

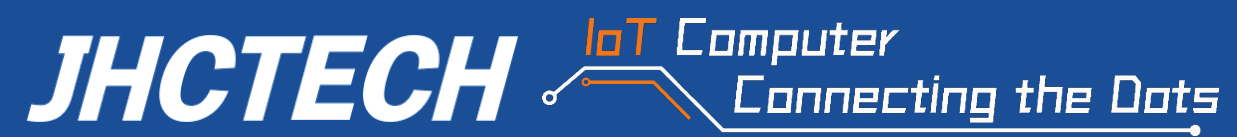


JHCTECH

Product Launch Announcement

1

New Arrival-- BRAV-7601 AI Edge Computing System



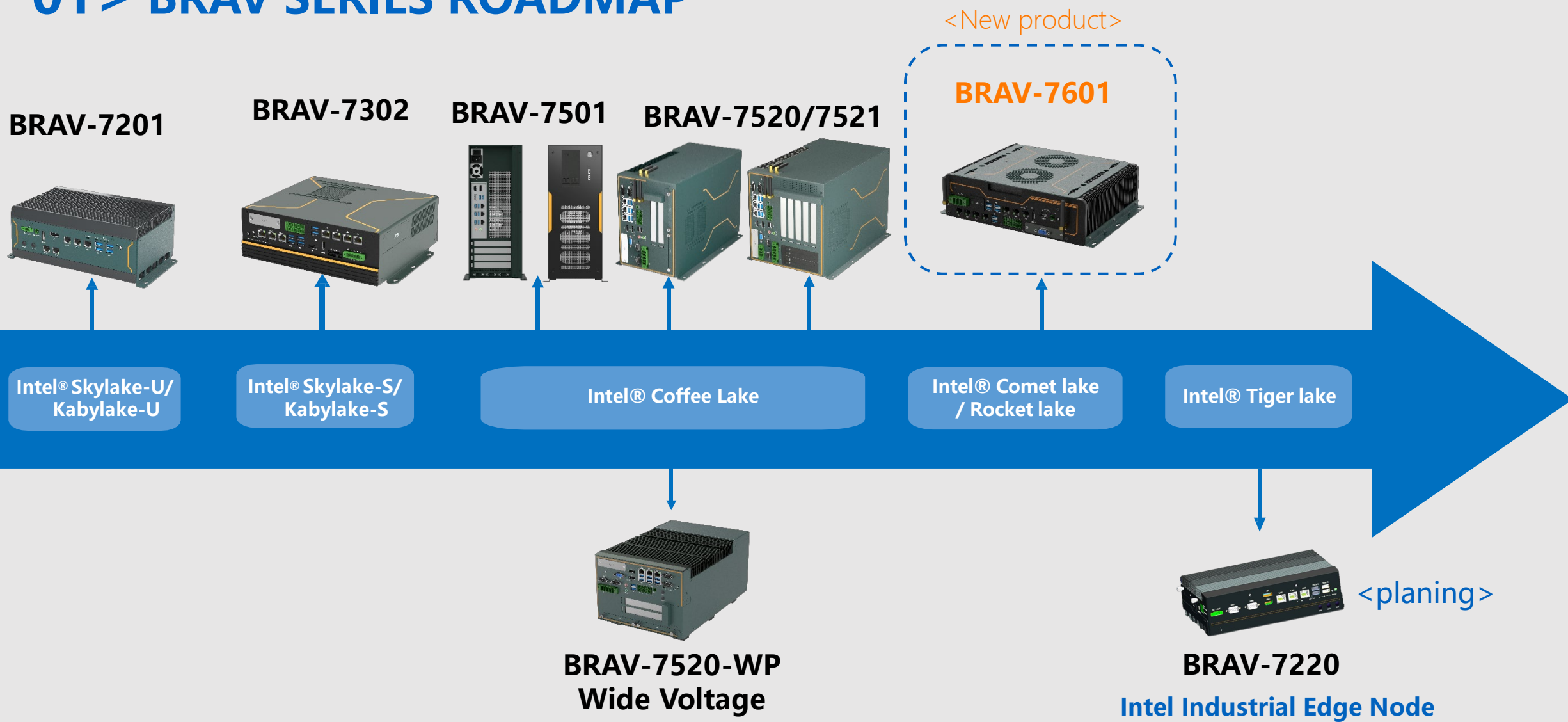
BRAV-7601



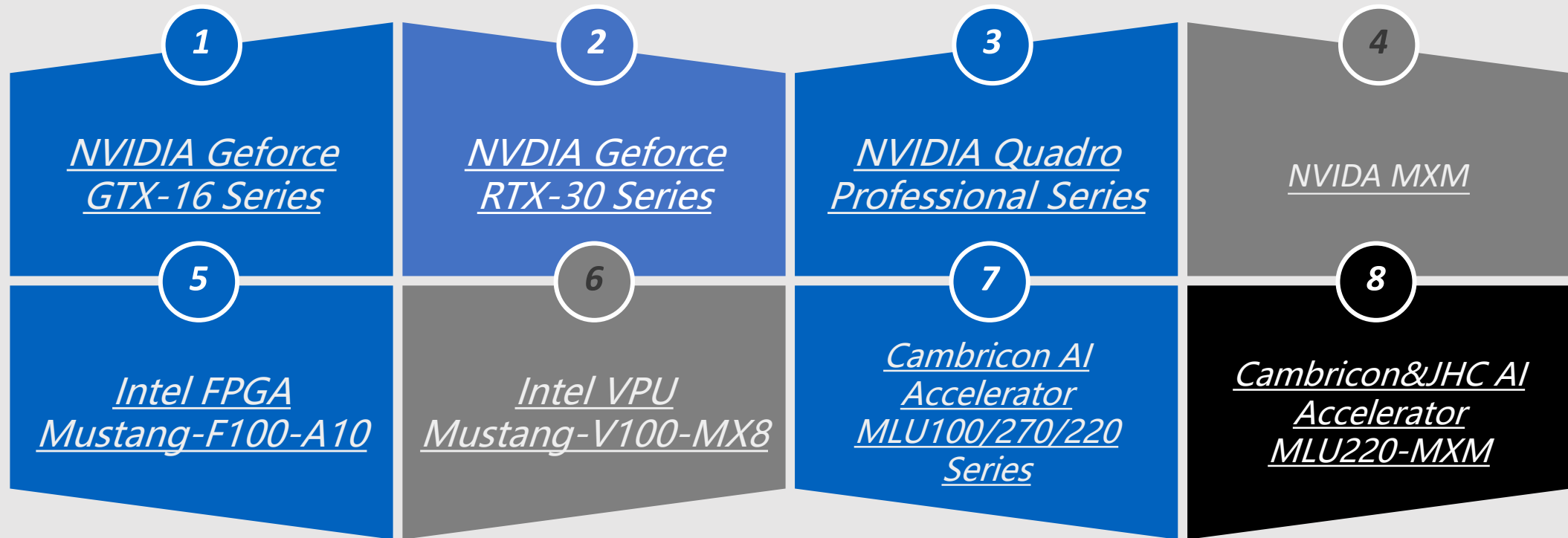
- 01 BRAV Roadmap**
- 02 Key Features of BRAV-7601**
- 03 Ordering Information**
- 04 Target Market**
- 05 Product Schedule**

CONTENTS

01 > BRAV SERIES ROADMAP



BRAV Series- Supported Accelerator



02 BRAV-7601 Features



1

CPU&Chipset

Intel® 10th **Comet Lake-S**
Core i9/i7/i5/i3/Pentium/Celeron
Intel® Q470 PCH

2

Heat Dissipation

Aluminum chassis, active and passive heat dissipation, dual temperature control fan

3

RAM

2***DDR4 2933MHz** SODIMM, up to 64GB

4

LAN

3***2.5G LAN**+4***G-LAN** with POE function

5

Display

VGA+2 *HDMI, 3 Independent display, 2*DP, GPU Display

6

Wireless

3*M.2 support **Gig+WiFi6**, **4G LTE**, **5G NR** wireless module

7

MXM

1*MXM3.1 (PCIe×16 signal)
Supports **MXM GPU modules** and **AI accelerator cards** with power consumption less than 190W

8

Power Supply

DC **9~36V wide** voltage power supply, with reverse polarity protection, over-current and over voltage protection

9

Storage

1*mSATA, 1*M.2 NVME, 2*2.5" swappable SATA3 bay, support **RAID0/1**



NEW 10TH GEN INTEL® CORE™ DESKTOP PROCESSORS

NEW AND FEATURED TECHNOLOGIES

NEW

- NEW Up to 5.3 GHz with Intel® Thermal Velocity Boost
- NEW Intel® Turbo Boost Max Technology 3.0
- NEW Intel® Hyperthreading Technology across Intel® Core™ i9 to i3 processors
- NEW Up to 10 cores with 20M Intel® Smart Cache
- NEW Up to DDR4-2933 support
- NEW Enhanced Core & Memory Overclocking^{1, 2}
- NEW Intel® 400 Series Chipset
- NEW 2.5G Intel® Ethernet Connection I225 (Foxville) support^{**}
- NEW Integrated Intel® Wi-Fi 6 AX201 (Gig+) support using CNVi³

FEATURED

- Intel® performance tuning support (Intel® Performance Maximizer, Intel® eXtreme Tuning Utility)⁴
- Up to 40 platform PCIe lanes
- Thunderbolt™ 3 support
- Intel® Optane™ technology support⁵



Feature 1

High-performance CPU, flexible selection

The Comet Lake-S platform can increase 18% in multi-threading performance comparing to the Coffee Lake Refresh platform. Meanwhile

* Data from Intel

Windows application can be improved up to 8% of efficiency.



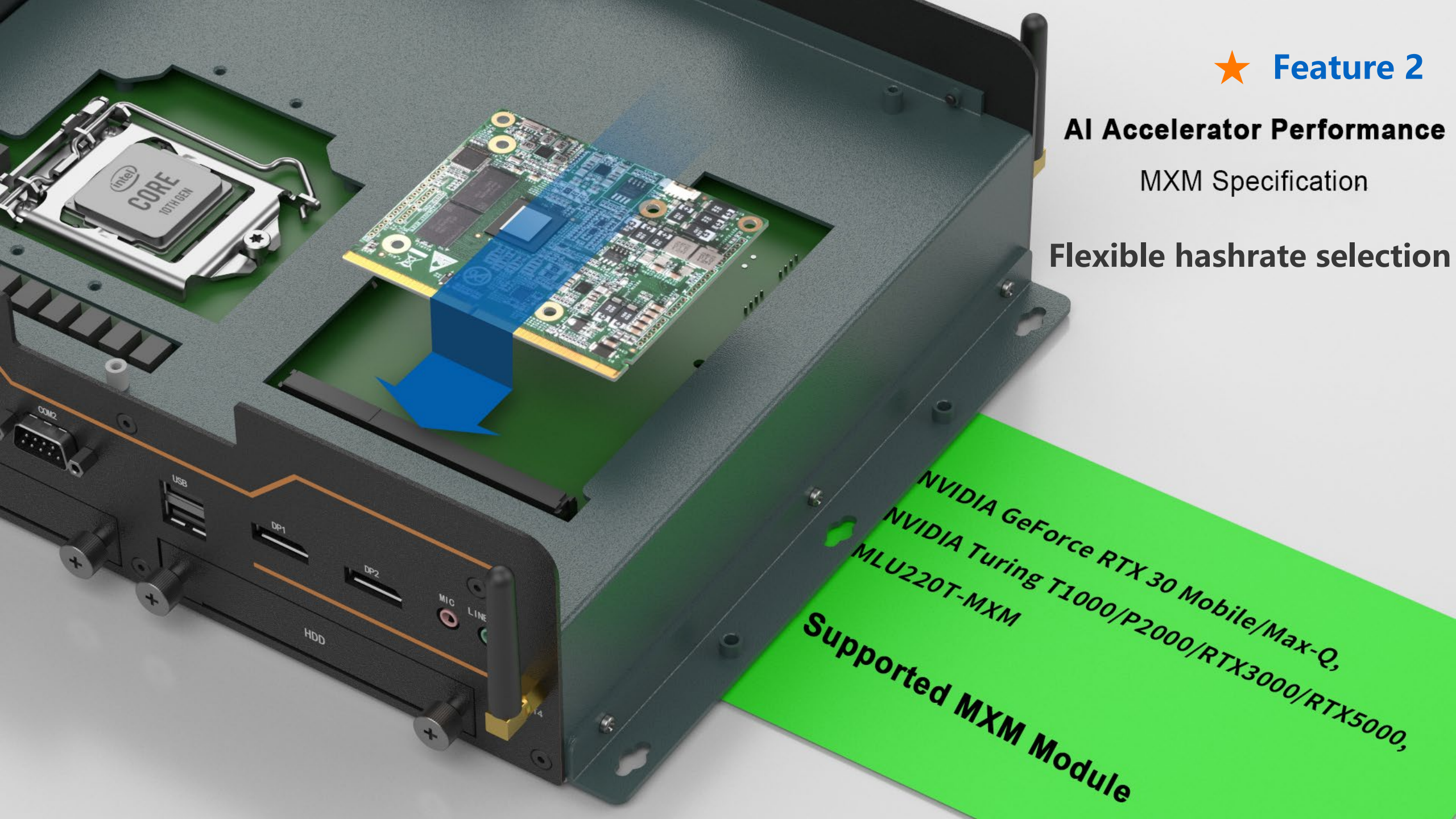
BRAV-7601

★ Feature 2

AI Accelerator Performance

MXM Specification

Flexible hashrate selection



NVIDIA GeForce RTX 30 Mobile/Max-Q,
NVIDIA Turing T1000/P2000/RTX3000/RTX5000,
MLU220T-MXM
Supported MXM Module

★ Feature 3 Powerful Network throughput

3*2.5G-LAN



2*Intel I225V+1*I225 LM

WiFi 6[®]



M.2

B key support 5G NR, 4G LTE

E key support Wifi 6, BT5.0

M key support NVME , or PCIe expansion module

ECB-147



4*I210AT/211T Gig. Ethernet with POE function

★ Feature 4 Flexible Expansion Ability

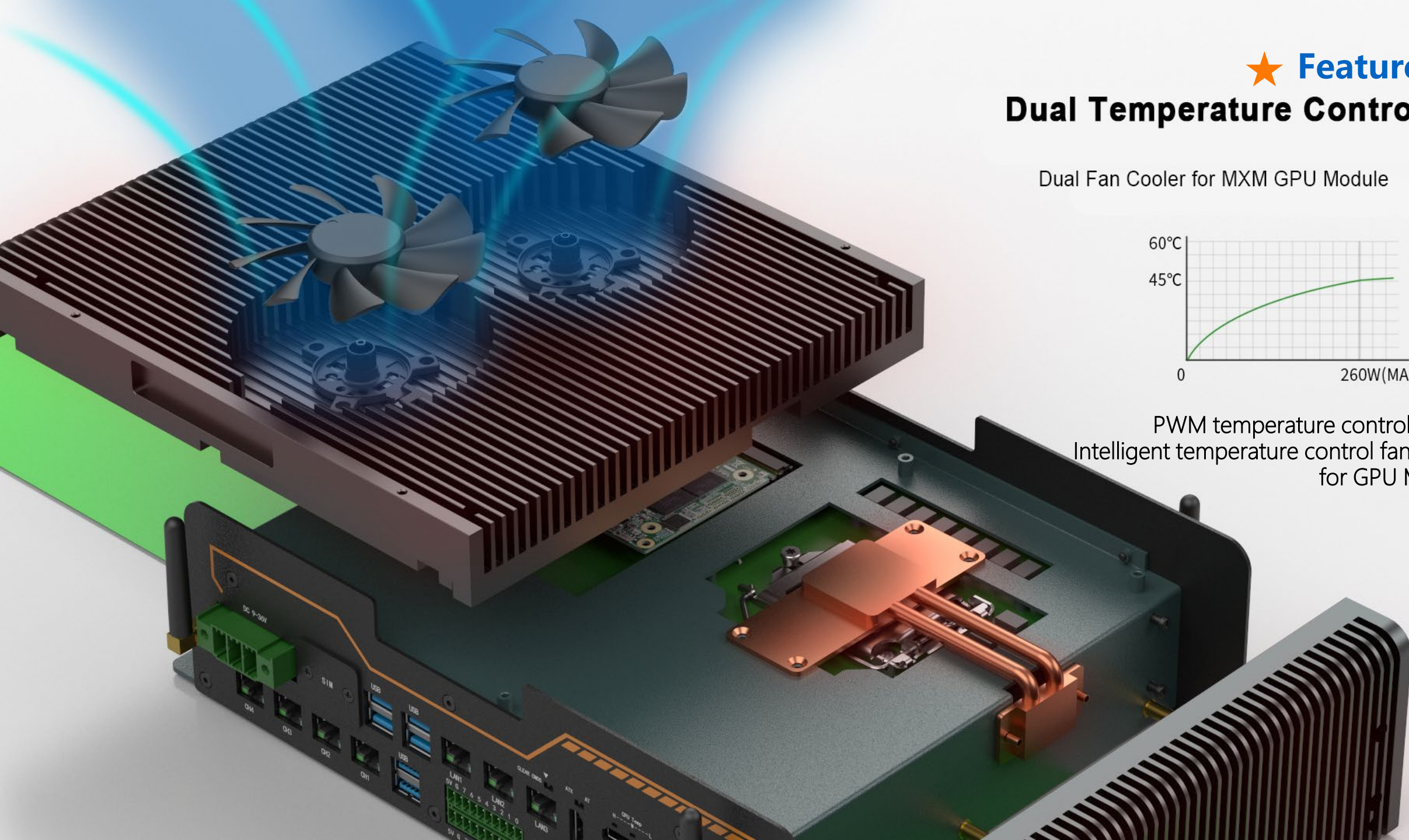
★ Feature 5

Dual Temperature Control

Dual Fan Cooler for MXM GPU Module



PWM temperature control signal,
Intelligent temperature control fan cooler
for GPU Module



★ Feature 6

Modular Design

Easy Assembly and Maintenance



Easy to Assemble CPU And MXM Module



2*2.5" HDD SATA3(support RAID0,1), max support dual15mm highly HDD,
max 6Gbps transport speed, max capacity to reach 6TB



1*M.2 Type 2280 M-Key(PCIex4), support NVMe



1*mSATA, SATA3 6.0Gbps

★ Feature 7

**More storage options and
larger storage capacity**



★ **Feature 8**

Dual DC Power Supply Design

- One to supply power 19V for MXM GPU/AI Module
- One to supply power to the motherboard, ensuring greater power output and better stability

03> Ordering Info



BRAV-7601/S002



BRAV-7601/S001



Model		Specifications	
BRAV-7601/S001	Dual Temperature Control fan cooler	3*2.5G LAN	Intel Q470 PCH+Intel CML LGA1200, 1*MXM3.1, 4*USB3.2, 2*USB2.0, 2*COM, 8-bit DIO, 1*Mini PCIe, 1*M.2 E-Key, 1*M.2 B-Key, 2*HDMI, 1*VGA(I-port) , 2*DP, 1*MIC in,1*Line out, 1*mSATA,1*M.2 M-Key Nvme, 2*2.5" SATA3.0, DC 9~36V
BRAV-7601/S002		3*2.5G LAN, 4* POE	

03> Ordering Info



BRAV-7601/T002



BRAV-7601/T001



BRAV-7601/T001	Fanless cooler	3*2.5G LAN	Intel Q470 PCH+Intel CML LGA1200, 1*MXM3.1, 4*USB3.2, 2*USB2.0, 2*COM, 8-bit DIO, 1*Mini PCIe, 1*M.2 E-Key, 1*M.2 B-Key, 2*HDMI, 1*VGA(I-port) , 2*DP, 1*MIC in,1*Line out, 1*mSATA,1*M.2 M-Key Nvme, 2*2.5" SATA3.0, DC 9~36V
BRAV-7601/T002		3*2.5G LAN, 4* POE	

03 Target Market

- 3C industry Machine Vision
- AI Machine Vision
- Visual Logistics Sorting

- Single channel, dual channel, even 4 channel AI Inspection Machine
- Portable face recognition analysis

Machine Vision

02

Smart Security

04

01

03

05

C-V2X

Roadside MEC and In-vehicle MDC

- Single Lidar+ Single Camera
- Dual Lidar + Dual Camera
- Dual Lidar+4 Camera
- 4 Lidar + Dual Camera

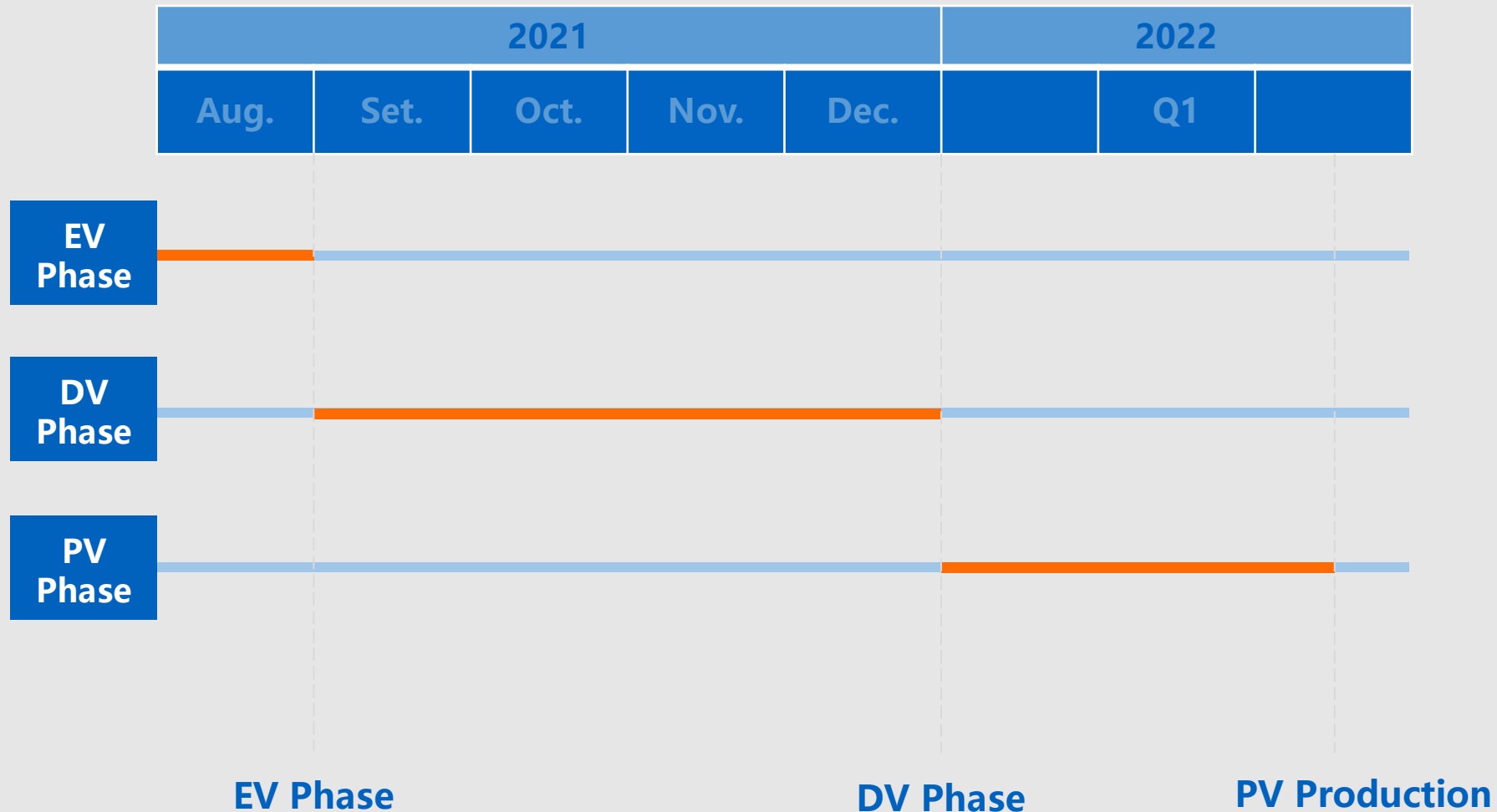
Special Vehicle

- Police video enforcement vehicle
- Emergency command vehicle
- Ambulance

Medical Imaging

- CT scan
- Functional magnetic resonance imaging (fMRI)
- X-Ray Machine
- AI Auxiliary diagnosis system

04 Product Schedule



2

AGV/AMR Control Product--KMDA-3301

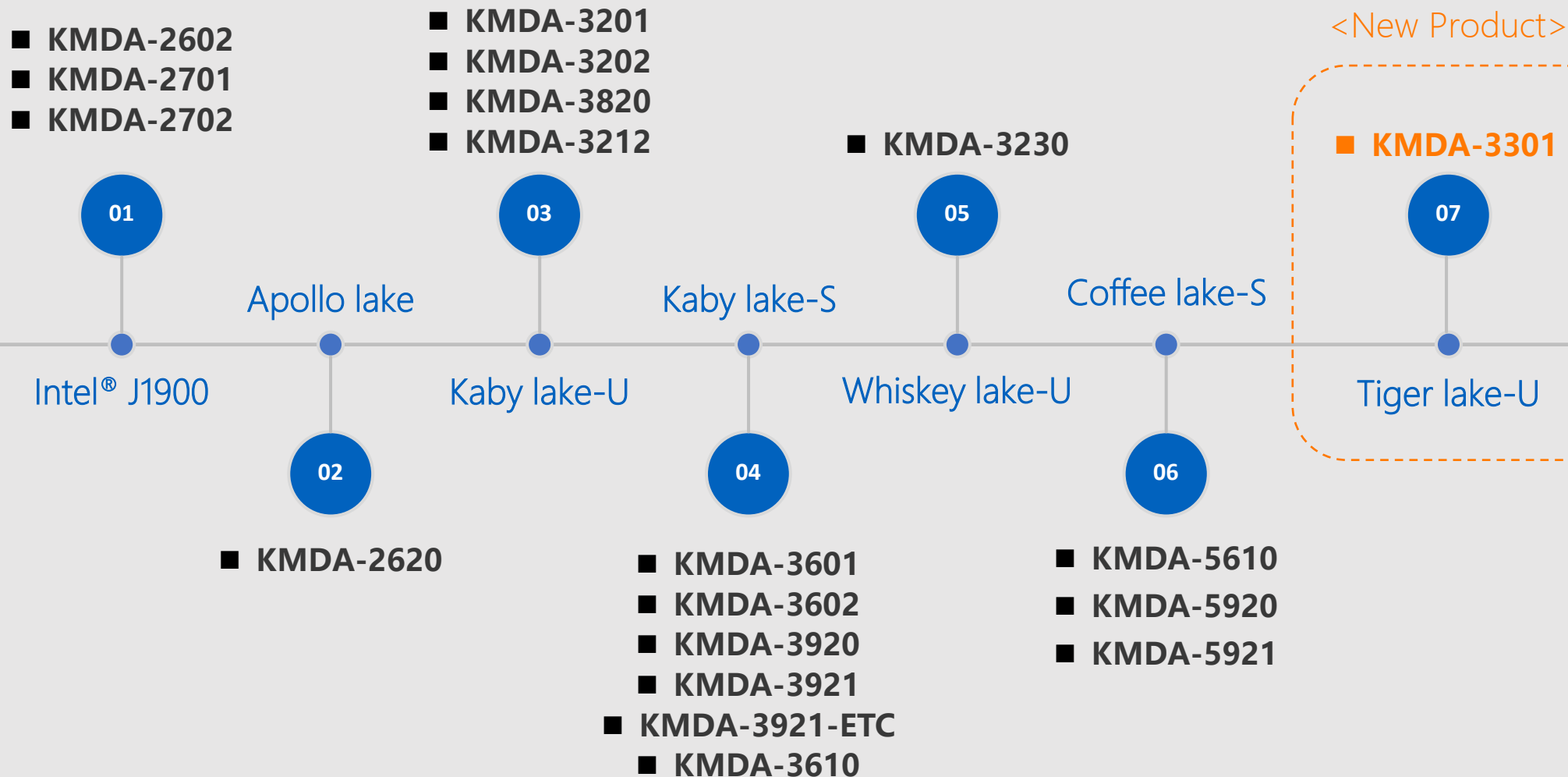
Product for AGV/AMR KMDA-3301



- 01 KMDA Roadmap**
- 02 Key Features of KMDA-3301**
- 03 Ordering Information**
- 04 Target Market**
- 05 Product Schedule**

CONTENTS

01 KMDA ROADMAP



02 KMDA-3301 Features



CPU	Tiger lake-U Core I3/I5/I7 /Pentium/Celeron
RAM	DDR4 SODIMM Dual Channel
LAN	3*G-LAN
Display	1*DP, 1*HDMI
USB	2*USB3.1, 2*USB2.0
Serial Port	2*RS232/422/485
Expansion	1*F-Mini PCIe, 1*3052 B-key with SIM
Storage	1*F-mSATA, 1*2280 M-key
Power Supply	DC 9-36V wide voltage

Product Highlight

1

**Improved CPU
Performance**

2

**Intel UHD
Graphics**

3

**High AI
Computing**

4

Intel TCC

5

**Support 高频
Memory**

6

**Higher network
bandwidth**

7

**PCIe×2 Gen4.0
high speed Storage**

8

**Intel IEN Type-F
Design Standard**

9

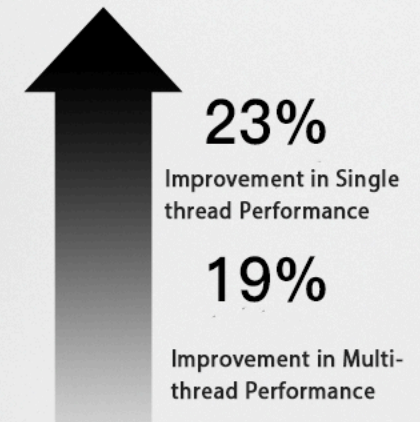
**Flexible
Installation**

10

**Shock Absorption
Design**

11th Gen Intel Processors

Tiger lake-U ULT SoC



Wiskey Lake (Data from Intel)

★ **High-performance
CPU**

Ultra-low Power Consumption, fanless heat dissipation.
Energy efficiency can be set through BIOS, meeting the demands
of different performance and working temperature.

www.jhctechology.cn

intel
11TH
CORE
Tiger lake-U

UHD Graphics



Intel DX1 GPU, Graphics acceleration performance increased by 2.95 times.

High Computing Performance for AI

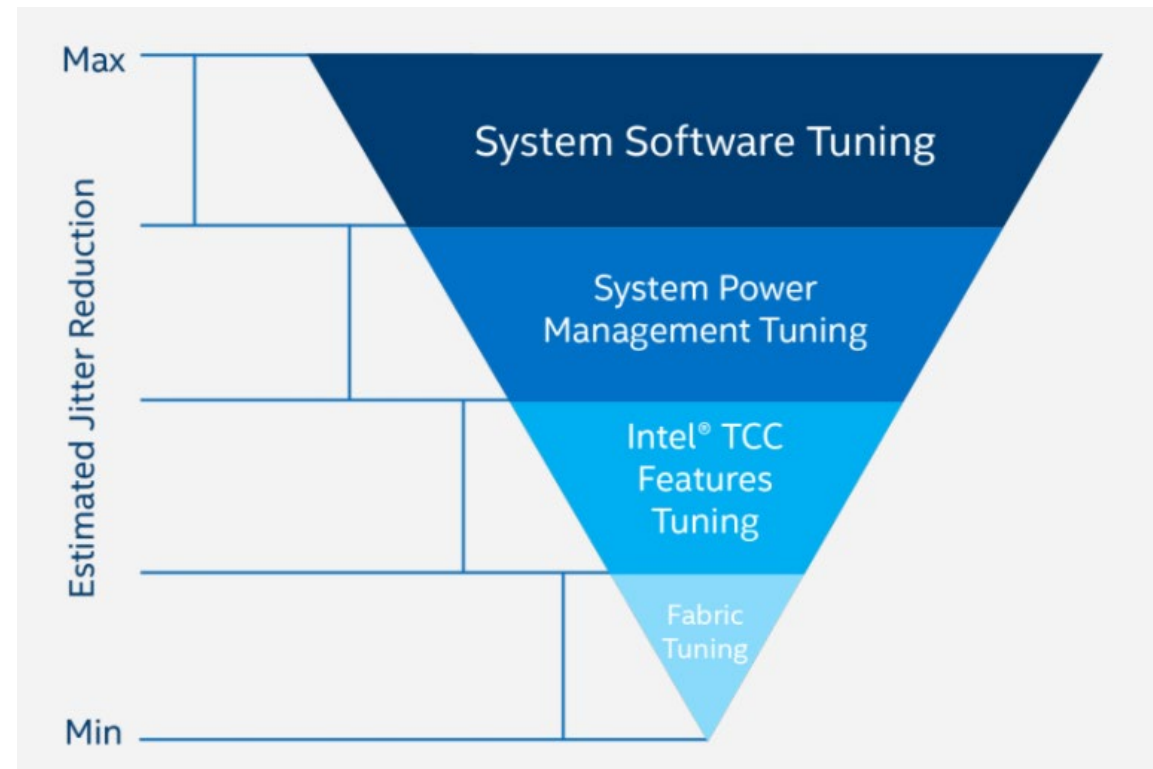
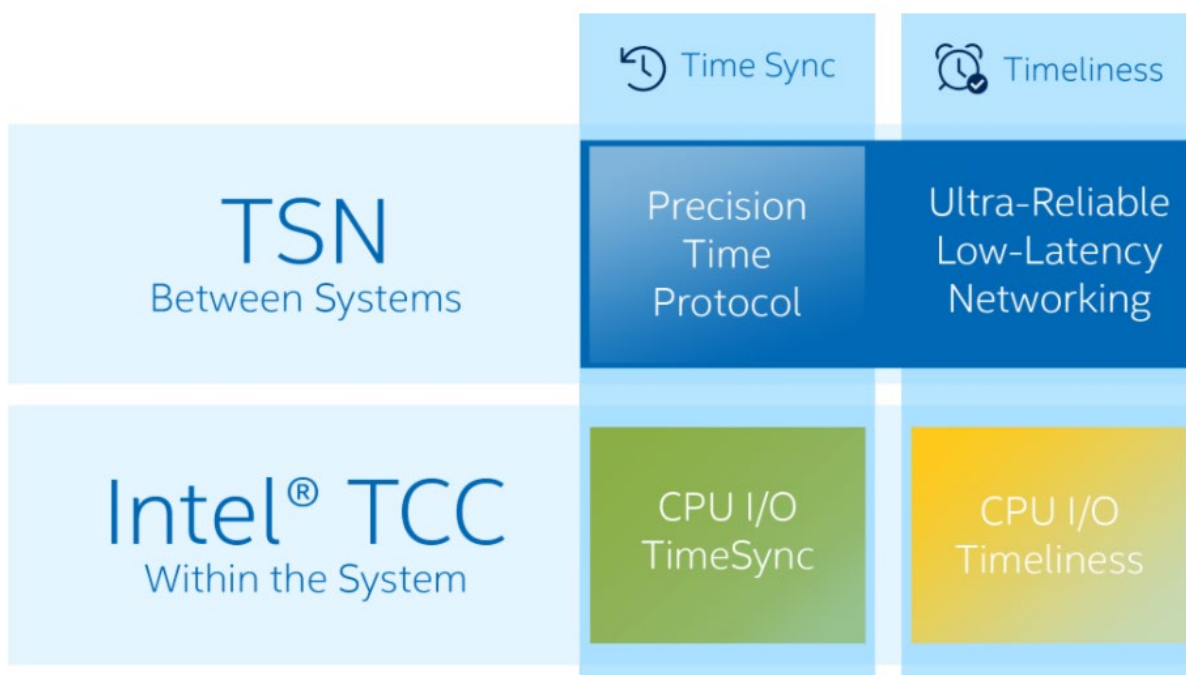
- Support Intel Deep Learning Boost, up to 8 TOPS
- Intel GNA 2.0 (Intel® Gaussian & Neural Accelerator), AI noise reduction
- Dual Independent Display, 1*8K SDR & 1*4K HDR
- Can decode 40 channels of 1080P 30fps video stream simultaneously

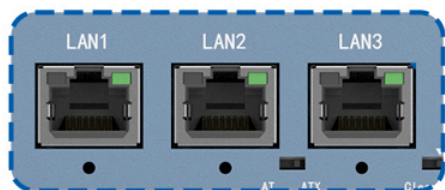
Tiger lake-U

Core i3/Pentium/Celeron Intel® UHD Graphics	Core i5/i7 Intel® Iris® Xe Graphics
--	--

★ Intel® Time Coordinated Computing (Intel® TCC)

- Time Coordinated Computing
- Timing Jitter within 10μs
- Achieved at Intel ECI Platform





3*2.5G-LAN

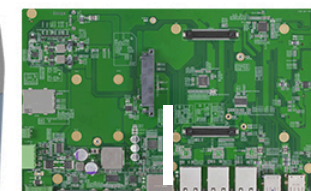
3*Intel I225V, support Intel AMT & vPro

4G^{LTE}

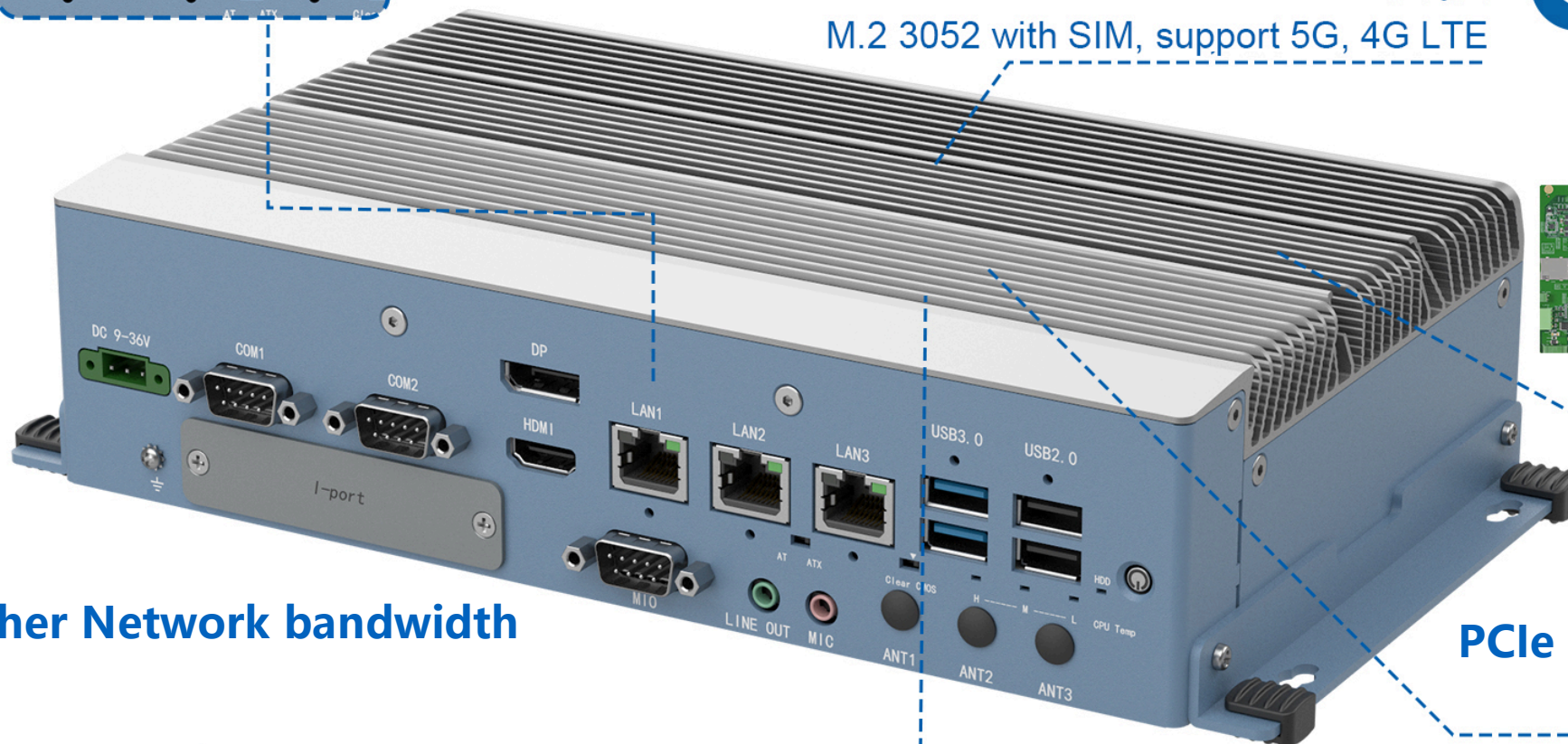
M.2

5G^{NR}

M.2 3052 with SIM, support 5G, 4G LTE



ECB-267 Board



★ Higher Network bandwidth

3200Mhz

2*DDR4 SO-DIMM slot, Max 64GB, optional support ECC

★ PCIe High speed Storage

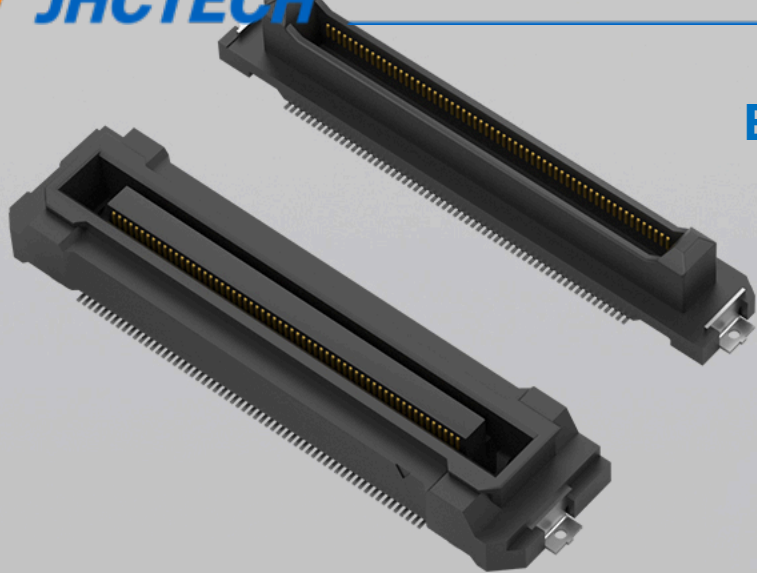
PCIe 4.0

M.2 2280 M-key, PCIe×2 Gen4.0, support 32GT/s NVME

EOM-I912 CPU Module + ECB-267 PIB Board

Shock Resistance Ability MAX

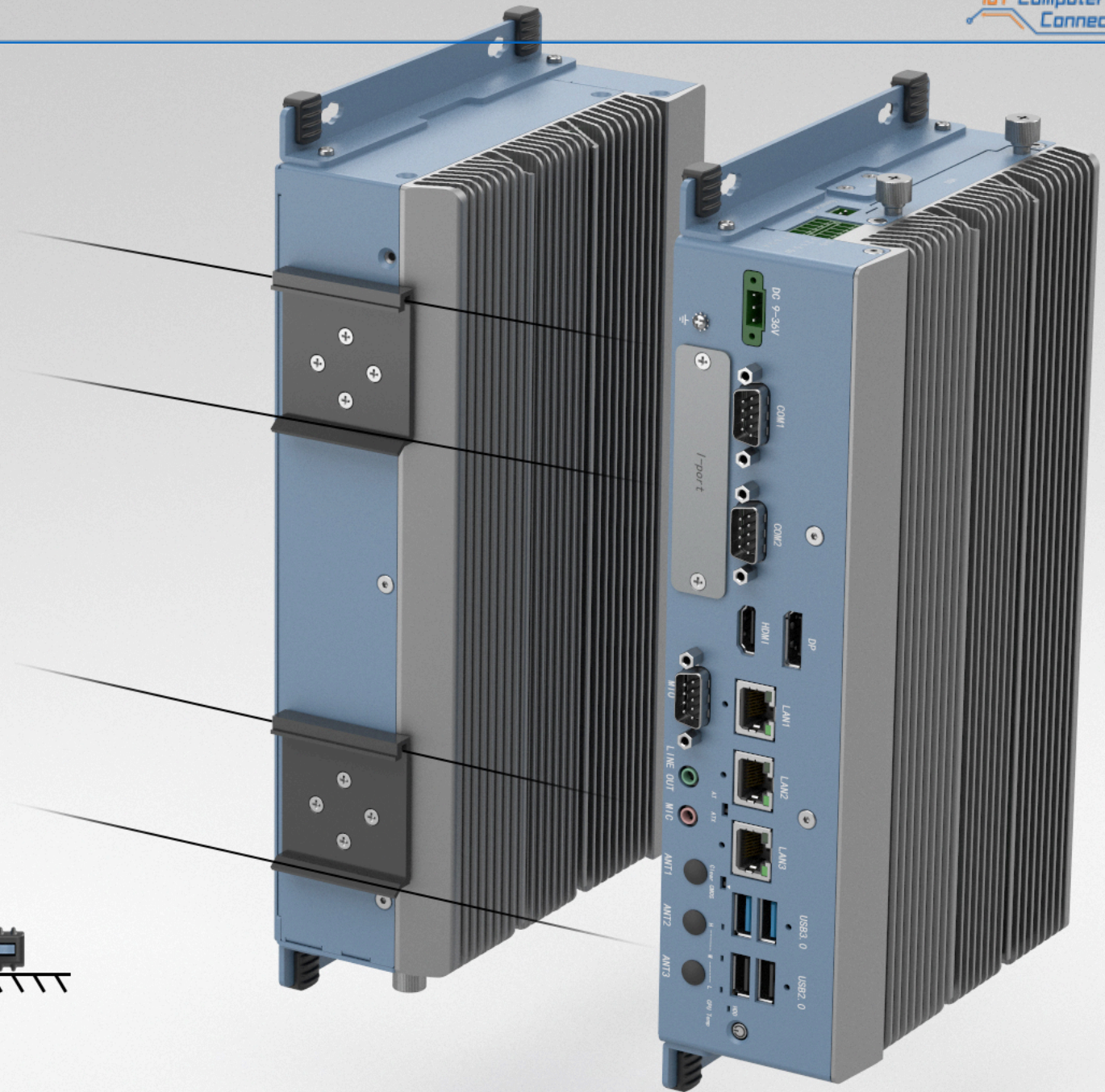
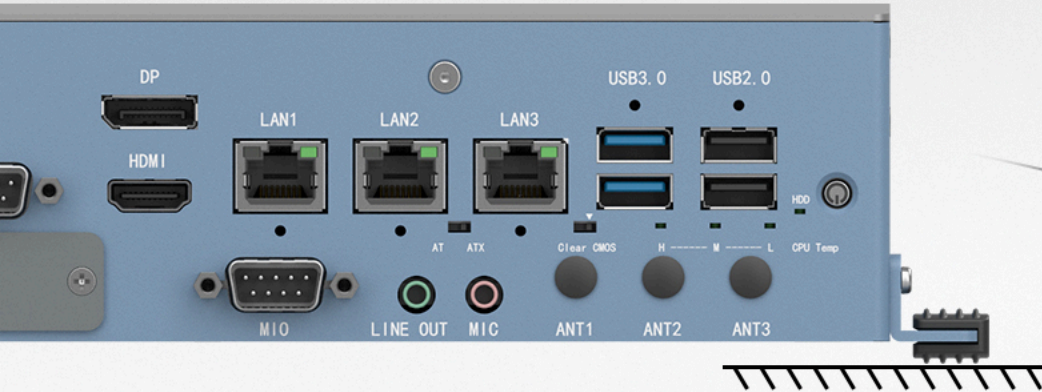
with shock absorbing rubber pads, IO interface
with anti-dropping buckle, innovative interface design.





Flexible Installation

Desk mounting with rubber Rails,
opt Din-Rail mounting





High-end AGV & Robot

- ✓ radar+vision-based navigation AGV
- ✓ Self-navigating multi-task robot AMR



C-V2X Roadside MEC & In-vehicle MDC

- ✓ Single Lidar+Single Camera Fusion (I5 4 cores+GPU with 80EUs)
- ✓ Single Lidar+Single Camera Fusion, Single camera video structuring (I7 4 cores+GPU with 96EUs)

04 Target Market



Machine Vision

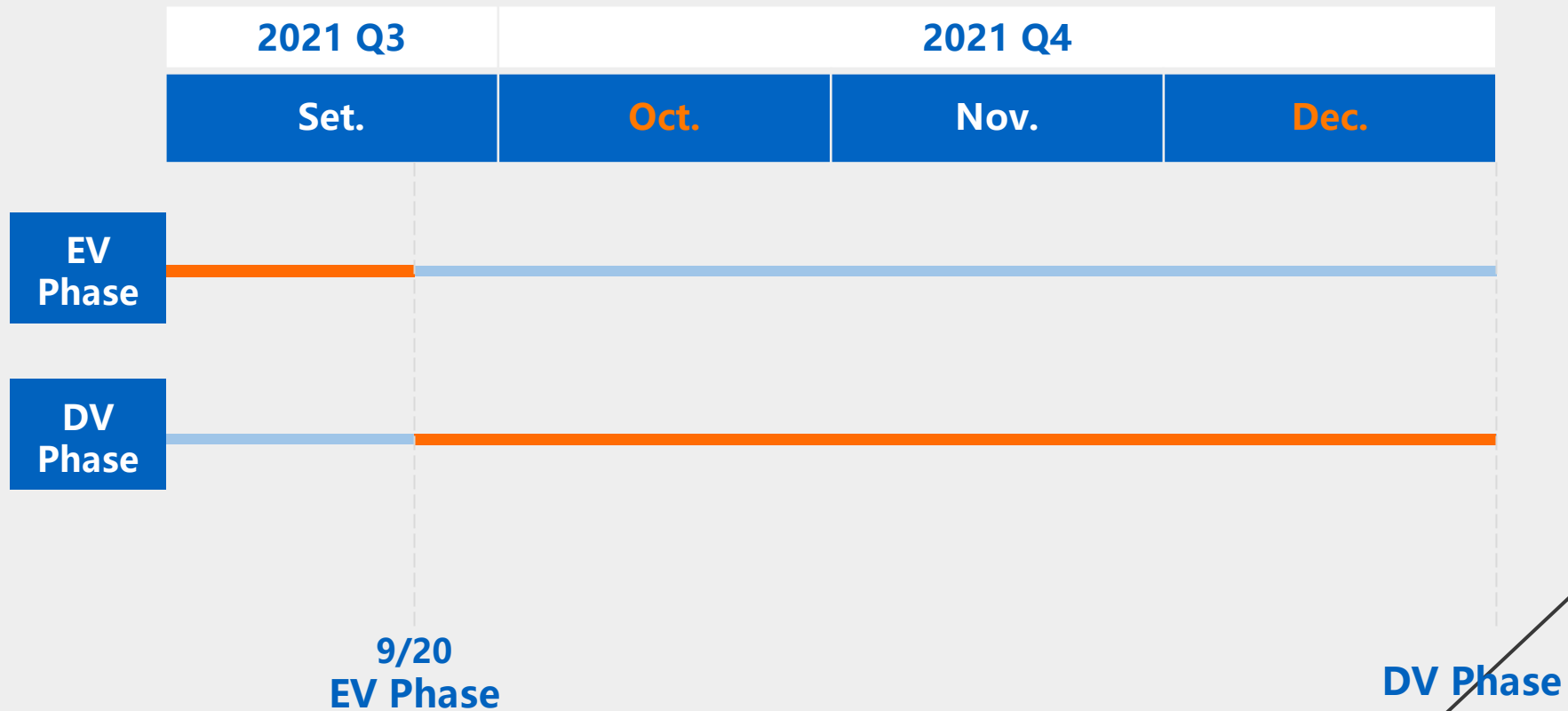
- ✓ AI Machine Vision(Character recognition OCR and surface defect detection, etc.)
- ✓ High-end visual logistics sorting
- ✓ 3D visual navigation



Smart Security

- ✓ Single channel, dual channel AI Inspection Machine
- ✓ Portable face recognition analysis and intelligent building access control system

05 KMDA-3301 Product Schedule



3

Industrial-grade Motherboard ATX-I971

Industrial-grade Motherboard ATX-I971



01 SBC ROADMAP

02 Key features of ATX-I971

03 Ordering Information

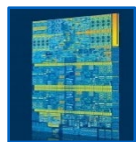
04 Target Market

05 Product Schedule

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01

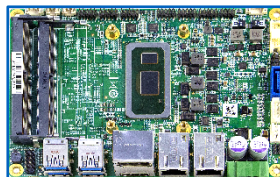
SBC ROADMAP



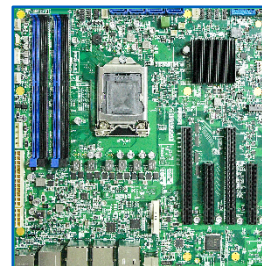
<Coming soon>

MATX-I953

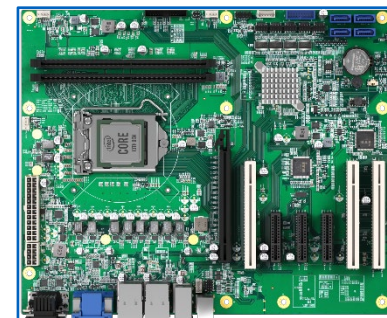
- Intel® Skylake / Kabylake

**ECM-I910**

- Intel® Whiskey lake-U

**MATX-I961**

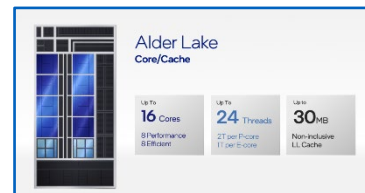
- Intel® Coffee lake-S



<New product>

ATX-I971

- Intel® Comet lake-S



<Planning>

ATX-I980

- Intel® Alder lake-S

- ✓ Cover different size product
- ✓ Standard Mounting Hole Position
- ✓ With PCIe, PCI-X, PCI and other expansion slot
- ✓ Configure different processor to meet clients' demands

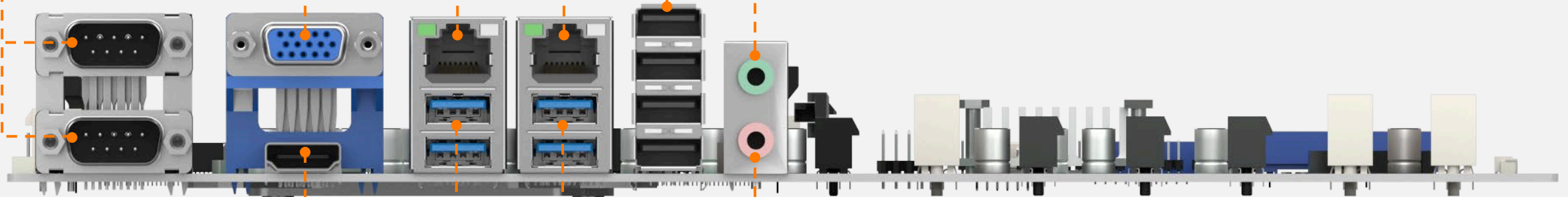
SBC SERIES

specification

Model	MATX-I953 (To be confirmed)	MATX-I961	ECM-I910	ATX-I971
CPU	Intel®6/7 th Skylake/Kabylake Core™ i7/i5/i3/Pentium/Celeron	Intel®8/9 th Coffeelake-S Core™ i9/i7/i5/i3//Pentium/Celeron /Xeon	Intel®8 th Whiskeylake-U Core™ i7/i5/i3/Pentium/Celeron	Intel®10 th Cometlake Core™ i9/i7/i5/i3/Pentium/Celeron
Chipset	Intel® H110	Intel® C246/Q370	Soc	Intel® H420E
RAM	2*DDR4 2133MHz	4*DDR4 2666/2400MHz	2*DDR4 2133/2400MHz	2*DDR4 2400/2666/2933MHz
Display	1*HDMI, 1*DVI-D, 1*VGA	2*DP, 1*HDMI	1*HDMI, 1*eDP, 1*DP	1*VGA, 1*HDMI
LAN	1*Intel I211AT 1*Intel I219LM	1*Intel I210AT 1*Intel I219LM	2*Intle I210AT	1*Intel I219LM 1*Intel I225-V
Expansion	1*PCIeX16 2*PCIe X4(X1signal) 1*32-bit PCI 1*Mini PCIe	1*Mini PCIe 2*PCIe X8 slot 2*PCIe X16 slot	1*Mini PCIe (/mSATA) 1* M.2 2230 E-key	1*PCIE X16 3*PCIE X4(X1signal) (one slot can be x4 signal) 3*PCI
Storage	3*SATA 3.0	4*SATA 3.0 1*M.2 2280 M-key	1*SATA3.0 1*mSATA (/mini PCIe)	4*SATA3.0
USB	4*USB3.0 (Optional 8) 6*USB2.0	6*USB3.1 7*USB2.0	4*USB3.0 2*USB2.0	6*USB3.2 4*USB2.0
COM	2*RS232/422/485 4*RS232(optional 10)	2*RS232/422/485 2*RS232 header	2*RS232/422/485 header 2*RS232 header	2*RS232/422/485 4*RS232 header
Power supply	Standard ATX Power	Standard ATX Power	DC 12V optional 9~36V wide voltage	Standard ATX Power
Size	Micro-ATX: 244*244 mm	Micro-ATX: 244*244 mm	3.5 " : 146*102 mm	ATX: 305*244 mm

2*RS232/422/485 1*VGA 2*LAN 4*USB 2.0 1*Line out

■ ATX-I971 I/O Interface



1*HDMI

4*USB 3.0

1*Mic

02

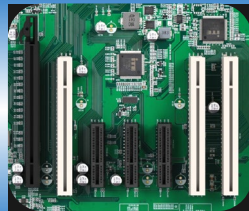
Product Features



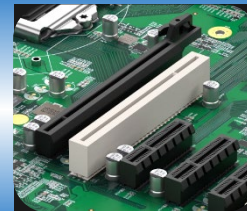
**High-performance
Processor**



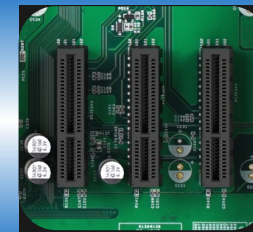
**Commonly-used
ATX Motherboard**



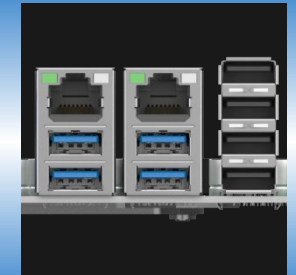
**7*slots for flexible
expansion**



**New design for PCI
Slot**



PCIe Signal Switch



**USB Wakeup
Function**

★ High-performance Processor

COMET LAKE S SERIES PERFORMANCE THEN AND NOW



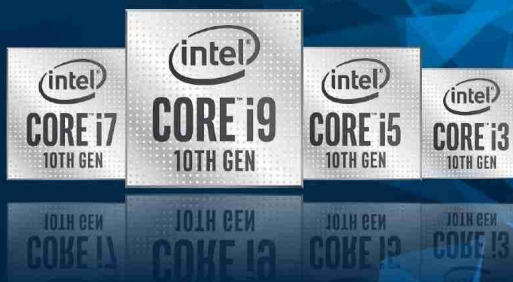
NEW AND FEATURED TECHNOLOGIES

NEW

- **NEW** Up to 5.3 GHz with Intel® Thermal Velocity Boost¹
- **NEW** Intel® Turbo Boost Max Technology 3.0
- **NEW** Intel® Hyperthreading Technology across 10th Gen Intel® Core™ i9 to i3 processors
- **NEW** Up to 10 cores with 20M Intel® Smart Cache
- **NEW** Up to DDR4-2933 support
- **NEW** Enhanced Core & Memory Overclocking^{1, 2}
- **NEW** Intel® 400 Series Chipset
- **NEW** 2.5G Intel® Ethernet Connection I225 (Foxville) support
- **NEW** Integrated Intel® Wi-Fi 6 AX201 (Gig+) support using CNVi³

FEATURED

- Intel® performance tuning support (Intel® Performance Maximizer, Intel® eXtreme Tuning Utility)¹
- Up to 40 platform PCIe lanes
- Thunderbolt™ 3 support
- Intel® Optane™ technology support⁹



¹Intel® Wi-Fi 6 AX201 requires specific hardware configurations. Discrete Intel® Wi-Fi 6 AX200 available for chipsets not supporting connectivity integration

²Unlocked features are present with select chipsets and processor combinations.

⁹Intel® Optane™ memory requires specific hardware and software configuration. Visit www.intel.com/OptaneMemory for configuration requirements.

All dates and plans are subject to change without notice.

For more complete information about performance and benchmark results, visit intel.com/benchmarks.

Performance results are based on testing as of the date set forth in the configurations and may not reflect all publicly available security updates. See configuration disclosure on slide 33 for details. No product or component can be absolutely secure.

CGG MARKETING | INTEL CONFIDENTIAL – NDA ONLY
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19

Intel 10th Gen Comet Lake-S

Supports up to I9-10900K with 10 cores, 20 threads, and the turbo frequency reaches speeds up to 5.3 GHz

The Comet Lake-S platform can increase 18% in multi-threading performance comparing to the Coffee Lake Refresh platform. Windows application can be improved up to 8% of efficiency.

Products support Hyper-Threading Technology

Core i9, i7 support up to DDR4-2933, the others maintain or increase to DDR4-2666

Turbo Boost Max 3.0 Technology: support 2*cores accelerating simultaneously

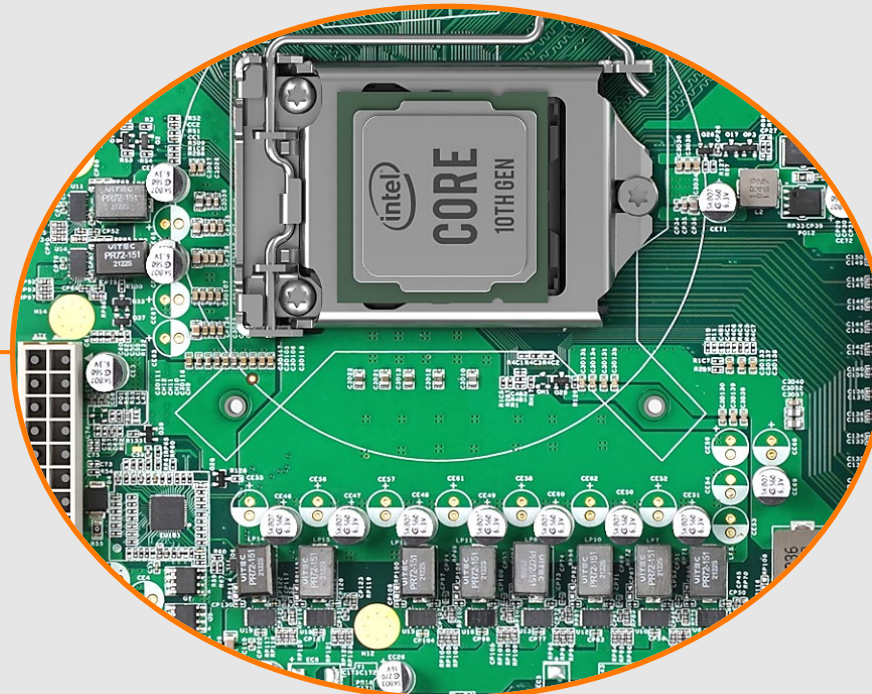
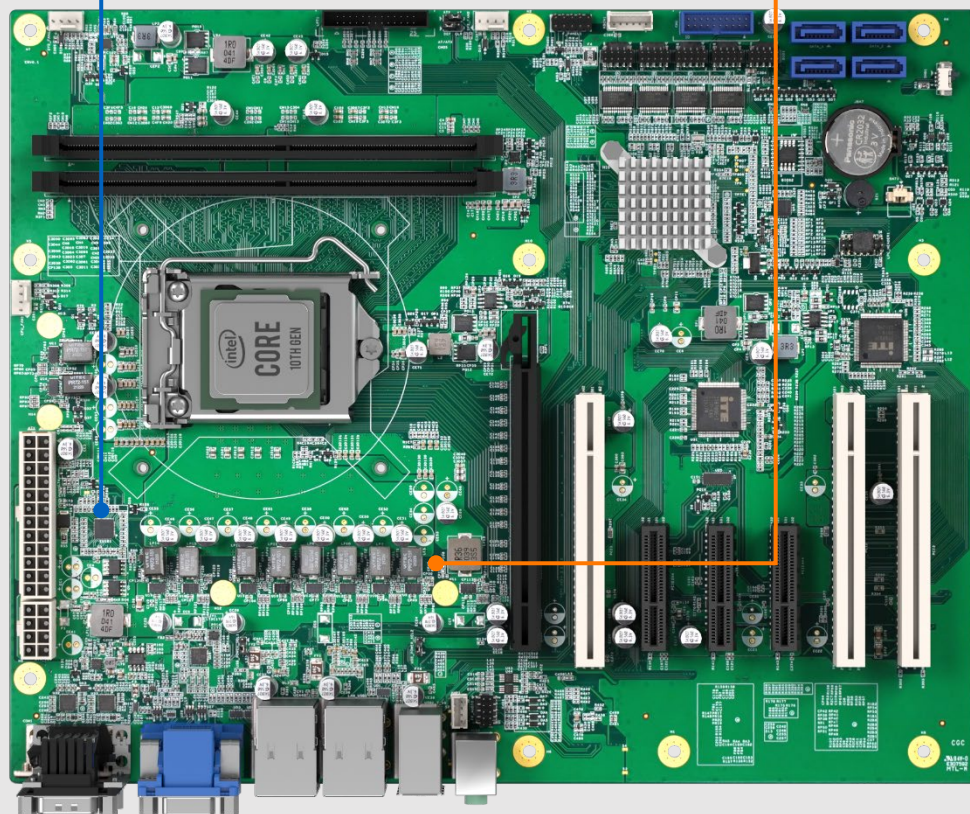
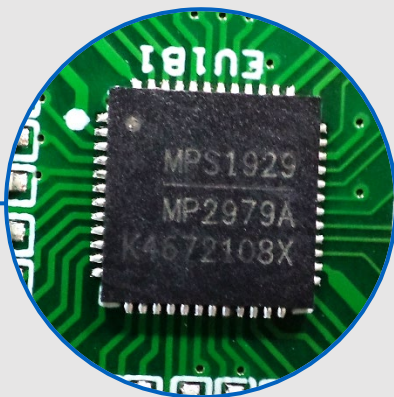
Supported CPU-Core

Model	Core/ Thread	Base Frequency	Max Turbo Frequency	Max Turbo 3.0	all-core Turbo Frequency	TVB Frequency (Single/ All core)	Level 3 Cache	TDP	Supported RAM
i9-10900K/i9-10900KF	10C/20T	3.7 GHz	5.1 GHz	5.2 GHz	4.8 GHz	5.3/4.9 GHz	20MB	125W	DDR4-2933
i7-10700K/i7-10700KF	8C/16T	3.8 GHz	5.0 GHz	5.1 GHz	4.7 GHz	N/A	16MB	125W	DDR4-2933
i5-10600K/i5-10600KF	6C/12T	4.1 GHz	4.8 GHz	N/A	4.5 GHz	N/A	12MB	125W	DDR4-2933
i9-10900/i9-10900F	10C/20T	2.8 GHz	5.0 GHz	5.1 GHz	4.5 GHz	5.2/4.6 GHz	20MB	65W	DDR4-2933
i7-10700/i7-10700F	8C/16T	2.9 GHz	4.7 GHz	4.8 GHz	4.6 GHz	N/A	16MB	65W	DDR4-2933
i5-10600	6C/12T	3.3 GHz	4.8 GHz	N/A	4.4 GHz	N/A	12MB	65W	DDR4-2666
i5-10500	6C/12T	3.1 GHz	4.5 GHz	N/A	4.2 GHz	N/A	12MB	65W	DDR4-2666
i5-10400	6C/12T	2.9 GHz	4.3 GHz	N/A	4.0 GHz	N/A	12MB	65W	DDR4-2666
i5-10400F	6C/12T	2.9 GHz	4.3 GHz	N/A	4.0 GHz	N/A	12MB	65W	DDR4-2666
i3-10320	4C/8T	3.8 GHz	4.6 GHz	N/A	4.4 GHz	N/A	8MB	65W	DDR4-2666
i3-10300	4C/8T	3.7 GHz	4.4 GHz	N/A	4.2 GHz	N/A	8MB	65W	DDR4-2666

Supported CPU-Pentium/Celeron

Model	Core/Thread	Base Frequency	Level 3 Cache	TDP	Supported RAM
Pentium Gold G-6600	2C/4T	4.2 GHz	4MB	58W	DDR4-2666
Pentium Gold G-6500	2C/4T	4.1 GHz	4MB	58W	DDR4-2666
Pentium Gold G-6400	2C/4T	4.0 GHz	4MB	58W	DDR4-2666
Celeron G-5920	2C/2T	3.5 GHz	2MB	58W	DDR4-2666
Celeron G-5900	2C/2T	3.4 GHz	2MB	58W	DDR4-2666

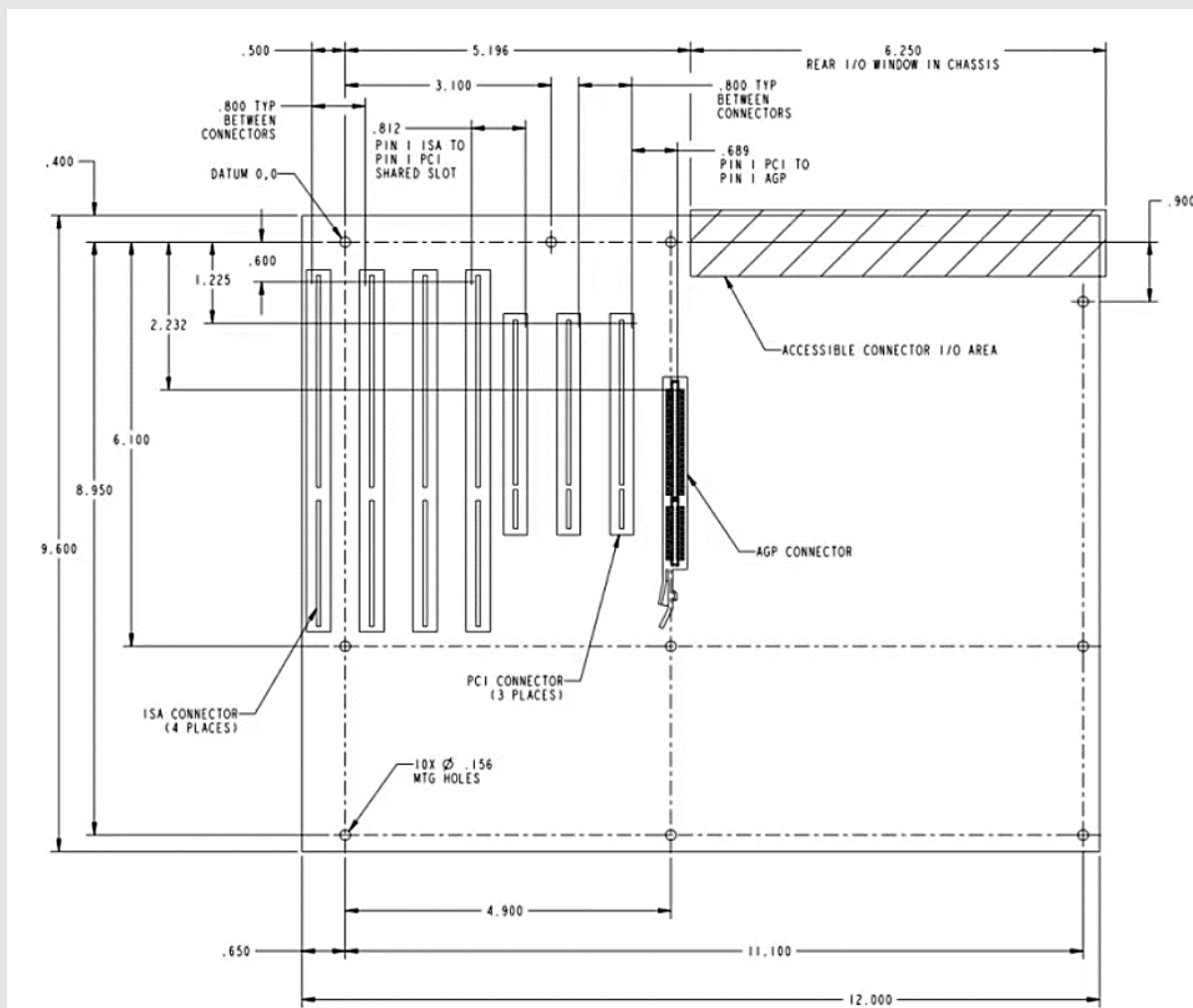
PWM Controller
Chip



6+2+2 phase Power Supply

6 phase for CPU (VCC), can support i9-10900K with 125W TDP power consumption

★ Standard ATX Motherboard



Standard ATX Motherboard Layout

Standard Size

L*W

305mm*244mm (12 inch×9.6 inch)

Standard Hole

Design according to ATX motherboard specification

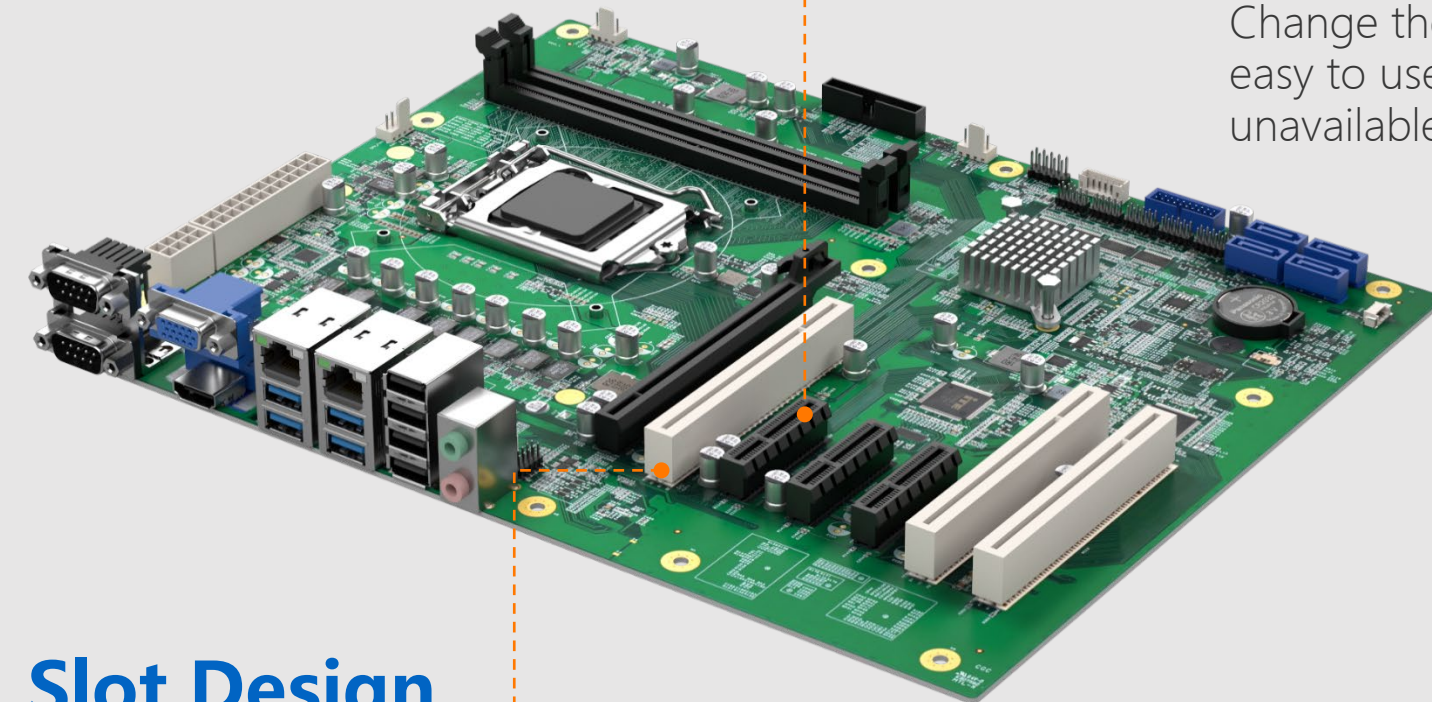
Standard Slot

Equipped with **Seven** expansion slot, strong scalability

★ Signal switch

PCIe×4 slot (optional signal), can be set via BIOS. Change the default ×2 signal to ×4 signal when switching, easy to use different expansion card. (The other 2 slots are unavailable in ×4 signal mode).

★ Slot Design



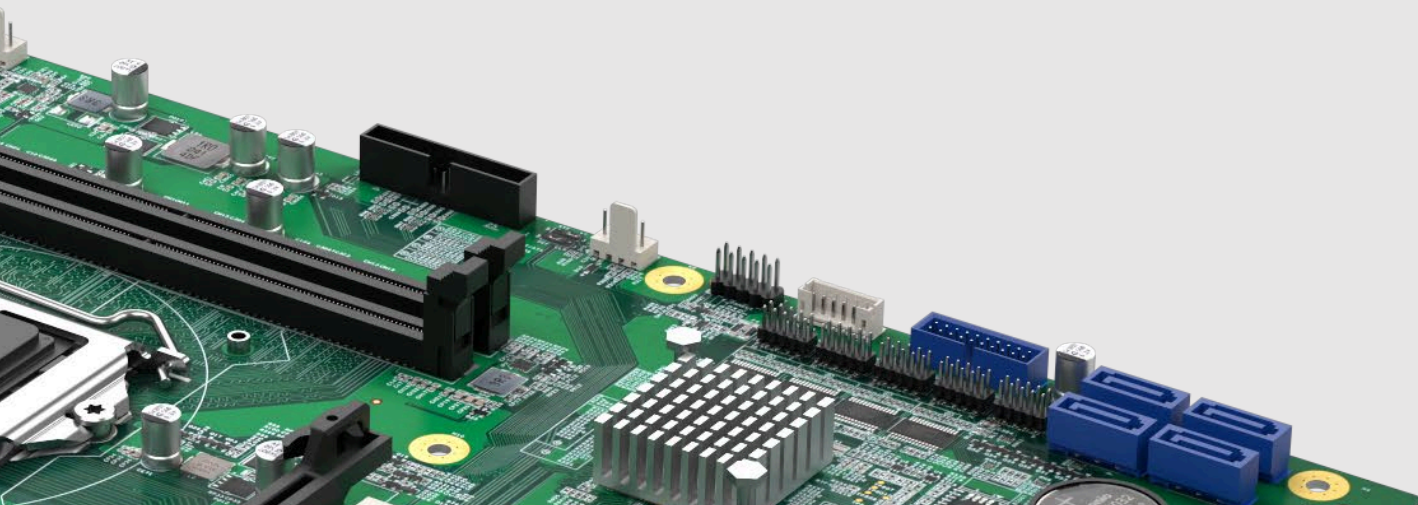
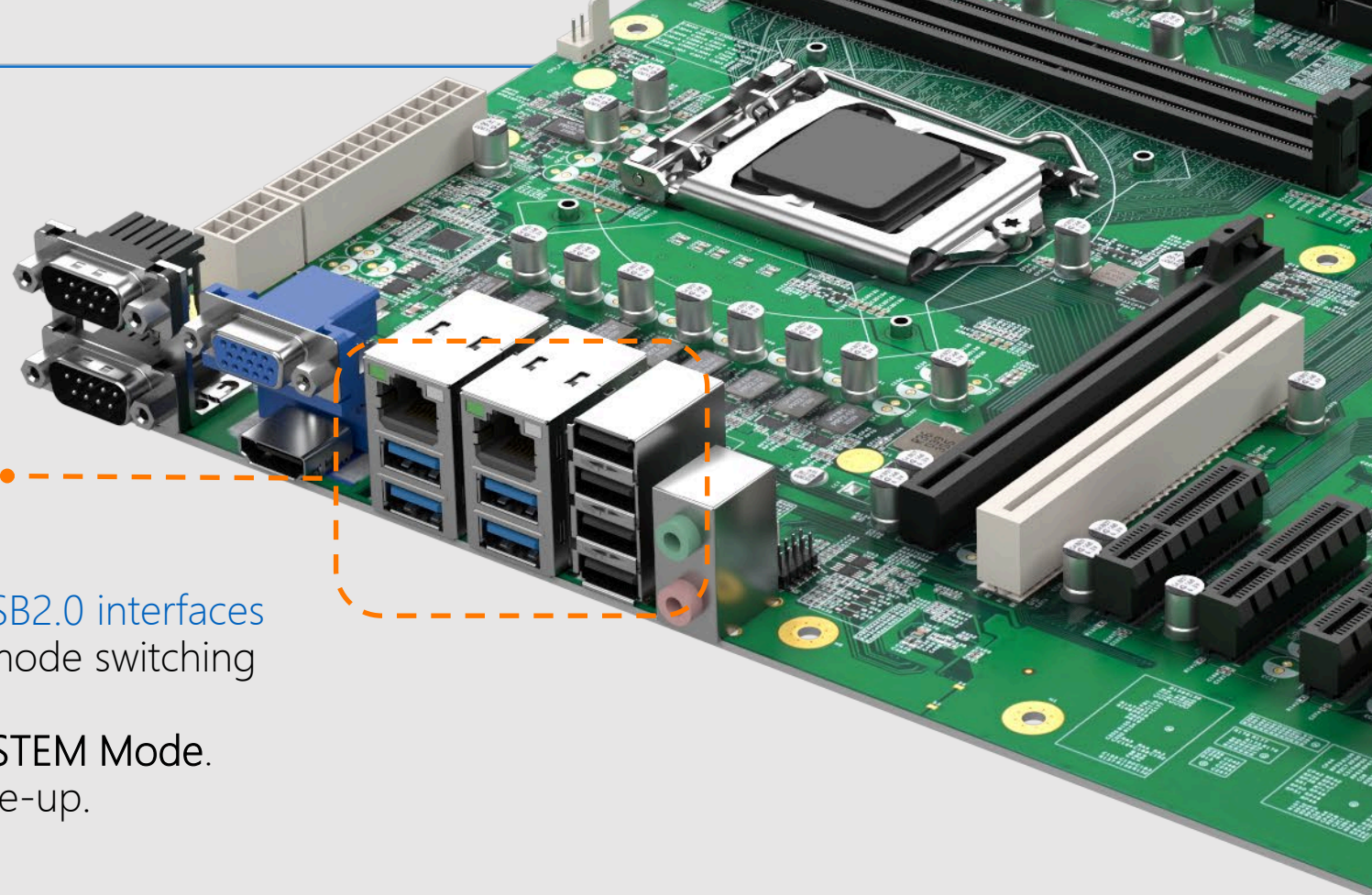
The position of the PCI slot is adjusted from the edge of the motherboard to the second slot close to the CPU, even if it is installed in a 1U, 2U or other thinner cabinets, it is easy to use the riser card to expand the PCI and PCIe×16 slots.



USB Standby

USB Standby Power: The USB3.0 & USB2.0 interfaces are equipped with wakeup function, mode switching via motherboard jumper cap.

Power supply is 900mA/500mA in SYSTEM Mode.
Also support keyboard & mouse Wake-up.



03 ATX-I971 Ordering Information

Model	ATX-I971/S001
Specifications	Embedded Single Board Computer, Intel H420E+CML-S LGA1200 CPU, 2*LAN, 6*USB3.0, 4*USB2.0, 6*COM, 3*PCI, 1*PCIe X16, 3*PCIe X4(×1 signal), 1*HDMI, 1*VGA, 1*Audio out & 1*Mic(Optional), 8bit GPIO, 1*LPT, 1*PS/2, 4*SATA3, Amplifier(Optional), 24-pin ATX/8-pin ATX 12V



04

Target Market

ATX-I971 Target industries



Machine Vision

- ✓ Logistics Sorting
- ✓ Object Measurement
- ✓ Visual Positioning
- ✓ Image Inspection
- ✓ Image Identification



Distributed Control System (DCS)

- ✓ Data Acquisition
- ✓ Power Monitoring



Numerical control

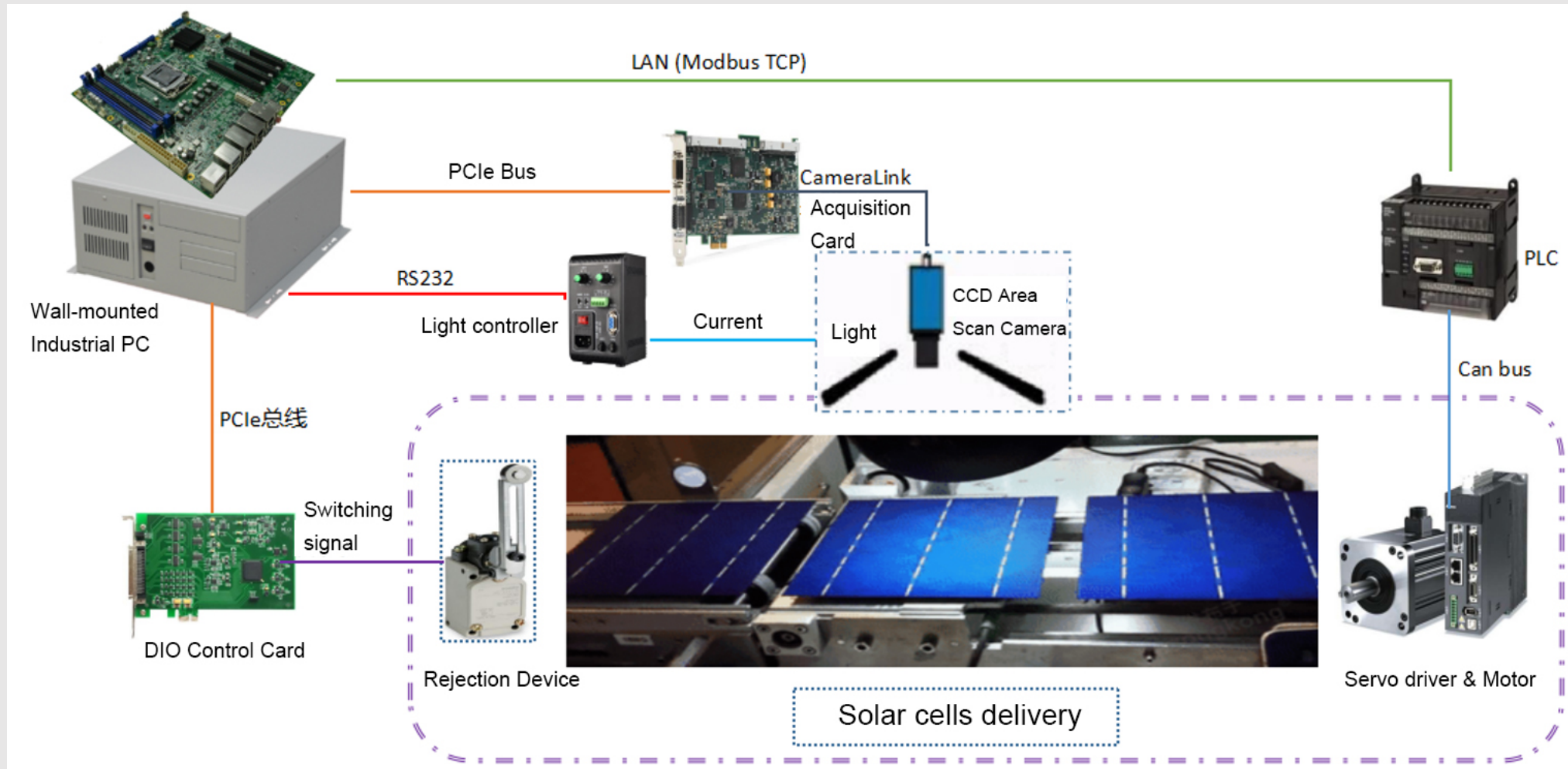
- ✓ Laser cutting
- ✓ Carving machine
- ✓ CNC machining center
- ✓ 3D Print



Discrete Manufacturing

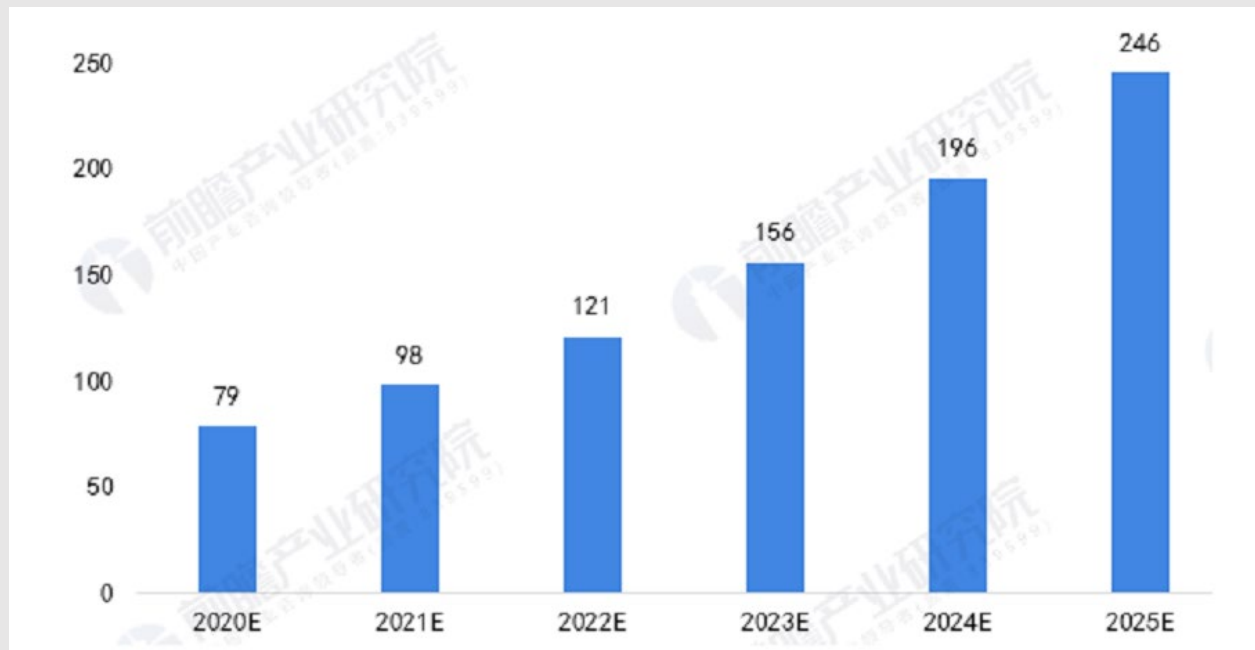
- ✓ Vehicle Assembly
- ✓ Engine Assembly
- ✓ SMT Electronic Assembly
- ✓ Warehouse Management

Industrial Motherboard used in Visual Inspection System of Solar



Defect Inspection of Solar cells-Hardware Architecture

Machine Vision Market Size



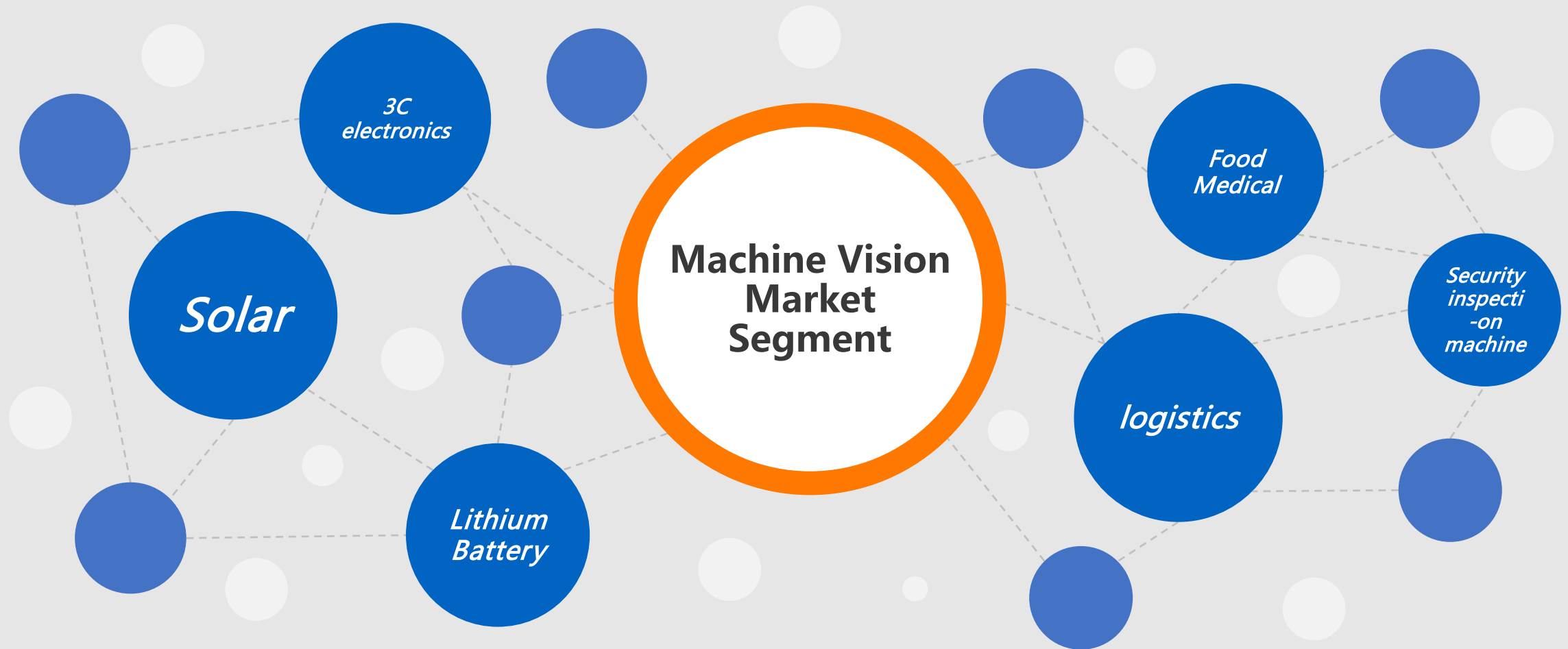
Market Size Forecast of China's Machine vision Industry in 2020-2025
(Unit: 100 million Yuan)

1. Demand for cost control and high efficiency

2. National Policy

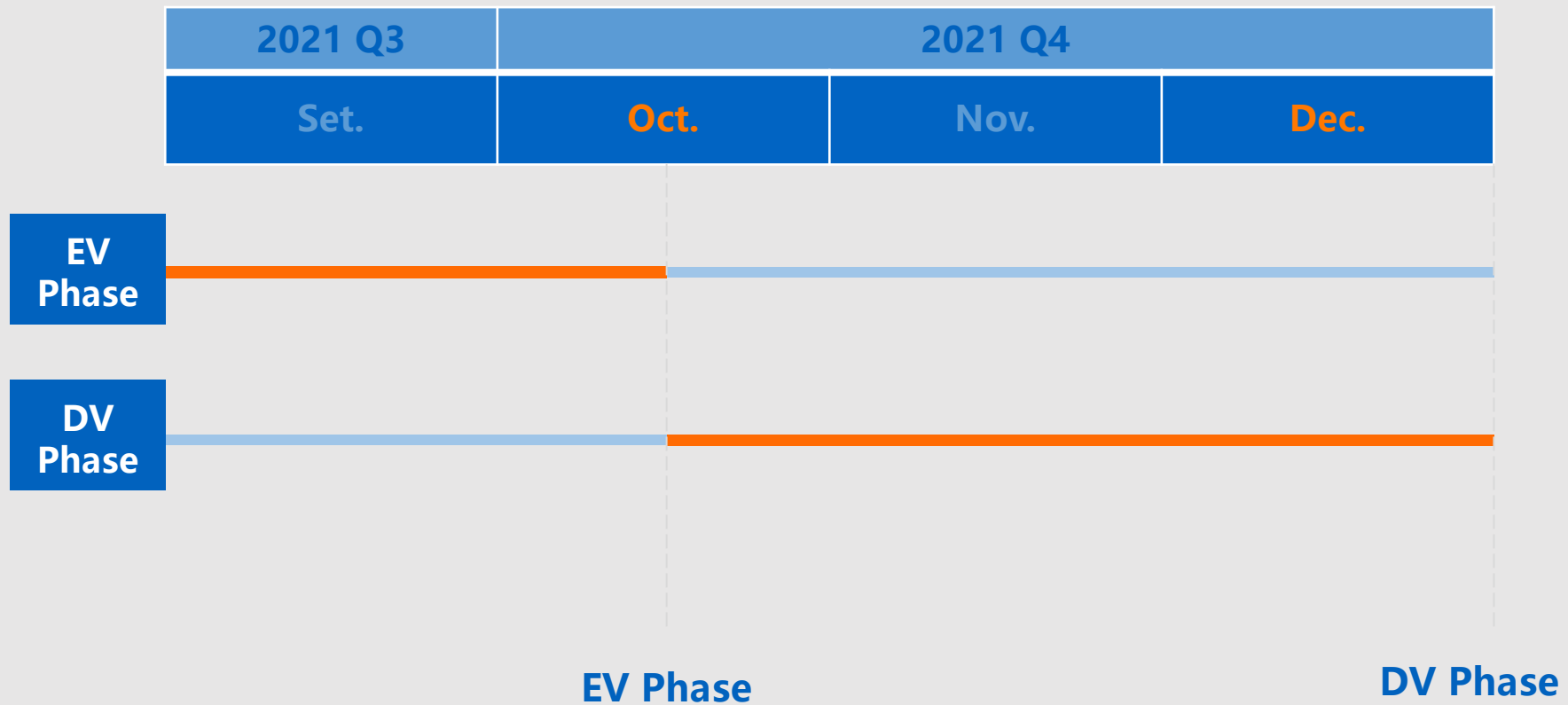
3. Industry Standard

China is becoming one of the most active regions in machine vision development in the world, and it is estimated that the market size of Machine vision in China will reach 24.6 billion yuan in 2025.



05

ATX-I971 Product Schedule



Stay in Touch



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