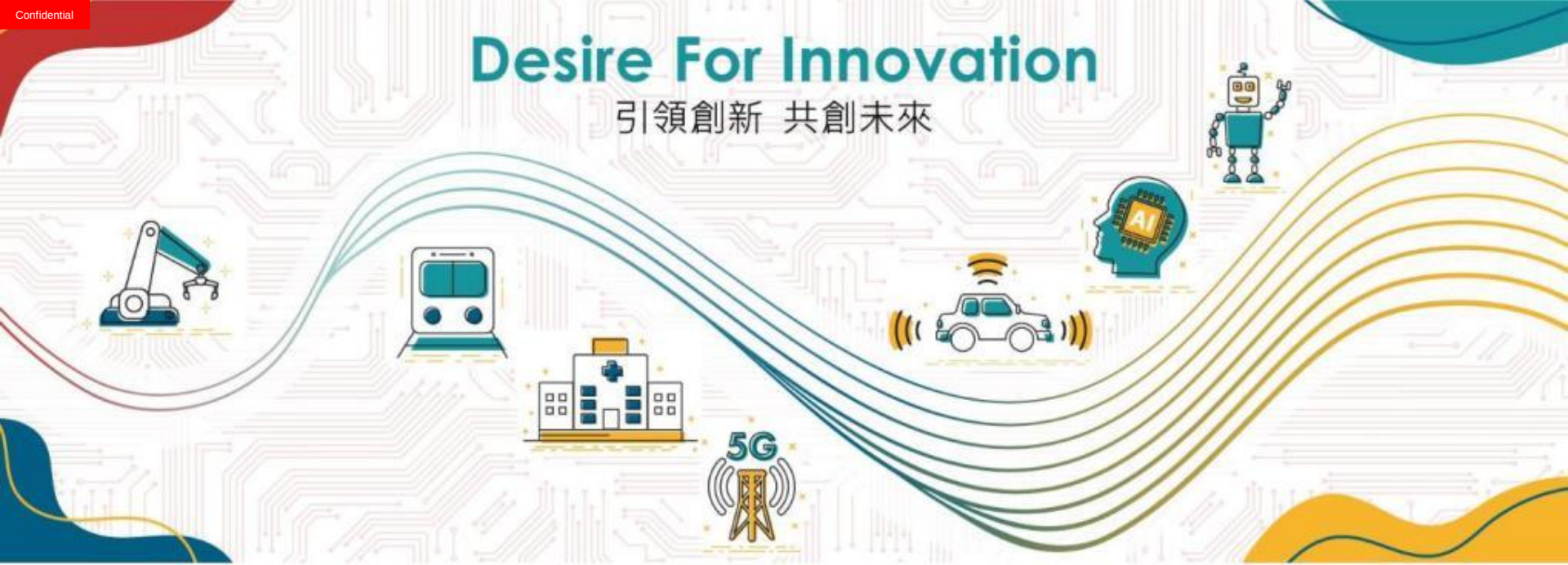


Product Roadmap and Product Highlight

2022/ 04 / 08

Index of 2022 Q2 Product Roadmap

1. Overall

2. Product Line

3. Platform Information

Key Product Lines

	**Industrial Motherboard**	Refined For Machine Learning.
	**Single Board Computer (SBC)**	Comprehensive Portfolio For Edge Computing.
	**System On Module**	Reliable Brian for AI Inference and 5G.
	**Box PC**	Refined For Automation, AGV, and AMR.
	**Industrial PC**	Edge Computing and OOB Management enrich AI Box.
	**Panel PC / Display**	IP69K waterproof and Elkhart lake platform Panel PC with competitive cost.
	**In-Vehicle System**	Robust and reliable in-vehicle/railway edge computer.
	**Medical System**	One stop shopping for Medical Imaging & Diagnostics within Emergency Room & Surgery

Overall Product Roadmap - Motherboards

Released | Developing | Planning

		2021	2022 Q2	2022 Q3	2022 Q4	2023
EATX		PR810-C622	PR811-C622, ICX610-C621A			
ATX		CMS630-W480E / Q470E, CMS631-Q470E / H420E, PR611-C621, SO630	ADS630-R680E / Q670E			
Micro ATX		CMS310-W480E/Q470E, CS350-C246/Q370	CMS311-W480E / Q470E, CMS330-Q470E / H420E, ADS310-R680E / Q670E	U10-RPS		
Mini ITX		CS170, GH171, CS100, CS101/CS103, WL171 / WL173	CMS101 / CMS103, CMS100, ADS101 / ADS103, CS181, TGU171 / 173, RNO171, EHL171 / 173		ADP171 / ADP173	
SBC	4"	AL253	CS251	ADP253		
	3.5"	CS551, WL551	M8MP553		S53-ADN	
	2.5"	M8M051, WL051, WL053		M8MP053		
	1.8"	GHF51, ALF51				

Overall Product Roadmap – System-on-module

Released | Developing | Planning

		2021	2022			2023
			Q2	Q3	Q4	
SOM	COMe Type 7 COMe Basic	DV970 GH960 CH960-CM246/QM370/HM370 CH961-CM246/QM370/HM370 SH960MD-CM236/QM170	ICD970	TGH960		
	COMe Compact	WL968 KU968 SU968 AL968	TGU968	EHL968	ADP968	
	COMe Mini	WL9A3 GH9A3	EHL9A2 TGU9A2		ADP9A2	
	Q7/SMARC SDM	AL701 AL700	EHL700			

Overall Product Roadmap - Embedded Systems

Released | Developing | Planning

		2021	2022 Q2	2022 Q3	2022 Q4	2023
Box PC	Core i	EC500-CS, ES220-CS	EC543-CS, ES220F-CS, EC500-ADS, EC510/EC511-CS	EC510/EC511-ADS, EC543-ADS		
	AI Acceleration GPU/MXM	EC102-XNX, EC100-XNX, EC70A-KU	EC300-CS, DT200-CS, EC70A-TGU			
	Mainstream	EC70A/EC70B-SU, EB100-KU, EC700-AL, EC90A-AL	EC90A-GH, ECX700-AL, ED700-EHL	EC800-EHL		
	Entry	EC800-AL, EC900-FS6	EC900-8MM			
	ARM	DT122-GH, ST102-CS				
Industrial PC	Mini-ITX System	WM343-CS	RM641-CS, WM343-CMS, WM120-EHL, WM343-ADS	WM120-ADS		
	Walk Mount/ Rack Mount	RM641-SD				

Overall Product Roadmap – Panel PC / Display

Released | Developing | Planning

	2021	2022			2023
		Q2	Q3	Q4	
Panel PC	KSM-AL Series KSM-SD Series KSM-KH Series KS070-AL KS156-AL TPC150-SD TPC170-SD	KSX215-EHL KS070-M8M KIT101P-M8M	KS156-EHL KS215-EHL KIT070P-M8M	KSX156-EHL KIT121P-M8M	
Display		IDP 070-MS IDP 156-MS IDP 080 IDP 121 IDP 101 IDP 156			

Overall Product Roadmap – Vertical Embedded Systems

Released | Developing | Planning

	2021	2022			2023
		Q2	Q3	Q4	
Transportation	RC300-CS VC70B-SU VC230-AL	VC300-CS VP070-M8M VC900-M8M	VC500-CMS	VC500-CMS-MXM	VC800-EHL RC500-CMS-MXM
Medical	MDP711-SU	MDP156 MDPi270 MDPi238 MDPi215		MD822-ALS	MPC215-TGU MPC238-TGU

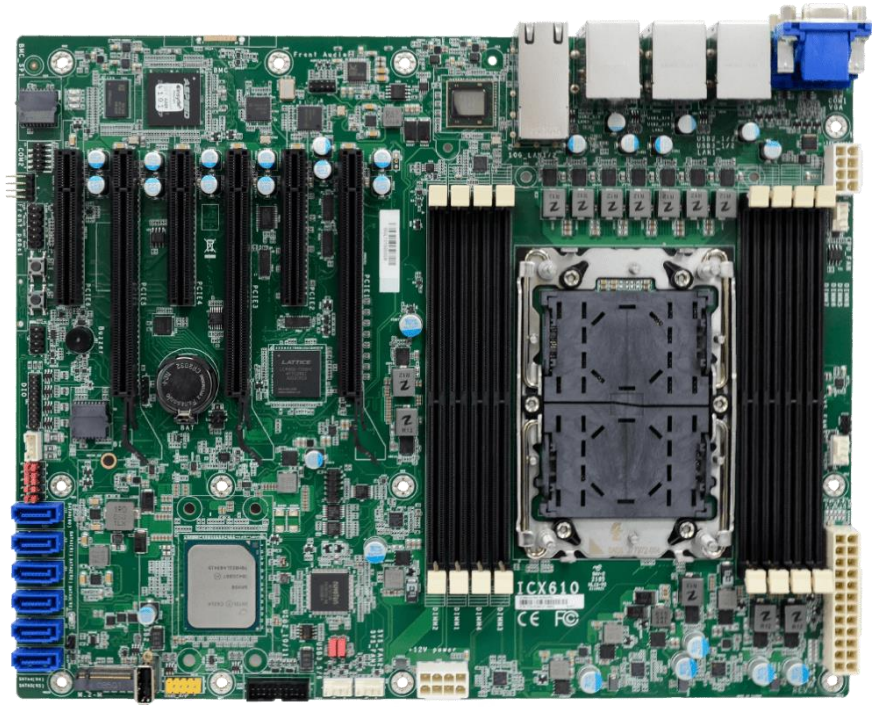
Overall Product Roadmap – Vertical Embedded Systems

Released | Developing | Planning

	2021	2022			2023
		Q2	Q3	Q4	
Transportation	RC300-CS VC70B-SU VC230-AL	VC300-CS VP070-M8M VC900-M8M	VC500-CMS	VC500-CMS-MXM	VC800-EHL RC500-CMS-MXM
Medical	MDP711-SU	MDP156 MDPi238 MDPi215	MDPi270	MD822-ALS	MPC215-TGU MPC238-TGU

INDUSTRIAL MOTHERBOARD (IMB)

New Product Highlight
ICE LAKE-SP
ICX610-C621A



Key Features

Processor & Chipset	ICE LAKE-SP CPU with C621A
Memory	**8** DDR4-3200 RDIMM up to **512GB**
LAN	• **2 10GbE**, 2 GbE, 1 IPMI
Expansion	• **3 PCIe x16, 3 PCIe x8 (1 shared w/ x16)** • **1 M.2**, 6 SATA3

Application Market

Medical Imaging System

- Medical Equip.
- Clinical Workstation
- MRI, X-Rays, CT

Industrial Controls & Automation

- Machine Vision/AOI
- Surveillance
- Machine Learning/ Deep Learning

New Product Highlight

PR811-C622

Key Features

Processor	Intel 1st & 2nd Gen Xeon Scalable **Dual** Processor (LGA3647)
Memory	**12** DDR4-2933 RDIMM up to **768GB**
LAN	• **2 x 10GbE**, 2 x GbE • BMC module (IPMI)
Expansion	• **5 PCIe x16,** 1 PCIe x8 • **1 M.2** M key

- SEM2500 BMC card (VGA & IPMI)
- SEM2510 VGA card (VGA)

Released | Developing | Planning

Industrial MBs/ EATX &ATX &uATX

Server

PL610-C622

- Intel Purley Platform
- 1st Gen Xeon Scalable Processor
- 6x DDR4 2666 **RDIMM**
- **1x 10GbE**, 2x GbE, 1 x IPMI
- 2 x16, 1 x8, 2 x4, 1x M.2

PR610-C621

- Intel Cascadelake (Purley Refresh)
- 1st /2nd Gen Xeon Scalable Processor
- 6x DDR4 2933 **RDIMM**
- 2x GbE, 2 x16, 2 x8, 1 PCI, 1x M.2
- IPMI

PR810-C622

- Intel Cascade lake (Purley Refresh)
- 1st /2nd Gen Xeon Scalable **Dual** Processor
- 12x DDR4 2933 **RDIMM**
- **2x 10GbE**, 2x GbE, 8x SATA, 1x M.2
- **4 PCIe x16**, 1 x8, 1 PCI
- IPMI

SO630

- **AMD EPYC 3000 series**
- **3 PCIe x16** (up to 6 PCIe x8)
- 1 PCI
- 8 **RDIMM/UDIMM**
- 5 SATA, 1 M.2(SATA/x2), 1 M.2(x4)

PR611-C621

- Intel Cascade lake (Purley Refresh)
- 1st /2nd Gen Xeon Scalable Processor
- 6x DDR4 2933 **RDIMM**
- 2x GbE, 3 PCIe x16, 3 x8(share w/ x16)
- 1x M.2 M key, 1 M.2 E key
- IPMI

PR811-C622

- Intel Cascade lake (Purley Refresh)
- 1st /2nd Gen Xeon Scalable **Dual** Processor
- 12x DDR4 2933 **RDIMM**
- **2x 10GbE**, 2x GbE, 8x SATA, 1x M.2
- **5 PCIe x16,** 1 x8
- IPMI

Sample Q1' 22 | MP Q3' 22

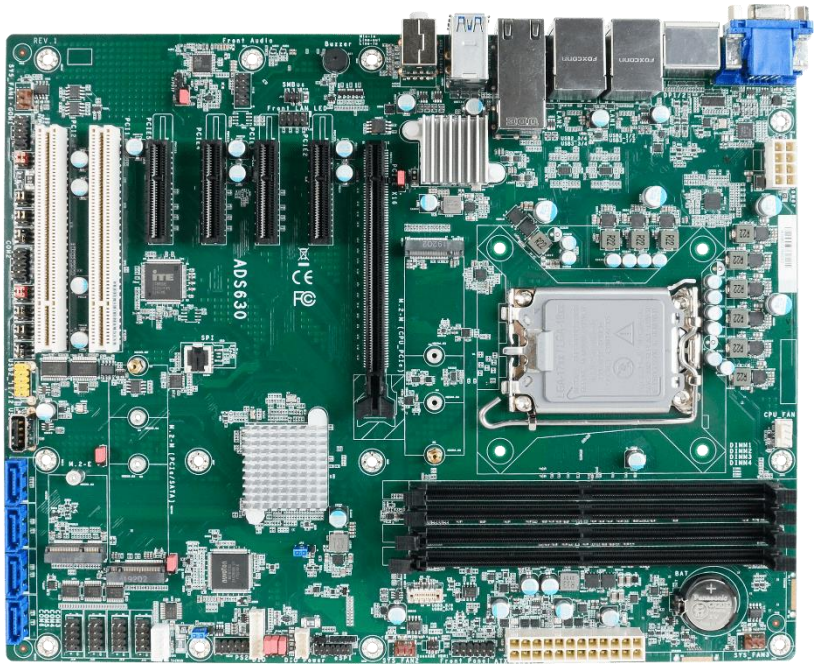
ICX610-C621A

- Intel ICE LAKE -SP
- 3rd Gen Xeon Scalable Processor
- 8x DDR4 3200 **RDIMM**
- **2x 10GbE**, 2x GbE, 6x SATA, 1x M.2
- **3 PCIe x16 gen4, 2 PCIe x8 gen4**
- IPMI

Sample Q1' 22 | MP Q3' 22

~2021 2022~

New Product Highlight
Alder Lake-S
ADS630



Key Features

Processor & Chipset	Alder Lake-S CPU with R680E/Q670E
Memory	4 DDR4-3200 ECC/NON-ECC UDIMM up to 128GB
LAN	• **2 10GbE, 2 x 2.5GbE**
Expansion	• **1 VGA, 2 DP, 1 HDMI** • **1 PCIe x16 Gen5, 4 PCIe x4, 2 PCI** • **2 M.2** M key, **1 M.2** E key, 4 SATA3

Application Market

Medical

Automation

Released | Developing | Planning

Industrial MBs/ ATX

Performance

Desktop

CMS630-W480E/Q470E

- Intel Comet Lake-S, **up to 10 Cores**
- Intel **W480E/Q470E**, 4x DDR4
- Xeon W-1200 support on W480E SKU
- **1x16 (or 2 x8), 2 x4, 1 x1**, 2 PCI
- **2 M.2 M key (PCIe x4 NVMe, SATA)**
- Up to 12 USB
- **16-Bit DIO**

ADS630-R680E/Q670E

- Intel Alder Lake-S, **up to 16 Cores**
- ECC support (On specific SKU)
- Intel R680E/Q670E, 4x DDR4
- **1x16, 4 x4, 2 PCI**
- **2 M.2 M & 1 M.2 E key**
- **6 USB 3.2 Gen2, up to 4 GbE Lan**
- **8-Bit DIO**

Sample Q2' 22 **MP Q4' 22**

CMS631-Q470E/H420E

- Intel Comet Lake-S, **up to 10 Cores**
- Intel **Q470E/H420E**
- **1 x16, 1 x4 share with M.2, 5 PCI**
- **Up to 2 M.2 M key (Q470E)**
- **1 M.2 E key (Q470E)**
- Up to 13 USB
- **16-Bit DIO**

KD630-H110

- Intel Skylake/Kabylake-S
- Intel H110, **DDR4**
- 1 x16, 1 x4, 5 PCI
- 4 USB 3.0, 6 USB 2.0
- 1 M.2 key (share with PCIe x4 slot)
- 1 mSATA

2020 2021~2022

Released | Developing | Planning

Industrial MBs/ ATX

Performance

SD631-C236/Q170

- Intel Skylake/Kabylake-S
- Xeon Processor support on C236
- Intel C236/Q170, DDR4
- 1x16 (or 2 x8), 2 x4, 3 PCI
- 6 USB 3.0, 8 USB 2.0

KD631-C236/Q170

- Intel Skylake/Kabylake-S
- **Xeon E3 v5/v6** support on C236
- ECC support (On Specific SKU)
- Intel C236/Q170, 4x DDR4
- **1x16 (or 2 x8),** 2 x4, 3 PCI, **1 M.2**
- 6 USB 3.0, 8 USB 2.0
- **Intel Optane memory (C236)**

CS631-C246/Q370

- Intel Coffee Lake/Coffee Lake Refresh-S
- **Xeon** E-2100 support on C246
- ECC support (On specific SKU)
- Intel C246/Q370, 4x DDR4
- **1x16 (or 2 x8), 3 x4, 1 x1**, 1 PCI
- **1 M.2, 2 mini PCIe (1 support mSATA)**
- 2 USB 3.1 **Gen2**
- Intel Optane memory

CS650-C246/Q370

- Intel Coffee Lake/Coffee Lake Refresh-S
- **Xeon** E-2100 support on C246
- ECC support (On specific SKU)
- Intel C246/Q370, 4x DDR4
- **1x16 (or 2 x8), 3 x4, 1 x1**, 1 PCI
- **1 M.2 M key(PCIe x4/SATA), 1 mSATA**
- 2 USB 3.1 **Gen2**
- Intel Optane memory

CS632-C246/Q370

- Intel Coffee Lake/Coffee Lake Refresh-S
- **Xeon** E-2100 support on C246
- ECC support (On specific SKU)
- Intel C246/Q370, 4x DDR4
- **1 x16 (2 x8 as Opt.), 3 x4, 2 PCI**
- **1 M.2, 1 mini PCIe(mSATA support)**
- 2 USB 3.1 **Gen2**
- Intel Optane memory

CS620-H310

- Intel Coffee Lake/Coffee Lake Refresh-S
- 1 x16, 1 x4, 4 PCI, **2 ISA**
- 1 mSATA, 1 Parallel
- 10 USB

Desktop

SD630-H110

- Intel Skylake/Kabylake-S
- Intel H110, DDR3L
- 1 x16, 1 x4, 5 PCI
- 4 USB 3.0, 6 USB 2.0

KD600-H110/Q170

- Intel Skylake/Kabylake-S
- Intel H110/Q170, DDR4
- 1 x16, **6 PCI,** 1 miniPCIe (Q170)
- 1 mSATA
- 6 USB 3.0 (H110: 4), 6 USB 2.0
- **10 COM**

CS630-H310/Q370

- Intel Coffee Lake/Coffee Lake Refresh-S
- Intel H310/Q370, **DDR4 2666MHz**
- 1x16, 1 x4, **5 PCI**
- **M.2, USB3.1 Gen2 (Q370)**
- Intel Optane memory (Q370)

KD632-C236/Q170

- Intel Skylake/Kabylake-S
- **Xeon E3 v5/v6** support on C236
- **ECC support** (On specific SKU)
- Intel C236/Q170, 4x DDR4
- **1x16 (or 2 x8), 3 x4**, 2 PCI, **1 M.2**
- 6 USB 3.0, 7 USB 2.0, **1 mini PCIe**
- Intel Optane memory (C236)

~2020 | 2021~

New Product Highlight
Alder Lake-S
ADS310

Key Features

Processor & Chipset	Alder Lake-S CPU with R680E/Q670E
Memory	4 DDR4-3200 ECC/NON-ECC UDIMM up to 128GB
LAN	• **2 10GbE, 2 x 2.5GbE**
Expansion	• **1 PCIe x16 Gen5, 3 PCIe x4** • **2 M.2** M key, **1 M.2** E key, 4 SATA3

Application Market

Medical

Automation

Released | Developing | Planning

Industrial MBs/ microATX

Performance

Desktop

CMS311-W480E/Q470E

- Intel Comet Lake-S, **up to 10 Cores**
- Intel **W480E/Q470E**
- **1 x16 or 2 x8, 2 x4**
- **2 x10GbE Lan**
- **M.2**
- **10 USB3.2**
- **16-Bit DIO**

Sample Q4' 21 | MP Q2' 22

CMS330-Q470E/H420E

- Intel Comet Lake-S, **up to 10 Cores**
- Intel **Q470E/H420E**
- **1 x16, 1 x4, 2 PCI**
- **2 M.2 (Key M & E, Q470E)**
- **Up to 17 USB (Q470E)**
- **Up to 10 COM**
- **16-Bit DIO**

Sample Q2' 21 | MP Q2' 22

ADS310-R680E/Q670E

- Intel Alder Lake-S, **up to 16 Cores**
- ECC support (On specific SKU)
- Intel R680E/Q670E, 4x DDR4
- **1x16, 3 x4**
- **2 M.2 M & 1 M.2 E key**
- **6 USB 3.2 Gen2, up to 4 GbE Lan**
- **8-Bit DIO**

Sample Q2' 22 | MP Q4' 22

U10-RPS

- Intel Raptor Lake, **up to 24 Cores**
- ECC support (On specific SKU)
- Intel R680E/Q670E, 4x DDR5
- **1x16 (or 2 x8), 2 x4**
- **2 M.2 M & 1 M.2 E key**
- **6 USB 3.2 Gen2, up to 4 GbE Lan**
- **8-Bit DIO**

Sample Q2' 23 | MP Q3' 23

2021~2022

2023

Released | Developing | Planning

Industrial MBs/ microATX

Performance

Desktop

SD331-C236/Q170

- Intel Skylake/Kabylake-S
- **Xeon** Processor support on C236
- Intel C236/Q170, DDR4
- 1 x16 (or 2 x8), 2 x4
- 8 USB 3.0, 6 USB 2.0(Q170: 5)

KD331-C236/Q170

- Intel Skylake/Kabylake-S
- **Xeon E3 v5/v6** support on C236
- ECC support (On specific SKU)
- Intel C236/Q170, 4x DDR4
- **1 x16(or 2 x8)**, 2 x4, **1 M.2**, **4 GbE**
- 5 USB 3.0(Q170: 4), 5 USB 2.0
- Intel Optane memory (C236)

CS331-C246/Q370

- Intel Coffee Lake/Coffee Lake Refresh-S
- **Xeon** E-2100 support on C246
- ECC support (On specific SKU)
- Intel C246/Q370, 4x DDR4
- **1x16 (or 2 x8), 2 x4**
- **M.2, mini PCIe (support mSATA)**
- **4 USB 3.1 Gen2**
- Intel Optane memory

CMS310-W480E/Q470E

- Intel Comet Lake-S, **up to 10 Cores**
- ECC support (On specific SKU)
- Intel W480E/Q470E, 4x DDR4
- **1x16 (or 2 x8), 2 x4**
- **2 M.2 (M & E key)**
- **4 USB 3.1 Gen2, up to 4 GbE Lan**
- **16-Bit DIO**

CS350-C246/Q370

- Intel Coffee Lake/Coffee Lake Refresh-S
- **Xeon** E-2100 support on C246
- ECC support (On specific SKU)
- Intel C246/Q370, 4x DDR4
- **1x16 (or 2 x8), 2 x4**
- **2 M.2 (M & E key)**
- **4 USB 3.1 Gen2**
- Intel Optane memory, Intel CNVi support

SD330-Q170/H110

- Intel Skylake/Kabylake-S
- Intel Q170/H110, DDR4
- 1 x16, 1 x4, 2PCI, 1 mPCIe(Q170)
- 6 USB 3.0(H110: 4)
- 6 USB 2.0(H110: 5)

KD330-Q170/H110

- Intel Skylake/Kabylake-S
- Intel Q170/H110, DDR4
- 1 x16, 1 x4, 1 PCI
- 6 USB 3.0(H110: 4), 6 USB 2.0

KD300-Q170/H110

- Intel Skylake/Kabylake-S
- Intel Q170/H110, DDR4
- **4 PCI, 1 M.2 (Q170)**
- 6 USB 3.0(H110: 4), 6 USB 2.0

CS330-Q370/H310

- Intel Coffee Lake/Coffee Lake Refresh-S
- Intel Q370/H310
- 1 x16, 1 x4, 2 PCI, 1 mPCIe (Q370)
- 2 USB 3.1 **Gen2** (Q370)

CS332-C246/Q370

- Intel Coffee Lake/Coffee Lake Refresh-S
- **Xeon** E-2100 support on C246
- ECC support (On specific SKU)
- Intel C246/Q370, 4x DDR4
- **1x16, 2 x4, 1 PCI**
- **Up to 4 GbE LAN (Opt.)**
- **2 M.2 (M key & E key)**
- Intel Optane memory

~2021

Released | Developing | Planning

Industrial MBs/ Mini-ITX

Intel Desktop

ADS101/103

- Intel Alder Lake-S, up to 8 core /24threads
- Intel R689E/Q670E/H610E
- SO-DIMM DDR4/DDR5(TBD)
- 12V/Wider voltage Power in
- PCIe x16 slot

Sample Q2' 22 | MP Q1' 23

CMS101/103

- Intel Comet Lake-S, up to 8/10 core
- Intel W480/Q470/H420E, ECC (W480)
- CMS101 (12V), CMS103 (12-36V)
- SO-DIMM DDR4MHz
- PCIe x16 slot, LVDS/eDP, Thin type

Sample Q3' 21 | MP Q1' 23

CS181

- Intel Coffee Lake-S Refresh (9Gen)
- Intel Q370/H310
- 12VDC Power in
- MXM slot, M.2 slot (Storage and 5G)

Sample Q2' 21 | MP Q3' 22

CMS100

- Intel Comet Lake-S, up to 8/10 core
- Intel W480/Q470/H420E, ECC (W480)
- SO-DIMM DDR4-2933MHz
- ATX Power in
- PCIe x16 slot

Sample Q1' 22 | MP Q1' 23

ADS100 or PRL100

- Intel Alder Lake-S, up to 8 core /24threads
- Intel R689E/Q670E/H610E
- SO-DIMM DDR4/DDR5(TBD)
- 12V/Wider voltage Power in
- PCIe x16 slot

Sample Q1' 23 | MP Q1' 24

AMD

RNO171

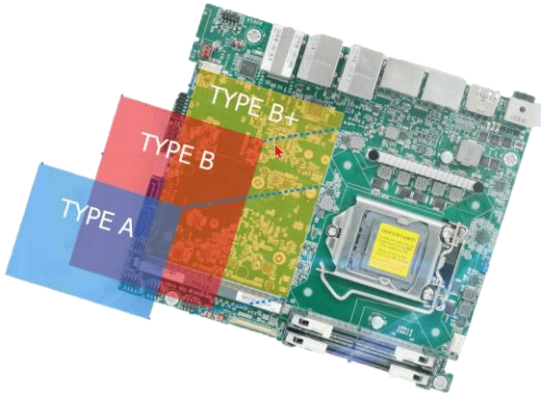
- AMD **V2000** series
- 4x DP++, 1x PCIe x16
- 12VDC Power in

Sample Q2' 21 | MP Q3' 22

2022 2023

New Product Highlight

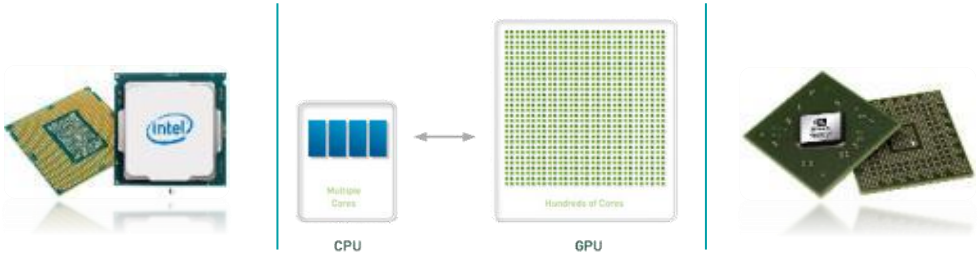
Mini-ITX **CS181-Q370/H310**



Key Features

Processor	• 8th/9th Gen Intel® processor, TDP up to 65W
Display	• 4 DP++(MXM)/ 1 DP++(HDMI)Auto detect
Expansion	• M.2 E Key(CNVi) • M.2 M key (NVME/Optane memory) • M.2 B Key(5G and RF module)
MXM	• 1 MXM Type-A/B/B+ slot
Network	• 4 independence LAN ports

Hybrid Computing



- CPUs have few strong cores
- Suited for serial workloads
- Quick access to System memory

- GPUs have thousands of weaker cores
- Suited for parallel workloads
- Can only access vRAM quickly

Application Market

Transportation

Autonomous Driving

Industrial Production

New Product Highlight
Alder Lake-S
ADS101/103

Key Features

Processor & Chipset	Alder Lake-S CPU with R680E/Q670E/H610E **TDP up to 65W**
Memory	2 SO-DIMM DDR4-3200 ECC/NON-ECC up to 64GB
LAN	• **2x GbE, 1x 2.5GbE, Up to 3 RJ-45**
Expansion	• **1 PCIe x16 Gen5, 1 M.2** M key, **1 M.2** E key, **1 M.2** B key
Display	• 1 LVDS or eDP • 2 DP++ • **1 DFI display extension port (DP/HDMI/VGA available)**

Display extension port

Application Market

Medical

Automation

New Product Highlight
Comet Lake-S
CMS100 ATX

Key Features

Processor & Chipset	Comet Lake-S CPU with W480E/Q470E/410E, **TDP up to 125W**
Memory	2 SO-DIMM DDR4-3200 ECC/NON-ECC up to 64GB
LAN	**1x GbE, 1x 2.5GbE**
Expansion	**1 PCIe x16 Gen4, 1 M.2** M key, **1 M.2** E key, **1 M.2** B key
Display	1 LVDS or eDP 1 DP++ +1HDMI (1.4b)+DVI-I 2 DP++ +DVI-I

Application Market

Medical

Automation

Released | Developing | Planning

Industrial MBs/ Mini-ITX

ULT

Atom

TGU171/TGU173

- Intel Tiger Lake-ULT, 2/4 core
- TGL171 (12V), TGL173 (9-36V)
- Thin type, PCIe x4, M.2 (Key B/M&E)
- USB Type-C
- LVDS/eDP, 4 display support

Sample Q2' 21 | MP Q4' 22

EHL171/EHL173

- Intel Elkhart Lake SOC, 2/4 core
- EHL171 (12V), EHL173 (9-36V)
- Thin type, PCIe x4, M.2 (Key B/M&E)
- LVDS/eDP, USB3.1 Gen2

Sample Q2' 21 | MP Q2' 22

ADP171/ADP173

- Intel Alder Lake-P
- Planning

Sample Q4' 22 | MP Q4' 23

2022 2023

New Product Highlight

Mini-ITX **TGU171/173**

Key Features

Processor	•	11th Gen Intel® processor, TDP up to 28W
Display	•	4 independent display (DP/HDMI, LVDS/eDP and USB Type-C
Expansion	•	M.2 M/B/E
Thermal	•	Fanless design
Network	•	2.5GbE LAN and Intel® vPro/AMT
Wide Temp	•	Operating: -5 to 65C / -40 to 85C

Performance Optimized

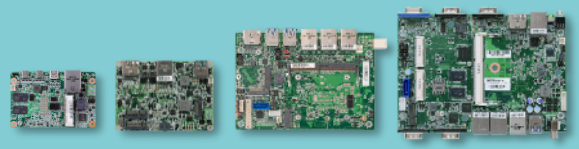
Application Market

Healthcare

Agriculture

Education

SINGLE BOARD COMPUTER (SBC)



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Embedded SBCs/ 4” SBC

4” SBC

CS251

- Intel Coffee Lake-S, 2/4/6 core
- Max 32GB DDR4
- 12V DC, fan
- 2HDMI, 2LAN, 2OM

Sample Q2’ 22 | MP Q3’ 22

ADP253

- Intel Alder Lake-P, 6 core , 28W
- Max 32/64GB DDR4
- 9~36VV DC
- 1x 2.5GbE, 3x GbE LAN, 4x COM

Sample Q3’ 22 | MP Q4’ 22

AL253

- Intel Atom Apollo lake, 2/4 core
- Max 8GB DDR3L
- 9-36V DC, fanless
- 4x GbE, 4x COM

2021 2022

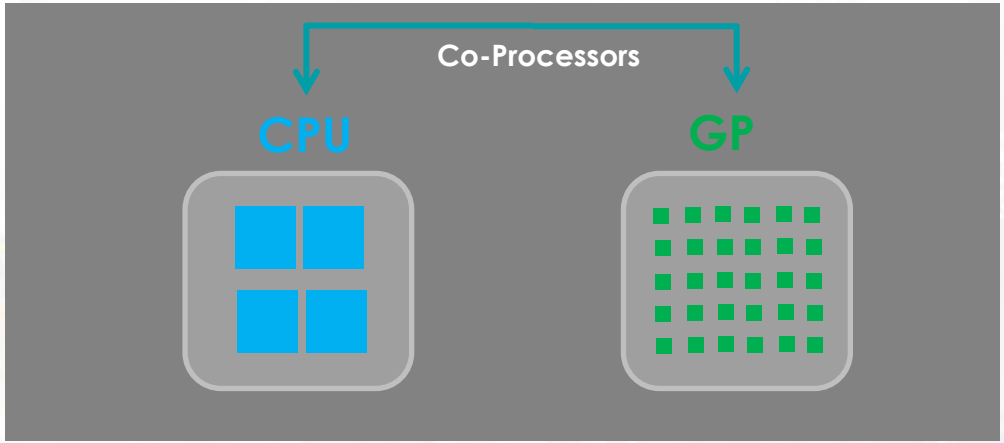
New Product Highlight

3.5” SBC **CS551**

Key Features

Processor	•	Coffee lake–S, Up to 6 core / 12 thread
Chipset	•	(Xeon)/ ECC RAM by C246 PCH
Thermal	•	Fan & Fanless design
Expansion	•	M.2 2280 PCIex4 support
Wide Temp	•	Operating -30 to 80C
	•	CPU heater triggered below -30C

Performance Optimized



Application Market

High computing Vision processing

Space constrained w/CPU/GPU loading

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Embedded SBCs/ 3.5” SBC

AMD

ULT/Desktop

GH551

- AMD V1000/R1000 SOC, 2/4 core
- Max 16GB DDR4
- 12VDC, fanless

CS551

- Intel Coffee Lake-S, up to 6 core
- Intel Q370/C246/H310
- 12VDC, w/fan, fanless

WL551

- Intel Whiskey lake-ULT, 2/4 core
- Max 16GB DDR4
- 12VDC, fanless

2021 2022

3.5" SBC i.MX8M plus
M8MP553

Robotic Arm

AI Speaker

Building Automation

Key Features

Processor	• i.MX8M plus , up to Quad 1.8GHz CPU
Memory	• 2GB/4GB LPDDR4 Memory Down
Display	• LVDS + HDMI
GbE	• 2
Expansion	• 1 x M.2 B key 3052/2242 1 x M.2 E key 2230 1 x Nano SIM slot (opt.)
USB	• 2x USB 3.1 Gen2 (Rear I/O) • 2x USB 2.0 (Rear I/O) • 2x USB 2.0 (Internal header) • 1x Micro USB OTG
COM	• 1x RS-485 • 1x RS232 • 1x RS-232/422/485
DIO	• 8-bit
Power	• 9~36V DC-in
Wide Temp	• Operating: -5 to 65C / -30 to 80C

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Embedded SBCs/ 3.5” SBC

Atom

ARM

S53-ADN

- Intel Alder Lake-N, 4 core
- 12W CPU design
- Max 32GB DDR5
- 9~36V, fanless

M8MP553

- NXP Cortex-A72 i.MX8M plus, 2/4 core
- Linux/Android
- 9~36V, fanless

Sample Q3’ 21

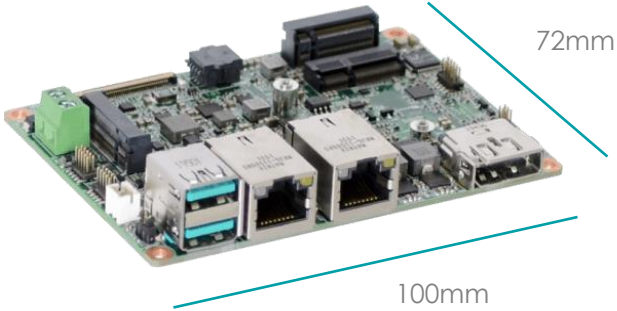
MP Q2’ 22

2021

2022

2.5” SBC Whiskey Lake-U

WL051



Key Features

Processor	•	8th Generation Intel® Core Processors
	•	i7-8665UE, 4C/8T, 1.7GHz/4.4GHz ,15W
	•	i5-8365UE, 4C/4T, 1.6GHz/4.1GHz, 15W
	•	i3-8145UE,2C/4T, 2.2GHz/3.9GHz, 15W
	•	Celeron 4305UE,2C/2T, 2.0GHz, 15W
Memory	•	1x DDR4 2400 SO-DIMM up to 32GB
Display	•	HDMI/DP++/eDP
GbE	•	2
Expansion	•	1x M.2 (Key E) 2230
	•	2x M.2 (Key B) 3042/2242
	•	1x SMBus
USB	•	2x USB 3.1 Gen2 (Rear I/O), 2x USB 2.0 (Internal header)
COM	•	1x RS-232/422/485 (Internal header)
DIO	•	8-bit
Power	•	12V DC-in
Wide Temp	•	Operating: -5 to 65C / -30 to 80C

Released | Developing | Planning

Embedded SBCs/ 2.5” Pico-ITX

Atom/ULT

ARM

WL051

- Intel Whiskey lake-ULT, 2/4 core
- Max 8GB DDR4
- 12VDC, fanless

WL053

- Intel Whiskey lake-ULT, 2/4 core
- Max 8GB DDR4
- 9~36VDC, fanless

M8M051

- NXP Cortex-A72 i.MX8M 2/4 core
- Linux/Android
- 12VDC, fanless

M8MP053

- NXP Cortex-A72 i.MX8M plus, 2/4 core
- Linux/Android
- 9~36V, fanless

Sample Q3’ 22

MP Q4’ 22

2021

2022

Released | Developing | Planning

Embedded SBCs/ 1.8” SBC

Atom

ALF51

- Intel Apollo lake SOC, 2/4 core
- Max 4GB LPDDR4
- 12VDC, fanless

AMD

GHF51

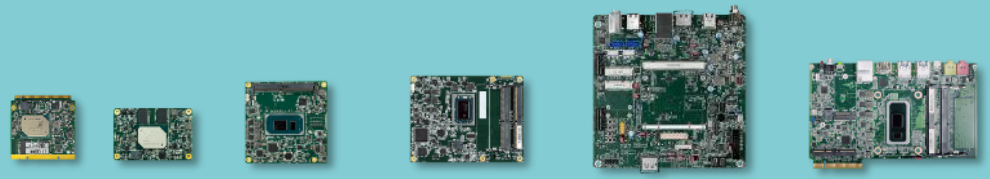
- AMD Great Horned Owl R1000 SOC, 2 core
- Max 8GB DDR4
- 12VDC, fanless

Next 1.8” SBC Under Planning

2021

2022~

SYSTEM ON MODULE (SOM)



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SOM/ COM Express Type 7

Type 7

DV970

- Intel Atom Denverton SoC
- 2x ECC SO-DIMM
- **4x 10G base-KR**
- **8x PCIe + 4x PCIe + 4x PCIe**
- **IPMI 2.0; Type 7, R3.0**

ICD970

- Intel Xeon-D Ice Lake-D LCC 2-10 cores
- **3x ECC SO-DIMM**
- **4x 10G base-KR**
- **16x PCIe Gen4, 16x PCIe Gen3**
- **Type 7, R3.1**

Sample TBD **MP TBD**

~2021 2022

Released | Developing | Planning

SOM/ COM Express Basic

Type 6

GH960

- AMD Great Horned Owl APU
- 2-ch SO-DIMM DDR4
- 4 independent Display
- Type 6, R3.0

SH960MD-CM236/QM170

- 6th i5 SKL-H BGA 25~45W
- Intel QM170/CM236
- 2-ch DDR4 MAX 16GB onboard
- **Support ECC memory**

CH960-CM246/QM370/HM370

- Intel Coffee Lake-H refresh
- Intel CM246/QM370/HM370
- **2-ch SODIMM DDR4 Max 64GB**
- **Support ECC memory**

CH961-CM246/QM370/HM370

- Intel Coffee Lake-H refresh
- Intel CM246/QM370/HM370
- **4-ch SODIMM DDR4 Max 96GB**
- **Support ECC memory**
- **Wide Voltage input 8.5V~20V**

TGH960

- Intel Tiger Lake-H platform
- 4-ch SO-DIMM DDR4
- 4 independent Display
- Wide Voltage input 8.5V~20V
- Type 6, R3.0

Sample TBD | MP TBD

~2021 | 2022

Released | Developing | Planning

SOM/ COM Express Compact

Type 6

WL968

- 8th i7/i5/i3 WH-L SoC 15W
- 2-ch SO-DIMM DDR4
- Type 6, R3.0

SU968

- 6th i7/i5/i3 SKL-U SOC 15W
- 2-ch SODIMM DDR3L Max 8GB
- Type 6, R2.1, Fanless

KU968

- 7th i7/i5/i3 KBL-U SOC 15W
- **2-ch DDR4 Memory down, Max 16GB**
- Type 6, R2.1, **Fanless**

AL968

- Intel Atom Apollo lake SOC
- **2-ch SODIMM DDR3L Max 8GB**
- Type 6, R2.1, Fanless

~2021

ADP968

- Intel Alder Lake-P platform
- 4-ch SO-DIMM DDR4
- 4 independent Display
- Wide Voltage input 8.5V~20V
- Type 6, R3.1

Sample TBD | MP TBD

TGU968

- 10th i7/i5/i3 TGL SOC 28W **10nm**
- 2-ch SO-DIMM DDR4
- **4 independent Display**
- Type 6, R3.0

Sample Q1' 21 | MP Q2' 22

EHL968

- Intel Elkhart lake SOC, 2/4 core
- 2-ch SO-DIMM DDR4
- Type 6, R3.0

Sample TBD | MP TBD

2022

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SOM/ COM Express Mini

Type 10

WL9A3

85°C -40°C

- 8th i7/i5/i3 WH-L SoC 15W
- LPDDR3 onboard up to 16GB
- Support eMMC up to 128GB
- Type 10, R3.0

GH9A3

70°C -20°C

- AMD R1000 series, up to 2 cores
- DDR4 onboard up to 16GB
- Support eMMC up to 128GB
- Type 10, R3.0

ADP9A2

85°C -40°C

- Intel Alder Lake-P platform
- IBECC LPDDR4 onboard up to 16GB
- 4 independent Display
- Support SSD up to 1TB, dTPM
- Type 6, R3.1

TGU9A2

70°C -20°C

- 10th i7/i5/i3 TGL SOC 15W **10nm**
- IBECC LPDDR4 onboard up to 16GB
- Support SSD up to 1TB, dTPM
- Type 10, R3.0

Sample Q3' 21 | MP Q2' 22

EHL9A2

70°C -20°C

- Intel Elkhart lake SOC, 2/4 core
- IBECC LPDDR4 onboard up to 16GB
- Support eMMC up to 128GB, dTPM
- Type 10, R3.0, fanless

Sample Q4' 21 | MP Q3' 22

~2021 | 2022

Released | Developing | Planning

SOM/ Qseven

Atom

AL700

- Intel Atom Apollo lake SOC Dual-Quad core
- 2-ch DDR3L Max 8GB onboard
- Up to 64GB e.MMC
- R2.1, fanless

AL701

- Intel Atom Apollo lake SOC Dual-Quad core
- 2-ch LPDDR4 Max 8GB onboard
- Up to 64GB e.MMC
- **TPM onboard**
- **Dual CAN support**
- R2.1, fanless

EHL700

- Intel Atom Elkhart lake SOC, Dual-Quad core
- LPDDR4 memory down up to 8GB
- Onboard eMMC up to 128GB
- R2.1, fanless

Sample Q4' 21 | **MP Q2' 22**

~2021 | 2022

BOX PC

EC500-ADS

Kickoff	EVT	DVT	MVT	MP
2021/9/9	2022/6	2022/10	2022/12	2023/1

Key Features

Processor	• 12th Gen Intel® Core i7/i5/i3 processor
I/O	• 4 COM, 6 USB, 2 HDMI/DP auto detection, 1 VGA, 2 LAN
Flexible Expansions	• M.2 E key for Wi-Fi module • M.2 B key for 5G module • M.2 M key for storage
Power	• 9~36VDC power input
Size	• Consistent size with EC500-CS
Remote management	• Optional OOB management

Target Application:

- Factory Automation

Up to Date!

EC51x-ADS

Kickoff	EVT	DVT	MVT	MP
2021/9/9	2022/8	2022/12	2023/2	2023/3

Key Features

Processor	• 12th Gen Intel® Core i7/i5/i3 processor
I/O	• 8 COM, 12 USB, 2 HDMI/DP auto detection, 1 VGA, 2 LAN, PoE
Flexible Expansions	• M.2 E key for Wi-Fi module • M.2 B key for 5G module • M.2 M key for storage • One PCI or PCIe slot
Power	• 9~36VDC power input
Size	• Consistent size with EC51x-CS
Isolation I/O	• COM port & DIO support isolation 2KV (I/O from daughter)

Target Application:

- Factory Automation

Up to Date!

EC543-ADS

Kickoff	EVT	DVT	MVT	MP
2021/9/9	2022/8	2022/12	2023/2	2023/3

Key Features

Processor	• 12th Gen Intel® Core i7/i5/i3 processor
I/O	• 8 COM, 12 USB, 2 HDMI/DP auto detection, 1 VGA, 2 LAN, PoE
Flexible Expansions	• M.2 E key for Wi-Fi module • M.2 B key for 5G module • M.2 M key for storage • One PCI slot & three PCIe slot
Power	• 9~36VDC power input
Size	• Consistent size with EC543-CS
Isolation I/O	• COM port & DIO support isolation 2KV (I/O from daughter)

Target Application:

- Factory Automation

Up to Date!

DT200-CS (former EXM110-CS)

Kickoff	EVT	DVT	MVT	MP
2021	2022/1	2022/4	2022/7	2022/8

Chassis Type with Fan

▲ Support 65WCPU+110W MXM

Key Features

Processor	• 9th Gen Intel® Core i7/i5/i3 processor
Motherboard	• Powered by CS181
Independent GPU	• Type A& B MXM module supported
Chassis	• 2U size chassis
Communication	• Support 5G and WiFi
Power	• +19V Power input

Based on CS181 board

MXM module support

ES220-CS Product Overview

175 x 48.5 x 120mm

Storage Expansion
+ 2 x 2.5" SSD

175 x 73.5 x 120mm

Key Features

Processor	• 8/9th Gen Intel® Core i7/i5/i3/Celeron processor
Size	• Compact design and space saving
Design	• Low noise design, 36dB @op. temp. 40C
Memory	• 2 DDR4 SODIMM up to 64GB
Display	• 2 HDMI 2.0 support resolution up to 4096x2160 @ 60Hz
Triple Storage	• 1 M.2 SSD + 2 2.5" SSD (option), RAID 0/1
Rich I/O	• 2 Intel GbE, 4 USB 3.1, 2 USB 2.0, 2 COM
Expansion	• 1 M.2 WiFi + 1 M.2 SSD
CPU Life Cycle	• 15-Year CPU Life Cycle Support Until Q1' 32 (Based on Intel IOTG Roadmap)

ES220F-CS

Kickoff	EVT	DVT	MVT	MP
2020/3	2022/1	2022/3	2022/5	2022/6

Key Features

Processor	• 9th Gen Intel® Core i7/i5/i3 processor
Memory	• 2 x DDR4 SODIMM up to 64GB
Display	• 2 x HDMI2.0
Triple Storage	• 1 M.2 SSD + 2 x 2.5"SSD(option), RAID support
Rich I/O	• 2 LAN, 4 USB3.1, 2 x USB3.0, 2 COM
Size	• smallest TDP 25W core-I Fanless system
EVT Sampling	• Nissan factory automation • 中華電信 (Chunghwa Telecom)
Wide Temp.	CPU power output configured via BIOS: • TDP 35W : 35° C or 40° C • cTDP 25W : -5° to 45° C • cTPU 15W: -20° to 60° C
Dimension	• 1S: 175 x 69.4 x 120mm • 3S: 175 x 90.4 x 120mm (with 2 x 2.5" bay)

Target Application:

- Edge AI system
- Factory automation
- AMR
- AGV

Released | Developing | Planning

Performance Embedded Systems

Core-i

Core-i + AI accelerator

CPU TDP 35W/45W

EC500-CS

- 8th/9th Gen Intel Core
- Intel C246/Q370/H310
- Op temp. -20~+70C

EC510/EC511-CS

- 8th/9th Gen Intel Core
- Intel C246/Q370/H310
- PCIe / PCI expansion slots
- Op temp. -20~+70C

Sample Q1' 21 | MP Q2' 22

Ultra Compact

ES220-CS

- Intel Core 8th/9th TDP 35W
- 2 DDR4, 1 or 3 SSD
- 2 HDMI 2.0, 2 LAN, 2 COM, 6 USB
- Low noise 36dB with full load @45C

EC543-CS

- 8th/9th Gen Intel Core
- Intel C246/Q370/H310
- PCIe / PCI expansion slots
- Op temp. -20~+70C

Sample Q1' 21 | MP Q2' 22

Ultra Compact

ES220F-CS

- Intel Core 8th/9th TDP 35W
- 2 DDR4, 1 or 3 SSD
- 2 LAN, 2 COM, 6 USB
- Fanless

Sample Q3' 21 | MP Q2' 22

EC510/EC511-ADS

- 12th Gen Intel Core
- Intel Q670E
- PCIe / PCI expansion slots

Sample Q3' 22 | MP Q1' 23

EC500-ADS

- 12th Gen Intel Core
- Intel Q670E / H610E
- 2HDMI/DP+1VGA, 3 M.2

Sample Q1' 22 | MP Q4' 22

EC543-ADS

- 12th Gen Intel Core
- Intel Q670E
- Up to 4 expansion slots

Sample Q3' 22 | MP Q1' 23

EC300-CS

- Intel 9th core i7/i5/i3 Coffeelake CPU
- Supports 4x RJ45 PoE and type A/B Nvidia **MXM**
- +9~36VDC input with power management

Sample Q4' 20 | MP Q2' 22

DT200-CS

- 8th/9th Gen Intel Core
- 1 MXM TYPE A/ B
- 4 LAN, 10 USB, 4 DP from **MXM**,
- 5G/WIFI/ low profile antenna
- Optional fan by different SKU

Sample Q1' 22 | MP Q3' 22

~2021 | 2022~

EC90A-GH

EC90A-GH

Based on GHF51 board

Target Application:

- Retail KIOSK
- Signage
- Gaming

Key Features

Processor	AMD Ryzen™ Embedded R1000 Series
Memory	Single Channel DDR4 Memory Down up to 4GB/8GB
Storage	32GB/64GB eMMC
Small Size	High performance with pocket size outlook
OS	Ubuntu20.04 certified, Windows 10

EC70A-TGU

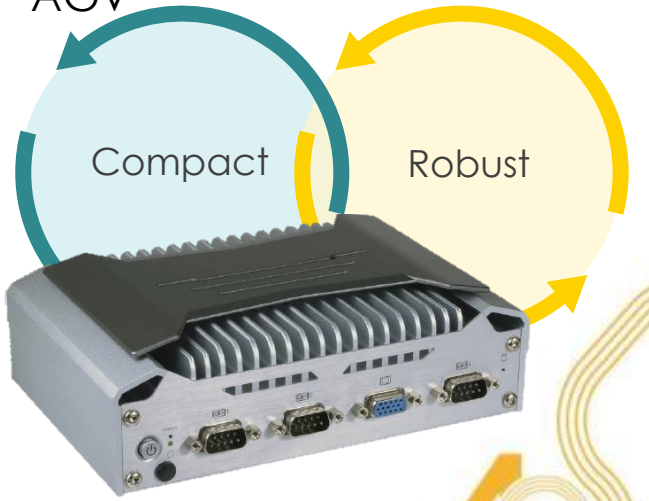
Kickoff	EVT	DVT	MVT	MP
2021/1/5	2022/6	2022/10	2022/12	2023/1

Key Features

Processor	• 11th Gen Intel® Core i7/i5/i3 processor
Memory	• On board memory 8GB + one DDR4 SO-DIMM
Rich I/O	• Up to 4LAN or 6 USB • Optional 4x 2kv isolated RS232/422/485
Flexible Expansions	• M.2 E key for Wi-Fi module • M.2 B key for 5G module • M.2 M key for storage
Power	• 9~36VDC power input
Wide Temp.	• -20 to 60C operating temperature

Target Application:

- Factory Automation
- AMR
- AGV



Released | Developing | Planning

Mainstream Embedded Systems

Intel Core-I ULT

AMD

CPU TDP 15W/25W

EC70A/EC70B-SU

60°C -20°C

- 6th Gen Intel Core
- Intel Sky Lake-ULT
- **2 PoE LAN (EC70B)**

EC70A-KU

60°C -20°C

- 7th Gen Intel Core
- Intel Kaby Lake-ULT
- 3 displays
- 6 USB

EB100-KU

- 6th/ 7th Gen Intel Core
- Intel Kaby Lake-ULT
- 2 HDMI, 6 USB
- NUC form factor

EC70A-TGU

60°C -20°C

- Intel Tiger Lake-ULT 2/4 core
- 2 HDMI+VGA, 4 LAN, USB 3.1
- WiFi6, LTE/5G w/ SIM

Sample Q3' 21

MP Q3' 22

EC90A-GH

60°C -20°C

- AMD R1000
- 4G/3G/Wi-Fi supports
- Compact size

~2020

2021~

ED700-EHL

Kickoff	EVT	DVT	MVT	MP
2021/4	2022/7	2022/10	2023/1	2023/2

Key Features

Processor	• Intel Elkhart Lake Atom X6000 Series CPU up to 12W
Memory & Storage	• On board memory + eMMC
Flexible Expansions	• M.2 2230, M.2 2280/3052 with SIM, mini-PCIe
Power	• 9~36V DC-in
Wide Temp.	• Operating temperature -20 to 60C, ext. -40 to 70C
Remote management	• Intel OOB & RemoGuard
Certification	• EN55011, EN61000-6-2
Flexibile Mounting	• DIN rail & Wall mount

ED700-EHL

Outdoor IOT computing: ECX700-AL

MVT	MP
2022/4	2022/5

Positioning:

- Ultra Rugged Design
- Wide Temperature -40 to 70
- Wide Voltage 9 to 36V
- Optional WiFi, lte, CanBus
- Outdoor IOT edge computing
- Factory waterproof equipment

Rugged level

Key Features

Processor	•	Intel® Atom® Processor E3900 Series
Power	•	9~36V DC-IN with power LED
I/O	•	1 USB 3.0, 1 USB 2.0 2 LAN 1 COMBO (2 serial port +2 CAN)
Display	•	1 HDMI or VGA
Optional	•	LTE, WiFi, Canbus

EC900-8MM

Kickoff	EVT	DVT	MVT	MP
2022/3	2022/6	2022/9	2022/12	2022/12

Key Features

Processor	• NXP i.MX 8M mini Dual/Quad
Description	• FANLESS, NXP IMX8Mmini 1GB memory, 8GB eMMC, 2COM, 2USB, HDMI
Target Market	• Local analytics control box. • M2M IoT Gateway Solutions. • Network Communications
Selling Points	• Cost effective, Compact and low power • Support Android 9.0 and Yocto 3.0

EC900-8MM

Released | Developing | Planning

Entry Embedded Systems

Atom

ARM

CPU TDP 6W/12W

EC700-BT
70°C -40°C

- Intel Atom BayTrail
- DDR3 2G/4G on board
- 2/4 LAN
- 3 expansion slots + SIM
- Win 7/10, Linux

EC700-AL
70°C -40°C

- Intel Atom Apollo Lake
- DDR3 on board + SO-DIMM
- 2/4 LAN
- 3 expansion slots + SIM
- Win 7/10, Linux

EC90A-AL
60°C -20°C

- Intel Atom Apollo Lake
- 4G/3G/Wi-Fi supports

EC800-AL
70°C -40°C

- Intel Atom Apollo Lake
- 3 displays, LPDDR4
- 3 expansion slots (2 M.2, mPCIe)

EC900-FS6
60°C -20°C 70°C -40°C

- NXP IMX6DL
- USB 2.0, COM, DIO
- 4G/3G/Wi-Fi supports
- LINUX

DIN Rail

ED700-EHL
70°C -40°C

- Intel Atom Elkhart lake, 2/4 core
- Onboard DDR4 memory down
- Onboard eMMC up to 64GB
- 4 LAN, 2.5G TSN, USB3.1
- Isolated DI/DO/COM

Sample Q4' 21 | MP Q4' 22

IP66

ECX700-AL
70°C -40°C

- Intel Atom Apollo Lake
- IP66 grade, wide temp
- Variety IO applications
- WiFi/LTE/CAN BUS for opt

Sample Q1' 21 | MP Q2' 22

EC900-8MM
60°C -20°C

- NXP IMX8M mini
- USB 2.0, COM
- 5G/4G/Wi-Fi supports
- Yocto 3.0 / Android 9.0

Sample Q2' 22 | MP Q4' 22

~2021

2021~2022

Released | Developing | Planning

NVIDIA Jetson Embedded Systems

Xavier NX

EC102-XNX

60°C 0°C

- NVIDIA® Jetson Xavier™ NX module
- 1 LAN
- 1x USB 2.0 Micro-B for recovery
- 2x USB 3.0 Type-A
- Storage 1x micro-SD card slot
- +12V power input

EC100-XNX

60°C 0°C

- NVIDIA® Jetson Xavier™ NX module
- 1 HDMI2.0, 1 LAN, 8xPoE
- 1x USB 2.0 Micro-B for recovery
- 2x USB 3.0 Type-A (USB 3.2 Gen1 x 1)
- Storage16GB e.MMC v5.1
- +54V power input

0

INDUSTRIAL PC (IPC)

Expandable for Cost Effective AI Box

			
Application	Low Power AI	Versatility	Power AI Box
AI	Inference	Learning	Inference
Model	WM120-EHL	WM343-ADS	WM120-ADS
CPU	Onboard Fanless	Socket Cooler	Socket Cooler
Slot	1 (OOB, AI)	4 (OOB, AI, GPU)	1 (OOB, AI)
Storage	1 x 2.5”	2 x 2.5” / 1 x 3.5” ODD Bay	1 x 2.5”
OOB	Allxon (Opt)	Allxon (Opt)	Allxon (Opt)
Recovery	Apacer (Opt)	Apacer (Opt)	Apacer (Opt)

Released | Developing | Planning

Mini-ITX System

ATX

DC-in

DT122-GH

- AMD V1000/R1000
- 4 DP 4K @60
- PCIe x16 or PCI expansion
- Support Wi-Fi
- 150W AC or 12VDC input

ST102-SD

- 7th/6th Gen Intel Core
- Intel Q170/H110 chipset
- 6 USB, DP++, DVI, 2 mini-PCIe
- Low Noise, Foot Stand, DC-in

ST102-CS

- 8th/9th Gen Intel Core 35W
- Intel Q370/H310 chipset
- 6 USB, 2DP, 1HDMI, DVI,
- M.2 SSD, M.2 WiFi, mPCIe expansion
- Foot Stand, DC-in

ST102-ADS

- 12th Gen Alder Lake Intel Core CPU
- Intel Q670E/H610E
- SO-DIMM DDR4
- Foot Stand, DC-in

~2020

2022~

Released | Developing | Planning

IPC Systems: Wall Mount / Tower Micro-ATX

ATX Tower

WM343-SD/KD

- Intel 7th/6th Gen. Xeon/Core i7~80W
- Intel C236/Q170/H110, 4 DDR4
- 2x16 , 2 x4,
- 1 ODD bay, 1 or 2 HDD bays
- 4 expansions
- FLEX ATX 150W/250W/400W/500W

WM343-CS

- Intel Coffee Lake-S, **up to 6 Cores**
- Intel C246/Q370, 4x DDR4
- **1x16 (or 2 x8), 2 x4**
- 1 ODD bay, 1 or 2 HDD bays
- 4 expansions
- FLEX ATX 150W/250W/400W/500W

WM343-ADS

- Intel Alder Lake-S, **up to 16 Cores**
- ECC support (On specific SKU)
- Intel R680E/Q670E, 4x DDR4
- **1x16, 3 x4**
- FLEX ATX 250W/350W/400W/500W

Sample Q2' 22 | MP Q3' 22

WM342-KD

- Intel 7th Gen. Xeon/Core i7~80W
- Intel C236/Q170/H110, 4 DDR4
- 2x16 , 2 x4,
- 1 or 2 HDD bays
- 2 expansions
- FLEX ATX 150W/250W/400W/500W

WM343-CMS

- Intel Comet Lake, up to 10 cores
- Intel W480/Q470, ECC
- **1x16 (or 2 x8), 2 x4**
- FLEX ATX 250W/350W/400W/500W

Sample Q1' 22 | MP Q2' 22

WM120-EHL

- Intel Elkhart Lake SOC, 2/4 core
- EHL171 (12V), EHL173 (9-36V)
- Thin type, PCIe x4, M.2 (Key B/M&E)
- LVDS/eDP, USB3.1 Gen2
- FLEX ATX 250W

Sample Q2' 22 | MP Q3' 22

WM120-ADS

- Intel Alder Lake-S, up to 8C/24T
- Intel R689E/Q670E/H610E
- SO-DIMM DDR4/DDR5(TBD)
- 12V/Wider voltage Power in
- PCIe x16 slot
- FLEX ATX 250W

Sample Q3' 22 | MP Q4' 22

~2020 | ~2021 | 2022~2023

Released | Developing | Planning

IPC Systems: Rackmount Systems

4U

RM641-SD

- Intel Skylake-S Core-I /Xeon~95W
- Intel C236/Q170, DDR4
- 1x16 (or 2 x8), 2 x4, 3 PCI
- 7 expansions
- ATX 500W/750W

RM641-CS

- Intel Coffee Lake Core-I /Xeon~95W
- Intel C246/Q370, DDR4
- 1x16, 3 x4, 2 PCI, M.2 & mPCIe
- 7 expansions
- ATX 500W/750W

Sample Q3' 21

MP Q2' 22

~2020

2021

PANEL PC DISPLAY

Panel PC/Monitor Product Overview

BPC Series

Bar Type PPC

- BPC-370
- BPC-420

TPC Series

Expansion PPC

- TPC-150SD
- TPC-170SD

KS Series

Industrial PPC

- KS057R-FS
- KS070-M8M
- KS101-BT
- KSX215-EHL
- KS156/215-EHL

KSM Series

Modular PPC

- KSM - AL
- KSM - SD
- KSM - KH

IDP Series

Industrial Display

- IDP-MS
- IDP-Series

KIT Series

Open Frame

- KIT - M8M

Released | Developing | Planning

Panel PC/Monitor Overview

Bar Type

BPC370-BW
- Intel Atom Braswell
- 37” LED backlight, 1920 x 540
- 700/1000 nits brightness

BPC420-BW
- Intel Atom Braswell
- 42” LED backlight, 1920 x 480
- 700/1500 nits brightness

Industrial Panel PC (Intel)

TPC-SD
- Intel 6&7th Desktop
- 15 ”,17” Panel
- P-Cap / Resistive Touch
- Expansion 2x PCIEx8

KS-BT
- Intel Atom E3800 series
- 7”,10.1”,15”,15.6”, Panel
- P-Cap Touch

KS-AL
- Intel Atom Apollo Lake
- 7”,15.6”, Panel
- P-Cap / Resistive Touch

KS-EHL
- Intel Atom Elkhart Lake
- 15.6”,21.5”, Panel
- **Plastic housing**
- P-Cap Touch

KSX-EHL
- Intel Atom Elkhart Lake
- 15.6”,21.5”, Panel
- **IP65/IP69K**
- P-Cap Touch

KSM-AL
- Intel Atom Apollo Lake
- 7”~ 21.5”, Panel
- P-Cap / Resistive Touch
- Modular Design

KSM-SD, KSM-KH
- Intel Skylake Desk.,Kabylake H
- 15” ~ 21.5”, Panel
- P-Cap / Resistive Touch
- Modular Design

General (ARM)

KS-FS
- Freescale iMX6
- 5.7”,7” Panel LVDS
- P-Cap / Resistive Touch

KS-M8M
- Freescale iMX8
- 7” Panel LVDS
- P-Cap Touch

KIT-M8M
- Freescale iMX8
- 7”, 10.1”, 12.1”, Panel
- P-Cap Touch
- **Open frame Design**

Monitor

IDP-MS
- AD board
- 7” ~ 21.5”, panel
- **HDBaseT or WIFI display**
- P-Cap Touch

IDP
- AD board
- 8”,10.1”,12.1”,15.6” panel
- **Plastic Housing**
- P-Cap Touch

KSX series: Stainless Panel PC

EVT	DVT	MVT	MP
2022/06	2022/09	2022/12	2023/02

Key Feature

- 15.6” / 21.5” TFT LCD panel with Projected Capacitive touch
- Intel Elkhart lake Processors
- Memory & Storage built-in
- Full IP65/IP69K protection
- Construction 304 stainless steel chassis
- Wide Voltage support 9-36VDC

Target Application:

Food Factory Automation

KS-EHL Series: Plastic Bezel Panel PC

EVT	DVT	MVT	MP
2022/08	2023/01	2023/04	2023/05

Key Feature

- 15.6” / 21.5” TFT LCD panel with Projected Capacitive touch
- Intel Elkhart lake Processors
- Rich IO: HDMI, DP++, 2 LAN, 4 USB3.0, 2 COM Port
- Multiple Expansion: 1 M.2 B key, 1 M.2 E key
- Fan-less Design
- Wide Voltage support 9-36VDC

Target Application:

HMI System & General Purpose

Released | Developing | Planning

Touch Panel PCs/ Atom

Atom

KS070-AL
- Intel Atom Apollo Lake
- 7” panel 800 x 480
- P-Cap / Resistive Touch

KS101-BT
- Intel Atom E3800 series
- 10.1” panel 1024 x 600
- P-Cap / Resistive Touch

KS150-BT
60°C -10°C
- Intel Atom E3800 series
- 15” panel 1024 x 600
- P-Cap Touch

KS156-AL
- Intel Atom Apollo Lake
- 15.6” panel 1366 x 768
- P-Cap / Resistive Touch

KSM070-AL
70°C -20°C
- Intel Atom Apollo Lake
- 7” panel 800 x 480
- P-Cap / Resistive Touch
- Modular Design

KSM101-AL
70°C -20°C
- Intel Atom Apollo Lake
- 10.1” Panel 1024 x 600
- P-Cap / Resistive Touch
- Modular Design

KSM156-AL
- Intel Atom Apollo Lake
- 15.6” panel 1366 x 768
- P-Cap / Resistive Touch
- Modular Design

KSM215-AL
- Intel Atom Apollo Lake
- 21.5” Panel 1920 x 1080
- P-Cap / Resistive Touch
- Modular Design

KSX215-EHL
- Intel Atom Elkhart Lake
- 21.5” panel 1920 x 1080
- P-Cap / Resistive Touch
- **Full IP65/69K**

Sample Q2’ 22 | MP Q4’ 22

KS156-EHL
- Intel Atom Elkhart Lake
- 15.6” panel 1366 x 768
- P-Cap Touch
- **Plastic bezel**

Sample Q3’ 22 | MP Q1’ 23

KS215-EHL
- Intel Atom Elkhart Lake
- 21.5” panel 1920 x 1080
- P-Cap Touch
- **Plastic bezel**

Sample Q3’ 22 | MP Q1’ 23

KSX156-EHL
- Intel Atom Elkhart Lake
- 15.6” panel 1366 x 768
- P-Cap / Resistive Touch
- **Full IP65/69K**

Sample Q4’ 22 | MP Q2’ 23

MP 2022 2023

Released | Developing | Planning

Touch Panel PCs/ Core-i

Core

TPC150-SD

- Intel 6 & 7th Desktop Processor
- 15” Panel LVDS 1024x 768
- P-Cap / Resistive Touch

KSM150-SD

70°C -20°C

- Intel 6th Gen Core I Processor
- 15” Panel LVDS 1024 x 768
- P-Cap / Resistive Touch
- Modular Design

KSM150-KH

- Intel 7th Gen Core I Processor
- 15” Panel LVDS 1024 x 768
- P-Cap / Resistive Touch
- Modular Design

KSM156-KH

- Intel 7th Gen Core I Processor
- 15.6” Panel LVDS 1366 x 768
- P-Cap / Resistive Touch
- Modular Design

TPC170-SD

- Intel 6 & 7th Desktop Processor
- 17” Panel LVDS 1280x 1024
- P-Cap / Resistive Touch

KSM156-SD

- Intel 6th Gen Core I Processor
- 15.6” Panel LVDS 1366 x 768
- P-Cap / Resistive Touch
- Modular Design

KSM170-KH

- Intel 7th Gen Core I Processor
- 17” Panel LVDS 1280 x 1024
- P-Cap / Resistive Touch
- Modular Design

KSM185-KH

- Intel 7th Gen Core I Processor
- 18.5” Panel LVDS 1366 x 768
- P-Cap / Resistive Touch
- Modular Design

KSM190-KH

- Intel 7th Gen Core I Processor
- 19” Panel LVDS 1280 x 1024
- P-Cap / Resistive Touch
- Modular Design

KSM215-KH

- Intel 7th Gen Core I Processor
- 21.5” Panel LVDS 1920 x 1080
- P-Cap / Resistive Touch
- Modular Design

~2021

ARM-Based Panel PC: KS070-M8M

Key Feature

- 7" 1024x600 TFT LCD panel with touch screen
- IP65 front panel protection
- NXP i.MX 8M Processors
- Single Channel LPDDR4 up to 3200 MHz
- Multiple Expansion: 1 M.2 B Key, 1 M.2 E Key
- Support Android 9.0

EVT	DVT	MVT	MP
2022/02	2022/07	2022/10	2022/12

Target Application:

HMI System & General Purpose

KIT Series: ARM-Based Open frame Panel PC

Key Feature

- 7“, 10.1”, 12.1 TFT LCD panel with Projected Capacitive touch
- Open Frame Design
- NXP i.MX 8M Processors
- Single Channel LPDDR4 up to 3200 MHz
- Multiple Expansion: 1 M.2 B Key, 1 M.2 E Key
- Support Android 9.0
- Easy Maintenance

EVT	MVT	MP
2022/03	2022/10	2023/01

Target Application:

HMI System & General Purpose

Released | Developing | Planning

Touch Panel PCs/ ARM Based

ARM

KS057R-FS-IMX6 V2

60°C -20°C

- NXP iMX6
- 5.7" Panel LVDS 640x480
- Resistive Touch
- Open frame (optional)

KS070-FS

- NXP iMX6
- 7" Panel LVDS
- P-Cap Touch

KS070-M8M

- NXP iMX8
- 7" Panel LVDS 1024x600
- P-Cap Touch

Sample Q1' 22 | MP Q3' 22

KIT070P-M8M

- NXP iMX8
- 7" Panel LVDS 800 x 480
- P-Cap Touch
- Open frame Design

Sample Q3' 22 | MP Q1' 23

KIT101P-M8M

- NXP iMX8
- 10.1" Panel LVDS 1280x800
- P-Cap Touch
- Open frame Design

Sample Q2' 22 | MP Q4' 23

KIT121P-M8M

- NXP iMX8
- 12.1" Panel LVDS 1024 x 768
- P-Cap Touch
- Open frame Design

Sample Q4' 22 | MP Q2' 23

MP 2022 2023

Display - IDP-MS Series (Industrial)

Key Feature

Size	• 7” ~ 21.5”
Touch Type	• Projected Capacitive Multi-touch
IP Rate	• IP54 Front Panel
Support Modular Extended Display	• 1 x HDBaseT or Wifi Display
Display Input	• VGA/HDMI
Mounting Type	• VESA Mount 75
Wide Temp	• Operating temp 0 to 40°C

Display – IDP Series

Key Feature

Size	• 8” ,1O.1”,12.1”, 15.6”
Touch Type	• Projected Capacitive Multi-touch
IP Rate	• IP54 Front Panel
Display Input	• VGA/HDMI
Housing	• Plastic Housing
Mounting Type	• VESA Mount 75
Wide Temp	• Operating temp 0 to 40°C

Released | Developing | Planning

Display : IDP Series

Industrial Display

IDP080
250 nits

- 800 x 600 resolution
- Signal input : VGA
- PCT touch
- Plastic Housing

Sample Q1' 22 | MP Q2' 22

IDP121
500 nits

- 800 x 600 resolution
- Signal input : VGA / HDMI1.2
- PCT touch
- Plastic Housing

Sample Q1' 22 | MP Q2' 22

IDP070-MS
500 nits

- 800 x 480 resolution
- HDBaseT or WIFI display
- Signal input : HDMI/VGA
- PCT or resistive touch
- Metal Housing

Sample Q1' 22 | MP Q3' 22

IDP101
400 nits

- 1280 x 800 resolution
- Signal input :VGA / HDMI1.2
- PCT touch
- Plastic Housing

Sample Q1' 22 | MP Q2' 22

IDP156
400 nits

- 1366 x 768 resolution
- Signal input : VGA / HDMI1.2
- PCT touch
- Plastic Housing

Sample Q1' 22 | MP Q2' 22

IDP156-MS
400 nits

- 1366 x 768 resolution
- HDBaseT or WIFI Display
- Signal input : HDMI/VGA
- PCT touch
- Metal Housing

Sample Q1' 22 | MP Q3' 22

* Specification of Luminance is based on LCD Panel original data.

IN-VEHICLE SYSTEM

VC500-CMS

	EVT	DVT	MVT	MP
2021/8	2022/7	2022/12	2023/6	2023/7

Target Application:

- In-vehicle PIS (passenger information)
- Autonomous Driving

Key Features

Processor	•	10th Gen Intel® Core I processor
PoE	•	4x PoE or 2x 10G Fiber ports
Power	•	9~48VDC power input with power ignition management (ACC)
MXM	•	Optional independent MXM module kit with 4x DP ports
Expansion	•	1x mPCIe +3x M.2 for GPS/CAN/LTE/BT/Wifi Supports dual SIM on 4G/5G M.2 B-key 3042
Rich I/O	•	3x DP++, 4x RS232/422/485, 16bit DI/DO
Remote management	•	Optional OOB management
Sensor	•	G-sensor, thermal sensor embedded
Wide Temp	•	Up to -25 to +70C operation temperature

VC500-CMS

235(W)*221(L)*88(H) mm
Same size as EC500-KH

VC500-CMS-MXM + NVIDIA

436(W)*221(L)*88(H) mm

VC900-M8M

Fan-less T-BOX, NXP i.MX 8M

Target Application: In-vehicle **Gateway**

Kickoff	EVT	DVT	MVT	MP
2022/02	2022/04	2022/10	2023/03	2023/06

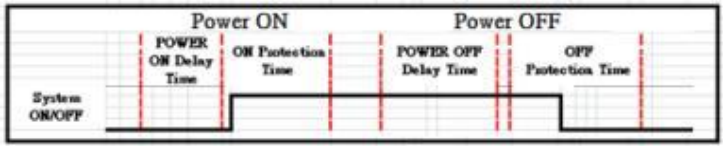
Key Features

Processor	• NXP i.MX 8M Dual/Quad Cortex-A53/M4, 1.3GHz
Power	Wide Range Power input 9~36VDC with ACC/Ignition smart power on/off control
Expansion	• 1x M.2 E-key 2230 with PCIE/USB for BT/Wifi • 1x M.2 B-key 3042/2242 with SIM slot for 4G/5G/GPS
Rich I/O	1x GbE, 4x COM, 1x CAN bus, 2x USB 3.1, 1x USB OTG, 1x HDMI
OS	• Support Yocto 2.5 and Android 9
Wide Temp	• Up to -20 to +60C operation temperature

Power Protection Solution

DFI design wide range power input solution to prevent surge when starting engine. This solution can ensure user can operate the power system easy and well.

Smart Power Control:
Power delay and protection time setting



VP070-M8M

Fan-less Panel PC, NXP i.MX 8M

Kickoff	EVT	DVT	MVT	MP
2021/8	2022/5	2022/11	2023/4	2023/7

Target Application:

- In-vehicle HMI
- Bus Driver Information

Key Features

Type	• 7" Fanless in-vehical Panel PC
Display/Touch	• 7'', 1024x600, 425 nits, Capacitive Touch
Processor	• NXP i.MX 8M Dual/Quad Cortex-A53/M4, 1.3GHz
Expansion	• 1x M.2 E-key 2230 with PCIE/USB for BT/Wifi • 1x M.2 B-key 3042/2242 with SIM slot for 4G/GPS
Rich I/O	• 1x GbE, 4x COM, 1x CAN bus, 2x USB 3.1, 1x USB OTG, 1x HDMI
OS	• Support Android 9

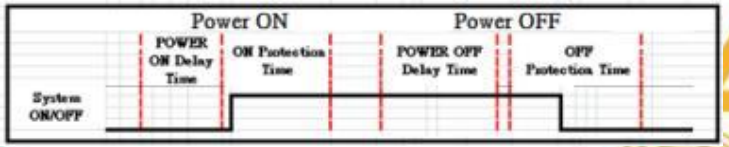
Application Case

Power Protection Solution

DFI design wide range power input solution to prevent surge when starting engine. This solution can ensure user can operate the power system easy and well.

Smart Power Control:

Power delay and protection time setting



VC300-CS Fanless AI accelerated Platform for Vehicle

High Performance & Rugged
***AIoT* Edge Computer**

NVIDIA MXM Graphics Module

NVIDIA

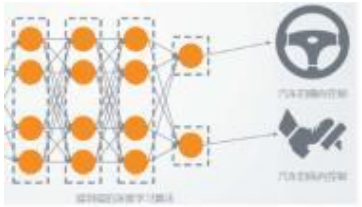
- Compact and Rugged
- Low power consumption
- Good thermal dissipation

RoHS 5G E13

Key Features

Processor	• Intel® Gen 8th and 9th Coffee Lake CPU
Memory	• Dual channel DDR4-2400/2666MHz SODIMMs, 64GB max.
Wide Temp	• Up to -20°C ~ 60°C Operating Temperature in fanless with <120W MXM, up to +70°C with fan
MXM	• Compact and reliable MXM graphics card supported
Expansion	• Multiple Expansion interfaces for cellular or any function module on miniPCIe (x3) or M.2 (x2) slots: CAN bus, LTE/5G, Wifi, GNSS
Certification	• EMARK Certified
PoE	• 4 x 802.3af PoE at 15W in RJ-45 or M12 connectors
Power	• +9~36V DC power input
Dimension	• 340.5(W) x 223(D) x 131.5(H)mm

Decision by Video Analytics



Video Streaming

Deep Learning

RC300-CS Fanless AI accelerated Platform for Railway

High Performance & Rugged
***AIoT* Edge Computer**

NVIDIA MXM Graphics Module

NVIDIA

- Compact and Rugged
- Low power consumption
- Good thermal dissipation

RoHS 5G EN50155

Key Features

Processor	• Intel® Gen 8th and 9th Coffee Lake CPU
Memory	• Dual channel DDR4-2400/2666MHz SODIMMs, 64GB max.
Wide Temp	• Up to -20°C ~ 55/70°C Operating Temperature in **Fanless** (sku dependent)
MXM	• Compact and reliable MXM graphics card supported
Expansion	• Multiple Expansion interfaces for cellular or any function module on miniPCIe (x3) or M.2 (x2) slots: CAN bus, LTE/5G, Wifi, GNSS
Certification	• EN50155 & EN45545 Certified
PoE	• 4 x 802.3af PoE at 15W in **M12** connectors
Power	• +110V or +9~36V DC power input
Dimension	• 340.5(W) x 223(D) x 131.5(H)mm

Released | Developing | Planning

In-Vehicle Systems

Embedded Systems

Panel PC

VC70B-KU

E13 | 60°C | -20°C

- 7th i7/i5/i3 Kabylake-U SOC 15W Dual Core
- Supports GPS/WiFi/Cellular/CAN
- 9~36Vdc input with Power Management

VC230-BT

E13 | 60°C | -20°C

- Intel Atom E3800 series, Dual/Quad Core
- Supports GPS/WiFi/Cellular/CAN
- 9~36Vdc input with Power Management

VC230-AL

E13 | 70°C | -40°C

- Intel Atom E3900 series, Dual/Quad Core
- Supports GPS/WiFi/Cellular/CAN
- 9~36Vdc input with Power Management

VP101-BT

E13 | 60°C | -20°C

- Intel Atom E3800 series, Dual/Quad Core
- 10.1” Panel with P-Cap Touch
- Supports GPS/WiFi/Cellular/CAN
- 9~36Vdc with Power Management

VC500-CMS

E13

- 10th core i7/i5/i3 Comet Lake-S CPU
- 4x PoE ports, 2x 10G fiber
- Multi-M.2 expansions
- 9~48V with power ignition
- Dual SIM

NVIDIA

Sample Q3’ 22 | MP Q1’ 23

VC900-M8M

E13 | 70°C | -40°C

- NXP i.MX 8M Dual Cortex-A53
- CAN bus, GPS, LTE, COM, USB
- 9~36Vdc input with power ignition

Sample Q2’ 22 | MP Q2’ 23

VP070-M8M

E13 | 70°C | -40°C

- 7” driver HMI 1024 x 600
- NXP i.MX 8M Dual Cortex-A53
- P-Cap Touch
- For ground transportation

Sample Q2’ 22 | MP Q2’ 23

VC800-EHL

E13 | 70°C | -40°C

- Intel Atom Elkhart lake, 2/4 core
- Onboard DDR4 memory down
- Onboard eMMC up to 64GB
- 4 LAN, 2.5G TSN, USB3.1
- Isolated DI/DO/COM
- 9~36Vdc input with power ignition

Sample TBD | MP TBD

~2021 | 2022 | 2023

Released | Developing | Planning

Intelligent Transportation System

AI Embedded

In-vehicle

Railway

VC300-CS

70°C -25°C E13

- 9th core i7/i5/i3 Coffeelake CPU
- Supports 4x RJ45 PoE and type A/B Nvidia MXM
- +9~36VDC input with power management

NVIDIA

Sample Q4' 20

MP Q2' 22

VC500-CMS-MXM

E13

- 10 th core i7/i5/i3 Comet Lake-S CPU
- GPU, VPU adapter design
- 150W MXM supported
- 4x PoE ports, 2x 10G fiber
- +9~36VDC input with power management

NVIDIA

Sample Q4' 22

MP Q2' 23

Railway — RC300-CS

70°C -25°C EN50155

- 9th & 8th core i7/i5/i3 Coffeelake CPU
- Supports 4x M12 PoE and type B Nvidia MXM
- Isolation +110VDC input
- EN50155/EN45545

NVIDIA

Railway — RC500-CMS-MXM

EN50155

- 10 th core i7/i5/i3 Comet Lake-S CPU
- GPU, VPU adapter design
- 150W MXM supported
- 4x PoE ports, 2x 10G fiber
- +9~110VDC input with power management

NVIDIA

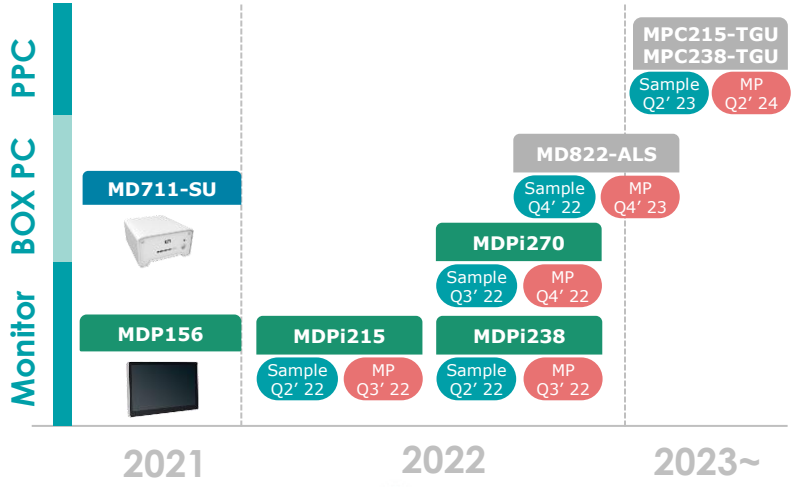
2021 2022 2023~

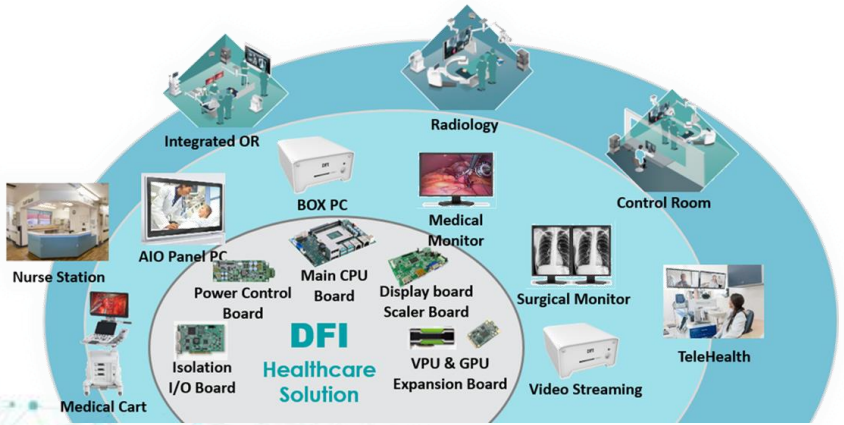
MEDICAL SYSTEM

Medical Product Plan

Product Features

All-in-one Panel PC (MPC Series)	• 11th Gen.Intel® Core™ i3/i5/i7 processor, TGL-U • 21.5",23.8''FHD • Expansion PCI-E slot for AI module or video capture card • Leverage partner to get competitive product price
BOX PC (MD Series)	• Powerful AI Computing unit with great computing & graphics performance fro healthcare applications • 12th Gen.Intel® Core™ i3/i5/i7 processor, Alder Lake-S • Rich expansion for multi-purpose application ✓ 1 PCIe 3.0 x16 slot (support Nvidia graphic card) ✓ 1 PCIe 3.0 x4 slot (support isolation I/O card) ✓ M.2 Slot (B/E/M key)
Monitor Display (MDPi Series)	• Wide 15.6", 21.5" , 23.8''FHD Medical Grade Monitor • DICOM Curve and easy switching DICOM and Gamma • Leverage partner to get competitive product price





Medical Panel PC

Target Application:

- Clinical、Surgery、Emergency for medical imaging

Key Features

- **11th Gen Intel® Core** i7/i5/i3 processor, **TGL-U**
- Support IPS display 21.5''/23.8'' with AG/AR coating (PCAP touch)
- Enhanced readability through Optical Bonding
- Aluminum front bezel (IP65) and Rear cover by ABS+PC Plastics
- True Flat OSD Hotkey Buttons and **auto dimming**
- Expansion PCI-E slot for **AI module or video capture card**
- Expansion M.2 slots x3 (4G, WIFI/BT, SATA SSD)
- Multiple Display x4
  - ✓ DP++ x 1(DP/HDMI, 4096x2304 @ 60Hz),
  - ✓ Type C x1(DP 1.2, 4096x2304 @ 60Hz)
  - ✓ LVDS x1(Dual channel: 1920 x 1200@60Hz),
  - ✓ eDP x1 (4096x2304 @ 60Hz)
- Advanced I/O connectivity with galvanic isolation (4KV)
- Full compliance with IEC/EN-60601-1 and IEC/EN-60601-1-2

Medical Monitor: MDP156

Target Application:

- Clinical、Surgery、Emergency for medical imaging

Front View

Bottom View

Key Features

- 15.6" Enclosure Display
- Display Mode VA Type
- Resolution 1920x1080 @60Hz
- Brightness 250 nits (Typ.)
- HDMI / VGA / Audio signal Input
- Power DC 12V /3A
- UL60601 in progress

Medical Monitor: MDPi Series

Target Application:

- Clinical、Surgery、Emergency for medical imaging

Key Features

- 21.5”/23.8”/27” Enclosure Display
- Display Mode IPS Type
- DICOM 2.2
- Color Calibration
- Resolution 1920x1080 @60Hz
- Brightness 350 nits (Typ.)
- HDMI or DVI-D/ VGA /DP/ Audio signal Input
- Power DC 24V
- IEC 60601, CE, FCC-B

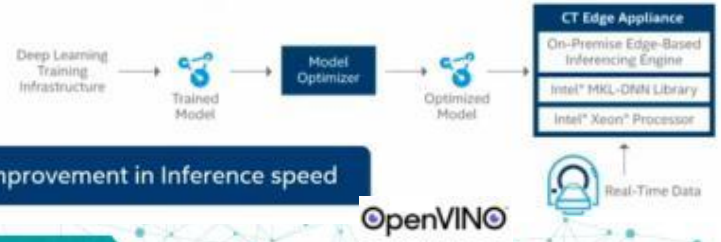
Medical Box PC (AI Box)

Target Application:

- Clinical、Surgery、Emergency for AI computing

Features

- **Powerful AI Computing** unit with great computing & graphics performance
- **Stylish** and **user friendly outlook** for Hospital Environment
- **12th** generation Intel® Core™ i3/i5/i7 processor, **Alder Lake-S**
- Supports dual DDR4 DIMM up to 64GB memory
- Rich expansion for multi-purpose application
  - ✓ 1x PCIe 3.0 x16 slot supports NVIDIA GPU (160W.Quadro RTX4000)
  - ✓ 1x PCIe 3.0 x4 slot supports capture cards or other applications
  - ✓ Different type M.2 Slot (B/E/M key)
- Full compliance with IEC/EN-60601-1 and IEC/EN-60601-1-2



AI inference System

Released | Developing | Planning

Medical Monitor/Panel PC

Performance

Mainstream

MDPi238

- Medical LCD monitor
- 23.8'' FHD 1920 x 1080
- DICOM 2.2
- Color Calibration
- P Cap, Plastic
- DVI/HDMI x1, DP 1.2 x1, VGA x 1
- IEC 60601 / CE / FCC-B

Sample Q2' 22 | MP Q3' 22

MDPi215

- Medical LCD monitor
- 21.5'' FHD 1920 x 1080
- DICOM 2.2
- Color Calibration
- P Cap, Plastic
- DVI/HDMI x1, DP 1.2 x1, VGA x 1
- IEC 60601 / CE / FCC-B

Sample Q2' 22 | MP Q3' 22

MDP156

- Plastic Medical LCD monitor
- 15.6'' FHD 1920 x 1080
- P Cap
- Chassis: Plastic
- DVI x1, HDMI x1, DP 1.2 x1
- SPK 2.5W x2
- IEC 60601 / CE / FCC part 18

Sample Q3' 21 | MP Q2' 22

MDPi270

- Medical LCD monitor
- 27'' FHD 1920 x 1080
- DICOM 2.2
- Color Calibration
- P Cap, Plastic
- DVI/HDMI x1, DP 1.2 x1, VGA x 1
- IEC 60601 / CE / FCC-B

Sample Q3' 22 | MP Q4' 22

MPC215-TGU MPC238-TGU

- **11th** Intel core i5/i7 **TGL-U**
- 21.5'',23.8'' FHD
- **IP65** for easy disinfect
- Front: Plastic, Rear: SECC
- Optical bonding
- Expansion **PCIe-slot x4**
- Expansion 3x **M.2 slots** (BT/WIFI,4G,SATA SSD)
- Isolated I/O: Ethernet, COM
- Back up Battery Pack (optional)

Sample Q2' 23 | MP Q2' 24

2022~

Released | Developing | Planning

Medical Box

Performance

Mainstream

MD822-ALS

- **12th** Gen Intel core i5/i7 Alder Lake-S
- **Dual DDR4 DIMM up to 64GB memory**
- **2.5" SATA SSDx1, M.2 SSD x 1**
- **1 PCIe 3.0 x16** slot (160W.Quadro RTX4000)
- **1 PCIe 3.0 x4** slot (different module card)
- Expansion **M.2 slots x3** (BT/WIFI,4G,SATA SSD)
- **Smart Fan**

Sample Q4' 22 | **MP Q4' 23**

MD711-SU

- 6th Gen Intel Core
- Intel Sky Lake-ULT
- **Isolated I/O**
- PCIe x4 Expansion

~2021

2022

RUGGED SOLUTIONS

Wide-Temp Industrial MBs & SBCs

Released | Developing | Planning

Mini-ITX

BT101/103 -40~85°C
Intel Atom Bay Trail SOC

SU171/173 -20~70°C
Intel Skylake-ULT SOC

KU171/173 -20~70°C
Intel Kabylake-ULT SOC

AL171/173 -40~85°C
Intel Apollo lake SOC

AL170 -40~85°C
Intel Apollo lake SOC

WL171/173 -20~70°C
Intel Whiskey Lake-ULT SOC

EHL171/173 -40~85°C
Intel Elkhart lake SOC
Sample Q2' 21 | MP Q2' 22

TGU171/173 -20~70°C
Intel Tiger lake-ULT
Sample Q2' 21 | MP Q4' 22

ADP171/173 -20~70°C
Intel Alder Lake-P SOC
Sample Q4' 22 | MP Q4' 23

4"

BT253 -20~85°C
Intel Atom Bay Trail SOC

SU251/253 -20~70°C
Intel Skylake-ULT SOC

AL253 -20~70°C
Intel Atom

~2021 | 2022~

Wide-Temp Industrial MBs & SBCs

Released | Developing | Planning

3.5”

BT551/553 -40~85°C
Intel Atom Bay Trail SOC

SU551/553 -20~70°C
Intel Skylake-ULT SOC

KU551 -20~70°C
Intel Kabylake-ULT SOC

KU553 -20~70°C
Intel Kabylake-ULT SOC

AL551 -40~85°C
Intel Atom Apollo lake SOC

AL553 -40~85°C
Intel Atom Apollo lake SOC

GH551 -30~80°C
AMD V1000/R1000 SOC

CS551 -30~80°C
Intel Coffee Lake-S

WL551 -20~80°C
Intel Whiskey lake-ULT

S53-ADN -20~80°C
Intel Alder Lake-P SOC
Sample TBD | MP TBD

EHL553 -20~70°C
Intel Elkhart lake SOC
Sample Q3’ 22 | MP Q4’ 22

M8MP553 -20~70°C
NXP Cortex-A72 i.MX8 Plus
Sample Q3’ 21 | MP Q2’ 22

~2021

2022~

Wide-Temp Industrial MBs & SBCs

Released | Developing | Planning

2.5”

FS051/053 -20~70°C
NXP Cortex-A9 i.MX6

AL051 -40~85°C
Intel Atom Apollo lake SOC

AL053 -40~85°C
Intel Atom Apollo lake SOC

AL05P -20~70°C
Intel Atom Apollo lake SOC

WL051 -30~80°C
Intel Whiskey lake-ULT SOC

M8M051 -30~80°C
NXP Cortex-A72 i.MX8

WL053 -30~80°C
Intel Whiskey lake-ULT, 2/4 core

WL051 -30~80°C
Intel Whiskey lake-ULT, 2/4 core

M8MP053 -20~70°C
NXP Cortex-A72 i.MX8 Plus
Sample Q3’ 22
MP Q4’ 22

1.8”

ALF51 -40~85°C
Intel Apollo lake SOC

GHF51 -20~70°C
AMD R1000 SOC

~2021

2022~

Wide-Temp System-On-Modules

Released | Developing | Planning

Basic

SH960-CM236/QM170/HM170 -40~85°C
Intel Skylake-H BGA 25~45W

KH960-CM238/QM175/HM175 -40~85°C
Intel Kabylake-H BGA 25~45W

CH960-CM246/QM370/HM370 -40~85°C
Intel Coffee lake-H BGA 25~45W

DV970 -40~85°C
Intel Atom Denverton SoC

GH960 -40~85°C
AMD Great Horned Owl APU

SH960MD -40~85°C
Intel Skylake-H BGA 25~45W

CH961-CM246/QM370/HM370 -40~85°C
Intel Coffee lake-H BGA 25~45W

TGH960-RM590E/QM580E/HM570E -40~85°C
Intel Intel Tiger Lake-H
Sample TBD | MP TBD

ICD970 -20~70°C
Intel Xeon-D Ice Lake-D
Sample TBD | MP TBD

RNO960 -40~85°C
AMD V2000 SoC
Sample TBD | MP TBD

Compact

BT968 -40~85°C
Intel Atom Bay Trail SOC

SU968 -40~85°C
Intel Skylake-ULT SOC

WL968 -40~85°C
Intel Whiskey Lake SOC

AL968 -40~85°C
Intel Apollo lake SOC

KU968 -40~85°C
Intel Kabylake-ULT SOC

TGU968 -40~85°C
Intel Tiger Lake SOC
Sample Q1' 21 | MP Q2' 22

EHL968 -40~85°C
Intel Elkhart Lake SOC
Sample TBD | MP TBD

ADP968 -40~85°C
Intel Alder Lake-P
Sample TBD | MP TBD

~2021 | 2022~

Wide-Temp System-On-Modules

Released | Developing | Planning

Mini

AL9A3
Intel Apollo lake SOC
-40~85°C

AL9A2
Intel Apollo lake SOC
-40~85°C

WL9A3
Intel Whiskey Lake SOC
-40~85°C

GH9A3
AMD R1000 SOC
-20~70°C

TGU9A2
Intel Tiger Lake SOC
Sample Q3' 21
MP Q2' 22
-20~70°C

EHL9A2
Intel Elkhart Lake SOC
Sample Q4' 21
MP Q3' 22
-20~70°C

~2020

2021~2022

Wide-Temp System-On-Modules

Released | Developing | Planning

Qseven

SMARC

AL700 -40~85°C
Intel Apollo lake SOC

AL701 -40~85°C
Intel Atom Apollo lake SOC

EHL700 -20~70°C
Intel Elkhart Lake SOC
Sample Q4' 21
MP Q2' 22

~2021

2022~

Wide-Temp Embedded Systems

Released | Developing | Planning

Core-I + GPU

Core-i

~2021

EC70A/EC70B-SU -20~60°C
6th Gen Intel Core

EC500/511/531-KH -20~60°C -40~70°C
7th Gen Intel Core Mobile

EC70A-KU -20~60°C
6th Gen Intel Core

2022~

DT200-CS -20~60°C
8th/9th Gen Intel Core with MXM TYPE A/ B
Sample Q1' 22 | MP Q3' 22

EC70A-TGU -20~60°C
8th/9th Gen Intel Core with MXM TYPE A/ B
Sample Q3' 21 | MP Q3' 22

EC300-CS -20~60°C
8th/9th Gen Intel Core
Sample Q4' 20 | MP Q2' 22

ES220F-CS -20~50°C
8th Gen Intel Core
Sample Q3' 21 | MP Q2' 22

EC500-CS -20~70°C
8th/9th Gen Intel Core

EC500-ADS -20~70°C
12th Gen Intel Core
Sample Q1' 22 | MP Q4' 22

EC510/511-CS -20~70°C
8th/9th Gen Intel Core
Sample Q1' 21 | MP Q2' 22

EC510/511-ADS -20~70°C
10th Gen Intel Core
Sample Q3' 22 | MP Q1' 23

EC543-CS -20~70°C
8th/9th Gen Intel Core
Sample Q1' 21 | MP Q2' 22

EC543-ADS -20~70°C
10th Gen Intel Core
Sample Q3' 22 | MP Q1' 23

Wide-Temp Embedded Systems

Released | Developing | Planning

Atom

EC700-AL
Intel Atom Apollo Lake
-20~60°C | -40~70°C

EC800-AL
Intel Atom Apollo Lake
-40~70°C

EC700-BT/BT3054
Intel Atom E3800
-20~60°C

EC90A-AL
Intel Atom Apollo Lake
-20~60°C

ECX700-AL
Intel Atom Apollo Lake
-40~70°C
Sample Q1' 21 | MP Q2' 22

ED700-EHL
Intel Elkhart Lake SOC
-40~70°C
Sample Q4' 21 | MP Q4' 22

ARM

EC900-FS6
NXP i.MX6DL
-20~60°C | -40~70°C

EC900-M8M
NXP i.MX8M
-20~60°C
Sample Q2' 22 | MP Q4' 22

AMD

EC90A-GH
AMD Ryzen V1000/R1000
-20~60°C

~2021 | 2022~

Wide-Temp Embedded Systems

Released | Developing | Planning

Xavier NX

EC102-XNX -20~60°C
NVIDIA® Jetson Xavier™ NX module

EC100-XNX -20~60°C
NVIDIA® Jetson Xavier™ NX module

2021~

Wide-Temp In-Vehicle Systems

Released | Developing | Planning

System

VC230-BT -20~60°C
Intel Atom E3800 series

VC230-AL -40~70°C
Intel Atom E3900 series

VC70B-KU -20~60°C
Intel 7th Gen Core i Processors

VC300-CS -25~70°C
Intel 8th/9th Gen Core i Processors
Sample Q4' 20 | MP Q2' 22

RC300-CS -25~70°C
Intel 8th/9th Gen Core i Processors

VP900-M8M -40~70°C
NXP i.MX 8M Dual Cortex-A53
Sample Q2' 22 | MP Q2' 23

VP800-EHL -40~70°C
Intel Atom Elkhart lake
Sample TBD | MP TBD

Panel PC

VP101-BT -20~60°C
Intel Atom E3800 series

VP070-M8M -40~70°C
NXP i.MX 8M Dual Cortex-A53
Sample Q2' 22 | MP Q2' 23

~2020 | 2021~

Wide-Temp Panel PCs

Released | Developing | Planning

Core

TPC Series -10~55°C
12.1" XGA /15" XGA /17" SXGA Panel PC with resistive touch & Intel 3nd Core

Atom

KS150/KS156-BT -10~60°C
15" XGA Panel PC with P-Cap & resistive touch & Intel Atom Bay Trail

KS070-AL -20~55°C
7" WSVGA Panel PC with P-Cap & resistive touch & Intel Apollo Lake

KSM070-AL/ KSM101-AL/ KSM121-AL -20~70°C
7" / 10.1" / 12.1" / 15" / 19" Panel PC with P-Cap & resistive touch & Intel Apollo Lake

ARM

KS057-FS -20~60°C
5.7" Panel PC with Resistive touch & Freescale i.MX6

KS057R-FS-IMX6 V2 -20~60°C
5.7" Panel PC with Resistive touch & Freescale i.MX6

~2021 | 2022~

PLATFORM INFORMATION

Intel

Platform	Xeon				Core			Atom
Year	Server	Workstation	Mid-Range Server	Entry Server	Desktop	Mobile	Ultra	
2023					**Raptor Lake S** **TBC**			**Alder Lake-N** TBC
2022	**Sapphire Rapids –SP** **TBC**	**Alder lake –S** **R680E** **ADS---**	**Ice Lake-D** HCC ICD---		**Alder lake –S** **Q670E/H610E** **ADS---**	**Alder lake –P** **SoC**		
			Ice Lake-D LCC ICD---					
2021	**Ice Lake-SP** C621A ICX---					**Tiger Lake-H** RM590E/QM580E/HM570E TGH---		**Elkhart Lake** X6000 SoC EHL---
2020		**Comet Lake-S** W480E CMS---			**Comet Lake-S** Q470/H420E CMS---		**Tiger Lake-U** ULT TGU---	
2019	**Cascade Lake (Purley Refresh)** C621/C622 PR---	**Coffee Lake-Refresh S** C246 CS---			**Coffee Lake- Refresh S** Q370/H310 CS---		**Whiskey Lake-U** ULT WL---	
2018					**Coffee Lake-S** Q370/H310 CS---	**Coffee Lake-H** QM246/QM370/HM370 CH---		
2017	**Purley** C622 PL---			**Denverton** C3000 SoC DV---	**Kaby Lake-S** Q170/H110 KD---	**Kaby Lake-H** QM175/HM175 KH---	**Kaby Lake-U** ULT KU---	**Apollo Lake** E3900 SoC AL---
2016	**Grantley Refresh** TBD	**Greenlow Refresh** CM238	**Grangevillie** D1500 SoC					
2015	**Grantley** C610	**Greenlow** C236/CM236 SD---	**Broadwell-DE** SoC		**Skytake-S** Q170/H110 SD---	**Skytake-H** QM170/HM170 SH---	**Skytake-U** ULT SU---	**Braswell** N3000 SoC BW---

AMD & ARM

Platform	AMD				ARM					
Year	V-Series	R-Series	G-Series	EPYC	MediaTek	NXP (Freescale)	NVIDIA	Qualcomm	RockChip	TI
2022	**V3000** V-Series SoC									
2021		**R2000** R-Series SoC **GH---**	**G2000** G-Series SoC							
2020	**V2000** V-Series SoC **GH--**		**G1000** G-Series SoC							
2019				**EPYC 3000** **SO--**		**i.MX8** **F8--**				
2018	**V1000** V-Series SoC **GH--**	**R1000** R-Series SoC **GH--**								
2017										
2015		**Merlin Falcon** R-Series SoC **MF--**	**Brown Falcon/Prairie Falcon** G-Series SoC			**i.MX6/i.MX5** **FS--**				
2014		**Bald Eagle** A77M **BE-**	**Steppe Eagle** G-Series SoC **SE-**							**OMAP4/AM3517** **TI--**
2013										
2012		**Comal/eTrinity** A70M **CM---**								
2011			**eOntario** A55E/A50M **OT--**							

Thank you