |
| SO2 | 0~20 ppm | 0.1 ppm | ±5% FS | Electrochemical | 30sec | 600sec |

(*) Testing conditions at 25°C environment

## Sensor Carrier Board

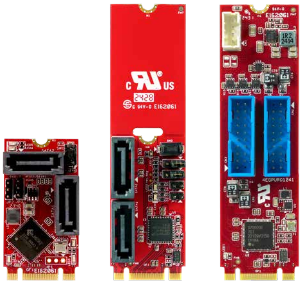
| Model | EZU2-I301 | |
|---|---|---|
| Key Features | USB to I2C Sensor Carrier Board | |
| Form-Factor | Other | |
| Input I/F | USB 2.0 Full Speed | |
| Output I/F | I2C (3.3V) | |
| Output connector | P2.54mm Pin Header x4 (CN4+CN5, CN6+CN7)<br>P2.0mm Connector x1 (CN2) | |
| Power Consumption | MAX: 0.695W (3.3V, 139mA) | |
| Dimension (WxLxH/mm) | 50 x 80 x 8.82 | |
| Temperature | Operation: STD: -40°C ~ +85°C<br>Storage: -55°C ~ +95°C | |
| Order info. | EZU2-I301-W1 | |
| Detection | Temperature | Humidity |
| Principle | MEMS | MEMS |
| Measurement range | -40°C ~ +125°C | 0 ~ 100% RH |
| Resolution | 0.1°C | 1% RH |
| Accuracy | ±0.5°C | ±5% RH |
| Response time(T90) (sec) | <30 sec | <30 sec |

# EXTENDED INTELLIGENCE



## EXTENDED INTELLIGENCE

Build interconnected application scenarios with our peripheral appliance, expanding the capabilities of your systems.



## Storage & Disk Array

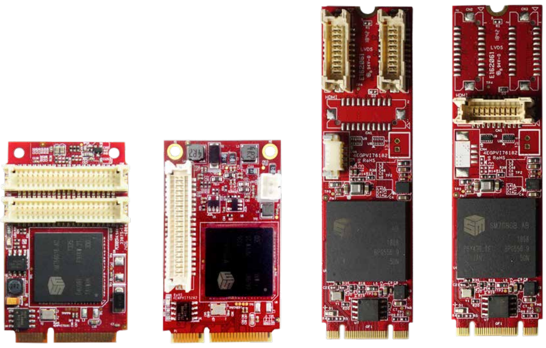
| Model | EMPS-3401 | EGPS-3401 | EMPU-3201 | EMPU-3401 |
|---|---|---|---|---|
| **Description** | mPCIe to four SATA III module | M.2 to four SATA module | mPCIe to dual USB 3.0 Module | mPCIe to four USB 3.0 module |
| **Form Factor** | mPCIe | M.2 3042 | mPCIe | mPCIe |
| **Input I/F** | PCI Express 2.0 | PCI Express 2.0 x1 | PCI Express 2.0 | PCI Express 2.0 |
| **Input Connector** | mPCIe | M.2 B+M Key | mPCIe | mPCIe |
| **Output I/F** | SATA III x4 | SATA III x4 | USB 3.0 x2 | USB 3.0 x4 |
| **Output Connector** | SATA 7 Pin x 4 | SATA 7 Pin x 4 | 19 Pin box header x 1 | 19 Pin box header x 2 |
| **Dimension (WxLxH/mm)** | 30 x 50.9 x 10.9 | 30 x 42 x 10.4 | 30.0 x 50.9 x 8.45 | 30.0 x 50.9 x 8.45 |
| **Temperature** | Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C |
| **Order info.** | EMPS-3401-W1 | EGPS-3401-C1 | EMPU-3201-C1<br>EMPU-3201-W1 | EMPU-3401-C1<br>EMPU-3401-W1 |

| Model | EGPU-3201 | EMPS-32R1 | E2SS-32R1 | E2SS-32R2 |
|---|---|---|---|---|
| **Description** | M.2 to dual USB 3.0 Module | mPCIe to dual SATA III RAID module | 2.5" SSD to dual mSATA RAID Module | 2.5" SSD to dual M.2 RAID Module |
| **Form Factor** | M.2 2260/2280 | mPCIe | 2.5" SSD | 2.5" SSD |
| **Input I/F** | PCI Express 2.0 | PCI Express 2.0 | SATA III | SATA III |
| **Input Connector** | M.2 B+M Key | mPCIe | SATA 7+15 Pin | SATA 7+15 Pin |
| **Output I/F** | USB 3.0 x2 | SATA III x2 | SATA III x2 | SATA III x2 |
| **Output Connector** | 19 Pin box header x 1 | SATA 7 Pin x 2 | mSATA x 2 | M.2 2242/2260/2280 x 2 |
| **Dimension (WxLxH/mm)** | 22.0 x 60.0 x 8.4<br>22.0 x 80.0 x 8.4 | 30 x 50.9 x 10.7 | 69.85 x 100.1 x 11 | 69.85 x 100.1 x 11 |
| **Temperature** | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C | STD temp: 0°C ~ 70°C | STD temp: 0°C ~ 70°C |
| **Order info.** | EGPU-3201-C1 / EGPU-3201-C2<br>EGPU-3201-W1/ EGPU-3201-W2 | EMPS-32R1-C1 | E2SS-32R1-C1 | E2SS-32R2-C1 |

| Model | EGSS-32R2 | EGPS-32R1 | EGPU-3401 |
|---|---|---|---|
| **Description** | M.2 2242/2280 to Dual SATA III RAID Module | M.2 2242/2280 to dual SATA III RAID Module | M.2 to four USB 3.0 Module |
| **Form Factor** | M.2 2242/2280 | M.2 2242/2280 | M.2 2280 B+M Key |
| **Input I/F** | SATA III | PCI Express 2.0 | PCI Express 2.0 |
| **Input Connector** | M.2 B+M Key | M.2 B+M Key | M.2 B+M Key |
| **Output I/F** | SATA III | SATA III | USB 3.0 |
| **Output Connector** | SATA 7pin x 2 | SATA 7pin x 2 | 2 x 19 pin header |
| **Dimension (WxLxH/mm)** | C1: 22 x 42 x 11<br>C2: 22 x 80 x 11 | 22 x 42(80) x 10.85 | 22 x 80 x 8.45 |
| **Temperature** | Operation: 0°C ~ 70°C<br>Storage: -55°C ~ 95°C | Operation: 0°C ~ 70°C<br>Storage: -55°C ~ 95°C<br>Controller Tc: 25°C ~ 85°C | STD temp: 0°C ~ 70°C |
| **Order info.** | EGSS-32R2-C1<br>EGSS-32R2-C2 | EGPS-32R1-C1<br>EGPS-32R1-C2 | EGPU-3401-C1<br>EGPU-3401-W1 |

## Testing Tool

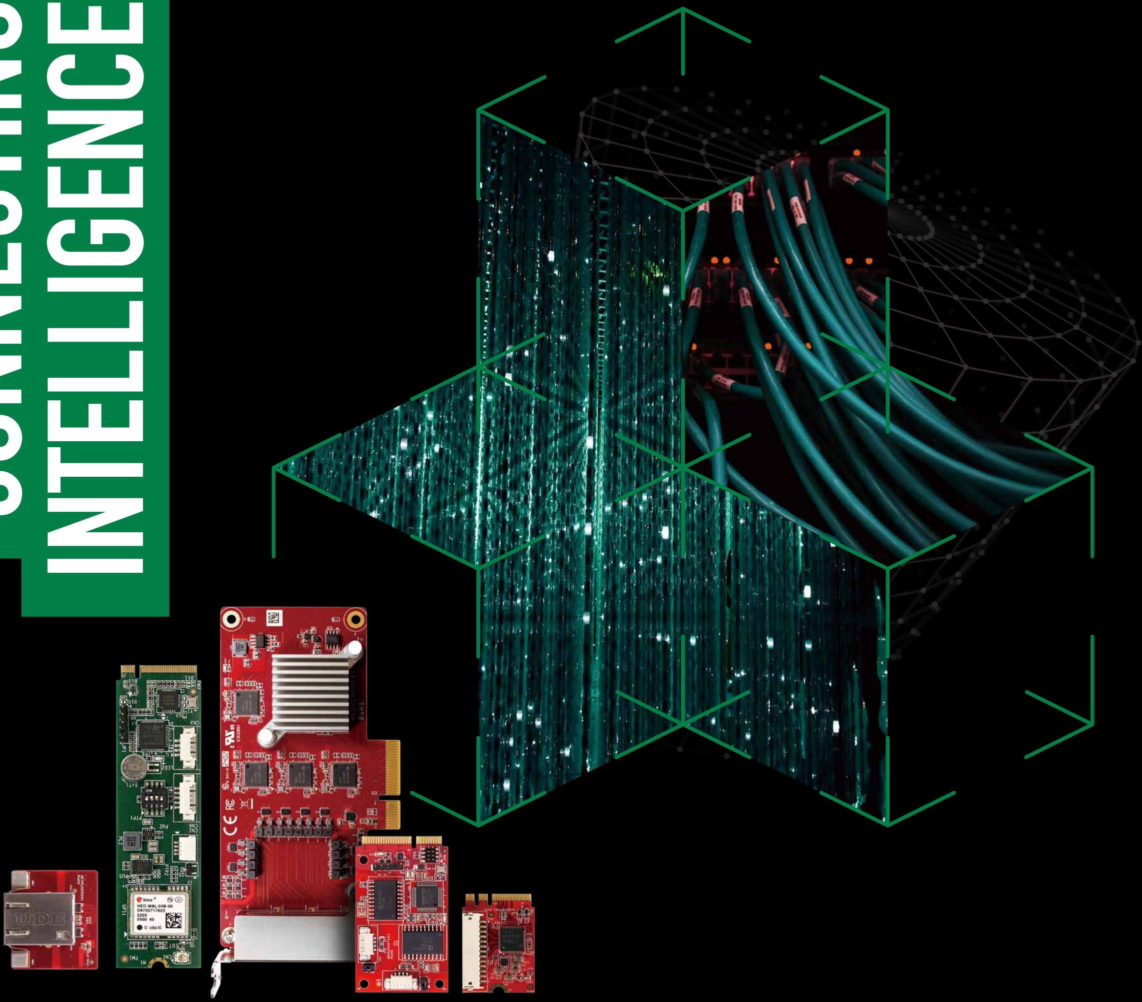
| Model | EMXX-0101 | EMXX-0102 |
|---|---|---|
| Description | mPCIe to M.2 A-E key module | mPCIe to M.2 B key module |
| Form Factor | mPCIe | mPCIe |
| Input I/F | PCI Express , USB 2.0 | PCI Express , USB 2.0, SATA |
| Input Connector | mPCIe | mPCIe |
| Output I/F | PCI Express , USB 2.0 | PCI Express , USB 2.0, SATA |
| Output Connector | M.2 Key-A-E | M.2 Key B |
| Dimension (WxLxH/mm) | 30 x 54.4 x 8.15 | 30 x 54.4 x 6.4 |
| Temperature | Wide temp: -40°C ~ 85°C | Wide temp: -40°C ~ 85°C |
| Order info. | EMXX-0101-W1 (M.2 Key-A)<br>EMXX-0101-W2 (M.2 Key-E) | EMXX-0102-W1 |



## Display

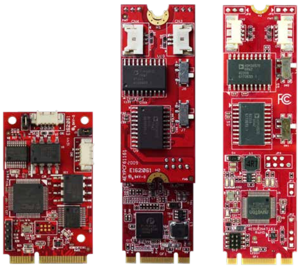
| Model | EMPV-1201 | EMPV-1202 | EGPV-1101 |
|---|---|---|---|
| Description | mPCIe to dual VGA and HDMI(DVI) module | mPCIe to VGA and 18/24 bit LVDS module | M.2 to HDMI or DVI and Single/Dual Channel LVDS Module |
| Form Factor | mPCIe | mPCIe | M.2 2280 |
| Input I/F | PCI Express 1.0 | PCI Express 1.0 | PCI Express 2.0 x2 |
| Input Connector | mPCIe | mPCIe | M.2 B+M Key |
| Output I/F | VGA x 2, HDMI x 1(Optional DVI x 1) | VGA, 18/24 bit LVDS | HDMI or DVI-D x 1 , Single & Dual LVDS |
| Output Connector | 40pin 1.25mm x 2 (40DP-1.25) | 40pin 1.25mm x 1 (40DP-1.25) | 20 pin x 1(HDMI)<br>20 pin x 2 (LVDS) |
| Dimension (WxLxH/mm) | 31.5 x 50.9 x 8.2 | 30 x 50.9 x 8.2 | 22 x 80 x 7.1 |
| Temperature | STD temp: 0°C ~ 70°C | STD temp: 0°C ~ 70°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C |
| Order info. | EMPV-1201-C1 | EMPV-1202-C1<br>EMPV-1202-C2 | EGPV-1101-C1 (HDMI, Standard Temp.)<br>EGPV-1101-W1 (HDMI, Wide Temp.)<br>EGPV-1101-C2 (LVDS, Standard Temp.)<br>EGPV-1101-W2 (LVDS, Wide Temp.)<br>EGPV-1101-C3 (with HDMI Cable, Standard Temp.)<br>EGPV-1101-W3 (with HDMI Cable, Wide Temp.)<br>EGPV-1101-C4 (with DVI Cable, Standard Temp.)<br>EGPV-1101-W4 (with DVI Cable, Wide Temp.) |

CONNECTING
INTELLIGENCE



## CONNECTING INTELLIGENCE

Connect seamlessly for real-time data transmission. Our offerings are adept in handling simultaneous operations, providing stable bandwidth to your industrial systems.



## CAN Bus Modules

| Model | EMUC-B202 | EGPC-B201 | EGPC-B4S1 | EGPC-B1S1 |
|---|---|---|---|---|
| Description | USB to dual isolated CAN Bus 2.0B/J1939 Module | M.2 to dual isolated CAN Bus 2.0B/ J1939 Module | M.2 to four isolated CAN bus 2.0B Module | M.2 to single isolated CAN bus 2.0B Module |
| Form Factor | mPCIe | M.2 2260/2280 | M.2 2280 | M.2 2242 |
| Input I/F | USB 2.0 | PCI Express 2.0 x1 | PCI Express 1.1 x1 | PCI Express 1.1 x1 |
| Input Connector | mPCIe or 5 Pin Header | M.2 B-M | M.2 B+M Key | M.2 B+M Key |
| Output I/F | CAN Bus 2.0B/J1939 /CANopen x2 | CAN Bus 2.0B/J1939 /CANopen x2 | CAN Bus 2.0B/J1939 /CANopen x4 | CAN Bus 2.0B/J1939 /CANopen x1 |
| Output Connector | DB-9 x 2 | DB-9 x 2 | DB-9 x 4 | DB-9 x 1 |
| Dimension (WxLxH/mm) | 30 x 50.9 x 8.35 | 22 x 60 x 8.05<br>22 x 80 x 8.05 | 22 x 80 x 12.9 | 22 x 42 x 4.8 |
| Temperature | Wide temp: -40°C ~ 85°C | Wide temp: -40°C ~ 85°C | Wide temp: -40°C ~ 85°C | Wide temp: -40°C ~ 85°C |
| Order info. | EMUC-B202-W1 (CAN 2.0B)<br>EMUC-B202-W2 (J1939)<br>EMUC-B202-W3 (CANopen) | EGPC-B201-W1 (2260, CAN2.0B)<br>EGPC-B201-W2 (2280, CAN2.0B)<br>EGPC-B201-W3 (2260, J1939)<br>EGPC-B201-W4 (2280, J1939)<br>EGPC-B201-W5 (2260, CANopen)<br>EGPC-B201-W6 (2280, CANopen) | EGPC-B4S1-W1<br>EGPC-B4S1-W2<br>(J1939, CANopen) | EGPC-B1S1-W1<br>EGPC-B1S1-W2<br>(J1939, CANopen) |

| Model | EGPC-B2S1 | EMPC-B2S1 | EMUC-B2S3 | EMUC-F2S3 |
|---|---|---|---|---|
| Description | M.2 to dual isolated CAN Bus 2.0B/ J1939/CANopen Module | mPCIe to dual isolated CAN Bus 2.0B/J1939/CANopen Module | mPCIe to dual isolated CAN 2.0B/ J1939/CANopen | mPCIe to dual isolated CAN FD |
| Form Factor | M.2 2280 | mPCIe | mPCIe | mPCIe |
| Input I/F | PCI Express 1.1 x1 | PCI Express 1.1 x1 | USB 2.0 High Speed (480Mbps) | USB 2.0 High Speed (480Mbps) |
| Input Connector | M.2 B+M Key | mPCIe | USB 2.0 | USB 2.0 |
| Output I/F | CAN Bus 2.0B/J1939 /CANopen x2 | CAN Bus 2.0B/J1939 /CANopen x2 | CAN Bus 2.0B/J1939 /CANopen x2 | CAN FD |
| Output Connector | DB-9 x 2 | DB-9 x 2 | DB-9 x 2 | DB-9 x 2 |
| Dimension (WxLxH/mm) | 22 x 80 x 4.85 | 30 x 50.9 x 8.25 | 30 x 50.9 x 8.35 | 30 x 50.9 x 8.35 |
| Temperature | Wide temp: -40°C ~ 85°C | Wide temp: -40°C ~ 85°C | Wide temp: -40°C ~ 85°C | Wide temp: -40°C ~ 85°C |
| Order info. | EGPC-B2S1-W1<br>EGPC-B2S1-W2<br>(J1939, CANopen) | MPC-B2S1-W1<br>EMPC-B2S1-W2<br>(J1939, CANopen) | EMUC-B2S3-W1<br>EMUC-B2S3-W2<br>(J1939, CANopen) | EMUC-F2S3-W1 |

| Model | EGUC-F2S3 | EGUC-F4S3 | ESPC-F2S3 | ESPC-F4S3 |
|---|---|---|---|---|
| Description | M.2 2280 to dual isolated CAN FD | M.2 2280 to four isolated CAN FD | PCIe to dual isolated CAN FD | PCIe to dual isolated CAN FD |
| Form Factor | M.2 2280 | M.2 2280 | PCIe x 4 | PCIe x 4 |
| Input I/F | USB 2.0 High Speed (480Mbps) | USB 2.0 High Speed (480Mbps) | PCI Express 2.0 x1 | PCI Express 2.0 x1 |
| Input Connector | M.2 B+M Key | M.2 B+M Key | PCIe x 4 | PCIe x 4 |
| Output I/F | CAN FD | CAN FD | CAN FD | CAN FD |
| Output Connector | DB-9 x 2 | DB-9 x 4 | DB-9 x 2 | DB-9 x 4 |
| Dimension (WxLxH/mm) | 22 x 80 x 5.55 | 22 x 80 x 12.65 | 111.5 x 110 x 16.79 | 111.5 x 110 x 16.79 |
| Temperature | Wide temp: -40°C ~ 85°C | Wide temp: -40°C ~ 85°C | Wide temp: -40°C ~ 85°C | Wide temp: -40°C ~ 85°C |
| Order info. | EGUC-F2S3-W1 | EGUC-F4S3-W1 | ESPC-F2S3-W1<br>ESPC-F2S3-W2 (with M.2 slot) | ESPC-F4S3-W1<br>ESPC-F4S3-W2 (with M.2 slot) |

## 1G LAN

| Model | EMPL-G101 | EMPL-G201 | EMPL-G102 | EMPL-G202 |
|---|---|---|---|---|
| Description | mPCIe to single isolated GbE LAN Module | mPCIe to dual isolated GbE LAN mod+C3ule | mPCIe to single isolated GbE LAN horizontal Module | mPCIe to dual isolated GbE LAN horizontal Module |
| Form Factor | mPCIe | mPCIe | mPCIe | mPCIe |
| Input I/F | PCI Express 2.1 x1 | PCI Express 2.1 x1 | PCI Express 2.1 x1 | PCI Express 2.1 x1 |
| Input Connector | mPCIe | mPCIe | mPCIe | mPCIe |
| Output I/F | GbE LAN x 1 | GbE LAN x 2 | GbE LAN x 1 | GbE LAN x 2 |
| Output Connector | RJ45 x 1 | RJ45 x 2 | RJ45 x 1 | RJ45 x 2 |
| Dimension (WxLxH/mm) | 30 x 50.9 x 9.2 | 30 x 50.9 x 9.2 | 30 x 50.9 x 5.8 | 30 x 50.9 x 5.8 |
| Temperature | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C |
| Order info. | EMPL-G101-C3<br>EMPL-G101-W3<br>EMPL-G101-C4 (with bracket)<br>EMPL-G101-W4 (with bracket) | EMPL-G201-C3<br>EMPL-G201-W3<br>EMPL-G201-C4 (with bracket)<br>EMPL-G201-W4 (with bracket) | EMPL-G102-C3<br>EMPL-G102-W3<br>EMPL-G102-C4 (with bracket)<br>EMPL-G102-W4 (with bracket) | EMPL-G202-C3<br>EMPL-G202-W3<br>EMPL-G202-C4 (with bracket)<br>EMPL-G202-W4 (with bracket) |

| Model | EGPL-G101 | EGPL-G201 | EGPL-G102 | EGPL-G202 |
|---|---|---|---|---|
| Description | M.2 to single isolated GbE LAN Module | M.2 to dual isolated GbE LAN Module | M.2 to single isolated GbE LAN Module | M.2 to dual isolated GbE LAN Module |
| Form Factor | M.2 2280 | M.2 2280 | M.2 2242 | M.2 2242 |
| Input I/F | PCI Express 2.1 x2 | PCI Express 2.1 x2 | PCI Express 2.1 x2 | PCI Express 2.1 x2 |
| Input Connector | M.2 B+M Key | M.2 B+M Key | M.2 B+M Key | M.2 B+M Key |
| Output I/F | Gbe LAN x 1 | Gbe LAN x 2 | Gbe LAN x 1 | Gbe LAN x 2 |
| Output Connector | RJ45 x 1 | RJ45 x 2 | RJ45 x 1 | RJ45 x 2 |
| Dimension (WxLxH/mm) | 22 x 80 x 9.3 | 22 x 80 x 9.3 | 22 x 42 x 9.15 | 22 x 42 x 9.15 |
| Temperature | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C |
| Order info. | EGPL-G101-C3<br>EGPL-G101-W3<br>EGPL-G101-C4 (with bracket)<br>EGPL-G101-W4 (with bracket) | EGPL-G201-C3<br>EGPL-G201-W3<br>EGPL-G201-C4 (with bracket)<br>EGPL-G201-W4 (with bracket) | EGPL-G102-C3<br>EGPL-G102-W3<br>EGPL-G102-C4 (with bracket)<br>EGPL-G102-W4 (with bracket) | EGPL-G202-C3<br>EGPL-G202-W3<br>EGPL-G202-C4 (with bracket)<br>EGPL-G202-W4 (with bracket) |

| Model | EMPL-G103 | EMPL-G203 | EGPL-G1N3 | EMPL-G2N3 |
|---|---|---|---|---|
| Description | mPCIe to single GbE LAN Module | mPCIe to dual GbE LAN Module | M.2 to single GbE LAN Module | M.2 to dual GbE LAN Module |
| Form Factor | mPCIe | mPCIe | M.2 2280 | M.2 2280 |
| Input I/F | PCI Express 2.1 x1 | PCI Express 2.1 x1 | PCI Express 2.1 x2 | PCI Express 2.1 x1 |
| Input Connector | mPCIe | mPCIe | M.2 B+M Key | M.2 B+M Key |
| Output I/F | GbE LAN x 1 | GbE LAN x 2 | GbE LAN x 1 | GbE LAN x 2 |
| Output Connector | RJ45 x 1 | RJ45 x 2 | RJ45 x 1 | RJ45 x 2 |
| Dimension (WxLxH/mm) | 30 x 50.9 x 9.3 | 30 x 50.9 x 9.3 | 22 x 80 x 9 | 30 x 50.9 x 7.6 |
| Temperature | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C |
| Order info. | EMPL-G103-C3<br>EMPL-G103-W3 | EMPL-G203-C3<br>EMPL-G203-W3 | EGPL-G1N3-C1<br>EGPL-G1N3-W1 | EGPL-G2N3-C1<br>EGPL-G2N3-W1 |

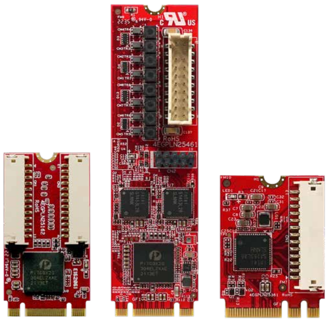
| Model | EMPL-G1S1 | EMPL-G2S1 | EMPL-G1S2 |
|---|---|---|---|
| Description | mPCIe to single isolated GbE LAN module | mPCIe to dual isolated GbE LAN module | mPCIe to single isolated GbE LAN horizontal Module |
| Form Factor | mPCIe | mPCIe | mPCIe |
| Input I/F | PCI Express 2.1 x1 | PCI Express 2.1 x1 | PCI Express 2.1 x1 |
| Input Connector | mPCIe | mPCIe | mPCIe |
| Output I/F | GbE LAN x 1 | GbE LAN x 2 | GbE LAN x 1 |
| Output Connector | RJ45 x 1 | RJ45 x 2 | RJ45 x 1 |
| Dimension (WxLxH/mm) | Main Board: 30 x 50.9 x 9.2<br>Daughter Board: 59.5 x 30 x 17.32 | Main Board: 30 x 50.9 x 9.2<br>Daughter Board: 59.5 x 30 x 17.32 | Main board: 30 x 50.95 x 6.15<br>Daughter board: 59.5 x 30 x 17.4 |
| Temperature | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C |
| Order info. | EMPL-G1S1-C1 (i225-LM)<br>EMPL-G1S1-W1 (i225-IT)<br>EMPL-G1S1-C2 (i225-LM, with bracket)<br>EMPL-G1S1-W2 (i225-IT, with bracket) | EMPL-G2S1-C1 (i225-LM)<br>EMPL-G2S1-W1 (i225-IT)<br>EMPL-G2S1-C2 (i225-LM, with bracket)<br>EMPL-G2S1-W2 (i225-IT, with bracket) | EMPL-G1S2-C1 (i225-LM)<br>EMPL-G1S2-W1 (i225-IT)<br>EMPL-G1S2-C2 (i225-LM, with bracket)<br>EMPL-G1S2-W2 (i225-IT, with bracket) |

| Model | EMPL-G2S2 | EMPL-G1N1 | EMPL-G2N1 | EGPL-G1S1 |
|---|---|---|---|---|
| Description | mPCIe to dual isolated GbE LAN horizontal Module | mPCIe to single GbE LAN Module | mPCIe to dual GbE LAN Module | M.2 2280 to single isolated GbE LAN Module |
| Form Factor | mPCIe | mPCIe | mPCIe | M.2 2280 |
| Input I/F | PCI Express 2.1 x 1 | PCI Express 2.1 x1 | PCI Express 2.1 x1 | PCI Express 2.1 x2 |
| Input Connector | mPCIe | mPCIe | mPCIe | M.2 B+M Key |
| Output I/F | GbE LAN x 2 | GbE LAN x 1 | GbE LAN x 2 | Gbe LAN x 1 |
| Output Connector | RJ45 x 2 | RJ45 x 1 | RJ45 x 2 | RJ45 x 1 |
| Dimension (WxLxH/mm) | Main board: 30 x 50.95 x 6.15<br>Daughter board: 59.5 x 30 x 17.4 | 30 x 50.9 x 9.3 | 30 x 50.9 x 9.3 | Main Board: 22 x 80 x 9<br>Daughter Board: 59.5 x 30 x 17.32 |
| Temperature | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C |
| Order info. | EMPL-G2S2-C1 (i225-LM)<br>EMPL-G2S2-W1 (i225-IT)<br>EMPL-G2S2-C2 (i225-LM, with bracket)<br>EMPL-G2S2-W2 (i225-IT, with bracket) | EMPL-G1N1-C1 (i225-LM)<br>EMPL-G1N1-W1 (i225-IT) | EMPL-G2N1-C1 (i225-LM)<br>EMPL-G2N1-W1 (i225-IT) | EGPL-G1S1-C1 (i225-LM)<br>EGPL-G1S1-W1 (i225-IT)<br>EGPL-G1S1-C2 (i225-LM, with bracket)<br>EGPL-G1S1-W2 (i225-IT, with bracket) |

| Model | EGPL-G2S1 | EGPL-G1S2 | EGPL-G2S2 | EGPL-G1S4 |
|---|---|---|---|---|
| Description | M.2 2280 to dual isolated GbE LAN Module | M.2 to single isolated GbE LAN Module | M.2 to dual isolated GbE LAN Module | M.2 to single isolated GbE LAN horizontal Module |
| Form Factor | M.2 2280 | M.2 2242 | M.2 2242 | M.2 2242 |
| Input I/F | PCI Express 2.1 x2 | PCI Express 2.1 x2 | PCI Express 2.1 x2 | PCI Express 2.1 x2 |
| Input Connector | M.2 B+M Key | M.2 B+M Key | M.2 B+M Key | M.2 B+M Key |
| Output I/F | Gbe LAN x 2 | Gbe LAN x 1 | Gbe LAN x 2 | Gbe LAN x 1 |
| Output Connector | RJ45 x 2 | RJ45 x 1 | RJ45 x 2 | RJ45 x 1 |
| Dimension (WxLxH/mm) | Main Board: 22 x 80 x 9<br>Daughter Board: 59.5 x 30 x 17.32 | Main board: 22 x 42 x 9.01<br>Daughter board: 50 x 28 x 19.37 | Main board: 22 x 42 x 9.01<br>Daughter board: 50 x 28 x 19.37 | Main board: 22 x 42 x 5.95<br>Daughter board: 50 x 28 x 19.75 |
| Temperature | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C |
| Order info. | EGPL-G2S1-C1 (i225-LM)<br>EGPL-G2S1-W1 (i225-IT)<br>EGPL-G2S1-C2 (i225-LM, with bracket)<br>EGPL-G2S1-W2 (i225-IT, with bracket) | EGPL-G1S2-C1 (i225-LM)<br>EGPL-G1S2-W1 (i225-IT)<br>EGPL-G1S2-C2 (i225-LM, with bracket)<br>EGPL-G1S2-W2 (i225-IT, with bracket) | EGPL-G2S2-C1 (i225-LM)<br>EGPL-G2S2-W1 (i225-IT)<br>EGPL-G2S2-C2 (i225-LM, with bracket)<br>EGPL-G2S2-W2 (i225-IT, with bracket) | EGPL-G1S4-C1 (i225-LM)<br>EGPL-G1S4-W1 (i225-IT)<br>EGPL-G1S4-C2 (i225-LM, with bracket)<br>EGPL-G1S4-W2 (i225-IT, with bracket) |

| Model | EGPL-G2S4 | EGPL-G1N1 | EGPL-G2N1 | EGPL-G1S3 |
|---|---|---|---|---|
| Description | M.2 to dual isolated GbE LAN horizontal Module | M.2 to single GbE LAN Module | M.2 to dual GbE LAN Module | M.2 2230 to single isolated GbE LAN module |
| Form Factor | M.2 2242 | M.2 2280 | M.2 2280 | M.2 2230 |
| Input I/F | PCI Express 2.1 x2 | PCI Express 2.1 x2 | PCI Express 2.1 x2 | PCI Express 2.1 x2 |
| Input Connector | M.2 B+M Key | M.2 B+M Key | M.2 B+M Key | M.2 A+E Key |
| Output I/F | Gbe LAN x 2 | GbE LAN x 1 | GbE LAN x 2 | GbE LAN x 1 |
| Output Connector | RJ45 x 2 | RJ45 x 1 | RJ45 x 2 | RJ45 x 1 |
| Dimension (WxLxH/mm) | Main board: 22 x 42 x 5.95<br>Daughter board: 50 x 28 x 19.75 | 22 x 80 x 9 | 30 x 50.9 x 7.6 | Main board: 22 x 30 x 5.95<br>Daughter board: 32 x 28 x 19.2 |
| Temperature | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C |
| Order info. | EGPL-G2S4-C1 (i225-LM)<br>EGPL-G2S4-W1 (i225-IT)<br>EGPL-G2S4-C2 (i225-LM, with bracket)<br>EGPL-G2S4-W2 (i225-IT, with bracket) | EGPL-G1N1-C1 (i225-LM)<br>EGPL-G1N1-W1 (i225-IT) | EGPL-G2N1-C1 (i225-LM)<br>EGPL-G2N1-W1 (i225-IT) | EGPL-G1S3-C1 (i225-LM)<br>EGPL-G1S3-W1 (i225-IT) |

| Model | ESPL-G401 | ELPL-G401 | EGPL-G401 |
|---|---|---|---|
| Description | PCIe to four GbE LAN Module | PCIe to four isolated GbE LAN Module | M.2 2280 to four isolated GbE LAN Module |
| Form Factor | Standard PCIe | Low-Profile PCIe | M.2 2280 |
| Input I/F | PCI Express 2.1 x4 | PCI Express 2.1 x4 | PCI Express 2.1 x2 |
| Input Connector | PCIe x 4 | PCIe x 4 | M.2 B+M Key |
| Output I/F | GbE LAN x 4 | GbE LAN x 4 | GbE LAN x 4 |
| Output Connector | RJ45 x 4 | RJ45 x 4 | RJ45 x 4 |
| Dimension (WxLxH/mm) | 169.55 x 111.15 x 19.6 | 131.9 x 56.02 x 19.88 | Main board: 22 x 80 x 15.3<br>Daughter board: 41.9 x 64.27 x 21 |
| Temperature | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C |
| Order info. | ESPL-G401-C1 (i225-LM)<br>ESPL-G401-W1 (i225-IT) | ELPL-G401-C1 (i210-AT)<br>ELPL-G401-W1 (i210-IT) | EGPL-G401-C1 (i350, Mounting hole)<br>EGPL-G401-C2 (i350, PCIe low profile bracket)<br>EGPL-G401-C3 (i350, PCIe standard bracket) |



## 2.5G LAN

| Model | EMPL-21S1 | EMPL-22S1 | EMPL-21S2 | EMPL-22S2 |
|---|---|---|---|---|
| Description | mPCIe to single isolated 2.5GbE LAN Module | mPCIe to dual isolated 2.5GbE LAN mod+C3ule | mPCIe to single isolated 2.5GbE LAN horizontal Module | mPCIe to dual isolated 2.5GbE LAN horizontal Module |
| Form Factor | mPCIe | mPCIe | mPCIe | mPCIe |
| Input I/F | PCI Express 2.1 x1 | PCI Express 2.1 x1 | PCI Express 2.1 x1 | PCI Express 2.1 x1 |
| Input Connector | mPCIe | mPCIe | mPCIe | mPCIe |
| Output I/F | 2.5GbE LAN x 1 | 2.5GbE LAN x 2 | 2.5GbE LAN x 1 | 2.5GbE LAN x 2 |
| Output Connector | RJ45 x 1 | RJ45 x 2 | RJ45 x 1 | RJ45 x 2 |
| Dimension (WxLxH/mm) | 30 x 50.9 x 9.2 | 30 x 50.9 x 9.2 | 30 x 50.9 x 5.8 | 30 x 50.9 x 5.8 |
| Temperature | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C |
| Order info. | EMPL-21S1-C1<br>EMPL-21S1-W1<br>EMPL-21S1-C2 (with bracket)<br>EMPL-21S1-W2 (with bracket) | EMPL-22S1-C1<br>EMPL-22S1-W1<br>EMPL-22S1-C2 (with bracket)<br>EMPL-22S1-W2 (with bracket) | EMPL-21S2-C1<br>EMPL-21S2-W1<br>EMPL-21S2-C2 (with bracket)<br>EMPL-21S2-W2 (with bracket) | EMPL-22S2-C1<br>EMPL-22S2-W1<br>EMPL-22S2-C2 (with bracket)<br>EMPL-22S2-W2 (with bracket) |

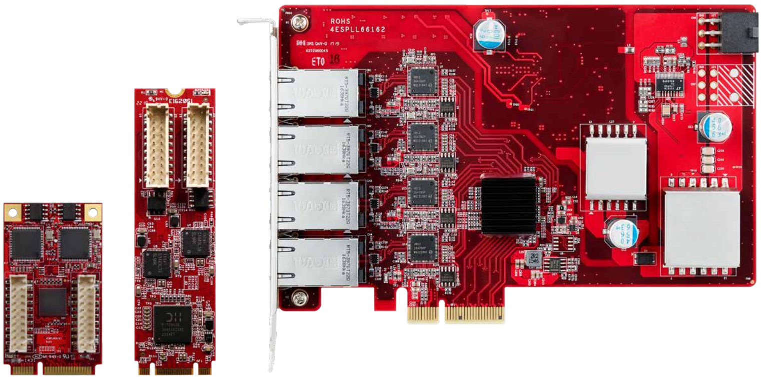
| Model | EGPL-21S1 | EGPL-22S1 | EGPL-21S2 | EGPL-22S2 |
|---|---|---|---|---|
| **Description** | M.2 to single isolated 2.5GbE LAN Module | M.2 to dual isolated 2.5GbE LAN Module | M.2 to single isolated 2.5GbE LAN Module | M.2 to dual isolated 2.5GbE LAN Module |
| **Form Factor** | M.2 2280 | M.2 2280 | M.2 2242 | M.2 2242 |
| **Input I/F** | PCI Express 2.1 x2 | PCI Express 2.1 x2 | PCI Express 2.1 x2 | PCI Express 2.1 x2 |
| **Input Connector** | M.2 B+M Key | M.2 B+M Key | M.2 B+M Key | M.2 B+M Key |
| **Output I/F** | 2.5Gbe LAN x 1 | 2.5Gbe LAN x 2 | 2.5Gbe LAN x 1 | 2.5Gbe LAN x 2 |
| **Output Connector** | RJ45 x 1 | RJ45 x 2 | RJ45 x 1 | RJ45 x 2 |
| **Dimension (WxLxH/mm)** | 22 x 80 x 9.3 | 22 x 80 x 9.3 | 22 x 42 x 9.15 | 22 x 42 x 9.15 |
| **Temperature** | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C |
| **Order info.** | EGPL-21S1-C1<br>EGPL-21S1-W1<br>EGPL-21S1-C2 (with bracket)<br>EGPL-21S1-W2 (with bracket) | EGPL-22S1-C1<br>EGPL-22S1-W1<br>EGPL-22S1-C2 (with bracket)<br>EGPL-22S1-W2 (with bracket) | EGPL-21S2-C1<br>EGPL-21S2-W | EGPL-22S2-C1<br>EGPL-22S2-W1 |

| Model | EGPL-21S4 | EGPL-22S4 | EMPL-21N1 | EMPL-22N1 |
|---|---|---|---|---|
| **Description** | M.2 to single isolated 2.5GbE LAN horizontal Module | M.2 to dual isolated 2.5GbE LAN horizontal Module | mPCIe to single 2.5GbE LAN Module | mPCIe to dual 2.5GbE LAN Module |
| **Form Factor** | M.2 2242 | M.2 2242 | mPCIe | mPCIe |
| **Input I/F** | PCI Express 2.1 x2 | PCI Express 2.1 x2 | PCI Express 2.1 x1 | PCI Express 2.1 x1 |
| **Input Connector** | M.2 B+M Key | M.2 B+M Key | mPCIe | mPCIe |
| **Output I/F** | 2.5Gbe LAN x 1 | 2.5Gbe LAN x 2 | 2.5GbE LAN x 1 | 2.5GbE LAN x 2 |
| **Output Connector** | RJ45 x 1 | RJ45 x 2 | RJ45 x 1 | RJ45 x 2 |
| **Dimension (WxLxH/mm)** | Main board: 22 x 42 x 5.95<br>Daughter board: 50 x 28 x 19.75 | Main board: 22 x 42 x 5.95<br>Daughter board: 50 x 28 x 19.75 | 30 x 50.9 x 9.3 | 30 x 50.9 x 9.3 |
| **Temperature** | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C |
| **Order info.** | EGPL-21S4-C1<br>EGPL-21S4-W1 | EGPL-22S4-C1<br>EGPL-22S4-W1 | EMPL-21N1-C1<br>EMPL-21N1-W1 | EMPL-22N1-C1<br>EMPL-22N1-W1 |

| Model | EGPL-21N1 | EGPL-22N1 | EGPL-21S3 | ESPL-2401 |
|---|---|---|---|---|
| **Description** | M.2 to single 2.5GbE LAN Module | M.2 to dual 2.5GbE LAN Module | M.2 2230 to single isolated 2.5GbE LAN module | PCIe to four 2.5GbE LAN Module |
| **Form Factor** | M.2 2280 | M.2 2280 | M.2 2230 | PCIe x4 |
| **Input I/F** | PCI Express 2.1 x2 | PCI Express 2.1 x1 | PCI Express 2.1 x2 | PCI Express 2.1 x4 |
| **Input Connector** | M.2 B+M Key | M.2 B+M Key | M.2 A+E Key | PCIe x 4 |
| **Output I/F** | 2.5GbE LAN x 1 | 2.5GbE LAN x 2 | 2.5GbE LAN x 1 | 2.5GbE LAN x 4 |
| **Output Connector** | RJ45 x 1 | RJ45 x 2 | RJ45 x 1 | RJ45 x 4 |
| **Dimension (WxLxH/mm)** | 22 x 80 x 9 | 30 x 50.9 x 7.6 | Main board: 22 x 30 x 5.95<br>Daughter board: 32 x 28 x 19.2 | 169.55 x 111.15 x 19.6 |
| **Temperature** | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp: 0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C |
| **Order info.** | EGPL-21N1-C1<br>EGPL-21N1-W1 | EGPL-22N1-C1<br>EGPL-22N1-W1 | EGPL-21S3-C1<br>EGPL-21S3-W1 | ESPL-2401-C1<br>ESPL-2401-W1 |

## 10G LAN

| Model | EGPL-T102 |
|---|---|
| **Description** | M.2 2280 to single 10GbE LAN Module |
| **Form Factor** | M.2 2280 B+M |
| **Input I/F** | PCI Express 3.0 x2 |
| **Input Connector** | M.2 B+M Key |
| **Output I/F** | Single 10 GbE LAN |
| **Output Connector** | RJ45 x 1 |
| **Dimension (WxLxH/mm)** | M.2 Board: 22 x 80 x 14.5<br>Daughter Board: 31.75 x 28 x 17.7 |
| **Temperature** | Operation: -20°C ~ 60°C<br>Storage: -55°C ~ 95°C |
| **Order info.** | EGPL-T102-C1<br>EGPL-T102-C2 |

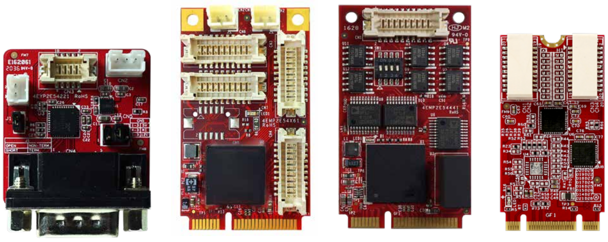


## PoE

| Model | EMPL-G2P1 | EMPL-G2P2 | EGPL-G2P1 |
|---|---|---|---|
| **Description** | mPCIe to dual PoE Module | mPCIe to dual PoE+ Module | M.2 to dual PoE Module |
| **Form Factor** | mPCIe | mPCIe | M.2 2280 |
| **Input I/F** | PCI Express 2.1 | PCI Express 2.1 | PCI Express 2.1 x1 |
| **Input Connector** | mPCIe | mPCIe | M.2 B+M Key |
| **Output I/F** | PoE x 2 | PoE+ x 2 | PoE x 2 |
| **Output Connector** | RJ45 x 2 | RJ45 x 2 | RJ45 x 2 |
| **Dimension (WxLxH/mm)** | Main Board: 30 x 50.9 x 9.2<br>Daughter Board: 58.2 x 72.7 x 23.8 | Main Board: 30 x 50.9 x 9.2<br>Daughter Board: 58.2 x 72.7 x 23.8 | Main Board: 30 x 50.9 x 9.2<br>Daughter Board: 58.2 x 72.7 x 23.8 |
| **Temperature** | STD temp: 0° ~ 70°C<br>Wide temp: -40° ~ 85°C | STD temp: 0° ~ 70°C<br>Wide temp: -40° ~ 85°C | STD temp: 0° ~ 70°C<br>Wide temp: -40° ~ 85°C |
| **Order info.** | EMPL-G2P1-C5 (Mounting hole, 4pin header)<br>EMPL-G2P1-W5 (Mounting hole, 4pin header)<br>EMPL-G2P1-C6 (Bracket, 4pin header)<br>EMPL-G2P1-W6 (Bracket, 4pin header)<br>EMPL-G2P1-C7 (Mounting hole, DC Jack )<br>EMPL-G2P1-W7 (Mounting hole, DC Jack)<br>EMPL-G2P1-C8 (Bracket, DC Jack)<br>EMPL-G2P1-W8 (Bracket, DC Jack) | EMPL-G2P2-C3 (Mounting hole, 4pin header)<br>EMPL-G2P2-W3 (Mounting hole, 4pin header)<br>EMPL-G2P2-C4 (Bracket, 4pin header)<br>EMPL-G2P2-W4 (Bracket, 4pin header) | EGPL-G2P1-C5 (Mounting hole, 4pin header)<br>EGPL-G2P1-W5 (Mounting hole, 4pin heade)<br>EGPL-G2P1-C6 (Bracket, 4pin heade)<br>EGPL-G2P1-W6 (Bracket, 4pin header)<br>EGPL-G2P1-C7 (Mounting hole)<br>EGPL-G2P1-W7 (Mounting hole, DC Jack)<br>EGPL-G2P1-C8 (Bracket, DC Jack)<br>EGPL-G2P1-W8 (Bracket, DC Jack) |

| Model | ESPL-G4P1 | EMPL-G2P3 | EMPL-G2P4 |
|---|---|---|---|
| **Description** | PCIe to four PoE/PoE+ Module | mPCIe to dual  PoE Module | mPCIe to dual PoE+ Module |
| **Form Factor** | Standard PCIe | mPCIe | mPCIe |
| **Input I/F** | PCI Express 2.1 x4 | PCI Express 2.1 | PCI Express 2.1 |
| **Input Connector** | PCIe x 4 | mPCIe | mPCIe |
| **Output I/F** | PoE/PoE+ x 4 | PoE x 2 | PoE+ x 2 |
| **Output Connector** | RJ45 x 4 | RJ45 x 2 | RJ45 x 2 |
| **Dimension (WxLxH/mm)** | 169.55 x 111.15 x 19.6 | Main Board: 30 x 50.9 x 9.2<br>Daughter Board: 72.7 x 56.3 x 22.07 | Main Board: 30 x 50.9 x 9.2<br>Daughter Board: 72.7 x 56.3 x 22.07 |
| **Temperature** | STD temp:  0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp:  0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp:  0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C |
| **Order info.** | ESPL-G4P1-C1<br>ESPL-G4P1-W1 | EMPL-G2P3-C1 (Mounting hole, 4pin header)<br>EMPL-G2P3-W1 (Mounting hole, 4pin header)<br>EMPL-G2P3-C2 (Bracket, 4pin header)<br>EMPL-G2P3-W2(Bracket, 4pin header)<br>EMPL-G2P3-C3 (Mounting hole, DC Jack )<br>EMPL-G2P3-W3 (Mounting hole, DC Jack)<br>EMPL-G2P3-C4 (Bracket, DC Jack)<br>EMPL-G2P3-W4(Bracket, DC Jack) | EMPL-G2P4-C1 (Mounting hole, 4pin header)<br>EMPL-G2P4-W1 (Mounting hole, 4pin header)<br>EMPL-G2P4-C2 (Bracket, 4pin header)<br>EMPL-G2P4-W2(Bracket, 4pin header) |

| Model | EGPL-G2P3 | EGPL-G2P4 | ESPL-G4P3 |
|---|---|---|---|
| **Description** | M.2 to dual PoE Module | M.2 to dual PoE Module | PCIe to four PoE/PoE+ Module |
| **Form Factor** | M.2 2280 | M.2 2280 | Standard PCIe |
| **Input I/F** | PCI Express 2.1 x1 | PCI Express 2.1 x1 | PCI Express 2.1 x4 |
| **Input Connector** | M.2 B+M Key | M.2 B+M Key | PCIe x 4 |
| **Output I/F** | PoE x 2 | PoE+ x 2 | PoE/PoE+ x 4 |
| **Output Connector** | RJ45 x 2 | RJ45 x 2 | RJ45 x 4 |
| **Dimension (WxLxH/mm)** | Main Board: 22 x 80 x 9<br>Daughter Board: 72.7 x 58.2 x 23.8 | Main Board: 22 x 80 x 9<br>Daughter Board: 72.7 x 58.2 x 23.8 | 169.55 x 111.15 x 19.6 |
| **Temperature** | STD temp:  0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp:  0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C | STD temp:  0°C ~ 70°C<br>Wide temp: -40°C ~ 85°C |
| **Order info.** | EGPL-G2P3-C1 (Mounting hole, 4pin header)<br>EGPL-G2P3-W1 (Mounting hole, 4pin heade)<br>EGPL-G2P3-C2 (Bracket, 4pin heade)<br>EGPL-G2P3-W2 (Bracket, 4pin header)<br>EGPL-G2P3-C3 (Mounting hole)<br>EGPL-G2P3-W3 (Mounting hole, DC Jack)<br>EGPL-G2P3-C4 (Bracket, DC Jack)<br>EGPL-G2P3-W4 (Bracket, DC Jack) | EGPL-G2P4-C1 (Mounting hole, 4pin header)<br>EGPL-G2P4-W1 (Mounting hole, 4pin header)<br>EGPL-G2P4-C2 (Bracket, 4pin header)<br>EGPL-G2P4-W2 (Bracket, 4pin header) | ESPL-G4P3-C1<br>ESPL-G4P3-W1 |



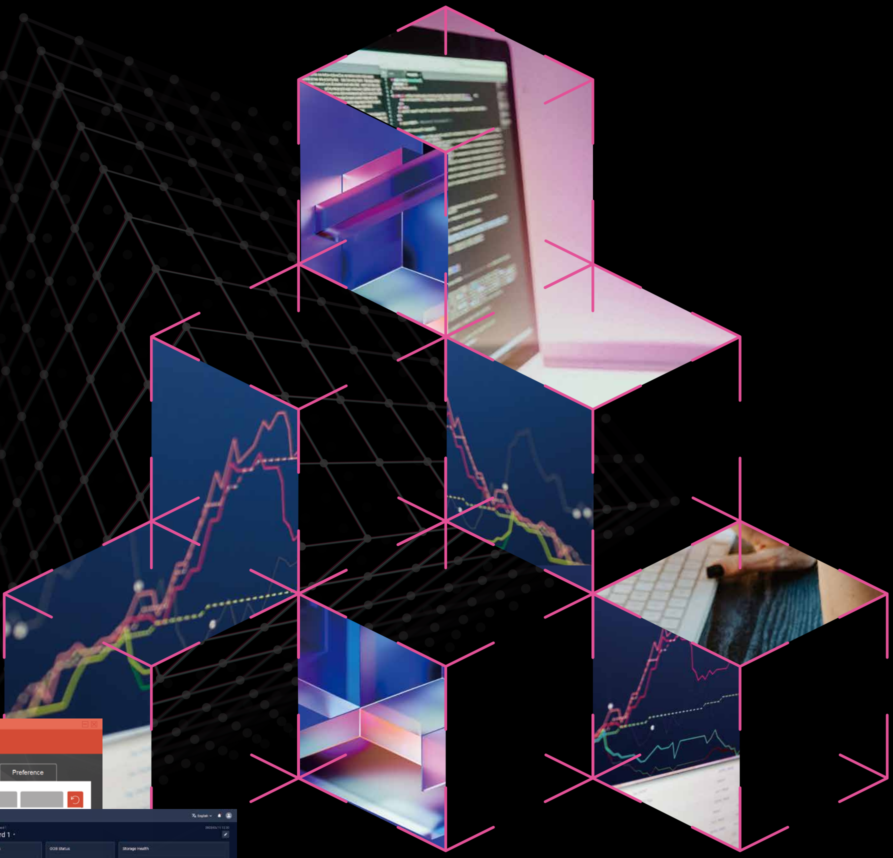
## Serial

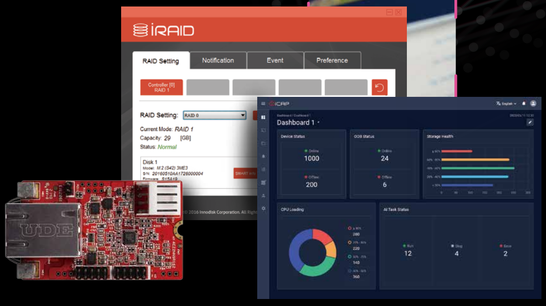
| Model | EMP2-X202 | EMP2-X402 | EMP2-X203 | EMP2-X403 | EMP2-X404 |
|---|---|---|---|---|---|
| Description | mPCIe to dual RS-422/485 Module | mPCIe to four RS-422/485 Module | mPCIe to dual RS-232 Module | mPCIe to four RS-232 Module | mPCIe to four RS-232/422/485 Module |
| Form Factor | mPCIe | mPCIe | mPCIe | mPCIe | mPCIe |
| Input I/F | PCI Express 2.0 | PCI Express 2.0 | PCI Express 2.0 | PCI Express 2.0 | PCI Express 2.0 |
| Input Connector | mPCIe | mPCIe | mPCIe | mPCIe | mPCIe |
| Output I/F | RS-422/485 x 2 | RS-422/485 x 4 | RS-232 x 2 | RS-232 x 4 | RS-232/422/485 x 4 |
| Output Connector | DB-9 x 2 | DB-9 x 4 | DB-9 x 2 | DB-9 x 4 | DB-9 x 4 |
| Dimension (WxLxH/mm) | 30 x 50.9 x 8.2 | 30 x 50.9 x 8.2 | 30 x 50.9 x 6.7 | 30 x 50.9 x 6.7 | 30 x 50.9 x 6.1 |
| Temperature | Wide temp: -40°C ~ 85°C | Wide temp: -40°C ~ 85°C | Wide temp: -40°C ~ 85°C | Wide temp: -40°C ~ 85°C | Wide temp: -40°C ~ 85°C |
| Order info. | EMP2-X202-W1 | EMP2-X402-W1 | EMP2-X203-W1 | EMP2-X403-W1 | EMP2-X404-W1 |

| Model | EMP2-X801 | EMP2-X2S1 | EMP2-X4S1 | EMP2-X4S2 | EGP2-X401 |
|---|---|---|---|---|---|
| Description | mPCIe to eight RS-232/422/485 Module | mPCIe to two Isolated RS-232 Module | mPCIe to four Isolated RS-485 Module | mPCIe to dual Isolated RS-422 & RS-485 Module | M.2 to four RS-232/422/485 Module |
| Form Factor | mPCIe | mPCIe | mPCIe | mPCIe | M.2 2242 |
| Input I/F | PCI Express 2.0 | PCI Express 2.0 | PCI Express 2.0 | PCI Express 2.0 | PCI Express 2.0 x1 |
| Input Connector | mPCIe | mPCIe | mPCIe | mPCIe | M.2 B+M Key |
| Output I/F | RS-232/422/485 x 8 | RS-232 x 2 | RS-485 x 4 | RS-422 x 2, RS-485 x 2 | RS-232/422/485 x 4 |
| Output Connector | DB-9 x 8 | DB-9 x 2 | DB-9 x 4 | DB-9 x 4 | DB-9 x 4 |
| Dimension (WxLxH/mm) | 30 x 50.9 x 6.1 | 30 x 50.9 x 12.9 | 30 x 50.9 x 12.55 | 30 x 50.9 x 12.55 | Vertical: 22 x 42 x 6.45<br>Horizontal: 22 x 42 x 7.65 |
| Temperature | Wide temp: -40°C ~ 85°C | Wide temp: -40°C ~ 85°C | Wide temp: -40°C ~ 85°C | Wide temp: -40°C ~ 85°C | Wide temp: -40°C ~ 85°C |
| Order info. | EMP2-X801-W1 | EMP2-X2S1-W1 | EMP2-X4S1-W1 | EMP2-X4S2-W1 | EGP2-x401-W1 (Vertical connector)<br>EGP2-x401-W2 (Horizontal connector) |

| Model | EGP2-X203 | EGP2-X403 | EGP2-X4S1 |
|---|---|---|---|
| Description | M.2 to dual RS-232 Module | M.2 to four RS-232 Module | M.2 to four isolated RS-422 & RS-485 Module |
| Form Factor | M.2 2242 | M.2 2242 | M.2 2280 |
| Input I/F | PCI Express 1.1 | PCI Express 1.1 | PCI Express 2.0 x1 |
| Input Connector | M.2 B+M Key | M.2 B+M Key | M.2 B+M Key |
| Output I/F | RS-232 x 2 | RS-232 x 4 | RS-422 x 4 or RS-485 x 4 |
| Output Connector | DB-9 x 2 | DB-9 x 4 | DB-9 x 4 |
| Dimension (WxLxH/mm) | Vertical: 22 x 42 x 6.83<br>Horizontal: 22 x 42 x 7.93 | Vertical: 22 x 42 x 6.83<br>Horizontal: 22 x 42 x 7.93 | Vertical: 22 x 80 x 6.83<br>Horizontal: 22 x 80 x 7.93 |
| Temperature | Wide temp: -40°C ~ 85°C | Wide temp: -40°C ~ 85°C | Wide temp: -40°C ~ 85°C |
| Order info. | EGP2-X203-W1 (Vertical connector)<br>EGP2-X203-W2 (Horizontal connector) | EGP2-X403-W1 (Vertical connector)<br>EGP2-X403-W2 (Horizontal connector) | EGP2-X4S1-W1 (Vertical connector)<br>EGP2-X4S1-W2 (Horizontal connector) |

# MANAGEMENT INTELLIGENCE

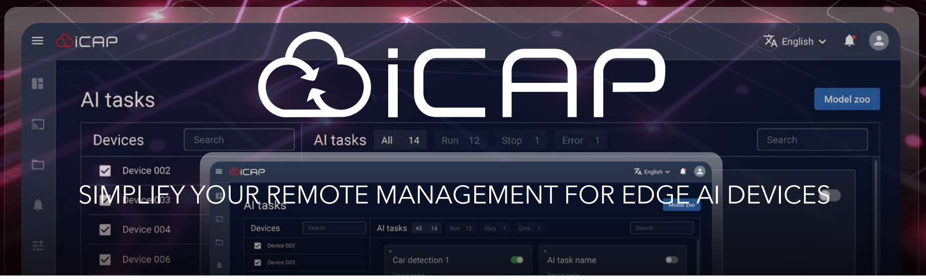




## MANAGEMENT INTELLIGENCE

Experience effortless management in real-world applications with our advanced software and services, ensuring optimal performance at every step.

# iCAP CLOUD ADMINISTRATION PLATFORM



SIMPLIFY YOUR REMOTE MANAGEMENT FOR EDGE AI DEVICES

iCAP, the Innodisk Cloud Administration Platform, simplifies remote device and AI model management. Accessible through any browser, it enables real-time monitoring of system health, with customizable alerts for storage life.

iCAP also supports seamless AI model deployment, providing an efficient, user-friendly cloud management solution.

## iCAP Advantages

WINDOWS
LINUX
ANDROID APP

### Versatile Compatibility

The iCAP agent is compatible with both Windows and Linux platforms, ensuring seamless accessibility through a variety of web browsers. Additionally, it offers support for mobile apps, allowing users to monitor and control devices remotely, including the ability for out-of-band (OOB) reboot functionality.

### Effective Event Tracker

The event notification tracker will log all changes and keep the user up-to-speed, enabling swift resolutions to any issues that may occur.

### Over-the-air (OTA) updates

This feature facilitates BIOS, storage firmware, and image upgrades, allowing for the effortless distribution of update files to managed edge devices or predefined groups.

### One-stop AI model training, management and deployment

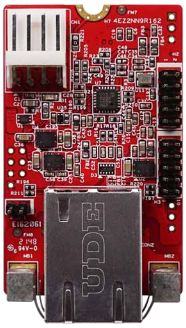
Integrate iVIT to provide a model library and easily deploy the trained AI model to the edge device through the platform.

### Remote Disaster Recovery

iCAP fully supports in-band and out-of-band management with one-key recovery, bringing malfunctioning devices back to normal in no time.

### Storage / DRAM monitoring

iCAP supports Storage / DRAM monitoring, providing the user remote access to iSMART Storage/DRAM information and module prediction.



## OOB

| Model | InnoAgent EZ2N-0XL1 |
|---|---|
| Description | Out-of-Band Remote Management Module |
| Network I/F | 10/100 Mbps LAN (RJ45) |
| Network Protocol | MQTT |
| Host I/F | 3.3V UART, RS232 (Pitch 2.0mm Pin Header) |
| Remote Control I/O | 3.3V GPIO x 6 (2 GPIO can be I2C)<br>Power SW x2 (Pitch 2.0mm Pin Header) |
| Power Source | +5V Standby Power Input (4pin floppy male connector) |
| Dimensions(W*L*H/ mm) | 51 x 31.3 x 19.05 |
| Temperature | -40°C ~ 85°C |
| Order info. | EZ2N-0XL1-W1 (Private Cloud: SDK, iCAP 2.0)<br>EZ2N-0XL1-W3 (Private Cloud: with Standard Bracket)<br>EZ2N-0XL1-W4 (Private Cloud: with Low-profile Bracket) |

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# MACHINE-LEARNING INTELLIGENCE

## MACHINE-LEARNING INTELLIGENCE

Unleash the full potential of your data insight with our AI training and inference capabilities.

# iVIT VISION INTELLIGENCE TOOLKIT

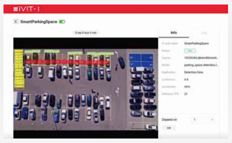
iVIT, the Innodisk Vision Intelligence Toolkit, streamlines AI model training and inference with high efficiency. By integrating mainstream Deep Learning frameworks, iVIT helps developers quickly create product prototypes and build customized AI models.

**No Code**

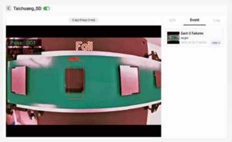
**AI Mode Deployment**

**Camera Streaming**

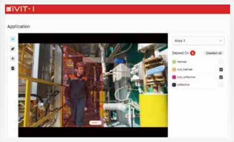
**Event Logging**



Smart Transportation



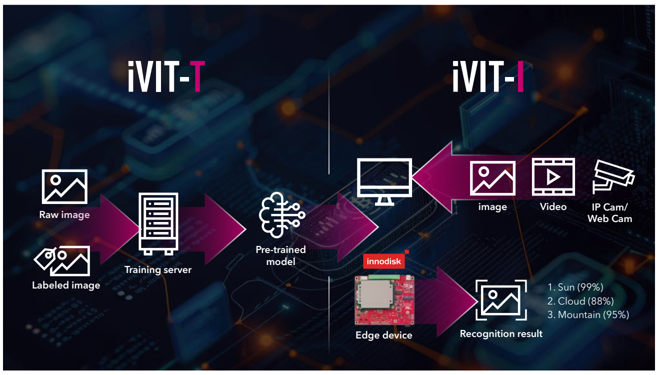
Smart Factory



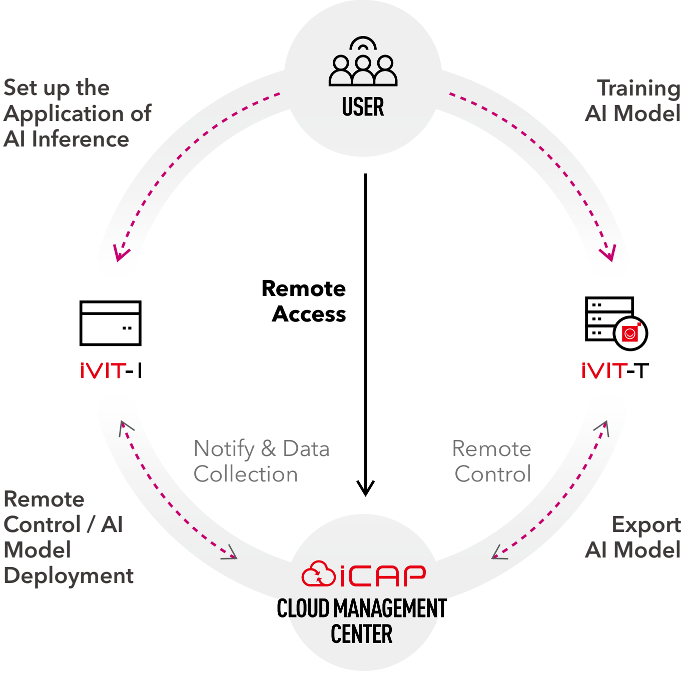
Smart Surveillance

## Harmonize AI Development for Tailored Solutions

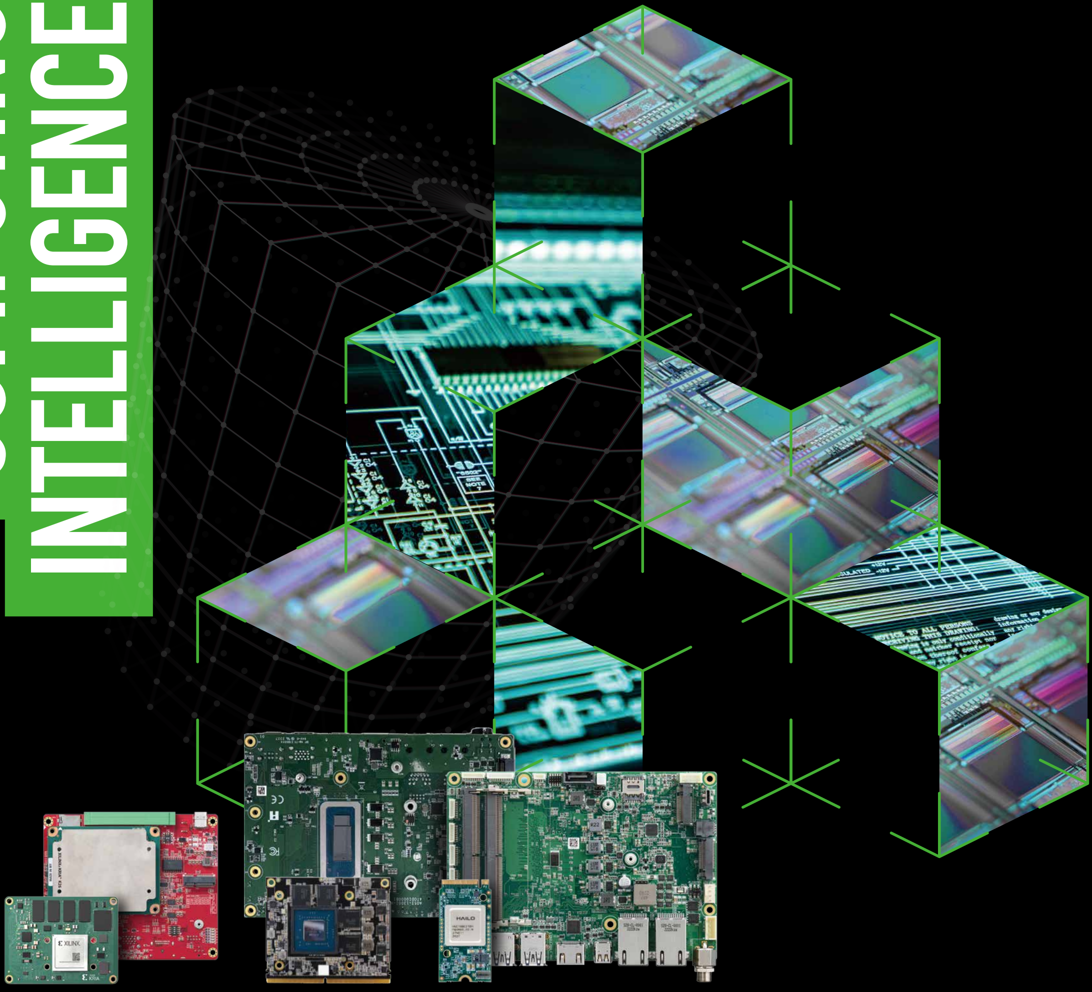
The iVIT solution includes iVIT-T for AI model training and iVIT-I for model inference. Together, they enable seamless customization of AI models to meet the precise requirements of any machine vision application.



## Unlock AI Potential with iVIT and iCAP Synergy



COMPUTING INTELLIGENCE



## COMPUTING INTELLIGENCE

Revolutionize your data processing and analytics at the edge with our AI-accelerated computing systems.

## FPGA

| Module Name | EXMU-X261 | EXOU-X261 |
|---|---|---|
| Module Type | FPGA Machine Vision Solution Kit | FPGA Machine Vision Solution Box |
| Form Factor | SOM and Carrier Board | SOM and Carrier Board |
| Controller | Kria K26 SOM | Kria K26 SOM |
| AI Computing power | 1.4 TOPS | 1.4 TOPS |
| Memory | 4GB LPDDR4 on SOM | 4GB LPDDR4 on SOM |
| Storage | 16GB eMMC on SOM ; Micro SD ;<br>NVME SSD (M.2 2242 M-Key PCIe Gen 3 x2) | 16GB eMMC on SOM ; Micro SD ;<br>NVME SSD (M.2 2242 M-Key PCIe Gen 3 x2) |
| Dimensions (WxLxH/mm) | 120 x 100 x 30.37 (with K26) | 142 x 104 x 70 |
| Display Interface | 1 x HDMI 1.4 | 1 x HDMI 1.4 |
| Ethernet | 1 x RJ45 GbE LAN | 1 x RJ45 GbE LAN |
| I/O | 4 x USB 3.1 Gen 1 | 4 x USB 3.1 Gen 1 |
|  | 1 x 15pin terminal block (GPIO x 5, UART x 1, CAN Bus x 2, I2C x 1) | 1 x 15pin terminal block (GPIO x 5, UART x 1, CAN Bus x 2, I2C x 1) |
|  | 1 x MicroSD | 1 x MicroSD |
|  | 1 x USB Type-C (Debug Only) | 1 x USB Type-C (Debug Only) |
|  | 1 x Power Button | 1 x Power Button |
|  | 1 x Reset Button | 1 x Reset Button |
| Expansion | M.2 2230 E-Key (PCIe Gen 2 x1, USB 2.0) | M.2 2230 E-Key (PCIe Gen 2 x1, USB 2.0) |
|  | M.2 2242 M-Key (PCIe Gen 3 x4) | M.2 2242 M-Key (PCIe Gen 3 x4) |
| Power Requirement | 12V +/-5% DC Power supply | 12V +/-5% DC Power supply |
| Power Consumption | Approximately 17.64W (12V, 1.47A) | Approximately 17.64W (12V, 1.47A) |
| Temperature | Operation : S/T 0°C ~ 70°C (Ta)<br>W/T -40°C ~ 85°C (Ta) | Operation : S/T 0°C ~ 70°C (Ta)<br>W/T -40°C ~ 85°C (Ta) |
|  | Storage : -55°C ~ 95°C (Ta) | Storage : -55°C ~ 95°C (Ta) |
| Storage Humidity | 5% to 95%, non-condensing | 5% to 95%, non-condensing |
| OS Support | Linux (Kernel 5.15.19) | Linux (Kernel 5.15.19) |
| Certification | CE / FCC class A | CE / FCC class A |
| Vibration | 3G, IEC 60068-2-64, random vibration, 5 ~ 500Hz, 1hr/axis | 3G, IEC 60068-2-64, random vibration, 5 ~ 500Hz, 1hr/axis |
| Shock | 30G, IEC 60068-2-27, half sine, 11ms duration | 30G, IEC 60068-2-27, half sine, 11ms duration |
| Warranty | 3 Years | 3 Years |

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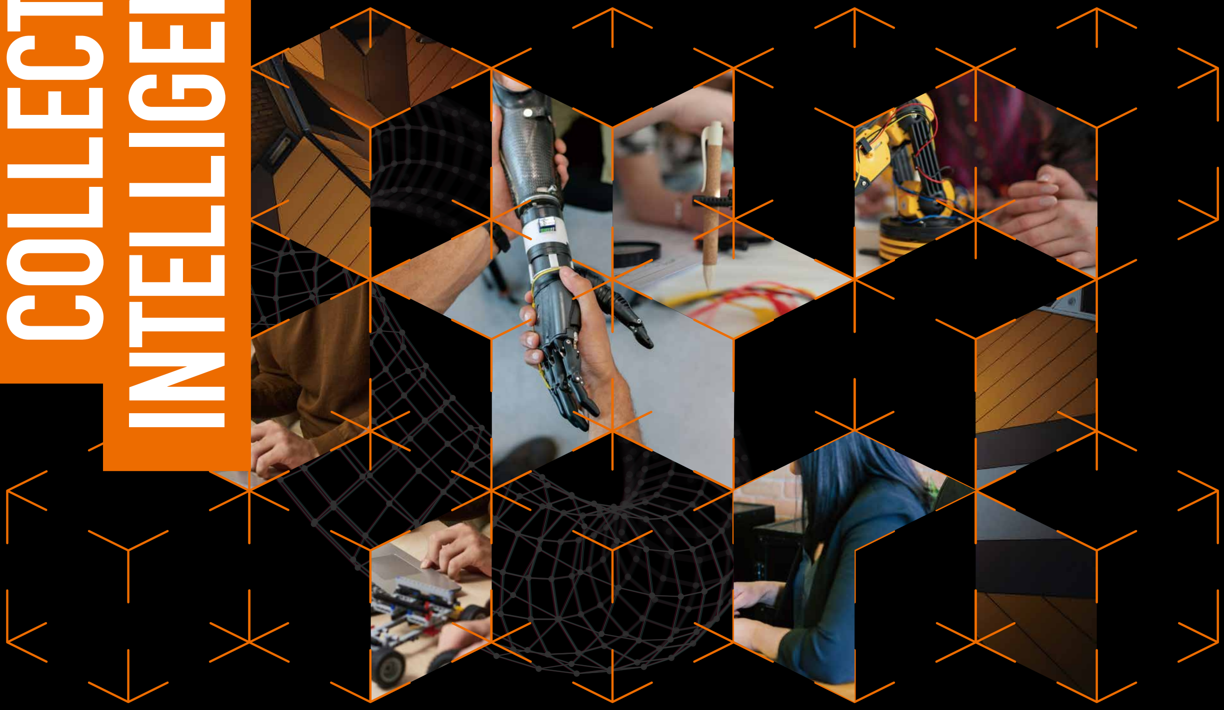
COLLECTIVE
INTELLIGENCE



## COLLECTIVE INTELLIGENCE

Partnering with industry leaders, we collaboratively shape an intelligence ecosystem, unlocking the endless possibilities of edge AI applications.

Additionally, we engage with suppliers, global customers, and employees to address environmental concerns, uphold social responsibilities, and drive positive impact.

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ARCHITECT
INTELLIGENCE

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**www.innodisk.com**